

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

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



Alpha Analytical, Inc.

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

Date: 05-May-11

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11042621

Cooler Temp: 0 °C

Alpha's Sample ID	Client's Sample ID	Matrix
11042621-01A	MW-14-5	Aqueous
11042621-02A	MW-14-4	Aqueous
11042621-03A	MW-14-3	Aqueous
11042621-04A	MW-14-2	Aqueous
11042621-05A	MW-14-1	Aqueous
11042621-06A	EB-1-4/25/11	Aqueous
11042621-07A	TB-1-4/25/11	Aqueous
11042621-08A	SB-1-4/25/11	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
11042621-02A	EPA Method 314.0	Perchlorate

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

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

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

Roger Scholl

Randy Gardner

Walter Hinchman

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

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

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/26/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-14-5				
Lab ID : BM111042621-01A	Chloride	8.5	0.50 mg/L	04/26/11 12:16 04/26/11 15:43
Date Sampled 04/25/11 08:35	Nitrite (NO2) - N	ND	0.25 mg/L	04/26/11 12:16 04/26/11 15:43
	Nitrate (NO3) - N	ND	0.25 mg/L	04/26/11 12:16 04/26/11 15:43
	Phosphate, ortho - P	ND	0.50 mg/L	04/26/11 12:16 04/26/11 15:43
	Sulfate (SO4)	17	0.50 mg/L	04/26/11 12:16 04/26/11 15:43
Client ID: MW-14-4				
Lab ID : BM111042621-02A	Chloride	54	0.50 mg/L	04/26/11 12:16 04/26/11 16:02
Date Sampled 04/25/11 09:17	Nitrite (NO2) - N	ND	0.25 mg/L	04/26/11 12:16 04/26/11 16:02
	Nitrate (NO3) - N	12	0.25 mg/L	04/26/11 12:16 04/26/11 16:02
	Phosphate, ortho - P	ND	0.50 mg/L	04/26/11 12:16 04/26/11 16:02
	Sulfate (SO4)	58	0.50 mg/L	04/26/11 12:16 04/26/11 16:02
Client ID: MW-14-3				
Lab ID : BM111042621-03A	Chloride	110	0.50 mg/L	04/26/11 12:16 04/26/11 16:20
Date Sampled 04/25/11 09:56	Nitrite (NO2) - N	ND	0.25 mg/L	04/26/11 12:16 04/26/11 16:20
	Nitrate (NO3) - N	13	0.25 mg/L	04/26/11 12:16 04/26/11 16:20
	Phosphate, ortho - P	ND	0.50 mg/L	04/26/11 12:16 04/26/11 16:20
	Sulfate (SO4)	150	0.50 mg/L	04/26/11 12:16 04/26/11 16:20
Client ID: MW-14-2				
Lab ID : BM111042621-04A	Chloride	130	0.50 mg/L	04/26/11 12:16 04/26/11 16:39
Date Sampled 04/25/11 10:36	Nitrite (NO2) - N	0.67	0.25 mg/L	04/26/11 12:16 04/26/11 16:39
	Nitrate (NO3) - N	14	0.25 mg/L	04/26/11 12:16 04/26/11 16:39
	Phosphate, ortho - P	ND	0.50 mg/L	04/26/11 12:16 04/26/11 16:39
	Sulfate (SO4)	210	0.50 mg/L	04/26/11 12:16 04/26/11 16:39
Client ID: MW-14-1				
Lab ID : BM111042621-05A	Chloride	120	0.50 mg/L	04/26/11 12:16 04/26/11 17:34
Date Sampled 04/25/11 11:44	Nitrite (NO2) - N	ND	0.25 mg/L	04/26/11 12:16 04/26/11 17:34
	Nitrate (NO3) - N	12	0.25 mg/L	04/26/11 12:16 04/26/11 17:34
	Phosphate, ortho - P	ND	0.50 mg/L	04/26/11 12:16 04/26/11 17:34
	Sulfate (SO4)	180	0.50 mg/L	04/26/11 12:16 04/26/11 17:34
Client ID: EB-1-4/25/11				
Lab ID : BM111042621-06A	Chloride	ND	0.50 mg/L	04/26/11 12:16 04/26/11 17:53
Date Sampled 04/25/11 11:30	Nitrite (NO2) - N	ND	0.25 mg/L	04/26/11 12:16 04/26/11 17:53
	Nitrate (NO3) - N	ND	0.25 mg/L	04/26/11 12:16 04/26/11 17:53
	Phosphate, ortho - P	ND	0.50 mg/L	04/26/11 12:16 04/26/11 17:53
	Sulfate (SO4)	ND	0.50 mg/L	04/26/11 12:16 04/26/11 17:53



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Client ID: **SB-1-4/25/11**

Lab ID :	BM111042621-08A	Chloride	ND	0.50 mg/L	04/26/11 12:16	04/26/11 18:11
Date Sampled	04/25/11 12:11	Nitrite (NO2) - N	ND	0.25 mg/L	04/26/11 12:16	04/26/11 18:11
		Nitrate (NO3) - N	ND	0.25 mg/L	04/26/11 12:16	04/26/11 18:11
		Phosphate, ortho - P	ND	0.50 mg/L	04/26/11 12:16	04/26/11 18:11
		Sulfate (SO4)	ND	0.50 mg/L	04/26/11 12:16	04/26/11 18:11

ND = Not Detected

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5/6/11

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/26/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-14-5				
Lab ID : BM111042621-01A Perchlorate	ND	1.00 µg/L	04/28/11 13:27	04/28/11 15:18
Date Sampled 04/25/11 08:35				
Client ID: MW-14-4				
Lab ID : BM111042621-02A Perchlorate	3.88	1.00 µg/L	04/28/11 13:27	04/28/11 15:37
Date Sampled 04/25/11 09:17				
Client ID: MW-14-3				
Lab ID : BM111042621-03A Perchlorate	4.50	1.00 µg/L	04/28/11 13:27	04/28/11 15:55
Date Sampled 04/25/11 09:56				
Client ID: MW-14-2				
Lab ID : BM111042621-04A Perchlorate	3.42	1.00 µg/L	04/28/11 13:27	04/28/11 16:13
Date Sampled 04/25/11 10:36				
Client ID: MW-14-1				
Lab ID : BM111042621-05A Perchlorate	1.94	1.00 µg/L	04/28/11 13:27	04/28/11 17:09
Date Sampled 04/25/11 11:44				
Client ID: EB-1-4/25/11				
Lab ID : BM111042621-06A Perchlorate	ND	1.00 µg/L	04/28/11 13:27	04/28/11 17:27
Date Sampled 04/25/11 11:30				
Client ID: SB-1-4/25/11				
Lab ID : BM111042621-08A Perchlorate	ND	1.00 µg/L	04/28/11 13:27	04/28/11 17:45
Date Sampled 04/25/11 12:11				

ND = Not Detected

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655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/26/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-14-5					
Lab ID : BM11042621-01A	Alkalinity, Bicarbonate (As CaCO ₃)	140	10 mg/L	04/28/11 11:18	04/28/11 11:18
Date Sampled 04/25/11 08:35	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	04/28/11 11:18	04/28/11 11:18
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	140	10 mg/L	04/28/11 11:18	04/28/11 11:18
Client ID: MW-14-4					
Lab ID : BM11042621-02A	Alkalinity, Bicarbonate (As CaCO ₃)	170	10 mg/L	04/28/11 11:20	04/28/11 11:20
Date Sampled 04/25/11 09:17	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	04/28/11 11:20	04/28/11 11:20
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	170	10 mg/L	04/28/11 11:20	04/28/11 11:20
Client ID: MW-14-3					
Lab ID : BM11042621-03A	Alkalinity, Bicarbonate (As CaCO ₃)	240	10 mg/L	04/28/11 11:23	04/28/11 11:23
Date Sampled 04/25/11 09:56	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	04/28/11 11:23	04/28/11 11:23
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	240	10 mg/L	04/28/11 11:23	04/28/11 11:23
Client ID: MW-14-2					
Lab ID : BM11042621-04A	Alkalinity, Bicarbonate (As CaCO ₃)	260	10 mg/L	04/28/11 11:26	04/28/11 11:26
Date Sampled 04/25/11 10:36	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	04/28/11 11:26	04/28/11 11:26
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	260	10 mg/L	04/28/11 11:26	04/28/11 11:26
Client ID: MW-14-1					
Lab ID : BM11042621-05A	Alkalinity, Bicarbonate (As CaCO ₃)	220	10 mg/L	04/28/11 11:42	04/28/11 11:42
Date Sampled 04/25/11 11:44	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	04/28/11 11:42	04/28/11 11:42
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	220	10 mg/L	04/28/11 11:42	04/28/11 11:42
Client ID: EB-1-4/25/11					
Lab ID : BM11042621-06A	Alkalinity, Bicarbonate (As CaCO ₃)	10	10 mg/L	04/28/11 11:46	04/28/11 11:46
Date Sampled 04/25/11 11:30	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	04/28/11 11:46	04/28/11 11:46
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	10	10 mg/L	04/28/11 11:46	04/28/11 11:46
Client ID: SB-1-4/25/11					
Lab ID : BM11042621-08A	Alkalinity, Bicarbonate (As CaCO ₃)	ND	10 mg/L	04/28/11 11:49	04/28/11 11:49
Date Sampled 04/25/11 12:11	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	04/28/11 11:49	04/28/11 11:49
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	ND	10 mg/L	04/28/11 11:49	04/28/11 11:49



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ND = Not Detected

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/26/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-14-5					
Lab ID : BM11042621-01A	Sodium (Na)	28	0.50 mg/L	04/27/11 16:20	05/03/11 17:39
Date Sampled 04/25/11 08:35	Magnesium (Mg)	11	0.50 mg/L	04/27/11 16:20	05/03/11 17:39
	Potassium (K)	1.7	0.50 mg/L	04/27/11 16:20	05/03/11 17:39
	Calcium (Ca)	17	0.50 mg/L	04/27/11 16:20	05/03/11 17:39
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 17:39
	Iron (Fe)	ND	0.30 mg/L	04/27/11 16:20	05/03/11 17:39
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20	05/03/11 17:39
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 17:39
Client ID: MW-14-4					
Lab ID : BM11042621-02A	Sodium (Na)	31	0.50 mg/L	04/27/11 16:20	05/03/11 17:45
Date Sampled 04/25/11 09:17	Magnesium (Mg)	23	0.50 mg/L	04/27/11 16:20	05/03/11 17:45
	Potassium (K)	2.3	0.50 mg/L	04/27/11 16:20	05/03/11 17:45
	Calcium (Ca)	64	0.50 mg/L	04/27/11 16:20	05/03/11 17:45
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 17:45
	Iron (Fe)	0.42	0.30 mg/L	04/27/11 16:20	05/03/11 17:45
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20	05/03/11 17:45
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 17:45
Client ID: MW-14-3					
Lab ID : BM11042621-03A	Sodium (Na)	39	0.50 mg/L	04/27/11 16:20	05/03/11 17:50
Date Sampled 04/25/11 09:56	Magnesium (Mg)	45	0.50 mg/L	04/27/11 16:20	05/03/11 17:50
	Potassium (K)	2.9	0.50 mg/L	04/27/11 16:20	05/03/11 17:50
	Calcium (Ca)	110	0.50 mg/L	04/27/11 16:20	05/03/11 17:50
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 17:50
	Iron (Fe)	0.77	0.30 mg/L	04/27/11 16:20	05/03/11 17:50
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20	05/03/11 17:50
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 17:50
Client ID: MW-14-2					
Lab ID : BM11042621-04A	Sodium (Na)	36	0.50 mg/L	04/27/11 16:20	05/03/11 17:56
Date Sampled 04/25/11 10:36	Magnesium (Mg)	48	0.50 mg/L	04/27/11 16:20	05/03/11 17:56
	Potassium (K)	2.7	0.50 mg/L	04/27/11 16:20	05/03/11 17:56
	Calcium (Ca)	140	0.50 mg/L	04/27/11 16:20	05/03/11 17:56
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 17:56
	Iron (Fe)	1.0	0.30 mg/L	04/27/11 16:20	05/03/11 17:56
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20	05/03/11 17:56
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 17:56



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

Lab ID : BMI11042621-05A	Sodium (Na)	57	0.50 mg/L	04/27/11 16:20	05/03/11 18:02
Date Sampled 04/25/11 11:44	Magnesium (Mg)	37	0.50 mg/L	04/27/11 16:20	05/03/11 18:02
	Potassium (K)	2.5	0.50 mg/L	04/27/11 16:20	05/03/11 18:02
	Calcium (Ca)	110	0.50 mg/L	04/27/11 16:20	05/03/11 18:02
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 18:02
	Iron (Fe)	1.2	0.30 mg/L	04/27/11 16:20	05/03/11 18:02
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20	05/03/11 18:02
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 18:02

Client ID: **EB-1-4/25/11**

Lab ID : BMI11042621-06A	Sodium (Na)	ND	0.50 mg/L	04/27/11 16:20	05/03/11 18:07
Date Sampled 04/25/11 11:30	Magnesium (Mg)	ND	0.50 mg/L	04/27/11 16:20	05/03/11 18:07
	Potassium (K)	ND	0.50 mg/L	04/27/11 16:20	05/03/11 18:07
	Calcium (Ca)	ND	0.50 mg/L	04/27/11 16:20	05/03/11 18:07
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 18:07
	Iron (Fe)	ND	0.30 mg/L	04/27/11 16:20	05/03/11 18:07
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20	05/03/11 18:07
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 18:07

Client ID: **SB-1-4/25/11**

Lab ID : BMI11042621-08A	Sodium (Na)	ND	0.50 mg/L	04/27/11 16:20	05/03/11 18:13
Date Sampled 04/25/11 12:11	Magnesium (Mg)	ND	0.50 mg/L	04/27/11 16:20	05/03/11 18:13
	Potassium (K)	ND	0.50 mg/L	04/27/11 16:20	05/03/11 18:13
	Calcium (Ca)	ND	0.50 mg/L	04/27/11 16:20	05/03/11 18:13
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 18:13
	Iron (Fe)	ND	0.30 mg/L	04/27/11 16:20	05/03/11 18:13
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20	05/03/11 18:13
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 18:13

ND = Not Detected

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
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Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/26/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-14-5				
Lab ID: BM111042621-01A pH	8.3	1.7 pH Units	04/26/11 16:50	04/26/11 16:50
Date Sampled 04/25/11 08:35 pH - Temperature	22	1.0 °C	04/26/11 16:50	04/26/11 16:50
Client ID: MW-14-4				
Lab ID: BM111042621-02A pH	7.9	1.7 pH Units	04/26/11 16:53	04/26/11 16:53
Date Sampled 04/25/11 09:17 pH - Temperature	21	1.0 °C	04/26/11 16:53	04/26/11 16:53
Client ID: MW-14-3				
Lab ID: BM111042621-03A pH	7.6	1.7 pH Units	04/26/11 16:55	04/26/11 16:55
Date Sampled 04/25/11 09:56 pH - Temperature	21	1.0 °C	04/26/11 16:55	04/26/11 16:55
Client ID: MW-14-2				
Lab ID: BM111042621-04A pH	7.4	1.7 pH Units	04/26/11 16:58	04/26/11 16:58
Date Sampled 04/25/11 10:36 pH - Temperature	20	1.0 °C	04/26/11 16:58	04/26/11 16:58
Client ID: MW-14-1				
Lab ID: BM111042621-05A pH	6.9	1.7 pH Units	04/26/11 17:01	04/26/11 17:01
Date Sampled 04/25/11 11:44 pH - Temperature	20	1.0 °C	04/26/11 17:01	04/26/11 17:01
Client ID: EB-1-4/25/11				
Lab ID: BM111042621-06A pH	6.2	1.7 pH Units	04/26/11 17:08	04/26/11 17:08
Date Sampled 04/25/11 11:30 pH - Temperature	21	1.0 °C	04/26/11 17:08	04/26/11 17:08
Client ID: SB-1-4/25/11				
Lab ID: BM111042621-08A pH	6.0	1.7 pH Units	04/26/11 17:10	04/26/11 17:10
Date Sampled 04/25/11 12:11 pH - Temperature	21	1.0 °C	04/26/11 17:10	04/26/11 17:10

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

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

Roger Scholl *Randy Gardner* *Walter Hinchman*

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

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5/6/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/26/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)
SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-14-5				
Lab ID : BM111042621-01A Solids, Total Dissolved (TDS)	170	10 mg/L	04/29/11	04/29/11
Date Sampled 04/25/11 08:35				
Client ID: MW-14-4				
Lab ID : BM111042621-02A Solids, Total Dissolved (TDS)	330	10 mg/L	04/29/11	04/29/11
Date Sampled 04/25/11 09:17				
Client ID: MW-14-3				
Lab ID : BM111042621-03A Solids, Total Dissolved (TDS)	650	10 mg/L	04/29/11	04/29/11
Date Sampled 04/25/11 09:56				
Client ID: MW-14-2				
Lab ID : BM111042621-04A Solids, Total Dissolved (TDS)	780	10 mg/L	04/29/11	04/29/11
Date Sampled 04/25/11 10:36				
Client ID: MW-14-1				
Lab ID : BM111042621-05A Solids, Total Dissolved (TDS)	770	10 mg/L	04/29/11	04/29/11
Date Sampled 04/25/11 11:44				
Client ID: EB-1-4/25/11				
Lab ID : BM111042621-06A Solids, Total Dissolved (TDS)	ND	10 mg/L	04/29/11	04/29/11
Date Sampled 04/25/11 11:30				
Client ID: SB-1-4/25/11				
Lab ID : BM111042621-08A Solids, Total Dissolved (TDS)	ND	10 mg/L	04/29/11	04/29/11
Date Sampled 04/25/11 12:11				

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-14-5 Lab ID: BM111042621-01A Date Received: 04/26/11 Date Sampled: 04/25/11 08:35	*** None Found ***	ND	04/30/11 01:33	04/30/11 01:33
Client ID: MW-14-4 Lab ID: BM111042621-02A Date Received: 04/26/11 Date Sampled: 04/25/11 09:17	*** None Found ***	ND	04/30/11 01:54	04/30/11 01:54
Client ID: MW-14-3 Lab ID: BM111042621-03A Date Received: 04/26/11 Date Sampled: 04/25/11 09:56	*** None Found ***	ND	04/30/11 02:16	04/30/11 02:16
Client ID: MW-14-2 Lab ID: BM111042621-04A Date Received: 04/26/11 Date Sampled: 04/25/11 10:36	*** None Found ***	ND	04/30/11 02:38	04/30/11 02:38
Client ID: MW-14-1 Lab ID: BM111042621-05A Date Received: 04/26/11 Date Sampled: 04/25/11 11:44	*** None Found ***	ND	04/30/11 02:59	04/30/11 02:59
Client ID: EB-1-4/25/11 Lab ID: BM111042621-06A Date Received: 04/26/11 Date Sampled: 04/25/11 11:30	*** None Found ***	ND	04/30/11 00:06	04/30/11 00:06
Client ID: TB-1-4/25/11 Lab ID: BM111042621-07A Date Received: 04/26/11 Date Sampled: 04/25/11 00:00	*** None Found ***	ND	04/29/11 23:45	04/29/11 23:45
Client ID: SB-1-4/25/11 Lab ID: BM111042621-08A Date Received: 04/26/11 Date Sampled: 04/25/11 12:11	*** None Found ***	ND	04/30/11 01:11	04/30/11 01:11



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Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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JS
5/6/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042621-01A
Client I.D. Number: MW-14-5

Sampled: 04/25/11 08:35
Received: 04/26/11
Extracted: 04/30/11 01:33
Analyzed: 04/30/11 01:33

Volatile Organics by GC/MS EPA Method SW8260B

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

Report Date



Alpha Analytical, Inc.

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

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042621-02A
Client I.D. Number: MW-14-4

Sampled: 04/25/11 09:17
Received: 04/26/11
Extracted: 04/30/11 01:54
Analyzed: 04/30/11 01:54

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	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	114	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042621-03A
Client I.D. Number: MW-14-3

Sampled: 04/25/11 09:56
Received: 04/26/11
Extracted: 04/30/11 02:16
Analyzed: 04/30/11 02:16

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	1.4	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	116	(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	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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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042621-04A
Client I.D. Number: MW-14-2

Sampled: 04/25/11 10:36
Received: 04/26/11
Extracted: 04/30/11 02:38
Analyzed: 04/30/11 02:38

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	3.8	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	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	118	(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	102	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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PS
5/6/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042621-05A
Client I.D. Number: MW-14-1

Sampled: 04/25/11 11:44
Received: 04/26/11
Extracted: 04/30/11 02:59
Analyzed: 04/30/11 02:59

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	2.3	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	117	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042621-06A
Client I.D. Number: EB-1-4/25/11

Sampled: 04/25/11 11:30
Received: 04/26/11
Extracted: 04/30/11 00:06
Analyzed: 04/30/11 00:06

Volatile Organics by GC/MS EPA Method SW8260B

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

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Page 1 of 1



Alpha Analytical, Inc.

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

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042621-07A
Client I.D. Number: TB-1-4/25/11

Sampled: 04/25/11 00:00
Received: 04/26/11
Extracted: 04/29/11 23:45
Analyzed: 04/29/11 23:45

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	100	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	105	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
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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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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042621-08A
Client I.D. Number: SB-1-4/25/11

Sampled: 04/25/11 12:11
Received: 04/26/11
Extracted: 04/30/11 01:11
Analyzed: 04/30/11 01:11

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	110	(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	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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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: BMI11042621

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11042621-01A	MW-14-5	Aqueous	2
11042621-02A	MW-14-4	Aqueous	2
11042621-03A	MW-14-3	Aqueous	2
11042621-04A	MW-14-2	Aqueous	2
11042621-05A	MW-14-1	Aqueous	2
11042621-06A	EB-1-4/25/11	Aqueous	2
11042621-07A	TB-1-4/25/11	Aqueous	2
11042621-08A	SB-1-4/25/11	Aqueous	2

5/6/11
Report Date



Alpha Analytical, Inc.

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

Date:
28-Apr-11

QC Summary Report

Work Order:
11042621

Method Blank

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

File ID: 19

Batch ID: 26404

Analysis Date: 04/27/2011 11:34

Sample ID: MB-26404

Units : mg/L

Run ID: IC_1_110426A

Prep Date: 04/26/2011 12:16

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

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

File ID: 25

Batch ID: 26404

Analysis Date: 04/26/2011 15:06

Sample ID: LFB-26404

Units : mg/L

Run ID: IC_1_110426A

Prep Date: 04/26/2011 12:16

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	51.7	0.5	50		103	90	110			
Nitrite (NO2) - N	5.06	0.25	5		101	90	110			
Nitrate (NO3) - N	5.49	0.25	5		110	90	110			
Phosphate, ortho - P	5.46	0.5	5		109	90	110			
Sulfate (SO4)	107	0.5	100		107	90	110			

Sample Matrix Spike

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

File ID: 31

Batch ID: 26404

Analysis Date: 04/26/2011 16:57

Sample ID: 11042621-04ALFM

Units : mg/L

Run ID: IC_1_110426A

Prep Date: 04/26/2011 12:16

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	633	2.5	500	131.7	100	80	120			
Nitrite (NO2) - N	52.2	1.3	50	0.671	103	80	120			
Nitrate (NO3) - N	67.1	1.3	50	13.77	107	80	120			
Phosphate, ortho - P	58.3	2.5	50	0	117	80	120			
Sulfate (SO4)	1250	2.5	1000	210.7	104	80	120			

Sample Matrix Spike Duplicate

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

File ID: 32

Batch ID: 26404

Analysis Date: 04/26/2011 17:16

Sample ID: 11042621-04ALFMD

Units : mg/L

Run ID: IC_1_110426A

Prep Date: 04/26/2011 12:16

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	635	2.5	500	131.7	101	80	120	633	0.4(15)	
Nitrite (NO2) - N	52.9	1.3	50	0.671	105	80	120	52.22	1.4(15)	
Nitrate (NO3) - N	67.6	1.3	50	13.77	108	80	120	67.11	0.8(15)	
Phosphate, ortho - P	55.3	2.5	50	0	111	80	120	58.3	5.3(15)	
Sulfate (SO4)	1250	2.5	1000	210.7	104	80	120	1250	0.4(15)	

Comments:

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



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Date:
29-Apr-11

QC Summary Report

Work Order:
11042621

Method Blank

File ID: 14	Type	MBLK	Test Code: EPA Method 314.0	Batch ID: 26423	Analysis Date: 04/28/2011 14:23					
Sample ID: MB-26423	Units :	µg/L	Run ID: IC_3_110428A	Prep Date: 04/28/2011 13:27						
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: 26423	Analysis Date: 04/28/2011 14:41					
Sample ID: LFB-26423	Units :	µg/L	Run ID: IC_3_110428A	Prep Date: 04/28/2011 13:27						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.4	2	25	98	85	115				

Sample Matrix Spike

File ID: 21	Type	LFM	Test Code: EPA Method 314.0	Batch ID: 26423	Analysis Date: 04/28/2011 16:32					
Sample ID: 11042621-04ALFM	Units :	µg/L	Run ID: IC_3_110428A	Prep Date: 04/28/2011 13:27						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.7	2	25	3.42	85	80	120			

Sample Matrix Spike Duplicate

File ID: 22	Type	LFMD	Test Code: EPA Method 314.0	Batch ID: 26423	Analysis Date: 04/28/2011 16:50					
Sample ID: 11042621-04ALFMD	Units :	µg/L	Run ID: IC_3_110428A	Prep Date: 04/28/2011 13:27						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	25.7	2	25	3.42	89	80	120	24.74	3.9(15)	

Comments:

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



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Date:
29-Apr-11

QC Summary Report

Work Order:
11042621

Laboratory Control Spike

Type **LCS**

Test Code: **SM2320B**

File ID:

Batch ID: **W0428AL**

Analysis Date: **04/28/2011 11:14**

Sample ID: **LCS-W0428AL**

Units : mg/L

Run ID: **WETLAB_110428B**

Prep Date: **04/28/2011 11:14**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO ₃)	244.7	10	250		98	80	120			
Alkalinity, Carbonate (As CaCO ₃)	244.7	10	250		98	80	120			
Alkalinity, Total (As CaCO ₃ at pH 4.5)	245	10	250		98	80	120			

Comments:

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



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Date:
05-May-11

QC Summary Report

Work Order:
11042621

Method Blank

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

File ID: **050311.B\058_M.D**

Batch ID: **26413**

Analysis Date: **05/03/2011 15:47**

Sample ID: **MB-26413**

Units : **mg/L**

Run ID: **ICP/MS_110503B**

Prep Date: **04/27/2011 16:20**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

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

File ID: **050311.B\059_M.D**

Batch ID: **26413**

Analysis Date: **05/03/2011 15:52**

Sample ID: **LCS-26413**

Units : **mg/L**

Run ID: **ICP/MS_110503B**

Prep Date: **04/27/2011 16:20**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	5.32	0.5	5		106	85	115			
Magnesium (Mg)	5.18	0.5	5		104	85	115			
Potassium (K)	5.47	0.5	5		109	85	115			
Calcium (Ca)	5.39	0.5	5		108	85	115			
Chromium (Cr)	0.0557	0.005	0.05		111	85	115			
Iron (Fe)	5.68	0.3	5		114	85	115			
Arsenic (As)	0.0498	0.002	0.05		99.6	85	115			
Lead (Pb)	0.0511	0.005	0.05		102	85	115			

Sample Matrix Spike

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

File ID: **050311.B\064_M.D**

Batch ID: **26413**

Analysis Date: **05/03/2011 16:20**

Sample ID: **11042703-08AMS**

Units : **mg/L**

Run ID: **ICP/MS_110503B**

Prep Date: **04/27/2011 16:20**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	38.5	0.5	5	35.54	58	70	130			M3
Magnesium (Mg)	24.7	0.5	5	21.43	65	70	130			M3
Potassium (K)	8.7	0.5	5	3.825	97	70	130			
Calcium (Ca)	69.6	0.5	5	67.39	45	70	130			M3
Chromium (Cr)	0.0662	0.005	0.05	0.01503	102	70	130			
Iron (Fe)	5.91	0.3	5	0.5316	108	70	130			
Arsenic (As)	0.0515	0.002	0.05	0	103	70	130			
Lead (Pb)	0.0487	0.005	0.05	0	97	70	130			

Sample Matrix Spike Duplicate

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

File ID: **050311.B\065_M.D**

Batch ID: **26413**

Analysis Date: **05/03/2011 16:26**

Sample ID: **11042703-08AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110503B**

Prep Date: **04/27/2011 16:20**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	36.5	0.5	5	35.54	19	70	130	38.45	5.3(20)	M3
Magnesium (Mg)	24.3	0.5	5	21.43	57	70	130	24.66	1.6(20)	M3
Potassium (K)	8.71	0.5	5	3.825	98	70	130	8.697	0.1(20)	
Calcium (Ca)	69.1	0.5	5	67.39	34	70	130	69.63	0.8(20)	M3
Chromium (Cr)	0.0637	0.005	0.05	0.01503	97	70	130	0.06618	3.8(20)	
Iron (Fe)	5.67	0.3	5	0.5316	103	70	130	5.91	4.2(20)	
Arsenic (As)	0.053	0.002	0.05	0	106	70	130	0.05151	2.9(20)	
Lead (Pb)	0.0488	0.005	0.05	0	98	70	130	0.0487	0.1(20)	

Comments:

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

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

M3 = The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to the spike level. The method control sample recovery was acceptable.



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Date:
27-Apr-11

QC Summary Report

Work Order:
11042621

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0426PH**

Analysis Date: **04/26/2011 16:48**

Sample ID: **LCS-W0426PH**

Units : **pH Units**

Run ID: **WETLAB_110426A**

Prep Date: **04/26/2011 16:48**

Analyte

Result

PQL

SpkVal

SpkRefVal

%REC

LCL(ME)

UCL(ME)

RPDRefVal

%RPD(Limit)

Qual

pH	4.92	1.7	5	98	90	110				
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Comments:

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



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Date:
04-May-11

QC Summary Report

Work Order:
11042621

Method Blank

Type **MBLK** Test Code: **SM2540C**

File ID: Batch ID: **W0427DS** Analysis Date: **04/29/2011 00:00**

Sample ID: **MBLK-W0427DS** Units : **mg/L** Run ID: **WETLAB_110427F** Prep Date: **04/29/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
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Solids, Total Dissolved (TDS)	ND	10								
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Laboratory Control Spike

Type **LCS** Test Code: **SM2540C**

File ID: Batch ID: **W0427DS** Analysis Date: **04/29/2011 00:00**

Sample ID: **LCS-W0427DS** Units : **mg/L** Run ID: **WETLAB_110427F** Prep Date: **04/29/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
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Solids, Total Dissolved (TDS)	91	10	100		91	70	130			
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Comments:

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



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Date:
02-May-11

QC Summary Report

Work Order:
11042621

Method Blank

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

File ID: **11042937.D**

Batch ID: **MS15W0429M**

Analysis Date: **04/29/2011 21:35**

Sample ID: **MBLK MS15W0429M**

Units: **µg/L**

Run ID: **MSD_15_110429B**

Prep Date: **04/29/2011 21:35**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	10.4		10		104	70	130			
Surr: Toluene-d8	10.1		10		101	70	130			



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Date:

02-May-11

QC Summary Report

Work Order:

11042621

Surr: 4-Bromofluorobenzene

9.65

10

97

70

130



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Date:
02-May-11

QC Summary Report

Work Order:
11042621

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW8260B**

File ID: **11042933.D**

Batch ID: **MS15W0429M**

Analysis Date: **04/29/2011 20:09**

Sample ID: **LCS MS15W0429M**

Units : **µg/L**

Run ID: **MSD_15_110429B**

Prep Date: **04/29/2011 20:09**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	10.5	1	10		105	70	130			
Chloromethane	10.4	2	10		104	70	130			
Vinyl chloride	11	1	10		110	70	130			
Chloroethane	11.4	1	10		114	70	130			
Bromomethane	11.9	2	10		119	70	130			
Trichlorofluoromethane	12.4	1	10		124	70	130			
1,1-Dichloroethene	10.6	1	10		106	70	130			
Dichloromethane	8.91	2	10		89	70	130			
Freon-113	11.8	1	10		118	70	137			
trans-1,2-Dichloroethene	10.6	1	10		106	70	130			
Methyl tert-butyl ether (MTBE)	10.4	0.5	10		104	70	130			
1,1-Dichloroethane	10.5	1	10		105	70	130			
2-Butanone (MEK)	175	10	200		87	70	130			
cis-1,2-Dichloroethene	10.6	1	10		106	70	130			
Bromochloromethane	10.4	1	10		104	70	130			
Chloroform	10.9	1	10		109	70	130			
2,2-Dichloropropane	11.1	1	10		111	70	130			
1,2-Dichloroethane	11.3	1	10		113	70	130			
1,1,1-Trichloroethane	12.1	1	10		121	70	130			
1,1-Dichloropropene	11.3	1	10		113	70	130			
Carbon tetrachloride	12.5	1	10		125	70	130			
Benzene	9.49	0.5	10		95	70	130			
Dibromomethane	10.5	1	10		105	70	130			
1,2-Dichloropropane	9.91	1	10		99	70	130			
Trichloroethene	10.8	1	10		108	70	130			
Bromodichloromethane	11.5	1	10		115	70	130			
4-Methyl-2-pentanone (MIBK)	22	2.5	25		88	20	182			
cis-1,3-Dichloropropene	9.96	1	10		99.6	70	130			
trans-1,3-Dichloropropene	9.94	1	10		99	70	130			
1,1,2-Trichloroethane	10.1	1	10		101	70	130			
Toluene	9.81	0.5	10		98	70	130			
1,3-Dichloropropane	9.91	1	10		99	70	130			
Dibromochloromethane	9.48	1	10		95	70	130			
1,2-Dibromoethane (EDB)	20.6	2	20		103	70	130			
Tetrachloroethene	10.6	1	10		106	70	130			
1,1,1,2-Tetrachloroethane	10.9	1	10		109	70	130			
Chlorobenzene	9.7	1	10		97	70	130			
Ethylbenzene	10.1	0.5	10		101	70	130			
m,p-Xylene	10	0.5	10		100	70	130			
Bromoform	9.12	1	10		91	70	130			
Styrene	10.4	1	10		104	70	130			
o-Xylene	9.89	0.5	10		99	70	130			
1,1,2,2-Tetrachloroethane	8.57	1	10		86	70	130			
1,2,3-Trichloropropane	18.7	2	20		94	70	130			
Isopropylbenzene	10.6	1	10		106	70	130			
Bromobenzene	10.1	1	10		101	70	130			
n-Propylbenzene	10.5	1	10		105	70	130			
4-Chlorotoluene	10.7	1	10		107	70	130			
2-Chlorotoluene	10.2	1	10		102	70	130			
1,3,5-Trimethylbenzene	10.9	1	10		109	70	130			
tert-Butylbenzene	10.7	1	10		107	70	130			
1,2,4-Trimethylbenzene	10.8	1	10		108	70	130			
sec-Butylbenzene	10.6	1	10		106	70	130			
1,3-Dichlorobenzene	10.3	1	10		103	70	130			
1,4-Dichlorobenzene	9.86	1	10		99	70	130			
4-Isopropyltoluene	10.8	1	10		108	70	130			
1,2-Dichlorobenzene	9.51	1	10		95	70	130			
n-Butylbenzene	11	1	10		110	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	46.2	3	50		92	67	130			
1,2,4-Trichlorobenzene	10.4	2	10		104	70	130			
Naphthalene	8.21	2	10		82	70	130			
Hexachlorobutadiene	20.8	2	20		104	70	130			
1,2,3-Trichlorobenzene	9.36	2	10		94	70	130			
Surr: 1,2-Dichloroethane-d4	11.1		10		111	70	130			
Surr: Toluene-d8	9.81		10		98	70	130			



Alpha Analytical, Inc.

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

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

Date:

02-May-11

QC Summary Report

Work Order:

11042621

Surr: 4-Bromofluorobenzene

10.5

10

105

70

130



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Date:

02-May-11

QC Summary Report

Work Order:

11042621

Sample Matrix Spike

Type MS

Test Code: EPA Method SW8260B

File ID: 11042938.D

Batch ID: MS15W0429M

Analysis Date: 04/29/2011 21:57

Sample ID: 11042621-04AMS

Units: µg/L

Run ID: MSD_15_110429B

Prep Date: 04/29/2011 21:57

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	37.9	2.5	50	0	76	21	138			
Chloromethane	44	10	50	0	88	23	144			
Vinyl chloride	46.4	2.5	50	0	93	49	136			
Chloroethane	47.6	2.5	50	0	95	21	159			
Bromomethane	54.8	10	50	0	110	10	174			
Trichlorofluoromethane	55.4	2.5	50	0	111	32	154			
1,1-Dichloroethene	48	2.5	50	0	96	64	130			
Dichloromethane	41.6	10	50	0	83	69	130			
Freon-113	54.1	2.5	50	0	108	55	141			
trans-1,2-Dichloroethene	48.5	2.5	50	0	97	63	130			
Methyl tert-butyl ether (MTBE)	48.3	1.3	50	0	97	47	150			
1,1-Dichloroethane	49.3	2.5	50	0	99	66	130			
2-Butanone (MEK)	618	50	1000	0	62	23	182			
cis-1,2-Dichloroethene	51.7	2.5	50	0	103	70	130			
Bromochloromethane	51.2	2.5	50	0	102	70	132			
Chloroform	52.1	2.5	50	0	104	70	130			
2,2-Dichloropropane	47.3	2.5	50	0	95	38	154			
1,2-Dichloroethane	53	2.5	50	0	106	65	134			
1,1,1-Trichloroethane	56.1	2.5	50	0	112	65	136			
1,1-Dichloropropene	53.1	2.5	50	0	106	68	132			
Carbon tetrachloride	56.2	2.5	50	0	112	58	148			
Benzene	46.6	1.3	50	0	93	59	138			
Dibromomethane	49.8	2.5	50	0	99.5	70	130			
1,2-Dichloropropane	48.6	2.5	50	0	97	70	131			
Trichloroethene	54.2	2.5	50	3.84	101	65	144			
Bromodichloromethane	54.1	2.5	50	0	108	50	157			
4-Methyl-2-pentanone (MIBK)	98.2	13	125	0	79	20	182			
cis-1,3-Dichloropropene	44.4	2.5	50	0	89	63	131			
trans-1,3-Dichloropropene	44	2.5	50	0	88	65	136			
1,1,2-Trichloroethane	48.6	2.5	50	0	97	70	131			
Toluene	47.9	1.3	50	0	96	68	130			
1,3-Dichloropropane	49	2.5	50	0	98	70	130			
Dibromochloromethane	45.4	2.5	50	0	91	42	155			
1,2-Dibromoethane (EDB)	99.4	5	100	0	99	70	130			
Tetrachloroethene	52.2	2.5	50	0	104	65	130			
1,1,1,2-Tetrachloroethane	52.2	2.5	50	0	104	70	130			
Chlorobenzene	47.6	2.5	50	0	95	70	130			
Ethylbenzene	48.8	1.3	50	0	98	68	130			
m,p-Xylene	49.6	1.3	50	0	99	68	131			
Bromoform	42.6	2.5	50	0	85	65	143			
Styrene	48.6	2.5	50	0	97	59	153			
o-Xylene	47.7	1.3	50	0	95	70	130			
1,1,2,2-Tetrachloroethane	42.5	2.5	50	0	85	67	130			
1,2,3-Trichloropropane	89.7	10	100	0	90	70	130			
Isopropylbenzene	51.3	2.5	50	0	103	55	138			
Bromobenzene	48.9	2.5	50	0	98	70	130			
n-Propylbenzene	51	2.5	50	0	102	67	133			
4-Chlorotoluene	50.8	2.5	50	0	102	70	130			
2-Chlorotoluene	48.8	2.5	50	0	98	70	130			
1,3,5-Trimethylbenzene	51.9	2.5	50	0	104	67	134			
tert-Butylbenzene	50	2.5	50	0	100	55	147			
1,2,4-Trimethylbenzene	51.9	2.5	50	0	104	65	135			
sec-Butylbenzene	50	2.5	50	0	100	68	135			
1,3-Dichlorobenzene	49.1	2.5	50	0	98	70	130			
1,4-Dichlorobenzene	45.5	2.5	50	0	91	70	130			
4-Isopropyltoluene	49.5	2.5	50	0	99	68	132			
1,2-Dichlorobenzene	46.8	2.5	50	0	94	70	130			
n-Butylbenzene	51	2.5	50	0	102	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	203	15	250	0	81	64	130			
1,2,4-Trichlorobenzene	46.1	10	50	0	92	62	133			
Naphthalene	35.4	10	50	0	71	32	166			
Hexachlorobutadiene	90.1	10	100	0	90	63	130			
1,2,3-Trichlorobenzene	38.3	10	50	0	77	55	138			
Surr: 1,2-Dichloroethane-d4	53.3		50		107	70	130			
Surr: Toluene-d8	49.4		50		99	70	130			



Alpha Analytical, Inc.

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

Date:

02-May-11

QC Summary Report

Work Order:

11042621

Surr: 4-Bromofluorobenzene

51.4

50

103

70

130



Alpha Analytical, Inc.

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Date:

02-May-11

QC Summary Report

Work Order:

11042621

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **11042939.D**

Batch ID: **MS15W0429M**

Analysis Date: **04/29/2011 22:18**

Sample ID: **11042621-04AMSD**

Units: **µg/L**

Run ID: **MSD_15_110429B**

Prep Date: **04/29/2011 22:18**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	40.5	2.5	50	0	81	21	138	37.94	6.4(33)	
Chloromethane	48.8	10	50	0	98	23	144	44.01	10.3(27)	
Vinyl chloride	48.7	2.5	50	0	97	49	136	46.35	5.0(21)	
Chloroethane	51.9	2.5	50	0	104	21	159	47.61	8.6(40)	
Bromomethane	60.4	10	50	0	121	10	174	54.77	9.7(40)	
Trichlorofluoromethane	60.7	2.5	50	0	121	32	154	55.44	9.0(37)	
1,1-Dichloroethene	53.8	2.5	50	0	108	64	130	48.03	11.3(21)	
Dichloromethane	45.6	10	50	0	91	69	130	41.59	9.3(20)	
Freon-113	59.8	2.5	50	0	120	55	141	54.1	9.9(40)	
trans-1,2-Dichloroethene	53.6	2.5	50	0	107	63	130	48.52	9.9(20)	
Methyl tert-butyl ether (MTBE)	51.5	1.3	50	0	103	47	150	48.27	6.4(40)	
1,1-Dichloroethane	53.8	2.5	50	0	108	66	130	49.25	8.8(20)	
2-Butanone (MEK)	605	50	1000	0	60	23	182	618.3	2.2(22)	
cis-1,2-Dichloroethene	53.4	2.5	50	0	107	70	130	51.66	3.3(20)	
Bromochloromethane	52.1	2.5	50	0	104	70	132	51.2	1.8(20)	
Chloroform	54.8	2.5	50	0	110	70	130	52.11	5.1(20)	
2,2-Dichloropropane	52	2.5	50	0	104	38	154	47.25	9.6(22)	
1,2-Dichloroethane	54.9	2.5	50	0	110	65	134	53.01	3.5(20)	
1,1,1-Trichloroethane	60.4	2.5	50	0	121	65	136	56.07	7.5(20)	
1,1-Dichloropropene	56.5	2.5	50	0	113	68	132	53.1	6.3(20)	
Carbon tetrachloride	62.1	2.5	50	0	124	58	148	56.18	10.1(20)	
Benzene	48.7	1.3	50	0	97	59	138	46.55	4.6(21)	
Dibromomethane	51.5	2.5	50	0	103	70	130	49.76	3.3(20)	
1,2-Dichloropropane	50.8	2.5	50	0	102	70	131	48.64	4.3(20)	
Trichloroethene	57.7	2.5	50	3.84	108	65	144	54.15	6.3(20)	
Bromodichloromethane	57.1	2.5	50	0	114	50	157	54.13	5.3(20)	
4-Methyl-2-pentanone (MIBK)	98.1	13	125	0	78	20	182	98.17	0.1(20)	
cis-1,3-Dichloropropene	44.9	2.5	50	0	90	63	131	44.4	1.2(20)	
trans-1,3-Dichloropropene	45.6	2.5	50	0	91	65	136	43.97	3.6(20)	
1,1,2-Trichloroethane	49.3	2.5	50	0	99	70	131	48.62	1.4(20)	
Toluene	48.9	1.3	50	0	98	68	130	47.87	2.1(20)	
1,3-Dichloropropane	48.9	2.5	50	0	98	70	130	49.03	0.4(20)	
Dibromochloromethane	47	2.5	50	0	94	42	155	45.35	3.6(20)	
1,2-Dibromoethane (EDB)	99.9	5	100	0	99.9	70	130	99.44	0.5(20)	
Tetrachloroethene	52.7	2.5	50	0	105	65	130	52.22	0.9(20)	
1,1,1,2-Tetrachloroethane	54.1	2.5	50	0	108	70	130	52.15	3.7(20)	
Chlorobenzene	48.3	2.5	50	0	97	70	130	47.58	1.4(20)	
Ethylbenzene	50.3	1.3	50	0	101	68	130	48.8	3.1(20)	
m,p-Xylene	50.9	1.3	50	0	102	68	131	49.58	2.6(20)	
Bromoform	45.2	2.5	50	0	90	65	143	42.6	5.9(20)	
Styrene	49.6	2.5	50	0	99	59	153	48.56	2.1(37)	
o-Xylene	49.4	1.3	50	0	99	70	130	47.69	3.6(20)	
1,1,2,2-Tetrachloroethane	43.4	2.5	50	0	87	67	130	42.47	2.3(20)	
1,2,3-Trichloropropane	91	10	100	0	91	70	130	89.74	1.4(20)	
Isopropylbenzene	53.2	2.5	50	0	106	55	138	51.27	3.7(20)	
Bromobenzene	49.5	2.5	50	0	99	70	130	48.9	1.2(20)	
n-Propylbenzene	51.9	2.5	50	0	104	67	133	51	1.8(30)	
4-Chlorotoluene	53.1	2.5	50	0	106	70	130	50.84	4.4(20)	
2-Chlorotoluene	51.2	2.5	50	0	102	70	130	48.81	4.7(20)	
1,3,5-Trimethylbenzene	54.1	2.5	50	0	108	67	134	51.85	4.2(21)	
tert-Butylbenzene	52.9	2.5	50	0	106	55	147	50.04	5.6(20)	
1,2,4-Trimethylbenzene	53.7	2.5	50	0	107	65	135	51.86	3.4(25)	
sec-Butylbenzene	52.7	2.5	50	0	105	68	135	50.02	5.1(20)	
1,3-Dichlorobenzene	52.2	2.5	50	0	104	70	130	49.09	6.1(20)	
1,4-Dichlorobenzene	49.6	2.5	50	0	99	70	130	45.5	8.7(20)	
4-Isopropyltoluene	53.5	2.5	50	0	107	68	132	49.48	7.8(20)	
1,2-Dichlorobenzene	48.6	2.5	50	0	97	70	130	46.81	3.8(20)	
n-Butylbenzene	54.8	2.5	50	0	110	62	134	50.97	7.2(21)	
1,2-Dibromo-3-chloropropane (DBCP)	210	15	250	0	84	64	130	203.3	3.1(20)	
1,2,4-Trichlorobenzene	47.5	10	50	0	95	62	133	46.1	2.9(29)	
Naphthalene	35	10	50	0	70	32	166	35.43	1.3(40)	
Hexachlorobutadiene	95.8	10	100	0	96	63	130	90.13	6.1(21)	
1,2,3-Trichlorobenzene	39.7	10	50	0	79	55	138	38.31	3.6(36)	
Surr: 1,2-Dichloroethane-d4	54		50		108	70	130			
Surr: Toluene-d8	47.9		50		96	70	130			



Alpha Analytical, Inc.

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

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

Date:

02-May-11

QC Summary Report

Work Order:

11042621

Surr: 4-Bromofluorobenzene	51.7	50	103	70	130
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Comments:

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

Page: 1 of 1

Alpha Analytical, Inc.

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

CA

WorkOrder : BMIS11042621

Report Due By : 5:00 PM On : 09-May-11

Client: Battelle Memorial Institute
655 West Broadway
Suite 1420
San Diego, CA 92101

Report Attention: David Conner
Phone Number: (619) 726-7311 x
Email Address: connerd@battelle.org
Betsy Curie
Phone Number: (614) 424-4899 x
Email Address: curiee@battelle.org
Shane Walton
Phone Number: (614) 424-4117 x
Email Address: waltonss@battelle.org

EDD Required : Yes

Sampled by : Chase Brogdon

Cooler Temp: 0 °C Samples Received: 26-Apr-11 Date Printed: 26-Apr-11

Client's COC #: 33395

Job : G005862/JPL Groundwater Monitoring

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

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub	TAT	Requested Tests										Sample Remarks
					300_0_W	314_W	ALKALINITY_W	METALS_D_W	PH_W	TDS_W	VOC_TIC_W	VOC_W			
BM11042621-01A	MW-14-5	AQ 04/25/11 08:35	5	0	9	CL NO3, NO2, SO4, PO4	Perchlorate Carb	Alk (Bicarb, Carb)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria		
BM11042621-02A	MW-14-4	AQ 04/25/11 09:17	5	0	9	CL NO3, NO2, SO4, PO4	Perchlorate Carb	Alk (Bicarb, Carb)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria		
BM11042621-03A	MW-14-3	AQ 04/25/11 09:56	5	0	9	CL NO3, NO2, SO4, PO4	Perchlorate Carb	Alk (Bicarb, Carb)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria		
BM11042621-04A	MW-14-2	AQ 04/25/11 10:36	10	0	9	CL NO3, NO2, SO4, PO4	Perchlorate Carb	Alk (Bicarb, Carb)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD, Level IV QC	
BM11042621-05A	MW-14-1	AQ 04/25/11 11:44	5	0	9	CL NO3, NO2, SO4, PO4	Perchlorate Carb	Alk (Bicarb, Carb)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria		
BM11042621-06A	EB-1-4/25/11	AQ 04/25/11 11:30	5	0	9	CL NO3, NO2, SO4, PO4	Perchlorate Carb	Alk (Bicarb, Carb)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria		
BM11042621-07A	TB-1-4/25/11	AQ 04/25/11 00:00	1	0	9									Reno Trip Blank 12/14/10	
BM11042621-08A	SB-1-4/25/11	AQ 04/25/11 12:11	5	0	9	CL NO3, NO2, SO4, PO4	Perchlorate Carb	Alk (Bicarb, Carb)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria		

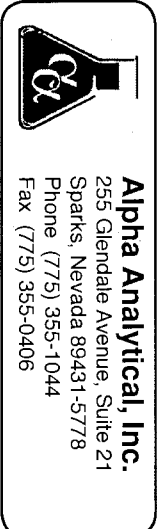
Comments: Security seals intact. Frozen ice. Temp Blank #8743 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E., MS/MSD).

Logged in by: K Murray Signature: K Murray Print Name: K Murray Company: Alpha Analytical, Inc. Date/Time: 4/26/11 1005

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:

Company Name BATTLE
 Attn: GETALD THOMPSON
 Address 505 KINGS AVE.
 City, State, Zip COLUMBIAS, OH 43201
 Phone Number _____ Fax _____



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

DOD Site
 35395

Consultant / Client Name BATTLE / DAVID GARDEN Job # 6005862 Job Name SPL SW. MON. 2011
 Address 3980 OLD TOWN AVE, C-205 Report Attention / Project Manager
 City, State, Zip San Diego, CA 92110 Name: DAVID GARDEN
 Email: CGARDEN@BATTLE.ORG Phone: 619-558-6641 Mobile: 619-726-7311

Time Sampled	Date Sampled	Matrix See Key Below	P.O. #	Lab ID Number	Office (Use Only)	Sample Description	TAT	Field Filtered	# Containers**	Analyses Required
835	4/24	AR	BM111042621-01			MW - 14 - 5			5	Vol's (314.2) LEAD, ARSENIC, TOTAL Cd (200.8) Clay (314.0) Na, K, Ca, Mg, Fe (200.8) CO ₂ , HCO ₃ , TDS, PH, ALKALINITY SM23208, SM25405, ISO2 Cl ⁻ , NO ₃ ⁻ , NO ₂ ⁻ , SO ₄ ²⁻ , PO ₄ ³⁻ (200.0)
917						MW - 14 - 4			5	Data Validation Level <u>III</u> or IV (EDD) EDD? YES <input checked="" type="checkbox"/> NO _____ Global ID # _____
956						MW - 14 - 3		5		
1036						MW - 14 - 2		10		
1144						MW - 14 - 1			5	REMARKS
1130						EB - 1 - 4/25/11			5	Equip. Blank
---						TB - 1 - 4/25/11			1	Trip Blank
121						SB - 1 - 4/25/11			5	Source Blank

ADDITIONAL INSTRUCTIONS:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action (NAC 445.0636 (c) (2)). Sampled By: CHRIS BARBER

Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation)	Date:	Time:
<u>[Signature]</u>	<u>[Signature]</u>	4/25/11	1530
<u>[Signature]</u>	<u>[Signature]</u>	4/26/11	0945

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



Alpha Analytical, Inc.

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

Date: 06-May-11

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11042703

Cooler Temp: 1 °C

Alpha's Sample ID	Client's Sample ID	Matrix
11042703-01A	MW-22-5	Aqueous
11042703-02A	MW-22-4	Aqueous
11042703-03A	MW-22-3	Aqueous
11042703-04A	MW-22-2	Aqueous
11042703-05A	MW-22-1	Aqueous
11042703-06A	EB-2-4/26/11	Aqueous
11042703-07A	TB-2-4/26/11	Aqueous
11042703-08A	MW-7	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
11042703-01A	EPA Method 314.0	Perchlorate
11042703-04A	EPA Method 314.0	Perchlorate
11042703-05A	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 / Carson, CA • (714) 386-2901 / 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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/27/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-22-5				
Lab ID : BM111042703-01A	Chloride	6.2	0.50 mg/L	04/27/11 11:47 04/27/11 12:48
Date Sampled 04/26/11 08:10	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/11 11:47 04/27/11 12:48
	Nitrate (NO3) - N	ND	0.25 mg/L	04/27/11 11:47 04/27/11 12:48
	Phosphate, ortho - P	ND	0.50 mg/L	04/27/11 11:47 04/27/11 12:48
	Sulfate (SO4)	21	0.50 mg/L	04/27/11 11:47 04/27/11 12:48
Client ID: MW-22-4				
Lab ID : BM111042703-02A	Chloride	12	0.50 mg/L	04/27/11 11:47 04/27/11 13:07
Date Sampled 04/26/11 08:45	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/11 11:47 04/27/11 13:07
	Nitrate (NO3) - N	2.8	0.25 mg/L	04/27/11 11:47 04/27/11 13:07
	Phosphate, ortho - P	ND	0.50 mg/L	04/27/11 11:47 04/27/11 13:07
	Sulfate (SO4)	16	0.50 mg/L	04/27/11 11:47 04/27/11 13:07
Client ID: MW-22-3				
Lab ID : BM111042703-03A	Chloride	34	0.50 mg/L	04/27/11 11:47 04/27/11 13:25
Date Sampled 04/26/11 09:21	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/11 11:47 04/27/11 13:25
	Nitrate (NO3) - N	6.0	0.25 mg/L	04/27/11 11:47 04/27/11 13:25
	Phosphate, ortho - P	ND	0.50 mg/L	04/27/11 11:47 04/27/11 13:25
	Sulfate (SO4)	42	0.50 mg/L	04/27/11 11:47 04/27/11 13:25
Client ID: MW-22-2				
Lab ID : BM111042703-04A	Chloride	44	0.50 mg/L	04/27/11 11:47 04/27/11 13:44
Date Sampled 04/26/11 09:54	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/11 11:47 04/27/11 13:44
	Nitrate (NO3) - N	6.9	0.25 mg/L	04/27/11 11:47 04/27/11 13:44
	Phosphate, ortho - P	ND	0.50 mg/L	04/27/11 11:47 04/27/11 13:44
	Sulfate (SO4)	44	0.50 mg/L	04/27/11 11:47 04/27/11 13:44
Client ID: MW-22-1				
Lab ID : BM111042703-05A	Chloride	67	0.50 mg/L	04/27/11 11:47 04/27/11 14:02
Date Sampled 04/26/11 10:28	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/11 11:47 04/27/11 14:02
	Nitrate (NO3) - N	2.8	0.25 mg/L	04/27/11 11:47 04/27/11 14:02
	Phosphate, ortho - P	ND	0.50 mg/L	04/27/11 11:47 04/27/11 14:02
	Sulfate (SO4)	58	0.50 mg/L	04/27/11 11:47 04/27/11 14:02
Client ID: EB-2-4/26/11				
Lab ID : BM111042703-06A	Chloride	ND	0.50 mg/L	04/27/11 11:47 04/27/11 14:21
Date Sampled 04/26/11 10:14	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/11 11:47 04/27/11 14:21
	Nitrate (NO3) - N	ND	0.25 mg/L	04/27/11 11:47 04/27/11 14:21
	Phosphate, ortho - P	ND	0.50 mg/L	04/27/11 11:47 04/27/11 14:21
	Sulfate (SO4)	ND	0.50 mg/L	04/27/11 11:47 04/27/11 14:21



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Client ID: MW-7

Lab ID :	BMI11042703-08A	Chloride	68	0.50 mg/L	04/27/11 11:47	04/27/11 14:39
Date Sampled	04/26/11 09:35	Nitrite (NO2) - N	ND	0.25 mg/L	04/27/11 11:47	04/27/11 14:39
		Nitrate (NO3) - N	0.84	0.25 mg/L	04/27/11 11:47	04/27/11 14:39
		Phosphate, ortho - P	ND	0.50 mg/L	04/27/11 11:47	04/27/11 14:39
		Sulfate (SO4)	46	0.50 mg/L	04/27/11 11:47	04/27/11 14:39

ND = Not Detected

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5/9/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/27/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-22-5 Lab ID: BMII1042703-01A Perchlorate Date Sampled 04/26/11 08:10	12.4	1.00 µg/L	04/29/11 10:13	04/29/11 13:18
Client ID: MW-22-4 Lab ID: BMII1042703-02A Perchlorate Date Sampled 04/26/11 08:45	ND	1.00 µg/L	04/29/11 10:13	04/29/11 13:36
Client ID: MW-22-3 Lab ID: BMII1042703-03A Perchlorate Date Sampled 04/26/11 09:21	1.83	1.00 µg/L	04/29/11 10:13	04/29/11 13:54
Client ID: MW-22-2 Lab ID: BMII1042703-04A Perchlorate Date Sampled 04/26/11 09:54	2.13	1.00 µg/L	04/29/11 10:13	04/29/11 14:13
Client ID: MW-22-1 Lab ID: BMII1042703-05A Perchlorate Date Sampled 04/26/11 10:28	40.1	1.00 µg/L	04/29/11 10:13	04/29/11 14:31
Client ID: EB-2-4/26/11 Lab ID: BMII1042703-06A Perchlorate Date Sampled 04/26/11 10:14	ND	1.00 µg/L	04/29/11 10:13	04/29/11 14:50
Client ID: MW-7 Lab ID: BMII1042703-08A Perchlorate Date Sampled 04/26/11 09:35	2.93	1.00 µg/L	04/29/11 10:13	04/29/11 15:45

ND = Not Detected

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PS
5/9/11

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/27/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-22-5				
Lab ID : BM11042703-01A	Alkalinity, Bicarbonate (As CaCO3)	20	10 mg/L	04/28/11 11:51 04/28/11 11:51
Date Sampled 04/26/11 08:10	Alkalinity, Carbonate (As CaCO3)	100	10 mg/L	04/28/11 11:51 04/28/11 11:51
	Alkalinity, Total (As CaCO3 at pH 4.5)	120	10 mg/L	04/28/11 11:51 04/28/11 11:51
Client ID: MW-22-4				
Lab ID : BM11042703-02A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	04/28/11 11:55 04/28/11 11:55
Date Sampled 04/26/11 08:45	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/11 11:55 04/28/11 11:55
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	04/28/11 11:55 04/28/11 11:55
Client ID: MW-22-3				
Lab ID : BM11042703-03A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	04/28/11 11:58 04/28/11 11:58
Date Sampled 04/26/11 09:21	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/11 11:58 04/28/11 11:58
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	04/28/11 11:58 04/28/11 11:58
Client ID: MW-22-2				
Lab ID : BM11042703-04A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	04/28/11 12:14 04/28/11 12:14
Date Sampled 04/26/11 09:54	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/11 12:14 04/28/11 12:14
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	04/28/11 12:14 04/28/11 12:14
Client ID: MW-22-1				
Lab ID : BM11042703-05A	Alkalinity, Bicarbonate (As CaCO3)	220	10 mg/L	04/28/11 12:17 04/28/11 12:17
Date Sampled 04/26/11 10:28	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/11 12:17 04/28/11 12:17
	Alkalinity, Total (As CaCO3 at pH 4.5)	220	10 mg/L	04/28/11 12:17 04/28/11 12:17
Client ID: EB-2-4/26/11				
Lab ID : BM11042703-06A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	04/28/11 12:22 04/28/11 12:22
Date Sampled 04/26/11 10:14	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/11 12:22 04/28/11 12:22
	Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	04/28/11 12:22 04/28/11 12:22
Client ID: MW-7				
Lab ID : BM11042703-08A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	04/28/11 12:24 04/28/11 12:24
Date Sampled 04/26/11 09:35	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/28/11 12:24 04/28/11 12:24
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	04/28/11 12:24 04/28/11 12:24



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ND = Not Detected

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5/9/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/27/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-22-5				
Lab ID : BM11042703-01A	Sodium (Na)	65	0.50 mg/L	04/27/11 16:20 05/03/11 18:19
Date Sampled 04/26/11 08:10	Magnesium (Mg)	1.0	0.50 mg/L	04/27/11 16:20 05/03/11 18:19
	Potassium (K)	1.1	0.50 mg/L	04/27/11 16:20 05/03/11 18:19
	Calcium (Ca)	2.9	0.50 mg/L	04/27/11 16:20 05/03/11 18:19
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20 05/03/11 18:19
	Iron (Fe)	ND	0.30 mg/L	04/27/11 16:20 05/03/11 18:19
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20 05/03/11 18:19
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20 05/03/11 18:19
Client ID: MW-22-4				
Lab ID : BM11042703-02A	Sodium (Na)	27	0.50 mg/L	04/27/11 16:20 05/03/11 18:24
Date Sampled 04/26/11 08:45	Magnesium (Mg)	11	0.50 mg/L	04/27/11 16:20 05/03/11 18:24
	Potassium (K)	1.7	0.50 mg/L	04/27/11 16:20 05/03/11 18:24
	Calcium (Ca)	36	0.50 mg/L	04/27/11 16:20 05/03/11 18:24
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20 05/03/11 18:24
	Iron (Fe)	ND	0.30 mg/L	04/27/11 16:20 05/03/11 18:24
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20 05/03/11 18:24
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20 05/03/11 18:24
Client ID: MW-22-3				
Lab ID : BM11042703-03A	Sodium (Na)	38	0.50 mg/L	04/27/11 16:20 05/03/11 18:52
Date Sampled 04/26/11 09:21	Magnesium (Mg)	17	0.50 mg/L	04/27/11 16:20 05/03/11 18:52
	Potassium (K)	2.3	0.50 mg/L	04/27/11 16:20 05/03/11 18:52
	Calcium (Ca)	50	0.50 mg/L	04/27/11 16:20 05/03/11 18:52
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20 05/03/11 18:52
	Iron (Fe)	ND	0.30 mg/L	04/27/11 16:20 05/03/11 18:52
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20 05/03/11 18:52
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20 05/03/11 18:52
Client ID: MW-22-2				
Lab ID : BM11042703-04A	Sodium (Na)	33	0.50 mg/L	04/27/11 16:20 05/03/11 18:58
Date Sampled 04/26/11 09:54	Magnesium (Mg)	23	0.50 mg/L	04/27/11 16:20 05/03/11 18:58
	Potassium (K)	2.4	0.50 mg/L	04/27/11 16:20 05/03/11 18:58
	Calcium (Ca)	53	0.50 mg/L	04/27/11 16:20 05/03/11 18:58
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20 05/03/11 18:58
	Iron (Fe)	0.34	0.30 mg/L	04/27/11 16:20 05/03/11 18:58
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20 05/03/11 18:58
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20 05/03/11 18:58



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Client ID: MW-22-1

Lab ID : BMII1042703-05A	Sodium (Na)	29	0.50 mg/L	04/27/11 16:20	05/03/11 19:03
Date Sampled 04/26/11 10:28	Magnesium (Mg)	31	0.50 mg/L	04/27/11 16:20	05/03/11 19:03
	Potassium (K)	2.4	0.50 mg/L	04/27/11 16:20	05/03/11 19:03
	Calcium (Ca)	73	0.50 mg/L	04/27/11 16:20	05/03/11 19:03
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 19:03
	Iron (Fe)	0.80	0.30 mg/L	04/27/11 16:20	05/03/11 19:03
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20	05/03/11 19:03
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 19:03

Client ID: EB-2-4/26/11

Lab ID : BMII1042703-06A	Sodium (Na)	ND	0.50 mg/L	04/27/11 16:20	05/03/11 19:09
Date Sampled 04/26/11 10:14	Magnesium (Mg)	ND	0.50 mg/L	04/27/11 16:20	05/03/11 19:09
	Potassium (K)	ND	0.50 mg/L	04/27/11 16:20	05/03/11 19:09
	Calcium (Ca)	ND	0.50 mg/L	04/27/11 16:20	05/03/11 19:09
	Chromium (Cr)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 19:09
	Iron (Fe)	ND	0.30 mg/L	04/27/11 16:20	05/03/11 19:09
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20	05/03/11 19:09
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 19:09

Client ID: MW-7

Lab ID : BMII1042703-08A	Sodium (Na)	36	0.50 mg/L	04/27/11 16:20	05/03/11 16:15
Date Sampled 04/26/11 09:35	Magnesium (Mg)	21	0.50 mg/L	04/27/11 16:20	05/03/11 16:15
	Potassium (K)	3.8	0.50 mg/L	04/27/11 16:20	05/03/11 16:15
	Calcium (Ca)	67	0.50 mg/L	04/27/11 16:20	05/03/11 16:15
	Chromium (Cr)	0.015	0.0050 mg/L	04/27/11 16:20	05/03/11 16:15
	Iron (Fe)	0.53	0.30 mg/L	04/27/11 16:20	05/03/11 16:15
	Arsenic (As)	ND	0.0020 mg/L	04/27/11 16:20	05/03/11 16:15
	Lead (Pb)	ND	0.0050 mg/L	04/27/11 16:20	05/03/11 16:15

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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Report Date



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ANALYTICAL REPORT

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Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/27/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-22-5				
Lab ID : BM111042703-01A pH	9.6	1.7 pH Units	04/27/11 13:41	04/27/11 13:41
Date Sampled 04/26/11 08:10 pH - Temperature	20	1.0 °C	04/27/11 13:41	04/27/11 13:41
Client ID: MW-22-4				
Lab ID : BM111042703-02A pH	7.8	1.7 pH Units	04/27/11 13:46	04/27/11 13:46
Date Sampled 04/26/11 08:45 pH - Temperature	19	1.0 °C	04/27/11 13:46	04/27/11 13:46
Client ID: MW-22-3				
Lab ID : BM111042703-03A pH	8.0	1.7 pH Units	04/27/11 13:48	04/27/11 13:48
Date Sampled 04/26/11 09:21 pH - Temperature	19	1.0 °C	04/27/11 13:48	04/27/11 13:48
Client ID: MW-22-2				
Lab ID : BM111042703-04A pH	8.0	1.7 pH Units	04/27/11 13:51	04/27/11 13:51
Date Sampled 04/26/11 09:54 pH - Temperature	20	1.0 °C	04/27/11 13:51	04/27/11 13:51
Client ID: MW-22-1				
Lab ID : BM111042703-05A pH	7.7	1.7 pH Units	04/27/11 13:53	04/27/11 13:53
Date Sampled 04/26/11 10:28 pH - Temperature	20	1.0 °C	04/27/11 13:53	04/27/11 13:53
Client ID: EB-2-4/26/11				
Lab ID : BM111042703-06A pH	4.9	1.7 pH Units	04/27/11 13:57	04/27/11 13:57
Date Sampled 04/26/11 10:14 pH - Temperature	19	1.0 °C	04/27/11 13:57	04/27/11 13:57
Client ID: MW-7				
Lab ID : BM111042703-08A pH	7.1	1.7 pH Units	04/27/11 14:01	04/27/11 14:01
Date Sampled 04/26/11 09:35 pH - Temperature	21	1.0 °C	04/27/11 14:01	04/27/11 14:01

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

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

Roger Scholl *Randy Gardner* *Walter Hinchman*

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5/9/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/27/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)
SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-22-5				
Lab ID : BMII1042703-01A Solids, Total Dissolved (TDS)	200	10 mg/L	05/03/11	05/03/11
Date Sampled 04/26/11 08:10				
Client ID: MW-22-4				
Lab ID : BMII1042703-02A Solids, Total Dissolved (TDS)	240	10 mg/L	05/05/11	05/05/11
Date Sampled 04/26/11 08:45				
Client ID: MW-22-3				
Lab ID : BMII1042703-03A Solids, Total Dissolved (TDS)	450	10 mg/L	05/05/11	05/05/11
Date Sampled 04/26/11 09:21				
Client ID: MW-22-2				
Lab ID : BMII1042703-04A Solids, Total Dissolved (TDS)	370	10 mg/L	05/04/11	05/04/11
Date Sampled 04/26/11 09:54				
Client ID: MW-22-1				
Lab ID : BMII1042703-05A Solids, Total Dissolved (TDS)	400	10 mg/L	05/05/11	05/05/11
Date Sampled 04/26/11 10:28				
Client ID: EB-2-4/26/11				
Lab ID : BMII1042703-06A Solids, Total Dissolved (TDS)	ND	10 mg/L	05/06/11	05/06/11
Date Sampled 04/26/11 10:14				
Client ID: MW-7				
Lab ID : BMII1042703-08A Solids, Total Dissolved (TDS)	390	10 mg/L	05/04/11	05/04/11
Date Sampled 04/26/11 09:35				

Roger Scholl

Randy Gardner

Walter Hinchman

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



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-22-5 Lab ID: BMII1042703-01A Date Received: 04/27/11 Date Sampled: 04/26/11 08:10	Sulfur dioxide	40	2.0 µg/L	04/30/11 03:21 04/30/11 03:21
Client ID: MW-22-4 Lab ID: BMII1042703-02A Date Received: 04/27/11 Date Sampled: 04/26/11 08:45	Sulfur dioxide	3.8	2.0 µg/L	04/30/11 03:42 04/30/11 03:42
Client ID: MW-22-3 Lab ID: BMII1042703-03A Date Received: 04/27/11 Date Sampled: 04/26/11 09:21	*** None Found ***	ND	2.0 µg/L	04/30/11 04:04 04/30/11 04:04
Client ID: MW-22-2 Lab ID: BMII1042703-04A Date Received: 04/27/11 Date Sampled: 04/26/11 09:54	*** None Found ***	ND	2.0 µg/L	04/30/11 04:26 04/30/11 04:26
Client ID: MW-22-1 Lab ID: BMII1042703-05A Date Received: 04/27/11 Date Sampled: 04/26/11 10:28	*** None Found ***	ND	2.0 µg/L	04/30/11 04:47 04/30/11 04:47
Client ID: EB-2-4/26/11 Lab ID: BMII1042703-06A Date Received: 04/27/11 Date Sampled: 04/26/11 10:14	*** None Found ***	ND	2.0 µg/L	04/30/11 00:49 04/30/11 00:49
Client ID: TB-2-4/26/11 Lab ID: BMII1042703-07A Date Received: 04/27/11 Date Sampled: 04/26/11 00:00	*** None Found ***	ND	2.0 µg/L	04/30/11 00:28 04/30/11 00:28
Client ID: MW-7 Lab ID: BMII1042703-08A Date Received: 04/27/11 Date Sampled: 04/26/11 09:35	*** None Found ***	ND	2.0 µg/L	04/30/11 05:09 04/30/11 05:09



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Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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5/9/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042703-01A
Client I.D. Number: MW-22-5

Sampled: 04/26/11 08:10
Received: 04/27/11
Extracted: 04/30/11 03:21
Analyzed: 04/30/11 03:21

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	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	118	(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	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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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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042703-02A
Client I.D. Number: MW-22-4

Sampled: 04/26/11 08:45
Received: 04/27/11
Extracted: 04/30/11 03:42
Analyzed: 04/30/11 03:42

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	119	(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	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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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042703-03A
Client I.D. Number: MW-22-3

Sampled: 04/26/11 09:21
Received: 04/27/11
Extracted: 04/30/11 04:04
Analyzed: 04/30/11 04:04

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	117	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	97	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042703-04A
Client I.D. Number: MW-22-2

Sampled: 04/26/11 09:54
Received: 04/27/11
Extracted: 04/30/11 04:26
Analyzed: 04/30/11 04:26

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	122	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	95	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	104	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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5/9/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042703-05A
Client I.D. Number: MW-22-1

Sampled: 04/26/11 10:28
Received: 04/27/11
Extracted: 04/30/11 04:47
Analyzed: 04/30/11 04:47

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	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	2.7	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	2.3	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	121	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	95	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	102	(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.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042703-06A
Client I.D. Number: EB-2-4/26/11

Sampled: 04/26/11 10:14
Received: 04/27/11
Extracted: 04/30/11 00:49
Analyzed: 04/30/11 00:49

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	109	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	104	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/9/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042703-07A
Client I.D. Number: TB-2-4/26/11

Sampled: 04/26/11 00:00
Received: 04/27/11
Extracted: 04/30/11 00:28
Analyzed: 04/30/11 00:28

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	103	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/9/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042703-08A
Client I.D. Number: MW-7

Sampled: 04/26/11 09:35
Received: 04/27/11
Extracted: 04/30/11 05:09
Analyzed: 04/30/11 05:09

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	16	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	3.2	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	104	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/9/11

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: BMI11042703

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11042703-01A	MW-22-5	Aqueous	2
11042703-02A	MW-22-4	Aqueous	2
11042703-03A	MW-22-3	Aqueous	2
11042703-04A	MW-22-2	Aqueous	2
11042703-05A	MW-22-1	Aqueous	2
11042703-06A	EB-2-4/26/11	Aqueous	2
11042703-07A	TB-2-4/26/11	Aqueous	2
11042703-08A	MW-7	Aqueous	2

5/9/11
Report Date



Alpha Analytical, Inc.

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

Date:
28-Apr-11

QC Summary Report

Work Order:
11042703

Method Blank

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

File ID: **20**

Batch ID: **26410**

Analysis Date: **04/27/2011 11:53**

Sample ID: **MB-26410**

Units : **mg/L**

Run ID: **IC_1_110427A**

Prep Date: **04/27/2011 11:47**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

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

File ID: **21**

Batch ID: **26410**

Analysis Date: **04/27/2011 12:11**

Sample ID: **LFB-26410**

Units : **mg/L**

Run ID: **IC_1_110427A**

Prep Date: **04/27/2011 11:47**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	49.5	0.5	50		99	90	110			
Nitrite (NO2) - N	4.97	0.25	5		99	90	110			
Nitrate (NO3) - N	5.43	0.25	5		109	90	110			
Phosphate, ortho - P	4.93	0.5	5		99	90	110			
Sulfate (SO4)	102	0.5	100		102	90	110			

Sample Matrix Spike

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

File ID: **30**

Batch ID: **26410**

Analysis Date: **04/27/2011 14:58**

Sample ID: **11042703-08ALFM**

Units : **mg/L**

Run ID: **IC_1_110427A**

Prep Date: **04/27/2011 11:47**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	579	2.5	500	68	102	80	120			
Nitrite (NO2) - N	50.3	1.3	50	0	101	80	120			
Nitrate (NO3) - N	56.4	1.3	50	0.8399	111	80	120			
Phosphate, ortho - P	51.1	2.5	50	0	102	80	120			
Sulfate (SO4)	1080	2.5	1000	46.31	104	80	120			

Sample Matrix Spike Duplicate

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

File ID: **31**

Batch ID: **26410**

Analysis Date: **04/27/2011 15:16**

Sample ID: **11042703-08ALFMD**

Units : **mg/L**

Run ID: **IC_1_110427A**

Prep Date: **04/27/2011 11:47**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	582	2.5	500	68	103	80	120	578.8	0.6(15)	
Nitrite (NO2) - N	50.8	1.3	50	0	102	80	120	50.28	1.0(15)	
Nitrate (NO3) - N	56.6	1.3	50	0.8399	112	80	120	56.42	0.3(15)	
Phosphate, ortho - P	51.9	2.5	50	0	104	80	120	51.1	1.6(15)	
Sulfate (SO4)	1090	2.5	1000	46.31	104	80	120	1085	0.4(15)	

Comments:

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



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Date:
02-May-11

QC Summary Report

Work Order:
11042703

Method Blank

File ID: 14	Type	MBLK	Test Code: EPA Method 314.0								
Sample ID: MB-26425	Units :	µg/L	Run ID: IC_3_110429A	Batch ID: 26425							
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							
Sample ID: LFB-26425	Units :	µg/L	Run ID: IC_3_110429A	Batch ID: 26425						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.7	2	25	91	85	115				

Sample Matrix Spike

File ID: 30	Type	LFM	Test Code: EPA Method 314.0							
Sample ID: 11042703-08ALFM	Units :	µg/L	Run ID: IC_3_110429A	Batch ID: 26425						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.3	2	25	2.93	85	80	120			

Sample Matrix Spike Duplicate

File ID: 31	Type	LFMD	Test Code: EPA Method 314.0							
Sample ID: 11042703-08ALFMD	Units :	µg/L	Run ID: IC_3_110429A	Batch ID: 26425						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	26.1	2	25	2.93	92	80	120	24.27	7.1(15)	

Comments:

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



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Date:
29-Apr-11

QC Summary Report

Work Order:
11042703

Laboratory Control Spike

Type **LCS** Test Code: **SM2320B**

File ID:

Batch ID: **W0428AL**

Analysis Date: **04/28/2011 11:14**

Sample ID: **LCS-W0428AL**

Units : **mg/L**

Run ID: **WETLAB_110428B**

Prep Date: **04/28/2011 11:14**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO ₃)	244.7	10	250		98	80	120			
Alkalinity, Carbonate (As CaCO ₃)	244.7	10	250		98	80	120			
Alkalinity, Total (As CaCO ₃ at pH 4.5)	245	10	250		98	80	120			

Comments:

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



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Date:
06-May-11

QC Summary Report

Work Order:
11042703

Method Blank

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

File ID: **050311.B\058_M.D**

Batch ID: **26413**

Analysis Date: **05/03/2011 15:47**

Sample ID: **MB-26413**

Units : **mg/L**

Run ID: **ICP/MS_110503B**

Prep Date: **04/27/2011 16:20**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

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

File ID: **050311.B\059_M.D**

Batch ID: **26413**

Analysis Date: **05/03/2011 15:52**

Sample ID: **LCS-26413**

Units : **mg/L**

Run ID: **ICP/MS_110503B**

Prep Date: **04/27/2011 16:20**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	5.32	0.5	5		106	85	115			
Magnesium (Mg)	5.18	0.5	5		104	85	115			
Potassium (K)	5.47	0.5	5		109	85	115			
Calcium (Ca)	5.39	0.5	5		108	85	115			
Chromium (Cr)	0.0557	0.005	0.05		111	85	115			
Iron (Fe)	5.68	0.3	5		114	85	115			
Arsenic (As)	0.0498	0.002	0.05		99.6	85	115			
Lead (Pb)	0.0511	0.005	0.05		102	85	115			

Sample Matrix Spike

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

File ID: **050311.B\064_M.D**

Batch ID: **26413**

Analysis Date: **05/03/2011 16:20**

Sample ID: **11042703-08AMS**

Units : **mg/L**

Run ID: **ICP/MS_110503B**

Prep Date: **04/27/2011 16:20**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	38.5	0.5	5	35.54	58	70	130			M3
Magnesium (Mg)	24.7	0.5	5	21.43	65	70	130			M3
Potassium (K)	8.7	0.5	5	3.825	97	70	130			
Calcium (Ca)	69.6	0.5	5	67.39	45	70	130			M3
Chromium (Cr)	0.0662	0.005	0.05	0.01503	102	70	130			
Iron (Fe)	5.91	0.3	5	0.5316	108	70	130			
Arsenic (As)	0.0515	0.002	0.05	0	103	70	130			
Lead (Pb)	0.0487	0.005	0.05	0	97	70	130			

Sample Matrix Spike Duplicate

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

File ID: **050311.B\065_M.D**

Batch ID: **26413**

Analysis Date: **05/03/2011 16:26**

Sample ID: **11042703-08AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110503B**

Prep Date: **04/27/2011 16:20**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	36.5	0.5	5	35.54	19	70	130	38.45	5.3(20)	M3
Magnesium (Mg)	24.3	0.5	5	21.43	57	70	130	24.66	1.6(20)	M3
Potassium (K)	8.71	0.5	5	3.825	98	70	130	8.697	0.1(20)	
Calcium (Ca)	69.1	0.5	5	67.39	34	70	130	69.63	0.8(20)	M3
Chromium (Cr)	0.0637	0.005	0.05	0.01503	97	70	130	0.06618	3.8(20)	
Iron (Fe)	5.67	0.3	5	0.5316	103	70	130	5.91	4.2(20)	
Arsenic (As)	0.053	0.002	0.05	0	106	70	130	0.05151	2.9(20)	
Lead (Pb)	0.0488	0.005	0.05	0	98	70	130	0.0487	0.1(20)	

Comments:

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

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

M3 = The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to the spike level. The method control sample recovery was acceptable.



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Date:
27-Apr-11

QC Summary Report

Work Order:
11042703

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0427PH**

Analysis Date: **04/27/2011 13:38**

Sample ID: **LCS-W0427PH**

Units : **pH Units**

Run ID: **WETLAB_110427C**

Prep Date: **04/27/2011 13:38**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
pH	4.97	1.7	5		99	90	110			

Comments:

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



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QC Summary Report

Date:
09-May-11

Work Order:
11042703

Method Blank

Type: **MBLK** Test Code: **SM2540C**

File ID: Batch ID: **W0502DS** Analysis Date: **05/04/2011 00:00**

Sample ID: **MBLK-W0502DS** Units : **mg/L** Run ID: **WETLAB_110502B** Prep Date: **05/04/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Solids, Total Dissolved (TDS)	ND		10							

Laboratory Control Spike

Type: **LCS** Test Code: **SM2540C**

File ID: Batch ID: **W0502DS** Analysis Date: **05/04/2011 00:00**

Sample ID: **LCS-W0502DS** Units : **mg/L** Run ID: **WETLAB_110502B** Prep Date: **05/04/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Solids, Total Dissolved (TDS)	102	10	100		102	70	130			

Comments:

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



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Date:

02-May-11

QC Summary Report

Work Order:

11042703

Method Blank

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

File ID: **11042937.D**

Batch ID: **MS15W0429N**

Analysis Date: **04/29/2011 21:35**

Sample ID: **MBLK MS15W0429N**

Units : **µg/L**

Run ID: **MSD_15_110429C**

Prep Date: **04/29/2011 21:35**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	10.4		10		104	70	130			
Surr: Toluene-d8	10.1		10		101	70	130			



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Date:

02-May-11

QC Summary Report

Work Order:

11042703

Surr: 4-Bromofluorobenzene

9.65

10

97

70

130



Alpha Analytical, Inc.

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Date:
02-May-11

QC Summary Report

Work Order:
11042703

Laboratory Control Spike

Type LCS Test Code: EPA Method SW8260B

File ID: 11042933.D

Batch ID: MS15W0429N

Analysis Date: 04/29/2011 20:09

Sample ID: LCS MS15W0429N

Units : µg/L

Run ID: MSD_15_110429C

Prep Date: 04/29/2011 20:09

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	10.5	1	10		105	70	130			
Chloromethane	10.4	2	10		104	70	130			
Vinyl chloride	11	1	10		110	70	130			
Chloroethane	11.4	1	10		114	70	130			
Bromomethane	11.9	2	10		119	70	130			
Trichlorofluoromethane	12.4	1	10		124	70	130			
1,1-Dichloroethene	10.6	1	10		106	70	130			
Dichloromethane	8.91	2	10		89	70	130			
Freon-113	11.8	1	10		118	70	137			
trans-1,2-Dichloroethene	10.6	1	10		106	70	130			
Methyl tert-butyl ether (MTBE)	10.4	0.5	10		104	70	130			
1,1-Dichloroethane	10.5	1	10		105	70	130			
2-Butanone (MEK)	175	10	200		87	70	130			
cis-1,2-Dichloroethene	10.6	1	10		106	70	130			
Bromochloromethane	10.4	1	10		104	70	130			
Chloroform	10.9	1	10		109	70	130			
2,2-Dichloropropane	11.1	1	10		111	70	130			
1,2-Dichloroethane	11.3	1	10		113	70	130			
1,1,1-Trichloroethane	12.1	1	10		121	70	130			
1,1-Dichloropropene	11.3	1	10		113	70	130			
Carbon tetrachloride	12.5	1	10		125	70	130			
Benzene	9.49	0.5	10		95	70	130			
Dibromomethane	10.5	1	10		105	70	130			
1,2-Dichloropropane	9.91	1	10		99	70	130			
Trichloroethene	10.8	1	10		108	70	130			
Bromodichloromethane	11.5	1	10		115	70	130			
4-Methyl-2-pentanone (MIBK)	22	2.5	25		88	20	182			
cis-1,3-Dichloropropene	9.96	1	10		99.6	70	130			
trans-1,3-Dichloropropene	9.94	1	10		99	70	130			
1,1,2-Trichloroethane	10.1	1	10		101	70	130			
Toluene	9.81	0.5	10		98	70	130			
1,3-Dichloropropane	9.91	1	10		99	70	130			
Dibromochloromethane	9.48	1	10		95	70	130			
1,2-Dibromoethane (EDB)	20.6	2	20		103	70	130			
Tetrachloroethene	10.6	1	10		106	70	130			
1,1,1,2-Tetrachloroethane	10.9	1	10		109	70	130			
Chlorobenzene	9.7	1	10		97	70	130			
Ethylbenzene	10.1	0.5	10		101	70	130			
m,p-Xylene	10	0.5	10		100	70	130			
Bromoform	9.12	1	10		91	70	130			
Styrene	10.4	1	10		104	70	130			
o-Xylene	9.89	0.5	10		99	70	130			
1,1,2,2-Tetrachloroethane	8.57	1	10		86	70	130			
1,2,3-Trichloropropane	18.7	2	20		94	70	130			
Isopropylbenzene	10.6	1	10		106	70	130			
Bromobenzene	10.1	1	10		101	70	130			
n-Propylbenzene	10.5	1	10		105	70	130			
4-Chlorotoluene	10.7	1	10		107	70	130			
2-Chlorotoluene	10.2	1	10		102	70	130			
1,3,5-Trimethylbenzene	10.9	1	10		109	70	130			
tert-Butylbenzene	10.7	1	10		107	70	130			
1,2,4-Trimethylbenzene	10.8	1	10		108	70	130			
sec-Butylbenzene	10.6	1	10		106	70	130			
1,3-Dichlorobenzene	10.3	1	10		103	70	130			
1,4-Dichlorobenzene	9.86	1	10		99	70	130			
4-Isopropyltoluene	10.8	1	10		108	70	130			
1,2-Dichlorobenzene	9.51	1	10		95	70	130			
n-Butylbenzene	11	1	10		110	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	46.2	3	50		92	67	130			
1,2,4-Trichlorobenzene	10.4	2	10		104	70	130			
Naphthalene	8.21	2	10		82	70	130			
Hexachlorobutadiene	20.8	2	20		104	70	130			
1,2,3-Trichlorobenzene	9.36	2	10		94	70	130			
Surr: 1,2-Dichloroethane-d4	11.1		10		111	70	130			
Surr: Toluene-d8	9.81		10		98	70	130			



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Date:

02-May-11

QC Summary Report

Work Order:

11042703

Surr: 4-Bromofluorobenzene

10.5

10

105

70

130



Alpha Analytical, Inc.

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Date:

02-May-11

QC Summary Report

Work Order:

11042703

Sample Matrix Spike

File ID: 11042940.D

Sample ID: 11042703-08AMS

Type MS

Test Code: EPA Method SW8260B

Batch ID: MS15W0429N

Analysis Date: 04/29/2011 22:40

Units : µg/L

Run ID: MSD_15_110429C

Prep Date: 04/29/2011 22:40

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	35.5	2.5	50	0	71	21	138			
Chloromethane	42.3	10	50	0	85	23	144			
Vinyl chloride	45.6	2.5	50	0	91	49	136			
Chloroethane	46.1	2.5	50	0	92	21	159			
Bromomethane	49.1	10	50	0	98	10	174			
Trichlorofluoromethane	50.4	2.5	50	0	101	32	154			
1,1-Dichloroethene	47.9	2.5	50	0	96	64	130			
Dichloromethane	45.8	10	50	0	92	69	130			
Freon-113	53.6	2.5	50	0	107	55	141			
trans-1,2-Dichloroethene	52	2.5	50	0	104	63	130			
Methyl tert-butyl ether (MTBE)	49	1.3	50	0	98	47	150			
1,1-Dichloroethane	51.4	2.5	50	0	103	66	130			
2-Butanone (MEK)	612	50	1000	0	61	23	182			
cis-1,2-Dichloroethene	53	2.5	50	0	106	70	130			
Bromochloromethane	49.3	2.5	50	0	99	70	132			
Chloroform	64.4	2.5	50	16.29	96	70	130			
2,2-Dichloropropane	46.4	2.5	50	0	93	38	154			
1,2-Dichloroethane	50.4	2.5	50	0	101	65	134			
1,1,1-Trichloroethane	54.7	2.5	50	0	109	65	136			
1,1-Dichloropropene	53.1	2.5	50	0	106	68	132			
Carbon tetrachloride	56	2.5	50	0	112	58	148			
Benzene	47.7	1.3	50	0	95	59	138			
Dibromomethane	49.8	2.5	50	0	99.6	70	130			
1,2-Dichloropropane	50.4	2.5	50	0	101	70	131			
Trichloroethene	49.9	2.5	50	0	99.8	65	144			
Bromodichloromethane	57.3	2.5	50	3.24	108	50	157			
4-Methyl-2-pentanone (MIBK)	96.5	13	125	0	77	20	182			
cis-1,3-Dichloropropene	42.7	2.5	50	0	85	63	131			
trans-1,3-Dichloropropene	43.7	2.5	50	0	87	65	136			
1,1,2-Trichloroethane	47.5	2.5	50	0	95	70	131			
Toluene	49.2	1.3	50	0	98	68	130			
1,3-Dichloropropane	49.4	2.5	50	0	99	70	130			
Dibromochloromethane	45.5	2.5	50	0	91	42	155			
1,2-Dibromoethane (EDB)	99.5	5	100	0	99	70	130			
Tetrachloroethene	51.8	2.5	50	0	104	65	130			
1,1,1,2-Tetrachloroethane	52.5	2.5	50	0	105	70	130			
Chlorobenzene	48.5	2.5	50	0	97	70	130			
Ethylbenzene	49.2	1.3	50	0	98	68	130			
m,p-Xylene	50.4	1.3	50	0	101	68	131			
Bromoform	43.3	2.5	50	0	87	65	143			
Styrene	51.2	2.5	50	0	102	59	153			
o-Xylene	49.3	1.3	50	0	99	70	130			
1,1,2,2-Tetrachloroethane	44.1	2.5	50	0	88	67	130			
1,2,3-Trichloropropane	89.8	10	100	0	90	70	130			
Isopropylbenzene	50.2	2.5	50	0	100	55	138			
Bromobenzene	47.4	2.5	50	0	95	70	130			
n-Propylbenzene	50.2	2.5	50	0	100	67	133			
4-Chlorotoluene	50.5	2.5	50	0	101	70	130			
2-Chlorotoluene	49.3	2.5	50	0	99	70	130			
1,3,5-Trimethylbenzene	50.9	2.5	50	0	102	67	134			
tert-Butylbenzene	50.2	2.5	50	0	100	55	147			
1,2,4-Trimethylbenzene	50.2	2.5	50	0	100	65	135			
sec-Butylbenzene	49.6	2.5	50	0	99	68	135			
1,3-Dichlorobenzene	49.4	2.5	50	0	99	70	130			
1,4-Dichlorobenzene	46.8	2.5	50	0	94	70	130			
4-Isopropyltoluene	50.4	2.5	50	0	101	68	132			
1,2-Dichlorobenzene	47.5	2.5	50	0	95	70	130			
n-Butylbenzene	51.8	2.5	50	0	104	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	202	15	250	0	81	64	130			
1,2,4-Trichlorobenzene	46.5	10	50	0	93	62	133			
Naphthalene	36.3	10	50	0	73	32	166			
Hexachlorobutadiene	93	10	100	0	93	63	130			
1,2,3-Trichlorobenzene	40.7	10	50	0	81	55	138			
Surr: 1,2-Dichloroethane-d4	50.5		50		101	70	130			
Surr: Toluene-d8	49.2		50		98	70	130			



Alpha Analytical, Inc.

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

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

Date:

02-May-11

QC Summary Report

Work Order:

11042703

Surr: 4-Bromofluorobenzene

49.6

50

99

70

130



Alpha Analytical, Inc.

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

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

Date:

02-May-11

QC Summary Report

Work Order:

11042703

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **11042941.D**

Batch ID: **MS15W0429N**

Analysis Date: **04/29/2011 23:02**

Sample ID: **11042703-08AMSD**

Units: **µg/L**

Run ID: **MSD_15_110429C**

Prep Date: **04/29/2011 23:02**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	35.1	2.5	50	0	70	21	138	35.52	1.1(33)	
Chloromethane	46.8	10	50	0	94	23	144	42.29	10.1(27)	
Vinyl chloride	45.7	2.5	50	0	91	49	136	45.55	0.4(21)	
Chloroethane	45.4	2.5	50	0	91	21	159	46.07	1.4(40)	
Bromomethane	49.5	10	50	0	99	10	174	49.07	1.0(40)	
Trichlorofluoromethane	50.7	2.5	50	0	101	32	154	50.44	0.4(37)	
1,1-Dichloroethene	48	2.5	50	0	96	64	130	47.94	0.1(21)	
Dichloromethane	43.8	10	50	0	88	69	130	45.76	4.4(20)	
Freon-113	53.4	2.5	50	0	107	55	141	53.64	0.4(40)	
trans-1,2-Dichloroethene	50.2	2.5	50	0	100	63	130	52.03	3.7(20)	
Methyl tert-butyl ether (MTBE)	48.7	1.3	50	0	97	47	150	48.99	0.7(40)	
1,1-Dichloroethane	51.5	2.5	50	0	103	66	130	51.38	0.3(20)	
2-Butanone (MEK)	633	50	1000	0	63	23	182	612.5	3.3(22)	
cis-1,2-Dichloroethene	53.6	2.5	50	0	107	70	130	52.99	1.1(20)	
Bromochloromethane	50.2	2.5	50	0	100	70	132	49.32	1.8(20)	
Chloroform	65.6	2.5	50	16.29	99	70	130	64.44	1.8(20)	
2,2-Dichloropropane	46.5	2.5	50	0	93	38	154	46.39	0.3(22)	
1,2-Dichloroethane	51	2.5	50	0	102	65	134	50.43	1.2(20)	
1,1,1-Trichloroethane	54.6	2.5	50	0	109	65	136	54.72	0.3(20)	
1,1-Dichloropropene	53.6	2.5	50	0	107	68	132	53.06	1.0(20)	
Carbon tetrachloride	55.9	2.5	50	0	112	58	148	56.03	0.3(20)	
Benzene	48.1	1.3	50	0	96	59	138	47.68	0.9(21)	
Dibromomethane	49.7	2.5	50	0	99	70	130	49.8	0.3(20)	
1,2-Dichloropropane	50.2	2.5	50	0	100	70	131	50.38	0.4(20)	
Trichloroethene	49.7	2.5	50	0	99	65	144	49.88	0.4(20)	
Bromodichloromethane	57.1	2.5	50	3.24	108	50	157	57.3	0.3(20)	
4-Methyl-2-pentanone (MIBK)	97.2	13	125	0	78	20	182	96.53	0.7(20)	
cis-1,3-Dichloropropene	44	2.5	50	0	88	63	131	42.68	3.0(20)	
trans-1,3-Dichloropropene	43.6	2.5	50	0	87	65	136	43.7	0.2(20)	
1,1,2-Trichloroethane	48.4	2.5	50	0	97	70	131	47.46	1.9(20)	
Toluene	49.2	1.3	50	0	98	68	130	49.23	0.1(20)	
1,3-Dichloropropane	49.6	2.5	50	0	99	70	130	49.37	0.5(20)	
Dibromochloromethane	45.9	2.5	50	0	92	42	155	45.53	0.9(20)	
1,2-Dibromoethane (EDB)	102	5	100	0	102	70	130	99.45	2.2(20)	
Tetrachloroethene	51.8	2.5	50	0	104	65	130	51.8	0.0(20)	
1,1,1,2-Tetrachloroethane	51.9	2.5	50	0	104	70	130	52.48	1.0(20)	
Chlorobenzene	47.8	2.5	50	0	96	70	130	48.47	1.4(20)	
Ethylbenzene	49	1.3	50	0	98	68	130	49.16	0.3(20)	
m,p-Xylene	49.9	1.3	50	0	99.7	68	131	50.43	1.2(20)	
Bromoform	42.4	2.5	50	0	85	65	143	43.25	1.9(20)	
Styrene	50	2.5	50	0	99.9	59	153	51.19	2.4(37)	
o-Xylene	47.6	1.3	50	0	95	70	130	49.28	3.5(20)	
1,1,2,2-Tetrachloroethane	43.5	2.5	50	0	87	67	130	44.14	1.5(20)	
1,2,3-Trichloropropane	88.1	10	100	0	88	70	130	89.8	2.0(20)	
Isopropylbenzene	50.7	2.5	50	0	101	55	138	50.24	0.9(20)	
Bromobenzene	48.1	2.5	50	0	96	70	130	47.35	1.6(20)	
n-Propylbenzene	50.4	2.5	50	0	101	67	133	50.22	0.3(30)	
4-Chlorotoluene	52	2.5	50	0	104	70	130	50.48	2.9(20)	
2-Chlorotoluene	50.7	2.5	50	0	101	70	130	49.25	2.8(20)	
1,3,5-Trimethylbenzene	52.2	2.5	50	0	104	67	134	50.91	2.5(21)	
tert-Butylbenzene	51.4	2.5	50	0	103	55	147	50.15	2.4(20)	
1,2,4-Trimethylbenzene	52.7	2.5	50	0	105	65	135	50.18	4.8(25)	
sec-Butylbenzene	49.5	2.5	50	0	99	68	135	49.63	0.3(20)	
1,3-Dichlorobenzene	51	2.5	50	0	102	70	130	49.44	3.1(20)	
1,4-Dichlorobenzene	48.9	2.5	50	0	98	70	130	46.78	4.4(20)	
4-Isopropyltoluene	51.5	2.5	50	0	103	68	132	50.43	2.0(20)	
1,2-Dichlorobenzene	47.6	2.5	50	0	95	70	130	47.51	0.3(20)	
n-Butylbenzene	53.2	2.5	50	0	106	62	134	51.84	2.5(21)	
1,2-Dibromo-3-chloropropane (DBCP)	207	15	250	0	83	64	130	202.4	2.3(20)	
1,2,4-Trichlorobenzene	47.9	10	50	0	96	62	133	46.52	2.9(29)	
Naphthalene	35.6	10	50	0	71	32	166	36.31	1.9(40)	
Hexachlorobutadiene	92.4	10	100	0	92	63	130	92.99	0.7(21)	
1,2,3-Trichlorobenzene	39.3	10	50	0	79	55	138	40.67	3.5(36)	
Surr: 1,2-Dichloroethane-d4	50.5		50		101	70	130			
Surr: Toluene-d8	49.6		50		99	70	130			



Alpha Analytical, Inc.

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

Date:

02-May-11

QC Summary Report

Work Order:

11042703

Surr: 4-Bromofluorobenzene	51.6	50	103	70	130
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Comments:

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

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

WorkOrder : BMIS11042703
Report Due By : 5:00 PM On : 10-May-2011

CA

Client:
 Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101

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

EDD Required : Yes

Sampled by : D. Loera

Cooler Temp 1 °C

Samples Received 27-Apr-2011

Date Printed 27-Apr-2011

Client's COC # : 29199, 024298
 QC Level : DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD with Surrogates

Job : G005862/JPL Groundwater Monitoring

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests										Sample Remarks
						300_0_W	314_W	ALKALINITY_W	METALS_D_W	PH_W	TDS_W	VOC_TIC_W	VOC_W	Perchlorate	Alk (Carb/Bleat)	
BM111042703-01A	MW-22-5	04/26/11 08:10	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bleat)	Special List	PH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	Level IV QC		
BM111042703-02A	MW-22-4	04/26/11 08:45	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bleat)	Special List	PH	TDS	VOC by 524 Criteria	VOC by 524 Criteria			
BM111042703-03A	MW-22-3	04/26/11 09:21	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bleat)	Special List	PH	TDS	VOC by 524 Criteria	VOC by 524 Criteria			
BM111042703-04A	MW-22-2	04/26/11 09:54	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bleat)	Special List	PH	TDS	VOC by 524 Criteria	VOC by 524 Criteria			
BM111042703-05A	MW-22-1	04/26/11 10:28	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bleat)	Special List	PH	TDS	VOC by 524 Criteria	VOC by 524 Criteria			
BM111042703-06A	EB-2-4/26/11	04/26/11 10:14	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bleat)	Special List	PH	TDS	VOC by 524 Criteria	VOC by 524 Criteria			
BM111042703-07A	TB-2-4/26/11	04/26/11 00:00	1	0	9					PH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 12/14/10		
BM111042703-08A	MW-7	04/26/11 09:35	12	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bleat)	Special List	PH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD		

Comments: Security seals intact. Frozen ice Temp Blank #7651 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by: Elizabeth Adcox Signature: Elizabeth Adcox Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 4-27-11 9:41

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 BATTELLE / GERRARD TAMPKINS
 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? 29199
 AZ CA NV WA
 ID OR OTHER
 Page # 1 of 1

Analyses Required

VOC'S (524.2)
 LEAD, ARSENIC,
 TOTAL CR (200.8)
 CLO₄ (314.0)
 Na, K, Ca, Mg, Fe
 (200.8)
 Co₃, H₂O₃, TP₅, P₄, Alkalinity
 SM2 3208, SM2540C, ISD 2
 Cl⁻, NO₃⁻, NO₂⁻, SO₄⁻²
 (200.0)

Required QC Level?
 I II III IV

EDD ED7 YES NO

REMARKS

Client Name	Address	City, State, Zip	PO #	Job #	Phone #	Fax #	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Analyses Required	Global ID #	REMARKS
BATTELLE / DAVID CONNER	3990 OLD TOWN AVE, C-205	San Diego CA 92110	218013	5005262	(619) 726-7311	614 458-6641	DAVID CONNER	MW - 22 - 5	1		5	VOC'S (524.2) LEAD, ARSENIC, TOTAL CR (200.8) CLO ₄ (314.0) Na, K, Ca, Mg, Fe (200.8) Co ₃ , H ₂ O ₃ , TP ₅ , P ₄ , Alkalinity SM2 3208, SM2540C, ISD 2 Cl ⁻ , NO ₃ ⁻ , NO ₂ ⁻ , SO ₄ ⁻² (200.0)	TV QC	
810	412611 A0	BMT11042703-01						MW - 22 - 4			5			
945								MW - 22 - 3			5			
921								MW - 22 - 2			5			
954								MW - 22 - 1			5			
1028								06 TB - 2 - 4/26/11			5			Equip BLANK
1014											5			Trip BLANK

ADDITIONAL INSTRUCTIONS:

Signature	Print Name	Company	Date	Time
	Marco Mendez	INSIGHT E&E	4/26/11	15:35
	Anthony Steg	Alpha Analytical	4/26/11	17:05
	Elizabeth Adcox	Alpha	4-27-11	9:41

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

Billing Information:

Name Battelle
 Address 505 King Ave
 City, State, Zip Columbus OH 43201
 Phone Number 614 726-7311 Fax 614 458-5489



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

Samples Collected From Which State?
 AZ CA NV WA

ID OR OTHER

Page # 024298
 of 1

Analyses Required

Client Name David Conner P.O. # 60586 218013 Job # 605862/576204
 Address David Conner Email Address connerd@battelle.org
 City, State, Zip Ohio Phone # 614 726-7311 Fax # 614 726-7311

Time Sampled	Date Sampled	Matrix See key Below	Sampled by	Lab ID Number (Use Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and Type of containers ** See below	REMARKS
			<u>D. Loew</u>							
	<u>0935/4/16</u>	<u>AB</u>				<u>MU-7</u>			<u>ID</u>	<u>VOC's (524.2)</u> <u>Total Cr (200.8)</u> <u>*Cations</u> <u>**Anions</u> <u>TDS (SM2540)</u> <u>PH (150.2)</u> <u>Bicarbonate + Carbonate (SM2200)</u> <u>MS/MSD</u>

ADDITIONAL INSTRUCTIONS: *As, Pb, Ca, Mg, K, Na, Fe ** Chloride, Nitrate, Nitrite, Orthophosphate, Sulfate, Perchlorate, Alkalinity

Signature	Print Name	Company	Date	Time
<u>[Signature]</u>	<u>David Loew</u>	<u>Battelle</u>	<u>4/26/11</u>	<u>1451</u>
<u>[Signature]</u>	<u>MARCUS MENDOZA</u>	<u>Battelle</u>	<u>4/26/11</u>	<u>1451</u>
<u>[Signature]</u>	<u>MARCUS MENDOZA</u>	<u>Battelle</u>	<u>4/26/11</u>	<u>1452</u>
<u>[Signature]</u>	<u>Anthony Starz</u>	<u>Battelle</u>	<u>4/26/11</u>	<u>1508</u>
<u>[Signature]</u>	<u>Anthony Starz</u>	<u>Battelle</u>	<u>4/26/11</u>	<u>1508</u>
<u>[Signature]</u>	<u>Elizabeth Odcox</u>	<u>Battelle</u>	<u>4/27/11</u>	<u>9:41</u>

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air ** - L-Liter V-Voa S-Soil Jar O-Other T-Tealder 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: 09-May-11

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11042807

Cooler Temp: 2 °C

Alpha's Sample ID	Client's Sample ID	Matrix
11042807-01A	MW-6	Aqueous
11042807-02A	DUPE-7-2Q11	Aqueous
11042807-03A	MW-8	Aqueous
11042807-04A	DUPE-8-2Q11	Aqueous
11042807-05A	MW-15	Aqueous
11042807-06A	MW-24-5	Aqueous
11042807-07A	MW-24-4	Aqueous
11042807-08A	MW-24-3	Aqueous
11042807-09A	MW-24-2	Aqueous
11042807-10A	MW-24-1	Aqueous
11042807-11A	DUPE-1-2Q11	Aqueous
11042807-12A	EB-3-4/27/11	Aqueous
11042807-13A	TB-3-4/27/11	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
11042807-09A	EPA Method 314.0	Perchlorate
11042807-10A	EPA Method 314.0	Perchlorate
11042807-11A	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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/28/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-6				
Lab ID : BMI11042807-01A	Chloride	120	5.0 mg/L	04/28/11 10:36 05/02/11 11:16
Date Sampled 04/27/11 09:26	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/11 10:36 04/28/11 14:20
	Nitrate (NO3) - N	14	0.25 mg/L	04/28/11 10:36 04/28/11 14:20
	Phosphate, ortho - P	ND	0.50 mg/L	04/28/11 10:36 04/28/11 14:20
	Sulfate (SO4)	190	5.0 mg/L	04/28/11 10:36 05/02/11 11:16
Client ID: DUPE-7-2Q11				
Lab ID : BMI11042807-02A	Chloride	120	5.0 mg/L	04/28/11 10:36 05/02/11 11:35
Date Sampled 04/27/11 09:30	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/11 10:36 04/28/11 14:38
	Nitrate (NO3) - N	14	0.25 mg/L	04/28/11 10:36 04/28/11 14:38
	Phosphate, ortho - P	ND	0.50 mg/L	04/28/11 10:36 04/28/11 14:38
	Sulfate (SO4)	190	5.0 mg/L	04/28/11 10:36 05/02/11 11:35
Client ID: MW-8				
Lab ID : BMI11042807-03A	Chloride	7.5	0.50 mg/L	04/28/11 10:36 04/28/11 14:57
Date Sampled 04/27/11 11:51	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/11 10:36 04/28/11 14:57
	Nitrate (NO3) - N	1.7	0.25 mg/L	04/28/11 10:36 04/28/11 14:57
	Phosphate, ortho - P	ND	0.50 mg/L	04/28/11 10:36 04/28/11 14:57
	Sulfate (SO4)	18	0.50 mg/L	04/28/11 10:36 04/28/11 14:57
Client ID: DUPE-8-2Q11				
Lab ID : BMI11042807-04A	Chloride	7.4	0.50 mg/L	04/28/11 10:36 04/28/11 15:16
Date Sampled 04/27/11 11:55	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/11 10:36 04/28/11 15:16
	Nitrate (NO3) - N	1.7	0.25 mg/L	04/28/11 10:36 04/28/11 15:16
	Phosphate, ortho - P	ND	0.50 mg/L	04/28/11 10:36 04/28/11 15:16
	Sulfate (SO4)	19	0.50 mg/L	04/28/11 10:36 04/28/11 15:16
Client ID: MW-15				
Lab ID : BMI11042807-05A	Chloride	5.9	0.50 mg/L	04/28/11 10:36 04/28/11 16:11
Date Sampled 04/27/11 14:17	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/11 10:36 04/28/11 16:11
	Nitrate (NO3) - N	2.5	0.25 mg/L	04/28/11 10:36 04/28/11 16:11
	Phosphate, ortho - P	ND	0.50 mg/L	04/28/11 10:36 04/28/11 16:11
	Sulfate (SO4)	15	0.50 mg/L	04/28/11 10:36 04/28/11 16:11
Client ID: MW-24-5				
Lab ID : BMI11042807-06A	Chloride	9.0	0.50 mg/L	04/28/11 10:36 04/28/11 17:07
Date Sampled 04/27/11 07:56	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/11 10:36 04/28/11 17:07
	Nitrate (NO3) - N	1.2	0.25 mg/L	04/28/11 10:36 04/28/11 17:07
	Phosphate, ortho - P	ND	0.50 mg/L	04/28/11 10:36 04/28/11 17:07
	Sulfate (SO4)	20	0.50 mg/L	04/28/11 10:36 04/28/11 17:07



Alpha Analytical, Inc.

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Client ID: **MW-24-4**

Lab ID : BM11042807-07A	Chloride	18	0.50 mg/L	04/28/11 10:36	04/28/11 17:25
Date Sampled 04/27/11 08:40	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/11 10:36	04/28/11 17:25
	Nitrate (NO3) - N	ND	0.25 mg/L	04/28/11 10:36	04/28/11 17:25
	Phosphate, ortho - P	ND	0.50 mg/L	04/28/11 10:36	04/28/11 17:25
	Sulfate (SO4)	2.3	0.50 mg/L	04/28/11 10:36	04/28/11 17:25

Client ID: **MW-24-3**

Lab ID : BM11042807-08A	Chloride	16	0.50 mg/L	04/28/11 10:36	04/28/11 17:44
Date Sampled 04/27/11 09:25	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/11 10:36	04/28/11 17:44
	Nitrate (NO3) - N	ND	0.25 mg/L	04/28/11 10:36	04/28/11 17:44
	Phosphate, ortho - P	ND	0.50 mg/L	04/28/11 10:36	04/28/11 17:44
	Sulfate (SO4)	13	0.50 mg/L	04/28/11 10:36	04/28/11 17:44

Client ID: **MW-24-2**

Lab ID : BM11042807-09A	Chloride	43	0.50 mg/L	04/28/11 10:36	04/28/11 18:02
Date Sampled 04/27/11 10:10	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/11 10:36	04/28/11 18:02
	Nitrate (NO3) - N	2.0	0.25 mg/L	04/28/11 10:36	04/28/11 18:02
	Phosphate, ortho - P	ND	0.50 mg/L	04/28/11 10:36	04/28/11 18:02
	Sulfate (SO4)	27	0.50 mg/L	04/28/11 10:36	04/28/11 18:02

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

Lab ID : BM11042807-10A	Chloride	71	2.5 mg/L	04/28/11 10:36	05/02/11 11:53
Date Sampled 04/27/11 11:15	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/11 10:36	04/28/11 18:21
	Nitrate (NO3) - N	1.3	0.25 mg/L	04/28/11 10:36	04/28/11 18:21
	Phosphate, ortho - P	ND	0.50 mg/L	04/28/11 10:36	04/28/11 18:21
	Sulfate (SO4)	50	0.50 mg/L	04/28/11 10:36	04/28/11 18:21

Client ID: **DUPE-1-2Q11**

Lab ID : BM11042807-11A	Chloride	43	0.50 mg/L	04/28/11 10:36	04/28/11 18:39
Date Sampled 04/27/11 00:00	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/11 10:36	04/28/11 18:39
	Nitrate (NO3) - N	2.0	0.25 mg/L	04/28/11 10:36	04/28/11 18:39
	Phosphate, ortho - P	ND	0.50 mg/L	04/28/11 10:36	04/28/11 18:39
	Sulfate (SO4)	27	0.50 mg/L	04/28/11 10:36	04/28/11 18:39

Client ID: **EB-3-4/27/11**

Lab ID : BM11042807-12A	Chloride	ND	0.50 mg/L	04/28/11 10:36	04/28/11 18:58
Date Sampled 04/27/11 11:00	Nitrite (NO2) - N	ND	0.25 mg/L	04/28/11 10:36	04/28/11 18:58
	Nitrate (NO3) - N	ND	0.25 mg/L	04/28/11 10:36	04/28/11 18:58
	Phosphate, ortho - P	ND	0.50 mg/L	04/28/11 10:36	04/28/11 18:58
	Sulfate (SO4)	ND	0.50 mg/L	04/28/11 10:36	04/28/11 18:58

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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5/10/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/28/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-6				
Lab ID : BM111042807-01A Perchlorate	2.54	1.00 µg/L	04/28/11 13:27	04/28/11 18:04
Date Sampled 04/27/11 09:26				
Client ID: DUPE-7-2Q11				
Lab ID : BM111042807-02A Perchlorate	2.51	1.00 µg/L	04/28/11 13:27	04/28/11 18:22
Date Sampled 04/27/11 09:30				
Client ID: MW-8				
Lab ID : BM111042807-03A Perchlorate	ND	1.00 µg/L	04/28/11 13:27	04/28/11 18:41
Date Sampled 04/27/11 11:51				
Client ID: DUPE-8-2Q11				
Lab ID : BM111042807-04A Perchlorate	ND	1.00 µg/L	04/28/11 13:27	04/28/11 19:36
Date Sampled 04/27/11 11:55				
Client ID: MW-15				
Lab ID : BM111042807-05A Perchlorate	ND	1.00 µg/L	04/28/11 13:27	04/28/11 19:54
Date Sampled 04/27/11 14:17				
Client ID: MW-24-5				
Lab ID : BM111042807-06A Perchlorate	ND	1.00 µg/L	04/28/11 13:27	04/28/11 20:13
Date Sampled 04/27/11 07:56				
Client ID: MW-24-4				
Lab ID : BM111042807-07A Perchlorate	ND	1.00 µg/L	04/28/11 13:27	04/28/11 20:31
Date Sampled 04/27/11 08:40				
Client ID: MW-24-3				
Lab ID : BM111042807-08A Perchlorate	ND	1.00 µg/L	04/28/11 13:27	04/28/11 20:49
Date Sampled 04/27/11 09:25				
Client ID: MW-24-2				
Lab ID : BM111042807-09A Perchlorate	17.2	1.00 µg/L	04/28/11 13:27	04/28/11 21:08
Date Sampled 04/27/11 10:10				
Client ID: MW-24-1				
Lab ID : BM111042807-10A Perchlorate	10.4	1.00 µg/L	04/28/11 13:27	04/28/11 21:26
Date Sampled 04/27/11 11:15				
Client ID: DUPE-1-2Q11				
Lab ID : BM111042807-11A Perchlorate	17.5	1.00 µg/L	04/28/11 13:27	04/28/11 21:45
Date Sampled 04/27/11 00:00				



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Client ID: **EB-3-4/27/11**

Lab ID: BMI11042807-12A Perchlorate

ND

1.00 µg/L

04/28/11 13:27 04/28/11 22:03

Date Sampled 04/27/11 11:00

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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

5/10/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/28/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-6					
Lab ID : BM11042807-01A	Alkalinity, Bicarbonate (As CaCO ₃)	240	10 mg/L	05/02/11 12:46	05/02/11 12:46
Date Sampled 04/27/11 09:26	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/02/11 12:46	05/02/11 12:46
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	240	10 mg/L	05/02/11 12:46	05/02/11 12:46
Client ID: DUPE-7-2Q11					
Lab ID : BM11042807-02A	Alkalinity, Bicarbonate (As CaCO ₃)	240	10 mg/L	05/02/11 12:53	05/02/11 12:53
Date Sampled 04/27/11 09:30	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/02/11 12:53	05/02/11 12:53
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	240	10 mg/L	05/02/11 12:53	05/02/11 12:53
Client ID: MW-8					
Lab ID : BM11042807-03A	Alkalinity, Bicarbonate (As CaCO ₃)	180	10 mg/L	05/02/11 12:57	05/02/11 12:57
Date Sampled 04/27/11 11:51	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/02/11 12:57	05/02/11 12:57
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	180	10 mg/L	05/02/11 12:57	05/02/11 12:57
Client ID: DUPE-8-2Q11					
Lab ID : BM11042807-04A	Alkalinity, Bicarbonate (As CaCO ₃)	180	10 mg/L	05/02/11 13:00	05/02/11 13:00
Date Sampled 04/27/11 11:55	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/02/11 13:00	05/02/11 13:00
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	180	10 mg/L	05/02/11 13:00	05/02/11 13:00
Client ID: MW-15					
Lab ID : BM11042807-05A	Alkalinity, Bicarbonate (As CaCO ₃)	180	10 mg/L	05/02/11 13:03	05/02/11 13:03
Date Sampled 04/27/11 14:17	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/02/11 13:03	05/02/11 13:03
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	180	10 mg/L	05/02/11 13:03	05/02/11 13:03
Client ID: MW-24-5					
Lab ID : BM11042807-06A	Alkalinity, Bicarbonate (As CaCO ₃)	180	10 mg/L	05/02/11 13:07	05/02/11 13:07
Date Sampled 04/27/11 07:56	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/02/11 13:07	05/02/11 13:07
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	180	10 mg/L	05/02/11 13:07	05/02/11 13:07
Client ID: MW-24-4					
Lab ID : BM11042807-07A	Alkalinity, Bicarbonate (As CaCO ₃)	31	10 mg/L	05/02/11 13:10	05/02/11 13:10
Date Sampled 04/27/11 08:40	Alkalinity, Carbonate (As CaCO ₃)	66	10 mg/L	05/02/11 13:10	05/02/11 13:10
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	97	10 mg/L	05/02/11 13:10	05/02/11 13:10
Client ID: MW-24-3					
Lab ID : BM11042807-08A	Alkalinity, Bicarbonate (As CaCO ₃)	170	10 mg/L	05/02/11 13:13	05/02/11 13:13
Date Sampled 04/27/11 09:25	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/02/11 13:13	05/02/11 13:13
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	170	10 mg/L	05/02/11 13:13	05/02/11 13:13
Client ID: MW-24-2					
Lab ID : BM11042807-09A	Alkalinity, Bicarbonate (As CaCO ₃)	170	10 mg/L	05/02/11 13:16	05/02/11 13:16
Date Sampled 04/27/11 10:10	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/02/11 13:16	05/02/11 13:16
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	170	10 mg/L	05/02/11 13:16	05/02/11 13:16



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Client ID: MW-24-1

Lab ID : BM111042807-10A	Alkalinity, Bicarbonate (As CaCO3)	200	10 mg/L	05/02/11 13:20	05/02/11 13:20
Date Sampled 04/27/11 11:15	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/02/11 13:20	05/02/11 13:20
	Alkalinity, Total (As CaCO3 at pH 4.5)	200	10 mg/L	05/02/11 13:20	05/02/11 13:20

Client ID: DUPE-1-2Q11

Lab ID : BM111042807-11A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	05/02/11 13:29	05/02/11 13:29
Date Sampled 04/27/11 00:00	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/02/11 13:29	05/02/11 13:29
	Alkalinity, Total (As CaCO3 at pH 4.5)	170	10 mg/L	05/02/11 13:29	05/02/11 13:29

Client ID: EB-3-4/27/11

Lab ID : BM111042807-12A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/02/11 13:36	05/02/11 13:36
Date Sampled 04/27/11 11:00	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/02/11 13:36	05/02/11 13:36
	Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/02/11 13:36	05/02/11 13:36

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/10/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/28/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-6				
Lab ID : BM11042807-01A	Sodium (Na)	37	0.50 mg/L	04/29/11 16:24 05/03/11 12:59
Date Sampled 04/27/11 09:26	Magnesium (Mg)	42	0.50 mg/L	04/29/11 16:24 05/03/11 12:59
	Potassium (K)	2.5	0.50 mg/L	04/29/11 16:24 05/03/11 12:59
	Calcium (Ca)	130	0.50 mg/L	04/29/11 16:24 05/03/11 12:59
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 12:59
	Iron (Fe)	0.63	0.30 mg/L	04/29/11 16:24 05/05/11 14:10
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24 05/03/11 12:59
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 12:59
Client ID: DUPE-7-2Q11				
Lab ID : BM11042807-02A	Sodium (Na)	35	0.50 mg/L	04/29/11 16:24 05/03/11 13:21
Date Sampled 04/27/11 09:30	Magnesium (Mg)	40	0.50 mg/L	04/29/11 16:24 05/03/11 13:21
	Potassium (K)	2.3	0.50 mg/L	04/29/11 16:24 05/03/11 13:21
	Calcium (Ca)	120	0.50 mg/L	04/29/11 16:24 05/03/11 13:21
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 13:21
	Iron (Fe)	0.79	0.30 mg/L	04/29/11 16:24 05/03/11 13:21
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24 05/03/11 13:21
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 13:21
Client ID: MW-8				
Lab ID : BM11042807-03A	Sodium (Na)	17	0.50 mg/L	04/29/11 16:24 05/03/11 13:27
Date Sampled 04/27/11 11:51	Magnesium (Mg)	13	0.50 mg/L	04/29/11 16:24 05/03/11 13:27
	Potassium (K)	2.3	0.50 mg/L	04/29/11 16:24 05/03/11 13:27
	Calcium (Ca)	38	0.50 mg/L	04/29/11 16:24 05/03/11 13:27
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 13:27
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24 05/03/11 13:27
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24 05/03/11 13:27
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 13:27
Client ID: DUPE-8-2Q11				
Lab ID : BM11042807-04A	Sodium (Na)	17	0.50 mg/L	04/29/11 16:24 05/03/11 13:32
Date Sampled 04/27/11 11:55	Magnesium (Mg)	13	0.50 mg/L	04/29/11 16:24 05/03/11 13:32
	Potassium (K)	2.2	0.50 mg/L	04/29/11 16:24 05/03/11 13:32
	Calcium (Ca)	37	0.50 mg/L	04/29/11 16:24 05/03/11 13:32
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 13:32
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24 05/03/11 13:32
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24 05/03/11 13:32
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 13:32



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Client ID: MW-15

Lab ID : BMI11042807-05A	Sodium (Na)	20	0.50 mg/L	04/29/11 16:24	05/03/11 13:38
Date Sampled 04/27/11 14:17	Magnesium (Mg)	12	0.50 mg/L	04/29/11 16:24	05/03/11 13:38
	Potassium (K)	2.3	0.50 mg/L	04/29/11 16:24	05/03/11 13:38
	Calcium (Ca)	36	0.50 mg/L	04/29/11 16:24	05/03/11 13:38
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 13:38
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24	05/03/11 13:38
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24	05/03/11 13:38
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 13:38

Client ID: MW-24-5

Lab ID : BMI11042807-06A	Sodium (Na)	36	0.50 mg/L	04/29/11 16:24	05/03/11 13:43
Date Sampled 04/27/11 07:56	Magnesium (Mg)	8.2	0.50 mg/L	04/29/11 16:24	05/03/11 13:43
	Potassium (K)	1.7	0.50 mg/L	04/29/11 16:24	05/03/11 13:43
	Calcium (Ca)	31	0.50 mg/L	04/29/11 16:24	05/03/11 13:43
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 13:43
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24	05/03/11 13:43
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24	05/03/11 13:43
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 13:43

Client ID: MW-24-4

Lab ID : BMI11042807-07A	Sodium (Na)	36	0.50 mg/L	04/29/11 16:24	05/03/11 13:49
Date Sampled 04/27/11 08:40	Magnesium (Mg)	6.1	0.50 mg/L	04/29/11 16:24	05/03/11 13:49
	Potassium (K)	1.9	0.50 mg/L	04/29/11 16:24	05/03/11 13:49
	Calcium (Ca)	5.0	0.50 mg/L	04/29/11 16:24	05/03/11 13:49
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 13:49
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24	05/03/11 13:49
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24	05/03/11 13:49
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 13:49

Client ID: MW-24-3

Lab ID : BMI11042807-08A	Sodium (Na)	39	0.50 mg/L	04/29/11 16:24	05/03/11 13:55
Date Sampled 04/27/11 09:25	Magnesium (Mg)	11	0.50 mg/L	04/29/11 16:24	05/03/11 13:55
	Potassium (K)	2.0	0.50 mg/L	04/29/11 16:24	05/03/11 13:55
	Calcium (Ca)	26	0.50 mg/L	04/29/11 16:24	05/03/11 13:55
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 13:55
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24	05/03/11 13:55
	Arsenic (As)	0.0030	0.0020 mg/L	04/29/11 16:24	05/05/11 14:16
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 13:55

Client ID: MW-24-2

Lab ID : BMI11042807-09A	Sodium (Na)	40	0.50 mg/L	04/29/11 16:24	05/03/11 14:00
Date Sampled 04/27/11 10:10	Magnesium (Mg)	13	0.50 mg/L	04/29/11 16:24	05/03/11 14:00
	Potassium (K)	2.8	0.50 mg/L	04/29/11 16:24	05/03/11 14:00
	Calcium (Ca)	42	0.50 mg/L	04/29/11 16:24	05/03/11 14:00
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 14:00
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24	05/03/11 14:00
	Arsenic (As)	0.0021	0.0020 mg/L	04/29/11 16:24	05/03/11 14:00
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 14:00

Client ID: MW-24-1

Lab ID : BMI11042807-10A	Sodium (Na)	30	0.50 mg/L	04/29/11 16:24	05/03/11 14:06
Date Sampled 04/27/11 11:15	Magnesium (Mg)	21	0.50 mg/L	04/29/11 16:24	05/03/11 14:06
	Potassium (K)	3.6	0.50 mg/L	04/29/11 16:24	05/03/11 14:06
	Calcium (Ca)	70	0.50 mg/L	04/29/11 16:24	05/03/11 14:06
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 14:06
	Iron (Fe)	1.0	0.30 mg/L	04/29/11 16:24	05/03/11 14:06
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24	05/03/11 14:06
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 14:06



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Client ID: DUPE-1-2Q11

Lab ID: BM11042807-11A	Sodium (Na)	40	0.50 mg/L	04/29/11 16:24	05/03/11 14:34
Date Sampled 04/27/11 00:00	Magnesium (Mg)	13	0.50 mg/L	04/29/11 16:24	05/03/11 14:34
	Potassium (K)	2.8	0.50 mg/L	04/29/11 16:24	05/03/11 14:34
	Calcium (Ca)	42	0.50 mg/L	04/29/11 16:24	05/03/11 14:34
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 14:34
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24	05/03/11 14:34
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24	05/03/11 14:34
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 14:34

Client ID: EB-3-4/27/11

Lab ID: BM11042807-12A	Sodium (Na)	ND	0.50 mg/L	04/29/11 16:24	05/03/11 14:39
Date Sampled 04/27/11 11:00	Magnesium (Mg)	ND	0.50 mg/L	04/29/11 16:24	05/03/11 14:39
	Potassium (K)	ND	0.50 mg/L	04/29/11 16:24	05/03/11 14:39
	Calcium (Ca)	ND	0.50 mg/L	04/29/11 16:24	05/03/11 14:39
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 14:39
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24	05/03/11 14:39
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24	05/03/11 14:39
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 14:39

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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5/10/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/28/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-6					
Lab ID : BM111042807-01A	pH	6.8	1.7 pH Units	04/28/11 15:08	04/28/11 15:08
Date Sampled 04/27/11 09:26	pH - Temperature	21	1.0 °C	04/28/11 15:08	04/28/11 15:08
Client ID: DUPE-7-2Q11					
Lab ID : BM111042807-02A	pH	6.9	1.7 pH Units	04/28/11 15:12	04/28/11 15:12
Date Sampled 04/27/11 09:30	pH - Temperature	21	1.0 °C	04/28/11 15:12	04/28/11 15:12
Client ID: MW-8					
Lab ID : BM111042807-03A	pH	7.2	1.7 pH Units	04/28/11 15:14	04/28/11 15:14
Date Sampled 04/27/11 11:51	pH - Temperature	20	1.0 °C	04/28/11 15:14	04/28/11 15:14
Client ID: DUPE-8-2Q11					
Lab ID : BM111042807-04A	pH	7.2	1.7 pH Units	04/28/11 15:16	04/28/11 15:16
Date Sampled 04/27/11 11:55	pH - Temperature	21	1.0 °C	04/28/11 15:16	04/28/11 15:16
Client ID: MW-15					
Lab ID : BM111042807-05A	pH	7.3	1.7 pH Units	04/28/11 15:18	04/28/11 15:18
Date Sampled 04/27/11 14:17	pH - Temperature	21	1.0 °C	04/28/11 15:18	04/28/11 15:18
Client ID: MW-24-5					
Lab ID : BM111042807-06A	pH	8.0	1.7 pH Units	04/28/11 15:21	04/28/11 15:21
Date Sampled 04/27/11 07:56	pH - Temperature	21	1.0 °C	04/28/11 15:21	04/28/11 15:21
Client ID: MW-24-4					
Lab ID : BM111042807-07A	pH	9.3	1.7 pH Units	04/28/11 15:23	04/28/11 15:23
Date Sampled 04/27/11 08:40	pH - Temperature	21	1.0 °C	04/28/11 15:23	04/28/11 15:23
Client ID: MW-24-3					
Lab ID : BM111042807-08A	pH	8.3	1.7 pH Units	04/28/11 15:25	04/28/11 15:25
Date Sampled 04/27/11 09:25	pH - Temperature	21	1.0 °C	04/28/11 15:25	04/28/11 15:25
Client ID: MW-24-2					
Lab ID : BM111042807-09A	pH	7.6	1.7 pH Units	04/28/11 15:27	04/28/11 15:27
Date Sampled 04/27/11 10:10	pH - Temperature	21	1.0 °C	04/28/11 15:27	04/28/11 15:27
Client ID: MW-24-1					
Lab ID : BM111042807-10A	pH	7.1	1.7 pH Units	04/28/11 15:29	04/28/11 15:29
Date Sampled 04/27/11 11:15	pH - Temperature	21	1.0 °C	04/28/11 15:29	04/28/11 15:29
Client ID: DUPE-1-2Q11					
Lab ID : BM111042807-11A	pH	7.7	1.7 pH Units	04/28/11 15:36	04/28/11 15:36
Date Sampled 04/27/11 00:00	pH - Temperature	21	1.0 °C	04/28/11 15:36	04/28/11 15:36



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Client ID: **EB-3-4/27/11**

Lab ID: BMI11042807-12A	pH	5.9	1.7 pH Units	04/28/11 15:50	04/28/11 15:50
Date Sampled 04/27/11 11:00	pH - Temperature	21	1.0 °C	04/28/11 15:50	04/28/11 15:50

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

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

5/10/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/28/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)
SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-6 Lab ID : BM111042807-01A Solids, Total Dissolved (TDS) Date Sampled 04/27/11 09:26	810	10 mg/L	05/04/11	05/04/11
Client ID: DUPE-7-2Q11 Lab ID : BM111042807-02A Solids, Total Dissolved (TDS) Date Sampled 04/27/11 09:30	860	10 mg/L	05/03/11	05/03/11
Client ID: MW-8 Lab ID : BM111042807-03A Solids, Total Dissolved (TDS) Date Sampled 04/27/11 11:51	210	10 mg/L	05/03/11	05/03/11
Client ID: DUPE-8-2Q11 Lab ID : BM111042807-04A Solids, Total Dissolved (TDS) Date Sampled 04/27/11 11:55	250	10 mg/L	05/05/11	05/05/11
Client ID: MW-15 Lab ID : BM111042807-05A Solids, Total Dissolved (TDS) Date Sampled 04/27/11 14:17	300	10 mg/L	05/04/11	05/04/11
Client ID: MW-24-5 Lab ID : BM111042807-06A Solids, Total Dissolved (TDS) Date Sampled 04/27/11 07:56	290	10 mg/L	05/05/11	05/05/11
Client ID: MW-24-4 Lab ID : BM111042807-07A Solids, Total Dissolved (TDS) Date Sampled 04/27/11 08:40	160	10 mg/L	05/03/11	05/03/11
Client ID: MW-24-3 Lab ID : BM111042807-08A Solids, Total Dissolved (TDS) Date Sampled 04/27/11 09:25	260	10 mg/L	05/04/11	05/04/11
Client ID: MW-24-2 Lab ID : BM111042807-09A Solids, Total Dissolved (TDS) Date Sampled 04/27/11 10:10	360	10 mg/L	05/04/11	05/04/11
Client ID: MW-24-1 Lab ID : BM111042807-10A Solids, Total Dissolved (TDS) Date Sampled 04/27/11 11:15	450	10 mg/L	05/04/11	05/04/11
Client ID: DUPE-1-2Q11 Lab ID : BM111042807-11A Solids, Total Dissolved (TDS) Date Sampled 04/27/11 00:00	320	10 mg/L	05/04/11	05/04/11



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Client ID: EB-3-4/27/11

Lab ID: BM111042807-12A Solids, Total Dissolved (TDS)

ND

10 mg/L

05/03/11

05/03/11

Date Sampled 04/27/11 11:00

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-6 Lab ID: BMI11042807-01A Date Received: 04/28/11 Date Sampled: 04/27/11 09:26	*** None Found ***	ND	2.0 µg/L	05/02/11 16:03 05/02/11 16:03
Client ID: DUPE-7-2Q11 Lab ID: BMI11042807-02A Date Received: 04/28/11 Date Sampled: 04/27/11 09:30	*** None Found ***	ND	2.0 µg/L	05/02/11 16:25 05/02/11 16:25
Client ID: MW-8 Lab ID: BMI11042807-03A Date Received: 04/28/11 Date Sampled: 04/27/11 11:51	*** None Found ***	ND	2.0 µg/L	05/02/11 16:46 05/02/11 16:46
Client ID: DUPE-8-2Q11 Lab ID: BMI11042807-04A Date Received: 04/28/11 Date Sampled: 04/27/11 11:55	*** None Found ***	ND	2.0 µg/L	05/02/11 17:08 05/02/11 17:08
Client ID: MW-15 Lab ID: BMI11042807-05A Date Received: 04/28/11 Date Sampled: 04/27/11 14:17	*** None Found ***	ND	2.0 µg/L	05/02/11 17:30 05/02/11 17:30
Client ID: MW-24-5 Lab ID: BMI11042807-06A Date Received: 04/28/11 Date Sampled: 04/27/11 07:56	*** None Found ***	ND	2.0 µg/L	05/02/11 17:51 05/02/11 17:51
Client ID: MW-24-4 Lab ID: BMI11042807-07A Date Received: 04/28/11 Date Sampled: 04/27/11 08:40	Sulfur dioxide	25	2.0 µg/L	05/02/11 18:13 05/02/11 18:13
Client ID: MW-24-3 Lab ID: BMI11042807-08A Date Received: 04/28/11 Date Sampled: 04/27/11 09:25	Sulfur dioxide	2.2	2.0 µg/L	05/02/11 18:34 05/02/11 18:34
Client ID: MW-24-2 Lab ID: BMI11042807-09A Date Received: 04/28/11 Date Sampled: 04/27/11 10:10	*** None Found ***	ND	2.0 µg/L	05/02/11 18:56 05/02/11 18:56



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Client ID :	MW-24-1				
Lab ID :	BMI11042807-10A	Sulfur dioxide	2.5	2.0 µg/L	05/02/11 19:17 05/02/11 19:17
Date Received :	04/28/11				
Date Sampled :	04/27/11 11:15				
Client ID :	DUPE-1-2Q11				
Lab ID :	BMI11042807-11A	Sulfur dioxide	3.0	2.0 µg/L	05/02/11 19:39 05/02/11 19:39
Date Received :	04/28/11				
Date Sampled :	04/27/11 00:00				
Client ID :	EB-3-4/27/11				
Lab ID :	BMI11042807-12A	*** None Found ***	ND	2.0 µg/L	05/02/11 13:54 05/02/11 13:54
Date Received :	04/28/11				
Date Sampled :	04/27/11 11:00				
Client ID :	TB-3-4/27/11				
Lab ID :	BMI11042807-13A	*** None Found ***	ND	2.0 µg/L	05/02/11 13:32 05/02/11 13:32
Date Received :	04/28/11				
Date Sampled :	04/27/11 00:00				

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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5/10/11

Report Date

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-01A
Client I.D. Number: MW-6

Sampled: 04/27/11 09:26
Received: 04/28/11
Extracted: 05/02/11 16:03
Analyzed: 05/02/11 16:03

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	0.61	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	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	93	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	0.98	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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

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5/10/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-02A
Client I.D. Number: DUPE-7-2Q11

Sampled: 04/27/11 09:30
Received: 04/28/11
Extracted: 05/02/11 16:25
Analyzed: 05/02/11 16:25

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethane	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethane	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	0.61	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	3.6	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	105	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	99	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	1.1	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-03A
Client I.D. Number: MW-8

Sampled: 04/27/11 11:51
Received: 04/28/11
Extracted: 05/02/11 16:46
Analyzed: 05/02/11 16:46

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	115	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	96	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	99	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/10/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-04A
Client I.D. Number: DUPE-8-2Q11

Sampled: 04/27/11 11:55
Received: 04/28/11
Extracted: 05/02/11 17:08
Analyzed: 05/02/11 17:08

Volatile Organics by GC/MS EPA Method SW8260B

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

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/10/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-05A
Client I.D. Number: MW-15

Sampled: 04/27/11 14:17
Received: 04/28/11
Extracted: 05/02/11 17:30
Analyzed: 05/02/11 17:30

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	107	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	104	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	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			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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ANALYTICAL REPORT

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San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-06A
Client I.D. Number: MW-24-5

Sampled: 04/27/11 07:56
Received: 04/28/11
Extracted: 05/02/11 17:51
Analyzed: 05/02/11 17:51

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	107	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	96	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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

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

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

5/10/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-07A
Client I.D. Number: MW-24-4

Sampled: 04/27/11 08:40
Received: 04/28/11
Extracted: 05/02/11 18:13
Analyzed: 05/02/11 18:13

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	112	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/10/11

Report Date



Alpha Analytical, Inc.

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

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-08A
Client I.D. Number: MW-24-3

Sampled: 04/27/11 09:25
Received: 04/28/11
Extracted: 05/02/11 18:34
Analyzed: 05/02/11 18:34

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	120	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	90	(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			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/10/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-09A
Client I.D. Number: MW-24-2

Sampled: 04/27/11 10:10
Received: 04/28/11
Extracted: 05/02/11 18:56
Analyzed: 05/02/11 18:56

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	113	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	107	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/10/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-10A
Client I.D. Number: MW-24-1

Sampled: 04/27/11 11:15
Received: 04/28/11
Extracted: 05/02/11 19:17
Analyzed: 05/02/11 19:17

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	9.1	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	124	(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			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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

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

5/10/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-11A
Client I.D. Number: DUPE-1-2Q11

Sampled: 04/27/11 00:00
Received: 04/28/11
Extracted: 05/02/11 19:39
Analyzed: 05/02/11 19:39

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	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	113	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	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			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/10/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-12A
Client I.D. Number: EB-3-4/27/11

Sampled: 04/27/11 11:00
Received: 04/28/11
Extracted: 05/02/11 13:54
Analyzed: 05/02/11 13:54

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	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	95	(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	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/10/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042807-13A
Client I.D. Number: TB-3-4/27/11

Sampled: 04/27/11 00:00
Received: 04/28/11
Extracted: 05/02/11 13:32
Analyzed: 05/02/11 13:32

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	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	95	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	96	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/10/11

Report Date



Alpha Analytical, Inc.

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

VOC Sample Preservation Report

Work Order: BMI11042807

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11042807-01A	MW-6	Aqueous	2
11042807-02A	DUPE-7-2Q11	Aqueous	2
11042807-03A	MW-8	Aqueous	2
11042807-04A	DUPE-8-2Q11	Aqueous	2
11042807-05A	MW-15	Aqueous	2
11042807-06A	MW-24-5	Aqueous	2
11042807-07A	MW-24-4	Aqueous	2
11042807-08A	MW-24-3	Aqueous	2
11042807-09A	MW-24-2	Aqueous	2
11042807-10A	MW-24-1	Aqueous	2
11042807-11A	DUPE-1-2Q11	Aqueous	2
11042807-12A	EB-3-4/27/11	Aqueous	2
11042807-13A	TB-3-4/27/11	Aqueous	2

5/10/11

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-11

QC Summary Report

Work Order:
11042807

Method Blank

Method Blank		Type	Test Code: EPA Method 300.0							
File ID: 19		MBLK	Batch ID: 26421				Analysis Date: 04/28/2011 11:15			
Sample ID: MB-26421	Units : mg/L		Run ID: IC_1_110428A				Prep Date: 04/28/2011 10:36			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

Laboratory Fortified Blank		Type	Test Code: EPA Method 300.0							
File ID: 20		LFB	Batch ID: 26421				Analysis Date: 04/28/2011 11:33			
Sample ID: LFB-26421	Units : mg/L		Run ID: IC_1_110428A				Prep Date: 04/28/2011 10:36			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	49.6	0.5	50		99	90	110			
Nitrite (NO2) - N	4.89	0.25	5		98	90	110			
Nitrate (NO3) - N	5.5	0.25	5		110	90	110			
Phosphate, ortho - P	5.03	0.5	5		101	90	110			
Sulfate (SO4)	101	0.5	100		101	90	110			

Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: EPA Method 300.0							
File ID: 36		LFM	Batch ID: 26421				Analysis Date: 04/28/2011 16:30			
Sample ID: 11042807-05ALFM	Units : mg/L		Run ID: IC_1_110428A				Prep Date: 04/28/2011 10:36			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	263	1.3	250	5.901	103	80	120			
Nitrite (NO2) - N	24.7	0.63	25	0	99	80	120			
Nitrate (NO3) - N	30.5	0.63	25	2.499	112	80	120			
Phosphate, ortho - P	23.2	1.3	25	0	93	80	120			
Sulfate (SO4)	543	1.3	500	15.01	106	80	120			

Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 300.0							
File ID: 37		LFMD	Batch ID: 26421				Analysis Date: 04/28/2011 16:48			
Sample ID: 11042807-05ALFMD	Units : mg/L		Run ID: IC_1_110428A				Prep Date: 04/28/2011 10:36			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	267	1.3	250	5.901	104	80	120	263.4	1.3(15)	
Nitrite (NO2) - N	24.9	0.63	25	0	99	80	120	24.74	0.5(15)	
Nitrate (NO3) - N	30.7	0.63	25	2.499	113	80	120	30.49	0.6(15)	
Phosphate, ortho - P	23.6	1.3	25	0	94	80	120	23.23	1.6(15)	
Sulfate (SO4)	551	1.3	500	15.01	107	80	120	543.3	1.5(15)	

Comments:

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



Alpha Analytical, Inc.

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

Date:
29-Apr-11

QC Summary Report

Work Order:
11042807

Method Blank

File ID: 14	Type MBLK	Test Code: EPA Method 314.0								
Sample ID: MB-26423	Units : µg/L	Run ID: IC_3_110428A	Batch ID: 26423							
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								
Sample ID: LFB-26423	Units : µg/L	Run ID: IC_3_110428A	Batch ID: 26423							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.4	2	25		98	85	115			

Sample Matrix Spike

File ID: 21	Type LFM	Test Code: EPA Method 314.0								
Sample ID: 11042621-04ALFM	Units : µg/L	Run ID: IC_3_110428A	Batch ID: 26423							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.7	2	25	3.42	85	80	120			

Sample Matrix Spike Duplicate

File ID: 22	Type LFMD	Test Code: EPA Method 314.0								
Sample ID: 11042621-04ALFMD	Units : µg/L	Run ID: IC_3_110428A	Batch ID: 26423							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	25.7	2	25	3.42	89	80	120	24.74	3.9(15)	

Comments:

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



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
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Date:
04-May-11

QC Summary Report

Work Order:
11042807

Laboratory Control Spike

Type **LCS**

Test Code: **SM2320B**

File ID:

Batch ID: **W0502AL**

Analysis Date: **05/02/2011 12:42**

Sample ID: **LCS-W0502AL**

Units : **mg/L**

Run ID: **WETLAB_110502A**

Prep Date: **05/02/2011 12:42**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO ₃)	238.5	10	250		95	80	120			
Alkalinity, Carbonate (As CaCO ₃)	238.5	10	250		95	80	120			
Alkalinity, Total (As CaCO ₃ at pH 4.5)	239	10	250		95	80	120			

Comments:

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



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Date:
06-May-11

QC Summary Report

Work Order:
11042807

Method Blank

File ID: 050311.B\022_M.D\

Sample ID: MB-26430

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

File ID: 050311.B\023_M.D\

Sample ID: LCS-26430

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	4.56	0.5	5		91	85	115			
Magnesium (Mg)	4.49	0.5	5		90	85	115			
Potassium (K)	4.75	0.5	5		95	85	115			
Calcium (Ca)	4.62	0.5	5		92	85	115			
Chromium (Cr)	0.0512	0.005	0.05		102	85	115			
Iron (Fe)	5.18	0.3	5		104	85	115			
Arsenic (As)	0.05	0.002	0.05		100	85	115			
Lead (Pb)	0.05	0.005	0.05		100	85	115			

Sample Matrix Spike

File ID: 050311.B\029_M.D\

Sample ID: 11042807-01AMS

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	41.9	0.5	5	37.16	95	70	130			
Magnesium (Mg)	48	0.5	5	42.18	116	70	130			
Potassium (K)	7.1	0.5	5	2.513	92	70	130			
Calcium (Ca)	136	0.5	5	131.3	88	70	130			
Chromium (Cr)	0.0479	0.005	0.05	0	96	70	130			
Iron (Fe)	6.1	0.3	5	0.6305	109	70	130			
Arsenic (As)	0.0508	0.002	0.05	0	102	70	130			
Lead (Pb)	0.0495	0.005	0.05	0	99	70	130			

Sample Matrix Spike Duplicate

File ID: 050311.B\030_M.D\

Sample ID: 11042807-01AMSD

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	40.6	0.5	5	37.16	70	70	130	41.92	3.1(20)	
Magnesium (Mg)	47.1	0.5	5	42.18	98	70	130	47.98	1.9(20)	
Potassium (K)	6.99	0.5	5	2.513	89	70	130	7.095	1.6(20)	
Calcium (Ca)	132	0.5	5	131.3	12	70	130	135.7	2.8(20)	M3
Chromium (Cr)	0.0488	0.005	0.05	0	98	70	130	0.0479	1.9(20)	
Iron (Fe)	6.26	0.3	5	0.6305	113	70	130	6.098	2.6(20)	
Arsenic (As)	0.0515	0.002	0.05	0	103	70	130	0.05076	1.4(20)	
Lead (Pb)	0.0494	0.005	0.05	0	99	70	130	0.04949	0.3(20)	

Comments:

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

M3 = The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to the spike level. The method control sample recovery was acceptable.



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Date:
29-Apr-11

QC Summary Report

Work Order:
11042807

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0428PH**

Analysis Date: **04/28/2011 15:03**

Sample ID: **LCS-W0428PH**

Units : **pH Units**

Run ID: **WETLAB_110428C**

Prep Date: **04/28/2011 15:03**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
pH	5.04	1.7	5		101	90	110			

Comments:

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



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Date:
09-May-11

QC Summary Report

Work Order:
11042807

Method Blank

Type **MBLK** Test Code: **SM2540C**

File ID: Batch ID: **W0502DS** Analysis Date: **05/04/2011 00:00**
Sample ID: **MBLK-W0502DS** Units : **mg/L** Run ID: **WETLAB_110502B** Prep Date: **05/04/2011 00:00**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDPRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS) ND 10

Laboratory Control Spike

Type **LCS** Test Code: **SM2540C**

File ID: Batch ID: **W0502DS** Analysis Date: **05/04/2011 00:00**
Sample ID: **LCS-W0502DS** Units : **mg/L** Run ID: **WETLAB_110502B** Prep Date: **05/04/2011 00:00**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDPRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS) 102 10 100 102 70 130

Comments:

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



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Date:
04-May-11

QC Summary Report

Work Order:
11042807

Method Blank

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

File ID: **11050207.D**

Batch ID: **MS15W0502M**

Analysis Date: **05/02/2011 10:39**

Sample ID: **MBLK MS15W0502M**

Units : **µg/L**

Run ID: **MSD_15_110502B**

Prep Date: **05/02/2011 10:39**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	10.6		10		106	70	130			
Surr: Toluene-d8	10.1		10		101	70	130			



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Date:

04-May-11

QC Summary Report

Work Order:

11042807

Surr: 4-Bromofluorobenzene

9.52

10

95

70

130



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Date:
04-May-11

QC Summary Report

Work Order:
11042807

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW8260B**

File ID: **11050205.D**

Batch ID: **MS15W0502M**

Analysis Date: **05/02/2011 09:37**

Sample ID: **LCS MS15W0502M**

Units: **µg/L**

Run ID: **MSD_15_110502B**

Prep Date: **05/02/2011 09:37**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	9.51	1	10		95	70	130			
Chloromethane	6.02	2	10		60	70(70)	130			L50
Vinyl chloride	10.2	1	10		102	70	130			
Chloroethane	11.6	1	10		116	70	130			
Bromomethane	6.71	2	10		67	70(70)	130			L50
Trichlorofluoromethane	12.8	1	10		128	70	130			
1,1-Dichloroethene	10.7	1	10		107	70	130			
Dichloromethane	9.01	2	10		90	70	130			
Freon-113	12.4	1	10		124	70	137			
trans-1,2-Dichloroethene	10.8	1	10		108	70	130			
Methyl tert-butyl ether (MTBE)	10.7	0.5	10		107	70	130			
1,1-Dichloroethane	10.7	1	10		107	70	130			
2-Butanone (MEK)	183	10	200		92	70	130			
cis-1,2-Dichloroethene	10.7	1	10		107	70	130			
Bromochloromethane	10.4	1	10		104	70	130			
Chloroform	11.5	1	10		115	70	130			
2,2-Dichloropropane	13.9	1	10		139	70	130(130)			L51
1,2-Dichloroethane	12	1	10		120	70	130			
1,1,1-Trichloroethane	13.1	1	10		131	70	130(130)			L51
1,1-Dichloropropene	12	1	10		120	70	130			
Carbon tetrachloride	13.8	1	10		138	70	130(130)			L51
Benzene	9.78	0.5	10		98	70	130			
Dibromomethane	10.9	1	10		109	70	130			
1,2-Dichloropropane	9.97	1	10		99.7	70	130			
Trichloroethene	10.7	1	10		107	70	130			
Bromodichloromethane	12.5	1	10		125	70	130			
4-Methyl-2-pentanone (MIBK)	22.4	2.5	25		90	20	182			
cis-1,3-Dichloropropene	10.3	1	10		103	70	130			
trans-1,3-Dichloropropene	10.6	1	10		106	70	130			
1,1,2-Trichloroethane	10	1	10		100	70	130			
Toluene	9.51	0.5	10		95	70	130			
1,3-Dichloropropane	9.75	1	10		98	70	130			
Dibromochloromethane	10.1	1	10		101	70	130			
1,2-Dibromoethane (EDB)	20.7	2	20		104	70	130			
Tetrachloroethene	10.5	1	10		105	70	130			
1,1,1,2-Tetrachloroethane	11.2	1	10		112	70	130			
Chlorobenzene	9.9	1	10		99	70	130			
Ethylbenzene	10.3	0.5	10		103	70	130			
m,p-Xylene	10.2	0.5	10		102	70	130			
Bromoform	9.68	1	10		97	70	130			
Styrene	10.2	1	10		102	70	130			
o-Xylene	10.1	0.5	10		101	70	130			
1,1,2,2-Tetrachloroethane	8.5	1	10		85	70	130			
1,2,3-Trichloropropane	18.6	2	20		93	70	130			
Isopropylbenzene	9.89	1	10		99	70	130			
Bromobenzene	9.19	1	10		92	70	130			
n-Propylbenzene	9.72	1	10		97	70	130			
4-Chlorotoluene	9.78	1	10		98	70	130			
2-Chlorotoluene	9.42	1	10		94	70	130			
1,3,5-Trimethylbenzene	10.4	1	10		104	70	130			
tert-Butylbenzene	9.99	1	10		99.9	70	130			
1,2,4-Trimethylbenzene	0	1	10		0	70(70)	130			L50
sec-Butylbenzene	9.82	1	10		98	70	130			
1,3-Dichlorobenzene	9.89	1	10		99	70	130			
1,4-Dichlorobenzene	9.35	1	10		94	70	130			
4-Isopropyltoluene	10.4	1	10		104	70	130			
1,2-Dichlorobenzene	9.46	1	10		95	70	130			
n-Butylbenzene	10.9	1	10		109	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	46.3	3	50		93	67	130			
1,2,4-Trichlorobenzene	9.71	2	10		97	70	130			
Naphthalene	7.6	2	10		76	70	130			
Hexachlorobutadiene	20.1	2	20		101	70	130			
1,2,3-Trichlorobenzene	8.55	2	10		86	70	130			
Surr: 1,2-Dichloroethane-d4	11.9		10		119	70	130			



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Date:

04-May-11

QC Summary Report

Work Order:

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Surr: Toluene-d8	9.26	10	93	70	130
Surr: 4-Bromofluorobenzene	9.66	10	97	70	130



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Date:

04-May-11

QC Summary Report

Work Order:

11042807

Sample Matrix Spike

File ID: 11050210.D

Sample ID: 11042806-01AMS

Type MS

Test Code: EPA Method SW8260B

Batch ID: MS15W0502M

Analysis Date: 05/02/2011 11:44

Run ID: MSD_15_110502B

Prep Date: 05/02/2011 11:44

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	42.2	2.5	50	0	84	21	138			
Chloromethane	27.4	10	50	0	55	23	144			
Vinyl chloride	45.5	2.5	50	0	91	49	136			
Chloroethane	49.9	2.5	50	0	99.9	21	159			
Bromomethane	36.2	10	50	0	72	10	174			
Trichlorofluoromethane	57	2.5	50	0	114	32	154			
1,1-Dichloroethene	47.6	2.5	50	0	95	64	130			
Dichloromethane	41.6	10	50	0	83	69	130			
Freon-113	54.7	2.5	50	0	109	55	141			
trans-1,2-Dichloroethene	49.6	2.5	50	0	99	63	130			
Methyl tert-butyl ether (MTBE)	50	1.3	50	0	100	47	150			
1,1-Dichloroethane	49.4	2.5	50	0	99	66	130			
2-Butanone (MEK)	635	50	1000	0	63	23	182			
cis-1,2-Dichloroethene	51.9	2.5	50	0	104	70	130			
Bromochloromethane	48.4	2.5	50	0	97	70	132			
Chloroform	50.5	2.5	50	0	101	70	130			
2,2-Dichloropropane	57.7	2.5	50	0	115	38	154			
1,2-Dichloroethane	53.3	2.5	50	0	107	65	134			
1,1,1-Trichloroethane	56.7	2.5	50	0	113	65	136			
1,1-Dichloropropene	53.1	2.5	50	0	106	68	132			
Carbon tetrachloride	57.4	2.5	50	0	115	58	148			
Benzene	46.4	1.3	50	0	93	59	138			
Dibromomethane	52.3	2.5	50	0	105	70	130			
1,2-Dichloropropane	49	2.5	50	0	98	70	131			
Trichloroethene	50.1	2.5	50	0	100	65	144			
Bromodichloromethane	56.7	2.5	50	0	113	50	157			
4-Methyl-2-pentanone (MIBK)	98	13	125	0	78	20	182			
cis-1,3-Dichloropropene	45	2.5	50	0	90	63	131			
trans-1,3-Dichloropropene	45	2.5	50	0	90	65	136			
1,1,2-Trichloroethane	46.4	2.5	50	0	93	70	131			
Toluene	44.4	1.3	50	0	89	68	130			
1,3-Dichloropropane	45.3	2.5	50	0	91	70	130			
Dibromochloromethane	45	2.5	50	0	90	42	155			
1,2-Dibromoethane (EDB)	95	5	100	0	95	70	130			
Tetrachloroethene	47.1	2.5	50	0	94	65	130			
1,1,1,2-Tetrachloroethane	50.6	2.5	50	0	101	70	130			
Chlorobenzene	45.8	2.5	50	0	92	70	130			
Ethylbenzene	47.5	1.3	50	0	95	68	130			
m,p-Xylene	46.1	1.3	50	0	92	68	131			
Bromoform	43.2	2.5	50	0	86	65	143			
Styrene	46.3	2.5	50	0	93	59	153			
o-Xylene	44.2	1.3	50	0	88	70	130			
1,1,2,2-Tetrachloroethane	43.4	2.5	50	0	87	67	130			
1,2,3-Trichloropropane	90.6	10	100	0	91	70	130			
Isopropylbenzene	49.1	2.5	50	0	98	55	138			
Bromobenzene	47.7	2.5	50	0	95	70	130			
n-Propylbenzene	50.2	2.5	50	0	100	67	133			
4-Chlorotoluene	48.5	2.5	50	0	97	70	130			
2-Chlorotoluene	49.2	2.5	50	0	98	70	130			
1,3,5-Trimethylbenzene	52.7	2.5	50	0	105	67	134			
tert-Butylbenzene	48.8	2.5	50	0	98	55	147			
1,2,4-Trimethylbenzene	50	2.5	50	0	100	65	135			
sec-Butylbenzene	48.3	2.5	50	0	97	68	135			
1,3-Dichlorobenzene	48.5	2.5	50	0	97	70	130			
1,4-Dichlorobenzene	45.5	2.5	50	0	91	70	130			
4-Isopropyltoluene	50.1	2.5	50	0	100	68	132			
1,2-Dichlorobenzene	45.9	2.5	50	0	92	70	130			
n-Butylbenzene	51.9	2.5	50	0	104	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	232	15	250	0	93	64	130			
1,2,4-Trichlorobenzene	49.8	10	50	0	99.6	62	133			
Naphthalene	40.5	10	50	0	81	32	166			
Hexachlorobutadiene	98.7	10	100	0	99	63	130			
1,2,3-Trichlorobenzene	44.6	10	50	0	89	55	138			
Surr: 1,2-Dichloroethane-d4	51.7		50		103	70	130			
Surr: Toluene-d8	47.5		50		95	70	130			



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Date:

04-May-11

QC Summary Report

Work Order:

11042807

Surr: 4-Bromofluorobenzene

50.4

50

101

70

130



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Date:
04-May-11

QC Summary Report

Work Order:
11042807

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **11050211.D**

Batch ID: **MS15W0502M**

Analysis Date: **05/02/2011 12:05**

Sample ID: **11042806-01AMSD**

Units: **µg/L**

Run ID: **MSD_15_110502B**

Prep Date: **05/02/2011 12:05**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	39.4	2.5	50	0	79	21	138	42.19	6.9(33)	
Chloromethane	23.9	10	50	0	48	23	144	27.43	13.7(27)	
Vinyl chloride	42.5	2.5	50	0	85	49	136	45.49	6.8(21)	
Chloroethane	47.4	2.5	50	0	95	21	159	49.94	5.2(40)	
Bromomethane	38.7	10	50	0	77	10	174	36.24	6.5(40)	
Trichlorofluoromethane	53	2.5	50	0	106	32	154	57.01	7.2(37)	
1,1-Dichloroethene	45.1	2.5	50	0	90	64	130	47.58	5.3(21)	
Dichloromethane	39.8	10	50	0	80	69	130	41.58	4.4(20)	
Freon-113	52.5	2.5	50	0	105	55	141	54.7	4.1(40)	
trans-1,2-Dichloroethene	46.1	2.5	50	0	92	63	130	49.59	7.2(20)	
Methyl tert-butyl ether (MTBE)	50.8	1.3	50	0	102	47	150	49.99	1.6(40)	
1,1-Dichloroethane	46.1	2.5	50	0	92	66	130	49.37	6.8(20)	
2-Butanone (MEK)	645	50	1000	0	64	23	182	634.5	1.6(22)	
cis-1,2-Dichloroethene	46.3	2.5	50	0	93	70	130	51.93	11.4(20)	
Bromochloromethane	48.4	2.5	50	0	97	70	132	48.43	0.0(20)	
Chloroform	47.9	2.5	50	0	96	70	130	50.51	5.3(20)	
2,2-Dichloropropane	53.3	2.5	50	0	107	38	154	57.68	7.8(22)	
1,2-Dichloroethane	51.8	2.5	50	0	104	65	134	53.3	2.8(20)	
1,1,1-Trichloroethane	51.9	2.5	50	0	104	65	136	56.7	8.9(20)	
1,1-Dichloropropene	47.9	2.5	50	0	96	68	132	53.14	10.5(20)	
Carbon tetrachloride	54.4	2.5	50	0	109	58	148	57.42	5.3(20)	
Benzene	42	1.3	50	0	84	59	138	46.44	10.0(21)	
Dibromomethane	48.2	2.5	50	0	96	70	130	52.29	8.2(20)	
1,2-Dichloropropane	43.9	2.5	50	0	88	70	131	49.03	11.1(20)	
Trichloroethene	44.2	2.5	50	0	88	65	144	50.12	12.6(20)	
Bromodichloromethane	53	2.5	50	0	106	50	157	56.74	6.8(20)	
4-Methyl-2-pentanone (MIBK)	101	13	125	0	81	20	182	97.97	3.2(20)	
cis-1,3-Dichloropropene	42.7	2.5	50	0	85	63	131	44.98	5.3(20)	
trans-1,3-Dichloropropene	44.1	2.5	50	0	88	65	136	44.97	1.9(20)	
1,1,2-Trichloroethane	45.5	2.5	50	0	91	70	131	46.41	1.9(20)	
Toluene	42.3	1.3	50	0	85	68	130	44.4	4.8(20)	
1,3-Dichloropropane	46.6	2.5	50	0	93	70	130	45.31	2.8(20)	
Dibromochloromethane	46	2.5	50	0	92	42	155	44.97	2.4(20)	
1,2-Dibromoethane (EDB)	96.8	5	100	0	97	70	130	95	1.8(20)	
Tetrachloroethene	45.3	2.5	50	0	91	65	130	47.05	3.8(20)	
1,1,1,2-Tetrachloroethane	49.1	2.5	50	0	98	70	130	50.58	2.9(20)	
Chlorobenzene	42.6	2.5	50	0	85	70	130	45.75	7.2(20)	
Ethylbenzene	44.1	1.3	50	0	88	68	130	47.45	7.3(20)	
m,p-Xylene	44	1.3	50	0	88	68	131	46.1	4.6(20)	
Bromoform	45.9	2.5	50	0	92	65	143	43.16	6.2(20)	
Styrene	45.9	2.5	50	0	92	59	153	46.31	0.9(37)	
o-Xylene	0	1.3	50	0	0	70	130	44.23	200.0(20)	M2 R58
1,1,2,2-Tetrachloroethane	43.3	2.5	50	0	87	67	130	43.44	0.3(20)	
1,2,3-Trichloropropane	92.1	10	100	0	92	70	130	90.63	1.7(20)	
Isopropylbenzene	44.6	2.5	50	0	89	55	138	49.11	9.6(20)	
Bromobenzene	43.6	2.5	50	0	87	70	130	47.72	9.0(20)	
n-Propylbenzene	44.5	2.5	50	0	89	67	133	50.19	12.1(30)	
4-Chlorotoluene	45.9	2.5	50	0	92	70	130	48.51	5.6(20)	
2-Chlorotoluene	43.4	2.5	50	0	87	70	130	49.2	12.6(20)	
1,3,5-Trimethylbenzene	46	2.5	50	0	92	67	134	52.7	13.7(21)	
tert-Butylbenzene	45	2.5	50	0	90	55	147	48.82	8.1(20)	
1,2,4-Trimethylbenzene	45.9	2.5	50	0	92	65	135	50.02	8.6(25)	
sec-Butylbenzene	44.6	2.5	50	0	89	68	135	48.31	8.0(20)	
1,3-Dichlorobenzene	46	2.5	50	0	92	70	130	48.48	5.3(20)	
1,4-Dichlorobenzene	43.2	2.5	50	0	86	70	130	45.54	5.3(20)	
4-Isopropyltoluene	46	2.5	50	0	92	68	132	50.12	8.6(20)	
1,2-Dichlorobenzene	44.3	2.5	50	0	89	70	130	45.89	3.5(20)	
n-Butylbenzene	47.2	2.5	50	0	94	62	134	51.93	9.6(21)	
1,2-Dibromo-3-chloropropane (DBCP)	233	15	250	0	93	64	130	231.5	0.6(20)	
1,2,4-Trichlorobenzene	47	10	50	0	94	62	133	49.81	5.8(29)	
Naphthalene	41.5	10	50	0	83	32	166	40.53	2.4(40)	
Hexachlorobutadiene	92.3	10	100	0	92	63	130	98.66	6.7(21)	
1,2,3-Trichlorobenzene	44	10	50	0	88	55	138	44.61	1.3(36)	
Surr: 1,2-Dichloroethane-d4	50.5		50		101	70	130			
Surr: Toluene-d8	50.1		50		100	70	130			



Alpha Analytical, Inc.

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

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

Date:

04-May-11

QC Summary Report

Work Order:

11042807

Surr: 4-Bromofluorobenzene	49.5	50	99	70	130
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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.

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

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

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

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

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

AMENDED

Page: 1 of 2

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

WorkOrder : BMIS11042807
Report Due By : 5:00 PM On : 11-May-2011

Client:

Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

Report Attention

David Corner (619) 726-7311 x connerd@battelle.org
 Betsy Cuite (614) 424-4899 x cuitee@battelle.org
 Shane Walton (614) 424-4117 x walton@battelle.org

Phone Number

Email Address

EDD Required : No

Sampled by : D. Loera

Cooler Temp 2 °C

Samples Received 28-Apr-2011

Date Printed 03-May-2011

Client's COC # : 29133, 024299

Job : G005862/JPL Groundwater Monitoring

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

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub	TAT	Requested Tests		PH_W	TDS_W	VOC_TIC_W	VOC_W	Sample Remarks			
					300_0_W	314_W								
BM11042807-01A	MW-6	AQ 04/27/11 09:26	6	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11042807-02A	DUPE-7-2Q11	AQ 04/27/11 09:30	6	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11042807-03A	MW-8	AQ 04/27/11 11:51	6	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11042807-04A	DUPE-8-2Q11	AQ 04/27/11 11:55	6	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11042807-05A	MW-15	AQ 04/27/11 14:17	6	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11042807-06A	MW-24-5	AQ 04/27/11 07:56	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11042807-07A	MW-24-4	AQ 04/27/11 08:40	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11042807-08A	MW-24-3	AQ 04/27/11 09:25	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	

Comments: Security seals intact. Frozen ice. Temp Blanks #8769 and #7686 received @ 2°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 5/3/11. Corrected sample ID for sample -13A due to login error. EA:

Logged in by: Emphoth Adcox Signature: Emphoth Adcox Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 5:31 1622

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 : AQAqueous) 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

AMENDED

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

WorkOrder : BMIS11042807
Report Due By : 5:00 PM On : 11-May-2011

Client:

Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

Report Attention

David Conner (619) 726-7311 x commrd@battelle.org
 Betsy Cutie (614) 424-4899 x cutiec@battelle.org
 Shane Walton (614) 424-4117 x waltonsb@battelle.org

Phone Number **Email Address**

EDD Required : No

Sampled by : D. Loera

Cooler Temp 2 °C

Samples Received 28-Apr-2011

Date Printed 03-May-2011

Client's COC # : 29133, 024299

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 Alpha	Sub	TAT	Requested Tests						Sample Remarks		
						300_0_W	314_W	ALKALINITY_W	METALS_D_W	PH_W	TDS_W		VOC_TIC_W	VOC_W
BM11042807-09A	MW-24-2	04/27/11 10:10	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11042807-10A	MW-24-1	04/27/11 11:15	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11042807-11A	DUPE-1-2Q11	04/27/11 00:00	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11042807-12A	EB-3-4/27/11	04/27/11 11:00	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11042807-13A	TB-3-4/27/11	04/27/11 00:00	1	0	9									Reno Trip Blank 12/14/10

Comments: Security seals intact. Frozen ice. Temp Blanks #8769 and #7686 received @ 2°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E. MS/MSD). Amended 5/3/11. Corrected sample ID for sample -13A due to login error. EA.

Logged in by: Elizabeth Adcox Signature: [Signature] Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 5:31 1022

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

Alpha Analytical, Inc.

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

CA

Workorder : BMIS11042807

Report Due By : 5:00 PM On : 11-May-2011

Client: Battelle Memorial Institute
665 West Broadway
Suite 1420
San Diego, CA 92101
PO : 218013

Report Attention **Phone Number** **Email Address**
David Comer (619) 726-7311 x comerd@battelle.org
Betsy Cutie (614) 424-4899 x cutiee@battelle.org
Shane Walton (614) 424-4117 x walsons@battelle.org

Client's COC # : 29133, 024299 **Job :** G005862/JPL Groundwater Monitoring


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

Requested Tests
300_0_W 314_W ALKALINITY_W METALS_D_W PH_W TDS_W VOC_TIC_W VOC_W

Sample ID **Client Sample ID** **Collection Matrix Date** **No. of Bottles Alpha Sub TAT** **Sample Remarks**

Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub TAT	Requested Tests							Sample Remarks	
				300_0_W	314_W	ALKALINITY_W	METALS_D_W	PH_W	TDS_W	VOC_TIC_W		VOC_W
BMI11042807-01A	MW-6	AQ 04/27/11 09:26	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042807-02A	DUPE-7-2Q11	AQ 04/27/11 09:30	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042807-03A	MW-8	AQ 04/27/11 11:51	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042807-04A	DUPE-8-2Q11	AQ 04/27/11 11:55	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042807-05A	MW-15	AQ 04/27/11 14:17	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042807-06A	MW-24-5	AQ 04/27/11 07:56	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042807-07A	MW-24-4	AQ 04/27/11 08:40	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042807-08A	MW-24-3	AQ 04/27/11 09:25	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	

Comments: Security seals intact. Frozen ice. Temp Blanks #8769 and #7686 received @ 2°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by: Elizabeth Adcox **Signature**  **Print Name** Elizabeth Adcox **Company** Alpha Analytical, Inc. **Date/Time** 4-28-11 11:17

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

CHAIN-OF-CUSTODY RECORD

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

CA

WorkOrder : BMIS11042807
Report Due By : 5:00 PM On : 11-May-2011

Client:
 Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

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

EDD Required : Yes
Sampled by : D. Loera
Cooler Temp **Samples Received** **Date Printed**
 2 °C 28-Apr-2011 28-Apr-2011

Client's COC # : 29133, 024299 **Job :** G005862/JPL Groundwater Monitoring
QC Level : DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD with Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub TAT	Requested Tests				Sample Remarks				
				300_0_W	314_W	ALKALINITY_W	METALS_D W		pH_W	TDS_W	VOC_TTC_W	VOC_W
BMI11042807-09A	NW-24-2	AQ 04/27/11 10:10	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042807-10A	NW-24-1	AQ 04/27/11 11:15	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042807-11A	DUPE-1-2Q11	AQ 04/27/11 00:00	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042807-12A	EB-3-4/27/11	AQ 04/27/11 11:00	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042807-13A	TB-3-4/24/11	AQ 04/27/11 00:00	1 0 9									Reno Trip Blank 12/14/10

Comments: Security seals intact. Frozen ice. Temp Blanks #8769 and #7686 received @ 2°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by: Elizabeth Adcox **Signature** Elizabeth Adcox **Print Name** Elizabeth Adcox **Company** Alpha Analytical, Inc. **Date/Time** 4-28-11 11:17

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.
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 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 Battelle
 Address 505 King Ave
 City, State, Zip Columbus OH 43201
 Phone Number 614 726-7311 Fax 614 458-6641



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

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

Analyses Required

Client Name David Lerner P.O. # 218013 JOP # 6005862/5 PL 6124
 Address David Lerner Email Address concord@battelle.org
 City, State, Zip OH Phone # 614 726-7311 Fax # 614 458-6641

Time Sampled 11/17/04 Matrix* AD Sampled by D Lerner Report Attention David Lerner
 Date Sampled 11/17/04 See Key Below AD Lab ID Number (Use Only) 11042807-01 Office (Use Only) AD Sample Description MID-6
 TAT 1D Field Filtered Field Total and type of containers 3V 3P
 ** See below

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number (Use Only)	Office (Use Only)	Sample Description	TAT	Field Filtered	Total and type of containers	Analyses Required	REMARKS
0926	11/17/04	AD	BMT	11042807-01	AD	MID-6	1D	Field	3V 3P	VOC's (524.2)	
0930	11/17/04	AD			AD	DUPE-7-2211	1D	Field	3V 3P	Total Cr (200.8)	
1151	11/17/04	AD			AD	MID-8	1D	Field	3V 3P	*Cations	
1155	11/17/04	AD			AD	DUPE-8-2211	1D	Field	3V 3P	**Anions	
1417	11/17/04	AD			AD	MID-15	1D	Field	3V 3P	TDS (5425VOC)	
										pH (150.2)	
										Bicarbonate Carbonate (54230R)	

ADDITIONAL INSTRUCTIONS: *As, Pb, Ca, Mg, K, Na, Fe **chloride, Nitrate, Nitrite, Acetophenone, Sulfate, perchlorate, Alkalinity

Signature	Print Name	Company	Date	Time
<i>David Lerner</i>	David Lerner	Battelle	4-27-11	1450
<i>Anthony Stora</i>	Anthony Stora	Alpha Analytical	7-27-11	1510
<i>Elizabeth Aldcox</i>	Elizabeth Aldcox	Alpha	4-28-11	1117

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

Billing Information:

Name Battelle / 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? 29133

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

Client Name Battelle / David Conner PO. # 218013 Job # 6005862
 Address 3990 Old Town Ave, C-205 Email Address connerd@battelle.com
 City, State, Zip San Diego, CA 92110 Phone # (619) 726-7511 Fax # (619) 458-6641

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Analyses Required	Required QC Level?
756	4/27/11	AR					MW-24-5				VOC'S (524.2) LEAD, ARSENIC, TOTAL CR (200.8) CL- (314.0) Na, K, Ca, Mg, Fe (200.8) CO2, HCO3, TDS, PH, ALKALINITY (m23208, sm25406, 150.2) Cl-, NO2-, NO3-, SO4-, PO4-3 (300.0)	1 <input type="checkbox"/> II <input checked="" type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/>
840							MW-24-4					
925							MW-24-3					
1010							MW-24-2					
1115							MW-24-1					
-							Dupe - 1 - 2Q11					
1100							-12 EB - 3 - 4/27/11					
-							.13 TB - 3 - 4/27/11					

ADDITIONAL INSTRUCTIONS:

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	MARCUS WENDERS	INDUSTRIAL	4/27/11	15:10
<i>[Signature]</i>	ANTHONY STAR	ANTHONY STAR	4/27/11	15:10
<i>[Signature]</i>	ELIZABETH FIDDES	ALPHA	4.28.11	11:17

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



Alpha Analytical, Inc.

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Date: 10-May-11

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11042907

Cooler Temp: 1 °C

Alpha's Sample ID	Client's Sample ID	Matrix
11042907-01A	MW-13	Aqueous
11042907-02A	MW-5	Aqueous
11042907-03A	DUPE-6-2Q11	Aqueous
11042907-04A	MW-4-5	Aqueous
11042907-05A	MW-4-4	Aqueous
11042907-06A	MW-4-3	Aqueous
11042907-07A	MW-4-2	Aqueous
11042907-08A	MW-4-1	Aqueous
11042907-09A	EB-4-4/28/11	Aqueous
11042907-10A	TB-4-4/28/11	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
11042907-01A	EPA Method 314.0	Perchlorate
11042907-07A	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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/29/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-13					
Lab ID : BM111042907-01A	Chloride	30	0.50 mg/L	04/29/11 11:16	04/29/11 14:18
Date Sampled 04/28/11 08:43	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 14:18
	Nitrate (NO3) - N	4.4	0.25 mg/L	04/29/11 11:16	04/29/11 14:18
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16	04/29/11 14:18
	Sulfate (SO4)	66	0.50 mg/L	04/29/11 11:16	04/29/11 14:18
Client ID: MW-5					
Lab ID : BM111042907-02A	Chloride	5.4	0.50 mg/L	04/29/11 11:16	04/29/11 14:37
Date Sampled 04/28/11 12:33	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 14:37
	Nitrate (NO3) - N	0.66	0.25 mg/L	04/29/11 11:16	04/29/11 14:37
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16	04/29/11 14:37
	Sulfate (SO4)	20	0.50 mg/L	04/29/11 11:16	04/29/11 14:37
Client ID: DUPE-6-2Q11					
Lab ID : BM111042907-03A	Chloride	5.4	0.50 mg/L	04/29/11 11:16	04/29/11 14:55
Date Sampled 04/28/11 13:00	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 14:55
	Nitrate (NO3) - N	0.70	0.25 mg/L	04/29/11 11:16	04/29/11 14:55
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16	04/29/11 14:55
	Sulfate (SO4)	20	0.50 mg/L	04/29/11 11:16	04/29/11 14:55
Client ID: MW-4-5					
Lab ID : BM111042907-04A	Chloride	23	0.50 mg/L	04/29/11 11:16	04/29/11 15:14
Date Sampled 04/28/11 07:38	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 15:14
	Nitrate (NO3) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 15:14
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16	04/29/11 15:14
	Sulfate (SO4)	17	0.50 mg/L	04/29/11 11:16	04/29/11 15:14
Client ID: MW-4-4					
Lab ID : BM111042907-05A	Chloride	20	0.50 mg/L	04/29/11 11:16	04/29/11 15:32
Date Sampled 04/28/11 08:15	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 15:32
	Nitrate (NO3) - N	1.1	0.25 mg/L	04/29/11 11:16	04/29/11 15:32
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16	04/29/11 15:32
	Sulfate (SO4)	17	0.50 mg/L	04/29/11 11:16	04/29/11 15:32
Client ID: MW-4-3					
Lab ID : BM111042907-06A	Chloride	21	0.50 mg/L	04/29/11 11:16	04/29/11 16:28
Date Sampled 04/28/11 09:15	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 16:28
	Nitrate (NO3) - N	2.4	0.25 mg/L	04/29/11 11:16	04/29/11 16:28
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16	04/29/11 16:28
	Sulfate (SO4)	18	0.50 mg/L	04/29/11 11:16	04/29/11 16:28



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Client ID: **MW-4-2**

Lab ID :	BMI11042907-07A	Chloride	97	2.5 mg/L	04/29/11 11:16	05/02/11 12:12
Date Sampled	04/28/11 09:51	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 17:23
		Nitrate (NO3) - N	10	0.25 mg/L	04/29/11 11:16	04/29/11 17:23
		Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16	04/29/11 17:23
		Sulfate (SO4)	130	2.5 mg/L	04/29/11 11:16	05/02/11 12:12

Client ID: **MW-4-1**

Lab ID :	BMI11042907-08A	Chloride	7.3	0.50 mg/L	04/29/11 11:16	04/29/11 17:42
Date Sampled	04/28/11 12:41	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 17:42
		Nitrate (NO3) - N	1.3	0.25 mg/L	04/29/11 11:16	04/29/11 17:42
		Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16	04/29/11 17:42
		Sulfate (SO4)	18	0.50 mg/L	04/29/11 11:16	04/29/11 17:42

Client ID: **EB-4-4/28/11**

Lab ID :	BMI11042907-09A	Chloride	ND	0.50 mg/L	04/29/11 11:16	04/29/11 18:00
Date Sampled	04/28/11 12:27	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 18:00
		Nitrate (NO3) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 18:00
		Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16	04/29/11 18:00
		Sulfate (SO4)	ND	0.50 mg/L	04/29/11 11:16	04/29/11 18:00

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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

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5/11/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/29/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-13				
Lab ID : BMI11042907-01A Perchlorate	81.8	1.00 µg/L	04/29/11 10:13	04/29/11 14:40
Date Sampled 04/28/11 08:43				
Client ID: MW-5				
Lab ID : BMI11042907-02A Perchlorate	ND	1.00 µg/L	04/29/11 10:13	04/29/11 16:59
Date Sampled 04/28/11 12:33				
Client ID: DUPE-6-2Q11				
Lab ID : BMI11042907-03A Perchlorate	ND	1.00 µg/L	04/29/11 10:13	04/29/11 17:17
Date Sampled 04/28/11 13:00				
Client ID: MW-4-5				
Lab ID : BMI11042907-04A Perchlorate	ND	1.00 µg/L	04/29/11 10:13	04/29/11 17:35
Date Sampled 04/28/11 07:38				
Client ID: MW-4-4				
Lab ID : BMI11042907-05A Perchlorate	ND	1.00 µg/L	04/29/11 10:13	04/29/11 17:54
Date Sampled 04/28/11 08:15				
Client ID: MW-4-3				
Lab ID : BMI11042907-06A Perchlorate	ND	1.00 µg/L	04/29/11 10:13	04/29/11 18:12
Date Sampled 04/28/11 09:15				
Client ID: MW-4-2				
Lab ID : BMI11042907-07A Perchlorate	31.7	1.00 µg/L	04/29/11 10:13	04/29/11 18:31
Date Sampled 04/28/11 09:51				
Client ID: MW-4-1				
Lab ID : BMI11042907-08A Perchlorate	ND	1.00 µg/L	04/29/11 10:13	04/29/11 18:49
Date Sampled 04/28/11 12:41				
Client ID: EB-4-4/28/11				
Lab ID : BMI11042907-09A Perchlorate	ND	1.00 µg/L	04/29/11 10:13	04/29/11 19:07
Date Sampled 04/28/11 12:27				



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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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PS

5/11/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/29/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-13					
Lab ID : BM111042907-01A	Alkalinity, Bicarbonate (As CaCO ₃)	150	10 mg/L	05/03/11 15:28	05/03/11 15:28
Date Sampled 04/28/11 08:43	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 15:28	05/03/11 15:28
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	150	10 mg/L	05/03/11 15:28	05/03/11 15:28
Client ID: MW-5					
Lab ID : BM111042907-02A	Alkalinity, Bicarbonate (As CaCO ₃)	140	10 mg/L	05/03/11 15:54	05/03/11 15:54
Date Sampled 04/28/11 12:33	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 15:54	05/03/11 15:54
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	140	10 mg/L	05/03/11 15:54	05/03/11 15:54
Client ID: DUPE-6-2Q11					
Lab ID : BM111042907-03A	Alkalinity, Bicarbonate (As CaCO ₃)	140	10 mg/L	05/03/11 15:57	05/03/11 15:57
Date Sampled 04/28/11 13:00	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 15:57	05/03/11 15:57
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	140	10 mg/L	05/03/11 15:57	05/03/11 15:57
Client ID: MW-4-5					
Lab ID : BM111042907-04A	Alkalinity, Bicarbonate (As CaCO ₃)	160	10 mg/L	05/03/11 16:00	05/03/11 16:00
Date Sampled 04/28/11 07:38	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 16:00	05/03/11 16:00
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	160	10 mg/L	05/03/11 16:00	05/03/11 16:00
Client ID: MW-4-4					
Lab ID : BM111042907-05A	Alkalinity, Bicarbonate (As CaCO ₃)	150	10 mg/L	05/03/11 16:04	05/03/11 16:04
Date Sampled 04/28/11 08:15	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 16:04	05/03/11 16:04
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	150	10 mg/L	05/03/11 16:04	05/03/11 16:04
Client ID: MW-4-3					
Lab ID : BM111042907-06A	Alkalinity, Bicarbonate (As CaCO ₃)	150	10 mg/L	05/03/11 16:11	05/03/11 16:11
Date Sampled 04/28/11 09:15	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 16:11	05/03/11 16:11
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	150	10 mg/L	05/03/11 16:11	05/03/11 16:11
Client ID: MW-4-2					
Lab ID : BM111042907-07A	Alkalinity, Bicarbonate (As CaCO ₃)	210	10 mg/L	05/03/11 16:15	05/03/11 16:15
Date Sampled 04/28/11 09:51	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 16:15	05/03/11 16:15
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	210	10 mg/L	05/03/11 16:15	05/03/11 16:15
Client ID: MW-4-1					
Lab ID : BM111042907-08A	Alkalinity, Bicarbonate (As CaCO ₃)	180	10 mg/L	05/03/11 16:19	05/03/11 16:19
Date Sampled 04/28/11 12:41	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 16:19	05/03/11 16:19
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	180	10 mg/L	05/03/11 16:19	05/03/11 16:19
Client ID: EB-4-4/28/11					
Lab ID : BM111042907-09A	Alkalinity, Bicarbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 16:24	05/03/11 16:24
Date Sampled 04/28/11 12:27	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 16:24	05/03/11 16:24
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	ND	10 mg/L	05/03/11 16:24	05/03/11 16:24



Alpha Analytical, Inc.

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ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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5/11/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/29/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-13				
Lab ID: BMII1042907-01A	Sodium (Na)	26	0.50 mg/L	04/29/11 16:24 05/03/11 14:45
Date Sampled 04/28/11 08:43	Magnesium (Mg)	18	0.50 mg/L	04/29/11 16:24 05/03/11 14:45
	Potassium (K)	2.6	0.50 mg/L	04/29/11 16:24 05/03/11 14:45
	Calcium (Ca)	56	0.50 mg/L	04/29/11 16:24 05/03/11 14:45
	Chromium (Cr)	0.015	0.0050 mg/L	04/29/11 16:24 05/03/11 14:45
	Iron (Fe)	0.34	0.30 mg/L	04/29/11 16:24 05/03/11 14:45
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24 05/03/11 14:45
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 14:45
Client ID: MW-5				
Lab ID: BMII1042907-02A	Sodium (Na)	14	0.50 mg/L	04/29/11 16:24 05/03/11 14:51
Date Sampled 04/28/11 12:33	Magnesium (Mg)	10	0.50 mg/L	04/29/11 16:24 05/03/11 14:51
	Potassium (K)	2.7	0.50 mg/L	04/29/11 16:24 05/03/11 14:51
	Calcium (Ca)	34	0.50 mg/L	04/29/11 16:24 05/03/11 14:51
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 14:51
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24 05/03/11 14:51
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24 05/03/11 14:51
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 14:51
Client ID: DUPE-6-2Q11				
Lab ID: BMII1042907-03A	Sodium (Na)	14	0.50 mg/L	04/29/11 16:24 05/03/11 14:56
Date Sampled 04/28/11 13:00	Magnesium (Mg)	10	0.50 mg/L	04/29/11 16:24 05/03/11 14:56
	Potassium (K)	2.8	0.50 mg/L	04/29/11 16:24 05/03/11 14:56
	Calcium (Ca)	36	0.50 mg/L	04/29/11 16:24 05/03/11 14:56
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 14:56
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24 05/03/11 14:56
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24 05/03/11 14:56
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 14:56
Client ID: MW-4-5				
Lab ID: BMII1042907-04A	Sodium (Na)	37	0.50 mg/L	04/29/11 16:24 05/03/11 15:02
Date Sampled 04/28/11 07:38	Magnesium (Mg)	14	0.50 mg/L	04/29/11 16:24 05/03/11 15:02
	Potassium (K)	2.0	0.50 mg/L	04/29/11 16:24 05/03/11 15:02
	Calcium (Ca)	32	0.50 mg/L	04/29/11 16:24 05/03/11 15:02
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 15:02
	Iron (Fe)	3.7	0.30 mg/L	04/29/11 16:24 05/03/11 15:02
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24 05/03/11 15:02
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 15:02



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Client ID: MW-4-4

Lab ID : BM111042907-05A	Sodium (Na)	34	0.50 mg/L	04/29/11 16:24	05/03/11 15:07
Date Sampled 04/28/11 08:15	Magnesium (Mg)	13	0.50 mg/L	04/29/11 16:24	05/03/11 15:07
	Potassium (K)	1.9	0.50 mg/L	04/29/11 16:24	05/03/11 15:07
	Calcium (Ca)	29	0.50 mg/L	04/29/11 16:24	05/03/11 15:07
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 15:07
	Iron (Fe)	2.9	0.30 mg/L	04/29/11 16:24	05/03/11 15:07
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24	05/03/11 15:07
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 15:07

Client ID: MW-4-3

Lab ID : BM111042907-06A	Sodium (Na)	33	0.50 mg/L	04/29/11 16:24	05/03/11 15:13
Date Sampled 04/28/11 09:15	Magnesium (Mg)	13	0.50 mg/L	04/29/11 16:24	05/03/11 15:13
	Potassium (K)	1.9	0.50 mg/L	04/29/11 16:24	05/03/11 15:13
	Calcium (Ca)	31	0.50 mg/L	04/29/11 16:24	05/03/11 15:13
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 15:13
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24	05/03/11 15:13
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24	05/03/11 15:13
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 15:13

Client ID: MW-4-2

Lab ID : BM111042907-07A	Sodium (Na)	31	0.50 mg/L	05/02/11 11:15	05/03/11 20:28
Date Sampled 04/28/11 09:51	Magnesium (Mg)	35	0.50 mg/L	05/02/11 11:15	05/03/11 20:28
	Potassium (K)	2.8	0.50 mg/L	05/02/11 11:15	05/03/11 20:28
	Calcium (Ca)	100	0.50 mg/L	05/02/11 11:15	05/03/11 20:28
	Chromium (Cr)	ND	0.0050 mg/L	05/02/11 11:15	05/03/11 20:28
	Iron (Fe)	0.96	0.30 mg/L	05/02/11 11:15	05/03/11 20:28
	Arsenic (As)	ND	0.0020 mg/L	05/02/11 11:15	05/03/11 20:28
	Lead (Pb)	ND	0.0050 mg/L	05/02/11 11:15	05/03/11 20:28

Client ID: MW-4-1

Lab ID : BM111042907-08A	Sodium (Na)	18	0.50 mg/L	05/02/11 11:15	05/03/11 20:34
Date Sampled 04/28/11 12:41	Magnesium (Mg)	13	0.50 mg/L	05/02/11 11:15	05/03/11 20:34
	Potassium (K)	2.5	0.50 mg/L	05/02/11 11:15	05/03/11 20:34
	Calcium (Ca)	41	0.50 mg/L	05/02/11 11:15	05/03/11 20:34
	Chromium (Cr)	ND	0.0050 mg/L	05/02/11 11:15	05/03/11 20:34
	Iron (Fe)	0.41	0.30 mg/L	05/02/11 11:15	05/03/11 20:34
	Arsenic (As)	ND	0.0020 mg/L	05/02/11 11:15	05/03/11 20:34
	Lead (Pb)	ND	0.0050 mg/L	05/02/11 11:15	05/03/11 20:34

Client ID: EB-4-4/28/11

Lab ID : BM111042907-09A	Sodium (Na)	ND	0.50 mg/L	05/02/11 11:15	05/03/11 20:39
Date Sampled 04/28/11 12:27	Magnesium (Mg)	ND	0.50 mg/L	05/02/11 11:15	05/03/11 20:39
	Potassium (K)	ND	0.50 mg/L	05/02/11 11:15	05/03/11 20:39
	Calcium (Ca)	ND	0.50 mg/L	05/02/11 11:15	05/03/11 20:39
	Chromium (Cr)	ND	0.0050 mg/L	05/02/11 11:15	05/03/11 20:39
	Iron (Fe)	ND	0.30 mg/L	05/02/11 11:15	05/03/11 20:39
	Arsenic (As)	ND	0.0020 mg/L	05/02/11 11:15	05/03/11 20:39
	Lead (Pb)	ND	0.0050 mg/L	05/02/11 11:15	05/03/11 20:39



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ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/29/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-13				
Lab ID : BMI11042907-01A pH	7.1	1.7 pH Units	04/29/11 16:35	04/29/11 16:35
Date Sampled 04/28/11 08:43 pH - Temperature	21	1.0 °C	04/29/11 16:35	04/29/11 16:35
Client ID: MW-5				
Lab ID : BMI11042907-02A pH	6.9	1.7 pH Units	04/29/11 16:37	04/29/11 16:37
Date Sampled 04/28/11 12:33 pH - Temperature	20	1.0 °C	04/29/11 16:37	04/29/11 16:37
Client ID: DUPE-6-2Q11				
Lab ID : BMI11042907-03A pH	7.0	1.7 pH Units	04/29/11 16:40	04/29/11 16:40
Date Sampled 04/28/11 13:00 pH - Temperature	20	1.0 °C	04/29/11 16:40	04/29/11 16:40
Client ID: MW-4-5				
Lab ID : BMI11042907-04A pH	7.8	1.7 pH Units	04/29/11 16:43	04/29/11 16:43
Date Sampled 04/28/11 07:38 pH - Temperature	20	1.0 °C	04/29/11 16:43	04/29/11 16:43
Client ID: MW-4-4				
Lab ID : BMI11042907-05A pH	7.8	1.7 pH Units	04/29/11 16:45	04/29/11 16:45
Date Sampled 04/28/11 08:15 pH - Temperature	20	1.0 °C	04/29/11 16:45	04/29/11 16:45
Client ID: MW-4-3				
Lab ID : BMI11042907-06A pH	8.0	1.7 pH Units	04/29/11 16:47	04/29/11 16:47
Date Sampled 04/28/11 09:15 pH - Temperature	20	1.0 °C	04/29/11 16:47	04/29/11 16:47
Client ID: MW-4-2				
Lab ID : BMI11042907-07A pH	6.9	1.7 pH Units	04/29/11 16:49	04/29/11 16:49
Date Sampled 04/28/11 09:51 pH - Temperature	19	1.0 °C	04/29/11 16:49	04/29/11 16:49
Client ID: MW-4-1				
Lab ID : BMI11042907-08A pH	7.1	1.7 pH Units	04/29/11 16:51	04/29/11 16:51
Date Sampled 04/28/11 12:41 pH - Temperature	20	1.0 °C	04/29/11 16:51	04/29/11 16:51
Client ID: EB-4-4/28/11				
Lab ID : BMI11042907-09A pH	6.3	1.7 pH Units	04/29/11 16:57	04/29/11 16:57
Date Sampled 04/28/11 12:27 pH - Temperature	20	1.0 °C	04/29/11 16:57	04/29/11 16:57



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

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

Roger Scholl *Randy Gardner* *Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/29/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS) SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-13				
Lab ID : BM111042907-01A Date Sampled 04/28/11 08:43	Solids, Total Dissolved (TDS) 380	10 mg/L	05/05/11	05/05/11
Client ID: MW-5				
Lab ID : BM111042907-02A Date Sampled 04/28/11 12:33	Solids, Total Dissolved (TDS) 200	10 mg/L	05/05/11	05/05/11
Client ID: DUPE-6-2Q11				
Lab ID : BM111042907-03A Date Sampled 04/28/11 13:00	Solids, Total Dissolved (TDS) 200	10 mg/L	05/05/11	05/05/11
Client ID: MW-4-5				
Lab ID : BM111042907-04A Date Sampled 04/28/11 07:38	Solids, Total Dissolved (TDS) 220	10 mg/L	05/04/11	05/04/11
Client ID: MW-4-4				
Lab ID : BM111042907-05A Date Sampled 04/28/11 08:15	Solids, Total Dissolved (TDS) 210	10 mg/L	05/05/11	05/05/11
Client ID: MW-4-3				
Lab ID : BM111042907-06A Date Sampled 04/28/11 09:15	Solids, Total Dissolved (TDS) 250	10 mg/L	05/05/11	05/05/11
Client ID: MW-4-2				
Lab ID : BM111042907-07A Date Sampled 04/28/11 09:51	Solids, Total Dissolved (TDS) 620	10 mg/L	05/05/11	05/05/11
Client ID: MW-4-1				
Lab ID : BM111042907-08A Date Sampled 04/28/11 12:41	Solids, Total Dissolved (TDS) 260	10 mg/L	05/05/11	05/05/11
Client ID: EB-4-4/28/11				
Lab ID : BM111042907-09A Date Sampled 04/28/11 12:27	Solids, Total Dissolved (TDS) ND	10 mg/L	05/06/11	05/06/11



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ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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5/11/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID :	MW-13				
Lab ID :	BMI11042907-01A				
Date Received :	04/29/11				
Date Sampled :	04/28/11 08:43				
	1-Chlorobutane	ND	2.0 µg/L	05/06/11 02:42	05/06/11 02:42
	2-Nitropropane	ND	2.0 µg/L	05/06/11 02:42	05/06/11 02:42
	Acrylonitrile	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Allyl chloride	ND	2.0 µg/L	05/06/11 02:42	05/06/11 02:42
	Chloroacetoneitrile	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Diethyl ether	ND	2.0 µg/L	05/06/11 02:42	05/06/11 02:42
	Ethyl methacrylate	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Methacrylonitrile	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Methyl iodide	ND	2.0 µg/L	05/06/11 02:42	05/06/11 02:42
	Methylacrylate	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Methyl methacrylate	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Tetrahydrofuran	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 02:42	05/06/11 02:42
Client ID :	MW-5				
Lab ID :	BMI11042907-02A				
Date Received :	04/29/11				
Date Sampled :	04/28/11 12:33				
	1-Chlorobutane	ND	2.0 µg/L	05/06/11 03:06	05/06/11 03:06
	2-Nitropropane	ND	2.0 µg/L	05/06/11 03:06	05/06/11 03:06
	Acrylonitrile	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Allyl chloride	ND	2.0 µg/L	05/06/11 03:06	05/06/11 03:06
	Chloroacetoneitrile	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Diethyl ether	ND	2.0 µg/L	05/06/11 03:06	05/06/11 03:06
	Ethyl methacrylate	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Methacrylonitrile	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Methyl iodide	ND	2.0 µg/L	05/06/11 03:06	05/06/11 03:06
	Methylacrylate	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Methyl methacrylate	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Tetrahydrofuran	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 03:06	05/06/11 03:06
Client ID :	DUPE-6-2Q11				
Lab ID :	BMI11042907-03A				
Date Received :	04/29/11				
Date Sampled :	04/28/11 13:00				
	1-Chlorobutane	ND	2.0 µg/L	05/06/11 03:30	05/06/11 03:30
	2-Nitropropane	ND	2.0 µg/L	05/06/11 03:30	05/06/11 03:30
	Acrylonitrile	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Allyl chloride	ND	2.0 µg/L	05/06/11 03:30	05/06/11 03:30
	Chloroacetoneitrile	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Diethyl ether	ND	2.0 µg/L	05/06/11 03:30	05/06/11 03:30
	Ethyl methacrylate	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Methacrylonitrile	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Methyl iodide	ND	2.0 µg/L	05/06/11 03:30	05/06/11 03:30
	Methylacrylate	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Methyl methacrylate	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Tetrahydrofuran	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 03:30	05/06/11 03:30



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Client ID : **MW-4-5**

Lab ID : BM111042907-04A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 03:54	05/06/11 03:54
Date Received : 04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 03:54	05/06/11 03:54
Date Sampled : 04/28/11 07:38	Acrylonitrile	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Allyl chloride	ND	2.0 µg/L	05/06/11 03:54	05/06/11 03:54
	Chloroacetonitrile	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Diethyl ether	ND	2.0 µg/L	05/06/11 03:54	05/06/11 03:54
	Ethyl methacrylate	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Methacrylonitrile	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Methyl iodide	ND	2.0 µg/L	05/06/11 03:54	05/06/11 03:54
	Methylacrylate	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Methyl methacrylate	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Tetrahydrofuran	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 03:54	05/06/11 03:54

Client ID : **MW-4-4**

Lab ID : BM111042907-05A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 04:18	05/06/11 04:18
Date Received : 04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 04:18	05/06/11 04:18
Date Sampled : 04/28/11 08:15	Acrylonitrile	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Allyl chloride	ND	2.0 µg/L	05/06/11 04:18	05/06/11 04:18
	Chloroacetonitrile	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Diethyl ether	ND	2.0 µg/L	05/06/11 04:18	05/06/11 04:18
	Ethyl methacrylate	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Methacrylonitrile	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Methyl iodide	ND	2.0 µg/L	05/06/11 04:18	05/06/11 04:18
	Methylacrylate	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Methyl methacrylate	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Tetrahydrofuran	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 04:18	05/06/11 04:18

Client ID : **MW-4-3**

Lab ID : BM111042907-06A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 04:42	05/06/11 04:42
Date Received : 04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 04:42	05/06/11 04:42
Date Sampled : 04/28/11 09:15	Acrylonitrile	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
	Allyl chloride	ND	2.0 µg/L	05/06/11 04:42	05/06/11 04:42
	Chloroacetonitrile	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
	Diethyl ether	ND	2.0 µg/L	05/06/11 04:42	05/06/11 04:42
	Ethyl methacrylate	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
	Methacrylonitrile	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
	Methyl iodide	ND	2.0 µg/L	05/06/11 04:42	05/06/11 04:42
	Methylacrylate	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
	Methyl methacrylate	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
	Tetrahydrofuran	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 04:42	05/06/11 04:42

Client ID : **MW-4-2**

Lab ID : BM111042907-07A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 05:06	05/06/11 05:06
Date Received : 04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 05:06	05/06/11 05:06
Date Sampled : 04/28/11 09:51	Acrylonitrile	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
	Allyl chloride	ND	2.0 µg/L	05/06/11 05:06	05/06/11 05:06
	Chloroacetonitrile	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
	Diethyl ether	ND	2.0 µg/L	05/06/11 05:06	05/06/11 05:06
	Ethyl methacrylate	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
	Methacrylonitrile	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
	Methyl iodide	ND	2.0 µg/L	05/06/11 05:06	05/06/11 05:06
	Methylacrylate	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
	Methyl methacrylate	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
	Tetrahydrofuran	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 05:06	05/06/11 05:06



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Client ID : **MW-4-1**

Lab ID : BM111042907-08A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 05:30	05/06/11 05:30
Date Received : 04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 05:30	05/06/11 05:30
Date Sampled : 04/28/11 12:41	Acrylonitrile	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
	Allyl chloride	ND	2.0 µg/L	05/06/11 05:30	05/06/11 05:30
	Chloroacetonitrile	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
	Diethyl ether	ND	2.0 µg/L	05/06/11 05:30	05/06/11 05:30
	Ethyl methacrylate	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
	Methacrylonitrile	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
	Methyl iodide	ND	2.0 µg/L	05/06/11 05:30	05/06/11 05:30
	Methylacrylate	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
	Methyl methacrylate	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
	Tetrahydrofuran	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 05:30	05/06/11 05:30

Client ID : **EB-4-4/28/11**

Lab ID : BM111042907-09A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 05:54	05/06/11 05:54
Date Received : 04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 05:54	05/06/11 05:54
Date Sampled : 04/28/11 12:27	Acrylonitrile	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
	Allyl chloride	ND	2.0 µg/L	05/06/11 05:54	05/06/11 05:54
	Chloroacetonitrile	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
	Diethyl ether	ND	2.0 µg/L	05/06/11 05:54	05/06/11 05:54
	Ethyl methacrylate	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
	Methacrylonitrile	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
	Methyl iodide	ND	2.0 µg/L	05/06/11 05:54	05/06/11 05:54
	Methylacrylate	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
	Methyl methacrylate	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
	Tetrahydrofuran	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 05:54	05/06/11 05:54

Client ID : **TB-4-4/28/11**

Lab ID : BM111042907-10A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 00:19	05/06/11 00:19
Date Received : 04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 00:19	05/06/11 00:19
Date Sampled : 04/28/11 00:00	Acrylonitrile	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
	Allyl chloride	ND	2.0 µg/L	05/06/11 00:19	05/06/11 00:19
	Chloroacetonitrile	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
	Diethyl ether	ND	2.0 µg/L	05/06/11 00:19	05/06/11 00:19
	Ethyl methacrylate	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
	Methacrylonitrile	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
	Methyl iodide	ND	2.0 µg/L	05/06/11 00:19	05/06/11 00:19
	Methylacrylate	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
	Methyl methacrylate	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
	Tetrahydrofuran	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 00:19	05/06/11 00:19

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

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7/19/11

Report Date

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Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-01A
Client I.D. Number: MW-13

Sampled: 04/28/11 08:43
Received: 04/29/11
Extracted: 05/06/11 02:42
Analyzed: 05/06/11 02:42

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethane	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	1.4	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	0.51	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	0.91	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	114	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	101	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

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7/19/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-02A
Client I.D. Number: MW-5

Sampled: 04/28/11 12:33
Received: 04/29/11
Extracted: 05/06/11 03:06
Analyzed: 05/06/11 03:06

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	110	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	101	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-03A
Client I.D. Number: DUPE-6-2Q11

Sampled: 04/28/11 13:00
Received: 04/29/11
Extracted: 05/06/11 03:30
Analyzed: 05/06/11 03:30

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	110	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	99	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	99	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-04A
Client I.D. Number: MW-4-5

Sampled: 04/28/11 07:38
Received: 04/29/11
Extracted: 05/06/11 03:54
Analyzed: 05/06/11 03:54

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	111	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	100	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	96	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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7/19/11

Report Date

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



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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-05A
Client I.D. Number: MW-4-4

Sampled: 04/28/11 08:15
Received: 04/29/11
Extracted: 05/06/11 04:18
Analyzed: 05/06/11 04:18

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	110	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	101	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

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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Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-06A
Client I.D. Number: MW-4-3

Sampled: 04/28/11 09:15
Received: 04/29/11
Extracted: 05/06/11 04:42
Analyzed: 05/06/11 04:42

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	109	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	101	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

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7/19/11

Report Date

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Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-07A
Client I.D. Number: MW-4-2

Sampled: 04/28/11 09:51
Received: 04/29/11
Extracted: 05/06/11 05:06
Analyzed: 05/06/11 05:06

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	0.52	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	113	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	100	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	96	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

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7/19/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-08A
Client I.D. Number: MW-4-1

Sampled: 04/28/11 12:41
Received: 04/29/11
Extracted: 05/06/11 05:30
Analyzed: 05/06/11 05:30

Volatiles Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	108	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	100	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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7/19/11

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-09A
Client I.D. Number: EB-4-4/28/11

Sampled: 04/28/11 12:27
Received: 04/29/11
Extracted: 05/06/11 05:54
Analyzed: 05/06/11 05:54

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	2.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	2.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	2.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	2.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	2.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	2.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	2.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	2.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	109	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	99	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

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

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

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

7/19/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-10A
Client I.D. Number: TB-4-4/28/11

Sampled: 04/28/11 00:00
Received: 04/29/11
Extracted: 05/06/11 00:19
Analyzed: 05/06/11 00:19

Volatiles Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	106	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	101	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

7/19/11

Report Date



Alpha Analytical, Inc.

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

VOC Sample Preservation Report

Work Order: BMI11042907

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11042907-01A	MW-13	Aqueous	2
11042907-02A	MW-5	Aqueous	2
11042907-03A	DUPE-6-2Q11	Aqueous	2
11042907-04A	MW-4-5	Aqueous	2
11042907-05A	MW-4-4	Aqueous	2
11042907-06A	MW-4-3	Aqueous	2
11042907-07A	MW-4-2	Aqueous	2
11042907-08A	MW-4-1	Aqueous	2
11042907-09A	EB-4-4/28/11	Aqueous	2
11042907-10A	TB-4-4/28/11	Aqueous	2

5/11/11
Report Date

Page 1 of 1



Alpha Analytical, Inc.

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Date:
03-May-11

QC Summary Report

Work Order:
11042907

Method Blank

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

File ID: 19	Batch ID: 26428		Analysis Date: 04/29/2011 11:55							
Sample ID: MB-26428	Units : mg/L	Run ID: IC_1_110429A		Prep Date: 04/29/2011 11:16						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO ₂) - N	ND	0.25								
Nitrate (NO ₃) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO ₄)	ND	0.5								

Laboratory Fortified Blank

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

File ID: 50	Batch ID: 26428		Analysis Date: 04/29/2011 21:42							
Sample ID: LFB-26428	Units : mg/L	Run ID: IC_1_110429A		Prep Date: 04/29/2011 11:16						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	49.9	0.5	50		99.8	90	110			
Nitrite (NO ₂) - N	5.21	0.25	5		104	90	110			
Nitrate (NO ₃) - N	5.13	0.25	5		103	90	110			
Phosphate, ortho - P	4.51	0.5	5		90	90	110			
Sulfate (SO ₄)	105	0.5	100		105	90	110			

Sample Matrix Spike

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

File ID: 31	Batch ID: 26428		Analysis Date: 04/29/2011 15:51							
Sample ID: 11042907-05ALFM	Units : mg/L	Run ID: IC_1_110429A		Prep Date: 04/29/2011 11:16						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	510	2.5	500	20.44	98	80	120			
Nitrite (NO ₂) - N	50.2	1.3	50	0	100	80	120			
Nitrate (NO ₃) - N	57.2	1.3	50	1.078	112	80	120			
Phosphate, ortho - P	46.6	2.5	50	0	93	80	120			
Sulfate (SO ₄)	1050	2.5	1000	16.76	103	80	120			

Sample Matrix Spike Duplicate

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

File ID: 32	Batch ID: 26428		Analysis Date: 04/29/2011 16:09							
Sample ID: 11042907-05ALFMD	Units : mg/L	Run ID: IC_1_110429A		Prep Date: 04/29/2011 11:16						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	530	2.5	500	20.44	102	80	120	510.4	3.9(15)	
Nitrite (NO ₂) - N	49.1	1.3	50	0	98	80	120	50.2	2.3(15)	
Nitrate (NO ₃) - N	58.2	1.3	50	1.078	114	80	120	57.23	1.8(15)	
Phosphate, ortho - P	47.4	2.5	50	0	95	80	120	46.62	1.7(15)	
Sulfate (SO ₄)	1070	2.5	1000	16.76	105	80	120	1046	2.1(15)	

Comments:

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



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Date:
02-May-11

QC Summary Report

Work Order:
11042907

Method Blank

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

File ID: **14** Batch ID: **26425** Analysis Date: **04/29/2011 11:09**
Sample ID: **MB-26425** Units : **µg/L** Run ID: **IC_3_110429A** Prep Date: **04/29/2011 10:13**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDPRefVal %RPD(Limit) Qual
Perchlorate ND 1

Laboratory Fortified Blank

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

File ID: **15** Batch ID: **26425** Analysis Date: **04/29/2011 11:27**
Sample ID: **LFB-26425** Units : **µg/L** Run ID: **IC_3_110429A** Prep Date: **04/29/2011 10:13**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDPRefVal %RPD(Limit) Qual
Perchlorate 22.7 2 25 91 85 115

Sample Matrix Spike

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

File ID: **30** Batch ID: **26425** Analysis Date: **04/29/2011 16:03**
Sample ID: **11042703-08ALFM** Units : **µg/L** Run ID: **IC_3_110429A** Prep Date: **04/29/2011 10:13**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDPRefVal %RPD(Limit) Qual
Perchlorate 24.3 2 25 2.93 85 80 120

Sample Matrix Spike Duplicate

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

File ID: **31** Batch ID: **26425** Analysis Date: **04/29/2011 16:22**
Sample ID: **11042703-08ALFMD** Units : **µg/L** Run ID: **IC_3_110429A** Prep Date: **04/29/2011 10:13**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDPRefVal %RPD(Limit) Qual
Perchlorate 26.1 2 25 2.93 92 80 120 24.27 7.1(15)

Comments:

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



Alpha Analytical, Inc.

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Date:
04-May-11

QC Summary Report

Work Order:
11042907

Laboratory Control Spike

Type **LCS** Test Code: **SM2320B**

File ID:

Batch ID: **W0503AL**

Analysis Date: **05/03/2011 14:47**

Sample ID: **LCS-W0503AL**

Units : **mg/L**

Run ID: **WETLAB_110503B**

Prep Date: **05/03/2011 14:47**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO ₃)	273.6	10	250		109	80	120			
Alkalinity, Carbonate (As CaCO ₃)	273.6	10	250		109	80	120			
Alkalinity, Total (As CaCO ₃ at pH 4.5)	274	10	250		109	80	120			

Comments:

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



Alpha Analytical, Inc.

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Date:
06-May-11

QC Summary Report

Work Order:
11042907

Method Blank

File ID: 050311.B\022_M.D\

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

Batch ID: **26430**

Analysis Date: **05/03/2011 12:25**

Sample ID: **MB-26430**

Units : **mg/L**

Run ID: **ICP/MS_110503A**

Prep Date: **04/29/2011 16:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

File ID: 050311.B\023_M.D\

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

Batch ID: **26430**

Analysis Date: **05/03/2011 12:31**

Sample ID: **LCS-26430**

Units : **mg/L**

Run ID: **ICP/MS_110503A**

Prep Date: **04/29/2011 16:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	4.56	0.5	5		91	85	115			
Magnesium (Mg)	4.49	0.5	5		90	85	115			
Potassium (K)	4.75	0.5	5		95	85	115			
Calcium (Ca)	4.62	0.5	5		92	85	115			
Chromium (Cr)	0.0512	0.005	0.05		102	85	115			
Iron (Fe)	5.18	0.3	5		104	85	115			
Arsenic (As)	0.05	0.002	0.05		100	85	115			
Lead (Pb)	0.05	0.005	0.05		100	85	115			

Sample Matrix Spike

File ID: 050311.B\029_M.D\

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

Batch ID: **26430**

Analysis Date: **05/03/2011 13:04**

Sample ID: **11042807-01AMS**

Units : **mg/L**

Run ID: **ICP/MS_110503A**

Prep Date: **04/29/2011 16:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	41.9	0.5	5	37.16	95	70	130			
Magnesium (Mg)	48	0.5	5	42.18	116	70	130			
Potassium (K)	7.1	0.5	5	2.513	92	70	130			
Calcium (Ca)	136	0.5	5	131.3	88	70	130			
Chromium (Cr)	0.0479	0.005	0.05	0	96	70	130			
Iron (Fe)	6.1	0.3	5	0.6305	109	70	130			
Arsenic (As)	0.0508	0.002	0.05	0	102	70	130			
Lead (Pb)	0.0495	0.005	0.05	0	99	70	130			

Sample Matrix Spike Duplicate

File ID: 050311.B\030_M.D\

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

Batch ID: **26430**

Analysis Date: **05/03/2011 13:10**

Sample ID: **11042807-01AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110503A**

Prep Date: **04/29/2011 16:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	40.6	0.5	5	37.16	70	70	130	41.92	3.1(20)	
Magnesium (Mg)	47.1	0.5	5	42.18	98	70	130	47.98	1.9(20)	
Potassium (K)	6.99	0.5	5	2.513	89	70	130	7.095	1.6(20)	
Calcium (Ca)	132	0.5	5	131.3	12	70	130	135.7	2.8(20)	M3
Chromium (Cr)	0.0488	0.005	0.05	0	98	70	130	0.0479	1.9(20)	
Iron (Fe)	6.26	0.3	5	0.6305	113	70	130	6.098	2.6(20)	
Arsenic (As)	0.0515	0.002	0.05	0	103	70	130	0.05076	1.4(20)	
Lead (Pb)	0.0494	0.005	0.05	0	99	70	130	0.04949	0.3(20)	

Comments:

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

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

M3 = The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to the spike level. The method control sample recovery was acceptable.



Alpha Analytical, Inc.

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Date:
06-May-11

QC Summary Report

Work Order:
11042907

Method Blank

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

File ID: **050311.B\087_M.D**

Batch ID: **26436**

Analysis Date: **05/03/2011 19:32**

Sample ID: **MB-26436**

Units : **mg/L**

Run ID: **ICP/MS_110503E**

Prep Date: **05/02/2011 11:15**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

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

File ID: **050311.B\088_M.D**

Batch ID: **26436**

Analysis Date: **05/03/2011 19:38**

Sample ID: **LCS-26436**

Units : **mg/L**

Run ID: **ICP/MS_110503E**

Prep Date: **05/02/2011 11:15**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	4.67	0.5	5		93	85	115			
Magnesium (Mg)	4.67	0.5	5		93	85	115			
Potassium (K)	4.95	0.5	5		99	85	115			
Calcium (Ca)	4.86	0.5	5		97	85	115			
Chromium (Cr)	0.0506	0.005	0.05		101	85	115			
Iron (Fe)	4.98	0.3	5		99.6	85	115			
Arsenic (As)	0.0485	0.002	0.05		97	85	115			
Lead (Pb)	0.0475	0.005	0.05		95	85	115			

Sample Matrix Spike

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

File ID: **050311.B\094_M.D**

Batch ID: **26436**

Analysis Date: **05/03/2011 20:11**

Sample ID: **11042903-01AMS**

Units : **mg/L**

Run ID: **ICP/MS_110503E**

Prep Date: **05/02/2011 11:15**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	35	0.5	5	28.46	131	70	130			M3
Magnesium (Mg)	34.1	0.5	5	26.54	151	70	130			M3
Potassium (K)	8.31	0.5	5	2.563	115	70	130			
Calcium (Ca)	92.8	0.5	5	78.92	277	70	130			M3
Chromium (Cr)	0.0483	0.005	0.05	0	97	70	130			
Iron (Fe)	6	0.3	5	0.4909	110	70	130			
Arsenic (As)	0.0514	0.002	0.05	0	103	70	130			
Lead (Pb)	0.0499	0.005	0.05	0	99.7	70	130			

Sample Matrix Spike Duplicate

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

File ID: **050311.B\095_M.D**

Batch ID: **26436**

Analysis Date: **05/03/2011 20:17**

Sample ID: **11042903-01AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110503E**

Prep Date: **05/02/2011 11:15**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	33.6	0.5	5	28.46	103	70	130	35	4.1(20)	
Magnesium (Mg)	32.9	0.5	5	26.54	128	70	130	34.1	3.5(20)	
Potassium (K)	7.94	0.5	5	2.563	107	70	130	8.305	4.6(20)	
Calcium (Ca)	88	0.5	5	78.92	182	70	130	92.77	5.3(20)	M3
Chromium (Cr)	0.0467	0.005	0.05	0	93	70	130	0.04827	3.3(20)	
Iron (Fe)	5.93	0.3	5	0.4909	109	70	130	5.997	1.1(20)	
Arsenic (As)	0.052	0.002	0.05	0	104	70	130	0.05141	1.2(20)	
Lead (Pb)	0.0489	0.005	0.05	0	98	70	130	0.04985	1.9(20)	

Comments:

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

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

M3 = The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to the spike level. The method control sample recovery was acceptable.



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Date:
02-May-11

QC Summary Report

Work Order:
11042907

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0429PH**

Analysis Date: **04/29/2011 16:25**

Sample ID: **LCS-W0429PH**

Units : **pH Units**

Run ID: **WETLAB_110429F**

Prep Date: **04/29/2011 16:25**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
pH	4.99	1.7	5		99.8	90	110			

Comments:

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



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Date:
11-May-11

QC Summary Report

Work Order:
11042907

Method Blank

File ID:	Type: MBLK	Test Code: SM2540C	Batch ID: W0503DS	Analysis Date: 05/05/2011 00:00						
Sample ID: MBLK-W0503DS	Units : mg/L	Run ID: WETLAB_110503E	Prep Date: 05/05/2011 00:00							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Solids, Total Dissolved (TDS)	ND	10								

Laboratory Control Spike

File ID:	Type: LCS	Test Code: SM2540C	Batch ID: W0503DS	Analysis Date: 05/04/2011 00:00						
Sample ID: LCS-W0503DS	Units : mg/L	Run ID: WETLAB_110503E	Prep Date: 05/04/2011 00:00							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Solids, Total Dissolved (TDS)	102	10	100		102	70	130			

Comments:

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



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Date:
19-Jul-11

QC Summary Report

Work Order:
11042907

Surr: 1,2-Dichloroethane-d4	11	10	110	70	130
Surr: Toluene-d8	10	10	100	70	130
Surr: 4-Bromofluorobenzene	9.8	10	98	70	130



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Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Laboratory Control Spike

Type: LCS Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS07\DATA\110505\11050538.D

Batch ID: MS07W0505M

Analysis Date: 05/05/2011 22:43

Sample ID: LCS MS07W0505M

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/05/2011 22:43

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	9.99	1	10		99.9	70	130			
Chloromethane	7.98	2	10		80	70	130			
Vinyl chloride	8.88	1	10		89	70	130			
Chloroethane	10.4	1	10		104	70	130			
Bromomethane	8.6	2	10		86	70	130			
Trichlorofluoromethane	10.9	1	10		109	70	130			
Acetone	227	10	200		113	36	171			
1,1-Dichloroethene	9.95	1	10		100	70	130			
Dichloromethane	10.9	2	10		109	70	130			
Freon-113	11.1	1	10		111	70	137			
trans-1,2-Dichloroethene	10.1	1	10		101	70	130			
Methyl tert-butyl ether (MTBE)	9.73	0.5	10		97	70	130			
1,1-Dichloroethane	8.74	1	10		87	70	130			
2-Butanone (MEK)	221	10	200		111	70	130			
cis-1,2-Dichloroethene	10.1	1	10		101	70	130			
Bromochloromethane	9.81	1	10		98	70	130			
Chloroform	10.1	1	10		101	70	130			
2,2-Dichloropropane	11.4	1	10		114	70	130			
1,2-Dichloroethane	11	1	10		110	70	130			
1,1,1-Trichloroethane	11.2	1	10		112	70	130			
1,1-Dichloropropene	10.8	1	10		108	70	130			
Carbon tetrachloride	11.7	1	10		117	70	130			
Benzene	10.1	0.5	10		101	70	130			
Dibromomethane	10.5	1	10		105	70	130			
1,2-Dichloropropane	11.5	1	10		115	70	130			
Trichloroethene	10.7	1	10		107	70	130			
Bromodichloromethane	11	1	10		110	70	130			
4-Methyl-2-pentanone (MIBK)	26	2.5	25		104	20	182			
cis-1,3-Dichloropropene	10.5	1	10		105	70	130			
trans-1,3-Dichloropropene	11.3	1	10		113	70	130			
1,1,2-Trichloroethane	9.59	1	10		96	70	130			
Toluene	9.8	0.5	10		98	70	130			
1,3-Dichloropropane	10.8	1	10		108	70	130			
2-Hexanone	116	5	100		116	20	182			
Dibromochloromethane	10.7	1	10		107	70	130			
1,2-Dibromoethane (EDB)	20.8	2	20		104	70	130			
Tetrachloroethene	11.4	1	10		114	70	130			
1,1,1,2-Tetrachloroethane	11	1	10		110	70	130			
Chlorobenzene	10	1	10		100	70	130			
Ethylbenzene	10.5	0.5	10		105	70	130			
m,p-Xylene	11.1	0.5	10		111	70	130			
Bromoform	11.4	1	10		114	70	130			
Styrene	10.7	1	10		107	70	130			
o-Xylene	11.7	0.5	10		117	70	130			
1,1,2,2-Tetrachloroethane	9.68	1	10		97	70	130			
1,2,3-Trichloropropane	21	2	20		105	70	130			
Isopropylbenzene	11.4	1	10		114	70	130			
Bromobenzene	10.4	1	10		104	70	130			
n-Propylbenzene	10.5	1	10		105	70	130			
4-Chlorotoluene	10.5	1	10		105	70	130			
2-Chlorotoluene	10.3	1	10		103	70	130			
1,3,5-Trimethylbenzene	10.8	1	10		108	70	130			
tert-Butylbenzene	11.5	1	10		115	70	130			
1,2,4-Trimethylbenzene	10.8	1	10		108	70	130			
sec-Butylbenzene	10.7	1	10		107	70	130			
1,3-Dichlorobenzene	10.1	1	10		101	70	130			
1,4-Dichlorobenzene	10.2	1	10		102	70	130			
4-Isopropyltoluene	10.4	1	10		104	70	130			
1,2-Dichlorobenzene	9.72	1	10		97	70	130			
n-Butylbenzene	10.3	1	10		103	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	55.5	3	50		111	67	130			
1,2,4-Trichlorobenzene	10.6	2	10		106	70	130			
Naphthalene	12.1	2	10		121	70	130			
Hexachlorobutadiene	25.6	2	20		128	70	130			
1,2,3-Trichlorobenzene	12	2	10		120	70	130			



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Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Surr: 1,2-Dichloroethane-d4	10.6	10	106	70	130
Surr: Toluene-d8	9.81	10	98	70	130
Surr: 4-Bromofluorobenzene	9.56	10	96	70	130



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Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Sample Matrix Spike

Type: MS

Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS07\DATA\110505\11050544.D

Batch ID: MS07W0505M

Analysis Date: 05/06/2011 01:07

Sample ID: 11042907-05AMS

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/06/2011 01:07

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	33.1	2.5	50	0	66	21	138			
Chloromethane	31.1	10	50	0	62	23	144			
Vinyl chloride	36.5	2.5	50	0	73	49	136			
Chloroethane	45.2	2.5	50	0	90	21	159			
Bromomethane	33.4	10	50	0	67	10	174			
Trichlorofluoromethane	48.6	2.5	50	0	97	32	154			
Acetone	621	50	1000	0	62	10	171			
1,1-Dichloroethene	46.3	2.5	50	0	93	64	130			
Dichloromethane	50.9	10	50	0	102	69	130			
Freon-113	50.5	2.5	50	0	101	55	141			
trans-1,2-Dichloroethene	47.1	2.5	50	0	94	63	130			
Methyl tert-butyl ether (MTBE)	48.1	1.3	50	0	96	47	150			
1,1-Dichloroethane	41.4	2.5	50	0	83	66	130			
2-Butanone (MEK)	824	50	1000	0	82	23	182			
cis-1,2-Dichloroethene	48.6	2.5	50	0	97	70	130			
Bromochloromethane	46.5	2.5	50	0	93	70	132			
Chloroform	46.6	2.5	50	0	93	70	130			
2,2-Dichloropropane	35.7	2.5	50	0	71	38	154			
1,2-Dichloroethane	51.3	2.5	50	0	103	65	134			
1,1,1-Trichloroethane	51.1	2.5	50	0	102	65	136			
1,1-Dichloropropene	47.9	2.5	50	0	96	68	132			
Carbon tetrachloride	53.1	2.5	50	0	106	58	148			
Benzene	45.4	1.3	50	0	91	59	138			
Dibromomethane	48	2.5	50	0	96	70	130			
1,2-Dichloropropane	51.5	2.5	50	0	103	70	131			
Trichloroethene	46.7	2.5	50	0	93	65	144			
Bromodichloromethane	49	2.5	50	0	98	50	157			
4-Methyl-2-pentanone (MIBK)	122	13	125	0	97	20	182			
cis-1,3-Dichloropropene	42.6	2.5	50	0	85	63	131			
trans-1,3-Dichloropropene	48.7	2.5	50	0	97	65	136			
1,1,2-Trichloroethane	43.7	2.5	50	0	87	70	131			
Toluene	43.8	1.3	50	0	88	68	130			
1,3-Dichloropropane	48.9	2.5	50	0	98	70	130			
2-Hexanone	399	25	500	0	80	20	182			
Dibromochloromethane	47.9	2.5	50	0	96	42	155			
1,2-Dibromoethane (EDB)	94.6	5	100	0	95	70	130			
Tetrachloroethene	49.3	2.5	50	0	99	65	130			
1,1,1,2-Tetrachloroethane	49	2.5	50	0	98	70	130			
Chlorobenzene	44.3	2.5	50	0	89	70	130			
Ethylbenzene	46.1	1.3	50	0	92	68	130			
m,p-Xylene	48.8	1.3	50	0	98	68	131			
Bromoform	52.3	2.5	50	0	105	65	143			
Styrene	47.3	2.5	50	0	95	59	153			
o-Xylene	51.5	1.3	50	0	103	70	130			
1,1,2,2-Tetrachloroethane	46.4	2.5	50	0	93	67	130			
1,2,3-Trichloropropane	104	10	100	0	104	70	130			
Isopropylbenzene	48	2.5	50	0	96	55	138			
Bromobenzene	44.9	2.5	50	0	90	70	130			
n-Propylbenzene	43.5	2.5	50	0	87	67	133			
4-Chlorotoluene	44.2	2.5	50	0	88	70	130			
2-Chlorotoluene	44.4	2.5	50	0	89	70	130			
1,3,5-Trimethylbenzene	45.8	2.5	50	0	92	67	134			
tert-Butylbenzene	49.7	2.5	50	0	99	55	147			
1,2,4-Trimethylbenzene	46	2.5	50	0	92	65	135			
sec-Butylbenzene	45	2.5	50	0	90	68	135			
1,3-Dichlorobenzene	43.7	2.5	50	0	87	70	130			
1,4-Dichlorobenzene	44.4	2.5	50	0	89	70	130			
4-Isopropyltoluene	43.5	2.5	50	0	87	68	132			
1,2-Dichlorobenzene	42.3	2.5	50	0	85	70	130			
n-Butylbenzene	42	2.5	50	0	84	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	258	15	250	0	103	64	130			
1,2,4-Trichlorobenzene	45.3	10	50	0	91	62	133			
Naphthalene	54.7	10	50	0	109	32	166			
Hexachlorobutadiene	105	10	100	0	105	63	130			
1,2,3-Trichlorobenzene	52.9	10	50	0	106	55	138			



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Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Surr: 1,2-Dichloroethane-d4	54.8	50	110	70	130
Surr: Toluene-d8	49.2	50	98	70	130
Surr: 4-Bromofluorobenzene	46.9	50	94	70	130



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Date:
19-Jul-11

QC Summary Report

Work Order:
11042907

Sample Matrix Spike

Type: MS

Test Code: EPA Method SW8260B

File ID: C:\HPCHEMMS07\DATA\110505\11050546.D

Batch ID: MS07W0505M

Analysis Date: 05/06/2011 01:55

Sample ID: 11050302-08AMS

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/06/2011 01:55

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	36.4	2.5	50		0	73	21		138	
Chloromethane	34.2	10	50		0	68	23		144	
Vinyl chloride	41	2.5	50		0	82	49		136	
Chloroethane	49.6	2.5	50		0	99	21		159	
Bromomethane	39.4	10	50		0	79	10		174	
Trichlorofluoromethane	54.3	2.5	50		0	109	32		154	
Acetone	642	50	1000		0	64	10		171	
1,1-Dichloroethene	52.2	2.5	50		0	104	64		130	
Dichloromethane	53.2	10	50		0	106	69		130	
Freon-113	56.1	2.5	50		0	112	55		141	
trans-1,2-Dichloroethene	52.6	2.5	50		0	105	63		130	
Methyl tert-butyl ether (MTBE)	51.5	1.3	50		0	103	47		150	
1,1-Dichloroethane	50.7	2.5	50		0	101	66		130	
2-Butanone (MEK)	823	50	1000		0	82	23		182	
cis-1,2-Dichloroethene	52.3	2.5	50		0	105	70		130	
Bromochloromethane	50.2	2.5	50		0	100	70		132	
Chloroform	51	2.5	50		0	102	70		130	
2,2-Dichloropropane	39.4	2.5	50		0	79	38		154	
1,2-Dichloroethane	54.1	2.5	50		0	108	65		134	
1,1,1-Trichloroethane	55.9	2.5	50		0	112	65		136	
1,1-Dichloropropene	52	2.5	50		0	104	68		132	
Carbon tetrachloride	58	2.5	50		0	116	58		148	
Benzene	48.7	1.3	50		0	97	59		138	
Dibromomethane	49	2.5	50		0	98	70		130	
1,2-Dichloropropane	54	2.5	50		0	108	70		131	
Trichloroethene	50.3	2.5	50		0	101	65		144	
Bromodichloromethane	51.5	2.5	50		0	103	50		157	
4-Methyl-2-pentanone (MIBK)	126	13	125		0	101	20		182	
cis-1,3-Dichloropropene	46.7	2.5	50		0	93	63		131	
trans-1,3-Dichloropropene	51.8	2.5	50		0	104	65		136	
1,1,2-Trichloroethane	45.8	2.5	50		0	92	70		131	
Toluene	47.9	1.3	50		0	96	68		130	
1,3-Dichloropropane	51.2	2.5	50		0	102	70		130	
2-Hexanone	404	25	500		0	81	20		182	
Dibromochloromethane	50.6	2.5	50		0	101	42		155	
1,2-Dibromoethane (EDB)	99	5	100		0	99	70		130	
Tetrachloroethene	53.1	2.5	50		0	106	65		130	
1,1,1,2-Tetrachloroethane	52.8	2.5	50		0	106	70		130	
Chlorobenzene	47.4	2.5	50		0	95	70		130	
Ethylbenzene	49.9	1.3	50		0	99.8	68		130	
m,p-Xylene	52.7	1.3	50		0	105	68		131	
Bromoform	54.6	2.5	50		0	109	65		143	
Styrene	50.7	2.5	50		0	101	59		153	
o-Xylene	55.8	1.3	50		0	112	70		130	
1,1,2,2-Tetrachloroethane	48.4	2.5	50		0	97	67		130	
1,2,3-Trichloropropane	100	10	100		0	100	70		130	
Isopropylbenzene	52.4	2.5	50		0	105	55		138	
Bromobenzene	48.3	2.5	50		0	97	70		130	
n-Propylbenzene	47.1	2.5	50		0	94	67		133	
4-Chlorotoluene	47.7	2.5	50		0	95	70		130	
2-Chlorotoluene	48	2.5	50		0	96	70		130	
1,3,5-Trimethylbenzene	49.4	2.5	50		0	99	67		134	
tert-Butylbenzene	53.5	2.5	50		0	107	55		147	
1,2,4-Trimethylbenzene	49.7	2.5	50		0	99	65		135	
sec-Butylbenzene	48.9	2.5	50		0	98	68		135	
1,3-Dichlorobenzene	46.6	2.5	50		0	93	70		130	
1,4-Dichlorobenzene	47	2.5	50		0	94	70		130	
4-Isopropyltoluene	47.3	2.5	50		0	95	68		132	
1,2-Dichlorobenzene	45.7	2.5	50		0	91	70		130	
n-Butylbenzene	45.5	2.5	50		0	91	62		134	
1,2-Dibromo-3-chloropropane (DBCP)	265	15	250		0	106	64		130	
1,2,4-Trichlorobenzene	48.5	10	50		0	97	62		133	
Naphthalene	56.9	10	50		0	114	32		166	
Hexachlorobutadiene	116	10	100		0	116	63		130	
1,2,3-Trichlorobenzene	56.5	10	50		0	113	55		138	



Alpha Analytical, Inc.

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

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

Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Surr: 1,2-Dichloroethane-d4	54.5	50	109	70	130
Surr: Toluene-d8	50.4	50	101	70	130
Surr: 4-Bromofluorobenzene	46.9	50	94	70	130



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Date:
19-Jul-11

QC Summary Report

Work Order:
11042907

Sample Matrix Spike Duplicate

Type: MSD Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS07\DATA\110505\11050545.D

Batch ID: MS07W0505M

Analysis Date: 05/06/2011 01:31

Sample ID: 11042907-05AMSD

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/06/2011 01:31

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	36.1	2.5	50	0	72	21	138	33.05	8.7(33)	
Chloromethane	33.1	10	50	0	66	23	144	31.06	6.3(27)	
Vinyl chloride	39.9	2.5	50	0	80	49	136	36.51	9.0(21)	
Chloroethane	48.6	2.5	50	0	97	21	159	45.16	7.3(40)	
Bromomethane	38.9	10	50	0	78	10	174	33.39	15.2(40)	
Trichlorofluoromethane	53.6	2.5	50	0	107	32	154	48.55	9.8(37)	
Acetone	632	50	1000	0	63	10	171	620.9	1.7(23)	
1,1-Dichloroethene	51.8	2.5	50	0	104	64	130	46.32	11.1(21)	
Dichloromethane	52.2	10	50	0	104	69	130	50.85	2.6(20)	
Freon-113	55.6	2.5	50	0	111	55	141	50.46	9.8(40)	
trans-1,2-Dichloroethene	52.4	2.5	50	0	105	63	130	47.14	10.5(20)	
Methyl tert-butyl ether (MTBE)	51	1.3	50	0	102	47	150	48.14	5.7(40)	
1,1-Dichloroethane	50.2	2.5	50	0	100	66	130	41.43	19.1(20)	
2-Butanone (MEK)	818	50	1000	0	82	23	182	824.1	0.7(22)	
cis-1,2-Dichloroethene	52.3	2.5	50	0	105	70	130	48.59	7.3(20)	
Bromochloromethane	48.9	2.5	50	0	98	70	132	46.48	5.0(20)	
Chloroform	50.5	2.5	50	0	101	70	130	46.58	8.1(20)	
2,2-Dichloropropane	39.3	2.5	50	0	79	38	154	35.7	9.6(22)	
1,2-Dichloroethane	52.8	2.5	50	0	106	65	134	51.3	2.9(20)	
1,1,1-Trichloroethane	55.1	2.5	50	0	110	65	136	51.05	7.6(20)	
1,1-Dichloropropene	51.1	2.5	50	0	102	68	132	47.91	6.4(20)	
Carbon tetrachloride	56.5	2.5	50	0	113	58	148	53.11	6.2(20)	
Benzene	47.6	1.3	50	0	95	59	138	45.4	4.8(21)	
Dibromomethane	48	2.5	50	0	96	70	130	47.98	0.1(20)	
1,2-Dichloropropane	53.1	2.5	50	0	106	70	131	51.5	3.0(20)	
Trichloroethene	49.4	2.5	50	0	99	65	144	46.7	5.6(20)	
Bromodichloromethane	49.7	2.5	50	0	99	50	157	49.04	1.3(20)	
4-Methyl-2-pentanone (MIBK)	121	13	125	0	96	20	182	121.5	0.8(20)	
cis-1,3-Dichloropropene	45.9	2.5	50	0	92	63	131	42.55	7.6(20)	
trans-1,3-Dichloropropene	50.4	2.5	50	0	101	65	136	48.7	3.5(20)	
1,1,2-Trichloroethane	44.7	2.5	50	0	89	70	131	43.65	2.4(20)	
Toluene	47	1.3	50	0	94	68	130	43.78	7.1(20)	
1,3-Dichloropropane	50.1	2.5	50	0	100	70	130	48.87	2.5(20)	
2-Hexanone	387	25	500	0	77	20	182	399.4	3.1(20)	
Dibromochloromethane	48.9	2.5	50	0	98	42	155	47.9	2.0(20)	
1,2-Dibromoethane (EDB)	97.2	5	100	0	97	70	130	94.56	2.7(20)	
Tetrachloroethene	52.8	2.5	50	0	106	65	130	49.25	7.0(20)	
1,1,1,2-Tetrachloroethane	50.8	2.5	50	0	102	70	130	49.03	3.6(20)	
Chlorobenzene	46.4	2.5	50	0	93	70	130	44.31	4.6(20)	
Ethylbenzene	48.5	1.3	50	0	97	68	130	46.13	5.0(20)	
m,p-Xylene	51.4	1.3	50	0	103	68	131	48.77	5.3(20)	
Bromoform	52.6	2.5	50	0	105	65	143	52.28	0.6(20)	
Styrene	49.2	2.5	50	0	98	59	153	47.33	3.9(37)	
o-Xylene	54.1	1.3	50	0	108	70	130	51.49	5.0(20)	
1,1,2,2-Tetrachloroethane	45.8	2.5	50	0	92	67	130	46.38	1.2(20)	
1,2,3-Trichloropropane	95.8	10	100	0	96	70	130	103.7	7.9(20)	
Isopropylbenzene	51.2	2.5	50	0	102	55	138	47.97	6.5(20)	
Bromobenzene	46.9	2.5	50	0	94	70	130	44.85	4.4(20)	
n-Propylbenzene	46.1	2.5	50	0	92	67	133	43.48	5.9(30)	
4-Chlorotoluene	47.2	2.5	50	0	94	70	130	44.22	6.6(20)	
2-Chlorotoluene	46.6	2.5	50	0	93	70	130	44.41	4.8(20)	
1,3,5-Trimethylbenzene	48.3	2.5	50	0	97	67	134	45.78	5.3(21)	
tert-Butylbenzene	52.5	2.5	50	0	105	55	147	49.66	5.6(20)	
1,2,4-Trimethylbenzene	48.9	2.5	50	0	98	65	135	46.02	6.0(25)	
sec-Butylbenzene	48.4	2.5	50	0	97	68	135	45.04	7.3(20)	
1,3-Dichlorobenzene	45.2	2.5	50	0	90	70	130	43.73	3.4(20)	
1,4-Dichlorobenzene	46	2.5	50	0	92	70	130	44.37	3.7(20)	
4-Isopropyltoluene	46.4	2.5	50	0	93	68	132	43.54	6.4(20)	
1,2-Dichlorobenzene	43.9	2.5	50	0	88	70	130	42.28	3.8(20)	
n-Butylbenzene	45.1	2.5	50	0	90	62	134	42.03	7.1(21)	
1,2-Dibromo-3-chloropropane (DBCP)	253	15	250	0	101	64	130	258.1	1.9(20)	
1,2,4-Trichlorobenzene	47.7	10	50	0	95	62	133	45.32	5.1(29)	
Naphthalene	55.3	10	50	0	111	32	166	54.7	1.1(40)	
Hexachlorobutadiene	114	10	100	0	114	63	130	105	8.2(21)	
1,2,3-Trichlorobenzene	55	10	50	0	110	55	138	52.85	4.0(36)	



Alpha Analytical, Inc.

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

Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Surr: 1,2-Dichloroethane-d4	53.9	50	108	70	130
Surr: Toluene-d8	50.6	50	101	70	130
Surr: 4-Bromofluorobenzene	47.5	50	95	70	130



Alpha Analytical, Inc.

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Date: 19-Jul-11 QC Summary Report Work Order: 11042907

Sample Matrix Spike Duplicate

Type: MSD Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS07\DATA\110505\11050547.D

Batch ID: MS07W0505M

Analysis Date: 05/06/2011 02:19

Sample ID: 11050302-08AMSD

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/06/2011 02:19

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	33.9	2.5	50	0	68	21	138	36.36	7.2(33)	
Chloromethane	33.2	10	50	0	66	23	144	34.22	3.1(27)	
Vinyl chloride	39.5	2.5	50	0	79	49	136	41.03	3.7(21)	
Chloroethane	47.2	2.5	50	0	94	21	159	49.61	5.0(40)	
Bromomethane	39.5	10	50	0	79	10	174	39.42	0.2(40)	
Trichlorofluoromethane	50.6	2.5	50	0	101	32	154	54.33	7.0(37)	
Acetone	676	50	1000	0	68	10	171	642	5.2(23)	
1,1-Dichloroethene	49.7	2.5	50	0	99	64	130	52.17	5.0(21)	
Dichloromethane	53.5	10	50	0	107	69	130	53.23	0.5(20)	
Freon-113	52.3	2.5	50	0	105	55	141	56.14	7.0(40)	
trans-1,2-Dichloroethene	51	2.5	50	0	102	63	130	52.61	3.1(20)	
Methyl tert-butyl ether (MTBE)	53.5	1.3	50	0	107	47	150	51.49	3.9(40)	
1,1-Dichloroethane	49.3	2.5	50	0	99	66	130	50.67	2.8(20)	
2-Butanone (MEK)	865	50	1000	0	86	23	182	822.9	5.0(22)	
cis-1,2-Dichloroethene	51.6	2.5	50	0	103	70	130	52.26	1.3(20)	
Bromochloromethane	50.8	2.5	50	0	102	70	132	50.23	1.1(20)	
Chloroform	49.3	2.5	50	0	99	70	130	50.98	3.4(20)	
2,2-Dichloropropane	36.9	2.5	50	0	74	38	154	39.38	6.5(22)	
1,2-Dichloroethane	54.6	2.5	50	0	109	65	134	54.08	1.0(20)	
1,1,1-Trichloroethane	54	2.5	50	0	108	65	136	55.93	3.6(20)	
1,1-Dichloropropene	50	2.5	50	0	99.9	68	132	51.98	4.0(20)	
Carbon tetrachloride	54.9	2.5	50	0	110	58	148	57.99	5.5(20)	
Benzene	47.6	1.3	50	0	95	59	138	48.67	2.2(21)	
Dibromomethane	50.7	2.5	50	0	101	70	130	49	3.5(20)	
1,2-Dichloropropane	53.7	2.5	50	0	107	70	131	54.04	0.7(20)	
Trichloroethene	48.7	2.5	50	0	97	65	144	50.29	3.3(20)	
Bromodichloromethane	50.5	2.5	50	0	101	50	157	51.5	2.0(20)	
4-Methyl-2-pentanone (MIBK)	131	13	125	0	105	20	182	126.4	3.6(20)	
cis-1,3-Dichloropropene	46.3	2.5	50	0	93	63	131	46.65	0.8(20)	
trans-1,3-Dichloropropene	52	2.5	50	0	104	65	136	51.83	0.3(20)	
1,1,2-Trichloroethane	46	2.5	50	0	92	70	131	45.83	0.4(20)	
Toluene	46.2	1.3	50	0	92	68	130	47.94	3.7(20)	
1,3-Dichloropropane	51.6	2.5	50	0	103	70	130	51.16	0.9(20)	
2-Hexanone	425	25	500	0	85	20	182	403.7	5.2(20)	
Dibromochloromethane	49.7	2.5	50	0	99	42	155	50.59	1.8(20)	
1,2-Dibromoethane (EDB)	100	5	100	0	100	70	130	99.04	1.4(20)	
Tetrachloroethene	51	2.5	50	0	102	65	130	53.06	3.9(20)	
1,1,1,2-Tetrachloroethane	52	2.5	50	0	104	70	130	52.81	1.5(20)	
Chlorobenzene	46	2.5	50	0	92	70	130	47.4	3.0(20)	
Ethylbenzene	47.6	1.3	50	0	95	68	130	49.91	4.7(20)	
m,p-Xylene	50.9	1.3	50	0	102	68	131	52.68	3.4(20)	
Bromoform	55.6	2.5	50	0	111	65	143	54.61	1.8(20)	
Styrene	49.7	2.5	50	0	99	59	153	50.73	2.1(37)	
o-Xylene	53.8	1.3	50	0	108	70	130	55.78	3.7(20)	
1,1,2,2-Tetrachloroethane	49.6	2.5	50	0	99	67	130	48.35	2.6(20)	
1,2,3-Trichloropropane	101	10	100	0	101	70	130	99.96	1.5(20)	
Isopropylbenzene	50.6	2.5	50	0	101	55	138	52.36	3.4(20)	
Bromobenzene	47.7	2.5	50	0	95	70	130	48.27	1.2(20)	
n-Propylbenzene	45.4	2.5	50	0	91	67	133	47.05	3.7(30)	
4-Chlorotoluene	47.4	2.5	50	0	95	70	130	47.74	0.8(20)	
2-Chlorotoluene	46.8	2.5	50	0	94	70	130	47.95	2.4(20)	
1,3,5-Trimethylbenzene	47.9	2.5	50	0	96	67	134	49.37	3.0(21)	
tert-Butylbenzene	51.6	2.5	50	0	103	55	147	53.45	3.5(20)	
1,2,4-Trimethylbenzene	48.6	2.5	50	0	97	65	135	49.66	2.2(25)	
sec-Butylbenzene	47.2	2.5	50	0	94	68	135	48.92	3.7(20)	
1,3-Dichlorobenzene	46	2.5	50	0	92	70	130	46.56	1.2(20)	
1,4-Dichlorobenzene	47.5	2.5	50	0	95	70	130	46.95	1.1(20)	
4-Isopropyltoluene	45.6	2.5	50	0	91	68	132	47.33	3.8(20)	
1,2-Dichlorobenzene	45.3	2.5	50	0	91	70	130	45.71	1.0(20)	
n-Butylbenzene	44.2	2.5	50	0	88	62	134	45.48	2.9(21)	
1,2-Dibromo-3-chloropropane (DBCP)	283	15	250	0	113	64	130	265.2	6.3(20)	
1,2,4-Trichlorobenzene	49.4	10	50	0	99	62	133	48.51	1.7(29)	
Naphthalene	60	10	50	0	120	32	166	56.89	5.3(40)	
Hexachlorobutadiene	112	10	100	0	112	63	130	116.2	3.5(21)	
1,2,3-Trichlorobenzene	57.8	10	50	0	116	55	138	56.45	2.3(36)	



Alpha Analytical, Inc.

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

Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Surr: 1,2-Dichloroethane-d4	55	50	110	70	130
Surr: Toluene-d8	49.9	50	99.7	70	130
Surr: 4-Bromofluorobenzene	48	50	96	70	130

Comments:

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

AMENDED

Page: 1 of 2

Alpha Analytical, Inc.

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

WorkOrder : BMIS11042907
Report Due By : 5:00 PM On : 12-May-2011

Client:

Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101

Report Attention

David Conner (619) 726-7311 x connerd@battelle.org
 Betsy Cutie (614) 424-4899 x cutiee@battelle.org
 Shane Walton (614) 424-4117 x waltonss@battelle.org

EDD Required : No

Sampled by : D. Loera

Cooler Temp Samples Received

1 °C 29-Apr-2011

Date Printed 14-Jul-2011

Client's COC # : 024303, 29129

Job : G005862/JPL Groundwater Monitoring
 QC Level : DS4 = DOD QC Required : Final Rpt. MBLK, InitCal/ConCal data, LCS, MS/MSD with Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub TAT	Requested Tests				Sample Remarks			
				300_0_W	314_W	ALKALINITY_W	METALS_D		PH_W	TDS_W	VOC_TIC_W
BMI11042907-01A	MW-13	AQ 04/28/11 08:43	6 0 9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	
BMI11042907-02A	MW-5	AQ 04/28/11 12:33	6 0 9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	
BMI11042907-03A	DUPE-6-2Q11	AQ 04/28/11 13:00	6 0 9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	
BMI11042907-04A	MW-4-5	AQ 04/28/11 07:38	5 0 9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	
BMI11042907-05A	MW-4-4	AQ 04/28/11 08:15	10 0 9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	MS/MSD
BMI11042907-06A	MW-4-3	AQ 04/28/11 09:15	5 0 9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	

Comments: Security seals intact. Frozen ice. Temp Blank #7546 received @ 1°C. Level IV OC. Samples should be used as the control spike sample if possible (I.E. MS/MSD). Amended 7/14/11. Added additional TICs, 2-Hexanone and Acetone to all samples. EA.

Logged in by: Elizabeth Adcox Signature Elizabeth Adcox Print Name Elizabeth Adcox Company Alpha Analytical, Inc. Date/Time 7:14:11 9:10

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

AMENDED
Amended 2/2/11

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

WorkOrder : BMIS11042907
Report Due By : 5:00 PM On : 12-May-2011

Client: Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

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

EDD Required : No
 Sampled by : D. Loera
 Cooler Temp 1 °C Samples Received 29-Apr-2011 Date Printed 14-Jul-2011

Client's COC # : 024303, 29129 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			
				300_0_W	314_W	ALKALINITY_W	METALS_D		PH_W	TDS_W	VOC_TIC_W
BM11042907-07A	NW-4-2	04/28/11 09:51	5 0 9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bcarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2-Hexanone/Acetone	VOC by 524 Criteria/2-Hexanone/Acetone	
BM11042907-08A	NW-4-1	04/28/11 12:41	5 0 9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bcarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2-Hexanone/Acetone	VOC by 524 Criteria/2-Hexanone/Acetone	
BM11042907-09A	EB-4-4/28/11	04/28/11 12:27	5 0 9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bcarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2-Hexanone/Acetone	VOC by 524 Criteria/2-Hexanone/Acetone	
BM11042907-10A	TB-4-4/28/11	04/28/11 00:00	1 0 9						VOC by 524 Criteria/2-Hexanone/Acetone	VOC by 524 Criteria/2-Hexanone/Acetone	Reno Trip Blank 12/14/10

Comments: Security seals intact. Frozen ice. Temp Blank #7546 received @ 1°C. Level IV OC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 7/14/11: Added additional TICs, 2-Hexanone and Acetone to all samples. EA:

Logged in by: Empheth Adcox Signature Empheth Adcox Print Name Empheth Adcox Company Alpha Analytical, Inc. Date/Time 7-14-11 9:10

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 : BMIS11042907
 Report Due By : 5:00 PM On : 12-May-2011

Client:

Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

Report Attention

David Conner	(619) 726-7311 x	connerd@battelle.org	Email Address
Betsy Cutie	(614) 424-4899 x	cutiee@battelle.org	
Shane Walton	(614) 424-4117 x	waltonss@battelle.org	

EDD Required : Yes

Sampled by : D. Loera

Cooler Temp

1 °C

Samples Received

29-Apr-2011

Date Printed

29-Apr-2011

QC Level : DSA

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

Client's COC # : 024303, 29129

Job : G005862/JPL Groundwater Monitoring

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub TAT	Requested Tests						Sample Remarks		
				300_0_W	314_W	ALKALINITY_W	METALS_D_W	PH_W	TDS_W		VOC_TIC_W	VOC_W
BMI11042907-01A	MWV-13	AQ 04/28/11 08:43	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042907-02A	MWV-5	AQ 04/28/11 12:33	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042907-03A	DUPE-6-2Q11	AQ 04/28/11 13:00	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042907-04A	MWV-4-5	AQ 04/28/11 07:38	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042907-05A	MWV-4-4	AQ 04/28/11 08:15	10 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD
BMI11042907-06A	MWV-4-3	AQ 04/28/11 09:15	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042907-07A	MWV-4-2	AQ 04/28/11 09:51	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042907-08A	MWV-4-1	AQ 04/28/11 12:41	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	

Comments: Security seals intact. Frozen ice. Temp Blank #7546 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E. MS/MSD):

Signature	Print Name	Company	Date/Time
<i>Elizabeth Adeco</i>	Elizabeth Adeco	Alpha Analytical, Inc.	4:29:11 11/42

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

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

CA
WorkOrder : BMIS11042907
Report Due By : 5:00 PM On : 12-May-2011

Client: Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

Report Attention **Phone Number** **Email Address**

David Conner (619) 726-7311 x connerd@battelle.org
 Betsy Cutie (614) 424-4899 x cutiee@battelle.org
 Shane Walton (614) 424-4117 x waltonsh@battelle.org

Job : G005862/JPL Groundwater Monitoring
 Clients COC # : 024303, 29129 QC Level : DSA = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD with Surrogates

Requested Tests

300_0_w 314_w ALKALINITY_w METALS_D_w PH_w TDS_w VOC_TIC_w VOC_w

NO2, NO3, SO4, Cl, PO4 Perchlorate Alk (Carb/Bicarb) Cr, As, Pb, Ca, Mg, K, Na, Fe pH TDS VOC by 524 Criteria VOC by 524 Criteria

EDD Required : Yes
 Sampled by : D. Loera
 Cooler Temp Samples Received Date Printed

1 °C 29-Apr-2011 29-Apr-2011

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles	Matrix	Alpha	Sub	TAT	300_0_w	314_w	ALKALINITY_w	METALS_D_w	PH_w	TDS_w	VOC_TIC_w	VOC_w	Sample Remarks
BM111042907-09A	EB-4-4/28/11	04/28/11 12:27	5	AQ		0	9									
BM111042907-10A	TB-4-4/28/11	04/28/11 00:00	1	AQ		0	9									Reno Trip Blank 12/14/10

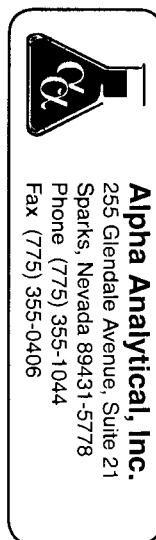
Comments: Security seals intact. Frozen ice. Temp Blank #7546 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E., MS/MSD).

Logged in by: Elizabeth Adcox **Signature:** Elizabeth Adcox **Print Name:** Elizabeth Adcox **Company:** Alpha Analytical, Inc. **Date/Time:** 4:29:11 11/2

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 Battelle
 Address 505 King Ave
 City, State, Zip Columbus OH 43201
 Phone Number 614 726-7311 Fax 614 458-6641



Samples Collected From Which State?
 AZ CA NV WA
 ID OR OTHER
 Page # 024603 of 1

Client Name David Conner P.O. # 218013 Job # 6005862/SP1 GWR4
 Address concord@battelle.org Email Address
 City, State, Zip 614 726-7311 Phone # 614 458-6641 Fax # 614 458-6641

Time Sampled	Date	Matrix* See Key Below	Sampled by	Lab ID Number (Use Only)	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filled	Total and type of containers ** See below	Global ID #	REMARKS
0813	4/28/11	AQ	DL	BMT116429	57.01	MW-13	MW-13	1D		3V 3P		VOC's (524.2) Total Cr (200.8) * Cations ** Anions TDS (342540C) pH (150.2) Bicarbonate Carbonate
233	4/28/11	AQ	DL			MW-5	MW-5	1D		3V 3P		
1300	4/29/11	AQ	DL			DUPE-6-2211	DUPE-6-2211	1D		3V 3P		

ADDITIONAL INSTRUCTIONS: *As, Pb, Cu, Mg, K, Na, Fe **Chloride, Nitrate, Nitrite, Orthophosphate, Sulfate, Perchlorate, Alkalinity

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	David Loera	Battelle	4-28-11	1430
<i>[Signature]</i>	Anthony Stark	Alpha Analytical	4-28-11	1530
<i>[Signature]</i>	Elizabeth Adcox	Alpha	4-29-11	1142

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

Billing Information:

Name Battelle / 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? 29129
 AZ CA NV WA
 ID OR OTHER
 Page # 1 of

Analyses Required

VOC's (524.2)
 Lead, Arsenic, Total Cr (200.8)
 Cl⁻ (314.0)
 Ni, K, Ca, Mg, Fe (200.8)
 CO₂, HCO₃, TDS, PH, Alkalinity (SM2320B, SM2540C 1502)
 Cl⁻, NO₃⁻, NO₂⁻, SO₄⁻² (300.0)

Required QC Level?
 I II III IV

EDP/EDF? YES NO
 Global ID # _____
 REMARKS

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Analyses Required	REMARKS
738	4/8/11	AQ				DAVID CONNER	MW - 4 - 5			5	X	ms/msd
815							MW - 4 - 4			10	X	
915							MW - 4 - 3			5	X	
951							MW - 4 - 2			5	X	
1241							MW - 4 - 1			5	X	
1227							EB - 4 - 4/28/11			5	X	Equip Blank
-							TB - 4 - 4/28/11			1	X	Trip Blank

ADDITIONAL INSTRUCTIONS:

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	MARGO RUENDOSA	INSIGAS	4/28/11	1527
<i>[Signature]</i>	Anthony Stark	Alpha Analytical	4/28/11	1530
<i>[Signature]</i>	Elizabeth Adcox	Alpha	4-29-11	1142

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air ** L-Liter V-Vol S-Soil Jar O-Orho 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: 10-May-11

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11042907

Cooler Temp: 1 °C

Alpha's Sample ID	Client's Sample ID	Matrix
11042907-01A	MW-13	Aqueous
11042907-02A	MW-5	Aqueous
11042907-03A	DUPE-6-2Q11	Aqueous
11042907-04A	MW-4-5	Aqueous
11042907-05A	MW-4-4	Aqueous
11042907-06A	MW-4-3	Aqueous
11042907-07A	MW-4-2	Aqueous
11042907-08A	MW-4-1	Aqueous
11042907-09A	EB-4-4/28/11	Aqueous
11042907-10A	TB-4-4/28/11	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
11042907-01A	EPA Method 314.0	Perchlorate
11042907-07A	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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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



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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/29/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-13				
Lab ID : BM111042907-01A	Chloride	30	0.50 mg/L	04/29/11 11:16 04/29/11 14:18
Date Sampled 04/28/11 08:43	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16 04/29/11 14:18
	Nitrate (NO3) - N	4.4	0.25 mg/L	04/29/11 11:16 04/29/11 14:18
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16 04/29/11 14:18
	Sulfate (SO4)	66	0.50 mg/L	04/29/11 11:16 04/29/11 14:18
Client ID: MW-5				
Lab ID : BM111042907-02A	Chloride	5.4	0.50 mg/L	04/29/11 11:16 04/29/11 14:37
Date Sampled 04/28/11 12:33	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16 04/29/11 14:37
	Nitrate (NO3) - N	0.66	0.25 mg/L	04/29/11 11:16 04/29/11 14:37
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16 04/29/11 14:37
	Sulfate (SO4)	20	0.50 mg/L	04/29/11 11:16 04/29/11 14:37
Client ID: DUPE-6-2Q11				
Lab ID : BM111042907-03A	Chloride	5.4	0.50 mg/L	04/29/11 11:16 04/29/11 14:55
Date Sampled 04/28/11 13:00	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16 04/29/11 14:55
	Nitrate (NO3) - N	0.70	0.25 mg/L	04/29/11 11:16 04/29/11 14:55
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16 04/29/11 14:55
	Sulfate (SO4)	20	0.50 mg/L	04/29/11 11:16 04/29/11 14:55
Client ID: MW-4-5				
Lab ID : BM111042907-04A	Chloride	23	0.50 mg/L	04/29/11 11:16 04/29/11 15:14
Date Sampled 04/28/11 07:38	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16 04/29/11 15:14
	Nitrate (NO3) - N	ND	0.25 mg/L	04/29/11 11:16 04/29/11 15:14
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16 04/29/11 15:14
	Sulfate (SO4)	17	0.50 mg/L	04/29/11 11:16 04/29/11 15:14
Client ID: MW-4-4				
Lab ID : BM111042907-05A	Chloride	20	0.50 mg/L	04/29/11 11:16 04/29/11 15:32
Date Sampled 04/28/11 08:15	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16 04/29/11 15:32
	Nitrate (NO3) - N	1.1	0.25 mg/L	04/29/11 11:16 04/29/11 15:32
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16 04/29/11 15:32
	Sulfate (SO4)	17	0.50 mg/L	04/29/11 11:16 04/29/11 15:32
Client ID: MW-4-3				
Lab ID : BM111042907-06A	Chloride	21	0.50 mg/L	04/29/11 11:16 04/29/11 16:28
Date Sampled 04/28/11 09:15	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16 04/29/11 16:28
	Nitrate (NO3) - N	2.4	0.25 mg/L	04/29/11 11:16 04/29/11 16:28
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16 04/29/11 16:28
	Sulfate (SO4)	18	0.50 mg/L	04/29/11 11:16 04/29/11 16:28



Alpha Analytical, Inc.

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

Client ID: **MW-4-2**

Lab ID : BM111042907-07A	Chloride	97	2.5 mg/L	04/29/11 11:16	05/02/11 12:12
Date Sampled 04/28/11 09:51	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 17:23
	Nitrate (NO3) - N	10	0.25 mg/L	04/29/11 11:16	04/29/11 17:23
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16	04/29/11 17:23
	Sulfate (SO4)	130	2.5 mg/L	04/29/11 11:16	05/02/11 12:12

Client ID: **MW-4-1**

Lab ID : BM111042907-08A	Chloride	7.3	0.50 mg/L	04/29/11 11:16	04/29/11 17:42
Date Sampled 04/28/11 12:41	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 17:42
	Nitrate (NO3) - N	1.3	0.25 mg/L	04/29/11 11:16	04/29/11 17:42
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16	04/29/11 17:42
	Sulfate (SO4)	18	0.50 mg/L	04/29/11 11:16	04/29/11 17:42

Client ID: **EB-4-4/28/11**

Lab ID : BM111042907-09A	Chloride	ND	0.50 mg/L	04/29/11 11:16	04/29/11 18:00
Date Sampled 04/28/11 12:27	Nitrite (NO2) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 18:00
	Nitrate (NO3) - N	ND	0.25 mg/L	04/29/11 11:16	04/29/11 18:00
	Phosphate, ortho - P	ND	0.50 mg/L	04/29/11 11:16	04/29/11 18:00
	Sulfate (SO4)	ND	0.50 mg/L	04/29/11 11:16	04/29/11 18:00

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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

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

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

✓
5/11/11
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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/29/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-13 Lab ID : BM111042907-01A Date Sampled 04/28/11 08:43	Perchlorate 81.8	1.00 µg/L	04/29/11 10:13	04/29/11 14:40
Client ID: MW-5 Lab ID : BM111042907-02A Date Sampled 04/28/11 12:33	Perchlorate ND	1.00 µg/L	04/29/11 10:13	04/29/11 16:59
Client ID: DUPE-6-2Q11 Lab ID : BM111042907-03A Date Sampled 04/28/11 13:00	Perchlorate ND	1.00 µg/L	04/29/11 10:13	04/29/11 17:17
Client ID: MW-4-5 Lab ID : BM111042907-04A Date Sampled 04/28/11 07:38	Perchlorate ND	1.00 µg/L	04/29/11 10:13	04/29/11 17:35
Client ID: MW-4-4 Lab ID : BM111042907-05A Date Sampled 04/28/11 08:15	Perchlorate ND	1.00 µg/L	04/29/11 10:13	04/29/11 17:54
Client ID: MW-4-3 Lab ID : BM111042907-06A Date Sampled 04/28/11 09:15	Perchlorate ND	1.00 µg/L	04/29/11 10:13	04/29/11 18:12
Client ID: MW-4-2 Lab ID : BM111042907-07A Date Sampled 04/28/11 09:51	Perchlorate 31.7	1.00 µg/L	04/29/11 10:13	04/29/11 18:31
Client ID: MW-4-1 Lab ID : BM111042907-08A Date Sampled 04/28/11 12:41	Perchlorate ND	1.00 µg/L	04/29/11 10:13	04/29/11 18:49
Client ID: EB-4-4/28/11 Lab ID : BM111042907-09A Date Sampled 04/28/11 12:27	Perchlorate ND	1.00 µg/L	04/29/11 10:13	04/29/11 19:07



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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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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PS

5/11/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/29/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-13				
Lab ID : BMI11042907-01A	Alkalinity, Bicarbonate (As CaCO3)	150	10 mg/L	05/03/11 15:28
Date Sampled 04/28/11 08:43	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/03/11 15:28
	Alkalinity, Total (As CaCO3 at pH 4.5)	150	10 mg/L	05/03/11 15:28
Client ID: MW-5				
Lab ID : BMI11042907-02A	Alkalinity, Bicarbonate (As CaCO3)	140	10 mg/L	05/03/11 15:54
Date Sampled 04/28/11 12:33	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/03/11 15:54
	Alkalinity, Total (As CaCO3 at pH 4.5)	140	10 mg/L	05/03/11 15:54
Client ID: DUPE-6-2Q11				
Lab ID : BMI11042907-03A	Alkalinity, Bicarbonate (As CaCO3)	140	10 mg/L	05/03/11 15:57
Date Sampled 04/28/11 13:00	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/03/11 15:57
	Alkalinity, Total (As CaCO3 at pH 4.5)	140	10 mg/L	05/03/11 15:57
Client ID: MW-4-5				
Lab ID : BMI11042907-04A	Alkalinity, Bicarbonate (As CaCO3)	160	10 mg/L	05/03/11 16:00
Date Sampled 04/28/11 07:38	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/03/11 16:00
	Alkalinity, Total (As CaCO3 at pH 4.5)	160	10 mg/L	05/03/11 16:00
Client ID: MW-4-4				
Lab ID : BMI11042907-05A	Alkalinity, Bicarbonate (As CaCO3)	150	10 mg/L	05/03/11 16:04
Date Sampled 04/28/11 08:15	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/03/11 16:04
	Alkalinity, Total (As CaCO3 at pH 4.5)	150	10 mg/L	05/03/11 16:04
Client ID: MW-4-3				
Lab ID : BMI11042907-06A	Alkalinity, Bicarbonate (As CaCO3)	150	10 mg/L	05/03/11 16:11
Date Sampled 04/28/11 09:15	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/03/11 16:11
	Alkalinity, Total (As CaCO3 at pH 4.5)	150	10 mg/L	05/03/11 16:11
Client ID: MW-4-2				
Lab ID : BMI11042907-07A	Alkalinity, Bicarbonate (As CaCO3)	210	10 mg/L	05/03/11 16:15
Date Sampled 04/28/11 09:51	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/03/11 16:15
	Alkalinity, Total (As CaCO3 at pH 4.5)	210	10 mg/L	05/03/11 16:15
Client ID: MW-4-1				
Lab ID : BMI11042907-08A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/03/11 16:19
Date Sampled 04/28/11 12:41	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/03/11 16:19
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/03/11 16:19
Client ID: EB-4-4/28/11				
Lab ID : BMI11042907-09A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/03/11 16:24
Date Sampled 04/28/11 12:27	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/03/11 16:24
	Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/03/11 16:24



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5/11/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/29/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-13				
Lab ID : BM11042907-01A	Sodium (Na)	26	0.50 mg/L	04/29/11 16:24 05/03/11 14:45
Date Sampled 04/28/11 08:43	Magnesium (Mg)	18	0.50 mg/L	04/29/11 16:24 05/03/11 14:45
	Potassium (K)	2.6	0.50 mg/L	04/29/11 16:24 05/03/11 14:45
	Calcium (Ca)	56	0.50 mg/L	04/29/11 16:24 05/03/11 14:45
	Chromium (Cr)	0.015	0.0050 mg/L	04/29/11 16:24 05/03/11 14:45
	Iron (Fe)	0.34	0.30 mg/L	04/29/11 16:24 05/03/11 14:45
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24 05/03/11 14:45
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 14:45
Client ID: MW-5				
Lab ID : BM11042907-02A	Sodium (Na)	14	0.50 mg/L	04/29/11 16:24 05/03/11 14:51
Date Sampled 04/28/11 12:33	Magnesium (Mg)	10	0.50 mg/L	04/29/11 16:24 05/03/11 14:51
	Potassium (K)	2.7	0.50 mg/L	04/29/11 16:24 05/03/11 14:51
	Calcium (Ca)	34	0.50 mg/L	04/29/11 16:24 05/03/11 14:51
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 14:51
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24 05/03/11 14:51
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24 05/03/11 14:51
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 14:51
Client ID: DUPE-6-2Q11				
Lab ID : BM11042907-03A	Sodium (Na)	14	0.50 mg/L	04/29/11 16:24 05/03/11 14:56
Date Sampled 04/28/11 13:00	Magnesium (Mg)	10	0.50 mg/L	04/29/11 16:24 05/03/11 14:56
	Potassium (K)	2.8	0.50 mg/L	04/29/11 16:24 05/03/11 14:56
	Calcium (Ca)	36	0.50 mg/L	04/29/11 16:24 05/03/11 14:56
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 14:56
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24 05/03/11 14:56
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24 05/03/11 14:56
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 14:56
Client ID: MW-4-5				
Lab ID : BM11042907-04A	Sodium (Na)	37	0.50 mg/L	04/29/11 16:24 05/03/11 15:02
Date Sampled 04/28/11 07:38	Magnesium (Mg)	14	0.50 mg/L	04/29/11 16:24 05/03/11 15:02
	Potassium (K)	2.0	0.50 mg/L	04/29/11 16:24 05/03/11 15:02
	Calcium (Ca)	32	0.50 mg/L	04/29/11 16:24 05/03/11 15:02
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 15:02
	Iron (Fe)	3.7	0.30 mg/L	04/29/11 16:24 05/03/11 15:02
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24 05/03/11 15:02
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24 05/03/11 15:02



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Client ID: MW-4-4

Lab ID : BM111042907-05A	Sodium (Na)	34	0.50 mg/L	04/29/11 16:24	05/03/11 15:07
Date Sampled 04/28/11 08:15	Magnesium (Mg)	13	0.50 mg/L	04/29/11 16:24	05/03/11 15:07
	Potassium (K)	1.9	0.50 mg/L	04/29/11 16:24	05/03/11 15:07
	Calcium (Ca)	29	0.50 mg/L	04/29/11 16:24	05/03/11 15:07
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 15:07
	Iron (Fe)	2.9	0.30 mg/L	04/29/11 16:24	05/03/11 15:07
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24	05/03/11 15:07
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 15:07

Client ID: MW-4-3

Lab ID : BM111042907-06A	Sodium (Na)	33	0.50 mg/L	04/29/11 16:24	05/03/11 15:13
Date Sampled 04/28/11 09:15	Magnesium (Mg)	13	0.50 mg/L	04/29/11 16:24	05/03/11 15:13
	Potassium (K)	1.9	0.50 mg/L	04/29/11 16:24	05/03/11 15:13
	Calcium (Ca)	31	0.50 mg/L	04/29/11 16:24	05/03/11 15:13
	Chromium (Cr)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 15:13
	Iron (Fe)	ND	0.30 mg/L	04/29/11 16:24	05/03/11 15:13
	Arsenic (As)	ND	0.0020 mg/L	04/29/11 16:24	05/03/11 15:13
	Lead (Pb)	ND	0.0050 mg/L	04/29/11 16:24	05/03/11 15:13

Client ID: MW-4-2

Lab ID : BM111042907-07A	Sodium (Na)	31	0.50 mg/L	05/02/11 11:15	05/03/11 20:28
Date Sampled 04/28/11 09:51	Magnesium (Mg)	35	0.50 mg/L	05/02/11 11:15	05/03/11 20:28
	Potassium (K)	2.8	0.50 mg/L	05/02/11 11:15	05/03/11 20:28
	Calcium (Ca)	100	0.50 mg/L	05/02/11 11:15	05/03/11 20:28
	Chromium (Cr)	ND	0.0050 mg/L	05/02/11 11:15	05/03/11 20:28
	Iron (Fe)	0.96	0.30 mg/L	05/02/11 11:15	05/03/11 20:28
	Arsenic (As)	ND	0.0020 mg/L	05/02/11 11:15	05/03/11 20:28
	Lead (Pb)	ND	0.0050 mg/L	05/02/11 11:15	05/03/11 20:28

Client ID: MW-4-1

Lab ID : BM111042907-08A	Sodium (Na)	18	0.50 mg/L	05/02/11 11:15	05/03/11 20:34
Date Sampled 04/28/11 12:41	Magnesium (Mg)	13	0.50 mg/L	05/02/11 11:15	05/03/11 20:34
	Potassium (K)	2.5	0.50 mg/L	05/02/11 11:15	05/03/11 20:34
	Calcium (Ca)	41	0.50 mg/L	05/02/11 11:15	05/03/11 20:34
	Chromium (Cr)	ND	0.0050 mg/L	05/02/11 11:15	05/03/11 20:34
	Iron (Fe)	0.41	0.30 mg/L	05/02/11 11:15	05/03/11 20:34
	Arsenic (As)	ND	0.0020 mg/L	05/02/11 11:15	05/03/11 20:34
	Lead (Pb)	ND	0.0050 mg/L	05/02/11 11:15	05/03/11 20:34

Client ID: EB-4-4/28/11

Lab ID : BM111042907-09A	Sodium (Na)	ND	0.50 mg/L	05/02/11 11:15	05/03/11 20:39
Date Sampled 04/28/11 12:27	Magnesium (Mg)	ND	0.50 mg/L	05/02/11 11:15	05/03/11 20:39
	Potassium (K)	ND	0.50 mg/L	05/02/11 11:15	05/03/11 20:39
	Calcium (Ca)	ND	0.50 mg/L	05/02/11 11:15	05/03/11 20:39
	Chromium (Cr)	ND	0.0050 mg/L	05/02/11 11:15	05/03/11 20:39
	Iron (Fe)	ND	0.30 mg/L	05/02/11 11:15	05/03/11 20:39
	Arsenic (As)	ND	0.0020 mg/L	05/02/11 11:15	05/03/11 20:39
	Lead (Pb)	ND	0.0050 mg/L	05/02/11 11:15	05/03/11 20:39



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ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/29/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-13				
Lab ID : BMI11042907-01A pH	7.1	1.7 pH Units	04/29/11 16:35	04/29/11 16:35
Date Sampled 04/28/11 08:43 pH - Temperature	21	1.0 °C	04/29/11 16:35	04/29/11 16:35
Client ID: MW-5				
Lab ID : BMI11042907-02A pH	6.9	1.7 pH Units	04/29/11 16:37	04/29/11 16:37
Date Sampled 04/28/11 12:33 pH - Temperature	20	1.0 °C	04/29/11 16:37	04/29/11 16:37
Client ID: DUPE-6-2Q11				
Lab ID : BMI11042907-03A pH	7.0	1.7 pH Units	04/29/11 16:40	04/29/11 16:40
Date Sampled 04/28/11 13:00 pH - Temperature	20	1.0 °C	04/29/11 16:40	04/29/11 16:40
Client ID: MW-4-5				
Lab ID : BMI11042907-04A pH	7.8	1.7 pH Units	04/29/11 16:43	04/29/11 16:43
Date Sampled 04/28/11 07:38 pH - Temperature	20	1.0 °C	04/29/11 16:43	04/29/11 16:43
Client ID: MW-4-4				
Lab ID : BMI11042907-05A pH	7.8	1.7 pH Units	04/29/11 16:45	04/29/11 16:45
Date Sampled 04/28/11 08:15 pH - Temperature	20	1.0 °C	04/29/11 16:45	04/29/11 16:45
Client ID: MW-4-3				
Lab ID : BMI11042907-06A pH	8.0	1.7 pH Units	04/29/11 16:47	04/29/11 16:47
Date Sampled 04/28/11 09:15 pH - Temperature	20	1.0 °C	04/29/11 16:47	04/29/11 16:47
Client ID: MW-4-2				
Lab ID : BMI11042907-07A pH	6.9	1.7 pH Units	04/29/11 16:49	04/29/11 16:49
Date Sampled 04/28/11 09:51 pH - Temperature	19	1.0 °C	04/29/11 16:49	04/29/11 16:49
Client ID: MW-4-1				
Lab ID : BMI11042907-08A pH	7.1	1.7 pH Units	04/29/11 16:51	04/29/11 16:51
Date Sampled 04/28/11 12:41 pH - Temperature	20	1.0 °C	04/29/11 16:51	04/29/11 16:51
Client ID: EB-4-4/28/11				
Lab ID : BMI11042907-09A pH	6.3	1.7 pH Units	04/29/11 16:57	04/29/11 16:57
Date Sampled 04/28/11 12:27 pH - Temperature	20	1.0 °C	04/29/11 16:57	04/29/11 16:57



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

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

Roger Scholl *Randy Gardner* *Walter Hinchman*

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 04/29/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS) SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-13					
Lab ID: BMI11042907-01A Date Sampled 04/28/11 08:43	Solids, Total Dissolved (TDS)	380	10 mg/L	05/05/11	05/05/11
Client ID: MW-5					
Lab ID: BMI11042907-02A Date Sampled 04/28/11 12:33	Solids, Total Dissolved (TDS)	200	10 mg/L	05/05/11	05/05/11
Client ID: DUPE-6-2Q11					
Lab ID: BMI11042907-03A Date Sampled 04/28/11 13:00	Solids, Total Dissolved (TDS)	200	10 mg/L	05/05/11	05/05/11
Client ID: MW-4-5					
Lab ID: BMI11042907-04A Date Sampled 04/28/11 07:38	Solids, Total Dissolved (TDS)	220	10 mg/L	05/04/11	05/04/11
Client ID: MW-4-4					
Lab ID: BMI11042907-05A Date Sampled 04/28/11 08:15	Solids, Total Dissolved (TDS)	210	10 mg/L	05/05/11	05/05/11
Client ID: MW-4-3					
Lab ID: BMI11042907-06A Date Sampled 04/28/11 09:15	Solids, Total Dissolved (TDS)	250	10 mg/L	05/05/11	05/05/11
Client ID: MW-4-2					
Lab ID: BMI11042907-07A Date Sampled 04/28/11 09:51	Solids, Total Dissolved (TDS)	620	10 mg/L	05/05/11	05/05/11
Client ID: MW-4-1					
Lab ID: BMI11042907-08A Date Sampled 04/28/11 12:41	Solids, Total Dissolved (TDS)	260	10 mg/L	05/05/11	05/05/11
Client ID: EB-4-4/28/11					
Lab ID: BMI11042907-09A Date Sampled 04/28/11 12:27	Solids, Total Dissolved (TDS)	ND	10 mg/L	05/06/11	05/06/11



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ND = Not Detected

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID :	MW-13				
Lab ID :	BMI11042907-01A				
Date Received :	04/29/11				
Date Sampled :	04/28/11 08:43				
	1-Chlorobutane	ND	2.0 µg/L	05/06/11 02:42	05/06/11 02:42
	2-Nitropropane	ND	2.0 µg/L	05/06/11 02:42	05/06/11 02:42
	Acrylonitrile	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Allyl chloride	ND	2.0 µg/L	05/06/11 02:42	05/06/11 02:42
	Chloroacetonitrile	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Diethyl ether	ND	2.0 µg/L	05/06/11 02:42	05/06/11 02:42
	Ethyl methacrylate	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Methacrylonitrile	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Methyl iodide	ND	2.0 µg/L	05/06/11 02:42	05/06/11 02:42
	Methylacrylate	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Methyl methacrylate	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Tetrahydrofuran	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 02:42	05/06/11 02:42
	1,1-Dichloropropanone	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Hexachloroethane	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Nitrobenzene	ND	10 µg/L	05/06/11 02:42	05/06/11 02:42
	Propionitrile	ND	50 µg/L	05/06/11 02:42	05/06/11 02:42
Client ID :	MW-5				
Lab ID :	BMI11042907-02A				
Date Received :	04/29/11				
Date Sampled :	04/28/11 12:33				
	1-Chlorobutane	ND	2.0 µg/L	05/06/11 03:06	05/06/11 03:06
	2-Nitropropane	ND	2.0 µg/L	05/06/11 03:06	05/06/11 03:06
	Acrylonitrile	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Allyl chloride	ND	2.0 µg/L	05/06/11 03:06	05/06/11 03:06
	Chloroacetonitrile	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Diethyl ether	ND	2.0 µg/L	05/06/11 03:06	05/06/11 03:06
	Ethyl methacrylate	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Methacrylonitrile	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Methyl iodide	ND	2.0 µg/L	05/06/11 03:06	05/06/11 03:06
	Methylacrylate	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Methyl methacrylate	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Tetrahydrofuran	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 03:06	05/06/11 03:06
	1,1-Dichloropropanone	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Hexachloroethane	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Nitrobenzene	ND	10 µg/L	05/06/11 03:06	05/06/11 03:06
	Propionitrile	ND	50 µg/L	05/06/11 03:06	05/06/11 03:06



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Client ID : **DUPE-6-2Q11**

Lab ID : BM111042907-03A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 03:30	05/06/11 03:30
Date Received : 04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 03:30	05/06/11 03:30
Date Sampled : 04/28/11 13:00	Acrylonitrile	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Allyl chloride	ND	2.0 µg/L	05/06/11 03:30	05/06/11 03:30
	Chloroacetonitrile	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Diethyl ether	ND	2.0 µg/L	05/06/11 03:30	05/06/11 03:30
	Ethyl methacrylate	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Methacrylonitrile	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Methyl iodide	ND	2.0 µg/L	05/06/11 03:30	05/06/11 03:30
	Methylacrylate	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Methyl methacrylate	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Tetrahydrofuran	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 03:30	05/06/11 03:30
	1,1-Dichloropropanone	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Hexachloroethane	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Nitrobenzene	ND	10 µg/L	05/06/11 03:30	05/06/11 03:30
	Propionitrile	ND	50 µg/L	05/06/11 03:30	05/06/11 03:30

Client ID : **MW-4-5**

Lab ID : BM111042907-04A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 03:54	05/06/11 03:54
Date Received : 04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 03:54	05/06/11 03:54
Date Sampled : 04/28/11 07:38	Acrylonitrile	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Allyl chloride	ND	2.0 µg/L	05/06/11 03:54	05/06/11 03:54
	Chloroacetonitrile	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Diethyl ether	ND	2.0 µg/L	05/06/11 03:54	05/06/11 03:54
	Ethyl methacrylate	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Methacrylonitrile	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Methyl iodide	ND	2.0 µg/L	05/06/11 03:54	05/06/11 03:54
	Methylacrylate	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Methyl methacrylate	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Tetrahydrofuran	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 03:54	05/06/11 03:54
	1,1-Dichloropropanone	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Hexachloroethane	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Nitrobenzene	ND	10 µg/L	05/06/11 03:54	05/06/11 03:54
	Propionitrile	ND	50 µg/L	05/06/11 03:54	05/06/11 03:54

Client ID : **MW-4-4**

Lab ID : BM111042907-05A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 04:18	05/06/11 04:18
Date Received : 04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 04:18	05/06/11 04:18
Date Sampled : 04/28/11 08:15	Acrylonitrile	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Allyl chloride	ND	2.0 µg/L	05/06/11 04:18	05/06/11 04:18
	Chloroacetonitrile	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Diethyl ether	ND	2.0 µg/L	05/06/11 04:18	05/06/11 04:18
	Ethyl methacrylate	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Methacrylonitrile	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Methyl iodide	ND	2.0 µg/L	05/06/11 04:18	05/06/11 04:18
	Methylacrylate	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Methyl methacrylate	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Tetrahydrofuran	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 04:18	05/06/11 04:18
	1,1-Dichloropropanone	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Hexachloroethane	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Nitrobenzene	ND	10 µg/L	05/06/11 04:18	05/06/11 04:18
	Propionitrile	ND	50 µg/L	05/06/11 04:18	05/06/11 04:18



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Client ID : **MW-4-3**

Lab ID :	BMI11042907-06A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 04:42	05/06/11 04:42
Date Received :	04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 04:42	05/06/11 04:42
Date Sampled :	04/28/11 09:15	Acrylonitrile	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
		Allyl chloride	ND	2.0 µg/L	05/06/11 04:42	05/06/11 04:42
		Chloroacetonitrile	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
		Diethyl ether	ND	2.0 µg/L	05/06/11 04:42	05/06/11 04:42
		Ethyl methacrylate	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
		Methacrylonitrile	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
		Methyl iodide	ND	2.0 µg/L	05/06/11 04:42	05/06/11 04:42
		Methylacrylate	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
		Methyl methacrylate	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
		Tetrahydrofuran	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
		trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 04:42	05/06/11 04:42
		1,1-Dichloropropanone	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
		Hexachloroethane	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
		Nitrobenzene	ND	10 µg/L	05/06/11 04:42	05/06/11 04:42
		Propionitrile	ND	50 µg/L	05/06/11 04:42	05/06/11 04:42

Client ID : **MW-4-2**

Lab ID :	BMI11042907-07A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 05:06	05/06/11 05:06
Date Received :	04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 05:06	05/06/11 05:06
Date Sampled :	04/28/11 09:51	Acrylonitrile	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
		Allyl chloride	ND	2.0 µg/L	05/06/11 05:06	05/06/11 05:06
		Chloroacetonitrile	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
		Diethyl ether	ND	2.0 µg/L	05/06/11 05:06	05/06/11 05:06
		Ethyl methacrylate	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
		Methacrylonitrile	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
		Methyl iodide	ND	2.0 µg/L	05/06/11 05:06	05/06/11 05:06
		Methylacrylate	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
		Methyl methacrylate	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
		Tetrahydrofuran	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
		trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 05:06	05/06/11 05:06
		1,1-Dichloropropanone	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
		Hexachloroethane	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
		Nitrobenzene	ND	10 µg/L	05/06/11 05:06	05/06/11 05:06
		Propionitrile	ND	50 µg/L	05/06/11 05:06	05/06/11 05:06

Client ID : **MW-4-1**

Lab ID :	BMI11042907-08A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 05:30	05/06/11 05:30
Date Received :	04/29/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 05:30	05/06/11 05:30
Date Sampled :	04/28/11 12:41	Acrylonitrile	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
		Allyl chloride	ND	2.0 µg/L	05/06/11 05:30	05/06/11 05:30
		Chloroacetonitrile	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
		Diethyl ether	ND	2.0 µg/L	05/06/11 05:30	05/06/11 05:30
		Ethyl methacrylate	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
		Methacrylonitrile	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
		Methyl iodide	ND	2.0 µg/L	05/06/11 05:30	05/06/11 05:30
		Methylacrylate	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
		Methyl methacrylate	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
		Tetrahydrofuran	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
		trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 05:30	05/06/11 05:30
		1,1-Dichloropropanone	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
		Hexachloroethane	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
		Nitrobenzene	ND	10 µg/L	05/06/11 05:30	05/06/11 05:30
		Propionitrile	ND	50 µg/L	05/06/11 05:30	05/06/11 05:30



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Client ID : **EB-4-4/28/11**

Lab ID : BMII1042907-09A

Date Received : 04/29/11

Date Sampled : 04/28/11 12:27

1-Chlorobutane	ND	2.0 µg/L	05/06/11 05:54	05/06/11 05:54
2-Nitropropane	ND	2.0 µg/L	05/06/11 05:54	05/06/11 05:54
Acrylonitrile	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
Allyl chloride	ND	2.0 µg/L	05/06/11 05:54	05/06/11 05:54
Chloroacetonitrile	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
Diethyl ether	ND	2.0 µg/L	05/06/11 05:54	05/06/11 05:54
Ethyl methacrylate	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
Methacrylonitrile	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
Methyl iodide	ND	2.0 µg/L	05/06/11 05:54	05/06/11 05:54
Methylacrylate	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
Methyl methacrylate	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
Tetrahydrofuran	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 05:54	05/06/11 05:54
1,1-Dichloropropanone	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
Hexachloroethane	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
Nitrobenzene	ND	10 µg/L	05/06/11 05:54	05/06/11 05:54
Propionitrile	ND	50 µg/L	05/06/11 05:54	05/06/11 05:54

Client ID : **TB-4-4/28/11**

Lab ID : BMII1042907-10A

Date Received : 04/29/11

Date Sampled : 04/28/11 00:00

1-Chlorobutane	ND	2.0 µg/L	05/06/11 00:19	05/06/11 00:19
2-Nitropropane	ND	2.0 µg/L	05/06/11 00:19	05/06/11 00:19
Acrylonitrile	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
Allyl chloride	ND	2.0 µg/L	05/06/11 00:19	05/06/11 00:19
Chloroacetonitrile	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
Diethyl ether	ND	2.0 µg/L	05/06/11 00:19	05/06/11 00:19
Ethyl methacrylate	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
Methacrylonitrile	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
Methyl iodide	ND	2.0 µg/L	05/06/11 00:19	05/06/11 00:19
Methylacrylate	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
Methyl methacrylate	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
Tetrahydrofuran	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 00:19	05/06/11 00:19
1,1-Dichloropropanone	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
Hexachloroethane	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
Nitrobenzene	ND	10 µg/L	05/06/11 00:19	05/06/11 00:19
Propionitrile	ND	50 µg/L	05/06/11 00:19	05/06/11 00:19

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 7/19/11 due to a change in the analyte list, per client request.

ND = Not Detected

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

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

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

7/28/11

Report Date

Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute
55 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-01A
Client I.D. Number: MW-13

Sampled: 04/28/11 08:43
Received: 04/29/11
Extracted: 05/06/11 02:42
Analyzed: 05/06/11 02:42

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
Chloroform	1.4	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
Carbon tetrachloride	0.51	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
Trichloroethene	0.91	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	114	(70-130) %REC
Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	101	(70-130) %REC
1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
2-Hexanone	ND	10 µg/L			
Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

7/19/11

Report Date

Page 1 of 1

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



Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-02A
Client I.D. Number: MW-5

Sampled: 04/28/11 12:33
Received: 04/29/11
Extracted: 05/06/11 03:06
Analyzed: 05/06/11 03:06

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	110	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	101	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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7/19/11

Report Date

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-03A
Client I.D. Number: DUPE-6-2Q11

Sampled: 04/28/11 13:00
Received: 04/29/11
Extracted: 05/06/11 03:30
Analyzed: 05/06/11 03:30

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	110	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	99	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	99	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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7/19/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-04A
Client I.D. Number: MW-4-5

Sampled: 04/28/11 07:38
Received: 04/29/11
Extracted: 05/06/11 03:54
Analyzed: 05/06/11 03:54

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethane	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	111	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	100	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	96	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-05A
Client I.D. Number: MW-4-4

Sampled: 04/28/11 08:15
Received: 04/29/11
Extracted: 05/06/11 04:18
Analyzed: 05/06/11 04:18

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	110	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	101	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

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Report Date

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ANALYTICAL REPORT

Battelle Memorial Institute
555 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-06A
Client I.D. Number: MW-4-3

Sampled: 04/28/11 09:15
Received: 04/29/11
Extracted: 05/06/11 04:42
Analyzed: 05/06/11 04:42

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	109	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	101	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

7/19/11

Report Date

Page 1 of 1

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



Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-07A
Client I.D. Number: MW-4-2

Sampled: 04/28/11 09:51
Received: 04/29/11
Extracted: 05/06/11 05:06
Analyzed: 05/06/11 05:06

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	0.52	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	113	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	100	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	96	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

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7/19/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-08A
Client I.D. Number: MW-4-1

Sampled: 04/28/11 12:41
Received: 04/29/11
Extracted: 05/06/11 05:30
Analyzed: 05/06/11 05:30

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	108	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	100	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

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7/19/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-09A
Client I.D. Number: EB-4-4/28/11

Sampled: 04/28/11 12:27
Received: 04/29/11
Extracted: 05/06/11 05:54
Analyzed: 05/06/11 05:54

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	2.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	2.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	2.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	2.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	2.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	2.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	2.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	2.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	109	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	99	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

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7/19/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11042907-10A
Client I.D. Number: TB-4-4/28/11

Sampled: 04/28/11 00:00
Received: 04/29/11
Extracted: 05/06/11 00:19
Analyzed: 05/06/11 00:19

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	106	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	101	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
34 2-Hexanone	ND	10 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/11/11 due to a change in the analyte list, per client request.

ND = Not Detected

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7/19/11

Report Date

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Alpha Analytical, Inc.

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

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

VOC Sample Preservation Report

Work Order: BMI11042907

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11042907-01A	MW-13	Aqueous	2
11042907-02A	MW-5	Aqueous	2
11042907-03A	DUPE-6-2Q11	Aqueous	2
11042907-04A	MW-4-5	Aqueous	2
11042907-05A	MW-4-4	Aqueous	2
11042907-06A	MW-4-3	Aqueous	2
11042907-07A	MW-4-2	Aqueous	2
11042907-08A	MW-4-1	Aqueous	2
11042907-09A	EB-4-4/28/11	Aqueous	2
11042907-10A	TB-4-4/28/11	Aqueous	2

5/11/11
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-11

QC Summary Report

Work Order:
11042907

Method Blank

Method Blank		Type	MBLK		Test Code: EPA Method 300.0					
File ID: 19			Batch ID: 26428		Analysis Date: 04/29/2011 11:55					
Sample ID: MB-26428	Units : mg/L		Run ID: IC_1_110429A		Prep Date: 04/29/2011 11:16					
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

Laboratory Fortified Blank		Type	LFB		Test Code: EPA Method 300.0					
File ID: 50			Batch ID: 26428		Analysis Date: 04/29/2011 21:42					
Sample ID: LFB-26428	Units : mg/L		Run ID: IC_1_110429A		Prep Date: 04/29/2011 11:16					
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	49.9	0.5	50		99.8	90	110			
Nitrite (NO2) - N	5.21	0.25	5		104	90	110			
Nitrate (NO3) - N	5.13	0.25	5		103	90	110			
Phosphate, ortho - P	4.51	0.5	5		90	90	110			
Sulfate (SO4)	105	0.5	100		105	90	110			

Sample Matrix Spike

Sample Matrix Spike		Type	LFM		Test Code: EPA Method 300.0					
File ID: 31			Batch ID: 26428		Analysis Date: 04/29/2011 15:51					
Sample ID: 11042907-05ALFM	Units : mg/L		Run ID: IC_1_110429A		Prep Date: 04/29/2011 11:16					
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	510	2.5	500	20.44	98	80	120			
Nitrite (NO2) - N	50.2	1.3	50	0	100	80	120			
Nitrate (NO3) - N	57.2	1.3	50	1.078	112	80	120			
Phosphate, ortho - P	46.6	2.5	50	0	93	80	120			
Sulfate (SO4)	1050	2.5	1000	16.76	103	80	120			

Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	LFMD		Test Code: EPA Method 300.0					
File ID: 32			Batch ID: 26428		Analysis Date: 04/29/2011 16:09					
Sample ID: 11042907-05ALFMD	Units : mg/L		Run ID: IC_1_110429A		Prep Date: 04/29/2011 11:16					
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	530	2.5	500	20.44	102	80	120	510.4	3.9(15)	
Nitrite (NO2) - N	49.1	1.3	50	0	98	80	120	50.2	2.3(15)	
Nitrate (NO3) - N	58.2	1.3	50	1.078	114	80	120	57.23	1.8(15)	
Phosphate, ortho - P	47.4	2.5	50	0	95	80	120	46.62	1.7(15)	
Sulfate (SO4)	1070	2.5	1000	16.76	105	80	120	1046	2.1(15)	

Comments:

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Date:
02-May-11

QC Summary Report

Work Order:
11042907

Method Blank

File ID: 14	Type MBLK	Test Code: EPA Method 314.0	Batch ID: 26425	Analysis Date: 04/29/2011 11:09						
Sample ID: MB-26425	Units : µg/L	Run ID: IC_3_110429A	Prep Date: 04/29/2011 10:13							
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: 26425	Analysis Date: 04/29/2011 11:27						
Sample ID: LFB-26425	Units : µg/L	Run ID: IC_3_110429A	Prep Date: 04/29/2011 10:13							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.7	2	25		91	85	115			

Sample Matrix Spike

File ID: 30	Type LFM	Test Code: EPA Method 314.0	Batch ID: 26425	Analysis Date: 04/29/2011 16:03						
Sample ID: 11042703-08ALFM	Units : µg/L	Run ID: IC_3_110429A	Prep Date: 04/29/2011 10:13							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.3	2	25	2.93	85	80	120			

Sample Matrix Spike Duplicate

File ID: 31	Type LFMD	Test Code: EPA Method 314.0	Batch ID: 26425	Analysis Date: 04/29/2011 16:22						
Sample ID: 11042703-08ALFMD	Units : µg/L	Run ID: IC_3_110429A	Prep Date: 04/29/2011 10:13							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	26.1	2	25	2.93	92	80	120	24.27	7.1(15)	

Comments:

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



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Date:
04-May-11

QC Summary Report

Work Order:
11042907

Laboratory Control Spike

Type **LCS**

Test Code: **SM2320B**

File ID:

Batch ID: **W0503AL**

Analysis Date: **05/03/2011 14:47**

Sample ID: **LCS-W0503AL**

Units : **mg/L**

Run ID: **WETLAB_110503B**

Prep Date: **05/03/2011 14:47**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO ₃)	273.6	10	250		109	80	120			
Alkalinity, Carbonate (As CaCO ₃)	273.6	10	250		109	80	120			
Alkalinity, Total (As CaCO ₃ at pH 4.5)	274	10	250		109	80	120			

Comments:

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Date:
06-May-11

QC Summary Report

Work Order:
11042907

Method Blank

File ID: 050311.B1022_M.D\

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

Batch ID: **26430**

Analysis Date: **05/03/2011 12:25**

Sample ID: **MB-26430**

Units : **mg/L**

Run ID: **ICP/MS_110503A**

Prep Date: **04/29/2011 16:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

File ID: 050311.B1023_M.D\

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

Batch ID: **26430**

Analysis Date: **05/03/2011 12:31**

Sample ID: **LCS-26430**

Units : **mg/L**

Run ID: **ICP/MS_110503A**

Prep Date: **04/29/2011 16:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	4.56	0.5	5		91	85	115			
Magnesium (Mg)	4.49	0.5	5		90	85	115			
Potassium (K)	4.75	0.5	5		95	85	115			
Calcium (Ca)	4.62	0.5	5		92	85	115			
Chromium (Cr)	0.0512	0.005	0.05		102	85	115			
Iron (Fe)	5.18	0.3	5		104	85	115			
Arsenic (As)	0.05	0.002	0.05		100	85	115			
Lead (Pb)	0.05	0.005	0.05		100	85	115			

Sample Matrix Spike

File ID: 050311.B1029_M.D\

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

Batch ID: **26430**

Analysis Date: **05/03/2011 13:04**

Sample ID: **11042807-01AMS**

Units : **mg/L**

Run ID: **ICP/MS_110503A**

Prep Date: **04/29/2011 16:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	41.9	0.5	5	37.16	95	70	130			
Magnesium (Mg)	48	0.5	5	42.18	116	70	130			
Potassium (K)	7.1	0.5	5	2.513	92	70	130			
Calcium (Ca)	136	0.5	5	131.3	88	70	130			
Chromium (Cr)	0.0479	0.005	0.05	0	96	70	130			
Iron (Fe)	6.1	0.3	5	0.6305	109	70	130			
Arsenic (As)	0.0508	0.002	0.05	0	102	70	130			
Lead (Pb)	0.0495	0.005	0.05	0	99	70	130			

Sample Matrix Spike Duplicate

File ID: 050311.B1030_M.D\

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

Batch ID: **26430**

Analysis Date: **05/03/2011 13:10**

Sample ID: **11042807-01AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110503A**

Prep Date: **04/29/2011 16:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	40.6	0.5	5	37.16	70	70	130	41.92	3.1(20)	
Magnesium (Mg)	47.1	0.5	5	42.18	98	70	130	47.98	1.9(20)	
Potassium (K)	6.99	0.5	5	2.513	89	70	130	7.095	1.6(20)	
Calcium (Ca)	132	0.5	5	131.3	12	70	130	135.7	2.8(20)	M3
Chromium (Cr)	0.0488	0.005	0.05	0	98	70	130	0.0479	1.9(20)	
Iron (Fe)	6.26	0.3	5	0.6305	113	70	130	6.098	2.6(20)	
Arsenic (As)	0.0515	0.002	0.05	0	103	70	130	0.05076	1.4(20)	
Lead (Pb)	0.0494	0.005	0.05	0	99	70	130	0.04949	0.3(20)	

Comments:

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

M3 = The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to the spike level. The method control sample recovery was acceptable.



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Date:
06-May-11

QC Summary Report

Work Order:
11042907

Method Blank

File ID: 050311.B\087_M.D\

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

Batch ID: 26436

Analysis Date: 05/03/2011 19:32

Sample ID: **MB-26436**

Units : mg/L

Run ID: **ICP/MS_110503E**

Prep Date: 05/02/2011 11:15

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

File ID: 050311.B\088_M.D\

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

Batch ID: 26436

Analysis Date: 05/03/2011 19:38

Sample ID: **LCS-26436**

Units : mg/L

Run ID: **ICP/MS_110503E**

Prep Date: 05/02/2011 11:15

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	4.67	0.5	5		93	85	115			
Magnesium (Mg)	4.67	0.5	5		93	85	115			
Potassium (K)	4.95	0.5	5		99	85	115			
Calcium (Ca)	4.86	0.5	5		97	85	115			
Chromium (Cr)	0.0506	0.005	0.05		101	85	115			
Iron (Fe)	4.98	0.3	5		99.6	85	115			
Arsenic (As)	0.0485	0.002	0.05		97	85	115			
Lead (Pb)	0.0475	0.005	0.05		95	85	115			

Sample Matrix Spike

File ID: 050311.B\094_M.D\

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

Batch ID: 26436

Analysis Date: 05/03/2011 20:11

Sample ID: **11042903-01AMS**

Units : mg/L

Run ID: **ICP/MS_110503E**

Prep Date: 05/02/2011 11:15

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	35	0.5	5	28.46	131	70	130			M3
Magnesium (Mg)	34.1	0.5	5	26.54	151	70	130			M3
Potassium (K)	8.31	0.5	5	2.563	115	70	130			
Calcium (Ca)	92.8	0.5	5	78.92	277	70	130			M3
Chromium (Cr)	0.0483	0.005	0.05	0	97	70	130			
Iron (Fe)	6	0.3	5	0.4909	110	70	130			
Arsenic (As)	0.0514	0.002	0.05	0	103	70	130			
Lead (Pb)	0.0499	0.005	0.05	0	99.7	70	130			

Sample Matrix Spike Duplicate

File ID: 050311.B\095_M.D\

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

Batch ID: 26436

Analysis Date: 05/03/2011 20:17

Sample ID: **11042903-01AMSD**

Units : mg/L

Run ID: **ICP/MS_110503E**

Prep Date: 05/02/2011 11:15

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	33.6	0.5	5	28.46	103	70	130	35	4.1(20)	
Magnesium (Mg)	32.9	0.5	5	26.54	128	70	130	34.1	3.5(20)	
Potassium (K)	7.94	0.5	5	2.563	107	70	130	8.305	4.6(20)	
Calcium (Ca)	88	0.5	5	78.92	182	70	130	92.77	5.3(20)	M3
Chromium (Cr)	0.0467	0.005	0.05	0	93	70	130	0.04827	3.3(20)	
Iron (Fe)	5.93	0.3	5	0.4909	109	70	130	5.997	1.1(20)	
Arsenic (As)	0.052	0.002	0.05	0	104	70	130	0.05141	1.2(20)	
Lead (Pb)	0.0489	0.005	0.05	0	98	70	130	0.04985	1.9(20)	

Comments:

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Date:
02-May-11

QC Summary Report

Work Order:
11042907

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0429PH**

Analysis Date: **04/29/2011 16:25**

Sample ID: **LCS-W0429PH**

Units : **pH Units**

Run ID: **WETLAB_110429F**

Prep Date: **04/29/2011 16:25**

Analyte

Result

PQL

SpkVal

SpkRefVal

%REC

LCL(ME)

UCL(ME)

RPDRefVal

%RPD(Limit)

Qual

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
pH	4.99	1.7	5		99.8	90	110			

Comments:

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Date:
11-May-11

QC Summary Report

Work Order:
11042907

Method Blank

Type: MBLK	Test Code: SM2540C	Analysis Date: 05/05/2011 00:00								
File ID:	Batch ID: W0503DS	Prep Date: 05/05/2011 00:00								
Sample ID: MBLK-W0503DS	Units : mg/L	Run ID: WETLAB_110503E								
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Solids, Total Dissolved (TDS)	ND	10								

Laboratory Control Spike

Type: LCS	Test Code: SM2540C	Analysis Date: 05/04/2011 00:00								
File ID:	Batch ID: W0503DS	Prep Date: 05/04/2011 00:00								
Sample ID: LCS-W0503DS	Units : mg/L	Run ID: WETLAB_110503E								
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Solids, Total Dissolved (TDS)	102	10	100		102	70	130			

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



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Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Surr: 1,2-Dichloroethane-d4	11	10	110	70	130
Surr: Toluene-d8	10	10	100	70	130
Surr: 4-Bromofluorobenzene	9.8	10	98	70	130



Alpha Analytical, Inc.

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Date:
19-Jul-11

QC Summary Report

Work Order:
11042907

Laboratory Control Spike

Type: LCS Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS07\DATA\110505\11050538.D

Batch ID: MS07W0505M

Analysis Date: 05/05/2011 22:43

Sample ID: LCS MS07W0505M

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/05/2011 22:43

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	9.99	1	10		99.9	70	130			
Chloromethane	7.98	2	10		80	70	130			
Vinyl chloride	8.88	1	10		89	70	130			
Chloroethane	10.4	1	10		104	70	130			
Bromomethane	8.6	2	10		86	70	130			
Trichlorofluoromethane	10.9	1	10		109	70	130			
Acetone	227	10	200		113	36	171			
1,1-Dichloroethene	9.95	1	10		100	70	130			
Dichloromethane	10.9	2	10		109	70	130			
Freon-113	11.1	1	10		111	70	137			
trans-1,2-Dichloroethene	10.1	1	10		101	70	130			
Methyl tert-butyl ether (MTBE)	9.73	0.5	10		97	70	130			
1,1-Dichloroethane	8.74	1	10		87	70	130			
2-Butanone (MEK)	221	10	200		111	70	130			
cis-1,2-Dichloroethene	10.1	1	10		101	70	130			
Bromochloromethane	9.81	1	10		98	70	130			
Chloroform	10.1	1	10		101	70	130			
2,2-Dichloropropane	11.4	1	10		114	70	130			
1,2-Dichloroethane	11	1	10		110	70	130			
1,1,1-Trichloroethane	11.2	1	10		112	70	130			
1,1-Dichloropropene	10.8	1	10		108	70	130			
Carbon tetrachloride	11.7	1	10		117	70	130			
Benzene	10.1	0.5	10		101	70	130			
Dibromomethane	10.5	1	10		105	70	130			
1,2-Dichloropropane	11.5	1	10		115	70	130			
Trichloroethene	10.7	1	10		107	70	130			
Bromodichloromethane	11	1	10		110	70	130			
4-Methyl-2-pentanone (MIBK)	26	2.5	25		104	20	182			
cis-1,3-Dichloropropene	10.5	1	10		105	70	130			
trans-1,3-Dichloropropene	11.3	1	10		113	70	130			
1,1,2-Trichloroethane	9.59	1	10		96	70	130			
Toluene	9.8	0.5	10		98	70	130			
1,3-Dichloropropane	10.8	1	10		108	70	130			
2-Hexanone	116	5	100		116	20	182			
Dibromochloromethane	10.7	1	10		107	70	130			
1,2-Dibromoethane (EDB)	20.8	2	20		104	70	130			
Tetrachloroethene	11.4	1	10		114	70	130			
1,1,1,2-Tetrachloroethane	11	1	10		110	70	130			
Chlorobenzene	10	1	10		100	70	130			
Ethylbenzene	10.5	0.5	10		105	70	130			
m,p-Xylene	11.1	0.5	10		111	70	130			
Bromoform	11.4	1	10		114	70	130			
Styrene	10.7	1	10		107	70	130			
o-Xylene	11.7	0.5	10		117	70	130			
1,1,2,2-Tetrachloroethane	9.68	1	10		97	70	130			
1,2,3-Trichloropropane	21	2	20		105	70	130			
Isopropylbenzene	11.4	1	10		114	70	130			
Bromobenzene	10.4	1	10		104	70	130			
n-Propylbenzene	10.5	1	10		105	70	130			
4-Chlorotoluene	10.5	1	10		105	70	130			
2-Chlorotoluene	10.3	1	10		103	70	130			
1,3,5-Trimethylbenzene	10.8	1	10		108	70	130			
tert-Butylbenzene	11.5	1	10		115	70	130			
1,2,4-Trimethylbenzene	10.8	1	10		108	70	130			
sec-Butylbenzene	10.7	1	10		107	70	130			
1,3-Dichlorobenzene	10.1	1	10		101	70	130			
1,4-Dichlorobenzene	10.2	1	10		102	70	130			
4-Isopropyltoluene	10.4	1	10		104	70	130			
1,2-Dichlorobenzene	9.72	1	10		97	70	130			
n-Butylbenzene	10.3	1	10		103	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	55.5	3	50		111	67	130			
1,2,4-Trichlorobenzene	10.6	2	10		106	70	130			
Naphthalene	12.1	2	10		121	70	130			
Hexachlorobutadiene	25.6	2	20		128	70	130			
1,2,3-Trichlorobenzene	12	2	10		120	70	130			



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Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Surr: 1,2-Dichloroethane-d4	10.6	10	106	70	130
Surr: Toluene-d8	9.81	10	98	70	130
Surr: 4-Bromofluorobenzene	9.56	10	96	70	130



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Date:
19-Jul-11

QC Summary Report

Work Order:
11042907

Sample Matrix Spike

Type: MS Test Code: EPA Method SW8260B

File ID: C:\HPCHEMMS07\DATA\110505\11050544.D

Batch ID: MS07W0505M

Analysis Date: 05/06/2011 01:07

Sample ID: 11042907-05AMS

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/06/2011 01:07

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	33.1	2.5	50	0	66	21	138			
Chloromethane	31.1	10	50	0	62	23	144			
Vinyl chloride	36.5	2.5	50	0	73	49	136			
Chloroethane	45.2	2.5	50	0	90	21	159			
Bromomethane	33.4	10	50	0	67	10	174			
Trichlorofluoromethane	48.6	2.5	50	0	97	32	154			
Acetone	621	50	1000	0	62	10	171			
1,1-Dichloroethene	46.3	2.5	50	0	93	64	130			
Dichloromethane	50.9	10	50	0	102	69	130			
Freon-113	50.5	2.5	50	0	101	55	141			
trans-1,2-Dichloroethene	47.1	2.5	50	0	94	63	130			
Methyl tert-butyl ether (MTBE)	48.1	1.3	50	0	96	47	150			
1,1-Dichloroethane	41.4	2.5	50	0	83	66	130			
2-Butanone (MEK)	824	50	1000	0	82	23	182			
cis-1,2-Dichloroethene	48.6	2.5	50	0	97	70	130			
Bromochloromethane	46.5	2.5	50	0	93	70	132			
Chloroform	46.6	2.5	50	0	93	70	130			
2,2-Dichloropropane	35.7	2.5	50	0	71	38	154			
1,2-Dichloroethane	51.3	2.5	50	0	103	65	134			
1,1,1-Trichloroethane	51.1	2.5	50	0	102	65	136			
1,1-Dichloropropene	47.9	2.5	50	0	96	68	132			
Carbon tetrachloride	53.1	2.5	50	0	106	58	148			
Benzene	45.4	1.3	50	0	91	59	138			
Dibromomethane	48	2.5	50	0	96	70	130			
1,2-Dichloropropane	51.5	2.5	50	0	103	70	131			
Trichloroethene	46.7	2.5	50	0	93	65	144			
Bromodichloromethane	49	2.5	50	0	98	50	157			
4-Methyl-2-pentanone (MIBK)	122	13	125	0	97	20	182			
cis-1,3-Dichloropropene	42.6	2.5	50	0	85	63	131			
trans-1,3-Dichloropropene	48.7	2.5	50	0	97	65	136			
1,1,2-Trichloroethane	43.7	2.5	50	0	87	70	131			
Toluene	43.8	1.3	50	0	88	68	130			
1,3-Dichloropropane	48.9	2.5	50	0	98	70	130			
2-Hexanone	399	25	500	0	80	20	182			
Dibromochloromethane	47.9	2.5	50	0	96	42	155			
1,2-Dibromoethane (EDB)	94.6	5	100	0	95	70	130			
Tetrachloroethene	49.3	2.5	50	0	99	65	130			
1,1,1,2-Tetrachloroethane	49	2.5	50	0	98	70	130			
Chlorobenzene	44.3	2.5	50	0	89	70	130			
Ethylbenzene	46.1	1.3	50	0	92	68	130			
m,p-Xylene	48.8	1.3	50	0	98	68	131			
Bromoform	52.3	2.5	50	0	105	65	143			
Styrene	47.3	2.5	50	0	95	59	153			
o-Xylene	51.5	1.3	50	0	103	70	130			
1,1,2,2-Tetrachloroethane	46.4	2.5	50	0	93	67	130			
1,2,3-Trichloropropane	104	10	100	0	104	70	130			
Isopropylbenzene	48	2.5	50	0	96	55	138			
Bromobenzene	44.9	2.5	50	0	90	70	130			
n-Propylbenzene	43.5	2.5	50	0	87	67	133			
4-Chlorotoluene	44.2	2.5	50	0	88	70	130			
2-Chlorotoluene	44.4	2.5	50	0	89	70	130			
1,3,5-Trimethylbenzene	45.8	2.5	50	0	92	67	134			
tert-Butylbenzene	49.7	2.5	50	0	99	55	147			
1,2,4-Trimethylbenzene	46	2.5	50	0	92	65	135			
sec-Butylbenzene	45	2.5	50	0	90	68	135			
1,3-Dichlorobenzene	43.7	2.5	50	0	87	70	130			
1,4-Dichlorobenzene	44.4	2.5	50	0	89	70	130			
4-Isopropyltoluene	43.5	2.5	50	0	87	68	132			
1,2-Dichlorobenzene	42.3	2.5	50	0	85	70	130			
n-Butylbenzene	42	2.5	50	0	84	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	258	15	250	0	103	64	130			
1,2,4-Trichlorobenzene	45.3	10	50	0	91	62	133			
Naphthalene	54.7	10	50	0	109	32	166			
Hexachlorobutadiene	105	10	100	0	105	63	130			
1,2,3-Trichlorobenzene	52.9	10	50	0	106	55	138			



Alpha Analytical, Inc.

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Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Surr: 1,2-Dichloroethane-d4	54.8	50	110	70	130
Surr: Toluene-d8	49.2	50	98	70	130
Surr: 4-Bromofluorobenzene	46.9	50	94	70	130



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Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Sample Matrix Spike

File ID: C:\HPCHEM\MS07\DATA\110505\11050546.D

Type: MS

Test Code: EPA Method SW8260B

Sample ID: 11050302-08AMS

Batch ID: MS07W0505M

Analysis Date: 05/06/2011 01:55

Analyte

Run ID: MSD_07_110505A

Prep Date: 05/06/2011 01:55

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	36.4	2.5	50	0	73	21	138			
Chloromethane	34.2	10	50	0	68	23	144			
Vinyl chloride	41	2.5	50	0	82	49	136			
Chloroethane	49.6	2.5	50	0	99	21	159			
Bromomethane	39.4	10	50	0	79	10	174			
Trichlorofluoromethane	54.3	2.5	50	0	109	32	154			
Acetone	642	50	1000	0	64	10	171			
1,1-Dichloroethene	52.2	2.5	50	0	104	64	130			
Dichloromethane	53.2	10	50	0	106	69	130			
Freon-113	56.1	2.5	50	0	112	55	141			
trans-1,2-Dichloroethene	52.6	2.5	50	0	105	63	130			
Methyl tert-butyl ether (MTBE)	51.5	1.3	50	0	103	47	150			
1,1-Dichloroethane	50.7	2.5	50	0	101	66	130			
2-Butanone (MEK)	823	50	1000	0	82	23	182			
cis-1,2-Dichloroethene	52.3	2.5	50	0	105	70	130			
Bromochloromethane	50.2	2.5	50	0	100	70	132			
Chloroform	51	2.5	50	0	102	70	130			
2,2-Dichloropropane	39.4	2.5	50	0	79	38	154			
1,2-Dichloroethane	54.1	2.5	50	0	108	65	134			
1,1,1-Trichloroethane	55.9	2.5	50	0	112	65	136			
1,1-Dichloropropene	52	2.5	50	0	104	68	132			
Carbon tetrachloride	58	2.5	50	0	116	58	148			
Benzene	48.7	1.3	50	0	97	59	138			
Dibromomethane	49	2.5	50	0	98	70	130			
1,2-Dichloropropane	54	2.5	50	0	108	70	131			
Trichloroethene	50.3	2.5	50	0	101	65	144			
Bromodichloromethane	51.5	2.5	50	0	103	50	157			
4-Methyl-2-pentanone (MIBK)	126	13	125	0	101	20	182			
cis-1,3-Dichloropropene	46.7	2.5	50	0	93	63	131			
trans-1,3-Dichloropropene	51.8	2.5	50	0	104	65	136			
1,1,2-Trichloroethane	45.8	2.5	50	0	92	70	131			
Toluene	47.9	1.3	50	0	96	68	130			
1,3-Dichloropropane	51.2	2.5	50	0	102	70	130			
2-Hexanone	404	25	500	0	81	20	182			
Dibromochloromethane	50.6	2.5	50	0	101	42	155			
1,2-Dibromoethane (EDB)	99	5	100	0	99	70	130			
Tetrachloroethene	53.1	2.5	50	0	106	65	130			
1,1,1,2-Tetrachloroethane	52.8	2.5	50	0	106	70	130			
Chlorobenzene	47.4	2.5	50	0	95	70	130			
Ethylbenzene	49.9	1.3	50	0	99.8	68	130			
m,p-Xylene	52.7	1.3	50	0	105	68	131			
Bromoform	54.6	2.5	50	0	109	65	143			
Styrene	50.7	2.5	50	0	101	59	153			
o-Xylene	55.8	1.3	50	0	112	70	130			
1,1,2,2-Tetrachloroethane	48.4	2.5	50	0	97	67	130			
1,2,3-Trichloropropane	100	10	100	0	100	70	130			
Isopropylbenzene	52.4	2.5	50	0	105	55	138			
Bromobenzene	48.3	2.5	50	0	97	70	130			
n-Propylbenzene	47.1	2.5	50	0	94	67	133			
4-Chlorotoluene	47.7	2.5	50	0	95	70	130			
2-Chlorotoluene	48	2.5	50	0	96	70	130			
1,3,5-Trimethylbenzene	49.4	2.5	50	0	99	67	134			
tert-Butylbenzene	53.5	2.5	50	0	107	55	147			
1,2,4-Trimethylbenzene	49.7	2.5	50	0	99	65	135			
sec-Butylbenzene	48.9	2.5	50	0	98	68	135			
1,3-Dichlorobenzene	46.6	2.5	50	0	93	70	130			
1,4-Dichlorobenzene	47	2.5	50	0	94	70	130			
4-Isopropyltoluene	47.3	2.5	50	0	95	68	132			
1,2-Dichlorobenzene	45.7	2.5	50	0	91	70	130			
n-Butylbenzene	45.5	2.5	50	0	91	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	265	15	250	0	106	64	130			
1,2,4-Trichlorobenzene	48.5	10	50	0	97	62	133			
Naphthalene	56.9	10	50	0	114	32	166			
Hexachlorobutadiene	116	10	100	0	116	63	130			
1,2,3-Trichlorobenzene	56.5	10	50	0	113	55	138			



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Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Surr: 1,2-Dichloroethane-d4	54.5	50	109	70	130
Surr: Toluene-d8	50.4	50	101	70	130
Surr: 4-Bromofluorobenzene	46.9	50	94	70	130



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Date:
19-Jul-11

QC Summary Report

Work Order:
11042907

Sample Matrix Spike Duplicate

Type: MSD Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS07\DATA\110505\11050545.D

Batch ID: MS07W0505M

Analysis Date: 05/06/2011 01:31

Sample ID: 11042907-05AMSD

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/06/2011 01:31

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	36.1	2.5	50	0	72	21	138	33.05	8.7(33)	
Chloromethane	33.1	10	50	0	66	23	144	31.06	6.3(27)	
Vinyl chloride	39.9	2.5	50	0	80	49	136	36.51	9.0(21)	
Chloroethane	48.6	2.5	50	0	97	21	159	45.16	7.3(40)	
Bromomethane	38.9	10	50	0	78	10	174	33.39	15.2(40)	
Trichlorofluoromethane	53.6	2.5	50	0	107	32	154	48.55	9.8(37)	
Acetone	632	50	1000	0	63	10	171	620.9	1.7(23)	
1,1-Dichloroethene	51.8	2.5	50	0	104	64	130	46.32	11.1(21)	
Dichloromethane	52.2	10	50	0	104	69	130	50.85	2.6(20)	
Freon-113	55.6	2.5	50	0	111	55	141	50.46	9.8(40)	
trans-1,2-Dichloroethene	52.4	2.5	50	0	105	63	130	47.14	10.5(20)	
Methyl tert-butyl ether (MTBE)	51	1.3	50	0	102	47	150	48.14	5.7(40)	
1,1-Dichloroethane	50.2	2.5	50	0	100	66	130	41.43	19.1(20)	
2-Butanone (MEK)	818	50	1000	0	82	23	182	824.1	0.7(22)	
cis-1,2-Dichloroethene	52.3	2.5	50	0	105	70	130	48.59	7.3(20)	
Bromochloromethane	48.9	2.5	50	0	98	70	132	46.48	5.0(20)	
Chloroform	50.5	2.5	50	0	101	70	130	46.58	8.1(20)	
2,2-Dichloropropane	39.3	2.5	50	0	79	38	154	35.7	9.6(22)	
1,2-Dichloroethane	52.8	2.5	50	0	106	65	134	51.3	2.9(20)	
1,1,1-Trichloroethane	55.1	2.5	50	0	110	65	136	51.05	7.6(20)	
1,1-Dichloropropene	51.1	2.5	50	0	102	68	132	47.91	6.4(20)	
Carbon tetrachloride	56.5	2.5	50	0	113	58	148	53.11	6.2(20)	
Benzene	47.6	1.3	50	0	95	59	138	45.4	4.8(21)	
Dibromomethane	48	2.5	50	0	96	70	130	47.98	0.1(20)	
1,2-Dichloropropane	53.1	2.5	50	0	106	70	131	51.5	3.0(20)	
Trichloroethene	49.4	2.5	50	0	99	65	144	46.7	5.6(20)	
Bromodichloromethane	49.7	2.5	50	0	99	50	157	49.04	1.3(20)	
4-Methyl-2-pentanone (MIBK)	121	13	125	0	96	20	182	121.5	0.8(20)	
cis-1,3-Dichloropropene	45.9	2.5	50	0	92	63	131	42.55	7.6(20)	
trans-1,3-Dichloropropene	50.4	2.5	50	0	101	65	136	48.7	3.5(20)	
1,1,2-Trichloroethane	44.7	2.5	50	0	89	70	131	43.65	2.4(20)	
Toluene	47	1.3	50	0	94	68	130	43.78	7.1(20)	
1,3-Dichloropropane	50.1	2.5	50	0	100	70	130	48.87	2.5(20)	
2-Hexanone	387	25	500	0	77	20	182	399.4	3.1(20)	
Dibromochloromethane	48.9	2.5	50	0	98	42	155	47.9	2.0(20)	
1,2-Dibromoethane (EDB)	97.2	5	100	0	97	70	130	94.56	2.7(20)	
Tetrachloroethene	52.8	2.5	50	0	106	65	130	49.25	7.0(20)	
1,1,1,2-Tetrachloroethane	50.8	2.5	50	0	102	70	130	49.03	3.6(20)	
Chlorobenzene	46.4	2.5	50	0	93	70	130	44.31	4.6(20)	
Ethylbenzene	48.5	1.3	50	0	97	68	130	46.13	5.0(20)	
m,p-Xylene	51.4	1.3	50	0	103	68	131	48.77	5.3(20)	
Bromoform	52.6	2.5	50	0	105	65	143	52.28	0.6(20)	
Styrene	49.2	2.5	50	0	98	59	153	47.33	3.9(37)	
o-Xylene	54.1	1.3	50	0	108	70	130	51.49	5.0(20)	
1,1,2,2-Tetrachloroethane	45.8	2.5	50	0	92	67	130	46.38	1.2(20)	
1,2,3-Trichloropropane	95.8	10	100	0	96	70	130	103.7	7.9(20)	
Isopropylbenzene	51.2	2.5	50	0	102	55	138	47.97	6.5(20)	
Bromobenzene	46.9	2.5	50	0	94	70	130	44.85	4.4(20)	
n-Propylbenzene	46.1	2.5	50	0	92	67	133	43.48	5.9(30)	
4-Chlorotoluene	47.2	2.5	50	0	94	70	130	44.22	6.6(20)	
2-Chlorotoluene	46.6	2.5	50	0	93	70	130	44.41	4.8(20)	
1,3,5-Trimethylbenzene	48.3	2.5	50	0	97	67	134	45.78	5.3(21)	
tert-Butylbenzene	52.5	2.5	50	0	105	55	147	49.66	5.6(20)	
1,2,4-Trimethylbenzene	48.9	2.5	50	0	98	65	135	46.02	6.0(25)	
sec-Butylbenzene	48.4	2.5	50	0	97	68	135	45.04	7.3(20)	
1,3-Dichlorobenzene	45.2	2.5	50	0	90	70	130	43.73	3.4(20)	
1,4-Dichlorobenzene	46	2.5	50	0	92	70	130	44.37	3.7(20)	
4-Isopropyltoluene	46.4	2.5	50	0	93	68	132	43.54	6.4(20)	
1,2-Dichlorobenzene	43.9	2.5	50	0	88	70	130	42.28	3.8(20)	
n-Butylbenzene	45.1	2.5	50	0	90	62	134	42.03	7.1(21)	
1,2-Dibromo-3-chloropropane (DBCP)	253	15	250	0	101	64	130	258.1	1.9(20)	
1,2,4-Trichlorobenzene	47.7	10	50	0	95	62	133	45.32	5.1(29)	
Naphthalene	55.3	10	50	0	111	32	166	54.7	1.1(40)	
Hexachlorobutadiene	114	10	100	0	114	63	130	105	8.2(21)	
1,2,3-Trichlorobenzene	55	10	50	0	110	55	138	52.85	4.0(36)	



Alpha Analytical, Inc.

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Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Surr: 1,2-Dichloroethane-d4	53.9	50	108	70	130
Surr: Toluene-d8	50.6	50	101	70	130
Surr: 4-Bromofluorobenzene	47.5	50	95	70	130



Alpha Analytical, Inc.

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Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Sample Matrix Spike Duplicate

Type: MSD

Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS07\DATA\110505\11050547.D

Batch ID: MS07W0505M

Analysis Date: 05/06/2011 02:19

Sample ID: 11050302-08AMSD

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/06/2011 02:19

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	33.9	2.5	50	0	68	21	138	36.36	7.2(33)	
Chloromethane	33.2	10	50	0	66	23	144	34.22	3.1(27)	
Vinyl chloride	39.5	2.5	50	0	79	49	136	41.03	3.7(21)	
Chloroethane	47.2	2.5	50	0	94	21	159	49.61	5.0(40)	
Bromomethane	39.5	10	50	0	79	10	174	39.42	0.2(40)	
Trichlorofluoromethane	50.6	2.5	50	0	101	32	154	54.33	7.0(37)	
Acetone	676	50	1000	0	68	10	171	642	5.2(23)	
1,1-Dichloroethene	49.7	2.5	50	0	99	64	130	52.17	5.0(21)	
Dichloromethane	53.5	10	50	0	107	69	130	53.23	0.5(20)	
Freon-113	52.3	2.5	50	0	105	55	141	56.14	7.0(40)	
trans-1,2-Dichloroethene	51	2.5	50	0	102	63	130	52.61	3.1(20)	
Methyl tert-butyl ether (MTBE)	53.5	1.3	50	0	107	47	150	51.49	3.9(40)	
1,1-Dichloroethane	49.3	2.5	50	0	99	66	130	50.67	2.8(20)	
2-Butanone (MEK)	865	50	1000	0	86	23	182	822.9	5.0(22)	
cis-1,2-Dichloroethene	51.6	2.5	50	0	103	70	130	52.26	1.3(20)	
Bromochloromethane	50.8	2.5	50	0	102	70	132	50.23	1.1(20)	
Chloroform	49.3	2.5	50	0	99	70	130	50.98	3.4(20)	
2,2-Dichloropropane	36.9	2.5	50	0	74	38	154	39.38	6.5(22)	
1,2-Dichloroethane	54.6	2.5	50	0	109	65	134	54.08	1.0(20)	
1,1,1-Trichloroethane	54	2.5	50	0	108	65	136	55.93	3.6(20)	
1,1-Dichloropropene	50	2.5	50	0	99.9	68	132	51.98	4.0(20)	
Carbon tetrachloride	54.9	2.5	50	0	110	58	148	57.99	5.5(20)	
Benzene	47.6	1.3	50	0	95	59	138	48.67	2.2(21)	
Dibromomethane	50.7	2.5	50	0	101	70	130	49	3.5(20)	
1,2-Dichloropropane	53.7	2.5	50	0	107	70	131	54.04	0.7(20)	
Trichloroethene	48.7	2.5	50	0	97	65	144	50.29	3.3(20)	
Bromodichloromethane	50.5	2.5	50	0	101	50	157	51.5	2.0(20)	
4-Methyl-2-pentanone (MIBK)	131	13	125	0	105	20	182	126.4	3.6(20)	
cis-1,3-Dichloropropene	46.3	2.5	50	0	93	63	131	46.65	0.8(20)	
trans-1,3-Dichloropropene	52	2.5	50	0	104	65	136	51.83	0.3(20)	
1,1,2-Trichloroethane	46	2.5	50	0	92	70	131	45.83	0.4(20)	
Toluene	46.2	1.3	50	0	92	68	130	47.94	3.7(20)	
1,3-Dichloropropane	51.6	2.5	50	0	103	70	130	51.16	0.9(20)	
2-Hexanone	425	25	500	0	85	20	182	403.7	5.2(20)	
Dibromochloromethane	49.7	2.5	50	0	99	42	155	50.59	1.8(20)	
1,2-Dibromoethane (EDB)	100	5	100	0	100	70	130	99.04	1.4(20)	
Tetrachloroethene	51	2.5	50	0	102	65	130	53.06	3.9(20)	
1,1,1,2-Tetrachloroethane	52	2.5	50	0	104	70	130	52.81	1.5(20)	
Chlorobenzene	46	2.5	50	0	92	70	130	47.4	3.0(20)	
Ethylbenzene	47.6	1.3	50	0	95	68	130	49.91	4.7(20)	
m,p-Xylene	50.9	1.3	50	0	102	68	131	52.68	3.4(20)	
Bromoform	55.6	2.5	50	0	111	65	143	54.61	1.8(20)	
Styrene	49.7	2.5	50	0	99	59	153	50.73	2.1(37)	
o-Xylene	53.8	1.3	50	0	108	70	130	55.78	3.7(20)	
1,1,2,2-Tetrachloroethane	49.6	2.5	50	0	99	67	130	48.35	2.6(20)	
1,2,3-Trichloropropane	101	10	100	0	101	70	130	99.96	1.5(20)	
Isopropylbenzene	50.6	2.5	50	0	101	55	138	52.36	3.4(20)	
Bromobenzene	47.7	2.5	50	0	95	70	130	48.27	1.2(20)	
n-Propylbenzene	45.4	2.5	50	0	91	67	133	47.05	3.7(30)	
4-Chlorotoluene	47.4	2.5	50	0	95	70	130	47.74	0.8(20)	
2-Chlorotoluene	46.8	2.5	50	0	94	70	130	47.95	2.4(20)	
1,3,5-Trimethylbenzene	47.9	2.5	50	0	96	67	134	49.37	3.0(21)	
tert-Butylbenzene	51.6	2.5	50	0	103	55	147	53.45	3.5(20)	
1,2,4-Trimethylbenzene	48.6	2.5	50	0	97	65	135	49.66	2.2(25)	
sec-Butylbenzene	47.2	2.5	50	0	94	68	135	48.92	3.7(20)	
1,3-Dichlorobenzene	46	2.5	50	0	92	70	130	46.56	1.2(20)	
1,4-Dichlorobenzene	47.5	2.5	50	0	95	70	130	46.95	1.1(20)	
4-Isopropyltoluene	45.6	2.5	50	0	91	68	132	47.33	3.8(20)	
1,2-Dichlorobenzene	45.3	2.5	50	0	91	70	130	45.71	1.0(20)	
n-Butylbenzene	44.2	2.5	50	0	88	62	134	45.48	2.9(21)	
1,2-Dibromo-3-chloropropane (DBCP)	283	15	250	0	113	64	130	265.2	6.3(20)	
1,2,4-Trichlorobenzene	49.4	10	50	0	99	62	133	48.51	1.7(29)	
Naphthalene	60	10	50	0	120	32	166	56.89	5.3(40)	
Hexachlorobutadiene	112	10	100	0	112	63	130	116.2	3.5(21)	
1,2,3-Trichlorobenzene	57.8	10	50	0	116	55	138	56.45	2.3(36)	



Alpha Analytical, Inc.

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

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

Date:

19-Jul-11

QC Summary Report

Work Order:

11042907

Surr: 1,2-Dichloroethane-d4	55	50	110	70	130
Surr: Toluene-d8	49.9	50	99.7	70	130
Surr: 4-Bromofluorobenzene	48	50	96	70	130

Comments:

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

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

AMENDED #2

WorkOrder : BMIS11042907
Report Due By : 5:00 PM On : 12-May-2011

Client:
 Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

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

EDD Required : No

Sampled by : D. Loera

Client's COC # : 024303, 29129

Job : G005862/JPL Groundwater Monitoring

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

Cooler Temp 1 °C Samples Received 29-Apr-2011 Date Printed 22-Jul-2011

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests				Sample Remarks				
						300_0_W	314_W	ALKALINITY_W	METALS_D W		PH_W	TDS_W	VOC_TIC_W	VOC_W
BM11042907-01A	MW-13	04/28/11 08:43	6	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	
BM11042907-02A	MW-5	04/28/11 12:33	6	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	
BM11042907-03A	DUPE-6-2Q11	04/28/11 13:00	6	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	
BM11042907-04A	MW-4-5	04/28/11 07:38	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	
BM11042907-05A	MW-4-4	04/28/11 08:15	10	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	MS/MSD
BM11042907-06A	MW-4-3	04/28/11 09:15	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	

Comments: Security seals intact. Frozen ice. Temp Blank #7546 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 7/14/11: Added additional TICs, 2-Hexanone and Acetone to all samples. EA : Amended 7/22/11 : Per email from David Conner via Reyna added additional TICs: 1,1-Dichloropropane, Hexachloroethane, Nitrobenzene, and Propionitrile to all samples. EA

Logged in by: Elizabeth Adcox Signature: [Signature] Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 7-22-11 10:03

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

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

CA AMENDED #2

WorkOrder : BMIS11042907
 Report Due By : 5:00 PM On : 12-May-2011

Client:
 Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

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

Client's COC # : 024303, 29129 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	Alpha Sub	TAT	Requested Tests						Sample Remarks		
						300_0_W	314_W	ALKALINITY_W	METALS_D W	PH_W	TDS_W		VOC_TIC_W	VOC_W
BM11042907-07A	MW-4-2	04/28/11 09:51	5	0	9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	
BM11042907-08A	MW-4-1	04/28/11 12:41	5	0	9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	
BM11042907-09A	EB-4-4/28/11	04/28/11 12:27	5	0	9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	VOC by 524 Criteria/2- Hexanone/ Acetone	
BM11042907-10A	TB-4-4/28/11	04/28/11 00:00	1	0	9									Reno Trip Blank 12/14/10

Comments: Security seals intact. Frozen ice. Temp Blank #7346 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (IE: MS/MSD). Amended 7/14/11: Added additional TICs, 2-Hexanone and Acetone to all samples. EA : Amended 7/22/11: Per email from David Conner via Reyna added additional TICs: 1,1-Dichloropropanone, Hexachloroethane, Nitrobenzene, and Propionitrile to all samples. EA

Logged in by: Elizabeth Alder Signature: [Signature] Print Name: Elizabeth Alder Company: Alpha Analytical, Inc. Date/Time: 7-22-11 1603

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

AMENDED
Page: 1 of 2

Alpha Analytical, Inc.

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

WorkOrder : BMIS11042907

Report Due By : 5:00 PM On : 12-May-2011

Client:

Battelle Memorial Institute
655 West Broadway
Suite 1420
San Diego, CA 92101

Report Attention Phone Number Email Address

David Conner (619) 726-7311 x connerd@battelle.org
Betsy Cutie (614) 424-4899 x cutiee@battelle.org
Shane Walton (614) 424-4117 x waltonsb@battelle.org

EDD Required : No

Sampled by : D. Loera

Cooler Temp Samples Received Date Printed
1 °C 29-Apr-2011 14-Jul-2011

Client's COC # : 024303, 29129

Job : G005862/JPL Groundwater Monitoring

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

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub TAT	Requested Tests		PH_W	TDS_W	VOC_TIC_W	VOC_W	Sample Remarks
				300_0_W	314_W					
BM11042907-01A	MW-13	AQ 04/28/11 08:43	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	
BM11042907-02A	MW-5	AQ 04/28/11 12:33	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	
BM11042907-03A	DUPE-6-2Q11	AQ 04/28/11 13:00	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	
BM11042907-04A	MW-4-5	AQ 04/28/11 07:38	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	
BM11042907-05A	MW-4-4	AQ 04/28/11 08:15	10 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	MS/MSD
BM11042907-06A	MW-4-3	AQ 04/28/11 09:15	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2- Hexanone/ Acetone	

Comments: Security seals intact. Frozen ice. Temp Blank #7546 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E. MS/MSD). Amended 7/14/11. Added additional TICs, 2-Hexanone and Acetone to all samples. EA.

Logged in by: Elizabeth Adcox Signature: Elizabeth Adcox Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 7-14-11 9:10

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

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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 : BMIS11042907
 Report Due By : 5:00 PM On : 12-May-2011

Client:

Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

Report Attention

David Conner (619) 726-7311 x connerd@battelle.org
 Betsy Cutie (614) 424-4899 x cutiee@battelle.org
 Shane Walton (614) 424-4117 x waltonss@battelle.org

Phone Number

Email Address

EDD Required : No

Sampled by : D. Loera

Cooler Temp 1 °C

Samples Received 29-Apr-2011

Date Printed 14-Jul-2011

Client's COC # : 024303, 29129

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	Alpha Sub	TAT	Requested Tests										Sample Remarks
						300_0_W	314_W	ALKALINITY_W	METALS_D	PH_W	TDS_W	VOC_TIC_W	VOC_W	Perchlorate	Alk (Carb/Bicarb)	
BM111042907-07A	NW-4-2	04/28/11 09:51	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2-Hexanone/Acetone	VOC by 524 Criteria/2-Hexanone/Acetone			
BM111042907-08A	NW-4-1	04/28/11 12:41	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2-Hexanone/Acetone	VOC by 524 Criteria/2-Hexanone/Acetone			
BM111042907-10A	TB-4-4/28/11	04/28/11 00:00	1	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria/2-Hexanone/Acetone	VOC by 524 Criteria/2-Hexanone/Acetone	Reno Trip Blank 12/14/10		

Comments: Security seals intact. Frozen ice. Temp Blank #7546 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E. MS/MSD). Amended 7/14/11: Added additional TICs, 2-Hexanone and Acetone to all samples. EA:

Logged in by: Elizabeth Adcox Signature: Elizabeth Adcox Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 7-14-11 9:10

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 :

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 : BMIS11042907
 Report Due By : 5:00 PM On : 12-May-2011

Client:
 Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

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

Client's COC # : 024303, 29129 **Job :** G005862/JPL Groundwater Monitoring
QC Level : DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

EDD Required : Yes
 Sampled by : D. Loera
 Cooler Temp Samples Received Date Printed
 1 °C 29-Apr-2011 29-Apr-2011

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub TAT	Requested Tests				Sample Remarks				
				300_0_w	314_w	ALKALINIT Y_w	METALS_D W		PH_w	TDS_w	VOC_TTC_w	VOC_w
BMI11042907-01A	MW-13	04/28/11 08:43	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042907-02A	MW-5	04/28/11 12:33	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042907-03A	DUPE-6-2Q11	04/28/11 13:00	6 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042907-04A	MW-4-5	04/28/11 07:38	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042907-05A	MW-4-4	04/28/11 08:15	10 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD
BMI11042907-06A	MW-4-3	04/28/11 09:15	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042907-07A	MW-4-2	04/28/11 09:51	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11042907-08A	MW-4-1	04/28/11 12:41	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	

Comments: Security seals intact. Frozen ice. Temp Blank #7546 received @ 1°C. Level IV OC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD)..

Logged in by: Emperth Adcox Elizabeth Adcox **Alpha Analytical, Inc.** 4:29-11 1142

Signature **Print Name** **Company** **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 :

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 : BMIS11042907
Report Due By : 5:00 PM On : 12-May-2011

Client:

Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

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

EDD Required : Yes

Sampled by : D. Loera

Client's COC # : 024303, 29129

Job : G005862/JPL Groundwater Monitoring

Cooler Temp Samples Received Date Printed
 1 °C 29-Apr-2011 29-Apr-2011

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_W	314_W	ALKALINITY_W	METALS_D W		PH_W	TDS_W	VOC_TIC_W
BM11042907-09A	EB-4-4/28/11	AQ 04/28/11 12:27	5 0 9	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bleach)	Alk (Ca, Mg, K, Na, Fe)	PH	TDS	VOC by 524 Cheria	VOC by 524 Cheria	
BM11042907-10A	TB-4-4/28/11	AQ 04/28/11 00:00	1 0 9						VOC by 524 Cheria	VOC by 524 Cheria	Reno Trip Blank 12/14/10

Comments: Security seals intact. Frozen ice. Temp Blank #7546 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by: Empath Adcox Signature: [Signature] Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 4-29-11 1142

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 Battle
 Address 505 King Ave
 City, State, Zip Columbus OH 43201
 Phone Number 614 726-7311 Fax 614 458-6641



Samples Collected From Which State?
 AZ CA NV WA
 ID OR OTHER
 Page # 024303 of 1

Client Name David Loner P.O. # 218013 Job # 6005862/SPL 6004
 Address David Loner Email Address concord@battle.org
 City, State, Zip David Loner Phone # 726-7311 Fax # 614 458-6641
 Report Attention David Loner Sample Description David Loner

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number (Use Only)	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filled	Total and type of containers ** See below	Global ID #	REMARKS
0813	4/28/11	AQ	BMI	1042957	01	MW-13		10		3V 3P		VOC's (524.2) Total Cr (200.8) *Cations **Anions TDS (842540C) pH (150.2) Bicarbonate Carbonate
1233	4/28/11	AQ				MW-5		10		3V 3P		
1300	4/29/11	AQ				DUPE-6-2Q211		10		3V 3P		


ADDITIONAL INSTRUCTIONS: *As, Pb, Cu, Mg, K, Na, Fe **Chloride, Nitrate, Nitrite, Orthophosphate, Sulfate, Perchlorate, Alkalinity

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	David Loner	Battle	4-28-11	1430
<i>[Signature]</i>	Anthony Stark	Alpha Analytical	4-28-11	1530
<i>[Signature]</i>	Elizabeth Adcox	Alpha	4-29-11	1142

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

Billing Information:

Name BATTLE / GERRARD 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? 29129

AZ _____ CA NV _____ WA _____
 ID _____ OR _____ OTHER _____
 Page # 1 of _____

Analyses Required

VOC'S (524.2)
 LEAD, ARSENIC, TOTAL CR (200.8)
 ClO4⁻ (314.0)
 Na, K, Ca, Mg, Fe (200.8)
 CO2, HCO3⁻, TDS, PH, ALKALINITY (5M2320B, 5M2540C 150.2)
 Cl⁻, NO3⁻, NO2⁻, SO4²⁻ PO4³⁻ (300.0)

Required QC Level? III
 ED1 ED7? YES NO _____
 Global ID # _____
 REMARKS

Client Name	Address	City, State, Zip	PO #	Job #	Phone #	Fax #	Report Attention	Sample Description	TAT	Field Filled	Total and type of containers ** See below	REMARKS
<u>BATTLE / DAVID CONNER</u>	<u>3990 OLD TOWN AVE, C-205</u>	<u>San Diego, CA 92110</u>	<u>218013</u>	<u>6005862</u>	<u>(619) 726-7311</u>	<u>(619) 458-6641</u>	<u>DAVID CONNER</u>					
								<u>mw - 4 - 5</u>	<u>NORM</u>		<u>5</u>	
								<u>mw - 4 - 4</u>			<u>10</u>	<u>ms/mso</u>
								<u>mw - 4 - 3</u>			<u>5</u>	
								<u>mw - 4 - 2</u>			<u>5</u>	
								<u>mw - 4 - 1</u>			<u>5</u>	
								<u>EB - 4 - 4 / 28 / 11</u>			<u>5</u>	<u>Equip Blank</u>
								<u>ID TB - 4 - 4 / 28 / 11</u>			<u>1</u>	<u>TRIP Blank</u>

ADDITIONAL INSTRUCTIONS:

Signature	Print Name	Company	Date	Time
	<u>Marco Mendosa</u>	<u>INSIGHT</u>	<u>4/28/11</u>	<u>1527</u>
	<u>Anthony Stark</u>	<u>Alpha Analytical</u>	<u>4/28/11</u>	<u>1530</u>
	<u>Elizabeth Adcox</u>	<u>Alpha</u>	<u>4.29.11</u>	<u>1142</u>

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



Alpha Analytical, Inc.

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

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

Date: 13-May-11

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11050302

Cooler Temp: 2°C

Alpha's Sample ID	Client's Sample ID	Matrix
11050302-01A	MW-1	Aqueous
11050302-02A	DUPE-5-2Q11	Aqueous
11050302-03A	MW-9	Aqueous
11050302-04A	MW-12-5	Aqueous
11050302-05A	MW-12-4	Aqueous
11050302-06A	MW-12-3	Aqueous
11050302-07A	MW-12-2	Aqueous
11050302-08A	MW-12-1	Aqueous
11050302-09A	EB-5-5/2/11	Aqueous
11050302-10A	TB-5-5/2/11	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
11050302-07A	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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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



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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/03/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-1					
Lab ID : BMI11050302-01A	Chloride	21	0.50 mg/L	05/03/11 11:38	05/03/11 13:56
Date Sampled 05/02/11 10:27	Nitrite (NO2) - N	ND	0.25 mg/L	05/03/11 11:38	05/03/11 13:56
	Nitrate (NO3) - N	0.36	0.25 mg/L	05/03/11 11:38	05/03/11 13:56
	Phosphate, ortho - P	ND	0.50 mg/L	05/03/11 11:38	05/03/11 13:56
	Sulfate (SO4)	49	0.50 mg/L	05/03/11 11:38	05/03/11 13:56
Client ID: DUPE-5-2Q11					
Lab ID : BMI11050302-02A	Chloride	21	0.50 mg/L	05/03/11 11:38	05/03/11 14:15
Date Sampled 05/02/11 10:35	Nitrite (NO2) - N	ND	0.25 mg/L	05/03/11 11:38	05/03/11 14:15
	Nitrate (NO3) - N	0.36	0.25 mg/L	05/03/11 11:38	05/03/11 14:15
	Phosphate, ortho - P	ND	0.50 mg/L	05/03/11 11:38	05/03/11 14:15
	Sulfate (SO4)	49	0.50 mg/L	05/03/11 11:38	05/03/11 14:15
Client ID: MW-9					
Lab ID : BMI11050302-03A	Chloride	6.8	0.50 mg/L	05/03/11 11:38	05/03/11 14:33
Date Sampled 05/02/11 13:04	Nitrite (NO2) - N	ND	0.25 mg/L	05/03/11 11:38	05/03/11 14:33
	Nitrate (NO3) - N	3.4	0.25 mg/L	05/03/11 11:38	05/03/11 14:33
	Phosphate, ortho - P	ND	0.50 mg/L	05/03/11 11:38	05/03/11 14:33
	Sulfate (SO4)	20	0.50 mg/L	05/03/11 11:38	05/03/11 14:33
Client ID: MW-12-5					
Lab ID : BMI11050302-04A	Chloride	17	0.50 mg/L	05/03/11 11:38	05/03/11 14:52
Date Sampled 05/02/11 10:35	Nitrite (NO2) - N	ND	0.25 mg/L	05/03/11 11:38	05/03/11 14:52
	Nitrate (NO3) - N	1.7	0.25 mg/L	05/03/11 11:38	05/03/11 14:52
	Phosphate, ortho - P	ND	0.50 mg/L	05/03/11 11:38	05/03/11 14:52
	Sulfate (SO4)	20	0.50 mg/L	05/03/11 11:38	05/03/11 14:52
Client ID: MW-12-4					
Lab ID : BMI11050302-05A	Chloride	15	0.50 mg/L	05/03/11 11:38	05/03/11 15:11
Date Sampled 05/02/11 11:15	Nitrite (NO2) - N	ND	0.25 mg/L	05/03/11 11:38	05/03/11 15:11
	Nitrate (NO3) - N	1.2	0.25 mg/L	05/03/11 11:38	05/03/11 15:11
	Phosphate, ortho - P	ND	0.50 mg/L	05/03/11 11:38	05/03/11 15:11
	Sulfate (SO4)	33	0.50 mg/L	05/03/11 11:38	05/03/11 15:11
Client ID: MW-12-3					
Lab ID : BMI11050302-06A	Chloride	15	0.50 mg/L	05/03/11 11:38	05/03/11 15:29
Date Sampled 05/02/11 11:51	Nitrite (NO2) - N	ND	0.25 mg/L	05/03/11 11:38	05/03/11 15:29
	Nitrate (NO3) - N	0.90	0.25 mg/L	05/03/11 11:38	05/03/11 15:29
	Phosphate, ortho - P	ND	0.50 mg/L	05/03/11 11:38	05/03/11 15:29
	Sulfate (SO4)	33	0.50 mg/L	05/03/11 11:38	05/03/11 15:29



Alpha Analytical, Inc.

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

Client ID: **MW-12-2**

Lab ID : BM111050302-07A	Chloride	24	0.50 mg/L	05/03/11 11:38	05/03/11 15:48
Date Sampled 05/02/11 12:24	Nitrite (NO2) - N	ND	0.25 mg/L	05/03/11 11:38	05/03/11 15:48
	Nitrate (NO3) - N	1.7	0.25 mg/L	05/03/11 11:38	05/03/11 15:48
	Phosphate, ortho - P	ND	0.50 mg/L	05/03/11 11:38	05/03/11 15:48
	Sulfate (SO4)	48	0.50 mg/L	05/03/11 11:38	05/03/11 15:48

Client ID: **MW-12-1**

Lab ID : BM111050302-08A	Chloride	12	0.50 mg/L	05/03/11 11:38	05/03/11 16:06
Date Sampled 05/02/11 13:05	Nitrite (NO2) - N	ND	0.25 mg/L	05/03/11 11:38	05/03/11 16:06
	Nitrate (NO3) - N	ND	0.25 mg/L	05/03/11 11:38	05/03/11 16:06
	Phosphate, ortho - P	ND	0.50 mg/L	05/03/11 11:38	05/03/11 16:06
	Sulfate (SO4)	25	0.50 mg/L	05/03/11 11:38	05/03/11 16:06

Client ID: **EB-5-5/2/11**

Lab ID : BM111050302-09A	Chloride	ND	0.50 mg/L	05/03/11 11:38	05/03/11 17:02
Date Sampled 05/02/11 12:49	Nitrite (NO2) - N	ND	0.25 mg/L	05/03/11 11:38	05/03/11 17:02
	Nitrate (NO3) - N	ND	0.25 mg/L	05/03/11 11:38	05/03/11 17:02
	Phosphate, ortho - P	ND	0.50 mg/L	05/03/11 11:38	05/03/11 17:02
	Sulfate (SO4)	ND	0.50 mg/L	05/03/11 11:38	05/03/11 17:02

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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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

5/16/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/03/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-1 Lab ID : BMI11050302-01A Perchlorate Date Sampled 05/02/11 10:27	ND	1.00 µg/L	05/04/11 11:01	05/04/11 13:47
Client ID: DUPE-5-2Q11 Lab ID : BMI11050302-02A Perchlorate Date Sampled 05/02/11 10:35	ND	1.00 µg/L	05/04/11 11:01	05/04/11 14:05
Client ID: MW-9 Lab ID : BMI11050302-03A Perchlorate Date Sampled 05/02/11 13:04	ND	1.00 µg/L	05/04/11 11:01	05/04/11 14:24
Client ID: MW-12-5 Lab ID : BMI11050302-04A Perchlorate Date Sampled 05/02/11 10:35	1.90	1.00 µg/L	05/04/11 11:01	05/04/11 14:42
Client ID: MW-12-4 Lab ID : BMI11050302-05A Perchlorate Date Sampled 05/02/11 11:15	2.82	1.00 µg/L	05/04/11 11:01	05/04/11 15:01
Client ID: MW-12-3 Lab ID : BMI11050302-06A Perchlorate Date Sampled 05/02/11 11:51	4.21	1.00 µg/L	05/04/11 11:01	05/04/11 15:19
Client ID: MW-12-2 Lab ID : BMI11050302-07A Perchlorate Date Sampled 05/02/11 12:24	5.40	1.00 µg/L	05/04/11 11:01	05/04/11 15:37
Client ID: MW-12-1 Lab ID : BMI11050302-08A Perchlorate Date Sampled 05/02/11 13:05	ND	1.00 µg/L	05/04/11 11:01	05/04/11 15:56
Client ID: EB-5-5/2/11 Lab ID : BMI11050302-09A Perchlorate Date Sampled 05/02/11 12:49	ND	1.00 µg/L	05/04/11 11:01	05/04/11 17:28



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
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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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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PS
5/16/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/03/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-1				
Lab ID : BM111050302-01A	Alkalinity, Bicarbonate (As CaCO ₃)	230	10 mg/L	05/03/11 14:51 05/03/11 14:51
Date Sampled 05/02/11 10:27	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 14:51 05/03/11 14:51
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	230	10 mg/L	05/03/11 14:51 05/03/11 14:51
Client ID: DUPE-5-2Q11				
Lab ID : BM111050302-02A	Alkalinity, Bicarbonate (As CaCO ₃)	230	10 mg/L	05/03/11 14:54 05/03/11 14:54
Date Sampled 05/02/11 10:35	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 14:54 05/03/11 14:54
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	230	10 mg/L	05/03/11 14:54 05/03/11 14:54
Client ID: MW-9				
Lab ID : BM111050302-03A	Alkalinity, Bicarbonate (As CaCO ₃)	150	10 mg/L	05/03/11 14:58 05/03/11 14:58
Date Sampled 05/02/11 13:04	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 14:58 05/03/11 14:58
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	150	10 mg/L	05/03/11 14:58 05/03/11 14:58
Client ID: MW-12-5				
Lab ID : BM111050302-04A	Alkalinity, Bicarbonate (As CaCO ₃)	180	10 mg/L	05/03/11 15:01 05/03/11 15:01
Date Sampled 05/02/11 10:35	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 15:01 05/03/11 15:01
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	180	10 mg/L	05/03/11 15:01 05/03/11 15:01
Client ID: MW-12-4				
Lab ID : BM111050302-05A	Alkalinity, Bicarbonate (As CaCO ₃)	210	10 mg/L	05/03/11 15:04 05/03/11 15:04
Date Sampled 05/02/11 11:15	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 15:04 05/03/11 15:04
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	210	10 mg/L	05/03/11 15:04 05/03/11 15:04
Client ID: MW-12-3				
Lab ID : BM111050302-06A	Alkalinity, Bicarbonate (As CaCO ₃)	190	10 mg/L	05/03/11 15:07 05/03/11 15:07
Date Sampled 05/02/11 11:51	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 15:07 05/03/11 15:07
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	190	10 mg/L	05/03/11 15:07 05/03/11 15:07
Client ID: MW-12-2				
Lab ID : BM111050302-07A	Alkalinity, Bicarbonate (As CaCO ₃)	200	10 mg/L	05/03/11 15:11 05/03/11 15:11
Date Sampled 05/02/11 12:24	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 15:11 05/03/11 15:11
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	200	10 mg/L	05/03/11 15:11 05/03/11 15:11
Client ID: MW-12-1				
Lab ID : BM111050302-08A	Alkalinity, Bicarbonate (As CaCO ₃)	220	10 mg/L	05/03/11 15:15 05/03/11 15:15
Date Sampled 05/02/11 13:05	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 15:15 05/03/11 15:15
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	220	10 mg/L	05/03/11 15:15 05/03/11 15:15
Client ID: EB-5-5/2/11				
Lab ID : BM111050302-09A	Alkalinity, Bicarbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 15:25 05/03/11 15:25
Date Sampled 05/02/11 12:49	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/03/11 15:25 05/03/11 15:25
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	ND	10 mg/L	05/03/11 15:25 05/03/11 15:25



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ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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5/16/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/03/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-1				
Lab ID : BMII1050302-01A	Sodium (Na)	31	0.50 mg/L	05/04/11 17:14 05/07/11 16:17
Date Sampled 05/02/11 10:27	Magnesium (Mg)	21	0.50 mg/L	05/04/11 17:14 05/07/11 16:17
	Potassium (K)	3.2	0.50 mg/L	05/04/11 17:14 05/07/11 16:17
	Calcium (Ca)	67	0.50 mg/L	05/04/11 17:14 05/07/11 16:17
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14 05/07/11 16:17
	Iron (Fe)	0.36	0.30 mg/L	05/04/11 17:14 05/07/11 16:17
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14 05/09/11 11:15
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14 05/07/11 16:17
Client ID: DUPE-5-2Q11				
Lab ID : BMII1050302-02A	Sodium (Na)	31	0.50 mg/L	05/04/11 17:14 05/07/11 16:22
Date Sampled 05/02/11 10:35	Magnesium (Mg)	20	0.50 mg/L	05/04/11 17:14 05/07/11 16:22
	Potassium (K)	3.3	0.50 mg/L	05/04/11 17:14 05/07/11 16:22
	Calcium (Ca)	65	0.50 mg/L	05/04/11 17:14 05/07/11 16:22
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14 05/07/11 16:22
	Iron (Fe)	0.36	0.30 mg/L	05/04/11 17:14 05/07/11 16:22
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14 05/07/11 16:22
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14 05/07/11 16:22
Client ID: MW-9				
Lab ID : BMII1050302-03A	Sodium (Na)	18	0.50 mg/L	05/04/11 17:14 05/07/11 15:54
Date Sampled 05/02/11 13:04	Magnesium (Mg)	11	0.50 mg/L	05/04/11 17:14 05/07/11 15:54
	Potassium (K)	2.2	0.50 mg/L	05/04/11 17:14 05/07/11 15:54
	Calcium (Ca)	42	0.50 mg/L	05/04/11 17:14 05/07/11 15:54
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14 05/07/11 15:54
	Iron (Fe)	ND	0.30 mg/L	05/04/11 17:14 05/07/11 15:54
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14 05/07/11 15:54
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14 05/07/11 15:54
Client ID: MW-12-5				
Lab ID : BMII1050302-04A	Sodium (Na)	39	0.50 mg/L	05/04/11 17:14 05/07/11 16:28
Date Sampled 05/02/11 10:35	Magnesium (Mg)	12	0.50 mg/L	05/04/11 17:14 05/07/11 16:28
	Potassium (K)	2.1	0.50 mg/L	05/04/11 17:14 05/07/11 16:28
	Calcium (Ca)	44	0.50 mg/L	05/04/11 17:14 05/07/11 16:28
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14 05/07/11 16:28
	Iron (Fe)	0.43	0.30 mg/L	05/04/11 17:14 05/07/11 16:28
	Arsenic (As)	0.0029	0.0020 mg/L	05/04/11 17:14 05/07/11 16:28
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14 05/07/11 16:28



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Client ID: MW-12-4

Lab ID : BM11050302-05A	Sodium (Na)	25	0.50 mg/L	05/04/11 17:14	05/07/11 16:34
Date Sampled 05/02/11 11:15	Magnesium (Mg)	15	0.50 mg/L	05/04/11 17:14	05/07/11 16:34
	Potassium (K)	2.3	0.50 mg/L	05/04/11 17:14	05/07/11 16:34
	Calcium (Ca)	62	0.50 mg/L	05/04/11 17:14	05/07/11 16:34
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 16:34
	Iron (Fe)	0.34	0.30 mg/L	05/04/11 17:14	05/07/11 16:34
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14	05/07/11 16:34
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 16:34

Client ID: MW-12-3

Lab ID : BM11050302-06A	Sodium (Na)	26	0.50 mg/L	05/04/11 17:14	05/07/11 16:39
Date Sampled 05/02/11 11:51	Magnesium (Mg)	15	0.50 mg/L	05/04/11 17:14	05/07/11 16:39
	Potassium (K)	2.6	0.50 mg/L	05/04/11 17:14	05/07/11 16:39
	Calcium (Ca)	54	0.50 mg/L	05/04/11 17:14	05/07/11 16:39
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 16:39
	Iron (Fe)	ND	0.30 mg/L	05/04/11 17:14	05/07/11 16:39
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14	05/07/11 16:39
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 16:39

Client ID: MW-12-2

Lab ID : BM11050302-07A	Sodium (Na)	25	0.50 mg/L	05/04/11 17:14	05/07/11 16:45
Date Sampled 05/02/11 12:24	Magnesium (Mg)	21	0.50 mg/L	05/04/11 17:14	05/07/11 16:45
	Potassium (K)	3.2	0.50 mg/L	05/04/11 17:14	05/07/11 16:45
	Calcium (Ca)	65	0.50 mg/L	05/04/11 17:14	05/07/11 16:45
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 16:45
	Iron (Fe)	0.66	0.30 mg/L	05/04/11 17:14	05/07/11 16:45
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14	05/07/11 16:45
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 16:45

Client ID: MW-12-1

Lab ID : BM11050302-08A	Sodium (Na)	25	0.50 mg/L	05/04/11 17:14	05/07/11 16:50
Date Sampled 05/02/11 13:05	Magnesium (Mg)	19	0.50 mg/L	05/04/11 17:14	05/07/11 16:50
	Potassium (K)	3.1	0.50 mg/L	05/04/11 17:14	05/07/11 16:50
	Calcium (Ca)	58	0.50 mg/L	05/04/11 17:14	05/07/11 16:50
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 16:50
	Iron (Fe)	3.4	0.30 mg/L	05/04/11 17:14	05/07/11 16:50
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14	05/07/11 16:50
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 16:50

Client ID: EB-5-5/2/11

Lab ID : BM11050302-09A	Sodium (Na)	ND	0.50 mg/L	05/04/11 17:14	05/07/11 16:56
Date Sampled 05/02/11 12:49	Magnesium (Mg)	ND	0.50 mg/L	05/04/11 17:14	05/07/11 16:56
	Potassium (K)	ND	0.50 mg/L	05/04/11 17:14	05/07/11 16:56
	Calcium (Ca)	ND	0.50 mg/L	05/04/11 17:14	05/07/11 16:56
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 16:56
	Iron (Fe)	ND	0.30 mg/L	05/04/11 17:14	05/07/11 16:56
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14	05/07/11 16:56
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 16:56



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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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5/16/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/03/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-1				
Lab ID : BM111050302-01A	pH	7.5	1.7 pH Units	05/03/11 14:14
Date Sampled 05/02/11 10:27	pH - Temperature	22	1.0 °C	05/03/11 14:14
Client ID: DUPE-5-2Q11				
Lab ID : BM111050302-02A	pH	7.5	1.7 pH Units	05/03/11 14:16
Date Sampled 05/02/11 10:35	pH - Temperature	21	1.0 °C	05/03/11 14:16
Client ID: MW-9				
Lab ID : BM111050302-03A	pH	7.1	1.7 pH Units	05/03/11 14:18
Date Sampled 05/02/11 13:04	pH - Temperature	20	1.0 °C	05/03/11 14:18
Client ID: MW-12-5				
Lab ID : BM111050302-04A	pH	8.0	1.7 pH Units	05/03/11 14:20
Date Sampled 05/02/11 10:35	pH - Temperature	20	1.0 °C	05/03/11 14:20
Client ID: MW-12-4				
Lab ID : BM111050302-05A	pH	7.9	1.7 pH Units	05/03/11 14:22
Date Sampled 05/02/11 11:15	pH - Temperature	20	1.0 °C	05/03/11 14:22
Client ID: MW-12-3				
Lab ID : BM111050302-06A	pH	8.0	1.7 pH Units	05/03/11 14:24
Date Sampled 05/02/11 11:51	pH - Temperature	20	1.0 °C	05/03/11 14:24
Client ID: MW-12-2				
Lab ID : BM111050302-07A	pH	7.4	1.7 pH Units	05/03/11 14:36
Date Sampled 05/02/11 12:24	pH - Temperature	20	1.0 °C	05/03/11 14:36
Client ID: MW-12-1				
Lab ID : BM111050302-08A	pH	7.4	1.7 pH Units	05/03/11 14:38
Date Sampled 05/02/11 13:05	pH - Temperature	19	1.0 °C	05/03/11 14:38
Client ID: EB-5-5/2/11				
Lab ID : BM111050302-09A	pH	6.3	1.7 pH Units	05/03/11 14:47
Date Sampled 05/02/11 12:49	pH - Temperature	20	1.0 °C	05/03/11 14:47



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

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

Roger Scholl

Randy Gardner

Walter Hinchman

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/03/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS) SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-1 Lab ID : BM111050302-01A Solids, Total Dissolved (TDS) Date Sampled 05/02/11 10:27	310	10 mg/L	05/07/11	05/07/11
Client ID: DUPE-5-2Q11 Lab ID : BM111050302-02A Solids, Total Dissolved (TDS) Date Sampled 05/02/11 10:35	320	10 mg/L	05/09/11	05/09/11
Client ID: MW-9 Lab ID : BM111050302-03A Solids, Total Dissolved (TDS) Date Sampled 05/02/11 13:04	220	10 mg/L	05/07/11	05/07/11
Client ID: MW-12-5 Lab ID : BM111050302-04A Solids, Total Dissolved (TDS) Date Sampled 05/02/11 10:35	250	10 mg/L	05/07/11	05/07/11
Client ID: MW-12-4 Lab ID : BM111050302-05A Solids, Total Dissolved (TDS) Date Sampled 05/02/11 11:15	290	10 mg/L	05/07/11	05/07/11
Client ID: MW-12-3 Lab ID : BM111050302-06A Solids, Total Dissolved (TDS) Date Sampled 05/02/11 11:51	270	10 mg/L	05/07/11	05/07/11
Client ID: MW-12-2 Lab ID : BM111050302-07A Solids, Total Dissolved (TDS) Date Sampled 05/02/11 12:24	330	10 mg/L	05/07/11	05/07/11
Client ID: MW-12-1 Lab ID : BM111050302-08A Solids, Total Dissolved (TDS) Date Sampled 05/02/11 13:05	280	10 mg/L	05/07/11	05/07/11
Client ID: EB-5-5/2/11 Lab ID : BM111050302-09A Solids, Total Dissolved (TDS) Date Sampled 05/02/11 12:49	ND	10 mg/L	05/07/11	05/07/11



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ND = Not Detected

Roger Scholl

Randy Gardner

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5/16/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID : MW-1 Lab ID : BM111050302-01A Date Received : 05/03/11 Date Sampled : 05/02/11 10:27	*** None Found ***	ND	05/06/11 06:18	05/06/11 06:18
Client ID : DUPE-5-2Q11 Lab ID : BM111050302-02A Date Received : 05/03/11 Date Sampled : 05/02/11 10:35	*** None Found ***	ND	05/06/11 06:41	05/06/11 06:41
Client ID : MW-9 Lab ID : BM111050302-03A Date Received : 05/03/11 Date Sampled : 05/02/11 13:04	*** None Found ***	ND	05/06/11 07:05	05/06/11 07:05
Client ID : MW-12-5 Lab ID : BM111050302-04A Date Received : 05/03/11 Date Sampled : 05/02/11 10:35	*** None Found ***	ND	05/06/11 07:29	05/06/11 07:29
Client ID : MW-12-4 Lab ID : BM111050302-05A Date Received : 05/03/11 Date Sampled : 05/02/11 11:15	*** None Found ***	ND	05/06/11 07:53	05/06/11 07:53
Client ID : MW-12-3 Lab ID : BM111050302-06A Date Received : 05/03/11 Date Sampled : 05/02/11 11:51	*** None Found ***	ND	05/06/11 08:17	05/06/11 08:17
Client ID : MW-12-2 Lab ID : BM111050302-07A Date Received : 05/03/11 Date Sampled : 05/02/11 12:24	*** None Found ***	ND	05/06/11 08:41	05/06/11 08:41
Client ID : MW-12-1 Lab ID : BM111050302-08A Date Received : 05/03/11 Date Sampled : 05/02/11 13:05	*** None Found ***	ND	05/06/11 09:05	05/06/11 09:05
Client ID : EB-5-5/2/11 Lab ID : BM111050302-09A Date Received : 05/03/11 Date Sampled : 05/02/11 12:49	*** None Found ***	ND	05/06/11 09:29	05/06/11 09:29



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Client ID : **TB-5-5/2/11**
Lab ID : **BMI11050302-10A** ***** None Found ***** ND 2.0 µg/L 05/06/11 00:43 05/06/11 00:43
Date Received : 05/03/11
Date Sampled : 05/02/11 00:00

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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Report Date

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050302-01A
Client I.D. Number: MW-1

Sampled: 05/02/11 10:27
Received: 05/03/11
Extracted: 05/06/11 06:18
Analyzed: 05/06/11 06:18

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	2.0 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	2.0 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	2.0 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	2.0 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	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	109	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	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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5/16/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050302-02A
Client I.D. Number: DUPE-5-2Q11

Sampled: 05/02/11 10:35
Received: 05/03/11
Extracted: 05/06/11 06:41
Analyzed: 05/06/11 06:41

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	2.0 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	2.0 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	2.0 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	2.0 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	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	109	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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



Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050302-03A
Client I.D. Number: MW-9

Sampled: 05/02/11 13:04
Received: 05/03/11
Extracted: 05/06/11 07:05
Analyzed: 05/06/11 07:05

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	2.0 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	2.0 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	2.0 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	2.0 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	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	109	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	96	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*
 Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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[Signature]
 5/16/11
 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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050302-04A
Client I.D. Number: MW-12-5

Sampled: 05/02/11 10:35
Received: 05/03/11
Extracted: 05/06/11 07:29
Analyzed: 05/06/11 07:29

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	2.0 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	2.0 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	2.0 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	2.0 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	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 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	99	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	95	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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PS
5/16/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050302-05A
Client I.D. Number: MW-12-4

Sampled: 05/02/11 11:15
Received: 05/03/11
Extracted: 05/06/11 07:53
Analyzed: 05/06/11 07:53

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	2.0 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	2.0 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	2.0 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	2.0 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	0.60	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	0.62	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	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	111	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
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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Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050302-06A
Client I.D. Number: MW-12-3

Sampled: 05/02/11 11:51
Received: 05/03/11
Extracted: 05/06/11 08:17
Analyzed: 05/06/11 08:17

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	2.0 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	2.0 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	2.0 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	2.0 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	0.84	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	1.8	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	112	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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

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

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

5/16/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050302-07A
Client I.D. Number: MW-12-2

Sampled: 05/02/11 12:24
Received: 05/03/11
Extracted: 05/06/11 08:41
Analyzed: 05/06/11 08:41

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	2.0 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	2.0 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	2.0 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	2.0 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	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 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	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	95	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

Page 1 of 1



Alpha Analytical, Inc.

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

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050302-08A
Client I.D. Number: MW-12-1

Sampled: 05/02/11 13:05
Received: 05/03/11
Extracted: 05/06/11 09:05
Analyzed: 05/06/11 09:05

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	2.0 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	2.0 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	2.0 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	2.0 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	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 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	96	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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5/16/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050302-09A
Client I.D. Number: EB-5-5/2/11

Sampled: 05/02/11 12:49
Received: 05/03/11
Extracted: 05/06/11 09:29
Analyzed: 05/06/11 09:29

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	2.0 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	2.0 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	2.0 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	2.0 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	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 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.

ND = Not Detected

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



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050302-10A
Client I.D. Number: TB-5-5/2/11

Sampled: 05/02/11 00:00
Received: 05/03/11
Extracted: 05/06/11 00:43
Analyzed: 05/06/11 00:43

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	2.0 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	2.0 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	2.0 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	2.0 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	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 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	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	96	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Randy Gardner

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

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

JAG

5/16/11

Report Date



Alpha Analytical, Inc.

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VOC Sample Preservation Report

Work Order: BMI11050302

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11050302-01A	MW-1	Aqueous	2
11050302-02A	DUPE-5-2Q11	Aqueous	2
11050302-03A	MW-9	Aqueous	2
11050302-04A	MW-12-5	Aqueous	2
11050302-05A	MW-12-4	Aqueous	2
11050302-06A	MW-12-3	Aqueous	2
11050302-07A	MW-12-2	Aqueous	2
11050302-08A	MW-12-1	Aqueous	2
11050302-09A	EB-5-5/2/11	Aqueous	2
11050302-10A	TB-5-5/2/11	Aqueous	2

5/16/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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Date:
05-May-11

QC Summary Report

Work Order:
11050302

Method Blank

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

File ID: **21**

Batch ID: **26442**

Analysis Date: **05/03/2011 13:01**

Sample ID: **MB-26442**

Units : **mg/L**

Run ID: **IC_1_110503A**

Prep Date: **05/03/2011 11:38**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

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

File ID: **22**

Batch ID: **26442**

Analysis Date: **05/03/2011 13:19**

Sample ID: **LFB-26442**

Units : **mg/L**

Run ID: **IC_1_110503A**

Prep Date: **05/03/2011 11:38**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	48	0.5	50		96	90	110			
Nitrite (NO2) - N	5.17	0.25	5		103	90	110			
Nitrate (NO3) - N	5.03	0.25	5		101	90	110			
Phosphate, ortho - P	5.25	0.5	5		105	90	110			
Sulfate (SO4)	101	0.5	100		101	90	110			

Sample Matrix Spike

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

File ID: **32**

Batch ID: **26442**

Analysis Date: **05/03/2011 16:25**

Sample ID: **11050302-08ALFM**

Units : **mg/L**

Run ID: **IC_1_110503A**

Prep Date: **05/03/2011 11:38**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	109	0.5	100	11.65	97	80	120			
Nitrite (NO2) - N	10.1	0.25	10	0	101	80	120			
Nitrate (NO3) - N	10.3	0.25	10	0	103	80	120			
Phosphate, ortho - P	10.9	0.5	10	0	109	80	120			
Sulfate (SO4)	209	0.5	200	24.73	92	80	120			

Sample Matrix Spike Duplicate

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

File ID: **33**

Batch ID: **26442**

Analysis Date: **05/03/2011 16:43**

Sample ID: **11050302-08ALFMD**

Units : **mg/L**

Run ID: **IC_1_110503A**

Prep Date: **05/03/2011 11:38**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	110	0.5	100	11.65	99	80	120	108.9	1.4(15)	
Nitrite (NO2) - N	10.3	0.25	10	0	103	80	120	10.08	1.9(15)	
Nitrate (NO3) - N	10.7	0.25	10	0	107	80	120	10.34	3.3(15)	
Phosphate, ortho - P	11.2	0.5	10	0	112	80	120	10.92	2.5(15)	
Sulfate (SO4)	212	0.5	200	24.73	94	80	120	209	1.3(15)	

Comments:

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



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Date:
05-May-11

QC Summary Report

Work Order:
11050302

Method Blank

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

File ID: **14**

Batch ID: **26452**

Analysis Date: **05/04/2011 11:57**

Sample ID: **MB-26452**

Units : **µg/L**

Run ID: **IC_3_110504A**

Prep Date: **05/04/2011 11:01**

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

Laboratory Fortified Blank

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

File ID: **16**

Batch ID: **26452**

Analysis Date: **05/04/2011 12:33**

Sample ID: **LFB-26452**

Units : **µg/L**

Run ID: **IC_3_110504A**

Prep Date: **05/04/2011 11:01**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	21.5	2	25		86	85	115			

Sample Matrix Spike

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

File ID: **28**

Batch ID: **26452**

Analysis Date: **05/04/2011 16:14**

Sample ID: **11050302-08ALFM**

Units : **µg/L**

Run ID: **IC_3_110504A**

Prep Date: **05/04/2011 11:01**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.1	2	25	0	89	80	120			

Sample Matrix Spike Duplicate

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

File ID: **29**

Batch ID: **26452**

Analysis Date: **05/04/2011 16:33**

Sample ID: **11050302-08ALFMD**

Units : **µg/L**

Run ID: **IC_3_110504A**

Prep Date: **05/04/2011 11:01**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.7	2	25	0	91	80	120	22.14	2.6(15)	

Comments:

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



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Date:
04-May-11

QC Summary Report

Work Order:
11050302

Laboratory Control Spike

Type **LCS** Test Code: **SM2320B**

File ID:

Batch ID: **W0503AL**

Analysis Date: **05/03/2011 14:47**

Sample ID: **LCS-W0503AL**

Units : **mg/L**

Run ID: **WETLAB_110503B**

Prep Date: **05/03/2011 14:47**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO ₃)	273.6	10	250		109	80	120			
Alkalinity, Carbonate (As CaCO ₃)	273.6	10	250		109	80	120			
Alkalinity, Total (As CaCO ₃ at pH 4.5)	274	10	250		109	80	120			

Comments:

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



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Date: 11-May-11

QC Summary Report

Work Order: 11050302

Method Blank

File ID: 050711.B\044_M2.D\

Sample ID: MB-26466

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

File ID: 050711.B\045_M2.D\

Sample ID: LCS-26466

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	5.24	0.5	5		105	85	115			
Magnesium (Mg)	5.01	0.5	5		100	85	115			
Potassium (K)	4.57	0.5	5		91	85	115			
Calcium (Ca)	5.23	0.5	5		105	85	115			
Chromium (Cr)	0.0541	0.005	0.05		108	85	115			
Iron (Fe)	5.28	0.3	5		106	85	115			
Arsenic (As)	0.0486	0.002	0.05		97	85	115			
Lead (Pb)	0.0476	0.005	0.05		95	85	115			

Sample Matrix Spike

File ID: 050711.B\050_M.D\

Sample ID: 11050302-03AMS

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	23	0.5	5	17.56	108	70	130			
Magnesium (Mg)	16.2	0.5	5	11.29	98	70	130			
Potassium (K)	6.56	0.5	5	2.178	88	70	130			
Calcium (Ca)	47.5	0.5	5	41.99	111	70	130			
Chromium (Cr)	0.0535	0.005	0.05	0	107	70	130			
Iron (Fe)	5.13	0.3	5	0	103	70	130			
Arsenic (As)	0.0518	0.002	0.05	0	104	70	130			
Lead (Pb)	0.0474	0.005	0.05	0	95	70	130			

Sample Matrix Spike Duplicate

File ID: 050711.B\051_M.D\

Sample ID: 11050302-03AMSD

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	22.5	0.5	5	17.56	99.6	70	130	22.97	1.9(20)	
Magnesium (Mg)	16.5	0.5	5	11.29	103	70	130	16.19	1.7(20)	
Potassium (K)	6.66	0.5	5	2.178	90	70	130	6.564	1.4(20)	
Calcium (Ca)	45.9	0.5	5	41.99	77	70	130	47.54	3.6(20)	
Chromium (Cr)	0.0515	0.005	0.05	0	103	70	130	0.05351	3.9(20)	
Iron (Fe)	5.12	0.3	5	0	102	70	130	5.129	0.1(20)	
Arsenic (As)	0.0525	0.002	0.05	0	105	70	130	0.05177	1.3(20)	
Lead (Pb)	0.0474	0.005	0.05	0	95	70	130	0.04735	0.1(20)	

Comments:

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Date:
04-May-11

QC Summary Report

Work Order:
11050302

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0503PH**

Analysis Date: **05/03/2011 13:58**

Sample ID: **LCS-W0503PH**

Units : **pH Units**

Run ID: **WETLAB_110503C**

Prep Date: **05/03/2011 13:58**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
pH	5.09	1.7	5		102	90	110			

Comments:

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



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Date:
13-May-11

QC Summary Report

Work Order:
11050302

Method Blank

Type **MBLK** Test Code: **SM2540C**

File ID: Batch ID: **W0505DS** Analysis Date: **05/07/2011 00:00**
Sample ID: **MBLK-W0505DS** Units : mg/L Run ID: **WETLAB_110505H** Prep Date: **05/07/2011 00:00**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS) ND 10

Laboratory Control Spike

Type **LCS** Test Code: **SM2540C**

File ID: Batch ID: **W0505DS** Analysis Date: **05/07/2011 00:00**
Sample ID: **LCS-W0505DS** Units : mg/L Run ID: **WETLAB_110505H** Prep Date: **05/07/2011 00:00**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS) 95 10 100 95 70 130

Comments:

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



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Date:
10-May-11

QC Summary Report

Work Order:
11050302

Method Blank

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

File ID: **C:\AHPCHEM\MS07\DATA\110505\11050541.D**

Batch ID: **MS07W0505M**

Analysis Date: **05/05/2011 23:55**

Sample ID: **MBLK MS07W0505M**

Units : **µg/L**

Run ID: **MSD_07_110505A**

Prep Date: **05/05/2011 23:55**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	11		10		110	70	130			
Surr: Toluene-d8	10		10		100	70	130			



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Date:

10-May-11

QC Summary Report

Work Order:

11050302

Surr: 4-Bromofluorobenzene

9.8

10

98

70

130



Alpha Analytical, Inc.

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Date:
10-May-11

QC Summary Report

Work Order:
11050302

Laboratory Control Spike

Type LCS Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS07\DATA\110505\11050538.D

Batch ID: MS07W0505M

Analysis Date: 05/05/2011 22:43

Sample ID: LCS MS07W0505M

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/05/2011 22:43

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	9.99	1	10		99.9	70	130			
Chloromethane	7.98	2	10		80	70	130			
Vinyl chloride	8.88	1	10		89	70	130			
Chloroethane	10.4	1	10		104	70	130			
Bromomethane	8.6	2	10		86	70	130			
Trichlorofluoromethane	10.9	1	10		109	70	130			
1,1-Dichloroethene	9.95	1	10		100	70	130			
Dichloromethane	10.9	2	10		109	70	130			
Freon-113	11.1	1	10		111	70	137			
trans-1,2-Dichloroethene	10.1	1	10		101	70	130			
Methyl tert-butyl ether (MTBE)	9.73	0.5	10		97	70	130			
1,1-Dichloroethane	8.74	1	10		87	70	130			
2-Butanone (MEK)	221	10	200		111	70	130			
cis-1,2-Dichloroethene	10.1	1	10		101	70	130			
Bromochloromethane	9.81	1	10		98	70	130			
Chloroform	10.1	1	10		101	70	130			
2,2-Dichloropropane	11.4	1	10		114	70	130			
1,2-Dichloroethane	11	1	10		110	70	130			
1,1,1-Trichloroethane	11.2	1	10		112	70	130			
1,1-Dichloropropene	10.8	1	10		108	70	130			
Carbon tetrachloride	11.7	1	10		117	70	130			
Benzene	10.1	0.5	10		101	70	130			
Dibromomethane	10.5	1	10		105	70	130			
1,2-Dichloropropane	11.5	1	10		115	70	130			
Trichloroethene	10.7	1	10		107	70	130			
Bromodichloromethane	11	1	10		110	70	130			
4-Methyl-2-pentanone (MIBK)	26	2.5	25		104	20	182			
cis-1,3-Dichloropropene	10.5	1	10		105	70	130			
trans-1,3-Dichloropropene	11.3	1	10		113	70	130			
1,1,2-Trichloroethane	9.59	1	10		96	70	130			
Toluene	9.8	0.5	10		98	70	130			
1,3-Dichloropropane	10.8	1	10		108	70	130			
Dibromochloromethane	10.7	1	10		107	70	130			
1,2-Dibromoethane (EDB)	20.8	2	20		104	70	130			
Tetrachloroethene	11.4	1	10		114	70	130			
1,1,1,2-Tetrachloroethane	11	1	10		110	70	130			
Chlorobenzene	10	1	10		100	70	130			
Ethylbenzene	10.5	0.5	10		105	70	130			
m,p-Xylene	11.1	0.5	10		111	70	130			
Bromoform	11.4	1	10		114	70	130			
Styrene	10.7	1	10		107	70	130			
o-Xylene	11.7	0.5	10		117	70	130			
1,1,2,2-Tetrachloroethane	9.68	1	10		97	70	130			
1,2,3-Trichloropropane	21	2	20		105	70	130			
Isopropylbenzene	11.4	1	10		114	70	130			
Bromobenzene	10.4	1	10		104	70	130			
n-Propylbenzene	10.5	1	10		105	70	130			
4-Chlorotoluene	10.5	1	10		105	70	130			
2-Chlorotoluene	10.3	1	10		103	70	130			
1,3,5-Trimethylbenzene	10.8	1	10		108	70	130			
tert-Butylbenzene	11.5	1	10		115	70	130			
1,2,4-Trimethylbenzene	10.8	1	10		108	70	130			
sec-Butylbenzene	10.7	1	10		107	70	130			
1,3-Dichlorobenzene	10.1	1	10		101	70	130			
1,4-Dichlorobenzene	10.2	1	10		102	70	130			
4-Isopropyltoluene	10.4	1	10		104	70	130			
1,2-Dichlorobenzene	9.72	1	10		97	70	130			
n-Butylbenzene	10.3	1	10		103	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	55.5	3	50		111	67	130			
1,2,4-Trichlorobenzene	10.6	2	10		106	70	130			
Naphthalene	12.1	2	10		121	70	130			
Hexachlorobutadiene	25.6	2	20		128	70	130			
1,2,3-Trichlorobenzene	12	2	10		120	70	130			
Surr: 1,2-Dichloroethane-d4	10.6		10		106	70	130			
Surr: Toluene-d8	9.81		10		98	70	130			



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Date:
10-May-11

QC Summary Report

Work Order:
11050302

Surr: 4-Bromofluorobenzene

9.56

10

96

70

130



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Date:
10-May-11

QC Summary Report

Work Order:
11050302

Sample Matrix Spike

Type MS Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS07\DATA\110505\11050544.D

Batch ID: MS07W0505M

Analysis Date: 05/06/2011 01:07

Sample ID: 11042907-05AMS

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/06/2011 01:07

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	33.1	2.5	50	0	66	21	138			
Chloromethane	31.1	10	50	0	62	23	144			
Vinyl chloride	36.5	2.5	50	0	73	49	136			
Chloroethane	45.2	2.5	50	0	90	21	159			
Bromomethane	33.4	10	50	0	67	10	174			
Trichlorofluoromethane	48.6	2.5	50	0	97	32	154			
1,1-Dichloroethene	46.3	2.5	50	0	93	64	130			
Dichloromethane	50.9	10	50	0	102	69	130			
Freon-113	50.5	2.5	50	0	101	55	141			
trans-1,2-Dichloroethene	47.1	2.5	50	0	94	63	130			
Methyl tert-butyl ether (MTBE)	48.1	1.3	50	0	96	47	150			
1,1-Dichloroethane	41.4	2.5	50	0	83	66	130			
2-Butanone (MEK)	824	50	1000	0	82	23	182			
cis-1,2-Dichloroethene	48.6	2.5	50	0	97	70	130			
Bromochloromethane	46.5	2.5	50	0	93	70	132			
Chloroform	46.6	2.5	50	0	93	70	130			
2,2-Dichloropropane	35.7	2.5	50	0	71	38	154			
1,2-Dichloroethane	51.3	2.5	50	0	103	65	134			
1,1,1-Trichloroethane	51.1	2.5	50	0	102	65	136			
1,1-Dichloropropene	47.9	2.5	50	0	96	68	132			
Carbon tetrachloride	53.1	2.5	50	0	106	58	148			
Benzene	45.4	1.3	50	0	91	59	138			
Dibromomethane	48	2.5	50	0	96	70	130			
1,2-Dichloropropane	51.5	2.5	50	0	103	70	131			
Trichloroethene	46.7	2.5	50	0	93	65	144			
Bromodichloromethane	49	2.5	50	0	98	50	157			
4-Methyl-2-pentanone (MIBK)	122	13	125	0	97	20	182			
cis-1,3-Dichloropropene	42.6	2.5	50	0	85	63	131			
trans-1,3-Dichloropropene	48.7	2.5	50	0	97	65	136			
1,1,2-Trichloroethane	43.7	2.5	50	0	87	70	131			
Toluene	43.8	1.3	50	0	88	68	130			
1,3-Dichloropropane	48.9	2.5	50	0	98	70	130			
Dibromochloromethane	47.9	2.5	50	0	96	42	155			
1,2-Dibromoethane (EDB)	94.6	5	100	0	95	70	130			
Tetrachloroethene	49.3	2.5	50	0	99	65	130			
1,1,1,2-Tetrachloroethane	49	2.5	50	0	98	70	130			
Chlorobenzene	44.3	2.5	50	0	89	70	130			
Ethylbenzene	46.1	1.3	50	0	92	68	130			
m,p-Xylene	48.8	1.3	50	0	98	68	131			
Bromoform	52.3	2.5	50	0	105	65	143			
Styrene	47.3	2.5	50	0	95	59	153			
o-Xylene	51.5	1.3	50	0	103	70	130			
1,1,2,2-Tetrachloroethane	46.4	2.5	50	0	93	67	130			
1,2,3-Trichloropropane	104	10	100	0	104	70	130			
Isopropylbenzene	48	2.5	50	0	96	55	138			
Bromobenzene	44.9	2.5	50	0	90	70	130			
n-Propylbenzene	43.5	2.5	50	0	87	67	133			
4-Chlorotoluene	44.2	2.5	50	0	88	70	130			
2-Chlorotoluene	44.4	2.5	50	0	89	70	130			
1,3,5-Trimethylbenzene	45.8	2.5	50	0	92	67	134			
tert-Butylbenzene	49.7	2.5	50	0	99	55	147			
1,2,4-Trimethylbenzene	46	2.5	50	0	92	65	135			
sec-Butylbenzene	45	2.5	50	0	90	68	135			
1,3-Dichlorobenzene	43.7	2.5	50	0	87	70	130			
1,4-Dichlorobenzene	44.4	2.5	50	0	89	70	130			
4-Isopropyltoluene	43.5	2.5	50	0	87	68	132			
1,2-Dichlorobenzene	42.3	2.5	50	0	85	70	130			
n-Butylbenzene	42	2.5	50	0	84	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	258	15	250	0	103	64	130			
1,2,4-Trichlorobenzene	45.3	10	50	0	91	62	133			
Naphthalene	54.7	10	50	0	109	32	166			
Hexachlorobutadiene	105	10	100	0	105	63	130			
1,2,3-Trichlorobenzene	52.9	10	50	0	106	55	138			
Surr: 1,2-Dichloroethane-d4	54.8		50		110	70	130			
Surr: Toluene-d8	49.2		50		98	70	130			



Alpha Analytical, Inc.

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Date:

10-May-11

QC Summary Report

Work Order:

11050302

Surr: 4-Bromofluorobenzene

46.9

50

94

70

130



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Date:
10-May-11

QC Summary Report

Work Order:
11050302

Sample Matrix Spike

Type MS Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS07\DATA\110505\11050546.D

Batch ID: MS07W0505M

Analysis Date: 05/06/2011 01:55

Sample ID: 11050302-08AMS

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/06/2011 01:55

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	36.4	2.5	50	0	73	21	138			
Chloromethane	34.2	10	50	0	68	23	144			
Vinyl chloride	41	2.5	50	0	82	49	136			
Chloroethane	49.6	2.5	50	0	99	21	159			
Bromomethane	39.4	10	50	0	79	10	174			
Trichlorofluoromethane	54.3	2.5	50	0	109	32	154			
1,1-Dichloroethene	52.2	2.5	50	0	104	64	130			
Dichloromethane	53.2	10	50	0	106	69	130			
Freon-113	56.1	2.5	50	0	112	55	141			
trans-1,2-Dichloroethene	52.6	2.5	50	0	105	63	130			
Methyl tert-butyl ether (MTBE)	51.5	1.3	50	0	103	47	150			
1,1-Dichloroethane	50.7	2.5	50	0	101	66	130			
2-Butanone (MEK)	823	50	1000	0	82	23	182			
cis-1,2-Dichloroethene	52.3	2.5	50	0	105	70	130			
Bromochloromethane	50.2	2.5	50	0	100	70	132			
Chloroform	51	2.5	50	0	102	70	130			
2,2-Dichloropropane	39.4	2.5	50	0	79	38	154			
1,2-Dichloroethane	54.1	2.5	50	0	108	65	134			
1,1,1-Trichloroethane	55.9	2.5	50	0	112	65	136			
1,1-Dichloropropene	52	2.5	50	0	104	68	132			
Carbon tetrachloride	58	2.5	50	0	116	58	148			
Benzene	48.7	1.3	50	0	97	59	138			
Dibromomethane	49	2.5	50	0	98	70	130			
1,2-Dichloropropane	54	2.5	50	0	108	70	131			
Trichloroethene	50.3	2.5	50	0	101	65	144			
Bromodichloromethane	51.5	2.5	50	0	103	50	157			
4-Methyl-2-pentanone (MIBK)	126	13	125	0	101	20	182			
cis-1,3-Dichloropropene	46.7	2.5	50	0	93	63	131			
trans-1,3-Dichloropropene	51.8	2.5	50	0	104	65	136			
1,1,2-Trichloroethane	45.8	2.5	50	0	92	70	131			
Toluene	47.9	1.3	50	0	96	68	130			
1,3-Dichloropropane	51.2	2.5	50	0	102	70	130			
Dibromochloromethane	50.6	2.5	50	0	101	42	155			
1,2-Dibromoethane (EDB)	99	5	100	0	99	70	130			
Tetrachloroethene	53.1	2.5	50	0	106	65	130			
1,1,1,2-Tetrachloroethane	52.8	2.5	50	0	106	70	130			
Chlorobenzene	47.4	2.5	50	0	95	70	130			
Ethylbenzene	49.9	1.3	50	0	99.8	68	130			
m,p-Xylene	52.7	1.3	50	0	105	68	131			
Bromoform	54.6	2.5	50	0	109	65	143			
Styrene	50.7	2.5	50	0	101	59	153			
o-Xylene	55.8	1.3	50	0	112	70	130			
1,1,2,2-Tetrachloroethane	48.4	2.5	50	0	97	67	130			
1,2,3-Trichloropropane	100	10	100	0	100	70	130			
Isopropylbenzene	52.4	2.5	50	0	105	55	138			
Bromobenzene	48.3	2.5	50	0	97	70	130			
n-Propylbenzene	47.1	2.5	50	0	94	67	133			
4-Chlorotoluene	47.7	2.5	50	0	95	70	130			
2-Chlorotoluene	48	2.5	50	0	96	70	130			
1,3,5-Trimethylbenzene	49.4	2.5	50	0	99	67	134			
tert-Butylbenzene	53.5	2.5	50	0	107	55	147			
1,2,4-Trimethylbenzene	49.7	2.5	50	0	99	65	135			
sec-Butylbenzene	48.9	2.5	50	0	98	68	135			
1,3-Dichlorobenzene	46.6	2.5	50	0	93	70	130			
1,4-Dichlorobenzene	47	2.5	50	0	94	70	130			
4-Isopropyltoluene	47.3	2.5	50	0	95	68	132			
1,2-Dichlorobenzene	45.7	2.5	50	0	91	70	130			
n-Butylbenzene	45.5	2.5	50	0	91	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	265	15	250	0	106	64	130			
1,2,4-Trichlorobenzene	48.5	10	50	0	97	62	133			
Naphthalene	56.9	10	50	0	114	32	166			
Hexachlorobutadiene	116	10	100	0	116	63	130			
1,2,3-Trichlorobenzene	56.5	10	50	0	113	55	138			
Surr: 1,2-Dichloroethane-d4	54.5		50		109	70	130			
Surr: Toluene-d8	50.4		50		101	70	130			



Alpha Analytical, Inc.

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Date:

10-May-11

QC Summary Report

Work Order:

11050302

Surr: 4-Bromofluorobenzene

46.9

50

94

70

130



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Date:
10-May-11

QC Summary Report

Work Order:
11050302

Sample Matrix Spike Duplicate

Type MSD Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS07\DATA\110505\11050545.D

Batch ID: MS07W0505M

Analysis Date: 05/06/2011 01:31

Sample ID: 11042907-05AMSD

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/06/2011 01:31

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	36.1	2.5	50	0	72	21	138	33.05	8.7(33)	
Chloromethane	33.1	10	50	0	66	23	144	31.06	6.3(27)	
Vinyl chloride	39.9	2.5	50	0	80	49	136	36.51	9.0(21)	
Chloroethane	48.6	2.5	50	0	97	21	159	45.16	7.3(40)	
Bromomethane	38.9	10	50	0	78	10	174	33.39	15.2(40)	
Trichlorofluoromethane	53.6	2.5	50	0	107	32	154	48.55	9.8(37)	
1,1-Dichloroethene	51.8	2.5	50	0	104	64	130	46.32	11.1(21)	
Dichloromethane	52.2	10	50	0	104	69	130	50.85	2.6(20)	
Freon-113	55.6	2.5	50	0	111	55	141	50.46	9.8(40)	
trans-1,2-Dichloroethene	52.4	2.5	50	0	105	63	130	47.14	10.5(20)	
Methyl tert-butyl ether (MTBE)	51	1.3	50	0	102	47	150	48.14	5.7(40)	
1,1-Dichloroethane	50.2	2.5	50	0	100	66	130	41.43	19.1(20)	
2-Butanone (MEK)	818	50	1000	0	82	23	182	824.1	0.7(22)	
cis-1,2-Dichloroethene	52.3	2.5	50	0	105	70	130	48.59	7.3(20)	
Bromochloromethane	48.9	2.5	50	0	98	70	132	46.48	5.0(20)	
Chloroform	50.5	2.5	50	0	101	70	130	46.58	8.1(20)	
2,2-Dichloropropane	39.3	2.5	50	0	79	38	154	35.7	9.6(22)	
1,2-Dichloroethane	52.8	2.5	50	0	106	65	134	51.3	2.9(20)	
1,1,1-Trichloroethane	55.1	2.5	50	0	110	65	136	51.05	7.6(20)	
1,1-Dichloropropene	51.1	2.5	50	0	102	68	132	47.91	6.4(20)	
Carbon tetrachloride	56.5	2.5	50	0	113	58	148	53.11	6.2(20)	
Benzene	47.6	1.3	50	0	95	59	138	45.4	4.8(21)	
Dibromomethane	48	2.5	50	0	96	70	130	47.98	0.1(20)	
1,2-Dichloropropane	53.1	2.5	50	0	106	70	131	51.5	3.0(20)	
Trichloroethene	49.4	2.5	50	0	99	65	144	46.7	5.6(20)	
Bromodichloromethane	49.7	2.5	50	0	99	50	157	49.04	1.3(20)	
4-Methyl-2-pentanone (MIBK)	121	13	125	0	96	20	182	121.5	0.8(20)	
cis-1,3-Dichloropropene	45.9	2.5	50	0	92	63	131	42.55	7.6(20)	
trans-1,3-Dichloropropene	50.4	2.5	50	0	101	65	136	48.7	3.5(20)	
1,1,2-Trichloroethane	44.7	2.5	50	0	89	70	131	43.65	2.4(20)	
Toluene	47	1.3	50	0	94	68	130	43.78	7.1(20)	
1,3-Dichloropropane	50.1	2.5	50	0	100	70	130	48.87	2.5(20)	
Dibromochloromethane	48.9	2.5	50	0	98	42	155	47.9	2.0(20)	
1,2-Dibromoethane (EDB)	97.2	5	100	0	97	70	130	94.56	2.7(20)	
Tetrachloroethene	52.8	2.5	50	0	106	65	130	49.25	7.0(20)	
1,1,1,2-Tetrachloroethane	50.8	2.5	50	0	102	70	130	49.03	3.6(20)	
Chlorobenzene	46.4	2.5	50	0	93	70	130	44.31	4.6(20)	
Ethylbenzene	48.5	1.3	50	0	97	68	130	46.13	5.0(20)	
m,p-Xylene	51.4	1.3	50	0	103	68	131	48.77	5.3(20)	
Bromoform	52.6	2.5	50	0	105	65	143	52.28	0.6(20)	
Styrene	49.2	2.5	50	0	98	59	153	47.33	3.9(37)	
o-Xylene	54.1	1.3	50	0	108	70	130	51.49	5.0(20)	
1,1,2,2-Tetrachloroethane	45.8	2.5	50	0	92	67	130	46.38	1.2(20)	
1,2,3-Trichloropropane	95.8	10	100	0	96	70	130	103.7	7.9(20)	
Isopropylbenzene	51.2	2.5	50	0	102	55	138	47.97	6.5(20)	
Bromobenzene	46.9	2.5	50	0	94	70	130	44.85	4.4(20)	
n-Propylbenzene	46.1	2.5	50	0	92	67	133	43.48	5.9(30)	
4-Chlorotoluene	47.2	2.5	50	0	94	70	130	44.22	6.6(20)	
2-Chlorotoluene	46.6	2.5	50	0	93	70	130	44.41	4.8(20)	
1,3,5-Trimethylbenzene	48.3	2.5	50	0	97	67	134	45.78	5.3(21)	
tert-Butylbenzene	52.5	2.5	50	0	105	55	147	49.66	5.6(20)	
1,2,4-Trimethylbenzene	48.9	2.5	50	0	98	65	135	46.02	6.0(25)	
sec-Butylbenzene	48.4	2.5	50	0	97	68	135	45.04	7.3(20)	
1,3-Dichlorobenzene	45.2	2.5	50	0	90	70	130	43.73	3.4(20)	
1,4-Dichlorobenzene	46	2.5	50	0	92	70	130	44.37	3.7(20)	
4-Isopropyltoluene	46.4	2.5	50	0	93	68	132	43.54	6.4(20)	
1,2-Dichlorobenzene	43.9	2.5	50	0	88	70	130	42.28	3.8(20)	
n-Butylbenzene	45.1	2.5	50	0	90	62	134	42.03	7.1(21)	
1,2-Dibromo-3-chloropropane (DBCP)	253	15	250	0	101	64	130	258.1	1.9(20)	
1,2,4-Trichlorobenzene	47.7	10	50	0	95	62	133	45.32	5.1(29)	
Naphthalene	55.3	10	50	0	111	32	166	54.7	1.1(40)	
Hexachlorobutadiene	114	10	100	0	114	63	130	105	8.2(21)	
1,2,3-Trichlorobenzene	55	10	50	0	110	55	138	52.85	4.0(36)	
Surr: 1,2-Dichloroethane-d4	53.9		50		108	70	130			
Surr: Toluene-d8	50.6		50		101	70	130			



Alpha Analytical, Inc.

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Date:
10-May-11

QC Summary Report

Work Order:
11050302

Surr: 4-Bromofluorobenzene

47.5

50

95

70

130



Alpha Analytical, Inc.

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

Date:
10-May-11

QC Summary Report

Work Order:
11050302

Sample Matrix Spike Duplicate

Type MSD Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS07\DATA\110505\11050547.D

Batch ID: MS07W0505M

Analysis Date: 05/06/2011 02:19

Sample ID: 11050302-08AMSD

Units: µg/L

Run ID: MSD_07_110505A

Prep Date: 05/06/2011 02:19

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	33.9	2.5	50	0	68	21	138	36.36	7.2(33)	
Chloromethane	33.2	10	50	0	66	23	144	34.22	3.1(27)	
Vinyl chloride	39.5	2.5	50	0	79	49	136	41.03	3.7(21)	
Chloroethane	47.2	2.5	50	0	94	21	159	49.61	5.0(40)	
Bromomethane	39.5	10	50	0	79	10	174	39.42	0.2(40)	
Trichlorofluoromethane	50.6	2.5	50	0	101	32	154	54.33	7.0(37)	
1,1-Dichloroethene	49.7	2.5	50	0	99	64	130	52.17	5.0(21)	
Dichloromethane	53.5	10	50	0	107	69	130	53.23	0.5(20)	
Freon-113	52.3	2.5	50	0	105	55	141	56.14	7.0(40)	
trans-1,2-Dichloroethene	51	2.5	50	0	102	63	130	52.61	3.1(20)	
Methyl tert-butyl ether (MTBE)	53.5	1.3	50	0	107	47	150	51.49	3.9(40)	
1,1-Dichloroethane	49.3	2.5	50	0	99	66	130	50.67	2.8(20)	
2-Butanone (MEK)	865	50	1000	0	86	23	182	822.9	5.0(22)	
cis-1,2-Dichloroethene	51.6	2.5	50	0	103	70	130	52.26	1.3(20)	
Bromochloromethane	50.8	2.5	50	0	102	70	132	50.23	1.1(20)	
Chloroform	49.3	2.5	50	0	99	70	130	50.98	3.4(20)	
2,2-Dichloropropane	36.9	2.5	50	0	74	38	154	39.38	6.5(22)	
1,2-Dichloroethane	54.6	2.5	50	0	109	65	134	54.08	1.0(20)	
1,1,1-Trichloroethane	54	2.5	50	0	108	65	136	55.93	3.6(20)	
1,1-Dichloropropene	50	2.5	50	0	99.9	68	132	51.98	4.0(20)	
Carbon tetrachloride	54.9	2.5	50	0	110	58	148	57.99	5.5(20)	
Benzene	47.6	1.3	50	0	95	59	138	48.67	2.2(21)	
Dibromomethane	50.7	2.5	50	0	101	70	130	49	3.5(20)	
1,2-Dichloropropane	53.7	2.5	50	0	107	70	131	54.04	0.7(20)	
Trichloroethene	48.7	2.5	50	0	97	65	144	50.29	3.3(20)	
Bromodichloromethane	50.5	2.5	50	0	101	50	157	51.5	2.0(20)	
4-Methyl-2-pentanone (MIBK)	131	13	125	0	105	20	182	126.4	3.6(20)	
cis-1,3-Dichloropropene	46.3	2.5	50	0	93	63	131	46.65	0.8(20)	
trans-1,3-Dichloropropene	52	2.5	50	0	104	65	136	51.83	0.3(20)	
1,1,2-Trichloroethane	46	2.5	50	0	92	70	131	45.83	0.4(20)	
Toluene	46.2	1.3	50	0	92	68	130	47.94	3.7(20)	
1,3-Dichloropropane	51.6	2.5	50	0	103	70	130	51.16	0.9(20)	
Dibromochloromethane	49.7	2.5	50	0	99	42	155	50.59	1.8(20)	
1,2-Dibromoethane (EDB)	100	5	100	0	100	70	130	99.04	1.4(20)	
Tetrachloroethene	51	2.5	50	0	102	65	130	53.06	3.9(20)	
1,1,1,2-Tetrachloroethane	52	2.5	50	0	104	70	130	52.81	1.5(20)	
Chlorobenzene	46	2.5	50	0	92	70	130	47.4	3.0(20)	
Ethylbenzene	47.6	1.3	50	0	95	68	130	49.91	4.7(20)	
m,p-Xylene	50.9	1.3	50	0	102	68	131	52.68	3.4(20)	
Bromoform	55.6	2.5	50	0	111	65	143	54.61	1.8(20)	
Styrene	49.7	2.5	50	0	99	59	153	50.73	2.1(37)	
o-Xylene	53.8	1.3	50	0	108	70	130	55.78	3.7(20)	
1,1,2,2-Tetrachloroethane	49.6	2.5	50	0	99	67	130	48.35	2.6(20)	
1,2,3-Trichloropropane	101	10	100	0	101	70	130	99.96	1.5(20)	
Isopropylbenzene	50.6	2.5	50	0	101	55	138	52.36	3.4(20)	
Bromobenzene	47.7	2.5	50	0	95	70	130	48.27	1.2(20)	
n-Propylbenzene	45.4	2.5	50	0	91	67	133	47.05	3.7(30)	
4-Chlorotoluene	47.4	2.5	50	0	95	70	130	47.74	0.8(20)	
2-Chlorotoluene	46.8	2.5	50	0	94	70	130	47.95	2.4(20)	
1,3,5-Trimethylbenzene	47.9	2.5	50	0	96	67	134	49.37	3.0(21)	
tert-Butylbenzene	51.6	2.5	50	0	103	55	147	53.45	3.5(20)	
1,2,4-Trimethylbenzene	48.6	2.5	50	0	97	65	135	49.66	2.2(25)	
sec-Butylbenzene	47.2	2.5	50	0	94	68	135	48.92	3.7(20)	
1,3-Dichlorobenzene	46	2.5	50	0	92	70	130	46.56	1.2(20)	
1,4-Dichlorobenzene	47.5	2.5	50	0	95	70	130	46.95	1.1(20)	
4-Isopropyltoluene	45.6	2.5	50	0	91	68	132	47.33	3.8(20)	
1,2-Dichlorobenzene	45.3	2.5	50	0	91	70	130	45.71	1.0(20)	
n-Butylbenzene	44.2	2.5	50	0	88	62	134	45.48	2.9(21)	
1,2-Dibromo-3-chloropropane (DBCP)	283	15	250	0	113	64	130	265.2	6.3(20)	
1,2,4-Trichlorobenzene	49.4	10	50	0	99	62	133	48.51	1.7(29)	
Naphthalene	60	10	50	0	120	32	166	56.89	5.3(40)	
Hexachlorobutadiene	112	10	100	0	112	63	130	116.2	3.5(21)	
1,2,3-Trichlorobenzene	57.8	10	50	0	116	55	138	56.45	2.3(36)	
Surr: 1,2-Dichloroethane-d4	55		50		110	70	130			
Surr: Toluene-d8	49.9		50		99.7	70	130			



Alpha Analytical, Inc.

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

Date:
10-May-11

QC Summary Report

Work Order:
11050302

Surr: 4-Bromofluorobenzene	48	50	96	70	130
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Comments:

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

AMENDED
Page: 1 of 2

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

WorkOrder : BMIS11050302
Report Due By : 5:00 PM On : 17-May-2011

Client:
Battelle Memorial Institute
655 West Broadway
Suite 1420
San Diego, CA 92101
PO : 218013

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

EDD Required : No

Sampled by : D. Loera, Chase Brogdon

Client's COC # : 024304, 33397 Job : G005862/JPL Groundwater Monitoring Cooler Temp Samples Received Date Printed
2 °C 03-May-2011 04-May-2011

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

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub	TAT	Requested Tests		PH_W	TDS_W	VOC TIC_W	VOC_W	Sample Remarks			
					300_0_W	314_W								
BM11050302-01A	NW-1	AQ 05/02/11 10:27	6	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050302-02A	DUPE-5-2Q11	AQ 05/02/11 10:35	6	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	Level IV QC
BM11050302-03A	NW-9	AQ 05/02/11 13:04	6	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050302-04A	NW-12-5	AQ 05/02/11 10:35	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050302-05A	NW-12-4	AQ 05/02/11 11:15	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050302-06A	NW-12-3	AQ 05/02/11 11:51	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050302-07A	NW-12-2	AQ 05/02/11 12:24	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050302-08A	NW-12-1	AQ 05/02/11 13:05	10	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD Level IV QC

Comments: Security seals intact. Frozen ice. Temp Blank #8998 received @ 2°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 5/4/11. Added Chase Brogdon as the sampler due to login error. EA.

Logged in by: Chase Brogdon Signature: [Signature] Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 5-4-11 1607

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

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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 : BMIS11050302
Report Due By : 5:00 PM On : 17-May-2011

Client: Battelle Memorial Institute
655 West Broadway
Suite 1420
San Diego, CA 92101
PO : 218013

Report Attention	Phone Number	Email Address
David Conner	(619) 726-7311 x	conned@battelle.org
Betsy Cutie	(614) 424-4899 x	cutiee@battelle.org
Shane Walton	(614) 424-4117 x	walton@s@battelle.org

EDD Required : No

Sampled by : D. Loera, Chase Brogdon

Client's COC # : 024304, 33397 Job : G005682/JPL Groundwater Monitoring Coolers Temp : 2 °C Samples Received : 03-May-2011 Date Printed : 04-May-2011

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	TDS	VOC TIC	VOC W	Sample Remarks
					300_0_W	314_W	ALKALINITY_W					
BMI11050302-09A	EB-5-5/2/11	AQ 05/02/11 12:49	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe			
BMI11050302-10A	TB-5-5/2/11	AQ 05/02/11 00:00	1	0	10					VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 12/14/10

Comments: Security seals intact. Frozen ice. Temp Blank #8998 received @ 2°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 5/4/11: Added Chase Brogdon as the sampler due to login error. EA :

Logged in by: Elizabeth Adcox Signature: [Signature] Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 5-4-11 1607

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

CHAIN-OF-CUSTODY RECORD

CA

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

WorkOrder : BMIS11050302
Report Due By : 5:00 PM On : 17-May-2011

Client: Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

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

Client's COC #: 024304, 33397 Job : G005862/JPL Groundwater Monitoring

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

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub TAT	Requested Tests				Sample Remarks				
				300_0_W	314_W	ALKALINITY_W	METALS_D W		PH_W	TDS_W	VOC_ITC_W	VOC_W
BM11050302-01A	NW-1	05/02/11 10:27	6 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050302-02A	DUPE-5-2Q11	05/02/11 10:35	6 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	Level IV QC
BM11050302-03A	NW-9	05/02/11 13:04	6 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050302-04A	NW-12-5	05/02/11 10:35	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050302-05A	NW-12-4	05/02/11 11:15	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050302-06A	NW-12-3	05/02/11 11:51	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050302-07A	NW-12-2	05/02/11 12:24	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050302-08A	NW-12-1	05/02/11 13:05	10 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD Level IV QC

Comments: Security seals intact. Frozen ice. Temp Blank #8998 received @ 2°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD):.

Logged in by: Elizabeth Alder Signature: Elizabeth Alder Print Name: Elizabeth Alder Company: Alpha Analytical, Inc. Date/Time: 5.3.11 1032

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

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

CA
WorkOrder : BMIS11050302
Report Due By : 5:00 PM On : 17-May-2011

Client:

Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

Report Attention **Phone Number** **Email Address**
 David Conner (619) 726-7311 x connerd@battelle.org
 Betsy Curie (614) 424-4899 x cuticee@battelle.org
 Shane Walton (614) 424-4117 x waltonsh@battelle.org

EDD Required : Yes

Sampled by : D. Loera

Client's COC # : 024304, 33397

Job : G0058682/JPL Groundwater Monitoring

Cooler Temp **2 °C** Samples Received **03-May-2011** Date Printed **03-May-2011**

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		300_0_W	314_W	ALKALINITY_W	METALS_D	PH_W	TDS_W	VOC_TIC_W		VOC_W
BMI11050302-09A	EB-5-5/2/11	AQ 05/02/11 12:49	5	0	10	NO ₂ , NO ₃ , SO ₄ , Cl, PO ₄	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11050302-10A	TR-5-5/2/11	AQ 05/02/11 00:00	1	0	10							VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 12/14/10

Comments:

Security seals intact. Frozen ice. Temp Blank #8998 received @ 2°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by: Elizabeth Adcox Signature: [Signature] Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 5:31 1032

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

Billing Information:

Name Battelle
 Address 505 King Ave
 City, State, Zip Columbus OH 43201
 Phone Number 614 726-7311 Fax 614 458-6641



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

Samples Collected From Which State?

AZ	CA	OR	NV	WA
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Page # 024504 of 1

Client Name <u>David Conner</u>	PO. # <u>218013</u>	Job # <u>5058102/15PL 6001</u>
Address <u>David Conner</u>	Email Address <u>connerd@battelle.org</u>	Required QC Level? <u>1</u>
City, State, Zip <u>OH 43201</u>	Phone # <u>614 726-7311</u>	EDD / EDF? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
	Fax # <u>614 458-6641</u>	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 Filled	Total and type of containers ** See below	Global ID #	REMARKS
<u>1027</u>	<u>5/11</u>	<u>AG</u>	<u>BMI</u>	<u>1050302-01</u>	<u>MND-1</u>	<u>David Conner</u>	<u>MND-1</u>		<input checked="" type="checkbox"/>	<u>3V 3P</u>		
<u>1035</u>	<u>5/11</u>	<u>AG</u>			<u>.02 DUPE-5-2011</u>				<input checked="" type="checkbox"/>	<u>3V 3P</u>		
<u>1304</u>	<u>5/11</u>	<u>AG</u>			<u>-.03 MW-9</u>				<input checked="" type="checkbox"/>	<u>3V 3P</u>		<u>Level IV</u>

Analyses Required

ADDITIONAL INSTRUCTIONS: *As, Pb, Ca, Mg, K, Na, Fe **Chloride, Nitrate, Nitrite, Orthophosphate, Sulfate, Perchlorate, Alkalinity

ID	AN	OR	OTHER	WA
<u>VOC's (524.2)</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Total Cr (200.8)</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>*Cations</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>**Anions</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>TDS (542540C)</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>PH (150.2)</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Bicarbonate carbonate (547340B)</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature	Print Name	Company	Date	Time
<u>David Conner</u>	<u>David Conner</u>	<u>Battelle</u>	<u>5-2-11</u>	<u>1430</u>
<u>Elizabeth Aboex</u>	<u>Elizabeth Aboex</u>	<u>Alpha</u>	<u>5-3-11</u>	<u>1032</u>

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air ** - L-Liter V-Vol S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

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

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



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

Billing Information:
Company Name BATTLE
Attn: GERALD DANKINS
Address 505 KINL AVE
COLUMBUS, OH 43201
City, State, Zip
Phone Number _____ Fax _____

Consultant/Client Name BATTLE/DAVID CONVEN Job # 6005862 Job Name DPG CAL. HUN. 2011
Address 3990 OLD TOWN AVE C-205 Report Attention / Project Manager
City, State, Zip SAN DIEGO, CA 92110 Name: DAVID CONVEN

Time Sampled _____ Date Sampled _____ Matrix See Key Below P.O. # 218013 Lab ID Number (Use Only) _____
Email: DAVID.D.CONVEN@BATTLE.COM Mobile: 619-226-7311
Fax: 619-458-6841

Time Sampled	Date Sampled	Matrix	See Key Below	P.O. #	Lab ID Number (Use Only)	Office (Use Only)	Sample Description	TAT	Field Filtered	# Containers**	Analyses Required												ED/EDF? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Global ID #	REMARKS					
1035	5/21/11	AA					MW-12-5	NORM		5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
1115							MW-12-4			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
1151							MW-12-3			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
1224							MW-12-2			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
1305							MW-12-1			10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
1249							EB-5-5/2/11			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
-							TB-5-5/2/11			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

ADDITIONAL INSTRUCTIONS:

1. (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action (NAC 445.0636 (c) (2)). Sampled By: CHRIS BATTLE

Relinquished by: (Signature/Affiliation) <u>[Signature]</u>	Received by: (Signature/Affiliation) <u>[Signature]</u>	Date:	Time:
Relinquished by: (Signature/Affiliation) <u>[Signature]</u>	Received by: (Signature/Affiliation) <u>[Signature]</u>	Date:	Time:
Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation) <u>[Signature]</u>	Date:	Time:

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



Alpha Analytical, Inc.

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Date 10-May-11

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11050403

Cooler Temp: 0 °C

Alpha's Sample ID	Client's Sample ID	Matrix
11050403-01A	MW-10	Aqueous
11050403-02A	MW-23-5	Aqueous
11050403-03A	MW-23-4	Aqueous
11050403-04A	MW-23-3	Aqueous
11050403-05A	MW-23-2	Aqueous
11050403-06A	MW-23-1	Aqueous
11050403-07A	EB-6-5/3/11	Aqueous
11050403-08A	TB-6-5/3/11	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
11050403-03A	EPA Method 314.0	Perchlorate
11050403-06A	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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/04/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-10				
Lab ID: BMI11050403-01A Chloride	11	0.50 mg/L	05/04/11 12:32	05/04/11 13:31
Date Sampled 05/03/11 10:24 Nitrite (NO2) - N	ND	0.25 mg/L	05/04/11 12:32	05/04/11 13:31
Nitrate (NO3) - N	0.53	0.25 mg/L	05/04/11 12:32	05/04/11 13:31
Phosphate, ortho - P	ND	0.50 mg/L	05/04/11 12:32	05/04/11 13:31
Sulfate (SO4)	25	0.50 mg/L	05/04/11 12:32	05/04/11 13:31
Client ID: MW-23-5				
Lab ID: BMI11050403-02A Chloride	12	0.50 mg/L	05/04/11 12:32	05/04/11 13:50
Date Sampled 05/03/11 07:38 Nitrite (NO2) - N	ND	0.25 mg/L	05/04/11 12:32	05/04/11 13:50
Nitrate (NO3) - N	ND	0.25 mg/L	05/04/11 12:32	05/04/11 13:50
Phosphate, ortho - P	ND	0.50 mg/L	05/04/11 12:32	05/04/11 13:50
Sulfate (SO4)	1.5	0.50 mg/L	05/04/11 12:32	05/04/11 13:50
Client ID: MW-23-4				
Lab ID: BMI11050403-03A Chloride	13	0.50 mg/L	05/04/11 12:32	05/04/11 14:08
Date Sampled 05/03/11 08:11 Nitrite (NO2) - N	ND	0.25 mg/L	05/04/11 12:32	05/04/11 14:08
Nitrate (NO3) - N	5.1	0.25 mg/L	05/04/11 12:32	05/04/11 14:08
Phosphate, ortho - P	ND	0.50 mg/L	05/04/11 12:32	05/04/11 14:08
Sulfate (SO4)	8.1	0.50 mg/L	05/04/11 12:32	05/04/11 14:08
Client ID: MW-23-3				
Lab ID: BMI11050403-04A Chloride	15	0.50 mg/L	05/04/11 12:32	05/04/11 14:27
Date Sampled 05/03/11 08:43 Nitrite (NO2) - N	ND	0.25 mg/L	05/04/11 12:32	05/04/11 14:27
Nitrate (NO3) - N	5.5	0.25 mg/L	05/04/11 12:32	05/04/11 14:27
Phosphate, ortho - P	ND	0.50 mg/L	05/04/11 12:32	05/04/11 14:27
Sulfate (SO4)	10	0.50 mg/L	05/04/11 12:32	05/04/11 14:27
Client ID: MW-23-2				
Lab ID: BMI11050403-05A Chloride	100	50 mg/L	05/04/11 12:32	05/04/11 14:45
Date Sampled 05/03/11 09:11 Nitrite (NO2) - N	ND	0.25 mg/L	05/04/11 12:32	05/04/11 14:45
Nitrate (NO3) - N	14	0.25 mg/L	05/04/11 12:32	05/04/11 14:45
Phosphate, ortho - P	ND	0.50 mg/L	05/04/11 12:32	05/04/11 14:45
Sulfate (SO4)	150	50 mg/L	05/04/11 12:32	05/04/11 14:45
Client ID: MW-23-1				
Lab ID: BMI11050403-06A Chloride	26	0.50 mg/L	05/04/11 12:32	05/04/11 15:04
Date Sampled 05/03/11 09:44 Nitrite (NO2) - N	ND	0.25 mg/L	05/04/11 12:32	05/04/11 15:04
Nitrate (NO3) - N	3.0	0.25 mg/L	05/04/11 12:32	05/04/11 15:04
Phosphate, ortho - P	ND	0.50 mg/L	05/04/11 12:32	05/04/11 15:04
Sulfate (SO4)	66	0.50 mg/L	05/04/11 12:32	05/04/11 15:04



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Client ID: **EB-6-5/3/11**

Lab ID : BM111050403-07A	Chloride	ND	0.50 mg/L	05/04/11 12:32	05/04/11 15:59
Date Sampled 05/03/11 09:31	Nitrite (NO2) - N	ND	0.25 mg/L	05/04/11 12:32	05/04/11 15:59
	Nitrate (NO3) - N	ND	0.25 mg/L	05/04/11 12:32	05/04/11 15:59
	Phosphate, ortho - P	ND	0.50 mg/L	05/04/11 12:32	05/04/11 15:59
	Sulfate (SO4)	ND	0.50 mg/L	05/04/11 12:32	05/04/11 15:59

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/17/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/04/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-10 Lab ID: BMII1050403-01A Perchlorate Date Sampled 05/03/11 10:24	ND	1.00 µg/L	05/04/11 11:01	05/04/11 17:46
Client ID: MW-23-5 Lab ID: BMII1050403-02A Perchlorate Date Sampled 05/03/11 07:38	ND	1.00 µg/L	05/04/11 11:01	05/04/11 18:05
Client ID: MW-23-4 Lab ID: BMII1050403-03A Perchlorate Date Sampled 05/03/11 08:11	ND	1.00 µg/L	05/04/11 11:01	05/04/11 18:23
Client ID: MW-23-3 Lab ID: BMII1050403-04A Perchlorate Date Sampled 05/03/11 08:43	1.48	1.00 µg/L	05/04/11 11:01	05/04/11 18:42
Client ID: MW-23-2 Lab ID: BMII1050403-05A Perchlorate Date Sampled 05/03/11 09:11	3.53	1.00 µg/L	05/04/11 11:01	05/04/11 19:00
Client ID: MW-23-1 Lab ID: BMII1050403-06A Perchlorate Date Sampled 05/03/11 09:44	97.8	1.00 µg/L	05/04/11 11:01	05/04/11 19:18
Client ID: EB-6-5/3/11 Lab ID: BMII1050403-07A Perchlorate Date Sampled 05/03/11 09:31	ND	1.00 µg/L	05/04/11 11:01	05/04/11 19:37

ND = Not Detected

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5/17/11

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/04/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-10				
Lab ID : BM111050403-01A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/05/11 16:55 05/05/11 16:55
Date Sampled 05/03/11 10:24	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/05/11 16:55 05/05/11 16:55
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/05/11 16:55 05/05/11 16:55
Client ID: MW-23-5				
Lab ID : BM111050403-02A	Alkalinity, Bicarbonate (As CaCO3)	78	10 mg/L	05/05/11 16:58 05/05/11 16:58
Date Sampled 05/03/11 07:38	Alkalinity, Carbonate (As CaCO3)	110	10 mg/L	05/05/11 16:58 05/05/11 16:58
	Alkalinity, Total (As CaCO3 at pH 4.5)	190	10 mg/L	05/05/11 16:58 05/05/11 16:58
Client ID: MW-23-4				
Lab ID : BM111050403-03A	Alkalinity, Bicarbonate (As CaCO3)	130	10 mg/L	05/05/11 17:05 05/05/11 17:05
Date Sampled 05/03/11 08:11	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/05/11 17:05 05/05/11 17:05
	Alkalinity, Total (As CaCO3 at pH 4.5)	130	10 mg/L	05/05/11 17:05 05/05/11 17:05
Client ID: MW-23-3				
Lab ID : BM111050403-04A	Alkalinity, Bicarbonate (As CaCO3)	140	10 mg/L	05/05/11 17:09 05/05/11 17:09
Date Sampled 05/03/11 08:43	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/05/11 17:09 05/05/11 17:09
	Alkalinity, Total (As CaCO3 at pH 4.5)	140	10 mg/L	05/05/11 17:09 05/05/11 17:09
Client ID: MW-23-2				
Lab ID : BM111050403-05A	Alkalinity, Bicarbonate (As CaCO3)	230	10 mg/L	05/05/11 17:12 05/05/11 17:12
Date Sampled 05/03/11 09:11	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/05/11 17:12 05/05/11 17:12
	Alkalinity, Total (As CaCO3 at pH 4.5)	230	10 mg/L	05/05/11 17:12 05/05/11 17:12
Client ID: MW-23-1				
Lab ID : BM111050403-06A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/05/11 17:22 05/05/11 17:22
Date Sampled 05/03/11 09:44	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/05/11 17:22 05/05/11 17:22
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/05/11 17:22 05/05/11 17:22
Client ID: EB-6-5/3/11				
Lab ID : BM111050403-07A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/05/11 17:26 05/05/11 17:26
Date Sampled 05/03/11 09:31	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/05/11 17:26 05/05/11 17:26
	Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/05/11 17:26 05/05/11 17:26



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/04/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-10					
Lab ID : BM111050403-01A	Sodium (Na)	21	0.50 mg/L	05/04/11 17:14	05/07/11 17:02
Date Sampled 05/03/11 10:24	Magnesium (Mg)	17	0.50 mg/L	05/04/11 17:14	05/07/11 17:02
	Potassium (K)	2.5	0.50 mg/L	05/04/11 17:14	05/07/11 17:02
	Calcium (Ca)	52	0.50 mg/L	05/04/11 17:14	05/07/11 17:02
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:02
	Iron (Fe)	ND	0.30 mg/L	05/04/11 17:14	05/07/11 17:02
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14	05/07/11 17:02
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:02
Client ID: MW-23-5					
Lab ID : BM111050403-02A	Sodium (Na)	89	0.50 mg/L	05/04/11 17:14	05/07/11 17:29
Date Sampled 05/03/11 07:38	Magnesium (Mg)	ND	0.50 mg/L	05/04/11 17:14	05/07/11 17:29
	Potassium (K)	1.6	0.50 mg/L	05/04/11 17:14	05/07/11 17:29
	Calcium (Ca)	5.9	0.50 mg/L	05/04/11 17:14	05/07/11 17:29
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:29
	Iron (Fe)	ND	0.30 mg/L	05/04/11 17:14	05/07/11 17:29
	Arsenic (As)	0.0047	0.0020 mg/L	05/04/11 17:14	05/07/11 17:29
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:29
Client ID: MW-23-4					
Lab ID : BM111050403-03A	Sodium (Na)	30	0.50 mg/L	05/04/11 17:14	05/07/11 17:35
Date Sampled 05/03/11 08:11	Magnesium (Mg)	12	0.50 mg/L	05/04/11 17:14	05/07/11 17:35
	Potassium (K)	1.8	0.50 mg/L	05/04/11 17:14	05/07/11 17:35
	Calcium (Ca)	31	0.50 mg/L	05/04/11 17:14	05/07/11 17:35
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:35
	Iron (Fe)	ND	0.30 mg/L	05/04/11 17:14	05/07/11 17:35
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14	05/07/11 17:35
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:35
Client ID: MW-23-3					
Lab ID : BM111050403-04A	Sodium (Na)	28	0.50 mg/L	05/04/11 17:14	05/07/11 17:41
Date Sampled 05/03/11 08:43	Magnesium (Mg)	13	0.50 mg/L	05/04/11 17:14	05/07/11 17:41
	Potassium (K)	1.6	0.50 mg/L	05/04/11 17:14	05/07/11 17:41
	Calcium (Ca)	39	0.50 mg/L	05/04/11 17:14	05/07/11 17:41
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:41
	Iron (Fe)	ND	0.30 mg/L	05/04/11 17:14	05/07/11 17:41
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14	05/07/11 17:41
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:41



Alpha Analytical, Inc.

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

Client ID: MW-23-2

Lab ID: BMI11050403-05A	Sodium (Na)	38	0.50 mg/L	05/04/11 17:14	05/07/11 17:46
Date Sampled 05/03/11 09:11	Magnesium (Mg)	47	0.50 mg/L	05/04/11 17:14	05/07/11 17:46
	Potassium (K)	2.6	0.50 mg/L	05/04/11 17:14	05/07/11 17:46
	Calcium (Ca)	130	0.50 mg/L	05/04/11 17:14	05/07/11 17:46
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:46
	Iron (Fe)	0.74	0.30 mg/L	05/04/11 17:14	05/07/11 17:46
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14	05/07/11 17:46
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:46

Client ID: MW-23-1

Lab ID: BMI11050403-06A	Sodium (Na)	25	0.50 mg/L	05/04/11 17:14	05/07/11 17:52
Date Sampled 05/03/11 09:44	Magnesium (Mg)	22	0.50 mg/L	05/04/11 17:14	05/07/11 17:52
	Potassium (K)	1.7	0.50 mg/L	05/04/11 17:14	05/07/11 17:52
	Calcium (Ca)	64	0.50 mg/L	05/04/11 17:14	05/07/11 17:52
	Chromium (Cr)	0.0076	0.0050 mg/L	05/04/11 17:14	05/07/11 17:52
	Iron (Fe)	0.71	0.30 mg/L	05/04/11 17:14	05/07/11 17:52
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14	05/07/11 17:52
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:52

Client ID: EB-6-5/3/11

Lab ID: BMI11050403-07A	Sodium (Na)	ND	0.50 mg/L	05/04/11 17:14	05/07/11 17:57
Date Sampled 05/03/11 09:31	Magnesium (Mg)	ND	0.50 mg/L	05/04/11 17:14	05/07/11 17:57
	Potassium (K)	ND	0.50 mg/L	05/04/11 17:14	05/07/11 17:57
	Calcium (Ca)	ND	0.50 mg/L	05/04/11 17:14	05/07/11 17:57
	Chromium (Cr)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:57
	Iron (Fe)	ND	0.30 mg/L	05/04/11 17:14	05/07/11 17:57
	Arsenic (As)	ND	0.0020 mg/L	05/04/11 17:14	05/07/11 17:57
	Lead (Pb)	ND	0.0050 mg/L	05/04/11 17:14	05/07/11 17:57

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

e
5/17/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/04/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)
EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-10				
Lab ID: BMII1050403-01A pH	7.2	1.7 pH Units	05/04/11 14:07	05/04/11 14:07
Date Sampled 05/03/11 10:24 pH - Temperature	19	1.0 °C	05/04/11 14:07	05/04/11 14:07
Client ID: MW-23-5				
Lab ID: BMII1050403-02A pH	9.7	1.7 pH Units	05/04/11 14:12	05/04/11 14:12
Date Sampled 05/03/11 07:38 pH - Temperature	18	1.0 °C	05/04/11 14:12	05/04/11 14:12
Client ID: MW-23-4				
Lab ID: BMII1050403-03A pH	8.4	1.7 pH Units	05/04/11 14:15	05/04/11 14:15
Date Sampled 05/03/11 08:11 pH - Temperature	18	1.0 °C	05/04/11 14:15	05/04/11 14:15
Client ID: MW-23-3				
Lab ID: BMII1050403-04A pH	7.9	1.7 pH Units	05/04/11 14:17	05/04/11 14:17
Date Sampled 05/03/11 08:43 pH - Temperature	18	1.0 °C	05/04/11 14:17	05/04/11 14:17
Client ID: MW-23-2				
Lab ID: BMII1050403-05A pH	7.5	1.7 pH Units	05/04/11 14:25	05/04/11 14:25
Date Sampled 05/03/11 09:11 pH - Temperature	19	1.0 °C	05/04/11 14:25	05/04/11 14:25
Client ID: MW-23-1				
Lab ID: BMII1050403-06A pH	7.1	1.7 pH Units	05/04/11 14:28	05/04/11 14:28
Date Sampled 05/03/11 09:44 pH - Temperature	18	1.0 °C	05/04/11 14:28	05/04/11 14:28
Client ID: EB-6-5/3/11				
Lab ID: BMII1050403-07A pH	6.2	1.7 pH Units	05/04/11 14:31	05/04/11 14:31
Date Sampled 05/03/11 09:31 pH - Temperature	19	1.0 °C	05/04/11 14:31	05/04/11 14:31

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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5/16/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/04/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS) SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-10				
Lab ID : BM111050403-01A Solids, Total Dissolved (TDS)	280	10 mg/L	05/06/11	05/06/11
Date Sampled 05/03/11 10:24				
Client ID: MW-23-5				
Lab ID : BM111050403-02A Solids, Total Dissolved (TDS)	250	10 mg/L	05/06/11	05/06/11
Date Sampled 05/03/11 07:38				
Client ID: MW-23-4				
Lab ID : BM111050403-03A Solids, Total Dissolved (TDS)	160	10 mg/L	05/06/11	05/06/11
Date Sampled 05/03/11 08:11				
Client ID: MW-23-3				
Lab ID : BM111050403-04A Solids, Total Dissolved (TDS)	230	10 mg/L	05/07/11	05/07/11
Date Sampled 05/03/11 08:43				
Client ID: MW-23-2				
Lab ID : BM111050403-05A Solids, Total Dissolved (TDS)	730	10 mg/L	05/06/11	05/06/11
Date Sampled 05/03/11 09:11				
Client ID: MW-23-1				
Lab ID : BM111050403-06A Solids, Total Dissolved (TDS)	360	10 mg/L	05/06/11	05/06/11
Date Sampled 05/03/11 09:44				
Client ID: EB-6-5/3/11				
Lab ID : BM111050403-07A Solids, Total Dissolved (TDS)	ND	10 mg/L	05/06/11	05/06/11
Date Sampled 05/03/11 09:31				

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050403-01A
Client I.D. Number: MW-10

Sampled: 05/03/11 10:24
Received: 05/04/11
Extracted: 05/06/11 16:48
Analyzed: 05/06/11 16:48

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethane	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	97	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	100	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
34 2-Hexanone	ND	5.0 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/17/11 due to a change in the analyte list, per client request.

ND = Not Detected

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7/28/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID : MW-10					
Lab ID : BMI11050403-01A	1-Chlorobutane	ND	2.0 µg/L	05/06/11 16:48	05/06/11 16:48
Date Received : 05/04/11	2-Nitropropane	ND	2.0 µg/L	05/06/11 16:48	05/06/11 16:48
Date Sampled : 05/03/11 10:24	Acrylonitrile	ND	10 µg/L	05/06/11 16:48	05/06/11 16:48
	Allyl chloride	ND	2.0 µg/L	05/06/11 16:48	05/06/11 16:48
	Chloroacetonitrile	ND	10 µg/L	05/06/11 16:48	05/06/11 16:48
	Diethyl ether	ND	2.0 µg/L	05/06/11 16:48	05/06/11 16:48
	Ethyl methacrylate	ND	10 µg/L	05/06/11 16:48	05/06/11 16:48
	Methacrylonitrile	ND	10 µg/L	05/06/11 16:48	05/06/11 16:48
	Methyl iodide	ND	2.0 µg/L	05/06/11 16:48	05/06/11 16:48
	Methylacrylate	ND	10 µg/L	05/06/11 16:48	05/06/11 16:48
	Methyl methacrylate	ND	10 µg/L	05/06/11 16:48	05/06/11 16:48
	Tetrahydrofuran	ND	10 µg/L	05/06/11 16:48	05/06/11 16:48
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/06/11 16:48	05/06/11 16:48
	1,1-Dichloropropanone	ND	10 µg/L	05/06/11 16:48	05/06/11 16:48
	Hexachloroethane	ND	10 µg/L	05/06/11 16:48	05/06/11 16:48
	Nitrobenzene	ND	10 µg/L	05/06/11 16:48	05/06/11 16:48
	Propionitrile	ND	50 µg/L	05/06/11 16:48	05/06/11 16:48
Client ID : MW-23-5					
Lab ID : BMI11050403-02A	Sulfur dioxide	12	2.0 µg/L	05/06/11 17:10	05/06/11 17:10
Date Received : 05/04/11					
Date Sampled : 05/03/11 07:38					
Client ID : MW-23-4					
Lab ID : BMI11050403-03A	*** None Found ***	ND	2.0 µg/L	05/06/11 17:31	05/06/11 17:31
Date Received : 05/04/11					
Date Sampled : 05/03/11 08:11					
Client ID : MW-23-3					
Lab ID : BMI11050403-04A	*** None Found ***	ND	2.0 µg/L	05/06/11 17:53	05/06/11 17:53
Date Received : 05/04/11					
Date Sampled : 05/03/11 08:43					
Client ID : MW-23-2					
Lab ID : BMI11050403-05A	*** None Found ***	ND	2.0 µg/L	05/06/11 18:14	05/06/11 18:14
Date Received : 05/04/11					
Date Sampled : 05/03/11 09:11					
Client ID : MW-23-1					
Lab ID : BMI11050403-06A	*** None Found ***	ND	2.0 µg/L	05/06/11 18:36	05/06/11 18:36
Date Received : 05/04/11					
Date Sampled : 05/03/11 09:44					



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Client ID : **EB-6-5/3/11**
Lab ID : BMII1050403-07A *** None Found *** ND 2.0 µg/L 05/06/11 15:22 05/06/11 15:22
Date Received : 05/04/11
Date Sampled : 05/03/11 09:31

Client ID : **TB-6-5/3/11**
Lab ID : BMII1050403-08A *** None Found *** ND 2.0 µg/L 05/06/11 15:00 05/06/11 15:00
Date Received : 05/04/11
Date Sampled : 05/03/11 00:00

Note: Analysis conducted using EPA Method 524.2 criteria.
This replaces the report signed 5/17/11 due to a change in the analyte list, per client request.
ND = Not Detected

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

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050403-02A
Client I.D. Number: MW-23-5

Sampled: 05/03/11 07:38
Received: 05/04/11
Extracted: 05/06/11 17:10
Analyzed: 05/06/11 17:10

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	96	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
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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5/17/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050403-03A
Client I.D. Number: MW-23-4

Sampled: 05/03/11 08:11
Received: 05/04/11
Extracted: 05/06/11 17:31
Analyzed: 05/06/11 17:31

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	94	(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.

ND = Not Detected

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

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

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5/17/11

Report Date

Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050403-04A
Client I.D. Number: MW-23-3

Sampled: 05/03/11 08:43
Received: 05/04/11
Extracted: 05/06/11 17:53
Analyzed: 05/06/11 17:53

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	1.0 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	98	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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[Signature]
5/17/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050403-05A
Client I.D. Number: MW-23-2

Sampled: 05/03/11 09:11
Received: 05/04/11
Extracted: 05/06/11 18:14
Analyzed: 05/06/11 18:14

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	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	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050403-06A
Client I.D. Number: MW-23-1

Sampled: 05/03/11 09:44
Received: 05/04/11
Extracted: 05/06/11 18:36
Analyzed: 05/06/11 18:36

Volatile Organics by GC/MS EPA Method SW8260B

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

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050403-07A
Client I.D. Number: EB-6-5/3/11

Sampled: 05/03/11 09:31
Received: 05/04/11
Extracted: 05/06/11 15:22
Analyzed: 05/06/11 15:22

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	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
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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

5/17/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050403-08A
Client I.D. Number: TB-6-5/3/11

Sampled: 05/03/11 00:00
Received: 05/04/11
Extracted: 05/06/11 15:00
Analyzed: 05/06/11 15:00

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	96	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	96	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

5/17/11

Report Date



Alpha Analytical, Inc.

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

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

VOC Sample Preservation Report

Work Order: BMI11050403

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11050403-01A	MW-10	Aqueous	2
11050403-02A	MW-23-5	Aqueous	2
11050403-03A	MW-23-4	Aqueous	2
11050403-04A	MW-23-3	Aqueous	2
11050403-05A	MW-23-2	Aqueous	2
11050403-06A	MW-23-1	Aqueous	2
11050403-07A	EB-6-5/3/11	Aqueous	2
11050403-08A	TB-6-5/3/11	Aqueous	2

5/17/11

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:
16-May-11

QC Summary Report

Work Order:
11050403

Method Blank

Type: MBLK Test Code: EPA Method 300.0

File ID: 20 Batch ID: 26456 Analysis Date: 05/04/2011 12:36
Sample ID: MB-26456 Units: mg/L Run ID: IC_1_110504A Prep Date: 05/04/2011 12:32

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

Type: LFB Test Code: EPA Method 300.0

File ID: 21 Batch ID: 26456 Analysis Date: 05/04/2011 12:54
Sample ID: LFB-26456 Units: mg/L Run ID: IC_1_110504A Prep Date: 05/04/2011 12:32

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	51.4	0.5	50		103	90	110			
Nitrite (NO2) - N	5.37	0.25	5		107	90	110			
Nitrate (NO3) - N	5.48	0.25	5		110	90	110			
Phosphate, ortho - P	5.68	0.5	5		114	90	110			L51
Sulfate (SO4)	109	0.5	100		109	90	110			

Laboratory Fortified Blank Duplicate

Type: LFB Test Code: EPA Method 300.0

File ID: 22 Batch ID: 26456 Analysis Date: 05/04/2011 13:13
Sample ID: LFB-26456 Units: mg/L Run ID: IC_1_110504A Prep Date: 05/04/2011 12:32

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	49.4	0.5	50		99	90	110	51.38	3.9(15)	
Nitrite (NO2) - N	5.23	0.25	5		105	90	110	5.366	2.5(15)	
Nitrate (NO3) - N	5.22	0.25	5		104	90	110	5.482	4.8(15)	
Phosphate, ortho - P	5.43	0.5	5		109	90	110	5.676	4.5(15)	
Sulfate (SO4)	104	0.5	100		104	90	110	109.2	5.3(15)	

Sample Matrix Spike

Type: LFM Test Code: EPA Method 300.0

File ID: 29 Batch ID: 26456 Analysis Date: 05/04/2011 15:22
Sample ID: 11050403-06ALFM Units: mg/L Run ID: IC_1_110504A Prep Date: 05/04/2011 12:32

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	123	0.5	100	26.42	97	80	120			
Nitrite (NO2) - N	10.1	0.25	10	0	101	80	120			
Nitrate (NO3) - N	13.7	0.25	10	3.005	107	80	120			
Phosphate, ortho - P	10.6	0.5	10	0	106	80	120			
Sulfate (SO4)	249	0.5	200	65.6	92	80	120			

Sample Matrix Spike Duplicate

Type: LFMD Test Code: EPA Method 300.0

File ID: 30 Batch ID: 26456 Analysis Date: 05/04/2011 15:41
Sample ID: 11050403-06ALFMD Units: mg/L Run ID: IC_1_110504A Prep Date: 05/04/2011 12:32

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	123	0.5	100	26.42	97	80	120	123	0.1(15)	
Nitrite (NO2) - N	9.87	0.25	10	0	99	80	120	10.12	2.6(15)	
Nitrate (NO3) - N	13.8	0.25	10	3.005	108	80	120	13.7	0.6(15)	
Phosphate, ortho - P	10.8	0.5	10	0	108	80	120	10.64	1.2(15)	
Sulfate (SO4)	250	0.5	200	65.6	92	80	120	248.8	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 uses descriptive data qualifier flags, which could be replaced with either a DOD Q or J flag.

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



Alpha Analytical, Inc.

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Date:
10-May-11

QC Summary Report

Work Order:
11050403

Method Blank

File ID: 14	Type MBLK	Test Code: EPA Method 314.0	Batch ID: 26452	Analysis Date: 05/04/2011 11:57						
Sample ID: MB-26452	Units : µg/L	Run ID: IC_3_110504A	Prep Date: 05/04/2011 11:01							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND	1								

Laboratory Fortified Blank

File ID: 16	Type LFB	Test Code: EPA Method 314.0	Batch ID: 26452	Analysis Date: 05/04/2011 12:33						
Sample ID: LFB-26452	Units : µg/L	Run ID: IC_3_110504A	Prep Date: 05/04/2011 11:01							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	21.5	2	25		86	85	115			

Sample Matrix Spike

File ID: 28	Type LFM	Test Code: EPA Method 314.0	Batch ID: 26452	Analysis Date: 05/04/2011 16:14						
Sample ID: 11050302-08ALFM	Units : µg/L	Run ID: IC_3_110504A	Prep Date: 05/04/2011 11:01							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.1	2	25	0	89	80	120			

Sample Matrix Spike Duplicate

File ID: 29	Type LFMD	Test Code: EPA Method 314.0	Batch ID: 26452	Analysis Date: 05/04/2011 16:33						
Sample ID: 11050302-08ALFMD	Units : µg/L	Run ID: IC_3_110504A	Prep Date: 05/04/2011 11:01							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.7	2	25	0	91	80	120	22.14	2.6(15)	

Comments:

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



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Date:
10-May-11

QC Summary Report

Work Order:
11050403

Laboratory Control Spike

Type **LCS** Test Code: **SM2320B**

File ID:

Batch ID: **W0505ALA**

Analysis Date: **05/05/2011 16:30**

Sample ID: **LCS-W0505ALA**

Units : **mg/L**

Run ID: **WETLAB_110505F**

Prep Date: **05/05/2011 16:30**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO3)	252.4	10	250		101	80	120			
Alkalinity, Carbonate (As CaCO3)	252.4	10	250		101	80	120			
Alkalinity, Total (As CaCO3 at pH 4.5)	252	10	250		101	80	120			

Comments:

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



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Date:
11-May-11

QC Summary Report

Work Order:
11050403

Method Blank

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

File ID: **050711.B1044_M2.D**

Batch ID: **26466**

Analysis Date: **05/07/2011 15:26**

Sample ID: **MB-26466**

Units : **mg/L**

Run ID: **ICP/MS_110507A**

Prep Date: **05/04/2011 17:14**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

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

File ID: **050711.B1045_M2.D**

Batch ID: **26466**

Analysis Date: **05/07/2011 15:32**

Sample ID: **LCS-26466**

Units : **mg/L**

Run ID: **ICP/MS_110507A**

Prep Date: **05/04/2011 17:14**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	5.24	0.5	5		105	85	115			
Magnesium (Mg)	5.01	0.5	5		100	85	115			
Potassium (K)	4.57	0.5	5		91	85	115			
Calcium (Ca)	5.23	0.5	5		105	85	115			
Chromium (Cr)	0.0541	0.005	0.05		108	85	115			
Iron (Fe)	5.28	0.3	5		106	85	115			
Arsenic (As)	0.0486	0.002	0.05		97	85	115			
Lead (Pb)	0.0476	0.005	0.05		95	85	115			

Sample Matrix Spike

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

File ID: **050711.B1050_M.D**

Batch ID: **26466**

Analysis Date: **05/07/2011 16:00**

Sample ID: **11050302-03AMS**

Units : **mg/L**

Run ID: **ICP/MS_110507A**

Prep Date: **05/04/2011 17:14**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	23	0.5	5	17.56	108	70	130			
Magnesium (Mg)	16.2	0.5	5	11.29	98	70	130			
Potassium (K)	6.56	0.5	5	2.178	88	70	130			
Calcium (Ca)	47.5	0.5	5	41.99	111	70	130			
Chromium (Cr)	0.0535	0.005	0.05	0	107	70	130			
Iron (Fe)	5.13	0.3	5	0	103	70	130			
Arsenic (As)	0.0518	0.002	0.05	0	104	70	130			
Lead (Pb)	0.0474	0.005	0.05	0	95	70	130			

Sample Matrix Spike Duplicate

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

File ID: **050711.B1051_M.D**

Batch ID: **26466**

Analysis Date: **05/07/2011 16:05**

Sample ID: **11050302-03AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110507A**

Prep Date: **05/04/2011 17:14**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	22.5	0.5	5	17.56	99.6	70	130	22.97	1.9(20)	
Magnesium (Mg)	16.5	0.5	5	11.29	103	70	130	16.19	1.7(20)	
Potassium (K)	6.66	0.5	5	2.178	90	70	130	6.564	1.4(20)	
Calcium (Ca)	45.9	0.5	5	41.99	77	70	130	47.54	3.6(20)	
Chromium (Cr)	0.0515	0.005	0.05	0	103	70	130	0.05351	3.9(20)	
Iron (Fe)	5.12	0.3	5	0	102	70	130	5.129	0.1(20)	
Arsenic (As)	0.0525	0.002	0.05	0	105	70	130	0.05177	1.3(20)	
Lead (Pb)	0.0474	0.005	0.05	0	95	70	130	0.04735	0.1(20)	

Comments:

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Date:
10-May-11

QC Summary Report

Work Order:
11050403

Laboratory Control Spike

Type LCS

Test Code: EPA Method 150.1 / SM4500HB / SW9040C

File ID:

Batch ID: W0504PH

Analysis Date: 05/04/2011 13:45

Sample ID: LCS-W0504PH

Units : pH Units

Run ID: WETLAB_110504B

Prep Date: 05/04/2011 13:45

Analyte

Result

PQL

SpkVal

SpkRefVal

%REC

LCL(ME)

UCL(ME)

RPDRefVal

%RPD(Limit)

Qual

pH	5	1.7	5		100	90	110			
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Comments:

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



Alpha Analytical, Inc.

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Date:
11-May-11

QC Summary Report

Work Order:
11050403

Method Blank

File ID:	Type	MBLK	Test Code:	SM2540C	Batch ID:	W0503DS	Analysis Date:	05/05/2011 00:00		
Sample ID:	Units :	mg/L	Run ID:	WETLAB_110503E	Prep Date:	05/05/2011 00:00				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Solids, Total Dissolved (TDS)	ND		10							

Laboratory Control Spike

File ID:	Type	LCS	Test Code:	SM2540C	Batch ID:	W0503DS	Analysis Date:	05/04/2011 00:00		
Sample ID:	Units :	mg/L	Run ID:	WETLAB_110503E	Prep Date:	05/04/2011 00:00				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Solids, Total Dissolved (TDS)	102	10	100		102	70	130			

Comments:

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



Alpha Analytical, Inc.

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Date:
28-Jul-11

QC Summary Report

Work Order:
11050403

Surr: 1,2-Dichloroethane-d4	9.71	10	97	70	130
Surr: Toluene-d8	10.2	10	102	70	130
Surr: 4-Bromofluorobenzene	9.77	10	98	70	130



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Date:

28-Jul-11

QC Summary Report

Work Order:

11050403

Laboratory Control Spike

Type: LCS

Test Code: EPA Method SW8260B

File ID: 11050603.D

Batch ID: MS15W0506M

Analysis Date: 05/06/2011 12:20

Sample ID: LCS MS15W0506M

Units: µg/L

Run ID: MSD_15_110506A

Prep Date: 05/06/2011 12:20

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	11.2	1	10		112	70	130			
Chloromethane	10.8	2	10		108	70	130			
Vinyl chloride	10.8	1	10		108	70	130			
Chloroethane	9.71	1	10		97	70	130			
Bromomethane	10.3	2	10		103	70	130			
Trichlorofluoromethane	10.2	1	10		102	70	130			
Acetone	207	10	200		103	36	171			
1,1-Dichloroethene	11.2	1	10		112	70	130			
Dichloromethane	9.95	2	10		100	70	130			
Freon-113	11.5	1	10		115	70	137			
trans-1,2-Dichloroethene	10.9	1	10		109	70	130			
Methyl tert-butyl ether (MTBE)	9.03	0.5	10		90	70	130			
1,1-Dichloroethane	10.3	1	10		103	70	130			
2-Butanone (MEK)	195	10	200		98	70	130			
cis-1,2-Dichloroethene	10.3	1	10		103	70	130			
Bromochloromethane	9.65	1	10		97	70	130			
Chloroform	10	1	10		100	70	130			
2,2-Dichloropropane	10.3	1	10		103	70	130			
1,2-Dichloroethane	9.33	1	10		93	70	130			
1,1,1-Trichloroethane	10.3	1	10		103	70	130			
1,1-Dichloropropene	10.9	1	10		109	70	130			
Carbon tetrachloride	10.4	1	10		104	70	130			
Benzene	10.2	0.5	10		102	70	130			
Dibromomethane	9.11	1	10		91	70	130			
1,2-Dichloropropane	10.1	1	10		101	70	130			
Trichloroethene	10.2	1	10		102	70	130			
Bromodichloromethane	9.77	1	10		98	70	130			
4-Methyl-2-pentanone (MIBK)	22.6	2.5	25		90	20	182			
cis-1,3-Dichloropropene	9.74	1	10		97	70	130			
trans-1,3-Dichloropropene	9.1	1	10		91	70	130			
1,1,2-Trichloroethane	8.87	1	10		89	70	130			
Toluene	10.5	0.5	10		105	70	130			
1,3-Dichloropropane	9.27	1	10		93	70	130			
2-Hexanone	101	5	100		101	20	182			
Dibromochloromethane	9.01	1	10		90	70	130			
1,2-Dibromoethane (EDB)	19.1	2	20		95	70	130			
Tetrachloroethene	10.4	1	10		104	70	130			
1,1,1,2-Tetrachloroethane	9.75	1	10		98	70	130			
Chlorobenzene	10.2	1	10		102	70	130			
Ethylbenzene	10.4	0.5	10		104	70	130			
m,p-Xylene	10.8	0.5	10		108	70	130			
Bromoform	8.57	1	10		86	70	130			
Styrene	10.4	1	10		104	70	130			
o-Xylene	10.6	0.5	10		106	70	130			
1,1,2,2-Tetrachloroethane	8.67	1	10		87	70	130			
1,2,3-Trichloropropane	17.6	2	20		88	70	130			
Isopropylbenzene	10.4	1	10		104	70	130			
Bromobenzene	9.52	1	10		95	70	130			
n-Propylbenzene	10.7	1	10		107	70	130			
4-Chlorotoluene	10.3	1	10		103	70	130			
2-Chlorotoluene	10.3	1	10		103	70	130			
1,3,5-Trimethylbenzene	10.4	1	10		104	70	130			
tert-Butylbenzene	10.3	1	10		103	70	130			
1,2,4-Trimethylbenzene	10.2	1	10		102	70	130			
sec-Butylbenzene	10.7	1	10		107	70	130			
1,3-Dichlorobenzene	10.1	1	10		101	70	130			
1,4-Dichlorobenzene	9.61	1	10		96	70	130			
4-Isopropyltoluene	10.4	1	10		104	70	130			
1,2-Dichlorobenzene	9.27	1	10		93	70	130			
n-Butylbenzene	10.7	1	10		107	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	41	3	50		82	67	130			
1,2,4-Trichlorobenzene	9.8	2	10		98	70	130			
Naphthalene	8.38	2	10		84	70	130			
Hexachlorobutadiene	18.6	2	20		93	70	130			
1,2,3-Trichlorobenzene	8.97	2	10		90	70	130			



Alpha Analytical, Inc.

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

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

Date:

28-Jul-11

QC Summary Report

Work Order:

11050403

Surr: 1,2-Dichloroethane-d4	9.27	10	93	70	130
Surr: Toluene-d8	10.1	10	101	70	130
Surr: 4-Bromofluorobenzene	10.1	10	101	70	130



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Work Order:
11050403

Date:
28-Jul-11

QC Summary Report

Sample Matrix Spike

File ID: 11050607.D

Sample ID: 11050403-06AMS

Analyte

Type: MS

Test Code: EPA Method SW8260B

Batch ID: MS15W0506M

Analysis Date: 05/06/2011 13:55

Prep Date: 05/06/2011 13:55

Units: µg/L

Run ID: MSD_15_110506A

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	35	2.5	50	0	70	21	138			
Chloromethane	39.9	10	50	0	80	23	144			
Vinyl chloride	51.6	2.5	50	0	103	49	136			
Chloroethane	45.2	2.5	50	0	90	21	159			
Bromomethane	57.7	10	50	0	115	10	174			
Trichlorofluoromethane	50.2	2.5	50	0	100	32	154			
Acetone	544	50	1000	0	54	10	171			
1,1-Dichloroethene	51.4	2.5	50	0	103	64	130			
Dichloromethane	47.2	10	50	0	94	69	130			
Freon-113	53.7	2.5	50	0	107	55	141			
trans-1,2-Dichloroethene	50.2	2.5	50	0	100	63	130			
Methyl tert-butyl ether (MTBE)	48.8	1.3	50	0	98	47	150			
1,1-Dichloroethane	48.4	2.5	50	0	97	66	130			
2-Butanone (MEK)	725	50	1000	0	73	23	182			
cis-1,2-Dichloroethene	48.8	2.5	50	0	98	70	130			
Bromochloromethane	48.9	2.5	50	0	98	70	132			
Chloroform	48.4	2.5	50	0	97	70	130			
2,2-Dichloropropane	46.6	2.5	50	0	93	38	154			
1,2-Dichloroethane	48.2	2.5	50	0	96	65	134			
1,1,1-Trichloroethane	48.4	2.5	50	0	97	65	136			
1,1-Dichloropropene	51.5	2.5	50	0	103	68	132			
Carbon tetrachloride	48.4	2.5	50	0	97	58	148			
Benzene	48.3	1.3	50	0	97	59	138			
Dibromomethane	48.1	2.5	50	0	96	70	130			
1,2-Dichloropropane	49.6	2.5	50	0	99	70	131			
Trichloroethene	48.3	2.5	50	0	97	65	144			
Bromodichloromethane	48.1	2.5	50	0	96	50	157			
4-Methyl-2-pentanone (MIBK)	119	13	125	0	95	20	182			
cis-1,3-Dichloropropene	46.9	2.5	50	0	94	63	131			
trans-1,3-Dichloropropene	45.9	2.5	50	0	92	65	136			
1,1,2-Trichloroethane	47.5	2.5	50	0	95	70	131			
Toluene	48.7	1.3	50	0	97	68	130			
1,3-Dichloropropane	48.3	2.5	50	0	97	70	130			
2-Hexanone	346	25	500	0	69	20	182			
Dibromochloromethane	45.7	2.5	50	0	91	42	155			
1,2-Dibromoethane (EDB)	98.3	5	100	0	98	70	130			
Tetrachloroethene	48.9	2.5	50	0	98	65	130			
1,1,1,2-Tetrachloroethane	46.4	2.5	50	0	93	70	130			
Chlorobenzene	48.2	2.5	50	0	96	70	130			
Ethylbenzene	48.3	1.3	50	0	97	68	130			
m,p-Xylene	49.9	1.3	50	0	99.8	68	131			
Bromoform	43.9	2.5	50	0	88	65	143			
Styrene	50	2.5	50	0	100	59	153			
o-Xylene	49.3	1.3	50	0	99	70	130			
1,1,2,2-Tetrachloroethane	47.2	2.5	50	0	94	67	130			
1,2,3-Trichloropropane	94.8	10	100	0	95	70	130			
Isopropylbenzene	46.3	2.5	50	0	93	55	138			
Bromobenzene	45.2	2.5	50	0	90	70	130			
n-Propylbenzene	47.3	2.5	50	0	95	67	133			
4-Chlorotoluene	46.7	2.5	50	0	93	70	130			
2-Chlorotoluene	45.7	2.5	50	0	91	70	130			
1,3,5-Trimethylbenzene	46.4	2.5	50	0	93	67	134			
tert-Butylbenzene	45.7	2.5	50	0	91	55	147			
1,2,4-Trimethylbenzene	46.3	2.5	50	0	93	65	135			
sec-Butylbenzene	48	2.5	50	0	96	68	135			
1,3-Dichlorobenzene	47.4	2.5	50	0	95	70	130			
1,4-Dichlorobenzene	44.3	2.5	50	0	89	70	130			
4-Isopropyltoluene	47	2.5	50	0	94	68	132			
1,2-Dichlorobenzene	44.8	2.5	50	0	90	70	130			
n-Butylbenzene	48.3	2.5	50	0	97	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	208	15	250	0	83	64	130			
1,2,4-Trichlorobenzene	46.5	10	50	0	93	62	133			
Naphthalene	42.2	10	50	0	84	32	166			
Hexachlorobutadiene	89.3	10	100	0	89	63	130			
1,2,3-Trichlorobenzene	44.1	10	50	0	88	55	138			



Alpha Analytical, Inc.

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Date:

28-Jul-11

QC Summary Report

Work Order:

11050403

Surr: 1,2-Dichloroethane-d4	49.8	50	99.6	70	130
Surr: Toluene-d8	50	50	100	70	130
Surr: 4-Bromofluorobenzene	48.2	50	96	70	130



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Date:
28-Jul-11

QC Summary Report

Work Order:
11050403

Sample Matrix Spike Duplicate

Type: MSD Test Code: EPA Method SW8260B

File ID: 11050608.D

Batch ID: MS15W0506M

Analysis Date: 05/06/2011 14:17

Sample ID: 11050403-06AMSD

Units: µg/L

Run ID: MSD_15_110506A

Prep Date: 05/06/2011 14:17

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDReVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	35.5	2.5	50	0	71	21	138	34.97	1.6(33)	
Chloromethane	42.6	10	50	0	85	23	144	39.94	6.5(27)	
Vinyl chloride	53.8	2.5	50	0	108	49	136	51.64	4.1(21)	
Chloroethane	46.4	2.5	50	0	93	21	159	45.21	2.5(40)	
Bromomethane	65.3	10	50	0	131	10	174	57.72	12.3(40)	
Trichlorofluoromethane	51.9	2.5	50	0	104	32	154	50.19	3.4(37)	
Acetone	564	50	1000	0	56	10	171	543.6	3.7(23)	
1,1-Dichloroethene	52.3	2.5	50	0	105	64	130	51.36	1.8(21)	
Dichloromethane	48.9	10	50	0	98	69	130	47.17	3.6(20)	
Freon-113	55	2.5	50	0	110	55	141	53.67	2.5(40)	
trans-1,2-Dichloroethene	52.2	2.5	50	0	104	63	130	50.21	3.9(20)	
Methyl tert-butyl ether (MTBE)	51.1	1.3	50	0	102	47	150	48.79	4.6(40)	
1,1-Dichloroethane	50.8	2.5	50	0	102	66	130	48.42	4.7(20)	
2-Butanone (MEK)	760	50	1000	0	76	23	182	725.1	4.7(22)	
cis-1,2-Dichloroethene	50.6	2.5	50	0	101	70	130	48.84	3.4(20)	
Bromochloromethane	51.7	2.5	50	0	103	70	132	48.88	5.6(20)	
Chloroform	50	2.5	50	0	99.9	70	130	48.4	3.2(20)	
2,2-Dichloropropane	49.1	2.5	50	0	98	38	154	46.6	5.1(22)	
1,2-Dichloroethane	49.5	2.5	50	0	99	65	134	48.24	2.6(20)	
1,1,1-Trichloroethane	49.8	2.5	50	0	99.6	65	136	48.43	2.8(20)	
1,1-Dichloropropene	53	2.5	50	0	106	68	132	51.46	2.9(20)	
Carbon tetrachloride	52	2.5	50	0	104	58	148	48.39	7.3(20)	
Benzene	49.9	1.3	50	0	99.9	59	138	48.32	3.3(21)	
Dibromomethane	49.8	2.5	50	0	99.6	70	130	48.14	3.4(20)	
1,2-Dichloropropane	51	2.5	50	0	102	70	131	49.64	2.8(20)	
Trichloroethene	49.7	2.5	50	0	99	65	144	48.3	2.8(20)	
Bromodichloromethane	50.1	2.5	50	0	100	50	157	48.14	4.0(20)	
4-Methyl-2-pentanone (MIBK)	123	13	125	0	98	20	182	118.8	3.5(20)	
cis-1,3-Dichloropropene	50	2.5	50	0	100	63	131	46.86	6.5(20)	
trans-1,3-Dichloropropene	47.8	2.5	50	0	96	65	136	45.86	4.1(20)	
1,1,2-Trichloroethane	49.8	2.5	50	0	99.7	70	131	47.49	4.8(20)	
Toluene	49.5	1.3	50	0	99	68	130	48.65	1.8(20)	
1,3-Dichloropropane	49	2.5	50	0	98	70	130	48.28	1.5(20)	
2-Hexanone	352	25	500	0	70	20	182	345.7	1.8(20)	
Dibromochloromethane	47.3	2.5	50	0	95	42	155	45.7	3.4(20)	
1,2-Dibromoethane (EDB)	101	5	100	0	101	70	130	98.31	2.4(20)	
Tetrachloroethene	49.8	2.5	50	0	99.6	65	130	48.9	1.8(20)	
1,1,1,2-Tetrachloroethane	48.3	2.5	50	0	97	70	130	46.44	3.9(20)	
Chlorobenzene	49.3	2.5	50	0	99	70	130	48.19	2.3(20)	
Ethylbenzene	49.2	1.3	50	0	98	68	130	48.3	1.9(20)	
m,p-Xylene	51.2	1.3	50	0	102	68	131	49.89	2.6(20)	
Bromoform	45.7	2.5	50	0	91	65	143	43.88	4.1(20)	
Styrene	51.3	2.5	50	0	103	59	153	49.99	2.5(37)	
o-Xylene	50.5	1.3	50	0	101	70	130	49.27	2.4(20)	
1,1,2,2-Tetrachloroethane	48	2.5	50	0	96	67	130	47.22	1.6(20)	
1,2,3-Trichloropropane	96.9	10	100	0	97	70	130	94.81	2.2(20)	
Isopropylbenzene	48.8	2.5	50	0	98	55	138	46.27	5.3(20)	
Bromobenzene	47.8	2.5	50	0	96	70	130	45.2	5.5(20)	
n-Propylbenzene	50	2.5	50	0	100	67	133	47.34	5.5(30)	
4-Chlorotoluene	50.4	2.5	50	0	101	70	130	46.68	7.7(20)	
2-Chlorotoluene	48.6	2.5	50	0	97	70	130	45.71	6.1(20)	
1,3,5-Trimethylbenzene	48.9	2.5	50	0	98	67	134	46.38	5.3(21)	
tert-Butylbenzene	49.1	2.5	50	0	98	55	147	45.73	7.2(20)	
1,2,4-Trimethylbenzene	48.5	2.5	50	0	97	65	135	46.28	4.7(25)	
sec-Butylbenzene	50.2	2.5	50	0	100	68	135	48.01	4.5(20)	
1,3-Dichlorobenzene	49.7	2.5	50	0	99	70	130	47.41	4.7(20)	
1,4-Dichlorobenzene	47.1	2.5	50	0	94	70	130	44.26	6.2(20)	
4-Isopropyltoluene	49.6	2.5	50	0	99	68	132	47.01	5.4(20)	
1,2-Dichlorobenzene	47.4	2.5	50	0	95	70	130	44.78	5.6(20)	
n-Butylbenzene	51.7	2.5	50	0	103	62	134	48.31	6.7(21)	
1,2-Dibromo-3-chloropropane (DBCP)	219	15	250	0	88	64	130	208.1	5.3(20)	
1,2,4-Trichlorobenzene	49	10	50	0	98	62	133	46.53	5.1(29)	
Naphthalene	44.6	10	50	0	89	32	166	42.16	5.7(40)	
Hexachlorobutadiene	96	10	100	0	96	63	130	89.33	7.2(21)	
1,2,3-Trichlorobenzene	47.8	10	50	0	96	55	138	44.14	8.0(36)	



Alpha Analytical, Inc.

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Date:
28-Jul-11

QC Summary Report

Work Order:
11050403

Surr: 1,2-Dichloroethane-d4	48.9	50	98	70	130
Surr: Toluene-d8	49.4	50	99	70	130
Surr: 4-Bromofluorobenzene	49.3	50	99	70	130

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA AMENDED

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

WorkOrder : BMIS11050403
Report Due By : 5:00 PM On : 18-May-2011

Client: Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013
 Client's COC # : 53571, 25558

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

Job : G005862/JPL Groundwater Monitoring
 QC Level : DSA = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates
 Cooler Temp 0 °C Samples Received 04-May-2011 Date Printed 22-Jul-2011

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub TAT	Requested Tests		PH_w	TDS_w	VOC_TIC_w	VOC_w	Sample Remarks				
				300_0_w	314_w									
BM11050403-02A	MW-23-5	05/03/11 07:38	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria + Additional TICs	VOC by 524 Criteria	Level IV QC
BM11050403-03A	MW-23-4	05/03/11 08:11	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050403-04A	MW-23-3	05/03/11 08:43	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050403-05A	MW-23-2	05/03/11 09:11	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050403-06A	MW-23-1	05/03/11 09:44	10	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD
BM11050403-07A	EB-6-5/3/11	05/03/11 09:31	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11050403-08A	TB-6-5/3/11	05/03/11 00:00	1	0	10									Reno Trip Blank 4/6/11

Comments: No security seals. Frozen ice. Temp Blank #9136 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E. MS/MSD). Amended 7/22/11. Per email from David Conner via Reyna added additional TICs: 1,1-Dichloropropane, Hexachloroethane, Nitrobenzene, and Propionitrile to sample -01A. EA

Logged in by: Empbath Adcox Elizabeth Adcox
 Signature Print Name Company Alpha Analytical, Inc. Date/Time 7/22/11 1610

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-Tredlar 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 : BMIS11050403
Report Due By : 5:00 PM On : 18-May-2011

Client: Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013
 Client's COC # : 53571, 25558

Report Attention Phone Number Email Address
 David Connor (619) 726-7311 x connerd@battelle.org
 Betsy Cutie (614) 424-4899 x cutiee@battelle.org
 Shane Walton (614) 424-4117 x waltonsb@battelle.org

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

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub TAT	Requested Tests										Sample Remarks
				300_0_W	314_W	ALKALINITY_W	METALS_D_W	PH_W	TDS_W	VOC_TIC_W	VOC_W			
BM11050403-01A	NW-10	05/03/11 10:24	6 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria			
BM11050403-02A	NW-23-5	05/03/11 07:38	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria		Level IV QC	
BM11050403-03A	NW-23-4	05/03/11 08:11	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria			
BM11050403-04A	NW-23-3	05/03/11 08:43	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria			
BM11050403-05A	NW-23-2	05/03/11 09:11	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria			
BM11050403-06A	NW-23-1	05/03/11 09:44	10 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria		MS/MSD	
BM11050403-07A	EB-6-5/3/11	05/03/11 09:31	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria			
BM11050403-08A	TB-6-5/3/11	05/03/11 00:00	1 0 10							VOC by 524 Criteria	VOC by 524 Criteria		Reno Trip Blank 4/6/11	

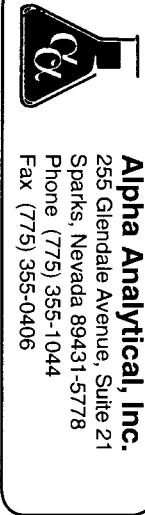
Comments: No security seals. Frozen ice. Temp Blank #9136 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E. MS/MSD).

Logged in by: Empath Adcox Elizabeth Adcox Alpha Analytical, Inc. 5-4-11 1031

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:

Company Name: Battelle
Attn: David Conner
Address: 505 King Ave
City, State, Zip: Columbus OH 43201
Phone Number: 619 726-7311 Fax 614 458-0641



53571

Samples Collected From Which State?
AZ CA NV WA OR OTHER

Page # 1 of 1

Consultant / Client Name: David Conner

Address: [Blank]

City, State, Zip: [Blank]

Job # 5005862 / 502 644

Job Name

Report Attention / Project Manager

Name: David Conner
Email: connerd@battelle.org
Phone: 619 726-7311
Mobile: 614 458-0641

Time Sampled	Date	Matrix* See key Below	PO # 218013	Lab ID Number (Use Only)	Office (Use Only)
1024	5/11	AQ	3MT1105040301	14W-10	

						TAT	Field Filtered	# Containers**											

ADDITIONAL INSTRUCTIONS: *As, Pb, Ca, Mg, K, Na, Fe **Chloride, Nitrate, Nitrite, Orthophosphate, Sulfate, peroxide, Alkalinity

Analyses Required
VOC's (524.2)
Total Cr (200.8)
*Cations
**Anions
pH (150.2)
TDS (542540C)
Bicarbonate Carbonate

Data Validation Level: III or IV

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

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled By: David Loera


Relinquished by: (Signature/Affiliation) David R Battelle Received by: (Signature/Affiliation) _____ Date: _____ Time: _____

Relinquished by: (Signature/Affiliation) _____ Received by: (Signature/Affiliation) Janabeth Odcox / Odexa Date: 5.4.11 Time: 1031

Relinquished by: (Signature/Affiliation) _____ Received by: (Signature/Affiliation) _____ Date: _____ Time: _____

Billing Information:

Name BUTTLE / 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 States?
 AZ CA NV WA
 ID OR OTHER
 Page # 1 of 1

Analyses Required

VOC'S (524.2)
 LEAD, ARSENIC, TOTAL CR (200.8)
 Cd, Hg, Ni, K, Cr, Mn, Fe (314.0)
 Co, Hg, Pb, TDS, PH, ALKALINITY (200.8)
 CI-, NO3-, NO2-, SO4- (300.0)

Required QC Level?
 I II III IV

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number	Office (Use City)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Analyses Required											REMARKS			
738	5/11/11	AQ				DAVID CONNER	MW - 23 - 5			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IV QC
811							MW - 23 - 4			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
843							MW - 23 - 3			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
911							MW - 23 - 2			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
944							MW - 23 - 1			10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	M/S/M/S/D
931							EB - 6 - 5/3/11			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GROUP BLANK
-							08 TB - 6 - 5/3/11			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TRIP BLANK

ADDITIONAL INSTRUCTIONS:

Relinquished by	Signature	Print Name	Company	Date	Time
Received by	<i>[Signature]</i>	MARCO MENDOZA	ALPHA	5/3/11	1428
Relinquished by	<i>[Signature]</i>	ELIZABETH ADOR	ALPHA	5-7-11	1031
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.

Reyna Vallejo

From: Conner, David J [ConnerD@battelle.org]
Sent: Tuesday, July 19, 2011 1:40 PM
To: Reyna Vallejo
Cc: Walton, Shane S
Subject: RE: BMI11042907 JPL GROUNDWATER MONITORING-REVISED PDF FILE

all spec
8260
also all spec
8260
AL=10
AL=10
ok, all spectrum
RL=10
C₃H₅N
C₃H₄Cl₂

Reyna:
Thanks for the data. Is there data reported for 1,1-Dichloropropanone, Hexachloroethane, Nitrobenzene, and Propionitrile?
C₃H₅N - ? (also called ethyl cyanide) or propanenitrile

In addition to the data that you've supplied, can you provide the same data for the following sample locations:

- MW-3-2 (BMI 11051102-04)
- MW-10 (BMI 11050403-01)
- MW-17-3 (BMI 11051304-03)
- MW-18-4 (BMI 11051702-02)
- MW-19-2 (BMI 11051205-04)

Thank you,

David Conner, P.G. 8868
Battelle
Mobile: 619-726-7311

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From: Reyna Vallejo [mailto:reyna@alpha-analytical.com]
Sent: Tuesday, July 19, 2011 2:56 PM
To: Conner, David J; Walton, Shane S
Subject: BMI11042907 JPL GROUNDWATER MONITORING-REVISED PDF FILE

Please find the attached PDF file. Sorry for the delay!

Alpha Analytical, Inc. appreciates your business. If you have any questions regarding the electronic report, please contact Client Services by phone at (800)283-1183 or by e-mail at reyna@alpha-analytical.com.

The information contained in this communication is confidential and intended only for the use of the individual or entity named above. Any other use, dissemination, distribution, or copying of this communication is prohibited. If you have received this communication in error, please notify us and return the original message.



Alpha Analytical, Inc.

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

Date: 10-May-11

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11050501

Cooler Temp: 1 °C

Alpha's Sample ID	Client's Sample ID	Matrix
11050501-01A	MW-11-5	Aqueous
11050501-02A	MW-11-4	Aqueous
11050501-03A	MW-11-3	Aqueous
11050501-04A	MW-11-2	Aqueous
11050501-05A	MW-11-1	Aqueous
11050501-06A	EB-7-5/4/11	Aqueous
11050501-07A	TB-7-5/4/11	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
NONE		

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

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

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

Roger Scholl *Randy Gardner* *Walter Hinchman*

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

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

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



Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/05/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-11-5				
Lab ID : BM111050501-01A	Chloride	11	0.50 mg/L	05/05/11 11:16 05/05/11 12:13
Date Sampled 05/04/11 08:10	Nitrite (NO2) - N	ND	0.25 mg/L	05/05/11 11:16 05/05/11 12:13
	Nitrate (NO3) - N	ND	0.25 mg/L	05/05/11 11:16 05/05/11 12:13
	Phosphate, ortho - P	ND	0.50 mg/L	05/05/11 11:16 05/05/11 12:13
	Sulfate (SO4)	17	0.50 mg/L	05/05/11 11:16 05/05/11 12:13
Client ID: MW-11-4				
Lab ID : BM111050501-02A	Chloride	11	0.50 mg/L	05/05/11 11:16 05/05/11 13:09
Date Sampled 05/04/11 08:45	Nitrite (NO2) - N	ND	0.25 mg/L	05/05/11 11:16 05/05/11 13:09
	Nitrate (NO3) - N	ND	0.25 mg/L	05/05/11 11:16 05/05/11 13:09
	Phosphate, ortho - P	ND	0.50 mg/L	05/05/11 11:16 05/05/11 13:09
	Sulfate (SO4)	ND	0.50 mg/L	05/05/11 11:16 05/05/11 13:09
Client ID: MW-11-3				
Lab ID : BM111050501-03A	Chloride	11	0.50 mg/L	05/05/11 11:16 05/05/11 13:27
Date Sampled 05/04/11 09:25	Nitrite (NO2) - N	ND	0.25 mg/L	05/05/11 11:16 05/05/11 13:27
	Nitrate (NO3) - N	ND	0.25 mg/L	05/05/11 11:16 05/05/11 13:27
	Phosphate, ortho - P	ND	0.50 mg/L	05/05/11 11:16 05/05/11 13:27
	Sulfate (SO4)	15	0.50 mg/L	05/05/11 11:16 05/05/11 13:27
Client ID: MW-11-2				
Lab ID : BM111050501-04A	Chloride	16	0.50 mg/L	05/05/11 11:16 05/05/11 13:46
Date Sampled 05/04/11 09:58	Nitrite (NO2) - N	ND	0.25 mg/L	05/05/11 11:16 05/05/11 13:46
	Nitrate (NO3) - N	ND	0.25 mg/L	05/05/11 11:16 05/05/11 13:46
	Phosphate, ortho - P	ND	0.50 mg/L	05/05/11 11:16 05/05/11 13:46
	Sulfate (SO4)	36	0.50 mg/L	05/05/11 11:16 05/05/11 13:46
Client ID: MW-11-1				
Lab ID : BM111050501-05A	Chloride	24	0.50 mg/L	05/05/11 11:16 05/05/11 14:04
Date Sampled 05/04/11 10:44	Nitrite (NO2) - N	ND	0.25 mg/L	05/05/11 11:16 05/05/11 14:04
	Nitrate (NO3) - N	0.86	0.25 mg/L	05/05/11 11:16 05/05/11 14:04
	Phosphate, ortho - P	ND	0.50 mg/L	05/05/11 11:16 05/05/11 14:04
	Sulfate (SO4)	51	0.50 mg/L	05/05/11 11:16 05/05/11 14:04
Client ID: EB-7-5/4/11				
Lab ID : BM111050501-06A	Chloride	ND	0.50 mg/L	05/05/11 11:16 05/05/11 14:23
Date Sampled 05/04/11 10:25	Nitrite (NO2) - N	ND	0.25 mg/L	05/05/11 11:16 05/05/11 14:23
	Nitrate (NO3) - N	ND	0.25 mg/L	05/05/11 11:16 05/05/11 14:23
	Phosphate, ortho - P	ND	0.50 mg/L	05/05/11 11:16 05/05/11 14:23
	Sulfate (SO4)	ND	0.50 mg/L	05/05/11 11:16 05/05/11 14:23



Alpha Analytical, Inc.

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

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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

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

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

e
5/17/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/05/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-11-5				
Lab ID: BM111050501-01A Perchlorate	ND	1.00 µg/L	05/06/11 10:35	05/06/11 13:40
Date Sampled 05/04/11 08:10				
Client ID: MW-11-4				
Lab ID: BM111050501-02A Perchlorate	ND	1.00 µg/L	05/06/11 10:35	05/06/11 13:58
Date Sampled 05/04/11 08:45				
Client ID: MW-11-3				
Lab ID: BM111050501-03A Perchlorate	1.68	1.00 µg/L	05/06/11 10:35	05/06/11 14:17
Date Sampled 05/04/11 09:25				
Client ID: MW-11-2				
Lab ID: BM111050501-04A Perchlorate	ND	1.00 µg/L	05/06/11 10:35	05/06/11 14:35
Date Sampled 05/04/11 09:58				
Client ID: MW-11-1				
Lab ID: BM111050501-05A Perchlorate	ND	1.00 µg/L	05/06/11 10:35	05/06/11 14:53
Date Sampled 05/04/11 10:44				
Client ID: EB-7-5/4/11				
Lab ID: BM111050501-06A Perchlorate	ND	1.00 µg/L	05/06/11 10:35	05/06/11 15:12
Date Sampled 05/04/11 10:25				

ND = Not Detected

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

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

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

5/17/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/05/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-11-5				
Lab ID : BM111050501-01A	Alkalinity, Bicarbonate (As CaCO ₃)	140	10 mg/L	05/05/11 17:29 05/05/11 17:29
Date Sampled 05/04/11 08:10	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/05/11 17:29 05/05/11 17:29
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	140	10 mg/L	05/05/11 17:29 05/05/11 17:29
Client ID: MW-11-4				
Lab ID : BM111050501-02A	Alkalinity, Bicarbonate (As CaCO ₃)	26	10 mg/L	05/05/11 17:35 05/05/11 17:35
Date Sampled 05/04/11 08:45	Alkalinity, Carbonate (As CaCO ₃)	72	10 mg/L	05/05/11 17:35 05/05/11 17:35
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	98	10 mg/L	05/05/11 17:35 05/05/11 17:35
Client ID: MW-11-3				
Lab ID : BM111050501-03A	Alkalinity, Bicarbonate (As CaCO ₃)	150	10 mg/L	05/05/11 17:39 05/05/11 17:39
Date Sampled 05/04/11 09:25	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/05/11 17:39 05/05/11 17:39
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	150	10 mg/L	05/05/11 17:39 05/05/11 17:39
Client ID: MW-11-2				
Lab ID : BM111050501-04A	Alkalinity, Bicarbonate (As CaCO ₃)	200	10 mg/L	05/05/11 17:42 05/05/11 17:42
Date Sampled 05/04/11 09:58	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/05/11 17:42 05/05/11 17:42
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	200	10 mg/L	05/05/11 17:42 05/05/11 17:42
Client ID: MW-11-1				
Lab ID : BM111050501-05A	Alkalinity, Bicarbonate (As CaCO ₃)	210	10 mg/L	05/05/11 17:47 05/05/11 17:47
Date Sampled 05/04/11 10:44	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/05/11 17:47 05/05/11 17:47
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	210	10 mg/L	05/05/11 17:47 05/05/11 17:47
Client ID: EB-7-5/4/11				
Lab ID : BM111050501-06A	Alkalinity, Bicarbonate (As CaCO ₃)	ND	10 mg/L	05/05/11 17:58 05/05/11 17:58
Date Sampled 05/04/11 10:25	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/05/11 17:58 05/05/11 17:58
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	ND	10 mg/L	05/05/11 17:58 05/05/11 17:58

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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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✓
5/17/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/05/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-11-5				
Lab ID : BM111050501-01A	Sodium (Na)	52	0.50 mg/L	05/06/11 14:27 05/07/11 20:06
Date Sampled 05/04/11 08:10	Magnesium (Mg)	2.4	0.50 mg/L	05/06/11 14:27 05/07/11 20:06
	Potassium (K)	0.98	0.50 mg/L	05/06/11 14:27 05/07/11 20:06
	Calcium (Ca)	22	0.50 mg/L	05/06/11 14:27 05/07/11 20:06
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 20:06
	Iron (Fe)	0.38	0.30 mg/L	05/06/11 14:27 05/07/11 20:06
	Arsenic (As)	0.0062	0.0020 mg/L	05/06/11 14:27 05/07/11 20:06
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 20:06
Client ID: MW-11-4				
Lab ID : BM111050501-02A	Sodium (Na)	28	0.50 mg/L	05/06/11 14:27 05/07/11 20:12
Date Sampled 05/04/11 08:45	Magnesium (Mg)	7.4	0.50 mg/L	05/06/11 14:27 05/07/11 20:12
	Potassium (K)	1.7	0.50 mg/L	05/06/11 14:27 05/07/11 20:12
	Calcium (Ca)	7.6	0.50 mg/L	05/06/11 14:27 05/07/11 20:12
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 20:12
	Iron (Fe)	ND	0.30 mg/L	05/06/11 14:27 05/07/11 20:12
	Arsenic (As)	ND	0.0020 mg/L	05/06/11 14:27 05/07/11 20:12
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 20:12
Client ID: MW-11-3				
Lab ID : BM111050501-03A	Sodium (Na)	27	0.50 mg/L	05/06/11 14:27 05/07/11 20:39
Date Sampled 05/04/11 09:25	Magnesium (Mg)	11	0.50 mg/L	05/06/11 14:27 05/07/11 20:39
	Potassium (K)	1.8	0.50 mg/L	05/06/11 14:27 05/07/11 20:39
	Calcium (Ca)	31	0.50 mg/L	05/06/11 14:27 05/07/11 20:39
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 20:39
	Iron (Fe)	0.38	0.30 mg/L	05/06/11 14:27 05/07/11 20:39
	Arsenic (As)	ND	0.0020 mg/L	05/06/11 14:27 05/07/11 20:39
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 20:39
Client ID: MW-11-2				
Lab ID : BM111050501-04A	Sodium (Na)	26	0.50 mg/L	05/06/11 14:27 05/07/11 20:45
Date Sampled 05/04/11 09:58	Magnesium (Mg)	19	0.50 mg/L	05/06/11 14:27 05/07/11 20:45
	Potassium (K)	2.9	0.50 mg/L	05/06/11 14:27 05/07/11 20:45
	Calcium (Ca)	57	0.50 mg/L	05/06/11 14:27 05/07/11 20:45
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 20:45
	Iron (Fe)	0.62	0.30 mg/L	05/06/11 14:27 05/07/11 20:45
	Arsenic (As)	ND	0.0020 mg/L	05/06/11 14:27 05/07/11 20:45
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 20:45



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Client ID: MW-11-1

Lab ID : BMI11050501-05A	Sodium (Na)	29	0.50 mg/L	05/06/11 14:27	05/07/11 20:50
Date Sampled 05/04/11 10:44	Magnesium (Mg)	21	0.50 mg/L	05/06/11 14:27	05/07/11 20:50
	Potassium (K)	3.0	0.50 mg/L	05/06/11 14:27	05/07/11 20:50
	Calcium (Ca)	65	0.50 mg/L	05/06/11 14:27	05/07/11 20:50
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27	05/07/11 20:50
	Iron (Fe)	ND	0.30 mg/L	05/06/11 14:27	05/07/11 20:50
	Arsenic (As)	ND	0.0020 mg/L	05/06/11 14:27	05/07/11 20:50
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27	05/07/11 20:50

Client ID: EB-7-5/4/11

Lab ID : BMI11050501-06A	Sodium (Na)	ND	0.50 mg/L	05/06/11 14:27	05/07/11 20:56
Date Sampled 05/04/11 10:25	Magnesium (Mg)	ND	0.50 mg/L	05/06/11 14:27	05/07/11 20:56
	Potassium (K)	ND	0.50 mg/L	05/06/11 14:27	05/07/11 20:56
	Calcium (Ca)	ND	0.50 mg/L	05/06/11 14:27	05/07/11 20:56
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27	05/07/11 20:56
	Iron (Fe)	ND	0.30 mg/L	05/06/11 14:27	05/07/11 20:56
	Arsenic (As)	ND	0.0020 mg/L	05/06/11 14:27	05/07/11 20:56
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27	05/07/11 20:56

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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5/17/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/05/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-11-5				
Lab ID : BMI11050501-01A pH	8.3	1.7 pH Units	05/05/11 16:43	05/05/11 16:43
Date Sampled 05/04/11 08:10 pH - Temperature	20	1.0 °C	05/05/11 16:43	05/05/11 16:43
Client ID: MW-11-4				
Lab ID : BMI11050501-02A pH	9.4	1.7 pH Units	05/05/11 16:46	05/05/11 16:46
Date Sampled 05/04/11 08:45 pH - Temperature	20	1.0 °C	05/05/11 16:46	05/05/11 16:46
Client ID: MW-11-3				
Lab ID : BMI11050501-03A pH	8.5	1.7 pH Units	05/05/11 16:51	05/05/11 16:51
Date Sampled 05/04/11 09:25 pH - Temperature	20	1.0 °C	05/05/11 16:51	05/05/11 16:51
Client ID: MW-11-2				
Lab ID : BMI11050501-04A pH	8.1	1.7 pH Units	05/05/11 16:53	05/05/11 16:53
Date Sampled 05/04/11 09:58 pH - Temperature	20	1.0 °C	05/05/11 16:53	05/05/11 16:53
Client ID: MW-11-1				
Lab ID : BMI11050501-05A pH	7.9	1.7 pH Units	05/05/11 16:56	05/05/11 16:56
Date Sampled 05/04/11 10:44 pH - Temperature	20	1.0 °C	05/05/11 16:56	05/05/11 16:56
Client ID: EB-7-5/4/11				
Lab ID : BMI11050501-06A pH	6.6	1.7 pH Units	05/05/11 17:02	05/05/11 17:02
Date Sampled 05/04/11 10:25 pH - Temperature	20	1.0 °C	05/05/11 17:02	05/05/11 17:02

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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5/17/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/05/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)
SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-11-5				
Lab ID : BM111050501-01A Solids, Total Dissolved (TDS)	190	10 mg/L	05/12/11	05/12/11
Date Sampled 05/04/11 08:10				
Client ID: MW-11-4				
Lab ID : BM111050501-02A Solids, Total Dissolved (TDS)	97	10 mg/L	05/12/11	05/12/11
Date Sampled 05/04/11 08:45				
Client ID: MW-11-3				
Lab ID : BM111050501-03A Solids, Total Dissolved (TDS)	190	10 mg/L	05/12/11	05/12/11
Date Sampled 05/04/11 09:25				
Client ID: MW-11-2				
Lab ID : BM111050501-04A Solids, Total Dissolved (TDS)	300	10 mg/L	05/12/11	05/12/11
Date Sampled 05/04/11 09:58				
Client ID: MW-11-1				
Lab ID : BM111050501-05A Solids, Total Dissolved (TDS)	330	10 mg/L	05/12/11	05/12/11
Date Sampled 05/04/11 10:44				
Client ID: EB-7-5/4/11				
Lab ID : BM111050501-06A Solids, Total Dissolved (TDS)	ND	10 mg/L	05/12/11	05/12/11
Date Sampled 05/04/11 10:25				

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID : MW-11-5 Lab ID : BMI11050501-01A Date Received : 05/05/11 Date Sampled : 05/04/11 08:10	Sulfur dioxide	2.5	2.0 µg/L	05/09/11 12:58 05/09/11 12:58
Client ID : MW-11-4 Lab ID : BMI11050501-02A Date Received : 05/05/11 Date Sampled : 05/04/11 08:45	Sulfur dioxide	4.8	2.0 µg/L	05/09/11 13:19 05/09/11 13:19
Client ID : MW-11-3 Lab ID : BMI11050501-03A Date Received : 05/05/11 Date Sampled : 05/04/11 09:25	Sulfur dioxide	25	2.0 µg/L	05/09/11 13:41 05/09/11 13:41
Client ID : MW-11-2 Lab ID : BMI11050501-04A Date Received : 05/05/11 Date Sampled : 05/04/11 09:58	Sulfur dioxide	7.2	2.0 µg/L	05/09/11 14:02 05/09/11 14:02
Client ID : MW-11-1 Lab ID : BMI11050501-05A Date Received : 05/05/11 Date Sampled : 05/04/11 10:44	Sulfur dioxide	3.0	2.0 µg/L	05/09/11 14:24 05/09/11 14:24
Client ID : EB-7-5/4/11 Lab ID : BMI11050501-06A Date Received : 05/05/11 Date Sampled : 05/04/11 10:25	*** None Found ***	ND	2.0 µg/L	05/09/11 12:36 05/09/11 12:36
Client ID : TB-7-5/4/11 Lab ID : BMI11050501-07A Date Received : 05/05/11 Date Sampled : 05/04/11 00:00	*** None Found ***	ND	2.0 µg/L	05/09/11 12:14 05/09/11 12:14



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Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
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5/17/11

Report Date

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050501-01A
Client I.D. Number: MW-11-5

Sampled: 05/04/11 08:10
Received: 05/05/11
Extracted: 05/09/11 12:58
Analyzed: 05/09/11 12:58

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-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	99	(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.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/17/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050501-02A
Client I.D. Number: MW-11-4

Sampled: 05/04/11 08:45
Received: 05/05/11
Extracted: 05/09/11 13:19
Analyzed: 05/09/11 13:19

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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5/17/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050501-03A
Client I.D. Number: MW-11-3

Sampled: 05/04/11 09:25
Received: 05/05/11
Extracted: 05/09/11 13:41
Analyzed: 05/09/11 13:41

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-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 Trichloroethane	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	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	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 Tetrachloroethane	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050501-04A
Client I.D. Number: MW-11-2

Sampled: 05/04/11 09:58
Received: 05/05/11
Extracted: 05/09/11 14:02
Analyzed: 05/09/11 14:02

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-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	101	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	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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5/17/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050501-05A
Client I.D. Number: MW-11-1

Sampled: 05/04/11 10:44
Received: 05/05/11
Extracted: 05/09/11 14:24
Analyzed: 05/09/11 14:24

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-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	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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

5/17/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050501-06A
Client I.D. Number: EB-7-5/4/11

Sampled: 05/04/11 10:25
Received: 05/05/11
Extracted: 05/09/11 12:36
Analyzed: 05/09/11 12:36

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-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	99	(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.

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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JSL

5/17/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050501-07A
Client I.D. Number: TB-7-5/4/11

Sampled: 05/04/11 00:00
Received: 05/05/11
Extracted: 05/09/11 12:14
Analyzed: 05/09/11 12:14

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	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	98	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	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 certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

5/17/11

Report Date



Alpha Analytical, Inc.

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

VOC Sample Preservation Report

Work Order: BMI11050501

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11050501-01A	MW-11-5	Aqueous	2
11050501-02A	MW-11-4	Aqueous	2
11050501-03A	MW-11-3	Aqueous	2
11050501-04A	MW-11-2	Aqueous	2
11050501-05A	MW-11-1	Aqueous	2
11050501-06A	EB-7-5/4/11	Aqueous	2
11050501-07A	TB-7-5/4/11	Aqueous	2

5/17/11
Report Date



Alpha Analytical, Inc.

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Date:

10-May-11

QC Summary Report

Work Order:

11050501

Method Blank

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

File ID: **20**

Batch ID: **26469**

Analysis Date: **05/05/2011 11:18**

Sample ID: **MB-26469**

Units : **mg/L**

Run ID: **IC_1_110505A**

Prep Date: **05/05/2011 11:16**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

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

File ID: **21**

Batch ID: **26469**

Analysis Date: **05/05/2011 11:36**

Sample ID: **LFB-26469**

Units : **mg/L**

Run ID: **IC_1_110505A**

Prep Date: **05/05/2011 11:16**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	47.9	0.5	50		96	90	110			
Nitrite (NO2) - N	4.93	0.25	5		99	90	110			
Nitrate (NO3) - N	5.11	0.25	5		102	90	110			
Phosphate, ortho - P	5.26	0.5	5		105	90	110			
Sulfate (SO4)	100	0.5	100		100	90	110			

Sample Matrix Spike

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

File ID: **24**

Batch ID: **26469**

Analysis Date: **05/05/2011 12:32**

Sample ID: **11050501-01ALFM**

Units : **mg/L**

Run ID: **IC_1_110505A**

Prep Date: **05/05/2011 11:16**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	107	0.5	100	10.67	96	80	120			
Nitrite (NO2) - N	9.42	0.25	10	0	94	80	120			
Nitrate (NO3) - N	10.2	0.25	10	0	102	80	120			
Phosphate, ortho - P	11.7	0.5	10	0	117	80	120			
Sulfate (SO4)	198	0.5	200	17.43	90	80	120			

Sample Matrix Spike Duplicate

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

File ID: **25**

Batch ID: **26469**

Analysis Date: **05/05/2011 12:50**

Sample ID: **11050501-01ALFMD**

Units : **mg/L**

Run ID: **IC_1_110505A**

Prep Date: **05/05/2011 11:16**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	108	0.5	100	10.67	98	80	120	106.8	1.3(15)	
Nitrite (NO2) - N	9.84	0.25	10	0	98	80	120	9.415	4.4(15)	
Nitrate (NO3) - N	10.2	0.25	10	0	102	80	120	10.16	0.2(15)	
Phosphate, ortho - P	11.8	0.5	10	0	118	80	120	11.75	0.1(15)	
Sulfate (SO4)	201	0.5	200	17.43	92	80	120	198.3	1.3(15)	

Comments:

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



Alpha Analytical, Inc.

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Date:
10-May-11

QC Summary Report

Work Order:
11050501

Method Blank		Type	Test Code: EPA Method 314.0							
File ID: 14			Batch ID: 26478				Analysis Date: 05/06/2011 11:31			
Sample ID: MB-26478	Units : $\mu\text{g/L}$		Run ID: IC_3_110506A				Prep Date: 05/06/2011 10:35			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND		1							

Laboratory Fortified Blank		Type	Test Code: EPA Method 314.0							
File ID: 15			Batch ID: 26478				Analysis Date: 05/06/2011 11:49			
Sample ID: LFB-26478	Units : $\mu\text{g/L}$		Run ID: IC_3_110506A				Prep Date: 05/06/2011 10:35			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	23.2	2	25		93	85	115			

Sample Matrix Spike		Type	Test Code: EPA Method 314.0							
File ID: 30			Batch ID: 26478				Analysis Date: 05/06/2011 16:25			
Sample ID: 11050604-01ALFM	Units : $\mu\text{g/L}$		Run ID: IC_3_110506A				Prep Date: 05/06/2011 10:35			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.7	2	25	2.396	89	80	120			

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 314.0							
File ID: 31			Batch ID: 26478				Analysis Date: 05/06/2011 16:44			
Sample ID: 11050604-01ALFMD	Units : $\mu\text{g/L}$		Run ID: IC_3_110506A				Prep Date: 05/06/2011 10:35			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	26.3	2	25	2.396	96	80	120	24.72	6.2(15)	

Comments:

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



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Date:
10-May-11

QC Summary Report

Work Order:
11050501

Laboratory Control Spike

Type **LCS**

Test Code: **SM2320B**

File ID:

Batch ID: **W0505ALA**

Analysis Date: **05/05/2011 16:30**

Sample ID: **LCS-W0505ALA**

Units : **mg/L**

Run ID: **WETLAB_110505F**

Prep Date: **05/05/2011 16:30**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO ₃)	252.4	10	250		101	80	120			
Alkalinity, Carbonate (As CaCO ₃)	252.4	10	250		101	80	120			
Alkalinity, Total (As CaCO ₃ at pH 4.5)	252	10	250		101	80	120			

Comments:

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



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QC Summary Report

Date:
11-May-11

Work Order:
11050501

Method Blank

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

File ID: **050711.B\076_M.D**

Batch ID: **26488**

Analysis Date: **05/07/2011 18:31**

Sample ID: **MB-26488**

Units : **mg/L**

Run ID: **ICP/MS_110507B**

Prep Date: **05/06/2011 14:27**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

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

File ID: **050711.B\077_M1.D**

Batch ID: **26488**

Analysis Date: **05/07/2011 18:37**

Sample ID: **LCS-26488**

Units : **mg/L**

Run ID: **ICP/MS_110507B**

Prep Date: **05/06/2011 14:27**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	5.34	0.5	5		107	85	115			
Magnesium (Mg)	5.1	0.5	5		102	85	115			
Potassium (K)	4.89	0.5	5		98	85	115			
Calcium (Ca)	5.14	0.5	5		103	85	115			
Chromium (Cr)	0.0503	0.005	0.05		101	85	115			
Iron (Fe)	5.09	0.3	5		102	85	115			
Arsenic (As)	0.0479	0.002	0.05		96	85	115			
Lead (Pb)	0.0477	0.005	0.05		95	85	115			

Sample Matrix Spike

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

File ID: **050711.B\083_M.D**

Batch ID: **26488**

Analysis Date: **05/07/2011 19:10**

Sample ID: **11050604-01AMS**

Units : **mg/L**

Run ID: **ICP/MS_110507B**

Prep Date: **05/06/2011 14:27**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	44.3	0.5	5	39.9	89	70	130			
Magnesium (Mg)	27.7	0.5	5	23.51	84	70	130			
Potassium (K)	7.5	0.5	5	3.026	89	70	130			
Calcium (Ca)	72	0.5	5	65.77	124	70	130			
Chromium (Cr)	0.0593	0.005	0.05	0.005873	107	70	130			
Iron (Fe)	5.34	0.3	5	0	107	70	130			
Arsenic (As)	0.0557	0.002	0.05	0.004737	102	70	130			
Lead (Pb)	0.0485	0.005	0.05	0	97	70	130			

Sample Matrix Spike Duplicate

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

File ID: **050711.B\083_M.D**

Batch ID: **26488**

Analysis Date: **05/07/2011 19:16**

Sample ID: **11050604-01AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110507B**

Prep Date: **05/06/2011 14:27**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	44.4	0.5	5	39.9	89	70	130	44.34	0.1(20)	
Magnesium (Mg)	27.9	0.5	5	23.51	88	70	130	27.69	0.7(20)	
Potassium (K)	7.49	0.5	5	3.026	89	70	130	7.497	0.1(20)	
Calcium (Ca)	70.3	0.5	5	65.77	90	70	130	71.95	2.4(20)	
Chromium (Cr)	0.0559	0.005	0.05	0.005873	100	70	130	0.05926	5.8(20)	
Iron (Fe)	5.27	0.3	5	0	105	70	130	5.34	1.3(20)	
Arsenic (As)	0.055	0.002	0.05	0.004737	101	70	130	0.05573	1.3(20)	
Lead (Pb)	0.0468	0.005	0.05	0	94	70	130	0.04852	3.7(20)	

Comments:

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Date:
10-May-11

QC Summary Report

Work Order:
11050501

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0505PH**

Analysis Date: **05/05/2011 16:37**

Sample ID: **LCS-W0505PH**

Units : **pH Units**

Run ID: **WETLAB_110505D**

Prep Date: **05/05/2011 16:37**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
pH	5.03	1.7	5		101	90	110			

Comments:

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



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Date:
13-May-11

QC Summary Report

Work Order:
11050501

Method Blank

Type **MBLK** Test Code: **SM2540C**

File ID: Batch ID: **W0505DS** Analysis Date: **05/07/2011 00:00**
Sample ID: **MBLK-W0505DS** Units : mg/L Run ID: **WETLAB_110505H** Prep Date: **05/07/2011 00:00**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS) ND 10

Laboratory Control Spike

Type **LCS** Test Code: **SM2540C**

File ID: Batch ID: **W0505DS** Analysis Date: **05/07/2011 00:00**
Sample ID: **LCS-W0505DS** Units : mg/L Run ID: **WETLAB_110505H** Prep Date: **05/07/2011 00:00**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS) 95 10 100 95 70 130

Comments:

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



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Date:
10-May-11

QC Summary Report

Work Order:
11050501

Method Blank

File ID: 11050906.D

Type MBLK Test Code: EPA Method SW8260B

Batch ID: MS15W0509M

Analysis Date: 05/09/2011 10:05

Sample ID: MBLK MS15W0509M

Units: µg/L

Run ID: MSD_15_110509C

Prep Date: 05/09/2011 10:05

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	9.67		10		97	70	130			
Surr: Toluene-d8	10.2		10		102	70	130			



Alpha Analytical, Inc.

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Date:
10-May-11

QC Summary Report

Work Order:
11050501

Surr: 4-Bromofluorobenzene

9.75

10

98

70

130



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Date:
10-May-11

QC Summary Report

Work Order:
11050501

Laboratory Control Spike

Type LCS Test Code: EPA Method SW8260B

File ID: 11050903.D

Batch ID: MS15W0509M

Analysis Date: 05/09/2011 08:50

Sample ID: LCS MS15W0509M

Units: µg/L

Run ID: MSD_15_110509C

Prep Date: 05/09/2011 08:50

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	10.3	1	10		103	70	130			
Chloromethane	10.8	2	10		108	70	130			
Vinyl chloride	11.5	1	10		115	70	130			
Chloroethane	9.79	1	10		98	70	130			
Bromomethane	11.1	2	10		111	70	130			
Trichlorofluoromethane	12.6	1	10		126	70	130			
1,1-Dichloroethene	11.2	1	10		112	70	130			
Dichloromethane	9.96	2	10		99.6	70	130			
Freon-113	11.8	1	10		118	70	137			
trans-1,2-Dichloroethene	11	1	10		110	70	130			
Methyl tert-butyl ether (MTBE)	7.94	0.5	10		79	70	130			
1,1-Dichloroethane	10.7	1	10		107	70	130			
2-Butanone (MEK)	189	10	200		94	70	130			
cis-1,2-Dichloroethene	10.2	1	10		102	70	130			
Bromochloromethane	9.28	1	10		93	70	130			
Chloroform	10.5	1	10		105	70	130			
2,2-Dichloropropane	10.4	1	10		104	70	130			
1,2-Dichloroethane	9.61	1	10		96	70	130			
1,1,1-Trichloroethane	10.5	1	10		105	70	130			
1,1-Dichloropropene	11.2	1	10		112	70	130			
Carbon tetrachloride	10.5	1	10		105	70	130			
Benzene	10.5	0.5	10		105	70	130			
Dibromomethane	9.22	1	10		92	70	130			
1,2-Dichloropropane	10.3	1	10		103	70	130			
Trichloroethene	10.4	1	10		104	70	130			
Bromodichloromethane	9.83	1	10		98	70	130			
4-Methyl-2-pentanone (MIBK)	22.5	2.5	25		90	20	182			
cis-1,3-Dichloropropene	9.34	1	10		93	70	130			
trans-1,3-Dichloropropene	8.58	1	10		86	70	130			
1,1,2-Trichloroethane	8.8	1	10		88	70	130			
Toluene	10.8	0.5	10		108	70	130			
1,3-Dichloropropane	9.31	1	10		93	70	130			
Dibromochloromethane	8.49	1	10		85	70	130			
1,2-Dibromoethane (EDB)	18.7	2	20		93	70	130			
Tetrachloroethene	10.8	1	10		108	70	130			
1,1,1,2-Tetrachloroethane	9.96	1	10		99.6	70	130			
Chlorobenzene	10.7	1	10		107	70	130			
Ethylbenzene	10.9	0.5	10		109	70	130			
m,p-Xylene	11	0.5	10		110	70	130			
Bromoform	7.47	1	10		75	70	130			
Styrene	10.5	1	10		105	70	130			
o-Xylene	10.8	0.5	10		108	70	130			
1,1,2,2-Tetrachloroethane	8.55	1	10		86	70	130			
1,2,3-Trichloropropane	17.6	2	20		88	70	130			
Isopropylbenzene	10.6	1	10		106	70	130			
Bromobenzene	9.84	1	10		98	70	130			
n-Propylbenzene	11	1	10		110	70	130			
4-Chlorotoluene	10.8	1	10		108	70	130			
2-Chlorotoluene	10.6	1	10		106	70	130			
1,3,5-Trimethylbenzene	10.6	1	10		106	70	130			
tert-Butylbenzene	10.4	1	10		104	70	130			
1,2,4-Trimethylbenzene	10.4	1	10		104	70	130			
sec-Butylbenzene	10.8	1	10		108	70	130			
1,3-Dichlorobenzene	10.2	1	10		102	70	130			
1,4-Dichlorobenzene	9.6	1	10		96	70	130			
4-Isopropyltoluene	10.7	1	10		107	70	130			
1,2-Dichlorobenzene	9.36	1	10		94	70	130			
n-Butylbenzene	11.1	1	10		111	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	38	3	50		76	67	130			
1,2,4-Trichlorobenzene	8.67	2	10		87	70	130			
Naphthalene	6.28	2	10		63	70(70)	130			
Hexachlorobutadiene	17.3	2	20		87	70	130			
1,2,3-Trichlorobenzene	7.12	2	10		71	70	130			
Surr: 1,2-Dichloroethane-d4	9.55		10		96	70	130			
Surr: Toluene-d8	10.2		10		102	70	130			



Alpha Analytical, Inc.

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

Date:
10-May-11

QC Summary Report

Work Order:
11050501

Surr: 4-Bromofluorobenzene

9.68

10

97

70

130



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Date:
10-May-11

QC Summary Report

Work Order:
11050501

Sample Matrix Spike

File ID: 11050907.D

Type MS

Test Code: EPA Method SW8260B

Sample ID: 11050640-01AMS

Units : µg/L

Run ID: MSD_15_110509C

Batch ID: MS15W0509M

Analysis Date: 05/09/2011 10:27

Prep Date: 05/09/2011 10:27

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	46.4	2.5	50	0	93	21	138			
Chloromethane	48.6	10	50	0	97	23	144			
Vinyl chloride	53.9	2.5	50	0	108	49	136			
Chloroethane	42.2	2.5	50	0	84	21	159			
Bromomethane	51.6	10	50	0	103	10	174			
Trichlorofluoromethane	53	2.5	50	0	106	32	154			
1,1-Dichloroethene	48	2.5	50	0	96	64	130			
Dichloromethane	43.6	10	50	0	87	69	130			
Freon-113	51.4	2.5	50	0	103	55	141			
trans-1,2-Dichloroethene	46.7	2.5	50	0	93	63	130			
Methyl tert-butyl ether (MTBE)	61.8	1.3	50	19.25	85	47	150			
1,1-Dichloroethane	46	2.5	50	0	92	66	130			
2-Butanone (MEK)	639	50	1000	0	64	23	182			
cis-1,2-Dichloroethene	44.3	2.5	50	0	89	70	130			
Bromochloromethane	44.9	2.5	50	0	90	70	132			
Chloroform	44.6	2.5	50	0	89	70	130			
2,2-Dichloropropane	44	2.5	50	0	88	38	154			
1,2-Dichloroethane	44.8	2.5	50	0	90	65	134			
1,1,1-Trichloroethane	45.2	2.5	50	0	90	65	136			
1,1-Dichloropropene	47.8	2.5	50	0	96	68	132			
Carbon tetrachloride	43.5	2.5	50	0	87	58	148			
Benzene	44.9	1.3	50	0	90	59	138			
Dibromomethane	42.5	2.5	50	0	85	70	130			
1,2-Dichloropropane	44.7	2.5	50	0	89	70	131			
Trichloroethene	43.6	2.5	50	0	87	65	144			
Bromodichloromethane	43.8	2.5	50	0	88	50	157			
4-Methyl-2-pentanone (MIBK)	104	13	125	0	83	20	182			
cis-1,3-Dichloropropene	41.3	2.5	50	0	83	63	131			
trans-1,3-Dichloropropene	38.9	2.5	50	0	78	65	136			
1,1,2-Trichloroethane	41.6	2.5	50	0	83	70	131			
Toluene	44.6	1.3	50	0	89	68	130			
1,3-Dichloropropane	43	2.5	50	0	86	70	130			
Dibromochloromethane	38.9	2.5	50	0	78	42	155			
1,2-Dibromoethane (EDB)	86.1	5	100	0	86	70	130			
Tetrachloroethene	44.5	2.5	50	0	89	65	130			
1,1,1,2-Tetrachloroethane	41.7	2.5	50	0	83	70	130			
Chlorobenzene	45	2.5	50	0	90	70	130			
Ethylbenzene	44.8	1.3	50	0	90	68	130			
m,p-Xylene	45.6	1.3	50	0	91	68	131			
Bromoform	34.8	2.5	50	0	70	65	143			
Styrene	44.6	2.5	50	0	89	59	153			
o-Xylene	44.5	1.3	50	0	89	70	130			
1,1,1,2,2-Tetrachloroethane	41.2	2.5	50	0	82	67	130			
1,2,3-Trichloropropane	82.6	10	100	0	83	70	130			
Isopropylbenzene	43.2	2.5	50	0	86	55	138			
Bromobenzene	42.4	2.5	50	0	85	70	130			
n-Propylbenzene	45.4	2.5	50	0	91	67	133			
4-Chlorotoluene	44.8	2.5	50	0	90	70	130			
2-Chlorotoluene	44.1	2.5	50	0	88	70	130			
1,3,5-Trimethylbenzene	44.4	2.5	50	0	89	67	134			
tert-Butylbenzene	43.2	2.5	50	0	86	55	147			
1,2,4-Trimethylbenzene	43.3	2.5	50	0	87	65	135			
sec-Butylbenzene	45.3	2.5	50	0	91	68	135			
1,3-Dichlorobenzene	44	2.5	50	0	88	70	130			
1,4-Dichlorobenzene	41.2	2.5	50	0	82	70	130			
4-Isopropyltoluene	44.1	2.5	50	0	88	68	132			
1,2-Dichlorobenzene	41.5	2.5	50	0	83	70	130			
n-Butylbenzene	45.7	2.5	50	0	91	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	178	15	250	0	71	64	130			
1,2,4-Trichlorobenzene	37.6	10	50	0	75	62	133			
Naphthalene	29.1	10	50	0	58	32	166			
Hexachlorobutadiene	74.7	10	100	0	75	63	130			
1,2,3-Trichlorobenzene	31.4	10	50	0	63	55	138			
Surr: 1,2-Dichloroethane-d4	48.6		50		97	70	130			
Surr: Toluene-d8	49.9		50		99.9	70	130			



Alpha Analytical, Inc.

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

Date:
10-May-11

QC Summary Report

Work Order:
11050501

Surr: 4-Bromofluorobenzene

47.7

50

95

70

130



Alpha Analytical, Inc.

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Date:
10-May-11

QC Summary Report

Work Order:
11050501

Sample Matrix Spike Duplicate

File ID: 11050908.D

Type MSD Test Code: EPA Method SW8260B

Batch ID: MS15W0509M

Analysis Date: 05/09/2011 10:48

Sample ID: 11050640-01AMSD

Units: µg/L

Run ID: MSD_15_110509C

Prep Date: 05/09/2011 10:48

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	49	2.5	50	0	98	21	138	46.4	5.5(33)	
Chloromethane	47.2	10	50	0	94	23	144	48.58	2.9(27)	
Vinyl chloride	59.2	2.5	50	0	118	49	136	53.92	9.4(21)	
Chloroethane	46.5	2.5	50	0	93	21	159	42.18	9.6(40)	
Bromomethane	62.1	10	50	0	124	10	174	51.56	18.5(40)	
Trichlorofluoromethane	57.1	2.5	50	0	114	32	154	53.01	7.5(37)	
1,1-Dichloroethene	50.4	2.5	50	0	101	64	130	47.96	5.0(21)	
Dichloromethane	45.6	10	50	0	91	69	130	43.64	4.5(20)	
Freon-113	54.5	2.5	50	0	109	55	141	51.41	5.8(40)	
trans-1,2-Dichloroethene	49.1	2.5	50	0	98	63	130	46.72	5.1(20)	
Methyl tert-butyl ether (MTBE)	65	1.3	50	19.25	92	47	150	61.8	5.1(40)	
1,1-Dichloroethane	48.2	2.5	50	0	96	66	130	45.96	4.8(20)	
2-Butanone (MEK)	689	50	1000	0	69	23	182	638.8	7.6(22)	
cis-1,2-Dichloroethene	48.2	2.5	50	0	96	70	130	44.33	8.4(20)	
Bromochloromethane	47.9	2.5	50	0	96	70	132	44.94	6.4(20)	
Chloroform	47.4	2.5	50	0	95	70	130	44.58	6.2(20)	
2,2-Dichloropropane	47.3	2.5	50	0	95	38	154	43.96	7.2(22)	
1,2-Dichloroethane	47.3	2.5	50	0	95	65	134	44.84	5.4(20)	
1,1,1-Trichloroethane	48	2.5	50	0	96	65	136	45.16	6.0(20)	
1,1-Dichloropropene	51	2.5	50	0	102	68	132	47.77	6.5(20)	
Carbon tetrachloride	48.1	2.5	50	0	96	58	148	43.47	10.1(20)	
Benzene	47.5	1.3	50	0	95	59	138	44.89	5.5(21)	
Dibromomethane	45.5	2.5	50	0	91	70	130	42.47	7.0(20)	
1,2-Dichloropropane	48.6	2.5	50	0	97	70	131	44.66	8.4(20)	
Trichloroethene	46.8	2.5	50	0	94	65	144	43.57	7.2(20)	
Bromodichloromethane	46.9	2.5	50	0	94	50	157	43.79	6.9(20)	
4-Methyl-2-pentanone (MIBK)	110	13	125	0	88	20	182	104.2	5.0(20)	
cis-1,3-Dichloropropene	44	2.5	50	0	88	63	131	41.26	6.3(20)	
trans-1,3-Dichloropropene	42.4	2.5	50	0	85	65	136	38.94	8.5(20)	
1,1,2-Trichloroethane	44.2	2.5	50	0	88	70	131	41.61	6.0(20)	
Toluene	47.4	1.3	50	0	95	68	130	44.64	5.9(20)	
1,3-Dichloropropane	45.9	2.5	50	0	92	70	130	42.99	6.6(20)	
Dibromochloromethane	43	2.5	50	0	86	42	155	38.88	10.0(20)	
1,2-Dibromoethane (EDB)	92.1	5	100	0	92	70	130	86.05	6.8(20)	
Tetrachloroethene	48.1	2.5	50	0	96	65	130	44.51	7.8(20)	
1,1,1,2-Tetrachloroethane	45.5	2.5	50	0	91	70	130	41.72	8.8(20)	
Chlorobenzene	47.9	2.5	50	0	96	70	130	45.03	6.1(20)	
Ethylbenzene	48.4	1.3	50	0	97	68	130	44.75	7.8(20)	
m,p-Xylene	48.9	1.3	50	0	98	68	131	45.56	7.0(20)	
Bromoform	38.6	2.5	50	0	77	65	143	34.78	10.5(20)	
Styrene	48.1	2.5	50	0	96	59	153	44.6	7.6(37)	
o-Xylene	48.3	1.3	50	0	97	70	130	44.52	8.2(20)	
1,1,2,2-Tetrachloroethane	43.3	2.5	50	0	87	67	130	41.2	4.9(20)	
1,2,3-Trichloropropane	89.2	10	100	0	89	70	130	82.63	7.7(20)	
Isopropylbenzene	47.1	2.5	50	0	94	55	138	43.15	8.8(20)	
Bromobenzene	45.8	2.5	50	0	92	70	130	42.38	7.7(20)	
n-Propylbenzene	49	2.5	50	0	98	67	133	45.36	7.8(30)	
4-Chlorotoluene	48.7	2.5	50	0	97	70	130	44.76	8.4(20)	
2-Chlorotoluene	48	2.5	50	0	96	70	130	44.08	8.6(20)	
1,3,5-Trimethylbenzene	47.4	2.5	50	0	95	67	134	44.35	6.6(21)	
tert-Butylbenzene	46.7	2.5	50	0	93	55	147	43.23	7.8(20)	
1,2,4-Trimethylbenzene	46.7	2.5	50	0	93	65	135	43.27	7.7(25)	
sec-Butylbenzene	48.8	2.5	50	0	98	68	135	45.32	7.3(20)	
1,3-Dichlorobenzene	47.4	2.5	50	0	95	70	130	43.98	7.4(20)	
1,4-Dichlorobenzene	44.7	2.5	50	0	89	70	130	41.23	8.0(20)	
4-Isopropyltoluene	47.7	2.5	50	0	95	68	132	44.14	7.7(20)	
1,2-Dichlorobenzene	44.1	2.5	50	0	88	70	130	41.48	6.1(20)	
n-Butylbenzene	50.2	2.5	50	0	100	62	134	45.65	9.5(21)	
1,2-Dibromo-3-chloropropane (DBCP)	192	15	250	0	77	64	130	177.6	8.0(20)	
1,2,4-Trichlorobenzene	41.6	10	50	0	83	62	133	37.58	10.0(29)	
Naphthalene	29.7	10	50	0	59	32	166	29.09	2.2(40)	
Hexachlorobutadiene	80.8	10	100	0	81	63	130	74.66	7.9(21)	
1,2,3-Trichlorobenzene	34.3	10	50	0	69	55	138	31.41	8.7(36)	
Surr: 1,2-Dichloroethane-d4	47.9		50		96	70	130			
Surr: Toluene-d8	50.2		50		100	70	130			



Alpha Analytical, Inc.

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

Date:
10-May-11

QC Summary Report

Work Order:
11050501

Surr: 4-Bromofluorobenzene	48.5	50	97	70	130
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Comments:

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

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

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

CA

WorkOrder : BMIS11050501

Report Due By : 5:00 PM On : 18-May-2011

Client:
 Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

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

EDD Required : Yes

Sampled by : Marco Mendoza

Client's COC # : 31907

Job : G005862/JPL Groundwater Monitoring

Cooler Temp 1 °C

Samples Received 05-May-2011

Date Printed 05-May-2011

QC Level : DS4 = DOD QC Required : Final Rpt. MIBLK, InitCal/Concal data, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles		TAT	Requested Tests						Sample Remarks		
			Alpha	Sub		300_u_w	314_w	ALKALINT Y_w	METALS_D W	PH_w	TDS_w		VOC_TIC_w	VOC_w
BM111050501-01A	MW-11-5	AQ 05/04/11 08:10	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM111050501-02A	MW-11-4	AQ 05/04/11 08:45	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM111050501-03A	MW-11-3	AQ 05/04/11 09:25	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM111050501-04A	MW-11-2	AQ 05/04/11 09:58	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM111050501-05A	MW-11-1	AQ 05/04/11 10:44	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM111050501-06A	EB-7-5/4/11	AQ 05/04/11 10:25	5	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bearb)	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM111050501-07A	TB-7-5/4/11	AQ 05/04/11 00:00	1	0	9							VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 4/6/11

Comments: Security seals intact. Frozen ice. Temp Blank #8339 received @ 1°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Signature	Print Name	Company	Date/Time
<i>Elizabeth Adcox</i>	Elizabeth Adcox	Alpha Analytical, Inc.	5:51 11:24

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:

Company Name BATTELLE
 Attn: GERALD TOMPKINS
 Address 505 KINT AVE
 City, State, Zip COLUMBUS, OH 43201
 Phone Number _____ Fax _____



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

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

31907

Consultant / Client Name BATTELLE / DAVID CONNER Job # G005862 Job Name SPL GW. Mon. 2011
 Address 3990 OLD TOWN AVE, C-205 Report Attention / Project Manager
 City, State, Zip San Diego CA 92110 Name: DAVID CONNER
 Email: CONNER@BATTELLE.ORG Mobile: (619) 726-7311
 Fax: (619) 458 6641

Time Sampled	Date Sampled	Matrix* See Key Below	P.O. #	Lab ID Number (Use Only)	Office (Use Only)	Sample Description	TAT	Field Filtered	# Containers**	Analyses Required	Data Validation Level: III or IV	REMARKS
810	5/4/11	AR		BMT11050501		MW -11 -5	NO RM		5	<input checked="" type="checkbox"/> VOC'S (524.2) <input checked="" type="checkbox"/> LEAD, ARSENIC <input checked="" type="checkbox"/> TOTAL CR (200.8) <input checked="" type="checkbox"/> CL04 (314.0) <input checked="" type="checkbox"/> Na, K, Ca, Mg, Fe (200.8) <input checked="" type="checkbox"/> CO2, HCO3, DS, PH, ALKALINITY (SM2320B, SM2540C, ISO) <input checked="" type="checkbox"/> CL- NO3- NO2- SO4- PO4-3 (300.0)	III	
845						MW -11 -4			5			
925						MW -11 -3			5			
958						MW -11 -2			5			
1044						MW -11 -1			5			
1025						EB - 7 - 5/4/11			5			EQUIPMENT BLANK
						TB - 7 - 5/4/11			1			TRIP BLANK

ADDITIONAL INSTRUCTIONS:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action (NAC 445.0636 (c) (2)). Sampled By: MARKS LEWIS

Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation)	Date:	Time:
<u>[Signature]</u>	<u>[Signature]</u>	5/4/11	12:15
<u>[Signature]</u>	<u>[Signature]</u>	5.5.11	11:24

*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: 17-May-11

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11050604

Cooler Temp: 0 °C

Alpha's Sample ID	Client's Sample ID	Matrix
11050604-01A	MW-16	Aqueous
11050604-02A	MW-20-5	Aqueous
11050604-03A	MW-20-4	Aqueous
11050604-04A	MW-20-3	Aqueous
11050604-05A	MW-20-2	Aqueous
11050604-06A	MW-20-1	Aqueous
11050604-07A	DUPE-2-2Q11	Aqueous
11050604-08A	EB-8-5/5/11	Aqueous
11050604-09A	TB-8-5/5/11	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
11050604-03A	EPA Method 314.0	Perchlorate
11050604-07A	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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/06/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-16				
Lab ID : BM11050604-01A	Chloride	66	0.50 mg/L	05/06/11 11:12 05/06/11 12:33
Date Sampled 05/05/11 09:50	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/11 11:12 05/06/11 12:33
	Nitrate (NO3) - N	0.81	0.25 mg/L	05/06/11 11:12 05/06/11 12:33
	Phosphate, ortho - P	0.63	0.50 mg/L	05/06/11 11:12 05/06/11 12:33
	Sulfate (SO4)	46	0.50 mg/L	05/06/11 11:12 05/06/11 12:33
Client ID: MW-20-5				
Lab ID : BM11050604-02A	Chloride	8.8	0.50 mg/L	05/06/11 11:12 05/06/11 13:29
Date Sampled 05/05/11 08:04	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/11 11:12 05/06/11 13:29
	Nitrate (NO3) - N	ND	0.25 mg/L	05/06/11 11:12 05/06/11 13:29
	Phosphate, ortho - P	ND	0.50 mg/L	05/06/11 11:12 05/06/11 13:29
	Sulfate (SO4)	3.7	0.50 mg/L	05/06/11 11:12 05/06/11 13:29
Client ID: MW-20-4				
Lab ID : BM11050604-03A	Chloride	10	0.50 mg/L	05/06/11 11:12 05/06/11 13:47
Date Sampled 05/05/11 08:44	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/11 11:12 05/06/11 13:47
	Nitrate (NO3) - N	ND	0.25 mg/L	05/06/11 11:12 05/06/11 13:47
	Phosphate, ortho - P	ND	0.50 mg/L	05/06/11 11:12 05/06/11 13:47
	Sulfate (SO4)	12	0.50 mg/L	05/06/11 11:12 05/06/11 13:47
Client ID: MW-20-3				
Lab ID : BM11050604-04A	Chloride	32	0.50 mg/L	05/06/11 11:12 05/06/11 14:06
Date Sampled 05/05/11 09:50	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/11 11:12 05/06/11 14:06
	Nitrate (NO3) - N	ND	0.25 mg/L	05/06/11 11:12 05/06/11 14:06
	Phosphate, ortho - P	ND	0.50 mg/L	05/06/11 11:12 05/06/11 14:06
	Sulfate (SO4)	37	0.50 mg/L	05/06/11 11:12 05/06/11 14:06
Client ID: MW-20-2				
Lab ID : BM11050604-05A	Chloride	32	0.50 mg/L	05/06/11 11:12 05/06/11 14:24
Date Sampled 05/05/11 10:25	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/11 11:12 05/06/11 14:24
	Nitrate (NO3) - N	4.4	0.25 mg/L	05/06/11 11:12 05/06/11 14:24
	Phosphate, ortho - P	ND	0.50 mg/L	05/06/11 11:12 05/06/11 14:24
	Sulfate (SO4)	54	0.50 mg/L	05/06/11 11:12 05/06/11 14:24
Client ID: MW-20-1				
Lab ID : BM11050604-06A	Chloride	11	0.50 mg/L	05/06/11 11:12 05/06/11 14:43
Date Sampled 05/05/11 11:01	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/11 11:12 05/06/11 14:43
	Nitrate (NO3) - N	0.88	0.25 mg/L	05/06/11 11:12 05/06/11 14:43
	Phosphate, ortho - P	ND	0.50 mg/L	05/06/11 11:12 05/06/11 14:43
	Sulfate (SO4)	35	0.50 mg/L	05/06/11 11:12 05/06/11 14:43



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Client ID: **DUPE-2-2Q11**

Lab ID :	BMI11050604-07A	Chloride	10	0.50 mg/L	05/06/11 11:12	05/06/11 15:01
Date Sampled	05/05/11 00:00	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/11 11:12	05/06/11 15:01
		Nitrate (NO3) - N	ND	0.25 mg/L	05/06/11 11:12	05/06/11 15:01
		Phosphate, ortho - P	ND	0.50 mg/L	05/06/11 11:12	05/06/11 15:01
		Sulfate (SO4)	12	0.50 mg/L	05/06/11 11:12	05/06/11 15:01

Client ID: **EB-8-5/5/11**

Lab ID :	BMI11050604-08A	Chloride	ND	0.50 mg/L	05/06/11 11:12	05/06/11 15:20
Date Sampled	05/05/11 10:45	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/11 11:12	05/06/11 15:20
		Nitrate (NO3) - N	ND	0.25 mg/L	05/06/11 11:12	05/06/11 15:20
		Phosphate, ortho - P	ND	0.50 mg/L	05/06/11 11:12	05/06/11 15:20
		Sulfate (SO4)	ND	0.50 mg/L	05/06/11 11:12	05/06/11 15:20

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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e
5/18/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/06/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-16 Lab ID: BMII1050604-01A Perchlorate Date Sampled 05/05/11 09:50	2.40	1.00 µg/L	05/06/11 10:35	05/06/11 16:07
Client ID: MW-20-5 Lab ID: BMII1050604-02A Perchlorate Date Sampled 05/05/11 08:04	4.21	1.00 µg/L	05/06/11 10:35	05/06/11 17:02
Client ID: MW-20-4 Lab ID: BMII1050604-03A Perchlorate Date Sampled 05/05/11 08:44	15.1	1.00 µg/L	05/06/11 10:35	05/06/11 17:21
Client ID: MW-20-3 Lab ID: BMII1050604-04A Perchlorate Date Sampled 05/05/11 09:50	ND	1.00 µg/L	05/06/11 10:35	05/06/11 17:39
Client ID: MW-20-2 Lab ID: BMII1050604-05A Perchlorate Date Sampled 05/05/11 10:25	2.77	1.00 µg/L	05/06/11 10:35	05/06/11 17:57
Client ID: MW-20-1 Lab ID: BMII1050604-06A Perchlorate Date Sampled 05/05/11 11:01	ND	1.00 µg/L	05/06/11 10:35	05/06/11 18:16
Client ID: DUPE-2-2Q11 Lab ID: BMII1050604-07A Perchlorate Date Sampled 05/05/11 00:00	15.8	1.00 µg/L	05/06/11 10:35	05/06/11 18:34
Client ID: EB-8-5/5/11 Lab ID: BMII1050604-08A Perchlorate Date Sampled 05/05/11 10:45	ND	1.00 µg/L	05/06/11 10:35	05/06/11 18:53

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/18/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/06/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-16				
Lab ID : BMII1050604-01A	Alkalinity, Bicarbonate (As CaCO3)	200	10 mg/L	05/12/11 12:28 05/12/11 12:28
Date Sampled 05/05/11 09:50	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/11 12:28 05/12/11 12:28
	Alkalinity, Total (As CaCO3 at pH 4.5)	200	10 mg/L	05/12/11 12:28 05/12/11 12:28
Client ID: MW-20-5				
Lab ID : BMII1050604-02A	Alkalinity, Bicarbonate (As CaCO3)	77	10 mg/L	05/12/11 12:35 05/12/11 12:35
Date Sampled 05/05/11 08:04	Alkalinity, Carbonate (As CaCO3)	54	10 mg/L	05/12/11 12:35 05/12/11 12:35
	Alkalinity, Total (As CaCO3 at pH 4.5)	130	10 mg/L	05/12/11 12:35 05/12/11 12:35
Client ID: MW-20-4				
Lab ID : BMII1050604-03A	Alkalinity, Bicarbonate (As CaCO3)	80	10 mg/L	05/12/11 12:37 05/12/11 12:37
Date Sampled 05/05/11 08:44	Alkalinity, Carbonate (As CaCO3)	60	10 mg/L	05/12/11 12:37 05/12/11 12:37
	Alkalinity, Total (As CaCO3 at pH 4.5)	140	10 mg/L	05/12/11 12:37 05/12/11 12:37
Client ID: MW-20-3				
Lab ID : BMII1050604-04A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	05/12/11 12:40 05/12/11 12:40
Date Sampled 05/05/11 09:50	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/11 12:40 05/12/11 12:40
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/12/11 12:40 05/12/11 12:40
Client ID: MW-20-2				
Lab ID : BMII1050604-05A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/12/11 12:44 05/12/11 12:44
Date Sampled 05/05/11 10:25	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/11 12:44 05/12/11 12:44
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/12/11 12:44 05/12/11 12:44
Client ID: MW-20-1				
Lab ID : BMII1050604-06A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	05/12/11 12:48 05/12/11 12:48
Date Sampled 05/05/11 11:01	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/11 12:48 05/12/11 12:48
	Alkalinity, Total (As CaCO3 at pH 4.5)	170	10 mg/L	05/12/11 12:48 05/12/11 12:48
Client ID: DUPE-2-2Q11				
Lab ID : BMII1050604-07A	Alkalinity, Bicarbonate (As CaCO3)	74	10 mg/L	05/12/11 12:51 05/12/11 12:51
Date Sampled 05/05/11 00:00	Alkalinity, Carbonate (As CaCO3)	65	10 mg/L	05/12/11 12:51 05/12/11 12:51
	Alkalinity, Total (As CaCO3 at pH 4.5)	140	10 mg/L	05/12/11 12:51 05/12/11 12:51
Client ID: EB-8-5/5/11				
Lab ID : BMII1050604-08A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/12/11 12:55 05/12/11 12:55
Date Sampled 05/05/11 10:45	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/11 12:55 05/12/11 12:55
	Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/12/11 12:55 05/12/11 12:55



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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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5/18/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/06/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-16				
Lab ID : BM111050604-01A	Sodium (Na)	40	0.50 mg/L	05/06/11 14:27 05/07/11 19:05
Date Sampled 05/05/11 09:50	Magnesium (Mg)	24	0.50 mg/L	05/06/11 14:27 05/07/11 19:05
	Potassium (K)	3.0	0.50 mg/L	05/06/11 14:27 05/07/11 19:05
	Calcium (Ca)	66	0.50 mg/L	05/06/11 14:27 05/07/11 19:05
	Chromium (Cr)	0.0059	0.0050 mg/L	05/06/11 14:27 05/07/11 19:05
	Iron (Fe)	ND	0.30 mg/L	05/06/11 14:27 05/07/11 19:05
	Arsenic (As)	0.0047	0.0020 mg/L	05/06/11 14:27 05/07/11 19:05
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 19:05
Client ID: MW-20-5				
Lab ID : BM111050604-02A	Sodium (Na)	58	0.50 mg/L	05/06/11 14:27 05/07/11 19:27
Date Sampled 05/05/11 08:04	Magnesium (Mg)	1.4	0.50 mg/L	05/06/11 14:27 05/07/11 19:27
	Potassium (K)	1.1	0.50 mg/L	05/06/11 14:27 05/07/11 19:27
	Calcium (Ca)	5.2	0.50 mg/L	05/06/11 14:27 05/07/11 19:27
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 19:27
	Iron (Fe)	ND	0.30 mg/L	05/06/11 14:27 05/07/11 19:27
	Arsenic (As)	ND	0.0020 mg/L	05/06/11 14:27 05/07/11 19:27
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 19:27
Client ID: MW-20-4				
Lab ID : BM111050604-03A	Sodium (Na)	61	0.50 mg/L	05/06/11 14:27 05/07/11 19:33
Date Sampled 05/05/11 08:44	Magnesium (Mg)	3.1	0.50 mg/L	05/06/11 14:27 05/07/11 19:33
	Potassium (K)	0.63	0.50 mg/L	05/06/11 14:27 05/07/11 19:33
	Calcium (Ca)	8.9	0.50 mg/L	05/06/11 14:27 05/07/11 19:33
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 19:33
	Iron (Fe)	ND	0.30 mg/L	05/06/11 14:27 05/07/11 19:33
	Arsenic (As)	ND	0.0020 mg/L	05/06/11 14:27 05/07/11 19:33
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 19:33
Client ID: MW-20-3				
Lab ID : BM111050604-04A	Sodium (Na)	59	0.50 mg/L	05/06/11 14:27 05/07/11 19:38
Date Sampled 05/05/11 09:50	Magnesium (Mg)	16	0.50 mg/L	05/06/11 14:27 05/07/11 19:38
	Potassium (K)	2.0	0.50 mg/L	05/06/11 14:27 05/07/11 19:38
	Calcium (Ca)	24	0.50 mg/L	05/06/11 14:27 05/07/11 19:38
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 19:38
	Iron (Fe)	ND	0.30 mg/L	05/06/11 14:27 05/07/11 19:38
	Arsenic (As)	ND	0.0020 mg/L	05/06/11 14:27 05/07/11 19:38
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27 05/07/11 19:38



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Client ID: MW-20-2

Lab ID : BM111050604-05A	Sodium (Na)	20	0.50 mg/L	05/06/11 14:27	05/07/11 19:44
Date Sampled 05/05/11 10:25	Magnesium (Mg)	26	0.50 mg/L	05/06/11 14:27	05/07/11 19:44
	Potassium (K)	2.6	0.50 mg/L	05/06/11 14:27	05/07/11 19:44
	Calcium (Ca)	62	0.50 mg/L	05/06/11 14:27	05/07/11 19:44
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27	05/07/11 19:44
	Iron (Fe)	ND	0.30 mg/L	05/06/11 14:27	05/07/11 19:44
	Arsenic (As)	ND	0.0020 mg/L	05/06/11 14:27	05/07/11 19:44
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27	05/07/11 19:44

Client ID: MW-20-1

Lab ID : BM111050604-06A	Sodium (Na)	17	0.50 mg/L	05/06/11 14:27	05/07/11 19:49
Date Sampled 05/05/11 11:01	Magnesium (Mg)	17	0.50 mg/L	05/06/11 14:27	05/07/11 19:49
	Potassium (K)	2.3	0.50 mg/L	05/06/11 14:27	05/07/11 19:49
	Calcium (Ca)	52	0.50 mg/L	05/06/11 14:27	05/07/11 19:49
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27	05/07/11 19:49
	Iron (Fe)	6.0	0.30 mg/L	05/06/11 14:27	05/07/11 19:49
	Arsenic (As)	ND	0.0020 mg/L	05/06/11 14:27	05/07/11 19:49
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27	05/07/11 19:49

Client ID: DUPE-2-2Q11

Lab ID : BM111050604-07A	Sodium (Na)	63	0.50 mg/L	05/06/11 14:27	05/07/11 19:55
Date Sampled 05/05/11 00:00	Magnesium (Mg)	3.2	0.50 mg/L	05/06/11 14:27	05/07/11 19:55
	Potassium (K)	0.67	0.50 mg/L	05/06/11 14:27	05/07/11 19:55
	Calcium (Ca)	8.9	0.50 mg/L	05/06/11 14:27	05/07/11 19:55
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27	05/07/11 19:55
	Iron (Fe)	ND	0.30 mg/L	05/06/11 14:27	05/07/11 19:55
	Arsenic (As)	ND	0.0020 mg/L	05/06/11 14:27	05/07/11 19:55
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27	05/07/11 19:55

Client ID: EB-8-5/5/11

Lab ID : BM111050604-08A	Sodium (Na)	0.58	0.50 mg/L	05/06/11 14:27	05/07/11 20:00
Date Sampled 05/05/11 10:45	Magnesium (Mg)	ND	0.50 mg/L	05/06/11 14:27	05/07/11 20:00
	Potassium (K)	ND	0.50 mg/L	05/06/11 14:27	05/07/11 20:00
	Calcium (Ca)	ND	0.50 mg/L	05/06/11 14:27	05/07/11 20:00
	Chromium (Cr)	ND	0.0050 mg/L	05/06/11 14:27	05/07/11 20:00
	Iron (Fe)	ND	0.30 mg/L	05/06/11 14:27	05/07/11 20:00
	Arsenic (As)	ND	0.0020 mg/L	05/06/11 14:27	05/07/11 20:00
	Lead (Pb)	ND	0.0050 mg/L	05/06/11 14:27	05/07/11 20:00

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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

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5/18/11

Report Date



Alpha Analytical, Inc.

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

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/06/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-16				
Lab ID : BM111050604-01A	pH	7.5	1.7 pH Units	05/06/11 13:56
Date Sampled 05/05/11 09:50	pH - Temperature	19	1.0 °C	05/06/11 13:56
Client ID: MW-20-5				
Lab ID : BM111050604-02A	pH	9.2	1.7 pH Units	05/06/11 14:01
Date Sampled 05/05/11 08:04	pH - Temperature	19	1.0 °C	05/06/11 14:01
Client ID: MW-20-4				
Lab ID : BM111050604-03A	pH	9.3	1.7 pH Units	05/06/11 14:04
Date Sampled 05/05/11 08:44	pH - Temperature	18	1.0 °C	05/06/11 14:04
Client ID: MW-20-3				
Lab ID : BM111050604-04A	pH	8.6	1.7 pH Units	05/06/11 14:06
Date Sampled 05/05/11 09:50	pH - Temperature	19	1.0 °C	05/06/11 14:06
Client ID: MW-20-2				
Lab ID : BM111050604-05A	pH	8.1	1.7 pH Units	05/06/11 14:09
Date Sampled 05/05/11 10:25	pH - Temperature	19	1.0 °C	05/06/11 14:09
Client ID: MW-20-1				
Lab ID : BM111050604-06A	pH	7.7	1.7 pH Units	05/06/11 14:11
Date Sampled 05/05/11 11:01	pH - Temperature	18	1.0 °C	05/06/11 14:11
Client ID: DUPE-2-2Q11				
Lab ID : BM111050604-07A	pH	9.3	1.7 pH Units	05/06/11 14:13
Date Sampled 05/05/11 00:00	pH - Temperature	18	1.0 °C	05/06/11 14:13
Client ID: EB-8-5/5/11				
Lab ID : BM111050604-08A	pH	6.8	1.7 pH Units	05/06/11 14:14
Date Sampled 05/05/11 10:45	pH - Temperature	18	1.0 °C	05/06/11 14:14

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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5/18/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/06/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS) SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-16 Lab ID : BM111050604-01A Solids, Total Dissolved (TDS) Date Sampled 05/05/11 09:50	380	10 mg/L	05/13/11	05/13/11
Client ID: MW-20-5 Lab ID : BM111050604-02A Solids, Total Dissolved (TDS) Date Sampled 05/05/11 08:04	160	10 mg/L	05/13/11	05/13/11
Client ID: MW-20-4 Lab ID : BM111050604-03A Solids, Total Dissolved (TDS) Date Sampled 05/05/11 08:44	180	10 mg/L	05/13/11	05/13/11
Client ID: MW-20-3 Lab ID : BM111050604-04A Solids, Total Dissolved (TDS) Date Sampled 05/05/11 09:50	260	10 mg/L	05/13/11	05/13/11
Client ID: MW-20-2 Lab ID : BM111050604-05A Solids, Total Dissolved (TDS) Date Sampled 05/05/11 10:25	320	10 mg/L	05/13/11	05/13/11
Client ID: MW-20-1 Lab ID : BM111050604-06A Solids, Total Dissolved (TDS) Date Sampled 05/05/11 11:01	250	10 mg/L	05/13/11	05/13/11
Client ID: DUPE-2-2Q11 Lab ID : BM111050604-07A Solids, Total Dissolved (TDS) Date Sampled 05/05/11 00:00	180	10 mg/L	05/13/11	05/13/11
Client ID: EB-8-5/5/11 Lab ID : BM111050604-08A Solids, Total Dissolved (TDS) Date Sampled 05/05/11 10:45	ND	10 mg/L	05/13/11	05/13/11

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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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-16 Lab ID: BMII1050604-01A Date Received: 05/06/11 Date Sampled: 05/05/11 09:50	*** None Found ***	ND	05/13/11 14:08	05/13/11 14:08
Client ID: MW-20-5 Lab ID: BMII1050604-02A Date Received: 05/06/11 Date Sampled: 05/05/11 08:04	Sulfur dioxide	17	05/13/11 14:30	05/13/11 14:30
Client ID: MW-20-4 Lab ID: BMII1050604-03A Date Received: 05/06/11 Date Sampled: 05/05/11 08:44	Sulfur dioxide	21	05/13/11 14:51	05/13/11 14:51
Client ID: MW-20-3 Lab ID: BMII1050604-04A Date Received: 05/06/11 Date Sampled: 05/05/11 09:50	Sulfur dioxide	3.2	05/13/11 15:13	05/13/11 15:13
Client ID: MW-20-2 Lab ID: BMII1050604-05A Date Received: 05/06/11 Date Sampled: 05/05/11 10:25	*** None Found ***	ND	05/13/11 15:34	05/13/11 15:34
Client ID: MW-20-1 Lab ID: BMII1050604-06A Date Received: 05/06/11 Date Sampled: 05/05/11 11:01	*** None Found ***	ND	05/13/11 15:56	05/13/11 15:56
Client ID: DUPE-2-2Q11 Lab ID: BMII1050604-07A Date Received: 05/06/11 Date Sampled: 05/05/11 00:00	Sulfur dioxide	19	05/13/11 16:18	05/13/11 16:18
Client ID: EB-8-5/5/11 Lab ID: BMII1050604-08A Date Received: 05/06/11 Date Sampled: 05/05/11 10:45	*** None Found ***	ND	05/13/11 13:03	05/13/11 13:03
Client ID: TB-8-5/5/11 Lab ID: BMII1050604-09A Date Received: 05/06/11 Date Sampled: 05/05/11 00:00	*** None Found ***	ND	05/13/11 12:42	05/13/11 12:42



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Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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JS

5/18/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050604-01A
Client I.D. Number: MW-16

Sampled: 05/05/11 09:50
Received: 05/06/11
Extracted: 05/13/11 14:08
Analyzed: 05/13/11 14:08

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	1.1	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	7.6	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	6.6	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	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	3.6	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050604-02A
Client I.D. Number: MW-20-5

Sampled: 05/05/11 08:04
Received: 05/06/11
Extracted: 05/13/11 14:30
Analyzed: 05/13/11 14:30

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050604-03A
Client I.D. Number: MW-20-4

Sampled: 05/05/11 08:44
Received: 05/06/11
Extracted: 05/13/11 14:51
Analyzed: 05/13/11 14:51

Volatile Organics by GC/MS EPA Method SW8260B

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

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/18/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050604-04A
Client I.D. Number: MW-20-3

Sampled: 05/05/11 09:50
Received: 05/06/11
Extracted: 05/13/11 15:13
Analyzed: 05/13/11 15:13

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	0.57	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	101	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	95	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/18/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050604-05A
Client I.D. Number: MW-20-2

Sampled: 05/05/11 10:25
Received: 05/06/11
Extracted: 05/13/11 15:34
Analyzed: 05/13/11 15:34

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
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5/18/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050604-06A
Client I.D. Number: MW-20-1

Sampled: 05/05/11 11:01
Received: 05/06/11
Extracted: 05/13/11 15:56
Analyzed: 05/13/11 15:56

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	101	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	96	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/18/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050604-07A
Client I.D. Number: DUPE-2-2Q11

Sampled: 05/05/11 00:00
Received: 05/06/11
Extracted: 05/13/11 16:18
Analyzed: 05/13/11 16:18

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	96	(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			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/18/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050604-08A
Client I.D. Number: EB-8-5/5/11

Sampled: 05/05/11 10:45
Received: 05/06/11
Extracted: 05/13/11 13:03
Analyzed: 05/13/11 13:03

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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

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

5/18/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11050604-09A
Client I.D. Number: TB-8-5/5/11

Sampled: 05/05/11 00:00
Received: 05/06/11
Extracted: 05/13/11 12:42
Analyzed: 05/13/11 12:42

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	97	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	95	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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

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5/18/11

Report Date



Alpha Analytical, Inc.

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

VOC Sample Preservation Report

Work Order: BMI11050604

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11050604-01A	MW-16	Aqueous	2
11050604-02A	MW-20-5	Aqueous	2
11050604-03A	MW-20-4	Aqueous	2
11050604-04A	MW-20-3	Aqueous	2
11050604-05A	MW-20-2	Aqueous	2
11050604-06A	MW-20-1	Aqueous	2
11050604-07A	DUPE-2-2Q11	Aqueous	2
11050604-08A	EB-8-5/5/11	Aqueous	2
11050604-09A	TB-8-5/5/11	Aqueous	2

5/18/11
Report Date



Alpha Analytical, Inc.

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Date:
10-May-11

QC Summary Report

Work Order:
11050604

Method Blank

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

File ID: **23**

Batch ID: **26482**

Analysis Date: **05/06/2011 11:38**

Sample ID: **MB-26482**

Units : **mg/L**

Run ID: **IC_1_110506A**

Prep Date: **05/06/2011 11:12**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

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

File ID: **24**

Batch ID: **26482**

Analysis Date: **05/06/2011 11:56**

Sample ID: **LFB-26482**

Units : **mg/L**

Run ID: **IC_1_110506A**

Prep Date: **05/06/2011 11:12**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	48.4	0.5	50		97	90	110			
Nitrite (NO2) - N	5.16	0.25	5		103	90	110			
Nitrate (NO3) - N	4.85	0.25	5		97	90	110			
Phosphate, ortho - P	5.42	0.5	5		108	90	110			
Sulfate (SO4)	97.3	0.5	100		97	90	110			

Sample Matrix Spike

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

File ID: **27**

Batch ID: **26482**

Analysis Date: **05/06/2011 12:52**

Sample ID: **11050604-01ALFM**

Units : **mg/L**

Run ID: **IC_1_110506A**

Prep Date: **05/06/2011 11:12**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	156	0.5	100	66.29	89	80	120			
Nitrite (NO2) - N	10.8	0.25	10	0	108	80	120			
Nitrate (NO3) - N	10.7	0.25	10	0.8051	99	80	120			
Phosphate, ortho - P	12	0.5	10	0.6252	113	80	120			
Sulfate (SO4)	225	0.5	200	45.65	89	80	120			

Sample Matrix Spike Duplicate

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

File ID: **28**

Batch ID: **26482**

Analysis Date: **05/06/2011 13:10**

Sample ID: **11050604-01ALFMD**

Units : **mg/L**

Run ID: **IC_1_110506A**

Prep Date: **05/06/2011 11:12**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	157	0.5	100	66.29	91	80	120	155.6	0.9(15)	
Nitrite (NO2) - N	10.6	0.25	10	0	106	80	120	10.76	1.5(15)	
Nitrate (NO3) - N	10.8	0.25	10	0.8051	100	80	120	10.66	1.6(15)	
Phosphate, ortho - P	12.1	0.5	10	0.6252	115	80	120	11.96	1.4(15)	
Sulfate (SO4)	229	0.5	200	45.65	92	80	120	224.6	2.0(15)	

Comments:

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



Alpha Analytical, Inc.

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Date:
10-May-11

QC Summary Report

Work Order:
11050604

Method Blank

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

File ID: **14**

Batch ID: **26478**

Analysis Date: **05/06/2011 11:31**

Sample ID: **MB-26478**

Units : **µg/L**

Run ID: **IC_3_110506A**

Prep Date: **05/06/2011 10:35**

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

Laboratory Fortified Blank

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

File ID: **15**

Batch ID: **26478**

Analysis Date: **05/06/2011 11:49**

Sample ID: **LFB-26478**

Units : **µg/L**

Run ID: **IC_3_110506A**

Prep Date: **05/06/2011 10:35**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	23.2	2	25		93	85	115			

Sample Matrix Spike

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

File ID: **30**

Batch ID: **26478**

Analysis Date: **05/06/2011 16:25**

Sample ID: **11050604-01ALFM**

Units : **µg/L**

Run ID: **IC_3_110506A**

Prep Date: **05/06/2011 10:35**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.7	2	25	2.396	89	80	120			

Sample Matrix Spike Duplicate

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

File ID: **31**

Batch ID: **26478**

Analysis Date: **05/06/2011 16:44**

Sample ID: **11050604-01ALFMD**

Units : **µg/L**

Run ID: **IC_3_110506A**

Prep Date: **05/06/2011 10:35**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	26.3	2	25	2.396	96	80	120	24.72	6.2(15)	

Comments:

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Date:
13-May-11

QC Summary Report

Work Order:
11050604

Laboratory Control Spike

Type **LCS**

Test Code: **SM2320B**

File ID:

Batch ID: **W0512AL**

Analysis Date: **05/05/2011 12:24**

Sample ID: **LCS-W0512AL**

Units : **mg/L**

Run ID: **WETLAB_110512B**

Prep Date: **05/05/2011 12:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO3)	221	10	250		88	80	120			
Alkalinity, Carbonate (As CaCO3)	221	10	250		88	80	120			
Alkalinity, Total (As CaCO3 at pH 4.5)	221	10	250		88	80	120			

Comments:

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Date:
11-May-11

QC Summary Report

Work Order:
11050604

Method Blank

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

File ID: **050711.B\076_M.D**

Batch ID: **26488**

Analysis Date: **05/07/2011 18:31**

Sample ID: **MB-26488**

Units : **mg/L**

Run ID: **ICP/MS_110507B**

Prep Date: **05/06/2011 14:27**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

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

File ID: **050711.B\077_M1.D**

Batch ID: **26488**

Analysis Date: **05/07/2011 18:37**

Sample ID: **LCS-26488**

Units : **mg/L**

Run ID: **ICP/MS_110507B**

Prep Date: **05/06/2011 14:27**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	5.34	0.5	5		107	85	115			
Magnesium (Mg)	5.1	0.5	5		102	85	115			
Potassium (K)	4.89	0.5	5		98	85	115			
Calcium (Ca)	5.14	0.5	5		103	85	115			
Chromium (Cr)	0.0503	0.005	0.05		101	85	115			
Iron (Fe)	5.09	0.3	5		102	85	115			
Arsenic (As)	0.0479	0.002	0.05		96	85	115			
Lead (Pb)	0.0477	0.005	0.05		95	85	115			

Sample Matrix Spike

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

File ID: **050711.B\082_M.D**

Batch ID: **26488**

Analysis Date: **05/07/2011 19:10**

Sample ID: **11050604-01AMS**

Units : **mg/L**

Run ID: **ICP/MS_110507B**

Prep Date: **05/06/2011 14:27**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	44.3	0.5	5	39.9	89	70	130			
Magnesium (Mg)	27.7	0.5	5	23.51	84	70	130			
Potassium (K)	7.5	0.5	5	3.026	89	70	130			
Calcium (Ca)	72	0.5	5	65.77	124	70	130			
Chromium (Cr)	0.0593	0.005	0.05	0.005873	107	70	130			
Iron (Fe)	5.34	0.3	5	0	107	70	130			
Arsenic (As)	0.0557	0.002	0.05	0.004737	102	70	130			
Lead (Pb)	0.0485	0.005	0.05	0	97	70	130			

Sample Matrix Spike Duplicate

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

File ID: **050711.B\083_M.D**

Batch ID: **26488**

Analysis Date: **05/07/2011 19:16**

Sample ID: **11050604-01AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110507B**

Prep Date: **05/06/2011 14:27**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	44.4	0.5	5	39.9	89	70	130	44.34	0.1(20)	
Magnesium (Mg)	27.9	0.5	5	23.51	88	70	130	27.69	0.7(20)	
Potassium (K)	7.49	0.5	5	3.026	89	70	130	7.497	0.1(20)	
Calcium (Ca)	70.3	0.5	5	65.77	90	70	130	71.95	2.4(20)	
Chromium (Cr)	0.0559	0.005	0.05	0.005873	100	70	130	0.05926	5.8(20)	
Iron (Fe)	5.27	0.3	5	0	105	70	130	5.34	1.3(20)	
Arsenic (As)	0.055	0.002	0.05	0.004737	101	70	130	0.05573	1.3(20)	
Lead (Pb)	0.0468	0.005	0.05	0	94	70	130	0.04852	3.7(20)	

Comments:

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Date:
10-May-11

QC Summary Report

Work Order:
11050604

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0506PH**

Analysis Date: **05/06/2011 13:53**

Sample ID: **LCS-W0506PH**

Units : **pH Units**

Run ID: **WETLAB_110506A**

Prep Date: **05/06/2011 13:53**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
pH	5.1	1.7	5		102	90	110			

Comments:

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Date:
16-May-11

QC Summary Report

Work Order:
11050604

Method Blank

Type **MBLK** Test Code: **SM2540C**

File ID: Batch ID: **W0511DS** Analysis Date: **05/13/2011 00:00**
Sample ID: **MBLK-W0511DS** Units : **mg/L** Run ID: **WETLAB_110511E** Prep Date: **05/13/2011 00:00**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS) ND 10

Laboratory Control Spike

Type **LCS** Test Code: **SM2540C**

File ID: Batch ID: **W0511DS** Analysis Date: **05/13/2011 00:00**
Sample ID: **LCS-W0511DS** Units : **mg/L** Run ID: **WETLAB_110511E** Prep Date: **05/13/2011 00:00**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS) 101 12 100 101 70 130

Comments:

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



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Date:
17-May-2011

QC Summary Report

Work Order:
11050604

Method Blank

File ID: 11051307.D

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

Batch ID: **MS15W0513M**

Analysis Date: **05/13/2011 10:32**

Sample ID: **MBLK MS15W0513M**

Units: **µg/L**

Run ID: **MSD_15_110513C**

Prep Date: **05/13/2011 10:32**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	9.48		10		95	70	130			
Surr: Toluene-d8	10.3		10		103	70	130			



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Surr: 4-Bromofluorobenzene

9.77

10

98

70

130



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Date:
17-May-2011

QC Summary Report

Work Order:
11050604

Laboratory Control Spike

Type LCS Test Code: EPA Method SW8260B

File ID: 11051305.D

Batch ID: MS15W0513M

Analysis Date: 05/13/2011 09:40

Sample ID: LCS MS15W0513M

Units : µg/L

Run ID: MSD_15_110513C

Prep Date: 05/13/2011 09:40

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	8.1	1	10		81	70	130			
Chloromethane	6.81	2	10		68	70(70)	130			L50
Vinyl chloride	10.3	1	10		103	70	130			
Chloroethane	9.74	1	10		97	70	130			
Bromomethane	6.67	2	10		67	70(70)	130			L50
Trichlorofluoromethane	11	1	10		110	70	130			
1,1-Dichloroethene	10.7	1	10		107	70	130			
Dichloromethane	9.7	2	10		97	70	130			
Freon-113	11.2	1	10		112	70	137			
trans-1,2-Dichloroethene	10.6	1	10		106	70	130			
Methyl tert-butyl ether (MTBE)	9.38	0.5	10		94	70	130			
1,1-Dichloroethane	10	1	10		100	70	130			
2-Butanone (MEK)	199	10	200		99.6	70	130			
cis-1,2-Dichloroethene	10	1	10		100	70	130			
Bromochloromethane	9.83	1	10		98	70	130			
Chloroform	10	1	10		100	70	130			
2,2-Dichloropropane	9.78	1	10		98	70	130			
1,2-Dichloroethane	9.62	1	10		96	70	130			
1,1,1-Trichloroethane	10.1	1	10		101	70	130			
1,1-Dichloropropene	10.7	1	10		107	70	130			
Carbon tetrachloride	10.2	1	10		102	70	130			
Benzene	9.96	0.5	10		99.6	70	130			
Dibromomethane	9.56	1	10		96	70	130			
1,2-Dichloropropane	10.1	1	10		101	70	130			
Trichloroethene	10	1	10		100	70	130			
Bromodichloromethane	9.83	1	10		98	70	130			
4-Methyl-2-pentanone (MIBK)	24.2	2.5	25		97	20	182			
cis-1,3-Dichloropropene	9.4	1	10		94	70	130			
trans-1,3-Dichloropropene	8.81	1	10		88	70	130			
1,1,2-Trichloroethane	9.26	1	10		93	70	130			
Toluene	10.4	0.5	10		104	70	130			
1,3-Dichloropropane	9.68	1	10		97	70	130			
Dibromochloromethane	9.38	1	10		94	70	130			
1,2-Dibromoethane (EDB)	20	2	20		100	70	130			
Tetrachloroethene	10.8	1	10		108	70	130			
1,1,1,2-Tetrachloroethane	9.95	1	10		100	70	130			
Chlorobenzene	10.5	1	10		105	70	130			
Ethylbenzene	10.4	0.5	10		104	70	130			
m,p-Xylene	10.8	0.5	10		108	70	130			
Bromoform	8.8	1	10		88	70	130			
Styrene	10.5	1	10		105	70	130			
o-Xylene	10.5	0.5	10		105	70	130			
1,1,2,2-Tetrachloroethane	9.19	1	10		92	70	130			
1,2,3-Trichloropropane	18.9	2	20		94	70	130			
Isopropylbenzene	10.1	1	10		101	70	130			
Bromobenzene	9.92	1	10		99	70	130			
n-Propylbenzene	10.5	1	10		105	70	130			
4-Chlorotoluene	10.4	1	10		104	70	130			
2-Chlorotoluene	10.2	1	10		102	70	130			
1,3,5-Trimethylbenzene	10.2	1	10		102	70	130			
tert-Butylbenzene	9.99	1	10		99.9	70	130			
1,2,4-Trimethylbenzene	10.1	1	10		101	70	130			
sec-Butylbenzene	10.5	1	10		105	70	130			
1,3-Dichlorobenzene	10.3	1	10		103	70	130			
1,4-Dichlorobenzene	9.73	1	10		97	70	130			
4-Isopropyltoluene	10.3	1	10		103	70	130			
1,2-Dichlorobenzene	9.67	1	10		97	70	130			
n-Butylbenzene	10.6	1	10		106	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	39.5	3	50		79	67	130			
1,2,4-Trichlorobenzene	9.44	2	10		94	70	130			
Naphthalene	6.88	2	10		69	70(70)	130			L50
Hexachlorobutadiene	18.8	2	20		94	70	130			
1,2,3-Trichlorobenzene	8.32	2	10		83	70	130			
Surr: 1,2-Dichloroethane-d4	9.57		10		96	70	130			



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Surr: Toluene-d8	10.1	10	101	70	130
Surr: 4-Bromofluorobenzene	9.66	10	97	70	130



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Date:
17-May-2011

QC Summary Report

Work Order:
11050604

Sample Matrix Spike

File ID: 11051308.D

Sample ID: 11050604-01AMS

Type MS

Test Code: EPA Method SW8260B

Batch ID: MS15W0513M

Analysis Date: 05/13/2011 10:54

Run ID: MSD_15_110513C

Prep Date: 05/13/2011 10:54

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	35.6	2.5	50	0	71	21	138			
Chloromethane	27.6	10	50	0	55	23	144			
Vinyl chloride	39.3	2.5	50	0	79	49	136			
Chloroethane	40.6	2.5	50	0	81	21	159			
Bromomethane	27.8	10	50	0	56	10	174			
Trichlorofluoromethane	45.6	2.5	50	0	91	32	154			
1,1-Dichloroethene	46.5	2.5	50	0	93	64	130			
Dichloromethane	43.3	10	50	0	87	69	130			
Freon-113	49.3	2.5	50	0	99	55	141			
trans-1,2-Dichloroethene	47.2	2.5	50	0	94	63	130			
Methyl tert-butyl ether (MTBE)	42.7	1.3	50	0	85	47	150			
1,1-Dichloroethane	46	2.5	50	0	92	66	130			
2-Butanone (MEK)	659	50	1000	0	66	23	182			
cis-1,2-Dichloroethene	47.4	2.5	50	0	95	70	130			
Bromochloromethane	45.9	2.5	50	0	92	70	132			
Chloroform	53.5	2.5	50	7.62	92	70	130			
2,2-Dichloropropane	40.8	2.5	50	0	82	38	154			
1,2-Dichloroethane	44.8	2.5	50	0	90	65	134			
1,1,1-Trichloroethane	45.5	2.5	50	0	91	65	136			
1,1-Dichloropropene	48	2.5	50	0	96	68	132			
Carbon tetrachloride	45	2.5	50	0	90	58	148			
Benzene	45.5	1.3	50	0	91	59	138			
Dibromomethane	44.2	2.5	50	0	88	70	130			
1,2-Dichloropropane	46.5	2.5	50	0	93	70	131			
Trichloroethene	46.1	2.5	50	0	92	65	144			
Bromodichloromethane	51.9	2.5	50	6.59	91	50	157			
4-Methyl-2-pentanone (MIBK)	103	13	125	0	82	20	182			
cis-1,3-Dichloropropene	40.9	2.5	50	0	82	63	131			
trans-1,3-Dichloropropene	38.3	2.5	50	0	77	65	136			
1,1,2-Trichloroethane	42.5	2.5	50	0	85	70	131			
Toluene	47	1.3	50	0	94	68	130			
1,3-Dichloropropane	44.7	2.5	50	0	89	70	130			
Dibromochloromethane	46.3	2.5	50	3.64	85	42	155			
1,2-Dibromoethane (EDB)	90.6	5	100	0	91	70	130			
Tetrachloroethene	47.7	2.5	50	0	95	65	130			
1,1,1,2-Tetrachloroethane	44.5	2.5	50	0	89	70	130			
Chlorobenzene	47.2	2.5	50	0	94	70	130			
Ethylbenzene	47.2	1.3	50	0	94	68	130			
m,p-Xylene	48.2	1.3	50	0	96	68	131			
Bromoform	40.9	2.5	50	1.08	80	65	143			
Styrene	47.3	2.5	50	0	95	59	153			
o-Xylene	47	1.3	50	0	94	70	130			
1,1,2,2-Tetrachloroethane	41.6	2.5	50	0	83	67	130			
1,2,3-Trichloropropane	86.9	10	100	0	87	70	130			
Isopropylbenzene	45.8	2.5	50	0	92	55	138			
Bromobenzene	45.1	2.5	50	0	90	70	130			
n-Propylbenzene	47.3	2.5	50	0	95	67	133			
4-Chlorotoluene	47.2	2.5	50	0	94	70	130			
2-Chlorotoluene	46.5	2.5	50	0	93	70	130			
1,3,5-Trimethylbenzene	46.3	2.5	50	0	93	67	134			
tert-Butylbenzene	46.2	2.5	50	0	92	55	147			
1,2,4-Trimethylbenzene	45.6	2.5	50	0	91	65	135			
sec-Butylbenzene	47.9	2.5	50	0	96	68	135			
1,3-Dichlorobenzene	46.5	2.5	50	0	93	70	130			
1,4-Dichlorobenzene	44.3	2.5	50	0	89	70	130			
4-Isopropyltoluene	46.8	2.5	50	0	94	68	132			
1,2-Dichlorobenzene	43.4	2.5	50	0	87	70	130			
n-Butylbenzene	48.5	2.5	50	0	97	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	180	15	250	0	72	64	130			
1,2,4-Trichlorobenzene	44.1	10	50	0	88	62	133			
Naphthalene	31.7	10	50	0	63	32	166			
Hexachlorobutadiene	87.5	10	100	0	88	63	130			
1,2,3-Trichlorobenzene	39.3	10	50	0	79	55	138			
Surr: 1,2-Dichloroethane-d4	47.8		50		96	70	130			
Surr: Toluene-d8	50.1		50		100	70	130			



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QC Summary Report

Work Order:
11050604

Surr: 4-Bromofluorobenzene

48

50

96

70

130



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Date:
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QC Summary Report

Work Order:
11050604

Sample Matrix Spike Duplicate
File ID: 11051309.D

Type MSD Test Code: EPA Method SW8260B

Batch ID: MS15W0513M

Analysis Date: 05/13/2011 11:16

Sample ID: 11050604-01AMSD

Units: µg/L

Run ID: MSD_15_110513C

Prep Date: 05/13/2011 11:16

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	34.2	2.5	50	0	68	21	138	35.55	4.0(33)	
Chloromethane	25.7	10	50	0	51	23	144	27.55	7.1(27)	
Vinyl chloride	39	2.5	50	0	78	49	136	39.25	0.6(21)	
Chloroethane	39.5	2.5	50	0	79	21	159	40.59	2.7(40)	
Bromomethane	27.7	10	50	0	55	10	174	27.77	0.2(40)	
Trichlorofluoromethane	45.5	2.5	50	0	91	32	154	45.64	0.4(37)	
1,1-Dichloroethene	45.6	2.5	50	0	91	64	130	46.49	2.0(21)	
Dichloromethane	43.5	10	50	0	87	69	130	43.26	0.4(20)	
Freon-113	48.9	2.5	50	0	98	55	141	49.25	0.7(40)	
trans-1,2-Dichloroethene	46.3	2.5	50	0	93	63	130	47.21	2.0(20)	
Methyl tert-butyl ether (MTBE)	43.2	1.3	50	0	86	47	150	42.69	1.3(40)	
1,1-Dichloroethane	44.7	2.5	50	0	89	66	130	46.03	3.0(20)	
2-Butanone (MEK)	646	50	1000	0	65	23	182	659.1	2.1(22)	
cis-1,2-Dichloroethene	45.7	2.5	50	0	91	70	130	47.41	3.7(20)	
Bromochloromethane	46	2.5	50	0	92	70	132	45.94	0.2(20)	
Chloroform	52.3	2.5	50	7.62	89	70	130	53.47	2.3(20)	
2,2-Dichloropropane	41.4	2.5	50	0	83	38	154	40.82	1.4(22)	
1,2-Dichloroethane	43.6	2.5	50	0	87	65	134	44.81	2.7(20)	
1,1,1-Trichloroethane	44.9	2.5	50	0	90	65	136	45.52	1.5(20)	
1,1-Dichloropropene	47	2.5	50	0	94	68	132	47.99	2.2(20)	
Carbon tetrachloride	44.9	2.5	50	0	90	58	148	44.95	0.1(20)	
Benzene	44.1	1.3	50	0	88	59	138	45.48	3.0(21)	
Dibromomethane	43.5	2.5	50	0	87	70	130	44.23	1.7(20)	
1,2-Dichloropropane	44.9	2.5	50	0	90	70	131	46.49	3.4(20)	
Trichloroethene	45.2	2.5	50	0	90	65	144	46.08	2.0(20)	
Bromodichloromethane	50.5	2.5	50	6.59	88	50	157	51.87	2.7(20)	
4-Methyl-2-pentanone (MIBK)	101	13	125	0	81	20	182	103.1	2.2(20)	
cis-1,3-Dichloropropene	40.2	2.5	50	0	80	63	131	40.94	1.7(20)	
trans-1,3-Dichloropropene	37.1	2.5	50	0	74	65	136	38.29	3.2(20)	
1,1,2-Trichloroethane	42	2.5	50	0	84	70	131	42.53	1.2(20)	
Toluene	45.7	1.3	50	0	91	68	130	46.95	2.8(20)	
1,3-Dichloropropane	43.1	2.5	50	0	86	70	130	44.72	3.8(20)	
Dibromochloromethane	45.6	2.5	50	3.64	84	42	155	46.34	1.6(20)	
1,2-Dibromoethane (EDB)	90.1	5	100	0	90	70	130	90.57	0.5(20)	
Tetrachloroethene	46.3	2.5	50	0	93	65	130	47.71	3.0(20)	
1,1,1,2-Tetrachloroethane	44.2	2.5	50	0	88	70	130	44.54	0.9(20)	
Chlorobenzene	46.1	2.5	50	0	92	70	130	47.24	2.5(20)	
Ethylbenzene	45.5	1.3	50	0	91	68	130	47.16	3.5(20)	
m,p-Xylene	47.2	1.3	50	0	94	68	131	48.17	2.0(20)	
Bromoform	40.6	2.5	50	1.08	79	65	143	40.86	0.7(20)	
Styrene	45.9	2.5	50	0	92	59	153	47.34	3.0(37)	
o-Xylene	45.9	1.3	50	0	92	70	130	46.97	2.3(20)	
1,1,2,2-Tetrachloroethane	40.9	2.5	50	0	82	67	130	41.62	1.8(20)	
1,2,3-Trichloropropane	84.9	10	100	0	85	70	130	86.89	2.3(20)	
Isopropylbenzene	43.8	2.5	50	0	88	55	138	45.8	4.4(20)	
Bromobenzene	42.9	2.5	50	0	86	70	130	45.08	4.9(20)	
n-Propylbenzene	45.8	2.5	50	0	92	67	133	47.34	3.3(30)	
4-Chlorotoluene	45.3	2.5	50	0	91	70	130	47.2	4.2(20)	
2-Chlorotoluene	44.7	2.5	50	0	89	70	130	46.53	3.9(20)	
1,3,5-Trimethylbenzene	44.2	2.5	50	0	88	67	134	46.33	4.7(21)	
tert-Butylbenzene	44.1	2.5	50	0	88	55	147	46.16	4.7(20)	
1,2,4-Trimethylbenzene	43.9	2.5	50	0	88	65	135	45.62	4.0(25)	
sec-Butylbenzene	46.1	2.5	50	0	92	68	135	47.86	3.8(20)	
1,3-Dichlorobenzene	45.1	2.5	50	0	90	70	130	46.5	3.0(20)	
1,4-Dichlorobenzene	42.4	2.5	50	0	85	70	130	44.34	4.4(20)	
4-Isopropyltoluene	45.1	2.5	50	0	90	68	132	46.84	3.7(20)	
1,2-Dichlorobenzene	42.2	2.5	50	0	84	70	130	43.36	2.8(20)	
n-Butylbenzene	46.8	2.5	50	0	94	62	134	48.52	3.7(21)	
1,2-Dibromo-3-chloropropane (DBCP)	178	15	250	0	71	64	130	179.5	1.1(20)	
1,2,4-Trichlorobenzene	42.7	10	50	0	85	62	133	44.05	3.2(29)	
Naphthalene	32.1	10	50	0	64	32	166	31.69	1.4(40)	
Hexachlorobutadiene	87.4	10	100	0	87	63	130	87.52	0.2(21)	
1,2,3-Trichlorobenzene	38.3	10	50	0	77	55	138	39.25	2.6(36)	
Surr: 1,2-Dichloroethane-d4	47.7		50		95	70	130			
Surr: Toluene-d8	49.9		50		99.8	70	130			



Alpha Analytical, Inc.

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

Date:

17-May-2011

QC Summary Report

Work Order:

11050604

Surr: 4-Bromofluorobenzene	47.2	50	94	70	130
----------------------------	------	----	----	----	-----

Comments:

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

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

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

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 : BMIS11050604
 Report Due By : 5:00 PM On : 19-May-2011

Client: Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

Report Attention Phone Number Email Address
 David Comer (619) 726-7311 x comerd@battelle.org
 Betsy Cutie (614) 424-4899 x cutiee@battelle.org
 Shane Walton (614) 424-4117 x waltons@battelle.org

EDD Required : Yes

Sampled by : David Loera

Cooler Temp Samples Received Date Printed
 0 °C 06-May-2011 06-May-2011

Client's COC # : 024362, 29198 Job : G005862/JPL Groundwater Monitoring
 QC Level : DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub TAT	Requested Tests						Sample Remarks	
				300_0_W	314_W	ALKALINITY_W	METALS_D_W	PH_W	TDS_W		VOC_TIC_W
BMI11050604-01A	MMW-16	AQ 05/05/11 09:50	12 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Card/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD
BMI11050604-02A	MMW-20-5	AQ 05/05/11 08:04	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Card/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	Level IV QC
BMI11050604-03A	MMW-20-4	AQ 05/05/11 08:44	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Card/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11050604-04A	MMW-20-3	AQ 05/05/11 09:50	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Card/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11050604-05A	MMW-20-2	AQ 05/05/11 10:25	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Card/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11050604-06A	MMW-20-1	AQ 05/05/11 11:01	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Card/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11050604-07A	DUPE-2-2Q11	AQ 05/05/11 00:00	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Card/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11050604-08A	EB-8-5/5/11	AQ 05/05/11 10:45	5 0 9	NO2, NO3, SO4, Cl, PO4	Perchlorate (Card/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11050604-09A	TB-8-5/5/11	AQ 05/05/11 00:00	1 0 9								Reno Trip Blank 4/4/11

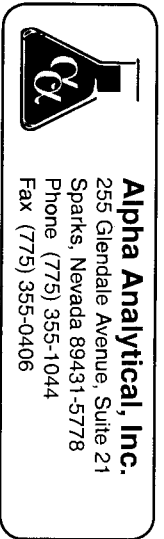
Comments: Security seals intact. Frozen ice. Temp Blank #7848 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD):

Logged in by: Elizabeth Alcox Signature: Elizabeth Alcox Print Name: Elizabeth Alcox Company: Alpha Analytical, Inc. Date/Time: 5:11 1054

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 Battelle
 Address 505 King Ave
 City, State, Zip Columbus OH 43201
 Phone Number 614 726-7311 Fax 614 458-6641



Samples Collected From Which State?

AZ CA NV WA
 ID OR OTHER

Page # 024562 of 1

Analyses Required

Client Name	<u>David Lerner</u>	P.O. #	<u>218013</u>	Job #	<u>500862/5PL GUM</u>
Address		Email Address	<u>conrad@battelle</u>		
City, State, Zip		Phone #	<u>614 726-7311</u>	Fax #	<u>614 458-6641</u>
Time Sampled	<u>0950 5/11</u>	Matrix* See Key Below	<u>AB</u>	Report Attention	<u>David Lerner</u>
Date Sampled	<u>5/11</u>	Lab ID Number (Use Only)	<u>BM111050604-01</u>	Sample Description	<u>MW-16</u>
				TAT	<u>ID</u>
				Field Filled	<u>BU 6/1</u>
				Total and type of containers ** See below	<u>VOC's (524.2)</u>
					<u>Total Cr (200.8)</u>
					<u>*Cations</u>
					<u>**Anions</u>
					<u>TDS (SM 2540C)</u>
					<u>pH (150.2)</u>
					<u>B. carbonate</u>
					<u>Carbonate (SM 2370B)</u>
				Global ID #	<u>MS/MSD</u>
				REMARKS	

ADDITIONAL INSTRUCTIONS: *As, Pb, Ca, Mg, K, Na, Fe, ~~Al~~ chloride, nitrate, nitrite, orthophosphate, sulfate, perchlorate, alkalinity

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	<u>David Lerner</u>	<u>Battelle</u>	<u>5-5-11</u>	<u>1108</u>
<i>[Signature]</i>	<u>Anthony Steir</u>	<u>Ar. State</u>	<u>5-5-11</u>	<u>1210</u>
<i>[Signature]</i>	<u>Elizabeth Adcox</u>	<u>Alpha</u>	<u>5-10-11</u>	<u>1054</u>

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

Billing Information:

Name BATTELLE / 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? 29198
 AZ CA NV WA
 ID OR OTHER
 Page # 1 of 1

Client Name BATTELLE / DAVID CONNER PO. # 218013 Job # 6005862
 Address 3990 OLD TOWN RUE CROS Email Address CONNARD@BATTELLE
 City, State, Zip SAN DIEGO CA 92110 Phone # (619) 726-7311 Fax # 614-458-6641

Analyses Required
 VOC'S (524.2)
 LEAD, ARSENIC, TOTAL CR (200.8)
 CLO4 (34.0)
 Na, K, Ca, Mg, Fe (200.8)
 CO2, HCO3, TDS, PH, ALKALINITY
 SM2220B, SM2540C, ISO2
 CL-NO3, NO2, SO4, PO4
 Required QC Level? I II III IV
 EDP/EDF? YES NO

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filled	Total and type of containers ** See below	Analyses Required												REMARKS	
804	5/5/11	AQ				DAVID CONNER	MW-20-5			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IV QC
844	1						MW-20-4			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
950	1						MW-20-3			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
1025	1						MW-20-2			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
1101	1						MW-20-1			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
-							DUPE - 2 - 2&11			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	DUPE-2&11
1045	1						EB - 8 - 5/5/11			5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Equip Blank
-							TRB - 8 - 5/5/11			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Trip Blank

ADDITIONAL INSTRUCTIONS:

Signature	Print Name	Company	Date	Time
	Markes Mendez	INSICAT	5/5/11	1209
	Anthony Steer	Alpha Analytical	5/15/11	1800
	Anthony Steer	Alpha	5/15/11	1800
	Elizabeth Adcox	Alpha	5-16-11	1054

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



Alpha Analytical, Inc.

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

Date: 23-May-11

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11051102

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
11051102-01A	MW-3-5	Aqueous
11051102-02A	MW-3-4	Aqueous
11051102-03A	MW-3-3	Aqueous
11051102-04A	MW-3-2	Aqueous
11051102-05A	MW-3-1	Aqueous
11051102-06A	EB-9-5/10/11	Aqueous
11051102-07A	TB-9-5/10/11	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
11051102-04A	EPA Method 314.0	Perchlorate

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

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

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

Roger Scholl *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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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



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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/11/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-3-5				
Lab ID : BMI11051102-01A	Chloride	13	0.50 mg/L	05/11/11 11:17 05/11/11 13:14
Date Sampled 05/10/11 07:44	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/11 11:17 05/11/11 13:14
	Nitrate (NO3) - N	ND	0.25 mg/L	05/11/11 11:17 05/11/11 13:14
	Phosphate, ortho - P	ND	0.50 mg/L	05/11/11 11:17 05/11/11 13:14
	Sulfate (SO4)	10	0.50 mg/L	05/11/11 11:17 05/11/11 13:14
Client ID: MW-3-4				
Lab ID : BMI11051102-02A	Chloride	13	0.50 mg/L	05/11/11 11:17 05/11/11 13:33
Date Sampled 05/10/11 08:25	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/11 11:17 05/11/11 13:33
	Nitrate (NO3) - N	0.34	0.25 mg/L	05/11/11 11:17 05/11/11 13:33
	Phosphate, ortho - P	ND	0.50 mg/L	05/11/11 11:17 05/11/11 13:33
	Sulfate (SO4)	20	0.50 mg/L	05/11/11 11:17 05/11/11 13:33
Client ID: MW-3-3				
Lab ID : BMI11051102-03A	Chloride	24	0.50 mg/L	05/11/11 11:17 05/11/11 14:28
Date Sampled 05/10/11 09:29	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/11 11:17 05/11/11 14:28
	Nitrate (NO3) - N	ND	0.25 mg/L	05/11/11 11:17 05/11/11 14:28
	Phosphate, ortho - P	ND	0.50 mg/L	05/11/11 11:17 05/11/11 14:28
	Sulfate (SO4)	5.6	0.50 mg/L	05/11/11 11:17 05/11/11 14:28
Client ID: MW-3-2				
Lab ID : BMI11051102-04A	Chloride	19	0.50 mg/L	05/11/11 11:17 05/11/11 14:46
Date Sampled 05/10/11 10:09	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/11 11:17 05/11/11 14:46
	Nitrate (NO3) - N	0.90	0.25 mg/L	05/11/11 11:17 05/11/11 14:46
	Phosphate, ortho - P	ND	0.50 mg/L	05/11/11 11:17 05/11/11 14:46
	Sulfate (SO4)	49	0.50 mg/L	05/11/11 11:17 05/11/11 14:46
Client ID: MW-3-1				
Lab ID : BMI11051102-05A	Chloride	12	0.50 mg/L	05/11/11 11:17 05/11/11 15:05
Date Sampled 05/10/11 13:15	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/11 11:17 05/11/11 15:05
	Nitrate (NO3) - N	ND	0.25 mg/L	05/11/11 11:17 05/11/11 15:05
	Phosphate, ortho - P	ND	0.50 mg/L	05/11/11 11:17 05/11/11 15:05
	Sulfate (SO4)	17	0.50 mg/L	05/11/11 11:17 05/11/11 15:05
Client ID: EB-9-5/10/11				
Lab ID : BMI11051102-06A	Chloride	ND	0.50 mg/L	05/11/11 11:17 05/11/11 15:24
Date Sampled 05/10/11 13:02	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/11 11:17 05/11/11 15:24
	Nitrate (NO3) - N	ND	0.25 mg/L	05/11/11 11:17 05/11/11 15:24
	Phosphate, ortho - P	ND	0.50 mg/L	05/11/11 11:17 05/11/11 15:24
	Sulfate (SO4)	ND	0.50 mg/L	05/11/11 11:17 05/11/11 15:24



Alpha Analytical, Inc.

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

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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

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

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

5/24/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/11/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-3-5 Lab ID: BMI11051102-01A Perchlorate Date Sampled 05/10/11 07:44	ND	1.00 µg/L	05/12/11 12:31	05/12/11 14:40
Client ID: MW-3-4 Lab ID: BMI11051102-02A Perchlorate Date Sampled 05/10/11 08:25	ND	1.00 µg/L	05/12/11 12:31	05/12/11 14:59
Client ID: MW-3-3 Lab ID: BMI11051102-03A Perchlorate Date Sampled 05/10/11 09:29	ND	1.00 µg/L	05/12/11 12:31	05/12/11 15:54
Client ID: MW-3-2 Lab ID: BMI11051102-04A Perchlorate Date Sampled 05/10/11 10:09	12.9	1.00 µg/L	05/12/11 12:31	05/12/11 16:12
Client ID: MW-3-1 Lab ID: BMI11051102-05A Perchlorate Date Sampled 05/10/11 13:15	ND	1.00 µg/L	05/12/11 12:31	05/12/11 16:31
Client ID: EB-9-5/10/11 Lab ID: BMI11051102-06A Perchlorate Date Sampled 05/10/11 13:02	ND	1.00 µg/L	05/12/11 12:31	05/12/11 16:49

ND = Not Detected

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

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

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

5/24/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/11/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-3-5				
Lab ID : BM111051102-01A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/12/11 12:58
Date Sampled 05/10/11 07:44	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/11 12:58
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/12/11 12:58
Client ID: MW-3-4				
Lab ID : BM111051102-02A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/12/11 13:02
Date Sampled 05/10/11 08:25	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/11 13:02
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/12/11 13:02
Client ID: MW-3-3				
Lab ID : BM111051102-03A	Alkalinity, Bicarbonate (As CaCO3)	190	10 mg/L	05/12/11 13:09
Date Sampled 05/10/11 09:29	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/11 13:09
	Alkalinity, Total (As CaCO3 at pH 4.5)	190	10 mg/L	05/12/11 13:09
Client ID: MW-3-2				
Lab ID : BM111051102-04A	Alkalinity, Bicarbonate (As CaCO3)	220	10 mg/L	05/12/11 13:19
Date Sampled 05/10/11 10:09	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/11 13:19
	Alkalinity, Total (As CaCO3 at pH 4.5)	220	10 mg/L	05/12/11 13:19
Client ID: MW-3-1				
Lab ID : BM111051102-05A	Alkalinity, Bicarbonate (As CaCO3)	220	10 mg/L	05/12/11 13:22
Date Sampled 05/10/11 13:15	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/11 13:22
	Alkalinity, Total (As CaCO3 at pH 4.5)	220	10 mg/L	05/12/11 13:22
Client ID: EB-9-5/10/11				
Lab ID : BM111051102-06A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/12/11 13:28
Date Sampled 05/10/11 13:02	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/11 13:28
	Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/12/11 13:28

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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


5/24/11

Report Date



Alpha Analytical, Inc.

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

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/11/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-3-5				
Lab ID : BM11051102-01A	Sodium (Na)	42	0.50 mg/L	05/13/11 22:28 05/19/11 15:10
Date Sampled 05/10/11 07:44	Magnesium (Mg)	7.3	0.50 mg/L	05/13/11 22:28 05/19/11 15:10
	Potassium (K)	2.0	0.50 mg/L	05/13/11 22:28 05/19/11 15:10
	Calcium (Ca)	30	0.50 mg/L	05/13/11 22:28 05/19/11 15:10
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28 05/19/11 15:10
	Iron (Fe)	0.93	0.30 mg/L	05/13/11 22:28 05/20/11 10:56
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28 05/20/11 10:56
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28 05/19/11 15:10
Client ID: MW-3-4				
Lab ID : BM11051102-02A	Sodium (Na)	42	0.50 mg/L	05/13/11 22:28 05/19/11 14:48
Date Sampled 05/10/11 08:25	Magnesium (Mg)	7.7	0.50 mg/L	05/13/11 22:28 05/19/11 14:48
	Potassium (K)	2.0	0.50 mg/L	05/13/11 22:28 05/19/11 14:48
	Calcium (Ca)	33	0.50 mg/L	05/13/11 22:28 05/19/11 14:48
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28 05/19/11 14:48
	Iron (Fe)	0.36	0.30 mg/L	05/13/11 22:28 05/19/11 14:48
	Arsenic (As)	0.0026	0.0020 mg/L	05/13/11 22:28 05/19/11 14:48
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28 05/19/11 14:48
Client ID: MW-3-3				
Lab ID : BM11051102-03A	Sodium (Na)	37	0.50 mg/L	05/13/11 22:28 05/19/11 15:16
Date Sampled 05/10/11 09:29	Magnesium (Mg)	16	0.50 mg/L	05/13/11 22:28 05/24/11 13:15
	Potassium (K)	2.9	0.50 mg/L	05/13/11 22:28 05/19/11 15:16
	Calcium (Ca)	36	0.50 mg/L	05/13/11 22:28 05/19/11 15:16
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28 05/19/11 15:16
	Iron (Fe)	0.92	0.30 mg/L	05/13/11 22:28 05/19/11 15:16
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28 05/19/11 15:16
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28 05/19/11 15:16
Client ID: MW-3-2				
Lab ID : BM11051102-04A	Sodium (Na)	18	0.50 mg/L	05/13/11 22:28 05/19/11 15:21
Date Sampled 05/10/11 10:09	Magnesium (Mg)	19	0.50 mg/L	05/13/11 22:28 05/19/11 15:21
	Potassium (K)	3.0	0.50 mg/L	05/13/11 22:28 05/19/11 15:21
	Calcium (Ca)	68	0.50 mg/L	05/13/11 22:28 05/19/11 15:21
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28 05/19/11 15:21
	Iron (Fe)	0.41	0.30 mg/L	05/13/11 22:28 05/19/11 15:21
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28 05/19/11 15:21
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28 05/19/11 15:21



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

Lab ID : BMI11051102-05A	Sodium (Na)	20	0.50 mg/L	05/13/11 22:28	05/19/11 15:27
Date Sampled 05/10/11 13:15	Magnesium (Mg)	15	0.50 mg/L	05/13/11 22:28	05/19/11 15:27
	Potassium (K)	2.9	0.50 mg/L	05/13/11 22:28	05/19/11 15:27
	Calcium (Ca)	55	0.50 mg/L	05/13/11 22:28	05/19/11 15:27
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 15:27
	Iron (Fe)	4.0	0.30 mg/L	05/13/11 22:28	05/19/11 15:27
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 15:27
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 15:27

Client ID: **EB-9-5/10/11**

Lab ID : BMI11051102-06A	Sodium (Na)	ND	0.50 mg/L	05/13/11 22:28	05/19/11 15:32
Date Sampled 05/10/11 13:02	Magnesium (Mg)	ND	0.50 mg/L	05/13/11 22:28	05/19/11 15:32
	Potassium (K)	ND	0.50 mg/L	05/13/11 22:28	05/19/11 15:32
	Calcium (Ca)	ND	0.50 mg/L	05/13/11 22:28	05/19/11 15:32
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 15:32
	Iron (Fe)	ND	0.30 mg/L	05/13/11 22:28	05/19/11 15:32
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 15:32
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 15:32

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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5/24/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/11/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-3-5				
Lab ID : BMII1051102-01A pH	8.0	1.7 pH Units	05/11/11 13:39	05/11/11 13:39
Date Sampled 05/10/11 07:44 pH - Temperature	20	1.0 °C	05/11/11 13:39	05/11/11 13:39
Client ID: MW-3-4				
Lab ID : BMII1051102-02A pH	8.0	1.7 pH Units	05/11/11 13:43	05/11/11 13:43
Date Sampled 05/10/11 08:25 pH - Temperature	19	1.0 °C	05/11/11 13:43	05/11/11 13:43
Client ID: MW-3-3				
Lab ID : BMII1051102-03A pH	8.2	1.7 pH Units	05/11/11 13:46	05/11/11 13:46
Date Sampled 05/10/11 09:29 pH - Temperature	19	1.0 °C	05/11/11 13:46	05/11/11 13:46
Client ID: MW-3-2				
Lab ID : BMII1051102-04A pH	7.6	1.7 pH Units	05/11/11 13:48	05/11/11 13:48
Date Sampled 05/10/11 10:09 pH - Temperature	19	1.0 °C	05/11/11 13:48	05/11/11 13:48
Client ID: MW-3-1				
Lab ID : BMII1051102-05A pH	7.5	1.7 pH Units	05/11/11 13:50	05/11/11 13:50
Date Sampled 05/10/11 13:15 pH - Temperature	19	1.0 °C	05/11/11 13:50	05/11/11 13:50
Client ID: EB-9-5/10/11				
Lab ID : BMI11051102-06A pH	6.5	1.7 pH Units	05/11/11 13:55	05/11/11 13:55
Date Sampled 05/10/11 13:02 pH - Temperature	20	1.0 °C	05/11/11 13:55	05/11/11 13:55

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

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

Roger Scholl *Randy Gardner* *Walter Hinchman*

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

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5/24/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/11/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)
SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-3-5 Lab ID: BMII1051102-01A Date Sampled 05/10/11 07:44 Solids, Total Dissolved (TDS)	210	10 mg/L	05/13/11	05/13/11
Client ID: MW-3-4 Lab ID: BMII1051102-02A Date Sampled 05/10/11 08:25 Solids, Total Dissolved (TDS)	240	10 mg/L	05/13/11	05/13/11
Client ID: MW-3-3 Lab ID: BMII1051102-03A Date Sampled 05/10/11 09:29 Solids, Total Dissolved (TDS)	290	10 mg/L	05/13/11	05/13/11
Client ID: MW-3-2 Lab ID: BMII1051102-04A Date Sampled 05/10/11 10:09 Solids, Total Dissolved (TDS)	320	10 mg/L	05/13/11	05/13/11
Client ID: MW-3-1 Lab ID: BMII1051102-05A Date Sampled 05/10/11 13:15 Solids, Total Dissolved (TDS)	270	10 mg/L	05/13/11	05/13/11
Client ID: EB-9-5/10/11 Lab ID: BMII1051102-06A Date Sampled 05/10/11 13:02 Solids, Total Dissolved (TDS)	ND	10 mg/L	05/13/11	05/13/11

ND = Not Detected

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5/24/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051102-04A
Client I.D. Number: MW-3-2

Sampled: 05/10/11 10:09
Received: 05/11/11
Extracted: 05/16/11 15:02
Analyzed: 05/16/11 15:02

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	Q 2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	Q 1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	98	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	100	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	93	(70-130) %REC
34 2-Hexanone	ND	5.0 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

This replaces the report signed 5/24/11 due to a change in the analyte list, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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7/28/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

Client ID :	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID : MW-3-5 Lab ID : BMII1051102-01A Date Received : 05/11/11 Date Sampled : 05/10/11 07:44	*** None Found ***	ND	2.0 µg/L	05/16/11 13:57	05/16/11 13:57
Client ID : MW-3-4 Lab ID : BMII1051102-02A Date Received : 05/11/11 Date Sampled : 05/10/11 08:25	*** None Found ***	ND	2.0 µg/L	05/16/11 14:19	05/16/11 14:19
Client ID : MW-3-3 Lab ID : BMII1051102-03A Date Received : 05/11/11 Date Sampled : 05/10/11 09:29	*** None Found ***	ND	4.0 µg/L	05/16/11 14:41	05/16/11 14:41
Client ID : MW-3-2 Lab ID : BMII1051102-04A Date Received : 05/11/11 Date Sampled : 05/10/11 10:09	1-Chlorobutane 2-Nitropropane Acrylonitrile Allyl chloride Chloroacetonitrile Diethyl ether Ethyl methacrylate Methacrylonitrile Methyl iodide Methyl methacrylate Methyl methacrylate Tetrahydrofuran trans-1,4-Dichloro-2-butene 1,1-Dichloropropanone Hexachloroethane Nitrobenzene Propionitrile	ND ND ND ND ND ND ND ND ND ND ND ND ND ND ND ND ND ND	2.0 µg/L 2.0 µg/L 10 µg/L 2.0 µg/L 10 µg/L 2.0 µg/L 10 µg/L 10 µg/L 2.0 µg/L 10 µg/L 10 µg/L 10 µg/L 10 µg/L 2.5 µg/L 10 µg/L 10 µg/L 10 µg/L 50 µg/L	05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02	05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02 05/16/11 15:02
Client ID : MW-3-1 Lab ID : BMII1051102-05A Date Received : 05/11/11 Date Sampled : 05/10/11 13:15	*** None Found ***	ND	2.0 µg/L	05/16/11 15:24	05/16/11 15:24
Client ID : EB-9-5/10/11 Lab ID : BMII1051102-06A Date Received : 05/11/11 Date Sampled : 05/10/11 13:02	*** None Found ***	ND	2.0 µg/L	05/16/11 13:36	05/16/11 13:36



Alpha Analytical, Inc.

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Client ID : **TB-9-5/10/11**

Lab ID : BMI11051102-07A *** None Found *** ND 2.0 µg/L 05/16/11 13:14 05/16/11 13:14

Date Received : 05/11/11

Date Sampled : 05/10/11 00:00

Note: Analysis conducted using EPA Method 524.2 criteria.

O = Reporting Limits were increased due to sample foaming.

This replaces the report signed 5/24/11 due to a change in the analyte list, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
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7/28/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051102-01A
Client I.D. Number: MW-3-5

Sampled: 05/10/11 07:44
Received: 05/11/11
Extracted: 05/16/11 13:57
Analyzed: 05/16/11 13:57

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	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	Q 2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

5/24/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051102-02A
Client I.D. Number: MW-3-4

Sampled: 05/10/11 08:25
Received: 05/11/11
Extracted: 05/16/11 14:19
Analyzed: 05/16/11 14:19

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	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	Q 2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	97	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	93	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/24/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051102-03A
Client I.D. Number: MW-3-3

Sampled: 05/10/11 09:29
Received: 05/11/11
Extracted: 05/16/11 14:41
Analyzed: 05/16/11 14:41

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	1.0 µg/L	36 1,1,1,2-Tetrachloroethane	ND	1.0 µg/L
2 Chloromethane	ND	2.0 µg/L	37 Chlorobenzene	ND	1.0 µg/L
3 Vinyl chloride	ND	1.0 µg/L	38 Ethylbenzene	ND	1.0 µg/L
4 Chloroethane	ND	1.0 µg/L	39 m,p-Xylene	ND	1.0 µg/L
5 Bromomethane	ND	2.0 µg/L	40 Bromoform	ND	1.0 µg/L
6 Trichlorofluoromethane	ND	1.0 µg/L	41 Styrene	ND	1.0 µg/L
7 1,1-Dichloroethene	ND	1.0 µg/L	42 o-Xylene	ND	1.0 µg/L
8 Dichloromethane	ND	2.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	1.0 µg/L
9 Freon-113	ND	1.0 µg/L	44 1,2,3-Trichloropropane	ND	2.0 µg/L
10 trans-1,2-Dichloroethene	ND	1.0 µg/L	45 Isopropylbenzene	ND	1.0 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	1.0 µg/L	46 Bromobenzene	ND	1.0 µg/L
12 1,1-Dichloroethane	ND	1.0 µg/L	47 n-Propylbenzene	ND	1.0 µg/L
13 2-Butanone (MEK)	ND	20 µg/L	48 4-Chlorotoluene	ND	1.0 µg/L
14 cis-1,2-Dichloroethene	ND	1.0 µg/L	49 2-Chlorotoluene	ND	1.0 µg/L
15 Bromochloromethane	ND	1.0 µg/L	50 1,3,5-Trimethylbenzene	ND	1.0 µg/L
16 Chloroform	ND	1.0 µg/L	51 tert-Butylbenzene	ND	1.0 µg/L
17 2,2-Dichloropropane	ND	1.0 µg/L	52 1,2,4-Trimethylbenzene	ND	1.0 µg/L
18 1,2-Dichloroethane	ND	1.0 µg/L	53 sec-Butylbenzene	ND	1.0 µg/L
19 1,1,1-Trichloroethane	ND	1.0 µg/L	54 1,3-Dichlorobenzene	ND	1.0 µg/L
20 1,1-Dichloropropene	ND	1.0 µg/L	55 1,4-Dichlorobenzene	ND	1.0 µg/L
21 Carbon tetrachloride	ND	1.0 µg/L	56 4-Isopropyltoluene	ND	1.0 µg/L
22 Benzene	ND	1.0 µg/L	57 1,2-Dichlorobenzene	ND	1.0 µg/L
23 Dibromomethane	ND	1.0 µg/L	58 n-Butylbenzene	ND	1.0 µg/L
24 1,2-Dichloropropane	ND	1.0 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	Q 5.0 µg/L
25 Trichloroethene	ND	1.0 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	1.0 µg/L	61 Naphthalene	ND	Q 2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	5.0 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	1.0 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	1.0 µg/L	64 Surr: 1,2-Dichloroethane-d4	96	(70-130) %REC
30 1,1,2-Trichloroethane	ND	1.0 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	1.0 µg/L	66 Surr: 4-Bromofluorobenzene	95	(70-130) %REC
32 1,3-Dichloropropane	ND	1.0 µg/L			
33 Dibromochloromethane	ND	1.0 µg/L			
34 1,2-Dibromoethane (EDB)	ND	2.0 µg/L			
35 Tetrachloroethene	ND	1.0 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

Reporting Limits were increased due to sample foaming.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/24/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051102-05A
Client I.D. Number: MW-3-1

Sampled: 05/10/11 13:15
Received: 05/11/11
Extracted: 05/16/11 15:24
Analyzed: 05/16/11 15:24

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	1.0 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	Q 2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	96	(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	93	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/24/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051102-06A
Client I.D. Number: EB-9-5/10/11

Sampled: 05/10/11 13:02
Received: 05/11/11
Extracted: 05/16/11 13:36
Analyzed: 05/16/11 13:36

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	Q 2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	93	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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

5/24/11

Report Date

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



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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051102-07A
Client I.D. Number: TB-9-5/10/11

Sampled: 05/10/11 00:00
Received: 05/11/11
Extracted: 05/16/11 13:14
Analyzed: 05/16/11 13:14

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	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	Q 2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	99	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	91	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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

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

5/24/11

Report Date



Alpha Analytical, Inc.

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

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

VOC Sample Preservation Report

Work Order: BMI11051102

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11051102-01A	MW-3-5	Aqueous	2
11051102-02A	MW-3-4	Aqueous	2
11051102-03A	MW-3-3	Aqueous	2
11051102-04A	MW-3-2	Aqueous	2
11051102-05A	MW-3-1	Aqueous	2
11051102-06A	EB-9-5/10/11	Aqueous	2
11051102-07A	TB-9-5/10/11	Aqueous	2

5/24/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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Date:
13-May-11

QC Summary Report

Work Order:
11051102

Method Blank

File ID: 22	Type MBLK	Test Code: EPA Method 300.0	Batch ID: 26513	Analysis Date: 05/11/2011 12:19						
Sample ID: MB-26513	Units : mg/L	Run ID: IC_1_110511A	Prep Date: 05/11/2011 11:17							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

File ID: 23	Type LFB	Test Code: EPA Method 300.0	Batch ID: 26513	Analysis Date: 05/11/2011 12:37						
Sample ID: LFB-26513	Units : mg/L	Run ID: IC_1_110511A	Prep Date: 05/11/2011 11:17							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	49.3	0.5	50		99	90	110			
Nitrite (NO2) - N	5.32	0.25	5		106	90	110			
Nitrate (NO3) - N	4.9	0.25	5		98	90	110			
Phosphate, ortho - P	4.97	0.5	5		99	90	110			
Sulfate (SO4)	98.7	0.5	100		99	90	110			

Sample Matrix Spike

File ID: 27	Type LFM	Test Code: EPA Method 300.0	Batch ID: 26513	Analysis Date: 05/11/2011 13:51						
Sample ID: 11051102-02ALFM	Units : mg/L	Run ID: IC_1_110511A	Prep Date: 05/11/2011 11:17							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	115	0.5	100	13.41	101	80	120			
Nitrite (NO2) - N	11.3	0.25	10	0	113	80	120			
Nitrate (NO3) - N	10.5	0.25	10	0.3429	102	80	120			
Phosphate, ortho - P	11.6	0.5	10	0	116	80	120			
Sulfate (SO4)	205	0.5	200	19.81	93	80	120			

Sample Matrix Spike Duplicate

File ID: 28	Type LFMD	Test Code: EPA Method 300.0	Batch ID: 26513	Analysis Date: 05/11/2011 14:09						
Sample ID: 11051102-02ALFMD	Units : mg/L	Run ID: IC_1_110511A	Prep Date: 05/11/2011 11:17							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	114	0.5	100	13.41	101	80	120	114.6	0.1(15)	
Nitrite (NO2) - N	11	0.25	10	0	110	80	120	11.28	2.4(15)	
Nitrate (NO3) - N	10.4	0.25	10	0.3429	100	80	120	10.52	1.2(15)	
Phosphate, ortho - P	11.1	0.5	10	0	111	80	120	11.57	4.3(15)	
Sulfate (SO4)	205	0.5	200	19.81	93	80	120	204.9	0.1(15)	

Comments:

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



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Date:
16-May-11

QC Summary Report

Work Order:
11051102

Method Blank

File ID: 14	Type MBLK	Test Code: EPA Method 314.0								
		Batch ID: 26522	Analysis Date: 05/12/2011 13:27							
Sample ID: MB-26522	Units : µg/L	Run ID: IC_3_110512A	Prep Date: 05/12/2011 12:31							
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: 26522	Analysis Date: 05/12/2011 13:45							
Sample ID: LFB-26522	Units : µg/L	Run ID: IC_3_110512A	Prep Date: 05/12/2011 12:31							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.8	2	25		91	85	115			

Sample Matrix Spike

File ID: 20	Type LFM	Test Code: EPA Method 314.0								
		Batch ID: 26522	Analysis Date: 05/12/2011 15:17							
Sample ID: 11051102-02ALFM	Units : µg/L	Run ID: IC_3_110512A	Prep Date: 05/12/2011 12:31							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	23.1	2	25	0	92	80	120			

Sample Matrix Spike Duplicate

File ID: 21	Type LFMD	Test Code: EPA Method 314.0								
		Batch ID: 26522	Analysis Date: 05/12/2011 15:36							
Sample ID: 11051102-02ALFMD	Units : µg/L	Run ID: IC_3_110512A	Prep Date: 05/12/2011 12:31							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	23.3	2	25	0	93	80	120	23.05	1.0(15)	

Comments:

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Date:
13-May-11

QC Summary Report

Work Order:
11051102

Laboratory Control Spike

Type **LCS** Test Code: **SM2320B**

File ID:

Batch ID: **W0512AL**

Analysis Date: **05/05/2011 12:24**

Sample ID: **LCS-W0512AL**

Units : **mg/L**

Run ID: **WETLAB_110512B**

Prep Date: **05/05/2011 12:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO ₃)	221	10	250		88	80	120			
Alkalinity, Carbonate (As CaCO ₃)	221	10	250		88	80	120			
Alkalinity, Total (As CaCO ₃ at pH 4.5)	221	10	250		88	80	120			

Comments:

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Date:
24-May-11

QC Summary Report

Work Order:
11051102

Method Blank

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

File ID: **051911.B1062_M.D**

Batch ID: **26532**

Analysis Date: **05/19/2011 14:20**

Sample ID: **MB-26532**

Units : **mg/L**

Run ID: **ICP/MS_110519C**

Prep Date: **05/13/2011 22:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

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

File ID: **051911.B1063_M.D**

Batch ID: **26532**

Analysis Date: **05/19/2011 14:25**

Sample ID: **LCS-26532**

Units : **mg/L**

Run ID: **ICP/MS_110519C**

Prep Date: **05/13/2011 22:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	4.91	0.5	5		98	85	115			
Magnesium (Mg)	4.39	0.5	5		88	85	115			
Potassium (K)	5.33	0.5	5		107	85	115			
Calcium (Ca)	5.28	0.5	5		106	85	115			
Chromium (Cr)	0.0524	0.005	0.05		105	85	115			
Iron (Fe)	5.43	0.3	5		109	85	115			
Arsenic (As)	0.0503	0.002	0.05		101	85	115			
Lead (Pb)	0.0496	0.005	0.05		99	85	115			

Sample Matrix Spike

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

File ID: **051911.B1068_M.D**

Batch ID: **26532**

Analysis Date: **05/19/2011 14:53**

Sample ID: **11051102-02AMS**

Units : **mg/L**

Run ID: **ICP/MS_110519C**

Prep Date: **05/13/2011 22:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	48	0.5	5	42.21	116	70	130			
Magnesium (Mg)	12.6	0.5	5	7.659	99	70	130			
Potassium (K)	7.14	0.5	5	1.961	104	70	130			
Calcium (Ca)	39.2	0.5	5	33.49	114	70	130			
Chromium (Cr)	0.0479	0.005	0.05	0	96	70	130			
Iron (Fe)	5.42	0.3	5	0.3627	101	70	130			
Arsenic (As)	0.0555	0.002	0.05	0.002574	106	70	130			
Lead (Pb)	0.0471	0.005	0.05	0	94	70	130			

Sample Matrix Spike Duplicate

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

File ID: **051911.B1069_M.D**

Batch ID: **26532**

Analysis Date: **05/19/2011 14:59**

Sample ID: **11051102-02AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110519C**

Prep Date: **05/13/2011 22:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	47.8	0.5	5	42.21	112	70	130	48.01	0.4(20)	
Magnesium (Mg)	12.4	0.5	5	7.659	94	70	130	12.6	1.8(20)	
Potassium (K)	6.93	0.5	5	1.961	99	70	130	7.144	3.0(20)	
Calcium (Ca)	38.2	0.5	5	33.49	94	70	130	39.17	2.5(20)	
Chromium (Cr)	0.0481	0.005	0.05	0	96	70	130	0.04787	0.5(20)	
Iron (Fe)	5.38	0.3	5	0.3627	100	70	130	5.419	0.6(20)	
Arsenic (As)	0.0538	0.002	0.05	0.002574	103	70	130	0.05552	3.1(20)	
Lead (Pb)	0.0467	0.005	0.05	0	93	70	130	0.04714	0.9(20)	

Comments:

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Alpha Analytical, Inc.

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Date:
12-May-11

QC Summary Report

Work Order:
11051102

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0511PH**

Analysis Date: **05/11/2011 13:35**

Sample ID: **LCS-W0511PH**

Units : **pH Units** Run ID: **WETLAB_110511D**

Prep Date: **05/11/2011 13:35**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
pH	5.07	1.7	5		101	90	110			

Comments:

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



Alpha Analytical, Inc.

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Date:
16-May-11

QC Summary Report

Work Order:
11051102

Method Blank

File ID:	Type MBLK	Test Code: SM2540C	Batch ID: W0511DS	Analysis Date: 05/13/2011 00:00
Sample ID: MBLK-W0511DS	Units : mg/L	Run ID: WETLAB_110511E	Prep Date: 05/13/2011 00:00	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS)	ND		10	

Laboratory Control Spike

File ID:	Type LCS	Test Code: SM2540C	Batch ID: W0511DS	Analysis Date: 05/13/2011 00:00
Sample ID: LCS-W0511DS	Units : mg/L	Run ID: WETLAB_110511E	Prep Date: 05/13/2011 00:00	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS)	101	12	100	101 70 130

Comments:

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Alpha Analytical, Inc.

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Date:

28-Jul-11

QC Summary Report

Work Order:

11051102

Surr: 1,2-Dichloroethane-d4	9.46	10	95	70	130
Surr: Toluene-d8	10.2	10	102	70	130
Surr: 4-Bromofluorobenzene	9.59	10	96	70	130



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Date:
28-Jul-11

QC Summary Report

Work Order:
11051102

Laboratory Control Spike

Type: LCS Test Code: EPA Method SW8260B

File ID: 11051603.D

Batch ID: MS15W0516M

Analysis Date: 05/16/2011 08:46

Sample ID: LCS MS15W0516M

Units: µg/L

Run ID: MSD_15_110516D

Prep Date: 05/16/2011 08:46

Analyte	Result	PQL	SpkVal	SpkReVal	%REC	LCL(ME)	UCL(ME)	RPDReVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	9.18	1	10		92	70	130			
Chloromethane	6.73	2	10		67	70(70)	130			L50
Vinyl chloride	10.5	1	10		105	70	130			
Chloroethane	10.1	1	10		101	70	130			
Bromomethane	7.51	2	10		75	70	130			
Trichlorofluoromethane	11.5	1	10		115	70	130			
Acetone	184	10	200		92	36	171			
1,1-Dichloroethene	10.8	1	10		108	70	130			
Dichloromethane	9.57	2	10		96	70	130			
Freon-113	11.2	1	10		112	70	137			
trans-1,2-Dichloroethene	10.7	1	10		107	70	130			
Methyl tert-butyl ether (MTBE)	8.13	0.5	10		81	70	130			
1,1-Dichloroethane	10.1	1	10		101	70	130			
2-Butanone (MEK)	175	10	200		88	70	130			
cis-1,2-Dichloroethene	10.2	1	10		102	70	130			
Bromochloromethane	9.42	1	10		94	70	130			
Chloroform	9.75	1	10		98	70	130			
2,2-Dichloropropane	9.6	1	10		96	70	130			
1,2-Dichloroethane	8.8	1	10		88	70	130			
1,1,1-Trichloroethane	10.2	1	10		102	70	130			
1,1-Dichloropropene	10.7	1	10		107	70	130			
Carbon tetrachloride	10.4	1	10		104	70	130			
Benzene	9.95	0.5	10		100	70	130			
Dibromomethane	8.82	1	10		88	70	130			
1,2-Dichloropropane	9.7	1	10		97	70	130			
Trichloroethene	10.3	1	10		103	70	130			
Bromodichloromethane	9.3	1	10		93	70	130			
4-Methyl-2-pentanone (MIBK)	20.9	2.5	25		84	20	182			
cis-1,3-Dichloropropene	8.77	1	10		88	70	130			
trans-1,3-Dichloropropene	7.88	1	10		79	70	130			
1,1,2-Trichloroethane	8.19	1	10		82	70	130			
Toluene	10.3	0.5	10		103	70	130			
1,3-Dichloropropane	8.69	1	10		87	70	130			
2-Hexanone	89.7	5	100		90	20	182			
Dibromochloromethane	8.65	1	10		87	70	130			
1,2-Dibromoethane (EDB)	17.9	2	20		89	70	130			
Tetrachloroethene	10.8	1	10		108	70	130			
1,1,1,2-Tetrachloroethane	9.61	1	10		96	70	130			
Chlorobenzene	10.2	1	10		102	70	130			
Ethylbenzene	10.3	0.5	10		103	70	130			
m,p-Xylene	10.7	0.5	10		107	70	130			
Bromoform	7.99	1	10		80	70	130			
Styrene	10.1	1	10		101	70	130			
o-Xylene	10.3	0.5	10		103	70	130			
1,1,2,2-Tetrachloroethane	7.93	1	10		79	70	130			
1,2,3-Trichloropropane	16.5	2	20		83	70	130			
Isopropylbenzene	10.5	1	10		105	70	130			
Bromobenzene	9.78	1	10		98	70	130			
n-Propylbenzene	10.8	1	10		108	70	130			
4-Chlorotoluene	10.6	1	10		106	70	130			
2-Chlorotoluene	10.4	1	10		104	70	130			
1,3,5-Trimethylbenzene	10.5	1	10		105	70	130			
tert-Butylbenzene	10.4	1	10		104	70	130			
1,2,4-Trimethylbenzene	10.3	1	10		103	70	130			
sec-Butylbenzene	10.9	1	10		109	70	130			
1,3-Dichlorobenzene	10.2	1	10		102	70	130			
1,4-Dichlorobenzene	9.52	1	10		95	70	130			
4-Isopropyltoluene	10.6	1	10		106	70	130			
1,2-Dichlorobenzene	9.22	1	10		92	70	130			
n-Butylbenzene	10.9	1	10		109	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	33.9	3	50		68	67	130			
1,2,4-Trichlorobenzene	8.82	2	10		88	70	130			
Naphthalene	5.78	2	10		58	70(70)	130			L50
Hexachlorobutadiene	18.2	2	20		91	70	130			



Alpha Analytical, Inc.

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

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

Date:

28-Jul-11

QC Summary Report

Work Order:

11051102

1,2,3-Trichlorobenzene	7.16	2	10	72	70	130
Surr: 1,2-Dichloroethane-d4	8.92		10	89	70	130
Surr: Toluene-d8	10.2		10	102	70	130
Surr: 4-Bromofluorobenzene	10		10	100	70	130



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Date:
28-Jul-11

QC Summary Report

Work Order:
11051102

Sample Matrix Spike

File ID: 11051608.D

Type: MS

Test Code: EPA Method SW8260B

Sample ID: 11051102-02AMS

Units: µg/L

Batch ID: MS15W0516M

Analysis Date: 05/16/2011 10:43

Run ID: MSD_15_110516D

Prep Date: 05/16/2011 10:43

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	32.6	2.5	50	0	65	21	138			
Chloromethane	18.7	10	50	0	37	23	144			
Vinyl chloride	44.4	2.5	50	0	89	49	136			
Chloroethane	40.1	2.5	50	0	80	21	159			
Bromomethane	29.1	10	50	0	58	10	174			
Trichlorofluoromethane	47.1	2.5	50	0	94	32	154			
Acetone	508	50	1000	0	51	10	171			
1,1-Dichloroethene	45	2.5	50	0	90	64	130			
Dichloromethane	43	10	50	0	86	69	130			
Freon-113	48.3	2.5	50	0	97	55	141			
trans-1,2-Dichloroethene	46.3	2.5	50	0	93	63	130			
Methyl tert-butyl ether (MTBE)	44.3	1.3	50	0	89	47	150			
1,1-Dichloroethane	44.6	2.5	50	0	89	66	130			
2-Butanone (MEK)	667	50	1000	0	67	23	182			
cis-1,2-Dichloroethene	47.1	2.5	50	0	94	70	130			
Bromochloromethane	47.6	2.5	50	0	95	70	132			
Chloroform	45.1	2.5	50	0	90	70	130			
2,2-Dichloropropane	41.5	2.5	50	0	83	38	154			
1,2-Dichloroethane	44.9	2.5	50	0	90	65	134			
1,1,1-Trichloroethane	44.9	2.5	50	0	90	65	136			
1,1-Dichloropropene	46.5	2.5	50	0	93	68	132			
Carbon tetrachloride	44.9	2.5	50	0	90	58	148			
Benzene	44.4	1.3	50	0	89	59	138			
Dibromomethane	45.1	2.5	50	0	90	70	130			
1,2-Dichloropropane	45.5	2.5	50	0	91	70	131			
Trichloroethene	45	2.5	50	0	90	65	144			
Bromodichloromethane	44.5	2.5	50	0	89	50	157			
4-Methyl-2-pentanone (MIBK)	104	13	125	0	83	20	182			
cis-1,3-Dichloropropene	41.2	2.5	50	0	82	63	131			
trans-1,3-Dichloropropene	39.2	2.5	50	0	78	65	136			
1,1,2-Trichloroethane	42.7	2.5	50	0	85	70	131			
Toluene	45.6	1.3	50	0	91	68	130			
1,3-Dichloropropane	44.6	2.5	50	0	89	70	130			
2-Hexanone	306	25	500	0	61	20	182			
Dibromochloromethane	43.2	2.5	50	0	86	42	155			
1,2-Dibromoethane (EDB)	91.6	5	100	0	92	70	130			
Tetrachloroethene	46.7	2.5	50	0	93	65	130			
1,1,1,2-Tetrachloroethane	45	2.5	50	0	90	70	130			
Chlorobenzene	46.1	2.5	50	0	92	70	130			
Ethylbenzene	45.5	1.3	50	0	91	68	130			
m,p-Xylene	46.7	1.3	50	0	93	68	131			
Bromoform	40.1	2.5	50	0	80	65	143			
Styrene	46.1	2.5	50	0	92	59	153			
o-Xylene	46.6	1.3	50	0	93	70	130			
1,1,2,2-Tetrachloroethane	42.6	2.5	50	0	85	67	130			
1,2,3-Trichloropropane	85.2	10	100	0	85	70	130			
Isopropylbenzene	44.7	2.5	50	0	89	55	138			
Bromobenzene	44.7	2.5	50	0	89	70	130			
n-Propylbenzene	45.8	2.5	50	0	92	67	133			
4-Chlorotoluene	46.4	2.5	50	0	93	70	130			
2-Chlorotoluene	45.2	2.5	50	0	90	70	130			
1,3,5-Trimethylbenzene	45.2	2.5	50	0	90	67	134			
tert-Butylbenzene	44.7	2.5	50	0	89	55	147			
1,2,4-Trimethylbenzene	44.8	2.5	50	0	90	65	135			
sec-Butylbenzene	47.1	2.5	50	0	94	68	135			
1,3-Dichlorobenzene	46.7	2.5	50	0	93	70	130			
1,4-Dichlorobenzene	44	2.5	50	0	88	70	130			
4-Isopropyltoluene	45.8	2.5	50	0	92	68	132			
1,2-Dichlorobenzene	43.8	2.5	50	0	88	70	130			
n-Butylbenzene	47	2.5	50	0	94	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	187	15	250	0	75	64	130			
1,2,4-Trichlorobenzene	44	10	50	0	88	62	133			
Naphthalene	32.9	10	50	0	66	32	166			
Hexachlorobutadiene	83.6	10	100	0	84	63	130			
1,2,3-Trichlorobenzene	39	10	50	0	78	55	138			



Alpha Analytical, Inc.

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

Date:
28-Jul-11

QC Summary Report

Work Order:
11051102

Surr: 1,2-Dichloroethane-d4	47.6	50	95	70	130
Surr: Toluene-d8	50.1	50	100	70	130
Surr: 4-Bromofluorobenzene	49	50	98	70	130



Alpha Analytical, Inc.

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QC Summary Report

Date:
28-Jul-11

Work Order:
11051102

Sample Matrix Spike Duplicate

Type: MSD Test Code: EPA Method SW8260B

File ID: 11051609.D

Batch ID: MS15W0516M

Analysis Date: 05/16/2011 11:04

Sample ID: 11051102-02AMSD

Units: µg/L

Run ID: MSD_15_110516D

Prep Date: 05/16/2011 11:04

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	32.6	2.5	50	0	65	21	138	32.55	0.2(33)	
Chloromethane	18.6	10	50	0	37	23	144	18.66	0.5(27)	
Vinyl chloride	44.7	2.5	50	0	89	49	136	44.4	0.8(21)	
Chloroethane	40.9	2.5	50	0	82	21	159	40.07	2.1(40)	
Bromomethane	33	10	50	0	66	10	174	29.12	12.5(40)	
Trichlorofluoromethane	47.2	2.5	50	0	94	32	154	47.07	0.3(37)	
Acetone	514	50	1000	0	51	10	171	508.2	1.1(23)	
1,1-Dichloroethene	45.5	2.5	50	0	91	64	130	44.95	1.1(21)	
Dichloromethane	44	10	50	0	88	69	130	43	2.3(20)	
Freon-113	48.5	2.5	50	0	97	55	141	48.3	0.3(40)	
trans-1,2-Dichloroethene	46.7	2.5	50	0	93	63	130	46.33	0.9(20)	
Methyl tert-butyl ether (MTBE)	46	1.3	50	0	92	47	150	44.27	3.9(40)	
1,1-Dichloroethane	45.1	2.5	50	0	90	66	130	44.64	1.0(20)	
2-Butanone (MEK)	678	50	1000	0	68	23	182	666.8	1.7(22)	
cis-1,2-Dichloroethene	46	2.5	50	0	92	70	130	47.14	2.5(20)	
Bromochloromethane	47.7	2.5	50	0	95	70	132	47.61	0.3(20)	
Chloroform	45.6	2.5	50	0	91	70	130	45.06	1.3(20)	
2,2-Dichloropropane	42.4	2.5	50	0	85	38	154	41.46	2.2(22)	
1,2-Dichloroethane	45.4	2.5	50	0	91	65	134	44.87	1.2(20)	
1,1,1-Trichloroethane	45.7	2.5	50	0	91	65	136	44.85	1.8(20)	
1,1-Dichloropropene	47	2.5	50	0	94	68	132	46.45	1.1(20)	
Carbon tetrachloride	46.2	2.5	50	0	92	58	148	44.88	2.9(20)	
Benzene	44.6	1.3	50	0	89	59	138	44.41	0.3(21)	
Dibromomethane	46.1	2.5	50	0	92	70	130	45.05	2.2(20)	
1,2-Dichloropropane	45.9	2.5	50	0	92	70	131	45.52	0.8(20)	
Trichloroethene	45.8	2.5	50	0	92	65	144	45.04	1.6(20)	
Bromodichloromethane	45.9	2.5	50	0	92	50	157	44.52	3.0(20)	
4-Methyl-2-pentanone (MIBK)	108	13	125	0	86	20	182	104.2	3.6(20)	
cis-1,3-Dichloropropene	42.9	2.5	50	0	86	63	131	41.22	3.9(20)	
trans-1,3-Dichloropropene	40.9	2.5	50	0	82	65	136	39.21	4.3(20)	
1,1,2-Trichloroethane	44	2.5	50	0	88	70	131	42.73	2.9(20)	
Toluene	46.8	1.3	50	0	94	68	130	45.6	2.6(20)	
1,3-Dichloropropane	46.6	2.5	50	0	93	70	130	44.56	4.4(20)	
2-Hexanone	319	25	500	0	64	20	182	306.2	4.2(20)	
Dibromochloromethane	45.7	2.5	50	0	91	42	155	43.15	5.7(20)	
1,2-Dibromoethane (EDB)	96.5	5	100	0	96	70	130	91.57	5.2(20)	
Tetrachloroethene	48	2.5	50	0	96	65	130	46.68	2.8(20)	
1,1,1,2-Tetrachloroethane	46.6	2.5	50	0	93	70	130	45	3.5(20)	
Chlorobenzene	47.5	2.5	50	0	95	70	130	46.11	3.0(20)	
Ethylbenzene	46.9	1.3	50	0	94	68	130	45.46	3.1(20)	
m,p-Xylene	48	1.3	50	0	96	68	131	46.74	2.7(20)	
Bromoform	42.7	2.5	50	0	85	65	143	40.14	6.3(20)	
Styrene	48.2	2.5	50	0	96	59	153	46.09	4.4(37)	
o-Xylene	47.8	1.3	50	0	96	70	130	46.61	2.6(20)	
1,1,2,2-Tetrachloroethane	44.3	2.5	50	0	89	67	130	42.56	4.0(20)	
1,2,3-Trichloropropane	92	10	100	0	92	70	130	85.24	7.6(20)	
Isopropylbenzene	44.7	2.5	50	0	89	55	138	44.65	0.2(20)	
Bromobenzene	45.5	2.5	50	0	91	70	130	44.65	1.9(20)	
n-Propylbenzene	46.1	2.5	50	0	92	67	133	45.78	0.7(30)	
4-Chlorotoluene	47.3	2.5	50	0	95	70	130	46.36	2.0(20)	
2-Chlorotoluene	45.6	2.5	50	0	91	70	130	45.19	0.9(20)	
1,3,5-Trimethylbenzene	45.5	2.5	50	0	91	67	134	45.16	0.6(21)	
tert-Butylbenzene	45	2.5	50	0	90	55	147	44.66	0.8(20)	
1,2,4-Trimethylbenzene	45.1	2.5	50	0	90	65	135	44.79	0.6(25)	
sec-Butylbenzene	47.1	2.5	50	0	94	68	135	47.12	0.1(20)	
1,3-Dichlorobenzene	47.2	2.5	50	0	94	70	130	46.71	1.1(20)	
1,4-Dichlorobenzene	44.6	2.5	50	0	89	70	130	43.99	1.5(20)	
4-Isopropyltoluene	45.8	2.5	50	0	92	68	132	45.79	0.1(20)	
1,2-Dichlorobenzene	44.9	2.5	50	0	90	70	130	43.75	2.5(20)	
n-Butylbenzene	47.2	2.5	50	0	94	62	134	46.97	0.5(21)	
1,2-Dibromo-3-chloropropane (DBCP)	192	15	250	0	77	64	130	187.2	2.5(20)	
1,2,4-Trichlorobenzene	46	10	50	0	92	62	133	44.02	4.5(29)	
Naphthalene	35.1	10	50	0	70	32	166	32.86	6.5(40)	
Hexachlorobutadiene	85.8	10	100	0	86	63	130	83.61	2.5(21)	
1,2,3-Trichlorobenzene	41.3	10	50	0	83	55	138	39.01	5.7(36)	



Alpha Analytical, Inc.

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

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

Date:
28-Jul-11

QC Summary Report

Work Order:
11051102

Surr: 1,2-Dichloroethane-d4	47.4	50	95	70	130
Surr: Toluene-d8	51.1	50	102	70	130
Surr: 4-Bromofluorobenzene	47.7	50	95	70	130

Comments:

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

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

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

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

Report Attention Phone Number EMail Address

David Conner	(619) 726-7311	x	connerd@battelle.org
Betsy Cutie	(614) 424-4899	x	cutiee@batelle.org
Shane Walton	(614) 424-4117	x	walton@battelle.org

WorkOrder : BMIS11051102

Report Due By : 5:00 PM On : 25-May-2011

Client:
 Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101

EDD Required : No

Sampled by : Client

Date Printed
 22-Jul-2011

Samples Received
 11-May-2011

Cooler Temp
 4 °C

Job : G005862/JPL Groundwater Monitoring

Client's COC # : 25559 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

QC Level : DS4

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles		300_0_W	314_W	ALKALINIT Y_W	METALS_D W	Requested Tests			Sample Remarks
				Alpha	Sub					PH_W	TDS_W	VOC_TIC_W	
BMI11051102-01A	MW-3-5	AQ	05/10/11 07:44	5	0	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria
BMI11051102-02A	MW-3-4	AQ	05/10/11 08:25	10	0	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria
BMI11051102-03A	MW-3-3	AQ	05/10/11 09:29	5	0	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria
BMI11051102-04A	MW-3-2	AQ	05/10/11 10:09	5	0	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria + Additional TICs	VOC by 524 Criteria + Additional TICs
BMI11051102-05A	MW-3-1	AQ	05/10/11 13:15	5	0	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria
BMI11051102-06A	EB-9-5/10/11	AQ	05/10/11 13:02	5	0	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria
BMI11051102-07A	TB-9-5/10/11	AQ	05/10/11 00:00	1	0							VOC by 524 Criteria	VOC by 524 Criteria

Comments: Security seals intact. Frozen ice. Temp Blank #7730 received @ 4°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 7/22/11. Per email from David Conner via Reyna added additional TICs: 1,1-Dichloropropanone, Hexachloroethane, Nitrobenzene, and Propionitrile to sample -04A. EA

Logged in by: Elizabeth Adcox **Signature** Elizabeth Adcox **Print Name** Alpha Analytical, Inc. **Company** 7-22-11 1603 **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

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 : BMIS11051102

Report Due By : 5:00 PM On : 25-May-2011

Client:

Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101

Report Attention

Phone Number (619) 726-7311 x connerd@battelle.org
E-Mail Address connerd@battelle.org
 Betsy Cutie (614) 424-4899 x cutiee@batelle.org
 Shane Walton (614) 424-4117 x waltons@battelle.org

EDD Required : No

Sampled by : Client

PO : 218013

Client's COC # : 25559

Job : G005862/JPL Groundwater Monitoring

Cooler Temp 11-May-2011

Samples Received 11-May-2011

Date Printed 11-May-2011

4 °C

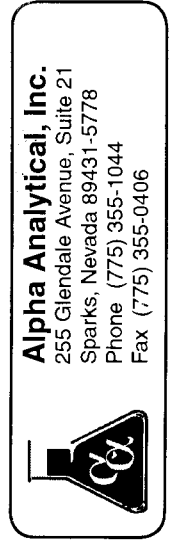
QC Level : DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Date	Matrix	No. of Bottles Alpha Sub	TAT	Requested Tests				Sample Remarks					
						300_0_W	314_W	ALKALINIT Y_W	METALS_D W		PH_W	TDS_W	VOC_TIC_W	VOC_W	
BMI11051102-01A	MW-3-5	05/10/11 07:44	AQ	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11051102-02A	MW-3-4	05/10/11 08:25	AQ	10	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD
BMI11051102-03A	MW-3-3	05/10/11 09:29	AQ	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11051102-04A	MW-3-2	05/10/11 10:09	AQ	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11051102-05A	MW-3-1	05/10/11 13:15	AQ	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11051102-06A	EB-9-5/10/11	05/10/11 13:02	AQ	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11051102-07A	TB-9-5/10/11	05/10/11 00:00	AQ	1	0	10							VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 4/6/11

Comments: Security seals intact. Frozen ice. Temp Blank #7730 received @ 4°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E., MS/MSD).

Signature: *Elizabeth Adcox* Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 5-11-11 9:44

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



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

Billing Information:
 Name BATTELLE / GERALD TOMPKINS
 Address 505 KING AVE.
 City, State, Zip COLUMBUS, OH 43201
 Phone Number _____ Fax _____

Time Sampled	Date Sampled	Matrix* See Key Below	Lab ID Number	Office (Use Only)	Sample Description	TAT	Field Filled	Total and type of containers ** See below	Analyses Required										REMARKS
									LEAD (24.2)	TOTL CR (200.8)	CLOR (214.0)	MR, K, CA, MG, Fe	GENERAL THEM (200.8)	CO, HCO, PO, PH (200.8)	SM, ZINC (150.2)	CI, NO ₃ , NO ₂ , SO ₄ (300.0)	PO ₄ -P (300.0)	Required QC Level?	
744	5/10/11	AR	BMI11051102	.01	MW-3-5	NORM		5	X	X	X	X	X	X	X	X	X	MS/MSD	II
825				.02	MW-3-4			10	X	X	X	X	X	X	X	X	X		II
929				.03	MW-3-3			5	X	X	X	X	X	X	X	X	X		IV
1009				.04	MW-3-2			1	X	X	X	X	X	X	X	X	X		
1315				.05	MW-3-1			1	X	X	X	X	X	X	X	X	X		
1302				.06	EB-9-5/10/11			5	X	X	X	X	X	X	X	X	X	EQUIP BLANK	
				.07	TB-9-5/10/11			1	X	X	X	X	X	X	X	X	X	TRIP BLANK	

ADDITIONAL INSTRUCTIONS:

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	MARCO MENDOZA	INSIGAT	5/10/11	1505
<i>[Signature]</i>	Elizabeth Adcox	Alpha	5-11-11	9:44
Received by				
Relinquished by				
Received by				
Relinquished by				
Received by				

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



Alpha Analytical, Inc.

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Date: 20-May-2011

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11051205

Cooler Temp: 0 °C

Alpha's Sample ID	Client's Sample ID	Matrix
11051205-01A	MW-19-5	Aqueous
11051205-02A	MW-19-4	Aqueous
11051205-03A	MW-19-3	Aqueous
11051205-04A	MW-19-2	Aqueous
11051205-05A	MW-19-1	Aqueous
11051205-06A	DUPE-3-2Q11	Aqueous
11051205-07A	EB-10-5/11/11	Aqueous
11051205-08A	TB-10-5/11/11	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
NONE		

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

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

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

Roger Scholl *Randy Gardner* *Walter Hinchman*

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

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



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/12/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-19-5					
Lab ID : BM111051205-01A	Chloride	43	0.50 mg/L	05/12/11 14:07	05/12/11 21:28
Date Sampled 05/11/11 07:50	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/11 14:07	05/12/11 21:28
	Nitrate (NO3) - N	6.9	0.25 mg/L	05/12/11 14:07	05/12/11 21:28
	Phosphate, ortho - P	ND	0.50 mg/L	05/12/11 14:07	05/12/11 21:28
	Sulfate (SO4)	46	0.50 mg/L	05/12/11 14:07	05/12/11 21:28
Client ID: MW-19-4					
Lab ID : BM111051205-02A	Chloride	43	0.50 mg/L	05/12/11 14:07	05/12/11 22:24
Date Sampled 05/11/11 08:21	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/11 14:07	05/12/11 22:24
	Nitrate (NO3) - N	7.8	0.25 mg/L	05/12/11 14:07	05/12/11 22:24
	Phosphate, ortho - P	ND	0.50 mg/L	05/12/11 14:07	05/12/11 22:24
	Sulfate (SO4)	45	0.50 mg/L	05/12/11 14:07	05/12/11 22:24
Client ID: MW-19-3					
Lab ID : BM111051205-03A	Chloride	51	0.50 mg/L	05/12/11 14:07	05/12/11 22:42
Date Sampled 05/11/11 08:58	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/11 14:07	05/12/11 22:42
	Nitrate (NO3) - N	12	0.25 mg/L	05/12/11 14:07	05/12/11 22:42
	Phosphate, ortho - P	ND	0.50 mg/L	05/12/11 14:07	05/12/11 22:42
	Sulfate (SO4)	51	0.50 mg/L	05/12/11 14:07	05/12/11 22:42
Client ID: MW-19-2					
Lab ID : BM111051205-04A	Chloride	97	50 mg/L	05/12/11 14:07	05/12/11 23:01
Date Sampled 05/11/11 10:04	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/11 14:07	05/12/11 23:01
	Nitrate (NO3) - N	17	0.25 mg/L	05/12/11 14:07	05/12/11 23:01
	Phosphate, ortho - P	ND	0.50 mg/L	05/12/11 14:07	05/12/11 23:01
	Sulfate (SO4)	130	50 mg/L	05/12/11 14:07	05/12/11 23:01
Client ID: MW-19-1					
Lab ID : BM111051205-05A	Chloride	23	0.50 mg/L	05/12/11 14:07	05/12/11 23:19
Date Sampled 05/11/11 13:15	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/11 14:07	05/12/11 23:19
	Nitrate (NO3) - N	3.0	0.25 mg/L	05/12/11 14:07	05/12/11 23:19
	Phosphate, ortho - P	ND	0.50 mg/L	05/12/11 14:07	05/12/11 23:19
	Sulfate (SO4)	53	0.50 mg/L	05/12/11 14:07	05/12/11 23:19
Client ID: DUPE-3-2Q11					
Lab ID : BM111051205-06A	Chloride	52	0.50 mg/L	05/12/11 14:07	05/12/11 23:38
Date Sampled 05/11/11 00:00	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/11 14:07	05/12/11 23:38
	Nitrate (NO3) - N	12	0.25 mg/L	05/12/11 14:07	05/12/11 23:38
	Phosphate, ortho - P	ND	0.50 mg/L	05/12/11 14:07	05/12/11 23:38
	Sulfate (SO4)	51	0.50 mg/L	05/12/11 14:07	05/12/11 23:38



Alpha Analytical, Inc.

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Client ID: **EB-10-5/11/11**

Lab ID :	BM11051205-07A	Chloride	ND	0.50 mg/L	05/12/11 14:07	05/12/11 23:56
Date Sampled	05/11/11 13:04	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/11 14:07	05/12/11 23:56
		Nitrate (NO3) - N	ND	0.25 mg/L	05/12/11 14:07	05/12/11 23:56
		Phosphate, ortho - P	ND	0.50 mg/L	05/12/11 14:07	05/12/11 23:56
		Sulfate (SO4)	ND	0.50 mg/L	05/12/11 14:07	05/12/11 23:56

ND = Not Detected

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

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

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

5/25/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/12/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-19-5 Lab ID: BMI11051205-01A Perchlorate Date Sampled 05/11/11 07:50	2.20	1.00 µg/L	05/12/11 12:31	05/12/11 17:08
Client ID: MW-19-4 Lab ID: BMI11051205-02A Perchlorate Date Sampled 05/11/11 08:21	2.23	1.00 µg/L	05/12/11 12:31	05/12/11 17:26
Client ID: MW-19-3 Lab ID: BMI11051205-03A Perchlorate Date Sampled 05/11/11 08:58	3.14	1.00 µg/L	05/12/11 12:31	05/12/11 17:45
Client ID: MW-19-2 Lab ID: BMI11051205-04A Perchlorate Date Sampled 05/11/11 10:04	5.06	1.00 µg/L	05/12/11 12:31	05/12/11 18:03
Client ID: MW-19-1 Lab ID: BMI11051205-05A Perchlorate Date Sampled 05/11/11 13:15	4.55	1.00 µg/L	05/12/11 12:31	05/12/11 18:58
Client ID: DUPE-3-2Q11 Lab ID: BMI11051205-06A Perchlorate Date Sampled 05/11/11 00:00	2.84	1.00 µg/L	05/12/11 12:31	05/12/11 19:17
Client ID: EB-10-5/11/11 Lab ID: BMI11051205-07A Perchlorate Date Sampled 05/11/11 13:04	ND	1.00 µg/L	05/12/11 12:31	05/12/11 19:35

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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5/25/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/12/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-19-5				
Lab ID: BM111051205-01A	Alkalinity, Bicarbonate (As CaCO3)	160	10 mg/L	05/16/11 11:19
Date Sampled 05/11/11 07:50	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/16/11 11:19
	Alkalinity, Total (As CaCO3 at pH 4.5)	160	10 mg/L	05/16/11 11:19
Client ID: MW-19-4				
Lab ID: BM111051205-02A	Alkalinity, Bicarbonate (As CaCO3)	160	10 mg/L	05/16/11 11:26
Date Sampled 05/11/11 08:21	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/16/11 11:26
	Alkalinity, Total (As CaCO3 at pH 4.5)	160	10 mg/L	05/16/11 11:26
Client ID: MW-19-3				
Lab ID: BM111051205-03A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/16/11 11:29
Date Sampled 05/11/11 08:58	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/16/11 11:29
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/16/11 11:29
Client ID: MW-19-2				
Lab ID: BM111051205-04A	Alkalinity, Bicarbonate (As CaCO3)	210	10 mg/L	05/16/11 11:33
Date Sampled 05/11/11 10:04	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/16/11 11:33
	Alkalinity, Total (As CaCO3 at pH 4.5)	210	10 mg/L	05/16/11 11:33
Client ID: MW-19-1				
Lab ID: BM111051205-05A	Alkalinity, Bicarbonate (As CaCO3)	190	10 mg/L	05/16/11 11:36
Date Sampled 05/11/11 13:15	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/16/11 11:36
	Alkalinity, Total (As CaCO3 at pH 4.5)	190	10 mg/L	05/16/11 11:36
Client ID: DUPE-3-2Q11				
Lab ID: BM111051205-06A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/16/11 11:39
Date Sampled 05/11/11 00:00	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/16/11 11:39
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/16/11 11:39
Client ID: EB-10-5/11/11				
Lab ID: BM111051205-07A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/16/11 11:52
Date Sampled 05/11/11 13:04	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/16/11 11:52
	Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/16/11 11:52



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ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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5/25/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/12/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-19-5					
Lab ID : BMI11051205-01A	Sodium (Na)	25	0.50 mg/L	05/13/11 22:28	05/19/11 15:38
Date Sampled 05/11/11 07:50	Magnesium (Mg)	24	0.50 mg/L	05/13/11 22:28	05/19/11 15:38
	Potassium (K)	2.6	0.50 mg/L	05/13/11 22:28	05/19/11 15:38
	Calcium (Ca)	49	0.50 mg/L	05/13/11 22:28	05/19/11 15:38
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 15:38
	Iron (Fe)	ND	0.30 mg/L	05/13/11 22:28	05/19/11 15:38
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 15:38
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 15:38
Client ID: MW-19-4					
Lab ID : BMI11051205-02A	Sodium (Na)	24	0.50 mg/L	05/13/11 22:28	05/19/11 15:52
Date Sampled 05/11/11 08:21	Magnesium (Mg)	23	0.50 mg/L	05/13/11 22:28	05/19/11 15:52
	Potassium (K)	2.5	0.50 mg/L	05/13/11 22:28	05/19/11 15:52
	Calcium (Ca)	48	0.50 mg/L	05/13/11 22:28	05/19/11 15:52
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 15:52
	Iron (Fe)	ND	0.30 mg/L	05/13/11 22:28	05/19/11 15:52
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 15:52
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 15:52
Client ID: MW-19-3					
Lab ID : BMI11051205-03A	Sodium (Na)	20	0.50 mg/L	05/13/11 22:28	05/19/11 15:57
Date Sampled 05/11/11 08:58	Magnesium (Mg)	25	0.50 mg/L	05/13/11 22:28	05/19/11 15:57
	Potassium (K)	2.4	0.50 mg/L	05/13/11 22:28	05/19/11 15:57
	Calcium (Ca)	71	0.50 mg/L	05/13/11 22:28	05/19/11 15:57
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 15:57
	Iron (Fe)	ND	0.30 mg/L	05/13/11 22:28	05/19/11 15:57
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 15:57
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 15:57
Client ID: MW-19-2					
Lab ID : BMI11051205-04A	Sodium (Na)	37	0.50 mg/L	05/13/11 22:28	05/19/11 16:04
Date Sampled 05/11/11 10:04	Magnesium (Mg)	36	0.50 mg/L	05/13/11 22:28	05/19/11 16:04
	Potassium (K)	3.1	0.50 mg/L	05/13/11 22:28	05/19/11 16:04
	Calcium (Ca)	120	0.50 mg/L	05/13/11 22:28	05/19/11 16:04
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 16:04
	Iron (Fe)	1.6	0.30 mg/L	05/13/11 22:28	05/19/11 16:04
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 16:04
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 16:04



Alpha Analytical, Inc.

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Client ID: MW-19-1

Lab ID : BM11051205-05A	Sodium (Na)	18	0.50 mg/L	05/13/11 22:28	05/19/11 16:32
Date Sampled 05/11/11 13:15	Magnesium (Mg)	19	0.50 mg/L	05/13/11 22:28	05/20/11 11:01
	Potassium (K)	3.4	0.50 mg/L	05/13/11 22:28	05/19/11 16:32
	Calcium (Ca)	67	0.50 mg/L	05/13/11 22:28	05/19/11 16:32
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 16:32
	Iron (Fe)	0.73	0.30 mg/L	05/13/11 22:28	05/19/11 16:32
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 16:32
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 16:32

Client ID: DUPE-3-2Q11

Lab ID : BM11051205-06A	Sodium (Na)	30	0.50 mg/L	05/13/11 22:28	05/19/11 16:38
Date Sampled 05/11/11 00:00	Magnesium (Mg)	22	0.50 mg/L	05/13/11 22:28	05/20/11 11:07
	Potassium (K)	2.7	0.50 mg/L	05/13/11 22:28	05/19/11 16:38
	Calcium (Ca)	72	0.50 mg/L	05/13/11 22:28	05/19/11 16:38
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 16:38
	Iron (Fe)	0.36	0.30 mg/L	05/13/11 22:28	05/19/11 16:38
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 16:38
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 16:38

Client ID: EB-10-5/11/11

Lab ID : BM11051205-07A	Sodium (Na)	ND	0.50 mg/L	05/13/11 22:28	05/19/11 16:43
Date Sampled 05/11/11 13:04	Magnesium (Mg)	ND	0.50 mg/L	05/13/11 22:28	05/20/11 11:13
	Potassium (K)	ND	0.50 mg/L	05/13/11 22:28	05/19/11 16:43
	Calcium (Ca)	ND	0.50 mg/L	05/13/11 22:28	05/19/11 16:43
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 16:43
	Iron (Fe)	ND	0.30 mg/L	05/13/11 22:28	05/19/11 16:43
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 16:43
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 16:43

ND = Not Detected

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

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

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

5/25/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/12/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-19-5				
Lab ID : BM111051205-01A pH	8.1	1.7 pH Units	05/12/11 15:37	05/12/11 15:37
Date Sampled 05/11/11 07:50 pH - Temperature	23	1.0 °C	05/12/11 15:37	05/12/11 15:37
Client ID: MW-19-4				
Lab ID : BM111051205-02A pH	8.1	1.7 pH Units	05/12/11 15:42	05/12/11 15:42
Date Sampled 05/11/11 08:21 pH - Temperature	23	1.0 °C	05/12/11 15:42	05/12/11 15:42
Client ID: MW-19-3				
Lab ID : BM111051205-03A pH	7.8	1.7 pH Units	05/12/11 15:45	05/12/11 15:45
Date Sampled 05/11/11 08:58 pH - Temperature	23	1.0 °C	05/12/11 15:45	05/12/11 15:45
Client ID: MW-19-2				
Lab ID : BM111051205-04A pH	7.1	1.7 pH Units	05/12/11 15:47	05/12/11 15:47
Date Sampled 05/11/11 10:04 pH - Temperature	23	1.0 °C	05/12/11 15:47	05/12/11 15:47
Client ID: MW-19-1				
Lab ID : BM111051205-05A pH	7.8	1.7 pH Units	05/12/11 15:51	05/12/11 15:51
Date Sampled 05/11/11 13:15 pH - Temperature	22	1.0 °C	05/12/11 15:51	05/12/11 15:51
Client ID: DUPE-3-2Q11				
Lab ID : BM111051205-06A pH	7.7	1.7 pH Units	05/12/11 15:53	05/12/11 15:53
Date Sampled 05/11/11 00:00 pH - Temperature	22	1.0 °C	05/12/11 15:53	05/12/11 15:53
Client ID: EB-10-5/11/11				
Lab ID : BM111051205-07A pH	6.2	1.7 pH Units	05/12/11 15:56	05/12/11 15:56
Date Sampled 05/11/11 13:04 pH - Temperature	21	1.0 °C	05/12/11 15:56	05/12/11 15:56

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

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

Roger Scholl *Randy Gardner* *Walter Hinchman*

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

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

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5/25/11

Report Date



Alpha Analytical, Inc.

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

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/12/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS) SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-19-5				
Lab ID : BMI11051205-01A Solids, Total Dissolved (TDS)	340	10 mg/L	05/16/11	05/16/11
Date Sampled 05/11/11 07:50				
Client ID: MW-19-4				
Lab ID : BMI11051205-02A Solids, Total Dissolved (TDS)	330	10 mg/L	05/16/11	05/16/11
Date Sampled 05/11/11 08:21				
Client ID: MW-19-3				
Lab ID : BMI11051205-03A Solids, Total Dissolved (TDS)	410	10 mg/L	05/16/11	05/16/11
Date Sampled 05/11/11 08:58				
Client ID: MW-19-2				
Lab ID : BMI11051205-04A Solids, Total Dissolved (TDS)	640	10 mg/L	05/16/11	05/16/11
Date Sampled 05/11/11 10:04				
Client ID: MW-19-1				
Lab ID : BMI11051205-05A Solids, Total Dissolved (TDS)	330	10 mg/L	05/16/11	05/16/11
Date Sampled 05/11/11 13:15				
Client ID: DUPE-3-2Q11				
Lab ID : BMI11051205-06A Solids, Total Dissolved (TDS)	410	10 mg/L	05/16/11	05/16/11
Date Sampled 05/11/11 00:00				
Client ID: EB-10-5/11/11				
Lab ID : BMI11051205-07A Solids, Total Dissolved (TDS)	ND	10 mg/L	05/16/11	05/16/11
Date Sampled 05/11/11 13:04				

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051205-04A
Client I.D. Number: MW-19-2

Sampled: 05/11/11 10:04
Received: 05/12/11
Extracted: 05/17/11 16:47
Analyzed: 05/17/11 16:47

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	1.2	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	Q 1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	101	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	103	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	91	(70-130) %REC
34 2-Hexanone	ND	5.0 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

This replaces the report signed 5/25/11, due to a change in the analyte list, per client request.

ND = Not Detected

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7/28/11

Report Date



Alpha Analytical, Inc.

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

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID : MW-19-5				
Lab ID : BMI11051205-01A	*** None Found ***	ND	2.0 µg/L	05/17/11 15:42 05/17/11 15:42
Date Received : 05/12/11				
Date Sampled : 05/11/11 07:50				
Client ID : MW-19-4				
Lab ID : BMI11051205-02A	*** None Found ***	ND	2.0 µg/L	05/17/11 16:04 05/17/11 16:04
Date Received : 05/12/11				
Date Sampled : 05/11/11 08:21				
Client ID : MW-19-3				
Lab ID : BMI11051205-03A	*** None Found ***	ND	2.0 µg/L	05/17/11 16:26 05/17/11 16:26
Date Received : 05/12/11				
Date Sampled : 05/11/11 08:58				
Client ID : MW-19-2				
Lab ID : BMI11051205-04A	1-Chlorobutane	ND	2.0 µg/L	05/17/11 16:47 05/17/11 16:47
Date Received : 05/12/11	2-Nitropropane	ND	2.0 µg/L	05/17/11 16:47 05/17/11 16:47
Date Sampled : 05/11/11 10:04	Acrylonitrile	ND	10 µg/L	05/17/11 16:47 05/17/11 16:47
	Allyl chloride	ND	2.0 µg/L	05/17/11 16:47 05/17/11 16:47
	Chloroacetonitrile	ND	10 µg/L	05/17/11 16:47 05/17/11 16:47
	Diethyl ether	ND	2.0 µg/L	05/17/11 16:47 05/17/11 16:47
	Ethyl methacrylate	ND	10 µg/L	05/17/11 16:47 05/17/11 16:47
	Methacrylonitrile	ND	10 µg/L	05/17/11 16:47 05/17/11 16:47
	Methyl iodide	ND	2.0 µg/L	05/17/11 16:47 05/17/11 16:47
	Methylacrylate	ND	10 µg/L	05/17/11 16:47 05/17/11 16:47
	Methyl methacrylate	ND	10 µg/L	05/17/11 16:47 05/17/11 16:47
	Tetrahydrofuran	ND	10 µg/L	05/17/11 16:47 05/17/11 16:47
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/17/11 16:47 05/17/11 16:47
	1,1-Dichloropropanone	ND	10 µg/L	05/17/11 16:47 05/17/11 16:47
	Hexachloroethane	ND	10 µg/L	05/17/11 16:47 05/17/11 16:47
	Nitrobenzene	ND	10 µg/L	05/17/11 16:47 05/17/11 16:47
	Propionitrile	ND	50 µg/L	05/17/11 16:47 05/17/11 16:47
Client ID : MW-19-1				
Lab ID : BMI11051205-05A	*** None Found ***	ND	2.0 µg/L	05/17/11 17:09 05/17/11 17:09
Date Received : 05/12/11				
Date Sampled : 05/11/11 13:15				
Client ID : DUPE-3-2Q11				
Lab ID : BMI11051205-06A	*** None Found ***	ND	2.0 µg/L	05/17/11 17:30 05/17/11 17:30
Date Received : 05/12/11				
Date Sampled : 05/11/11 00:00				



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Client ID : **EB-10-5/11/11**
Lab ID : BMI11051205-07A *** None Found *** ND 2.0 µg/L 05/17/11 12:48 05/17/11 12:48
Date Received : 05/12/11
Date Sampled : 05/11/11 13:04

Client ID : **TB-10-5/11/11**
Lab ID : BMI11051205-08A *** None Found *** ND 2.0 µg/L 05/17/11 12:26 05/17/11 12:26
Date Received : 05/12/11
Date Sampled : 05/11/11 00:00

Note: Analysis conducted using EPA Method 524.2 criteria.
This replaces the report signed 5/25/11, due to a change in the analyte list, per client request.
ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
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7/28/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BM11051205-01A
Client I.D. Number: MW-19-5

Sampled: 05/11/11 07:50
Received: 05/12/11
Extracted: 05/17/11 15:42
Analyzed: 05/17/11 15:42

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	0.56	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/25/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051205-02A
Client I.D. Number: MW-19-4

Sampled: 05/11/11 08:21
Received: 05/12/11
Extracted: 05/17/11 16:04
Analyzed: 05/17/11 16:04

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	92	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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5/25/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051205-03A
Client I.D. Number: MW-19-3

Sampled: 05/11/11 08:58
Received: 05/12/11
Extracted: 05/17/11 16:26
Analyzed: 05/17/11 16:26

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	93	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/25/11

Report Date



Alpha Analytical, Inc.

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

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051205-05A
Client I.D. Number: MW-19-1

Sampled: 05/11/11 13:15
Received: 05/12/11
Extracted: 05/17/11 17:09
Analyzed: 05/17/11 17:09

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	95	(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	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/25/11

Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051205-06A
Client I.D. Number: DUPE-3-2Q11

Sampled: 05/11/11 00:00
Received: 05/12/11
Extracted: 05/17/11 17:30
Analyzed: 05/17/11 17:30

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	100	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	93	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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5/25/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051205-07A
Client I.D. Number: EB-10-5/11/11

Sampled: 05/11/11 13:04
Received: 05/12/11
Extracted: 05/17/11 12:48
Analyzed: 05/17/11 12:48

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	98	(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	92	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

5/25/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051205-08A
Client I.D. Number: TB-10-5/11/11

Sampled: 05/11/11 00:00
Received: 05/12/11
Extracted: 05/17/11 12:26
Analyzed: 05/17/11 12:26

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	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	93	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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

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5/25/11

Report Date



Alpha Analytical, Inc.

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

VOC Sample Preservation Report

Work Order: BMI11051205

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11051205-01A	MW-19-5	Aqueous	2
11051205-02A	MW-19-4	Aqueous	2
11051205-03A	MW-19-3	Aqueous	2
11051205-04A	MW-19-2	Aqueous	2
11051205-05A	MW-19-1	Aqueous	2
11051205-06A	DUPE-3-2Q11	Aqueous	2
11051205-07A	EB-10-5/11/11	Aqueous	2
11051205-08A	TB-10-5/11/11	Aqueous	2

5/25/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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QC Summary Report

Date:
24-May-11

Work Order:
11051205

Method Blank

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

File ID: **52**

Batch ID: **26528**

Analysis Date: **05/12/2011 20:33**

Sample ID: **MB-26528**

Units : **mg/L**

Run ID: **IC_1_110512B**

Prep Date: **05/12/2011 14:07**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

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

File ID: **53**

Batch ID: **26528**

Analysis Date: **05/12/2011 20:51**

Sample ID: **LFB-26528**

Units : **mg/L**

Run ID: **IC_1_110512B**

Prep Date: **05/12/2011 14:07**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	51	0.5	50		102	90	110			
Nitrite (NO2) - N	5.44	0.25	5		109	90	110			
Nitrate (NO3) - N	5.04	0.25	5		101	90	110			
Phosphate, ortho - P	5.1	0.5	5		102	90	110			
Sulfate (SO4)	102	0.5	100		102	90	110			

Sample Matrix Spike

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

File ID: **56**

Batch ID: **26528**

Analysis Date: **05/12/2011 21:47**

Sample ID: **11051205-01ALFM**

Units : **mg/L**

Run ID: **IC_1_110512B**

Prep Date: **05/12/2011 14:07**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	140	0.5	100	42.72	97	80	120			
Nitrite (NO2) - N	11	0.25	10	0	110	80	120			
Nitrate (NO3) - N	17.7	0.25	10	6.939	107	80	120			
Phosphate, ortho - P	12	0.5	10	0	120	80	120			
Sulfate (SO4)	230	0.5	200	45.52	92	80	120			

Sample Matrix Spike Duplicate

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

File ID: **57**

Batch ID: **26528**

Analysis Date: **05/12/2011 22:05**

Sample ID: **11051205-01ALFMD**

Units : **mg/L**

Run ID: **IC_1_110512B**

Prep Date: **05/12/2011 14:07**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	141	0.5	100	42.72	98	80	120	139.9	0.7(15)	
Nitrite (NO2) - N	11.1	0.25	10	0	111	80	120	11	1.2(15)	
Nitrate (NO3) - N	17.7	0.25	10	6.939	107	80	120	17.68	0.0(15)	
Phosphate, ortho - P	13	0.5	10	0	130	80	120	11.96	8.5(15)	M1
Sulfate (SO4)	232	0.5	200	45.52	93	80	120	230.1	0.8(15)	

Comments:

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

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

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



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Date:
16-May-11

QC Summary Report

Work Order:
11051205

Method Blank

File ID: 14	Type MBLK	Test Code: EPA Method 314.0	Batch ID: 26522	Analysis Date: 05/12/2011 13:27						
Sample ID: MB-26522	Units : µg/L	Run ID: IC_3_110512A	Prep Date: 05/12/2011 12:31							
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: 26522	Analysis Date: 05/12/2011 13:45						
Sample ID: LFB-26522	Units : µg/L	Run ID: IC_3_110512A	Prep Date: 05/12/2011 12:31							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.8	2	25		91	85	115			

Sample Matrix Spike

File ID: 20	Type LFM	Test Code: EPA Method 314.0	Batch ID: 26522	Analysis Date: 05/12/2011 15:17						
Sample ID: 11051102-02ALFM	Units : µg/L	Run ID: IC_3_110512A	Prep Date: 05/12/2011 12:31							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	23.1	2	25	0	92	80	120			

Sample Matrix Spike Duplicate

File ID: 21	Type LFMD	Test Code: EPA Method 314.0	Batch ID: 26522	Analysis Date: 05/12/2011 15:36						
Sample ID: 11051102-02ALFMD	Units : µg/L	Run ID: IC_3_110512A	Prep Date: 05/12/2011 12:31							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	23.3	2	25	0	93	80	120	23.05	1.0(15)	

Comments:

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



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Date:
18-May-11

QC Summary Report

Work Order:
11051205

Laboratory Control Spike

Type **LCS** Test Code: **SM2320B**

File ID:

Batch ID: **W0516AL**

Analysis Date: **05/16/2011 11:15**

Sample ID: **LCS-W0516AL**

Units : **mg/L**

Run ID: **WETLAB_110516C**

Prep Date: **05/16/2011 11:15**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO ₃)	229.9	10	250		92	80	120			
Alkalinity, Carbonate (As CaCO ₃)	229.9	10	250		92	80	120			
Alkalinity, Total (As CaCO ₃ at pH 4.5)	230	10	250		92	80	120			

Comments:

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



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Date:
24-May-11

QC Summary Report

Work Order:
11051205

Method Blank

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

File ID: **051911.B\062_M.D**

Batch ID: **26532**

Analysis Date: **05/19/2011 14:20**

Sample ID: **MB-26532**

Units : **mg/L**

Run ID: **ICP/MS_110519C**

Prep Date: **05/13/2011 22:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

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

File ID: **051911.B\063_M.D**

Batch ID: **26532**

Analysis Date: **05/19/2011 14:25**

Sample ID: **LCS-26532**

Units : **mg/L**

Run ID: **ICP/MS_110519C**

Prep Date: **05/13/2011 22:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	4.91	0.5	5		98	85	115			
Magnesium (Mg)	4.39	0.5	5		88	85	115			
Potassium (K)	5.33	0.5	5		107	85	115			
Calcium (Ca)	5.28	0.5	5		106	85	115			
Chromium (Cr)	0.0524	0.005	0.05		105	85	115			
Iron (Fe)	5.43	0.3	5		109	85	115			
Arsenic (As)	0.0503	0.002	0.05		101	85	115			
Lead (Pb)	0.0496	0.005	0.05		99	85	115			

Sample Matrix Spike

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

File ID: **051911.B\068_M.D**

Batch ID: **26532**

Analysis Date: **05/19/2011 14:53**

Sample ID: **11051102-02AMS**

Units : **mg/L**

Run ID: **ICP/MS_110519C**

Prep Date: **05/13/2011 22:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	48	0.5	5	42.21	116	70	130			
Magnesium (Mg)	12.6	0.5	5	7.659	99	70	130			
Potassium (K)	7.14	0.5	5	1.961	104	70	130			
Calcium (Ca)	39.2	0.5	5	33.49	114	70	130			
Chromium (Cr)	0.0479	0.005	0.05	0	96	70	130			
Iron (Fe)	5.42	0.3	5	0.3627	101	70	130			
Arsenic (As)	0.0555	0.002	0.05	0.002574	106	70	130			
Lead (Pb)	0.0471	0.005	0.05	0	94	70	130			

Sample Matrix Spike Duplicate

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

File ID: **051911.B\069_M.D**

Batch ID: **26532**

Analysis Date: **05/19/2011 14:59**

Sample ID: **11051102-02AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110519C**

Prep Date: **05/13/2011 22:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	47.8	0.5	5	42.21	112	70	130	48.01	0.4(20)	
Magnesium (Mg)	12.4	0.5	5	7.659	94	70	130	12.6	1.8(20)	
Potassium (K)	6.93	0.5	5	1.961	99	70	130	7.144	3.0(20)	
Calcium (Ca)	38.2	0.5	5	33.49	94	70	130	39.17	2.5(20)	
Chromium (Cr)	0.0481	0.005	0.05	0	96	70	130	0.04787	0.5(20)	
Iron (Fe)	5.38	0.3	5	0.3627	100	70	130	5.419	0.6(20)	
Arsenic (As)	0.0538	0.002	0.05	0.002574	103	70	130	0.05552	3.1(20)	
Lead (Pb)	0.0467	0.005	0.05	0	93	70	130	0.04714	0.9(20)	

Comments:

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Date:
16-May-11

QC Summary Report

Work Order:
11051205

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0512PH**

Analysis Date: **05/12/2011 15:33**

Sample ID: **LCS-W0512PH**

Units : **pH Units**

Run ID: **WETLAB_110512A**

Prep Date: **05/12/2011 15:33**

Analyte

Result

PQL

SpkVal

SpkRefVal

%REC

LCL(ME)

UCL(ME)

RPDRefVal

%RPD(Limit)

Qual

pH

5.05

1.7

5

101

90

110

Comments:

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



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Date:
18-May-11

QC Summary Report

Work Order:
11051205

Method Blank

Type **MBLK** Test Code: **SM2540C**

File ID: Batch ID: **W0512DS** Analysis Date: **05/16/2011 00:00**
Sample ID: **MBLK-W0512DS** Units : **mg/L** Run ID: **WETLAB_110512C** Prep Date: **05/16/2011 00:00**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS) ND 10

Laboratory Control Spike

Type **LCS** Test Code: **SM2540C**

File ID: Batch ID: **W0512DS** Analysis Date: **05/16/2011 00:00**
Sample ID: **LCS-W0512DS** Units : **mg/L** Run ID: **WETLAB_110512C** Prep Date: **05/16/2011 00:00**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS) 97 10 100 97 70 130

Comments:

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



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Date:
28-Jul-11

QC Summary Report

Work Order:
11051205

Surr: 1,2-Dichloroethane-d4	9.55	10	96	70	130
Surr: Toluene-d8	10.3	10	103	70	130
Surr: 4-Bromofluorobenzene	9.18	10	92	70	130



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Date:
28-Jul-11

QC Summary Report

Work Order:
11051205

Laboratory Control Spike

File ID: 11051703.D

Sample ID: LCS MS15W0517M

Type: LCS

Test Code: EPA Method SW8260B

Batch ID: MS15W0517M

Analysis Date: 05/17/2011 08:38

Units : µg/L

Run ID: MSD_15_110517D

Prep Date: 05/17/2011 08:38

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	8.33	1	10		83	70	130			
Chloromethane	3.24	2	10		32	70(70)	130			L50
Vinyl chloride	10.2	1	10		102	70	130			
Chloroethane	10	1	10		100	70	130			
Bromomethane	3.71	2	10		37	70(70)	130			L50
Trichlorofluoromethane	11.4	1	10		114	70	130			
Acetone	187	10	200		94	36	171			
1,1-Dichloroethene	10.8	1	10		108	70	130			
Dichloromethane	9.74	2	10		97	70	130			
Freon-113	11.3	1	10		113	70	137			
trans-1,2-Dichloroethene	10.8	1	10		108	70	130			
Methyl tert-butyl ether (MTBE)	8.39	0.5	10		84	70	130			
1,1-Dichloroethane	9.98	1	10		99.8	70	130			
2-Butanone (MEK)	183	10	200		92	70	130			
cis-1,2-Dichloroethene	10.2	1	10		102	70	130			
Bromochloromethane	9.66	1	10		97	70	130			
Chloroform	10.1	1	10		101	70	130			
2,2-Dichloropropane	10.1	1	10		101	70	130			
1,2-Dichloroethane	9.26	1	10		93	70	130			
1,1,1-Trichloroethane	10.3	1	10		103	70	130			
1,1-Dichloropropene	10.7	1	10		107	70	130			
Carbon tetrachloride	10.4	1	10		104	70	130			
Benzene	10	0.5	10		100	70	130			
Dibromomethane	9.18	1	10		92	70	130			
1,2-Dichloropropane	9.81	1	10		98	70	130			
Trichloroethene	10.5	1	10		105	70	130			
Bromodichloromethane	9.61	1	10		96	70	130			
4-Methyl-2-pentanone (MIBK)	21.7	2.5	25		87	20	182			
cis-1,3-Dichloropropene	9.16	1	10		92	70	130			
trans-1,3-Dichloropropene	8.21	1	10		82	70	130			
1,1,2-Trichloroethane	8.75	1	10		88	70	130			
Toluene	10.6	0.5	10		106	70	130			
1,3-Dichloropropane	9.23	1	10		92	70	130			
2-Hexanone	93.6	5	100		94	20	182			
Dibromochloromethane	9.05	1	10		91	70	130			
1,2-Dibromoethane (EDB)	19.4	2	20		97	70	130			
Tetrachloroethene	11.2	1	10		112	70	130			
1,1,1,2-Tetrachloroethane	10	1	10		100	70	130			
Chlorobenzene	10.4	1	10		104	70	130			
Ethylbenzene	10.6	0.5	10		106	70	130			
m,p-Xylene	11	0.5	10		110	70	130			
Bromoform	8.32	1	10		83	70	130			
Styrene	10.5	1	10		105	70	130			
o-Xylene	10.7	0.5	10		107	70	130			
1,1,2,2-Tetrachloroethane	8.4	1	10		84	70	130			
1,2,3-Trichloropropane	17.9	2	20		90	70	130			
Isopropylbenzene	10.4	1	10		104	70	130			
Bromobenzene	9.88	1	10		99	70	130			
n-Propylbenzene	10.8	1	10		108	70	130			
4-Chlorotoluene	10.5	1	10		105	70	130			
2-Chlorotoluene	10.4	1	10		104	70	130			
1,3,5-Trimethylbenzene	10.4	1	10		104	70	130			
tert-Butylbenzene	10.3	1	10		103	70	130			
1,2,4-Trimethylbenzene	10.2	1	10		102	70	130			
sec-Butylbenzene	10.8	1	10		108	70	130			
1,3-Dichlorobenzene	10.3	1	10		103	70	130			
1,4-Dichlorobenzene	9.77	1	10		98	70	130			
4-Isopropyltoluene	10.5	1	10		105	70	130			
1,2-Dichlorobenzene	9.42	1	10		94	70	130			
n-Butylbenzene	10.7	1	10		107	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	35.8	3	50		72	67	130			
1,2,4-Trichlorobenzene	9.1	2	10		91	70	130			
Naphthalene	6.49	2	10		65	70(70)	130			L50
Hexachlorobutadiene	18.1	2	20		90	70	130			



Alpha Analytical, Inc.

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

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

Date:

28-Jul-11

QC Summary Report

Work Order:

11051205

1,2,3-Trichlorobenzene	7.83	2	10	78	70	130
Surr: 1,2-Dichloroethane-d4	9.25		10	93	70	130
Surr: Toluene-d8	10.2		10	102	70	130
Surr: 4-Bromofluorobenzene	9.66		10	97	70	130



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Date:
28-Jul-11

QC Summary Report

Work Order:
11051205

Sample Matrix Spike

File ID: 11051708.D

Type: MS

Test Code: EPA Method SW8260B

Batch ID: MS15W0517M

Analysis Date: 05/17/2011 10:38

Sample ID: 11051304-04AMS

Units : µg/L

Run ID: MSD_15_110517D

Prep Date: 05/17/2011 10:38

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	45	2.5	50	0	90	21	138			
Chloromethane	22.1	10	50	0	44	23	144			
Vinyl chloride	47	2.5	50	0	94	49	136			
Chloroethane	44.9	2.5	50	0	90	21	159			
Bromomethane	19.3	10	50	0	39	10	174			
Trichlorofluoromethane	51.3	2.5	50	0	103	32	154			
Acetone	494	50	1000	0	49	10	171			
1,1-Dichloroethene	47.6	2.5	50	0	95	64	130			
Dichloromethane	43.2	10	50	0	86	69	130			
Freon-113	51.4	2.5	50	0	103	55	141			
trans-1,2-Dichloroethene	46.8	2.5	50	0	94	63	130			
Methyl tert-butyl ether (MTBE)	43.2	1.3	50	0	86	47	150			
1,1-Dichloroethane	44	2.5	50	0	88	66	130			
2-Butanone (MEK)	657	50	1000	0	66	23	182			
cis-1,2-Dichloroethene	44.7	2.5	50	0	89	70	130			
Bromochloromethane	45	2.5	50	0	90	70	132			
Chloroform	44.7	2.5	50	0	89	70	130			
2,2-Dichloropropane	43.7	2.5	50	0	87	38	154			
1,2-Dichloroethane	43.8	2.5	50	0	88	65	134			
1,1,1-Trichloroethane	44.7	2.5	50	0	89	65	136			
1,1-Dichloropropene	47	2.5	50	0	94	68	132			
Carbon tetrachloride	44.9	2.5	50	0	90	58	148			
Benzene	44.6	1.3	50	0	89	59	138			
Dibromomethane	44.8	2.5	50	0	90	70	130			
1,2-Dichloropropane	44.9	2.5	50	0	90	70	131			
Trichloroethene	46.2	2.5	50	0	92	65	144			
Bromodichloromethane	43.6	2.5	50	0	87	50	157			
4-Methyl-2-pentanone (MIBK)	103	13	125	0	83	20	182			
cis-1,3-Dichloropropene	39.8	2.5	50	0	80	63	131			
trans-1,3-Dichloropropene	38	2.5	50	0	76	65	136			
1,1,2-Trichloroethane	41.8	2.5	50	0	84	70	131			
Toluene	45.8	1.3	50	0	92	68	130			
1,3-Dichloropropane	43.4	2.5	50	0	87	70	130			
2-Hexanone	301	25	500	0	60	20	182			
Dibromochloromethane	41.8	2.5	50	0	84	42	155			
1,2-Dibromoethane (EDB)	92.5	5	100	0	92	70	130			
Tetrachloroethene	48.3	2.5	50	0	97	65	130			
1,1,1,2-Tetrachloroethane	44.2	2.5	50	0	88	70	130			
Chlorobenzene	46	2.5	50	0	92	70	130			
Ethylbenzene	45.6	1.3	50	0	91	68	130			
m,p-Xylene	47.1	1.3	50	0	94	68	131			
Bromoform	38.5	2.5	50	0	77	65	143			
Styrene	46.3	2.5	50	0	93	59	153			
o-Xylene	46.5	1.3	50	0	93	70	130			
1,1,2,2-Tetrachloroethane	42.6	2.5	50	0	85	67	130			
1,2,3-Trichloropropane	87.8	10	100	0	88	70	130			
Isopropylbenzene	43	2.5	50	0	86	55	138			
Bromobenzene	44.1	2.5	50	0	88	70	130			
n-Propylbenzene	44.7	2.5	50	0	89	67	133			
4-Chlorotoluene	44.8	2.5	50	0	90	70	130			
2-Chlorotoluene	44.1	2.5	50	0	88	70	130			
1,3,5-Trimethylbenzene	43.7	2.5	50	0	87	67	134			
tert-Butylbenzene	43.4	2.5	50	0	87	55	147			
1,2,4-Trimethylbenzene	43.6	2.5	50	0	87	65	135			
sec-Butylbenzene	45.7	2.5	50	0	91	68	135			
1,3-Dichlorobenzene	44.9	2.5	50	0	90	70	130			
1,4-Dichlorobenzene	42.4	2.5	50	0	85	70	130			
4-Isopropyltoluene	44.1	2.5	50	0	88	68	132			
1,2-Dichlorobenzene	42.7	2.5	50	0	85	70	130			
n-Butylbenzene	44.6	2.5	50	0	89	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	179	15	250	0	71	64	130			
1,2,4-Trichlorobenzene	41.8	10	50	0	84	62	133			
Naphthalene	30.7	10	50	0	61	32	166			
Hexachlorobutadiene	78	10	100	0	78	63	130			
1,2,3-Trichlorobenzene	36.3	10	50	0	73	55	138			



Alpha Analytical, Inc.

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Date:

28-Jul-11

QC Summary Report

Work Order:

11051205

Surr: 1,2-Dichloroethane-d4	47.5	50	95	70	130
Surr: Toluene-d8	51.1	50	102	70	130
Surr: 4-Bromofluorobenzene	48.1	50	96	70	130



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Date:
28-Jul-11

QC Summary Report

Work Order:
11051205

Sample Matrix Spike Duplicate

Type: MSD Test Code: EPA Method SW8260B

File ID: 11051709.D

Batch ID: MS15W0517M

Analysis Date: 05/17/2011 10:59

Sample ID: 11051304-04AMSD

Units: µg/L

Run ID: MSD_15_110517D

Prep Date: 05/17/2011 10:59

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	46.8	2.5	50	0	94	21	138	45.01	3.9(33)	
Chloromethane	17.9	10	50	0	36	23	144	22.12	21.1(27)	
Vinyl chloride	48.7	2.5	50	0	97	49	136	47.03	3.5(21)	
Chloroethane	45.8	2.5	50	0	92	21	159	44.89	1.9(40)	
Bromomethane	23.5	10	50	0	47	10	174	19.28	19.6(40)	
Trichlorofluoromethane	53.3	2.5	50	0	107	32	154	51.26	3.9(37)	
Acetone	523	50	1000	0	52	10	171	494.3	5.6(23)	
1,1-Dichloroethene	49.9	2.5	50	0	99.9	64	130	47.58	4.8(21)	
Dichloromethane	45.5	10	50	0	91	69	130	43.2	5.3(20)	
Freon-113	52.9	2.5	50	0	106	55	141	51.43	2.9(40)	
trans-1,2-Dichloroethene	49.7	2.5	50	0	99	63	130	46.83	6.0(20)	
Methyl tert-butyl ether (MTBE)	46.8	1.3	50	0	94	47	150	43.2	8.0(40)	
1,1-Dichloroethane	46.5	2.5	50	0	93	66	130	44.01	5.5(20)	
2-Butanone (MEK)	687	50	1000	0	69	23	182	656.9	4.4(22)	
cis-1,2-Dichloroethene	48.3	2.5	50	0	97	70	130	44.73	7.7(20)	
Bromochloromethane	48.3	2.5	50	0	97	70	132	44.99	7.2(20)	
Chloroform	47.2	2.5	50	0	94	70	130	44.73	5.4(20)	
2,2-Dichloropropane	46.2	2.5	50	0	92	38	154	43.67	5.5(22)	
1,2-Dichloroethane	46.2	2.5	50	0	92	65	134	43.84	5.2(20)	
1,1,1-Trichloroethane	47.1	2.5	50	0	94	65	136	44.7	5.1(20)	
1,1-Dichloropropene	48.8	2.5	50	0	98	68	132	47.02	3.6(20)	
Carbon tetrachloride	47.3	2.5	50	0	95	58	148	44.92	5.2(20)	
Benzene	46.1	1.3	50	0	92	59	138	44.57	3.3(21)	
Dibromomethane	46.5	2.5	50	0	93	70	130	44.8	3.8(20)	
1,2-Dichloropropane	46.4	2.5	50	0	93	70	131	44.88	3.4(20)	
Trichloroethene	47.5	2.5	50	0	95	65	144	46.23	2.8(20)	
Bromodichloromethane	45.9	2.5	50	0	92	50	157	43.63	5.0(20)	
4-Methyl-2-pentanone (MIBK)	110	13	125	0	88	20	182	103.2	5.9(20)	
cis-1,3-Dichloropropene	42.3	2.5	50	0	85	63	131	39.78	6.0(20)	
trans-1,3-Dichloropropene	40.2	2.5	50	0	80	65	136	37.97	5.6(20)	
1,1,2-Trichloroethane	45.3	2.5	50	0	91	70	131	41.83	7.9(20)	
Toluene	48.4	1.3	50	0	97	68	130	45.75	5.6(20)	
1,3-Dichloropropane	46.8	2.5	50	0	94	70	130	43.44	7.5(20)	
2-Hexanone	321	25	500	0	64	20	182	300.6	6.5(20)	
Dibromochloromethane	45.2	2.5	50	0	90	42	155	41.77	7.8(20)	
1,2-Dibromoethane (EDB)	97.6	5	100	0	98	70	130	92.47	5.4(20)	
Tetrachloroethene	50.7	2.5	50	0	101	65	130	48.26	4.8(20)	
1,1,1,2-Tetrachloroethane	47.4	2.5	50	0	95	70	130	44.22	6.8(20)	
Chlorobenzene	48.4	2.5	50	0	97	70	130	45.99	5.2(20)	
Ethylbenzene	47.8	1.3	50	0	96	68	130	45.56	4.9(20)	
m,p-Xylene	49.5	1.3	50	0	99	68	131	47.06	5.1(20)	
Bromoform	41.9	2.5	50	0	84	65	143	38.46	8.6(20)	
Styrene	49.1	2.5	50	0	98	59	153	46.32	5.9(37)	
o-Xylene	48.6	1.3	50	0	97	70	130	46.52	4.3(20)	
1,1,2,2-Tetrachloroethane	45	2.5	50	0	90	67	130	42.58	5.5(20)	
1,2,3-Trichloropropane	94.3	10	100	0	94	70	130	87.8	7.2(20)	
Isopropylbenzene	45.4	2.5	50	0	91	55	138	43.03	5.4(20)	
Bromobenzene	46.3	2.5	50	0	93	70	130	44.07	5.0(20)	
n-Propylbenzene	46.9	2.5	50	0	94	67	133	44.65	4.9(30)	
4-Chlorotoluene	47.2	2.5	50	0	94	70	130	44.75	5.3(20)	
2-Chlorotoluene	45.9	2.5	50	0	92	70	130	44.1	4.1(20)	
1,3,5-Trimethylbenzene	45.9	2.5	50	0	92	67	134	43.7	4.8(21)	
tert-Butylbenzene	45.3	2.5	50	0	91	55	147	43.37	4.3(20)	
1,2,4-Trimethylbenzene	45.5	2.5	50	0	91	65	135	43.64	4.1(25)	
sec-Butylbenzene	46.5	2.5	50	0	93	68	135	45.69	1.8(20)	
1,3-Dichlorobenzene	47	2.5	50	0	94	70	130	44.93	4.5(20)	
1,4-Dichlorobenzene	45.1	2.5	50	0	90	70	130	42.4	6.1(20)	
4-Isopropyltoluene	46.1	2.5	50	0	92	68	132	44.12	4.5(20)	
1,2-Dichlorobenzene	44.6	2.5	50	0	89	70	130	42.65	4.5(20)	
n-Butylbenzene	47.3	2.5	50	0	95	62	134	44.58	5.8(21)	
1,2-Dibromo-3-chloropropane (DBCP)	195	15	250	0	78	64	130	178.7	9.0(20)	
1,2,4-Trichlorobenzene	45.9	10	50	0	92	62	133	41.84	9.2(29)	
Naphthalene	34.5	10	50	0	69	32	166	30.65	11.8(40)	
Hexachlorobutadiene	87.2	10	100	0	87	63	130	78.01	11.1(21)	
1,2,3-Trichlorobenzene	42.8	10	50	0	86	55	138	36.29	16.4(36)	



Alpha Analytical, Inc.

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

Date:

28-Jul-11

QC Summary Report

Work Order:

11051205

Surr: 1,2-Dichloroethane-d4	48	50	96	70	130
Surr: Toluene-d8	51.4	50	103	70	130
Surr: 4-Bromofluorobenzene	47.5	50	95	70	130

Comments:

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

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

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA AMENDED of 1

Alpha Analytical, Inc.

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

WorkOrder : BMIS11051205

Report Due By : 5:00 PM On : 26-May-2011

Client:
 Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101

Report Attention	Phone Number	Email Address
David Comer	(619) 726-7311 x	comerd@battelle.org
Betsy Cutie	(614) 424-4899 x	cutiee@battelle.org
Shane Walton	(614) 424-4117 x	waltonsh@battelle.org

EDD Required : No

Sampled by : Chase Brogdon/ Mark Mendoza

PO : 218013
 Client's COC # : 33393

Job : G005862/JPL Groundwater Monitoring

0 °C

12-May-2011

22-Jul-2011

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

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub	TAT	Requested Tests				Sample Remarks				
					300_0_W	314_W	ALKALINITY_Y_W	METALS_D_W		PH_W	TDS_W	VOC_TIC_W	VOC_W
BM11051205-01A	MMW-19-5	AQ 05/11/11 07:50	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-02A	MMW-19-4	AQ 05/11/11 08:21	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-03A	MMW-19-3	AQ 05/11/11 08:58	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-04A	MMW-19-2	AQ 05/11/11 10:04	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria + Additional TICs	VOC by 524 Criteria + Additional TICs	
BM11051205-05A	MMW-19-1	AQ 05/11/11 13:15	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-06A	DUPE-3-2Q11	AQ 05/11/11 00:00	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-07A	EB-10-5/1/1/1	AQ 05/11/11 13:04	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-08A	TB-10-5/1/1/1	AQ 05/11/11 00:00	1	0	10								Reno Trip Blank 4/6/11

Comments: No security seals. Frozen ice. Temp Blank #8597 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (IE: MS/MSD). Amended 7/22/11: Per email from David Comer via Reyna added additional TICs: 1,1-Dichloropropanone, Hexachloroethane, Nitrobenzene, and Propionitrile to sample -04A. EA

Logged in by: Elizabeth Adcox Signature: Elizabeth Adcox Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 7.22.11 1625

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

CHAIN-OF-CUSTODY RECORD

CA

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

WorkOrder : BMIS11051205
Report Due By : 5:00 PM On : 26-May-2011

Client: Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

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

Client's COC # : 33393 **Job :** G005862/JPL Groundwater Monitoring
QC Level : DS4 = DOD QC Required : Final Rpt, MBLK, Initial/Concal data, LCS, MS/MSD With Surrogates

Sampled by : Chase Brogdon/ Mark Mendoza
Cooler Temp **Samples Received** **Date Printed**
 0 °C 12-May-2011 12-May-2011

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub	TAT	Requested Tests					Sample Remarks			
					300_0_W	314_W	ALKALINT Y_W	METALS_D W	PH_W		TDS_W	VOC_TIC_W	VOC_W
BM11051205-01A	NW-19-5	AQ 05/11/11 07:50	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-02A	NW-19-4	AQ 05/11/11 08:21	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-03A	NW-19-3	AQ 05/11/11 08:58	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-04A	NW-19-2	AQ 05/11/11 10:04	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-05A	NW-19-1	AQ 05/11/11 13:15	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-06A	DUPE-3-2Q11	AQ 05/11/11 00:00	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-07A	EB-10-5/11/11	AQ 05/11/11 13:04	5	0	10	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051205-08A	TB-10-5/11/11	AQ 05/11/11 00:00	1	0	10								Reno Trip Blank 4/6/11


Comments: No security seals. Frozen ice. Temp Blank #8597 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD) .:

Logged in by: Elizabeth Adeco **Signature:** Elizabeth Adeco **Print Name:** Elizabeth Adeco **Company:** Alpha Analytical, Inc. **Date/Time:** 5-12-11 10:00

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:

Company Name BATTLE
 Attn: GENAID TOMPKINS
 Address 505 KING AVE
 City, State, Zip COLUMBUS, OH 43201
 Phone Number _____ Fax _____



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

Samples Collected From Which State?

AZ _____ CA NV _____ WA _____
 ID _____ OR _____ OTHER _____
 Page # 1 of 1

35393

Consultant / Client Name BATTLE/DAVID COWEN
 Address 3990 OLD TOWN AVE, C-205
 City, State, Zip SAV DUE CO, CA 92110

Job # 6005862
 Name: DAVID COWEN
 Report Attention / Project Manager
 Job Name JPL GULF MAR, 2011

Mobile: 609-716-7311
 Home: 614-458-6641
 Email: DAVID@BATTLE.ORG
 Fax: 614-458-6641

Time Sampled	Date Sampled	Matrix* See Key Below	P.O. #	Lab ID Number (Use Only)	Office (Use Only)	Sample Description	TAT	Field Filtered	# Containers**	Analyses Required	REMARKS
750	5/11/11	AR	BMI11051205-01			MW - 19 - 5	NORM		5	Vol's (574.2) LEAD, ARSENIC TOTAL Cr (200.8) Cd (314.0) Ni, K, Ca, Mg, Fe (200.8) CO ₂ , H ₂ O ₂ , TDS, PH, ALKALINITY Sm ₂ 208, Sm ₂ 40, ISO ₂ Cl ⁻ , NO ₂ ⁻ , NO ₃ ⁻ , SO ₄ ⁻² , PO ₄ ⁻³ (200.0)	
821						MW - 19 - 4			5		
958						MW - 19 - 3			5		
1004						MW - 19 - 2			5		
1315						MW - 19 - 1			5		
---						PIPE - 3 - 2Q11			5		PIPE - 2 Q11
---						USE - 07			5		EQUIP BLANK
1304						USE - 07			5		
---						USE - 08			1		TRIP BLANK

ADDITIONAL INSTRUCTIONS:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action (NAC 445.0636 (c) (2)). Sampled By: CHASE BRADSHAW 1300 S. WENDEN

Relinquished by: (Signature/Affiliation) CHASE BRADSHAW Received by: (Signature/Affiliation) _____ Date: _____ Time: _____

Relinquished by: (Signature/Affiliation) _____ Received by: (Signature/Affiliation) Empath Decker / Alpha Date: 5.12.11 Time: 10:00

Relinquished by: (Signature/Affiliation) _____ Received by: (Signature/Affiliation) _____ Date: _____ Time: _____

*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: 20-May-2011

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11051304

Cooler Temp: 0°C

Alpha's Sample ID	Client's Sample ID	Matrix
11051304-01A	MW-17-5	Aqueous
11051304-02A	MW-17-4	Aqueous
11051304-03A	MW-17-3	Aqueous
11051304-04A	MW-17-2	Aqueous
11051304-05A	MW-17-1	Aqueous
11051304-06A	EB-11-5/12/11	Aqueous
11051304-07A	TB-11-5/12/11	Aqueous

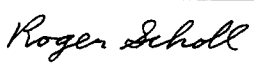
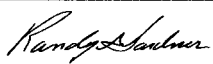
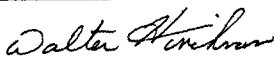
Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
NONE		

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

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

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

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

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

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



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/13/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-17-5				
Lab ID : BMI11051304-01A Chloride	14	0.50 mg/L	05/13/11 15:18	05/13/11 21:57
Date Sampled 05/12/11 08:35 Nitrite (NO2) - N	ND	0.25 mg/L	05/13/11 15:18	05/13/11 21:57
Nitrate (NO3) - N	ND	0.25 mg/L	05/13/11 15:18	05/13/11 21:57
Phosphate, ortho - P	ND	0.50 mg/L	05/13/11 15:18	05/13/11 21:57
Sulfate (SO4)	25	0.50 mg/L	05/13/11 15:18	05/13/11 21:57
Client ID: MW-17-4				
Lab ID : BMI11051304-02A Chloride	16	0.50 mg/L	05/13/11 15:18	05/13/11 22:16
Date Sampled 05/12/11 09:12 Nitrite (NO2) - N	ND	0.25 mg/L	05/13/11 15:18	05/13/11 22:16
Nitrate (NO3) - N	2.1	0.25 mg/L	05/13/11 15:18	05/13/11 22:16
Phosphate, ortho - P	ND	0.50 mg/L	05/13/11 15:18	05/13/11 22:16
Sulfate (SO4)	24	0.50 mg/L	05/13/11 15:18	05/13/11 22:16
Client ID: MW-17-3				
Lab ID : BMI11051304-03A Chloride	52	0.50 mg/L	05/13/11 15:18	05/13/11 22:34
Date Sampled 05/12/11 10:21 Nitrite (NO2) - N	ND	0.25 mg/L	05/13/11 15:18	05/13/11 22:34
Nitrate (NO3) - N	10	0.25 mg/L	05/13/11 15:18	05/13/11 22:34
Phosphate, ortho - P	ND	0.50 mg/L	05/13/11 15:18	05/13/11 22:34
Sulfate (SO4)	55	0.50 mg/L	05/13/11 15:18	05/13/11 22:34
Client ID: MW-17-2				
Lab ID : BMI11051304-04A Chloride	59	0.50 mg/L	05/13/11 15:18	05/13/11 22:53
Date Sampled 05/12/11 13:29 Nitrite (NO2) - N	ND	0.25 mg/L	05/13/11 15:18	05/13/11 22:53
Nitrate (NO3) - N	5.4	0.25 mg/L	05/13/11 15:18	05/13/11 22:53
Phosphate, ortho - P	ND	0.50 mg/L	05/13/11 15:18	05/13/11 22:53
Sulfate (SO4)	85	0.50 mg/L	05/13/11 15:18	05/13/11 22:53
Client ID: MW-17-1				
Lab ID : BMI11051304-05A Chloride	42	0.50 mg/L	05/13/11 15:18	05/14/11 00:44
Date Sampled 05/12/11 14:15 Nitrite (NO2) - N	ND	0.25 mg/L	05/13/11 15:18	05/14/11 00:44
Nitrate (NO3) - N	4.2	0.25 mg/L	05/13/11 15:18	05/14/11 00:44
Phosphate, ortho - P	ND	0.50 mg/L	05/13/11 15:18	05/14/11 00:44
Sulfate (SO4)	37	0.50 mg/L	05/13/11 15:18	05/14/11 00:44
Client ID: EB-11-5/12/11				
Lab ID : BMI11051304-06A Chloride	ND	0.50 mg/L	05/13/11 15:18	05/14/11 01:02
Date Sampled 05/12/11 14:05 Nitrite (NO2) - N	ND	0.25 mg/L	05/13/11 15:18	05/14/11 01:02
Nitrate (NO3) - N	ND	0.25 mg/L	05/13/11 15:18	05/14/11 01:02
Phosphate, ortho - P	ND	0.50 mg/L	05/13/11 15:18	05/14/11 01:02
Sulfate (SO4)	ND	0.50 mg/L	05/13/11 15:18	05/14/11 01:02



Alpha Analytical, Inc.

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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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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5/26/11

Report Date



Alpha Analytical, Inc.

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

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/13/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-17-5 Lab ID: BMI11051304-01A Perchlorate Date Sampled 05/12/11 08:35	ND	1.00 µg/L	05/13/11 10:06	05/13/11 13:49
Client ID: MW-17-4 Lab ID: BMI11051304-02A Perchlorate Date Sampled 05/12/11 09:12	3.00	1.00 µg/L	05/13/11 10:06	05/13/11 14:07
Client ID: MW-17-3 Lab ID: BMI11051304-03A Perchlorate Date Sampled 05/12/11 10:21	7.08	1.00 µg/L	05/13/11 10:06	05/13/11 14:25
Client ID: MW-17-2 Lab ID: BMI11051304-04A Perchlorate Date Sampled 05/12/11 13:29	76.0	5.00 µg/L	05/13/11 10:06	05/13/11 16:16
Client ID: MW-17-1 Lab ID: BMI11051304-05A Perchlorate Date Sampled 05/12/11 14:15	ND	1.00 µg/L	05/13/11 10:06	05/13/11 15:39
Client ID: EB-11-5/12/11 Lab ID: BMI11051304-06A Perchlorate Date Sampled 05/12/11 14:05	ND	1.00 µg/L	05/13/11 10:06	05/13/11 15:58

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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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5/26/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/13/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-17-5				
Lab ID : BMI11051304-01A	Alkalinity, Bicarbonate (As CaCO ₃)	130	10 mg/L	05/16/11 11:54 05/16/11 11:54
Date Sampled 05/12/11 08:35	Alkalinity, Carbonate (As CaCO ₃)	10	10 mg/L	05/16/11 11:54 05/16/11 11:54
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	140	10 mg/L	05/16/11 11:54 05/16/11 11:54
Client ID: MW-17-4				
Lab ID : BMI11051304-02A	Alkalinity, Bicarbonate (As CaCO ₃)	160	10 mg/L	05/16/11 11:58 05/16/11 11:58
Date Sampled 05/12/11 09:12	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/16/11 11:58 05/16/11 11:58
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	160	10 mg/L	05/16/11 11:58 05/16/11 11:58
Client ID: MW-17-3				
Lab ID : BMI11051304-03A	Alkalinity, Bicarbonate (As CaCO ₃)	160	10 mg/L	05/16/11 12:01 05/16/11 12:01
Date Sampled 05/12/11 10:21	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/16/11 12:01 05/16/11 12:01
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	160	10 mg/L	05/16/11 12:01 05/16/11 12:01
Client ID: MW-17-2				
Lab ID : BMI11051304-04A	Alkalinity, Bicarbonate (As CaCO ₃)	200	10 mg/L	05/16/11 12:10 05/16/11 12:10
Date Sampled 05/12/11 13:29	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/16/11 12:10 05/16/11 12:10
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	200	10 mg/L	05/16/11 12:10 05/16/11 12:10
Client ID: MW-17-1				
Lab ID : BMI11051304-05A	Alkalinity, Bicarbonate (As CaCO ₃)	220	10 mg/L	05/16/11 12:18 05/16/11 12:18
Date Sampled 05/12/11 14:15	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/16/11 12:18 05/16/11 12:18
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	220	10 mg/L	05/16/11 12:18 05/16/11 12:18
Client ID: EB-11-5/12/11				
Lab ID : BMI11051304-06A	Alkalinity, Bicarbonate (As CaCO ₃)	ND	10 mg/L	05/16/11 12:25 05/16/11 12:25
Date Sampled 05/12/11 14:05	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/16/11 12:25 05/16/11 12:25
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	ND	10 mg/L	05/16/11 12:25 05/16/11 12:25

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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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5/26/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/13/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-17-5					
Lab ID : BMI11051304-01A	Sodium (Na)	62	0.50 mg/L	05/13/11 22:28	05/19/11 16:55
Date Sampled 05/12/11 08:35	Magnesium (Mg)	4.4	0.50 mg/L	05/13/11 22:28	05/20/11 11:24
	Potassium (K)	1.7	0.50 mg/L	05/13/11 22:28	05/19/11 16:55
	Calcium (Ca)	22	0.50 mg/L	05/13/11 22:28	05/19/11 16:55
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 16:55
	Iron (Fe)	1.2	0.30 mg/L	05/13/11 22:28	05/19/11 16:55
	Arsenic (As)	0.0081	0.0020 mg/L	05/13/11 22:28	05/19/11 16:55
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 16:55
Client ID: MW-17-4					
Lab ID : BMI11051304-02A	Sodium (Na)	46	0.50 mg/L	05/13/11 22:28	05/19/11 17:00
Date Sampled 05/12/11 09:12	Magnesium (Mg)	8.9	0.50 mg/L	05/13/11 22:28	05/20/11 11:30
	Potassium (K)	2.1	0.50 mg/L	05/13/11 22:28	05/19/11 17:00
	Calcium (Ca)	34	0.50 mg/L	05/13/11 22:28	05/19/11 17:00
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 17:00
	Iron (Fe)	ND	0.30 mg/L	05/13/11 22:28	05/19/11 17:00
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 17:00
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 17:00
Client ID: MW-17-3					
Lab ID : BMI11051304-03A	Sodium (Na)	30	0.50 mg/L	05/13/11 22:28	05/19/11 17:06
Date Sampled 05/12/11 10:21	Magnesium (Mg)	9.2	0.50 mg/L	05/13/11 22:28	05/21/11 09:06
	Potassium (K)	3.2	0.50 mg/L	05/13/11 22:28	05/19/11 17:06
	Calcium (Ca)	63	0.50 mg/L	05/13/11 22:28	05/19/11 17:06
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 17:06
	Iron (Fe)	0.84	0.30 mg/L	05/13/11 22:28	05/19/11 17:06
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 17:06
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 17:06
Client ID: MW-17-2					
Lab ID : BMI11051304-04A	Sodium (Na)	22	0.50 mg/L	05/13/11 22:28	05/20/11 11:41
Date Sampled 05/12/11 13:29	Magnesium (Mg)	26	0.50 mg/L	05/13/11 22:28	05/20/11 11:41
	Potassium (K)	3.8	0.50 mg/L	05/13/11 22:28	05/20/11 11:41
	Calcium (Ca)	75	0.50 mg/L	05/13/11 22:28	05/20/11 11:41
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/20/11 11:41
	Iron (Fe)	0.32	0.30 mg/L	05/13/11 22:28	05/20/11 11:41
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/20/11 11:41
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/20/11 11:41



Alpha Analytical, Inc.

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Client ID: MW-17-1

Lab ID : BMI11051304-05A	Sodium (Na)	21	0.50 mg/L	05/13/11 22:28	05/19/11 17:17
Date Sampled 05/12/11 14:15	Magnesium (Mg)	21	0.50 mg/L	05/13/11 22:28	05/20/11 11:46
	Potassium (K)	3.0	0.50 mg/L	05/13/11 22:28	05/19/11 17:17
	Calcium (Ca)	77	0.50 mg/L	05/13/11 22:28	05/19/11 17:17
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 17:17
	Iron (Fe)	0.45	0.30 mg/L	05/13/11 22:28	05/19/11 17:17
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 17:17
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 17:17

Client ID: EB-11-5/12/11

Lab ID : BMI11051304-06A	Sodium (Na)	ND	0.50 mg/L	05/13/11 22:28	05/19/11 17:22
Date Sampled 05/12/11 14:05	Magnesium (Mg)	ND	0.50 mg/L	05/13/11 22:28	05/20/11 11:52
	Potassium (K)	ND	0.50 mg/L	05/13/11 22:28	05/19/11 17:22
	Calcium (Ca)	ND	0.50 mg/L	05/13/11 22:28	05/19/11 17:22
	Chromium (Cr)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 17:22
	Iron (Fe)	ND	0.30 mg/L	05/13/11 22:28	05/19/11 17:22
	Arsenic (As)	ND	0.0020 mg/L	05/13/11 22:28	05/19/11 17:22
	Lead (Pb)	ND	0.0050 mg/L	05/13/11 22:28	05/19/11 17:22

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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

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5/26/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/13/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)
EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-17-5				
Lab ID: BM111051304-01A pH	8.6	1.7 pH Units	05/13/11 15:24	05/13/11 15:24
Date Sampled 05/12/11 08:35 pH - Temperature	21	1.0 °C	05/13/11 15:24	05/13/11 15:24
Client ID: MW-17-4				
Lab ID: BM111051304-02A pH	8.2	1.7 pH Units	05/13/11 15:25	05/13/11 15:25
Date Sampled 05/12/11 09:12 pH - Temperature	21	1.0 °C	05/13/11 15:25	05/13/11 15:25
Client ID: MW-17-3				
Lab ID: BM111051304-03A pH	8.1	1.7 pH Units	05/13/11 15:26	05/13/11 15:26
Date Sampled 05/12/11 10:21 pH - Temperature	20	1.0 °C	05/13/11 15:26	05/13/11 15:26
Client ID: MW-17-2				
Lab ID: BM111051304-04A pH	7.7	1.7 pH Units	05/13/11 15:28	05/13/11 15:28
Date Sampled 05/12/11 13:29 pH - Temperature	21	1.0 °C	05/13/11 15:28	05/13/11 15:28
Client ID: MW-17-1				
Lab ID: BM111051304-05A pH	7.3	1.7 pH Units	05/13/11 15:30	05/13/11 15:30
Date Sampled 05/12/11 14:15 pH - Temperature	21	1.0 °C	05/13/11 15:30	05/13/11 15:30
Client ID: EB-11-5/12/11				
Lab ID: BM111051304-06A pH	6.4	1.7 pH Units	05/13/11 15:35	05/13/11 15:35
Date Sampled 05/12/11 14:05 pH - Temperature	21	1.0 °C	05/13/11 15:35	05/13/11 15:35

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

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

Roger Scholl *Randy Gardner* *Walter Hinchman*

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/13/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS) SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-17-5 Lab ID: BMI11051304-01A Solids, Total Dissolved (TDS) Date Sampled 05/12/11 08:35	220	10 mg/L	05/18/11	05/18/11
Client ID: MW-17-4 Lab ID: BMI11051304-02A Solids, Total Dissolved (TDS) Date Sampled 05/12/11 09:12	240	10 mg/L	05/18/11	05/18/11
Client ID: MW-17-3 Lab ID: BMI11051304-03A Solids, Total Dissolved (TDS) Date Sampled 05/12/11 10:21	380	10 mg/L	05/18/11	05/18/11
Client ID: MW-17-2 Lab ID: BMI11051304-04A Solids, Total Dissolved (TDS) Date Sampled 05/12/11 13:29	440	10 mg/L	05/18/11	05/18/11
Client ID: MW-17-1 Lab ID: BMI11051304-05A Solids, Total Dissolved (TDS) Date Sampled 05/12/11 14:15	360	10 mg/L	05/18/11	05/18/11
Client ID: EB-11-5/12/11 Lab ID: BMI11051304-06A Solids, Total Dissolved (TDS) Date Sampled 05/12/11 14:05	ND	10 mg/L	05/18/11	05/18/11

ND = Not Detected

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051304-03A
Client I.D. Number: MW-17-3

Sampled: 05/12/11 10:21
Received: 05/13/11
Extracted: 05/17/11 14:37
Analyzed: 05/17/11 14:37

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	ND	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	ND	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	ND	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	101	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	93	(70-130) %REC
34 2-Hexanone	ND	5.0 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

This replaces the report signed 5/26/11, due to a change in the analyte list, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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7/28/11

Report Date

Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID : MW-17-5					
Lab ID : BMI11051304-01A	*** None Found ***	ND	2.0 µg/L	05/17/11 13:53	05/17/11 13:53
Date Received : 05/13/11					
Date Sampled : 05/12/11 08:35					
Client ID : MW-17-4					
Lab ID : BMI11051304-02A	*** None Found ***	ND	2.0 µg/L	05/17/11 14:14	05/17/11 14:14
Date Received : 05/13/11					
Date Sampled : 05/12/11 09:12					
Client ID : MW-17-3					
Lab ID : BMI11051304-03A	1-Chlorobutane	ND	2.0 µg/L	05/17/11 14:37	05/17/11 14:37
Date Received : 05/13/11	2-Nitropropane	ND	2.0 µg/L	05/17/11 14:37	05/17/11 14:37
Date Sampled : 05/12/11 10:21	Acrylonitrile	ND	10 µg/L	05/17/11 14:37	05/17/11 14:37
	Allyl chloride	ND	2.0 µg/L	05/17/11 14:37	05/17/11 14:37
	Chloroacetonitrile	ND	10 µg/L	05/17/11 14:37	05/17/11 14:37
	Diethyl ether	ND	2.0 µg/L	05/17/11 14:37	05/17/11 14:37
	Ethyl methacrylate	ND	10 µg/L	05/17/11 14:37	05/17/11 14:37
	Methacrylonitrile	ND	10 µg/L	05/17/11 14:37	05/17/11 14:37
	Methyl iodide	ND	2.0 µg/L	05/17/11 14:37	05/17/11 14:37
	Methylacrylate	ND	10 µg/L	05/17/11 14:37	05/17/11 14:37
	Methyl methacrylate	ND	10 µg/L	05/17/11 14:37	05/17/11 14:37
	Tetrahydrofuran	ND	10 µg/L	05/17/11 14:37	05/17/11 14:37
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/17/11 14:37	05/17/11 14:37
	1,1-Dichloropropanone	ND	10 µg/L	05/17/11 14:37	05/17/11 14:37
	Hexachloroethane	ND	10 µg/L	05/17/11 14:37	05/17/11 14:37
	Nitrobenzene	ND	10 µg/L	05/17/11 14:37	05/17/11 14:37
	Propionitrile	ND	50 µg/L	05/17/11 14:37	05/17/11 14:37
Client ID : MW-17-2					
Lab ID : BMI11051304-04A	*** None Found ***	ND	2.0 µg/L	05/17/11 14:59	05/17/11 14:59
Date Received : 05/13/11					
Date Sampled : 05/12/11 13:29					
Client ID : MW-17-1					
Lab ID : BMI11051304-05A	*** None Found ***	ND	2.0 µg/L	05/17/11 15:21	05/17/11 15:21
Date Received : 05/13/11					
Date Sampled : 05/12/11 14:15					
Client ID : EB-11-5/12/11					
Lab ID : BMI11051304-06A	*** None Found ***	ND	2.0 µg/L	05/17/11 13:31	05/17/11 13:31
Date Received : 05/13/11					
Date Sampled : 05/12/11 14:05					



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Client ID : TB-11-5/12/11

Lab ID : BM111051304-07A

*** None Found ***

ND

2.0 µg/L

05/17/11 13:09 05/17/11 13:09

Date Received : 05/13/11

Date Sampled : 05/12/11 00:00

Note: Analysis conducted using EPA Method 524.2 criteria.

This replaces the report signed 5/26/11, due to a change in the analyte list, per client request.

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051304-01A
Client I.D. Number: MW-17-5

Sampled: 05/12/11 08:35
Received: 05/13/11
Extracted: 05/17/11 13:53
Analyzed: 05/17/11 13:53

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	97	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	97	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*
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PS
5/26/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051304-02A
Client I.D. Number: MW-17-4

Sampled: 05/12/11 09:12
Received: 05/13/11
Extracted: 05/17/11 14:14
Analyzed: 05/17/11 14:14

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	97	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	91	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Data flags are DOD specified with criteria that may differ from EPA or inhouse statistical criteria.
Note: Analysis conducted using EPA Method 524.2 criteria.
Q = One or more quality control criteria failed.
ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*
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JS
5/26/11

Report Date

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Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051304-04A
Client I.D. Number: MW-17-2

Sampled: 05/12/11 13:29
Received: 05/13/11
Extracted: 05/17/11 14:59
Analyzed: 05/17/11 14:59

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	99	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051304-05A
Client I.D. Number: MW-17-1

Sampled: 05/12/11 14:15
Received: 05/13/11
Extracted: 05/17/11 15:21
Analyzed: 05/17/11 15:21

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,1,2-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	0.70	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	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	100	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	92	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051304-06A
Client I.D. Number: EB-11-5/12/11

Sampled: 05/12/11 14:05
Received: 05/13/11
Extracted: 05/17/11 13:31
Analyzed: 05/17/11 13:31

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	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	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*
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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051304-07A
Client I.D. Number: TB-11-5/12/11

Sampled: 05/12/11 00:00
Received: 05/13/11
Extracted: 05/17/11 13:09
Analyzed: 05/17/11 13:09

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	Q 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	Q 1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (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	Q 1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	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	91	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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Report Date



Alpha Analytical, Inc.

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

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

VOC Sample Preservation Report

Work Order: BMI11051304

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11051304-01A	MW-17-5	Aqueous	2
11051304-02A	MW-17-4	Aqueous	2
11051304-03A	MW-17-3	Aqueous	2
11051304-04A	MW-17-2	Aqueous	2
11051304-05A	MW-17-1	Aqueous	2
11051304-06A	EB-11-5/12/11	Aqueous	2
11051304-07A	TB-11-5/12/11	Aqueous	2

5/26/11

Report Date

Page 1 of 1



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Date:
17-May-11

QC Summary Report

Work Order:
11051304

Method Blank

Method Blank		Type	Test Code: EPA Method 300.0							
File ID: 57		MBLK	Batch ID: 26542				Analysis Date: 05/13/2011 21:02			
Sample ID: MB-26542	Units : mg/L		Run ID: IC_1_110513C				Prep Date: 05/13/2011 15:18			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

Laboratory Fortified Blank		Type	Test Code: EPA Method 300.0							
File ID: 58		LFB	Batch ID: 26542				Analysis Date: 05/13/2011 21:20			
Sample ID: LFB-26542	Units : mg/L		Run ID: IC_1_110513C				Prep Date: 05/13/2011 15:18			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	51.7	0.5	50		103	90	110			
Nitrite (NO2) - N	5.43	0.25	5		109	90	110			
Nitrate (NO3) - N	5.18	0.25	5		104	90	110			
Phosphate, ortho - P	5.48	0.5	5		110	90	110			
Sulfate (SO4)	103	0.5	100		103	90	110			

Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: EPA Method 300.0							
File ID: 64		LFM	Batch ID: 26542				Analysis Date: 05/13/2011 23:11			
Sample ID: 11051304-04ALFM	Units : mg/L		Run ID: IC_1_110513C				Prep Date: 05/13/2011 15:18			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	154	0.5	100	59.25	95	80	120			
Nitrite (NO2) - N	11.4	0.25	10	0	114	80	120			
Nitrate (NO3) - N	16.1	0.25	10	5.419	106	80	120			
Phosphate, ortho - P	10.7	0.5	10	0	107	80	120			
Sulfate (SO4)	266	0.5	200	84.77	91	80	120			

Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 300.0							
File ID: 65		LFMD	Batch ID: 26542				Analysis Date: 05/13/2011 23:30			
Sample ID: 11051304-04ALFMD	Units : mg/L		Run ID: IC_1_110513C				Prep Date: 05/13/2011 15:18			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	155	0.5	100	59.25	96	80	120	154.3	0.6(15)	
Nitrite (NO2) - N	11.4	0.25	10	0	114	80	120	11.38	0.5(15)	
Nitrate (NO3) - N	16.1	0.25	10	5.419	107	80	120	16.06	0.4(15)	
Phosphate, ortho - P	11	0.5	10	0	110	80	120	10.69	2.5(15)	
Sulfate (SO4)	268	0.5	200	84.77	92	80	120	265.9	0.8(15)	

Comments:

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



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Date:
25-May-11

QC Summary Report

Work Order:
11051304

Method Blank

File ID: 14	Type: MBLK	Test Code: EPA Method 314.0	Batch ID: 26536	Analysis Date: 05/13/2011 11:03
Sample ID: MB-26536	Units: µg/L	Run ID: IC_3_110513A	Prep Date: 05/13/2011 10:06	
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: 26536	Analysis Date: 05/13/2011 11:21
Sample ID: LFB-26536	Units: µg/L	Run ID: IC_3_110513A	Prep Date: 05/13/2011 10:06	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Perchlorate	23	2	25	92 85 115

Sample Matrix Spike

File ID: 31	Type: LFM	Test Code: EPA Method 314.0	Batch ID: 26536	Analysis Date: 05/19/2011 18:19
Sample ID: 11051304-04ALFM	Units: µg/L	Run ID: IC_3_110513A	Prep Date: 05/13/2011 10:06	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Perchlorate	208	10	125	75.99 105 80 120

Sample Matrix Spike Duplicate

File ID: 32	Type: LFMD	Test Code: EPA Method 314.0	Batch ID: 26536	Analysis Date: 05/19/2011 18:38
Sample ID: 11051304-04ALFMD	Units: µg/L	Run ID: IC_3_110513A	Prep Date: 05/13/2011 10:06	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Perchlorate	220	10	125	75.99 115 80 120 207.6 5.9(15)

Comments:
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Date:
18-May-11

QC Summary Report

Work Order:
11051304

Laboratory Control Spike

Type **LCS**

Test Code: **SM2320B**

File ID:

Batch ID: **W0516AL**

Analysis Date: **05/16/2011 11:15**

Sample ID: **LCS-W0516AL**

Units : **mg/L**

Run ID: **WETLAB_110516C**

Prep Date: **05/16/2011 11:15**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO ₃)	229.9	10	250		92	80	120			
Alkalinity, Carbonate (As CaCO ₃)	229.9	10	250		92	80	120			
Alkalinity, Total (As CaCO ₃ at pH 4.5)	230	10	250		92	80	120			

Comments:

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Date:
24-May-11

QC Summary Report

Work Order:
11051304

Method Blank

File ID: 051911.B\062_M.D\

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

Batch ID: **26532**

Analysis Date: **05/19/2011 14:20**

Sample ID: **MB-26532**

Units : **mg/L**

Run ID: **ICP/MS_110519C**

Prep Date: **05/13/2011 22:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

File ID: 051911.B\063_M.D\

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

Batch ID: **26532**

Analysis Date: **05/19/2011 14:25**

Sample ID: **LCS-26532**

Units : **mg/L**

Run ID: **ICP/MS_110519C**

Prep Date: **05/13/2011 22:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	4.91	0.5	5		98	85	115			
Magnesium (Mg)	4.39	0.5	5		88	85	115			
Potassium (K)	5.33	0.5	5		107	85	115			
Calcium (Ca)	5.28	0.5	5		106	85	115			
Chromium (Cr)	0.0524	0.005	0.05		105	85	115			
Iron (Fe)	5.43	0.3	5		109	85	115			
Arsenic (As)	0.0503	0.002	0.05		101	85	115			
Lead (Pb)	0.0496	0.005	0.05		99	85	115			

Sample Matrix Spike

File ID: 051911.B\068_M.D\

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

Batch ID: **26532**

Analysis Date: **05/19/2011 14:53**

Sample ID: **11051102-02AMS**

Units : **mg/L**

Run ID: **ICP/MS_110519C**

Prep Date: **05/13/2011 22:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	48	0.5	5	42.21	116	70	130			
Magnesium (Mg)	12.6	0.5	5	7.659	99	70	130			
Potassium (K)	7.14	0.5	5	1.961	104	70	130			
Calcium (Ca)	39.2	0.5	5	33.49	114	70	130			
Chromium (Cr)	0.0479	0.005	0.05	0	96	70	130			
Iron (Fe)	5.42	0.3	5	0.3627	101	70	130			
Arsenic (As)	0.0555	0.002	0.05	0.002574	106	70	130			
Lead (Pb)	0.0471	0.005	0.05	0	94	70	130			

Sample Matrix Spike Duplicate

File ID: 051911.B\069_M.D\

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

Batch ID: **26532**

Analysis Date: **05/19/2011 14:59**

Sample ID: **11051102-02AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110519C**

Prep Date: **05/13/2011 22:28**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	47.8	0.5	5	42.21	112	70	130	48.01	0.4(20)	
Magnesium (Mg)	12.4	0.5	5	7.659	94	70	130	12.6	1.8(20)	
Potassium (K)	6.93	0.5	5	1.961	99	70	130	7.144	3.0(20)	
Calcium (Ca)	38.2	0.5	5	33.49	94	70	130	39.17	2.5(20)	
Chromium (Cr)	0.0481	0.005	0.05	0	96	70	130	0.04787	0.5(20)	
Iron (Fe)	5.38	0.3	5	0.3627	100	70	130	5.419	0.6(20)	
Arsenic (As)	0.0538	0.002	0.05	0.002574	103	70	130	0.05552	3.1(20)	
Lead (Pb)	0.0467	0.005	0.05	0	93	70	130	0.04714	0.9(20)	

Comments:

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Date:
17-May-11

QC Summary Report

Work Order:
11051304

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0513PH**

Analysis Date: **05/13/2011 15:17**

Sample ID: **LCS-W0513PH**

Units : **pH Units**

Run ID: **WETLAB_110513B**

Prep Date: **05/13/2011 15:17**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
pH	5.06	1.7	5		101	90	110			

Comments:

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Date:
23-May-11

QC Summary Report

Work Order:
11051304

Method Blank

File ID:	Type MBLK	Test Code: SM2540C								
Sample ID: MBLK-W0517DS	Units : mg/L	Batch ID: W0517DS	Analysis Date: 05/18/2011 00:00							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Solids, Total Dissolved (TDS)	ND		10							

Laboratory Control Spike

File ID:	Type LCS	Test Code: SM2540C								
Sample ID: LCS-W0517DS	Units : mg/L	Batch ID: W0517DS	Analysis Date: 05/18/2011 00:00							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Solids, Total Dissolved (TDS)	103	10	100		103	70	130			

Comments:

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Date:

28-Jul-11

QC Summary Report

Work Order:

11051304

Surr: 1,2-Dichloroethane-d4	9.55	10	96	70	130
Surr: Toluene-d8	10.3	10	103	70	130
Surr: 4-Bromofluorobenzene	9.18	10	92	70	130



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Date:

28-Jul-11

QC Summary Report

Work Order:

11051304

Laboratory Control Spike

File ID: 11051703.D

Type: LCS

Test Code: EPA Method SW8260B

Batch ID: MS15W0517M

Analysis Date: 05/17/2011 08:38

Sample ID: LCS MS15W0517M

Units: µg/L

Run ID: MSD_15_110517D

Prep Date: 05/17/2011 08:38

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	8.33	1	10		83	70	130			
Chloromethane	3.24	2	10		32	70(70)	130			L50
Vinyl chloride	10.2	1	10		102	70	130			
Chloroethane	10	1	10		100	70	130			
Bromomethane	3.71	2	10		37	70(70)	130			L50
Trichlorofluoromethane	11.4	1	10		114	70	130			
Acetone	187	10	200		94	36	171			
1,1-Dichloroethene	10.8	1	10		108	70	130			
Dichloromethane	9.74	2	10		97	70	130			
Freon-113	11.3	1	10		113	70	137			
trans-1,2-Dichloroethene	10.8	1	10		108	70	130			
Methyl tert-butyl ether (MTBE)	8.39	0.5	10		84	70	130			
1,1-Dichloroethane	9.98	1	10		99.8	70	130			
2-Butanone (MEK)	183	10	200		92	70	130			
cis-1,2-Dichloroethene	10.2	1	10		102	70	130			
Bromochloromethane	9.66	1	10		97	70	130			
Chloroform	10.1	1	10		101	70	130			
2,2-Dichloropropane	10.1	1	10		101	70	130			
1,2-Dichloroethane	9.26	1	10		93	70	130			
1,1,1-Trichloroethane	10.3	1	10		103	70	130			
1,1-Dichloropropene	10.7	1	10		107	70	130			
Carbon tetrachloride	10.4	1	10		104	70	130			
Benzene	10	0.5	10		100	70	130			
Dibromomethane	9.18	1	10		92	70	130			
1,2-Dichloropropane	9.81	1	10		98	70	130			
Trichloroethene	10.5	1	10		105	70	130			
Bromodichloromethane	9.61	1	10		96	70	130			
4-Methyl-2-pentanone (MIBK)	21.7	2.5	25		87	20	182			
cis-1,3-Dichloropropene	9.16	1	10		92	70	130			
trans-1,3-Dichloropropene	8.21	1	10		82	70	130			
1,1,2-Trichloroethane	8.75	1	10		88	70	130			
Toluene	10.6	0.5	10		106	70	130			
1,3-Dichloropropane	9.23	1	10		92	70	130			
2-Hexanone	93.6	5	100		94	20	182			
Dibromochloromethane	9.05	1	10		91	70	130			
1,2-Dibromoethane (EDB)	19.4	2	20		97	70	130			
Tetrachloroethene	11.2	1	10		112	70	130			
1,1,1,2-Tetrachloroethane	10	1	10		100	70	130			
Chlorobenzene	10.4	1	10		104	70	130			
Ethylbenzene	10.6	0.5	10		106	70	130			
m,p-Xylene	11	0.5	10		110	70	130			
Bromoform	8.32	1	10		83	70	130			
Styrene	10.5	1	10		105	70	130			
o-Xylene	10.7	0.5	10		107	70	130			
1,1,2,2-Tetrachloroethane	8.4	1	10		84	70	130			
1,2,3-Trichloropropane	17.9	2	20		90	70	130			
Isopropylbenzene	10.4	1	10		104	70	130			
Bromobenzene	9.88	1	10		99	70	130			
n-Propylbenzene	10.8	1	10		108	70	130			
4-Chlorotoluene	10.5	1	10		105	70	130			
2-Chlorotoluene	10.4	1	10		104	70	130			
1,3,5-Trimethylbenzene	10.4	1	10		104	70	130			
tert-Butylbenzene	10.3	1	10		103	70	130			
1,2,4-Trimethylbenzene	10.2	1	10		102	70	130			
sec-Butylbenzene	10.8	1	10		108	70	130			
1,3-Dichlorobenzene	10.3	1	10		103	70	130			
1,4-Dichlorobenzene	9.77	1	10		98	70	130			
4-Isopropyltoluene	10.5	1	10		105	70	130			
1,2-Dichlorobenzene	9.42	1	10		94	70	130			
n-Butylbenzene	10.7	1	10		107	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	35.8	3	50		72	67	130			
1,2,4-Trichlorobenzene	9.1	2	10		91	70	130			
Naphthalene	6.49	2	10		65	70(70)	130			L50
Hexachlorobutadiene	18.1	2	20		90	70	130			



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Date:

28-Jul-11

QC Summary Report

Work Order:

11051304

1,2,3-Trichlorobenzene	7.83	2	10	78	70	130
Surr: 1,2-Dichloroethane-d4	9.25		10	93	70	130
Surr: Toluene-d8	10.2		10	102	70	130
Surr: 4-Bromofluorobenzene	9.66		10	97	70	130



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Date:
28-Jul-11

QC Summary Report

Work Order:
11051304

Sample Matrix Spike

File ID: 11051708.D

Type: MS

Test Code: EPA Method SW8260B

Batch ID: MS15W0517M

Analysis Date: 05/17/2011 10:38

Sample ID: 11051304-04AMS

Units: µg/L

Run ID: MSD_15_110517D

Prep Date: 05/17/2011 10:38

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	45	2.5	50	0	90	21	138			
Chloromethane	22.1	10	50	0	44	23	144			
Vinyl chloride	47	2.5	50	0	94	49	136			
Chloroethane	44.9	2.5	50	0	90	21	159			
Bromomethane	19.3	10	50	0	39	10	174			
Trichlorofluoromethane	51.3	2.5	50	0	103	32	154			
Acetone	494	50	1000	0	49	10	171			
1,1-Dichloroethene	47.6	2.5	50	0	95	64	130			
Dichloromethane	43.2	10	50	0	86	69	130			
Freon-113	51.4	2.5	50	0	103	55	141			
trans-1,2-Dichloroethene	46.8	2.5	50	0	94	63	130			
Methyl tert-butyl ether (MTBE)	43.2	1.3	50	0	86	47	150			
1,1-Dichloroethane	44	2.5	50	0	88	66	130			
2-Butanone (MEK)	657	50	1000	0	66	23	182			
cis-1,2-Dichloroethene	44.7	2.5	50	0	89	70	130			
Bromochloromethane	45	2.5	50	0	90	70	132			
Chloroform	44.7	2.5	50	0	89	70	130			
2,2-Dichloropropane	43.7	2.5	50	0	87	38	154			
1,2-Dichloroethane	43.8	2.5	50	0	88	65	134			
1,1,1-Trichloroethane	44.7	2.5	50	0	89	65	136			
1,1-Dichloropropene	47	2.5	50	0	94	68	132			
Carbon tetrachloride	44.9	2.5	50	0	90	58	148			
Benzene	44.6	1.3	50	0	89	59	138			
Dibromomethane	44.8	2.5	50	0	90	70	130			
1,2-Dichloropropane	44.9	2.5	50	0	90	70	131			
Trichloroethene	46.2	2.5	50	0	92	65	144			
Bromodichloromethane	43.6	2.5	50	0	87	50	157			
4-Methyl-2-pentanone (MIBK)	103	13	125	0	83	20	182			
cis-1,3-Dichloropropene	39.8	2.5	50	0	80	63	131			
trans-1,3-Dichloropropene	38	2.5	50	0	76	65	136			
1,1,2-Trichloroethane	41.8	2.5	50	0	84	70	131			
Toluene	45.8	1.3	50	0	92	68	130			
1,3-Dichloropropane	43.4	2.5	50	0	87	70	130			
2-Hexanone	301	25	500	0	60	20	182			
Dibromochloromethane	41.8	2.5	50	0	84	42	155			
1,2-Dibromoethane (EDB)	92.5	5	100	0	92	70	130			
Tetrachloroethene	48.3	2.5	50	0	97	65	130			
1,1,1,2-Tetrachloroethane	44.2	2.5	50	0	88	70	130			
Chlorobenzene	46	2.5	50	0	92	70	130			
Ethylbenzene	45.6	1.3	50	0	91	68	130			
m,p-Xylene	47.1	1.3	50	0	94	68	131			
Bromoform	38.5	2.5	50	0	77	65	143			
Styrene	46.3	2.5	50	0	93	59	153			
o-Xylene	46.5	1.3	50	0	93	70	130			
1,1,2,2-Tetrachloroethane	42.6	2.5	50	0	85	67	130			
1,2,3-Trichloropropane	87.8	10	100	0	88	70	130			
Isopropylbenzene	43	2.5	50	0	86	55	138			
Bromobenzene	44.1	2.5	50	0	88	70	130			
n-Propylbenzene	44.7	2.5	50	0	89	67	133			
4-Chlorotoluene	44.8	2.5	50	0	90	70	130			
2-Chlorotoluene	44.1	2.5	50	0	88	70	130			
1,3,5-Trimethylbenzene	43.7	2.5	50	0	87	67	134			
tert-Butylbenzene	43.4	2.5	50	0	87	55	147			
1,2,4-Trimethylbenzene	43.6	2.5	50	0	87	65	135			
sec-Butylbenzene	45.7	2.5	50	0	91	68	135			
1,3-Dichlorobenzene	44.9	2.5	50	0	90	70	130			
1,4-Dichlorobenzene	42.4	2.5	50	0	85	70	130			
4-Isopropyltoluene	44.1	2.5	50	0	88	68	132			
1,2-Dichlorobenzene	42.7	2.5	50	0	85	70	130			
n-Butylbenzene	44.6	2.5	50	0	89	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	179	15	250	0	71	64	130			
1,2,4-Trichlorobenzene	41.8	10	50	0	84	62	133			
Naphthalene	30.7	10	50	0	61	32	166			
Hexachlorobutadiene	78	10	100	0	78	63	130			
1,2,3-Trichlorobenzene	36.3	10	50	0	73	55	138			



Alpha Analytical, Inc.

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

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

Date:

28-Jul-11

QC Summary Report

Work Order:

11051304

Surr: 1,2-Dichloroethane-d4	47.5	50	95	70	130
Surr: Toluene-d8	51.1	50	102	70	130
Surr: 4-Bromofluorobenzene	48.1	50	96	70	130



Alpha Analytical, Inc.

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

Date:
28-Jul-11

QC Summary Report

Work Order:
11051304

Sample Matrix Spike Duplicate
File ID: 11051709.D

Type: MSD Test Code: EPA Method SW8260B

Batch ID: MS15W0517M

Analysis Date: 05/17/2011 10:59

Sample ID: 11051304-04AMSD

Units: µg/L

Run ID: MSD_15_110517D

Prep Date: 05/17/2011 10:59

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	46.8	2.5	50	0	94	21	138	45.01	3.9(33)	
Chloromethane	17.9	10	50	0	36	23	144	22.12	21.1(27)	
Vinyl chloride	48.7	2.5	50	0	97	49	136	47.03	3.5(21)	
Chloroethane	45.8	2.5	50	0	92	21	159	44.89	1.9(40)	
Bromomethane	23.5	10	50	0	47	10	174	19.28	19.6(40)	
Trichlorofluoromethane	53.3	2.5	50	0	107	32	154	51.26	3.9(37)	
Acetone	523	50	1000	0	52	10	171	494.3	5.6(23)	
1,1-Dichloroethene	49.9	2.5	50	0	99.9	64	130	47.58	4.8(21)	
Dichloromethane	45.5	10	50	0	91	69	130	43.2	5.3(20)	
Freon-113	52.9	2.5	50	0	106	55	141	51.43	2.9(40)	
trans-1,2-Dichloroethene	49.7	2.5	50	0	99	63	130	46.83	6.0(20)	
Methyl tert-butyl ether (MTBE)	46.8	1.3	50	0	94	47	150	43.2	8.0(40)	
1,1-Dichloroethane	46.5	2.5	50	0	93	66	130	44.01	5.5(20)	
2-Butanone (MEK)	687	50	1000	0	69	23	182	656.9	4.4(22)	
cis-1,2-Dichloroethene	48.3	2.5	50	0	97	70	130	44.73	7.7(20)	
Bromochloromethane	48.3	2.5	50	0	97	70	132	44.99	7.2(20)	
Chloroform	47.2	2.5	50	0	94	70	130	44.73	5.4(20)	
2,2-Dichloropropane	46.2	2.5	50	0	92	38	154	43.67	5.5(22)	
1,2-Dichloroethane	46.2	2.5	50	0	92	65	134	43.84	5.2(20)	
1,1,1-Trichloroethane	47.1	2.5	50	0	94	65	136	44.7	5.1(20)	
1,1-Dichloropropene	48.8	2.5	50	0	98	68	132	47.02	3.6(20)	
Carbon tetrachloride	47.3	2.5	50	0	95	58	148	44.92	5.2(20)	
Benzene	46.1	1.3	50	0	92	59	138	44.57	3.3(21)	
Dibromomethane	46.5	2.5	50	0	93	70	130	44.8	3.8(20)	
1,2-Dichloropropane	46.4	2.5	50	0	93	70	131	44.88	3.4(20)	
Trichloroethene	47.5	2.5	50	0	95	65	144	46.23	2.8(20)	
Bromodichloromethane	45.9	2.5	50	0	92	50	157	43.63	5.0(20)	
4-Methyl-2-pentanone (MIBK)	110	13	125	0	88	20	182	103.2	5.9(20)	
cis-1,3-Dichloropropene	42.3	2.5	50	0	85	63	131	39.78	6.0(20)	
trans-1,3-Dichloropropene	40.2	2.5	50	0	80	65	136	37.97	5.6(20)	
1,1,2-Trichloroethane	45.3	2.5	50	0	91	70	131	41.83	7.9(20)	
Toluene	48.4	1.3	50	0	97	68	130	45.75	5.6(20)	
1,3-Dichloropropane	46.8	2.5	50	0	94	70	130	43.44	7.5(20)	
2-Hexanone	321	25	500	0	64	20	182	300.6	6.5(20)	
Dibromochloromethane	45.2	2.5	50	0	90	42	155	41.77	7.8(20)	
1,2-Dibromoethane (EDB)	97.6	5	100	0	98	70	130	92.47	5.4(20)	
Tetrachloroethene	50.7	2.5	50	0	101	65	130	48.26	4.8(20)	
1,1,1,2-Tetrachloroethane	47.4	2.5	50	0	95	70	130	44.22	6.8(20)	
Chlorobenzene	48.4	2.5	50	0	97	70	130	45.99	5.2(20)	
Ethylbenzene	47.8	1.3	50	0	96	68	130	45.56	4.9(20)	
m,p-Xylene	49.5	1.3	50	0	99	68	131	47.06	5.1(20)	
Bromoform	41.9	2.5	50	0	84	65	143	38.46	8.6(20)	
Styrene	49.1	2.5	50	0	98	59	153	46.32	5.9(37)	
o-Xylene	48.6	1.3	50	0	97	70	130	46.52	4.3(20)	
1,1,2,2-Tetrachloroethane	45	2.5	50	0	90	67	130	42.58	5.5(20)	
1,2,3-Trichloropropane	94.3	10	100	0	94	70	130	87.8	7.2(20)	
Isopropylbenzene	45.4	2.5	50	0	91	55	138	43.03	5.4(20)	
Bromobenzene	46.3	2.5	50	0	93	70	130	44.07	5.0(20)	
n-Propylbenzene	46.9	2.5	50	0	94	67	133	44.65	4.9(30)	
4-Chlorotoluene	47.2	2.5	50	0	94	70	130	44.75	5.3(20)	
2-Chlorotoluene	45.9	2.5	50	0	92	70	130	44.1	4.1(20)	
1,3,5-Trimethylbenzene	45.9	2.5	50	0	92	67	134	43.7	4.8(21)	
tert-Butylbenzene	45.3	2.5	50	0	91	55	147	43.37	4.3(20)	
1,2,4-Trimethylbenzene	45.5	2.5	50	0	91	65	135	43.64	4.1(25)	
sec-Butylbenzene	46.5	2.5	50	0	93	68	135	45.69	1.8(20)	
1,3-Dichlorobenzene	47	2.5	50	0	94	70	130	44.93	4.5(20)	
1,4-Dichlorobenzene	45.1	2.5	50	0	90	70	130	42.4	6.1(20)	
4-Isopropyltoluene	46.1	2.5	50	0	92	68	132	44.12	4.5(20)	
1,2-Dichlorobenzene	44.6	2.5	50	0	89	70	130	42.65	4.5(20)	
n-Butylbenzene	47.3	2.5	50	0	95	62	134	44.58	5.8(21)	
1,2-Dibromo-3-chloropropane (DBCP)	195	15	250	0	78	64	130	178.7	9.0(20)	
1,2,4-Trichlorobenzene	45.9	10	50	0	92	62	133	41.84	9.2(29)	
Naphthalene	34.5	10	50	0	69	32	166	30.65	11.8(40)	
Hexachlorobutadiene	87.2	10	100	0	87	63	130	78.01	11.1(21)	
1,2,3-Trichlorobenzene	42.8	10	50	0	86	55	138	36.29	16.4(36)	



Alpha Analytical, Inc.

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

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

Date:

28-Jul-11

QC Summary Report

Work Order:

11051304

Surr: 1,2-Dichloroethane-d4	48	50	96	70	130
Surr: Toluene-d8	51.4	50	103	70	130
Surr: 4-Bromofluorobenzene	47.5	50	95	70	130

Comments:

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

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

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

Billing Information :

CHAIN-OF-CUSTODY RECORD



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

WorkOrder : BMIS11051304
Report Due By : 5:00 PM On : 27-May-2011

Client: Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

Report Attention David Comer (619) 726-7311 x connerd@battelle.org
 Betsy Cutie (614) 424-4899 x cutiee@battelle.org
 Shane Walton (614) 424-4117 x waltonsa@battelle.org

Client's COC # : 33396 **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
						300_0_W	314_W	ALKALINITY_Y	METALS_D_W	PH_W	TDS_W	VOC_TIC_W	
BM11051304-01A	MW-17-5	05/12/11 08:35	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051304-02A	MW-17-4	05/12/11 09:12	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051304-03A	MW-17-3	05/12/11 10:21	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria + Additional TICS	VOC by 524 Criteria + Additional TICS	MS/MSD
BM11051304-04A	MW-17-2	05/12/11 13:29	10	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051304-05A	MW-17-1	05/12/11 14:15	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051304-06A	EB-11-5/12/11	05/12/11 14:05	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051304-07A	TB-11-5/12/11	05/12/11 00:00	1	0	10								Reno Trip Blank 4/6/11

Comments: No security seals. Frozen ice. Temp Blank #7707 received @ 0°C. Level IV OC. Samples should be used as the control spike sample if possible (I.E. MS/MSD). Amended 7/22/11. Per email from David Comer via Reyna added additional TICS: 1,1-Dichloropropane, Hexachloroethane, Nitrobenzene, and Propionitrile to sample -03A_EA

Logged in by: Elizabeth Alcox Elizabeth Alcox **Alpha Analytical, Inc.** 7-22-11 1624

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 : BMIS11051304
Report Due By : 5:00 PM On : 27-May-2011

Client: Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

Report Attention **Phone Number** **Email Address**

David Conner (619) 726-7311 x connerd@batelle.org
 Betsy Cutie (614) 424-4899 x cutiee@batelle.org
 Shane Walton (614) 424-4117 x waltonss@batelle.org

Client's COC # : 33396 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 Matrix Date	No. of Bottles Alpha Sub TAT	Requested Tests						Sample Remarks		
				300_0_W	314_W	ALKALINITY_W	METALS_D_W	PH_W	TDS_W		VOC_TIC_W	VOC_W
BM111051304-01A	NW-17-5	05/12/11 08:35	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM111051304-02A	NW-17-4	05/12/11 09:12	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM111051304-03A	NW-17-3	05/12/11 10:21	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM111051304-04A	NW-17-2	05/12/11 13:29	10 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD
BM111051304-05A	NW-17-1	05/12/11 14:15	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM111051304-06A	EB-11-5/12/11	05/12/11 14:05	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate (Carb/Bicarb)	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM111051304-07A	TB-11-5/12/11	05/12/11 00:00	1 0 10									Reno Trip Blank 4/6/11

Comments: No security seals. Frozen ice. Temp Blank #7707 received @ 0°C. Level IV OC. Samples should be used as the control spike sample if possible (I.E. MS/MSD).

Logged in by: Elizabeth Adcox Signature: Elizabeth Adcox Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 5/13/11 12:09

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 : AQL(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:

Company Name BATTELLE
 Attn: GENERAL TROUPKINS
 Address 505 KING AVE.
 City, State, Zip COLUMBUS, OH 43201
 Phone Number _____ Fax _____



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

Samples Collected From Which State?

AZ _____ CA NV _____ WA _____
 ID _____ OR _____ OTHER _____
 Page # 1 of 1

DOD Site 35396

Analyses Required

LEAD, ARSENIC, TOTAL Cu (200.8)
 Cd (524.7)
 ClO4 (314.0)
 Na, K, Ca, Mg, Fe (200.8)
 CO2, HCO3, PO4, ALKALINITY (5m23208, 5m25406, 1502)
 CI- No. 2, No. 504, pH (300.0)

Data Validation
 Level: III or IV

REMARKS
 ID # _____
 Global ID # _____
 REMARKS

Time Sampled	Date	Matrix See Key Below	P.O. #	Lab ID Number (Use Only)	Office (Use Only)	Sample Description	TAT	Field Filtered	# Containers**	Analyses Required	REMARKS
835	5/12/11	MR	BMT11105130401			MW - 17 - 5			5	X	
912						MW - 17 - 4			5	X	
1021						MW - 17 - 3			5	X	
1325						MW - 17 - 2			10	X	
1415						MW - 17 - 1			5	X	
1405						EB - 11 - 5/12/11			5	X	EQUIP BLANK
-						USF - 07 TBS - 11 - 5/12/11			1	X	TRIP BLANK
ONLY											

ADDITIONAL INSTRUCTIONS:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action (NAC 445.0636 (c) (2)). Sampled By: CHRIS BARTON / MALE NEW 7224

Relinquished by: (Signature/Affiliation) <u>[Signature]</u>	Received by: (Signature/Affiliation) <u>[Signature]</u>	Date:	Time:
Relinquished by: (Signature/Affiliation) <u>[Signature]</u>	Received by: (Signature/Affiliation) <u>[Signature]</u>	Date: <u>5-13-11</u>	Time: <u>1209</u>
Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation)	Date:	Time:

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air ** L-Liter V-Voa S-Soil Jar O-O-rbo 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: 27-May-11

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11051702

Cooler Temp: 3 °C

Alpha's Sample ID	Client's Sample ID	Matrix
11051702-01A	MW-18-5	Aqueous
11051702-02A	MW-18-4	Aqueous
11051702-03A	MW-18-3	Aqueous
11051702-04A	MW-18-2	Aqueous
11051702-05A	MW-18-1	Aqueous
11051702-06A	EB-12-5/16/11	Aqueous
11051702-07A	TB-12-5/16/11	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
11051702-01A	EPA Method 314.0	Perchlorate
11051702-02A	EPA Method 314.0	Perchlorate
11051702-03A	EPA Method 314.0	Perchlorate

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

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

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

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.

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

ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/17/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-18-5				
Lab ID : BMI11051702-01A	Chloride	12	0.50 mg/L	05/17/11 12:26 05/17/11 13:33
Date Sampled 05/16/11 08:15	Nitrite (NO2) - N	ND	0.25 mg/L	05/17/11 12:26 05/17/11 13:33
	Nitrate (NO3) - N	ND	0.25 mg/L	05/17/11 12:26 05/17/11 13:33
	Phosphate, ortho - P	ND	0.50 mg/L	05/17/11 12:26 05/17/11 13:33
	Sulfate (SO4)	10	0.50 mg/L	05/17/11 12:26 05/17/11 13:33
Client ID: MW-18-4				
Lab ID : BMI11051702-02A	Chloride	15	0.50 mg/L	05/17/11 12:26 05/17/11 14:28
Date Sampled 05/16/11 09:20	Nitrite (NO2) - N	ND	0.25 mg/L	05/17/11 12:26 05/17/11 14:28
	Nitrate (NO3) - N	1.4	0.25 mg/L	05/17/11 12:26 05/17/11 14:28
	Phosphate, ortho - P	ND	0.50 mg/L	05/17/11 12:26 05/17/11 14:28
	Sulfate (SO4)	28	0.50 mg/L	05/17/11 12:26 05/17/11 14:28
Client ID: MW-18-3				
Lab ID : BMI11051702-03A	Chloride	21	0.50 mg/L	05/17/11 12:26 05/17/11 14:47
Date Sampled 05/16/11 12:56	Nitrite (NO2) - N	ND	0.25 mg/L	05/17/11 12:26 05/17/11 14:47
	Nitrate (NO3) - N	1.7	0.25 mg/L	05/17/11 12:26 05/17/11 14:47
	Phosphate, ortho - P	ND	0.50 mg/L	05/17/11 12:26 05/17/11 14:47
	Sulfate (SO4)	37	0.50 mg/L	05/17/11 12:26 05/17/11 14:47
Client ID: MW-18-2				
Lab ID : BMI11051702-04A	Chloride	16	0.50 mg/L	05/17/11 12:26 05/17/11 15:05
Date Sampled 05/16/11 13:33	Nitrite (NO2) - N	ND	0.25 mg/L	05/17/11 12:26 05/17/11 15:05
	Nitrate (NO3) - N	1.3	0.25 mg/L	05/17/11 12:26 05/17/11 15:05
	Phosphate, ortho - P	ND	0.50 mg/L	05/17/11 12:26 05/17/11 15:05
	Sulfate (SO4)	42	0.50 mg/L	05/17/11 12:26 05/17/11 15:05
Client ID: MW-18-1				
Lab ID : BMI11051702-05A	Chloride	11	0.50 mg/L	05/17/11 12:26 05/17/11 15:24
Date Sampled 05/16/11 14:06	Nitrite (NO2) - N	ND	0.25 mg/L	05/17/11 12:26 05/17/11 15:24
	Nitrate (NO3) - N	1.1	0.25 mg/L	05/17/11 12:26 05/17/11 15:24
	Phosphate, ortho - P	ND	0.50 mg/L	05/17/11 12:26 05/17/11 15:24
	Sulfate (SO4)	22	0.50 mg/L	05/17/11 12:26 05/17/11 15:24
Client ID: EB-12-5/16/11				
Lab ID : BMI11051702-06A	Chloride	ND	0.50 mg/L	05/17/11 12:26 05/17/11 15:42
Date Sampled 05/16/11 13:53	Nitrite (NO2) - N	ND	0.25 mg/L	05/17/11 12:26 05/17/11 15:42
	Nitrate (NO3) - N	ND	0.25 mg/L	05/17/11 12:26 05/17/11 15:42
	Phosphate, ortho - P	ND	0.50 mg/L	05/17/11 12:26 05/17/11 15:42
	Sulfate (SO4)	ND	0.50 mg/L	05/17/11 12:26 05/17/11 15:42



Alpha Analytical, Inc.

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ND = Not Detected

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5/31/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/17/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-18-5				
Lab ID: BM111051702-01A Perchlorate	ND	1.00 µg/L	05/19/11 12:10	05/19/11 14:38
Date Sampled 05/16/11 08:15				
Client ID: MW-18-4				
Lab ID: BM111051702-02A Perchlorate	38.3	1.00 µg/L	05/19/11 12:10	05/19/11 15:33
Date Sampled 05/16/11 09:20				
Client ID: MW-18-3				
Lab ID: BM111051702-03A Perchlorate	54.8	1.00 µg/L	05/19/11 12:10	05/19/11 15:52
Date Sampled 05/16/11 12:56				
Client ID: MW-18-2				
Lab ID: BM111051702-04A Perchlorate	ND	1.00 µg/L	05/19/11 12:10	05/19/11 16:10
Date Sampled 05/16/11 13:33				
Client ID: MW-18-1				
Lab ID: BM111051702-05A Perchlorate	ND	1.00 µg/L	05/19/11 12:10	05/19/11 16:29
Date Sampled 05/16/11 14:06				
Client ID: EB-12-5/16/11				
Lab ID: BM111051702-06A Perchlorate	ND	1.00 µg/L	05/19/11 12:10	05/19/11 16:47
Date Sampled 05/16/11 13:53				

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/17/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-18-5				
Lab ID : BMI11051702-01A	Alkalinity, Bicarbonate (As CaCO3)	130	10 mg/L	05/18/11 11:33 05/18/11 11:33
Date Sampled 05/16/11 08:15	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/18/11 11:33 05/18/11 11:33
	Alkalinity, Total (As CaCO3 at pH 4.5)	130	10 mg/L	05/18/11 11:33 05/18/11 11:33
Client ID: MW-18-4				
Lab ID : BMI11051702-02A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/18/11 11:39 05/18/11 11:39
Date Sampled 05/16/11 09:20	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/18/11 11:39 05/18/11 11:39
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/18/11 11:39 05/18/11 11:39
Client ID: MW-18-3				
Lab ID : BMI11051702-03A	Alkalinity, Bicarbonate (As CaCO3)	200	10 mg/L	05/18/11 11:42 05/18/11 11:42
Date Sampled 05/16/11 12:56	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/18/11 11:42 05/18/11 11:42
	Alkalinity, Total (As CaCO3 at pH 4.5)	200	10 mg/L	05/18/11 11:42 05/18/11 11:42
Client ID: MW-18-2				
Lab ID : BMI11051702-04A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/18/11 11:46 05/18/11 11:46
Date Sampled 05/16/11 13:33	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/18/11 11:46 05/18/11 11:46
	Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/18/11 11:46 05/18/11 11:46
Client ID: MW-18-1				
Lab ID : BMI11051702-05A	Alkalinity, Bicarbonate (As CaCO3)	200	10 mg/L	05/18/11 11:49 05/18/11 11:49
Date Sampled 05/16/11 14:06	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/18/11 11:49 05/18/11 11:49
	Alkalinity, Total (As CaCO3 at pH 4.5)	200	10 mg/L	05/18/11 11:49 05/18/11 11:49
Client ID: EB-12-5/16/11				
Lab ID : BMI11051702-06A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/18/11 11:55 05/18/11 11:55
Date Sampled 05/16/11 13:53	Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/18/11 11:55 05/18/11 11:55
	Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/18/11 11:55 05/18/11 11:55

ND = Not Detected

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/17/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed	
Client ID: MW-18-5					
Lab ID: BMI11051702-01A	Sodium (Na)	43	0.50 mg/L	05/17/11 10:54	05/19/11 13:13
Date Sampled 05/16/11 08:15	Magnesium (Mg)	4.1	0.50 mg/L	05/17/11 10:54	05/19/11 13:13
	Potassium (K)	1.4	0.50 mg/L	05/17/11 10:54	05/19/11 13:13
	Calcium (Ca)	15	0.50 mg/L	05/17/11 10:54	05/19/11 13:13
	Chromium (Cr)	ND	0.0050 mg/L	05/17/11 10:54	05/19/11 13:13
	Iron (Fe)	ND	0.30 mg/L	05/17/11 10:54	05/19/11 13:13
	Arsenic (As)	0.0021	0.0020 mg/L	05/17/11 10:54	05/19/11 13:13
	Lead (Pb)	ND	0.0050 mg/L	05/17/11 10:54	05/19/11 13:13
Client ID: MW-18-4					
Lab ID: BMI11051702-02A	Sodium (Na)	28	0.50 mg/L	05/17/11 10:54	05/19/11 12:51
Date Sampled 05/16/11 09:20	Magnesium (Mg)	13	0.50 mg/L	05/17/11 10:54	05/19/11 12:51
	Potassium (K)	2.1	0.50 mg/L	05/17/11 10:54	05/19/11 12:51
	Calcium (Ca)	40	0.50 mg/L	05/17/11 10:54	05/19/11 12:51
	Chromium (Cr)	ND	0.0050 mg/L	05/17/11 10:54	05/19/11 12:51
	Iron (Fe)	ND	0.30 mg/L	05/17/11 10:54	05/19/11 12:51
	Arsenic (As)	ND	0.0020 mg/L	05/17/11 10:54	05/19/11 12:51
	Lead (Pb)	ND	0.0050 mg/L	05/17/11 10:54	05/19/11 12:51
Client ID: MW-18-3					
Lab ID: BMI11051702-03A	Sodium (Na)	20	0.50 mg/L	05/17/11 10:54	05/19/11 13:19
Date Sampled 05/16/11 12:56	Magnesium (Mg)	15	0.50 mg/L	05/17/11 10:54	05/19/11 13:19
	Potassium (K)	2.8	0.50 mg/L	05/17/11 10:54	05/19/11 13:19
	Calcium (Ca)	63	0.50 mg/L	05/17/11 10:54	05/19/11 13:19
	Chromium (Cr)	ND	0.0050 mg/L	05/17/11 10:54	05/19/11 13:19
	Iron (Fe)	ND	0.30 mg/L	05/17/11 10:54	05/19/11 13:19
	Arsenic (As)	ND	0.0020 mg/L	05/17/11 10:54	05/19/11 13:19
	Lead (Pb)	ND	0.0050 mg/L	05/17/11 10:54	05/19/11 13:19
Client ID: MW-18-2					
Lab ID: BMI11051702-04A	Sodium (Na)	16	0.50 mg/L	05/17/11 10:54	05/19/11 13:24
Date Sampled 05/16/11 13:33	Magnesium (Mg)	17	0.50 mg/L	05/17/11 10:54	05/19/11 13:24
	Potassium (K)	2.6	0.50 mg/L	05/17/11 10:54	05/19/11 13:24
	Calcium (Ca)	59	0.50 mg/L	05/17/11 10:54	05/19/11 13:24
	Chromium (Cr)	ND	0.0050 mg/L	05/17/11 10:54	05/19/11 13:24
	Iron (Fe)	ND	0.30 mg/L	05/17/11 10:54	05/19/11 13:24
	Arsenic (As)	ND	0.0020 mg/L	05/17/11 10:54	05/19/11 13:24
	Lead (Pb)	ND	0.0050 mg/L	05/17/11 10:54	05/19/11 13:24



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Client ID: MW-18-1

Lab ID : BMI11051702-05A	Sodium (Na)	15	0.50 mg/L	05/17/11 10:54	05/19/11 13:30
Date Sampled 05/16/11 14:06	Magnesium (Mg)	15	0.50 mg/L	05/17/11 10:54	05/19/11 13:30
	Potassium (K)	2.7	0.50 mg/L	05/17/11 10:54	05/19/11 13:30
	Calcium (Ca)	55	0.50 mg/L	05/17/11 10:54	05/19/11 13:30
	Chromium (Cr)	ND	0.0050 mg/L	05/17/11 10:54	05/19/11 13:30
	Iron (Fe)	ND	0.30 mg/L	05/17/11 10:54	05/19/11 13:30
	Arsenic (As)	ND	0.0020 mg/L	05/17/11 10:54	05/19/11 13:30
	Lead (Pb)	ND	0.0050 mg/L	05/17/11 10:54	05/19/11 13:30

Client ID: EB-12-5/16/11

Lab ID : BMI11051702-06A	Sodium (Na)	ND	0.50 mg/L	05/17/11 10:54	05/19/11 13:36
Date Sampled 05/16/11 13:53	Magnesium (Mg)	ND	0.50 mg/L	05/17/11 10:54	05/19/11 13:36
	Potassium (K)	ND	0.50 mg/L	05/17/11 10:54	05/19/11 13:36
	Calcium (Ca)	ND	0.50 mg/L	05/17/11 10:54	05/19/11 13:36
	Chromium (Cr)	ND	0.0050 mg/L	05/17/11 10:54	05/19/11 13:36
	Iron (Fe)	ND	0.30 mg/L	05/17/11 10:54	05/19/11 13:36
	Arsenic (As)	ND	0.0020 mg/L	05/17/11 10:54	05/19/11 13:36
	Lead (Pb)	ND	0.0050 mg/L	05/17/11 10:54	05/19/11 13:36

ND = Not Detected

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ANALYTICAL REPORT

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655 West Broadway
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Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/17/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-18-5				
Lab ID : BM111051702-01A pH	8.3	1.7 pH Units	05/17/11 15:01	05/17/11 15:01
Date Sampled 05/16/11 08:15 pH - Temperature	20	1.0 °C	05/17/11 15:01	05/17/11 15:01
Client ID: MW-18-4				
Lab ID : BM111051702-02A pH	8.1	1.7 pH Units	05/17/11 15:10	05/17/11 15:10
Date Sampled 05/16/11 09:20 pH - Temperature	20	1.0 °C	05/17/11 15:10	05/17/11 15:10
Client ID: MW-18-3				
Lab ID : BM111051702-03A pH	7.9	1.7 pH Units	05/17/11 15:13	05/17/11 15:13
Date Sampled 05/16/11 12:56 pH - Temperature	20	1.0 °C	05/17/11 15:13	05/17/11 15:13
Client ID: MW-18-2				
Lab ID : BM111051702-04A pH	7.5	1.7 pH Units	05/17/11 15:16	05/17/11 15:16
Date Sampled 05/16/11 13:33 pH - Temperature	20	1.0 °C	05/17/11 15:16	05/17/11 15:16
Client ID: MW-18-1				
Lab ID : BM111051702-05A pH	7.0	1.7 pH Units	05/17/11 15:18	05/17/11 15:18
Date Sampled 05/16/11 14:06 pH - Temperature	20	1.0 °C	05/17/11 15:18	05/17/11 15:18
Client ID: EB-12-5/16/11				
Lab ID : BM111051702-06A pH	6.3	1.7 pH Units	05/17/11 15:23	05/17/11 15:23
Date Sampled 05/16/11 13:53 pH - Temperature	21	1.0 °C	05/17/11 15:23	05/17/11 15:23

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


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

Roger Scholl *Randy Gardner* *Walter Hinchman*

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Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/17/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS) SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-18-5				
Lab ID : BMI11051702-01A Solids, Total Dissolved (TDS)	160	10 mg/L	05/18/11	05/18/11
Date Sampled 05/16/11 08:15				
Client ID: MW-18-4				
Lab ID : BMI11051702-02A Solids, Total Dissolved (TDS)	220	10 mg/L	05/18/11	05/18/11
Date Sampled 05/16/11 09:20				
Client ID: MW-18-3				
Lab ID : BMI11051702-03A Solids, Total Dissolved (TDS)	280	10 mg/L	05/18/11	05/18/11
Date Sampled 05/16/11 12:56				
Client ID: MW-18-2				
Lab ID : BMI11051702-04A Solids, Total Dissolved (TDS)	280	10 mg/L	05/18/11	05/18/11
Date Sampled 05/16/11 13:33				
Client ID: MW-18-1				
Lab ID : BMI11051702-05A Solids, Total Dissolved (TDS)	250	10 mg/L	05/18/11	05/18/11
Date Sampled 05/16/11 14:06				
Client ID: EB-12-5/16/11				
Lab ID : BMI11051702-06A Solids, Total Dissolved (TDS)	ND	10 mg/L	05/18/11	05/18/11
Date Sampled 05/16/11 13:53				

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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5/31/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

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

Job: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI11051702-02A
Client I.D. Number: MW-18-4

Sampled: 05/16/11 09:20
Received: 05/17/11
Extracted: 05/23/11 13:56
Analyzed: 05/23/11 13:56

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,2-Dibromoethane (EDB)	ND	1.0 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Tetrachloroethene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 Chlorobenzene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Ethylbenzene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 m,p-Xylene	ND	0.50 µg/L
7 Acetone	ND	10 µg/L	42 Bromoform	ND	0.50 µg/L
8 1,1-Dichloroethene	ND	0.50 µg/L	43 Styrene	ND	0.50 µg/L
9 Dichloromethane	ND	1.0 µg/L	44 o-Xylene	ND	0.50 µg/L
10 Freon-113	ND	0.50 µg/L	45 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
11 trans-1,2-Dichloroethene	ND	0.50 µg/L	46 1,2,3-Trichloropropane	ND	1.0 µg/L
12 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	47 Isopropylbenzene	ND	0.50 µg/L
13 1,1-Dichloroethane	ND	0.50 µg/L	48 Bromobenzene	ND	0.50 µg/L
14 2-Butanone (MEK)	ND	10 µg/L	49 n-Propylbenzene	ND	0.50 µg/L
15 cis-1,2-Dichloroethene	ND	0.50 µg/L	50 4-Chlorotoluene	ND	0.50 µg/L
16 Bromochloromethane	ND	0.50 µg/L	51 2-Chlorotoluene	ND	0.50 µg/L
17 Chloroform	1.4	0.50 µg/L	52 1,3,5-Trimethylbenzene	ND	0.50 µg/L
18 2,2-Dichloropropane	ND	0.50 µg/L	53 tert-Butylbenzene	ND	0.50 µg/L
19 1,2-Dichloroethane	ND	0.50 µg/L	54 1,2,4-Trimethylbenzene	ND	0.50 µg/L
20 1,1,1-Trichloroethane	ND	0.50 µg/L	55 sec-Butylbenzene	ND	0.50 µg/L
21 1,1-Dichloropropene	ND	0.50 µg/L	56 1,3-Dichlorobenzene	ND	0.50 µg/L
22 Carbon tetrachloride	3.3	0.50 µg/L	57 1,4-Dichlorobenzene	ND	0.50 µg/L
23 Benzene	ND	0.50 µg/L	58 4-Isopropyltoluene	ND	0.50 µg/L
24 Dibromomethane	ND	0.50 µg/L	59 1,2-Dichlorobenzene	ND	0.50 µg/L
25 1,2-Dichloropropane	ND	0.50 µg/L	60 n-Butylbenzene	ND	0.50 µg/L
26 Trichloroethene	0.63	0.50 µg/L	61 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
27 Bromodichloromethane	ND	0.50 µg/L	62 1,2,4-Trichlorobenzene	ND	1.0 µg/L
28 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	63 Naphthalene	ND	1.0 µg/L
29 cis-1,3-Dichloropropene	ND	0.50 µg/L	64 Hexachlorobutadiene	ND	1.0 µg/L
30 trans-1,3-Dichloropropene	ND	0.50 µg/L	65 1,2,3-Trichlorobenzene	ND	1.0 µg/L
31 1,1,2-Trichloroethane	ND	0.50 µg/L	66 Surr: 1,2-Dichloroethane-d4	102	(70-130) %REC
32 Toluene	ND	0.50 µg/L	67 Surr: Toluene-d8	103	(70-130) %REC
33 1,3-Dichloropropane	ND	0.50 µg/L	68 Surr: 4-Bromofluorobenzene	93	(70-130) %REC
34 2-Hexanone	ND	5.0 µg/L			
35 Dibromochloromethane	ND	0.50 µg/L			

This replaces the report signed 5/31/11, due to a change in the analyte list, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
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7/28/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-18-5				
Lab ID: BM11051702-01A	*** None Found ***	ND	2.0 µg/L	05/23/11 13:34 05/23/11 13:34
Date Received: 05/17/11				
Date Sampled: 05/16/11 08:15				
Client ID: MW-18-4				
Lab ID: BM11051702-02A	1-Chlorobutane	ND	2.0 µg/L	05/23/11 13:56 05/23/11 13:56
Date Received: 05/17/11	2-Nitropropane	ND	2.0 µg/L	05/23/11 13:56 05/23/11 13:56
Date Sampled: 05/16/11 09:20	Acrylonitrile	ND	10 µg/L	05/23/11 13:56 05/23/11 13:56
	Allyl chloride	ND	2.0 µg/L	05/23/11 13:56 05/23/11 13:56
	Chloroacetonitrile	ND	10 µg/L	05/23/11 13:56 05/23/11 13:56
	Diethyl ether	ND	2.0 µg/L	05/23/11 13:56 05/23/11 13:56
	Ethyl methacrylate	ND	10 µg/L	05/23/11 13:56 05/23/11 13:56
	Methacrylonitrile	ND	10 µg/L	05/23/11 13:56 05/23/11 13:56
	Methyl iodide	ND	2.0 µg/L	05/23/11 13:56 05/23/11 13:56
	Methylacrylate	ND	10 µg/L	05/23/11 13:56 05/23/11 13:56
	Methyl methacrylate	ND	10 µg/L	05/23/11 13:56 05/23/11 13:56
	Tetrahydrofuran	ND	10 µg/L	05/23/11 13:56 05/23/11 13:56
	trans-1,4-Dichloro-2-butene	ND	2.5 µg/L	05/23/11 13:56 05/23/11 13:56
	1,1-Dichloropropanone	ND	10 µg/L	05/23/11 13:56 05/23/11 13:56
	Hexachloroethane	ND	10 µg/L	05/23/11 13:56 05/23/11 13:56
	Nitrobenzene	ND	10 µg/L	05/23/11 13:56 05/23/11 13:56
	Propionitrile	ND	50 µg/L	05/23/11 13:56 05/23/11 13:56
Client ID: MW-18-3				
Lab ID: BM11051702-03A	*** None Found ***	ND	2.0 µg/L	05/23/11 14:17 05/23/11 14:17
Date Received: 05/17/11				
Date Sampled: 05/16/11 12:56				
Client ID: MW-18-2				
Lab ID: BM11051702-04A	*** None Found ***	ND	2.0 µg/L	05/23/11 14:39 05/23/11 14:39
Date Received: 05/17/11				
Date Sampled: 05/16/11 13:33				
Client ID: MW-18-1				
Lab ID: BM11051702-05A	*** None Found ***	ND	2.0 µg/L	05/23/11 15:00 05/23/11 15:00
Date Received: 05/17/11				
Date Sampled: 05/16/11 14:06				
Client ID: EB-12-5/16/11				
Lab ID: BM11051702-06A	*** None Found ***	ND	2.0 µg/L	05/23/11 12:29 05/23/11 12:29
Date Received: 05/17/11				
Date Sampled: 05/16/11 13:53				



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Client ID : **TB-12-5/16/11**
Lab ID : BMI11051702-07A *** None Found *** ND 2.0 µg/L 05/23/11 12:08 05/23/11 12:08
Date Received : 05/17/11
Date Sampled : 05/16/11 00:00

This replaces the report signed 5/31/11, due to a change in the analyte list, per client request.
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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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051702-01A
Client I.D. Number: MW-18-5

Sampled: 05/16/11 08:15
Received: 05/17/11
Extracted: 05/23/11 13:34
Analyzed: 05/23/11 13:34

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	104	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051702-03A
Client I.D. Number: MW-18-3

Sampled: 05/16/11 12:56
Received: 05/17/11
Extracted: 05/23/11 14:17
Analyzed: 05/23/11 14:17

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	1.5	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	9.6	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	0.75	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	101	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	90	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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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[Signature]

5/31/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051702-04A
Client I.D. Number: MW-18-2

Sampled: 05/16/11 13:33
Received: 05/17/11
Extracted: 05/23/11 14:39
Analyzed: 05/23/11 14:39

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-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	104	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	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			

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/31/11

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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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051702-05A
Client I.D. Number: MW-18-1

Sampled: 05/16/11 14:06
Received: 05/17/11
Extracted: 05/23/11 15:00
Analyzed: 05/23/11 15:00

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-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	102	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	91	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

ND = Not Detected

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

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

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

5/31/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051702-06A
Client I.D. Number: EB-12-5/16/11

Sampled: 05/16/11 13:53
Received: 05/17/11
Extracted: 05/23/11 12:29
Analyzed: 05/23/11 12:29

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	100	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	91	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

ND = Not Detected

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Page 1 of 1



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051702-07A
Client I.D. Number: TB-12-5/16/11

Sampled: 05/16/11 00:00
Received: 05/17/11
Extracted: 05/23/11 12:08
Analyzed: 05/23/11 12:08

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
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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
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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	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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5/31/11

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: BMI11051702

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11051702-01A	MW-18-5	Aqueous	2
11051702-02A	MW-18-4	Aqueous	2
11051702-03A	MW-18-3	Aqueous	2
11051702-04A	MW-18-2	Aqueous	2
11051702-05A	MW-18-1	Aqueous	2
11051702-06A	EB-12-5/16/11	Aqueous	2
11051702-07A	TB-12-5/16/11	Aqueous	2

5/31/11
Report Date

Page 1 of 1



Alpha Analytical, Inc.

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

Date:

28-Jul-11

QC Summary Report

Work Order:

11051702

Surr: 1,2-Dichloroethane-d4	9.65	10	97	70	130
Surr: Toluene-d8	10.3	10	103	70	130
Surr: 4-Bromofluorobenzene	9.63	10	96	70	130



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

Date:
28-Jul-11

QC Summary Report

Work Order:
11051702

Laboratory Control Spike

Type: LCS

Test Code: EPA Method SW8260B

File ID: 11052303.D

Batch ID: MS15W0523M

Analysis Date: 05/23/2011 08:43

Sample ID: LCS MS15W0523M

Units: µg/L

Run ID: MSD_15_110523C

Prep Date: 05/23/2011 08:43

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	9.88	1	10		99	70	130			
Chloromethane	9.49	2	10		95	70	130			
Vinyl chloride	10.2	1	10		102	70	130			
Chloroethane	10	1	10		100	70	130			
Bromomethane	11	2	10		110	70	130			
Trichlorofluoromethane	12.9	1	10		129	70	130			
Acetone	183	10	200		91	36	171			
1,1-Dichloroethene	11.1	1	10		111	70	130			
Dichloromethane	9.89	2	10		99	70	130			
Freon-113	11.5	1	10		115	70	137			
trans-1,2-Dichloroethene	11.1	1	10		111	70	130			
Methyl tert-butyl ether (MTBE)	8.33	0.5	10		83	70	130			
1,1-Dichloroethane	10.1	1	10		101	70	130			
2-Butanone (MEK)	181	10	200		90	70	130			
cis-1,2-Dichloroethene	10.7	1	10		107	70	130			
Bromochloromethane	10.1	1	10		101	70	130			
Chloroform	10.6	1	10		106	70	130			
2,2-Dichloropropane	10.1	1	10		101	70	130			
1,2-Dichloroethane	9.59	1	10		96	70	130			
1,1,1-Trichloroethane	11	1	10		110	70	130			
1,1-Dichloropropene	11	1	10		110	70	130			
Carbon tetrachloride	11.2	1	10		112	70	130			
Benzene	10	0.5	10		100	70	130			
Dibromomethane	9.53	1	10		95	70	130			
1,2-Dichloropropane	9.63	1	10		96	70	130			
Trichloroethene	10.8	1	10		108	70	130			
Bromodichloromethane	10.3	1	10		103	70	130			
4-Methyl-2-pentanone (MIBK)	19.8	2.5	25		79	20	182			
cis-1,3-Dichloropropene	9.32	1	10		93	70	130			
trans-1,3-Dichloropropene	8.71	1	10		87	70	130			
1,1,2-Trichloroethane	8.77	1	10		88	70	130			
Toluene	10.7	0.5	10		107	70	130			
1,3-Dichloropropane	9.14	1	10		91	70	130			
2-Hexanone	85.6	5	100		86	20	182			
Dibromochloromethane	9.57	1	10		96	70	130			
1,2-Dibromoethane (EDB)	19.7	2	20		99	70	130			
Tetrachloroethene	11.6	1	10		116	70	130			
1,1,1,2-Tetrachloroethane	10.6	1	10		106	70	130			
Chlorobenzene	10.7	1	10		107	70	130			
Ethylbenzene	10.8	0.5	10		108	70	130			
m,p-Xylene	11.1	0.5	10		111	70	130			
Bromoform	8.65	1	10		87	70	130			
Styrene	10.5	1	10		105	70	130			
o-Xylene	10.9	0.5	10		109	70	130			
1,1,2,2-Tetrachloroethane	8.25	1	10		83	70	130			
1,2,3-Trichloropropane	18.4	2	20		92	70	130			
Isopropylbenzene	10.5	1	10		105	70	130			
Bromobenzene	10.2	1	10		102	70	130			
n-Propylbenzene	10.8	1	10		108	70	130			
4-Chlorotoluene	10.7	1	10		107	70	130			
2-Chlorotoluene	10.6	1	10		106	70	130			
1,3,5-Trimethylbenzene	10.7	1	10		107	70	130			
tert-Butylbenzene	10.6	1	10		106	70	130			
1,2,4-Trimethylbenzene	10.4	1	10		104	70	130			
sec-Butylbenzene	11	1	10		110	70	130			
1,3-Dichlorobenzene	10.6	1	10		106	70	130			
1,4-Dichlorobenzene	10.1	1	10		101	70	130			
4-Isopropyltoluene	10.7	1	10		107	70	130			
1,2-Dichlorobenzene	9.68	1	10		97	70	130			
n-Butylbenzene	10.9	1	10		109	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	36.9	3	50		74	67	130			
1,2,4-Trichlorobenzene	9.48	2	10		95	70	130			
Naphthalene	5.15	2	10		52	70(70)	130			
Hexachlorobutadiene	19.1	2	20		96	70	130			
1,2,3-Trichlorobenzene	7.7	2	10		77	70	130			



Alpha Analytical, Inc.

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Date:

28-Jul-11

QC Summary Report

Work Order:

11051702

Surr: 1,2-Dichloroethane-d4	9.25	10	93	70	130
Surr: Toluene-d8	10.2	10	102	70	130
Surr: 4-Bromofluorobenzene	9.57	10	96	70	130



Alpha Analytical, Inc.

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Date:

28-Jul-11

QC Summary Report

Work Order:

11051702

Sample Matrix Spike

File ID: 11052307.D

Sample ID: 11051802-01AMS

Type: MS

Test Code: EPA Method SW8260B

Batch ID: MS15W0523M

Analysis Date: 05/23/2011 10:20

Units: µg/L

Run ID: MSD_15_110523C

Prep Date: 05/23/2011 10:20

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	49.8	2.5	50	0	99.6	21	138			
Chloromethane	41.3	10	50	0	83	23	144			
Vinyl chloride	58.8	2.5	50	0	118	49	136			
Chloroethane	51.4	2.5	50	0	102	21	159			
Bromomethane	64.9	10	50	0	130	10	174			
Trichlorofluoromethane	68.1	2.5	50	0	136	32	154			
Acetone	515	50	1000	0	51	10	171			
1,1-Dichloroethene	56.8	2.5	50	0	114	64	130			
Dichloromethane	51.1	10	50	0	102	69	130			
Freon-113	62.8	2.5	50	0	126	55	141			
trans-1,2-Dichloroethene	56.1	2.5	50	0	112	63	130			
Methyl tert-butyl ether (MTBE)	48.9	1.3	50	0	98	47	150			
1,1-Dichloroethane	51.5	2.5	50	0	103	66	130			
2-Butanone (MEK)	712	50	1000	0	71	23	182			
cis-1,2-Dichloroethene	54.6	2.5	50	0	109	70	130			
Bromochloromethane	54.7	2.5	50	0	109	70	132			
Chloroform	53.9	2.5	50	0	108	70	130			
2,2-Dichloropropane	50.2	2.5	50	0	100	38	154			
1,2-Dichloroethane	52.4	2.5	50	0	105	65	134			
1,1,1-Trichloroethane	56.7	2.5	50	0	113	65	136			
1,1-Dichloropropene	56.5	2.5	50	0	113	68	132			
Carbon tetrachloride	58.6	2.5	50	0	117	58	148			
Benzene	51.8	1.3	50	0	104	59	138			
Dibromomethane	52.1	2.5	50	0	104	70	130			
1,2-Dichloropropane	49.6	2.5	50	0	99	70	131			
Trichloroethene	54.3	2.5	50	0	109	65	144			
Bromodichloromethane	53.9	2.5	50	0	108	50	157			
4-Methyl-2-pentanone (MIBK)	107	13	125	0	85	20	182			
cis-1,3-Dichloropropene	48.1	2.5	50	0	96	63	131			
trans-1,3-Dichloropropene	46	2.5	50	0	92	65	136			
1,1,2-Trichloroethane	48.3	2.5	50	0	97	70	131			
Toluene	54	1.3	50	0	108	68	130			
1,3-Dichloropropane	49.5	2.5	50	0	99	70	130			
2-Hexanone	302	25	500	0	60	20	182			
Dibromochloromethane	51.6	2.5	50	0	103	42	155			
1,2-Dibromoethane (EDB)	107	5	100	0	107	70	130			
Tetrachloroethene	58.9	2.5	50	0	118	65	130			
1,1,1,2-Tetrachloroethane	53.9	2.5	50	0	108	70	130			
Chlorobenzene	54.3	2.5	50	0	109	70	130			
Ethylbenzene	54.3	1.3	50	0	109	68	130			
m,p-Xylene	55.7	1.3	50	0	111	68	131			
Bromoform	48.9	2.5	50	0	98	65	143			
Styrene	54.5	2.5	50	0	109	59	153			
o-Xylene	54.4	1.3	50	0	109	70	130			
1,1,2,2-Tetrachloroethane	47.3	2.5	50	0	95	67	130			
1,2,3-Trichloropropane	103	10	100	0	103	70	130			
Isopropylbenzene	50.7	2.5	50	0	101	55	138			
Bromobenzene	50.5	2.5	50	0	101	70	130			
n-Propylbenzene	52.2	2.5	50	0	104	67	133			
4-Chlorotoluene	53.3	2.5	50	0	107	70	130			
2-Chlorotoluene	51.5	2.5	50	0	103	70	130			
1,3,5-Trimethylbenzene	51.4	2.5	50	0	103	67	134			
tert-Butylbenzene	51.7	2.5	50	0	103	55	147			
1,2,4-Trimethylbenzene	51	2.5	50	0	102	65	135			
sec-Butylbenzene	52.5	2.5	50	0	105	68	135			
1,3-Dichlorobenzene	52.6	2.5	50	0	105	70	130			
1,4-Dichlorobenzene	50.7	2.5	50	0	101	70	130			
4-Isopropyltoluene	52.2	2.5	50	0	104	68	132			
1,2-Dichlorobenzene	49.6	2.5	50	0	99	70	130			
n-Butylbenzene	53.1	2.5	50	0	106	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	201	15	250	0	80	64	130			
1,2,4-Trichlorobenzene	48.9	10	50	0	98	62	133			
Naphthalene	28.2	10	50	0	56	32	166			
Hexachlorobutadiene	95.5	10	100	0	95	63	130			
1,2,3-Trichlorobenzene	40.5	10	50	0	81	55	138			



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Date:

28-Jul-11

QC Summary Report

Work Order:

11051702

Surr: 1,2-Dichloroethane-d4	50.6	50	101	70	130
Surr: Toluene-d8	51.1	50	102	70	130
Surr: 4-Bromofluorobenzene	47.4	50	95	70	130



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Date:
28-Jul-11

QC Summary Report

Work Order:
11051702

Sample Matrix Spike Duplicate
File ID: 11052308.D

Type: MSD Test Code: EPA Method SW8260B

Batch ID: MS15W0523M

Analysis Date: 05/23/2011 10:41

Sample ID: 11051802-01AMSD

Units : µg/L

Run ID: MSD_15_110523C

Prep Date: 05/23/2011 10:41

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	40.9	2.5	50	0	82	21	138	49.79	19.6(33)	
Chloromethane	33.7	10	50	0	67	23	144	41.33	20.3(27)	
Vinyl chloride	49.6	2.5	50	0	99	49	136	58.84	17.0(21)	
Chloroethane	42.4	2.5	50	0	84	21	159	51.39	19.2(40)	
Bromomethane	57.8	10	50	0	116	10	174	64.91	11.6(40)	
Trichlorofluoromethane	56	2.5	50	0	112	32	154	68.12	19.5(37)	
Acetone	479	50	1000	0	48	10	171	514.7	7.1(23)	
1,1-Dichloroethene	47.2	2.5	50	0	94	64	130	56.83	18.5(21)	
Dichloromethane	43.4	10	50	0	87	69	130	51.05	16.2(20)	
Freon-113	51.7	2.5	50	0	103	55	141	62.77	19.4(40)	
trans-1,2-Dichloroethene	46.6	2.5	50	0	93	63	130	56.08	18.5(20)	
Methyl tert-butyl ether (MTBE)	43.7	1.3	50	0	87	47	150	48.89	11.2(40)	
1,1-Dichloroethane	42.8	2.5	50	0	86	66	130	51.49	18.4(20)	
2-Butanone (MEK)	640	50	1000	0	64	23	182	712.3	10.8(22)	
cis-1,2-Dichloroethene	46.1	2.5	50	0	92	70	130	54.61	17.0(20)	
Bromochloromethane	47.9	2.5	50	0	96	70	132	54.74	13.3(20)	
Chloroform	44.9	2.5	50	0	90	70	130	53.9	18.2(20)	
2,2-Dichloropropane	41.8	2.5	50	0	84	38	154	50.24	18.4(22)	
1,2-Dichloroethane	45.1	2.5	50	0	90	65	134	52.42	15.0(20)	
1,1,1-Trichloroethane	46.5	2.5	50	0	93	65	136	56.66	19.7(20)	
1,1-Dichloropropene	46.7	2.5	50	0	93	68	132	56.46	19.0(20)	
Carbon tetrachloride	48.5	2.5	50	0	97	58	148	58.61	18.9(20)	
Benzene	42.8	1.3	50	0	86	59	138	51.8	19.1(21)	
Dibromomethane	44.3	2.5	50	0	89	70	130	52.13	16.3(20)	
1,2-Dichloropropane	41.6	2.5	50	0	83	70	131	49.62	17.5(20)	
Trichloroethene	45.5	2.5	50	0	91	65	144	54.29	17.7(20)	
Bromodichloromethane	45.7	2.5	50	0	91	50	157	53.85	16.4(20)	
4-Methyl-2-pentanone (MIBK)	94.5	13	125	0	76	20	182	106.5	12.0(20)	
cis-1,3-Dichloropropene	41.3	2.5	50	0	83	63	131	48.14	15.2(20)	
trans-1,3-Dichloropropene	39.9	2.5	50	0	80	65	136	46.04	14.3(20)	
1,1,2-Trichloroethane	41.7	2.5	50	0	83	70	131	48.31	14.6(20)	
Toluene	44.7	1.3	50	0	89	68	130	53.99	18.8(20)	
1,3-Dichloropropane	43.5	2.5	50	0	87	70	130	49.49	13.0(20)	
2-Hexanone	272	25	500	0	54	20	182	302	10.5(20)	
Dibromochloromethane	44.9	2.5	50	0	90	42	155	51.56	13.7(20)	
1,2-Dibromoethane (EDB)	93.7	5	100	0	94	70	130	107	13.3(20)	
Tetrachloroethene	48.1	2.5	50	0	96	65	130	58.85	20.0(20)	R5
1,1,1,2-Tetrachloroethane	46.6	2.5	50	0	93	70	130	53.94	14.7(20)	
Chlorobenzene	45.7	2.5	50	0	91	70	130	54.25	17.2(20)	
Ethylbenzene	45.6	1.3	50	0	91	68	130	54.32	17.6(20)	
m,p-Xylene	46.5	1.3	50	0	93	68	131	55.74	18.1(20)	
Bromoform	43.2	2.5	50	0	86	65	143	48.88	12.4(20)	
Styrene	46	2.5	50	0	92	59	153	54.5	16.9(37)	
o-Xylene	46.1	1.3	50	0	92	70	130	54.44	16.7(20)	
1,1,2,2-Tetrachloroethane	42.6	2.5	50	0	85	67	130	47.31	10.5(20)	
1,2,3-Trichloropropane	90.1	10	100	0	90	70	130	103.2	13.6(20)	
Isopropylbenzene	42.2	2.5	50	0	84	55	138	50.71	18.3(20)	
Bromobenzene	43.2	2.5	50	0	86	70	130	50.52	15.6(20)	
n-Propylbenzene	43.1	2.5	50	0	86	67	133	52.23	19.1(30)	
4-Chlorotoluene	44.5	2.5	50	0	89	70	130	53.25	17.9(20)	
2-Chlorotoluene	43.7	2.5	50	0	87	70	130	51.49	16.4(20)	
1,3,5-Trimethylbenzene	42.9	2.5	50	0	86	67	134	51.4	18.1(21)	
tert-Butylbenzene	42.7	2.5	50	0	85	55	147	51.68	19.1(20)	
1,2,4-Trimethylbenzene	42.7	2.5	50	0	85	65	135	50.98	17.8(25)	
sec-Butylbenzene	43.9	2.5	50	0	88	68	135	52.54	18.0(20)	
1,3-Dichlorobenzene	44.3	2.5	50	0	89	70	130	52.64	17.1(20)	
1,4-Dichlorobenzene	42.8	2.5	50	0	86	70	130	50.74	17.0(20)	
4-Isopropyltoluene	43.1	2.5	50	0	86	68	132	52.18	19.2(20)	
1,2-Dichlorobenzene	42.2	2.5	50	0	84	70	130	49.64	16.3(20)	
n-Butylbenzene	43.9	2.5	50	0	88	62	134	53.05	18.9(21)	
1,2-Dibromo-3-chloropropane (DBCP)	176	15	250	0	71	64	130	200.9	12.9(20)	
1,2,4-Trichlorobenzene	41.5	10	50	0	83	62	133	48.86	16.4(29)	
Naphthalene	24.6	10	50	0	49	32	166	28.23	13.6(40)	
Hexachlorobutadiene	82.5	10	100	0	82	63	130	95.45	14.6(21)	
1,2,3-Trichlorobenzene	35.5	10	50	0	71	55	138	40.48	13.0(36)	



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Date:

28-Jul-11

QC Summary Report

Work Order:

11051702

Surr: 1,2-Dichloroethane-d4	49	50	98	70	130
Surr: Toluene-d8	50.7	50	101	70	130
Surr: 4-Bromofluorobenzene	46.9	50	94	70	130

Comments:

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

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

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

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



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Date:
31-May-11

QC Summary Report

Work Order:
11051702

Method Blank

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

File ID: **21**

Batch ID: **26559**

Analysis Date: **05/17/2011 12:37**

Sample ID: **MB-26559**

Units: **mg/L**

Run ID: **IC_1_110517A**

Prep Date: **05/17/2011 12:26**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO ₂) - N	ND	0.25								
Nitrate (NO ₃) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO ₄)	ND	0.5								

Laboratory Fortified Blank

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

File ID: **22**

Batch ID: **26559**

Analysis Date: **05/17/2011 12:56**

Sample ID: **LFB-26559**

Units: **mg/L**

Run ID: **IC_1_110517A**

Prep Date: **05/17/2011 12:26**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	50.9	0.5	50		102	90	110			
Nitrite (NO ₂) - N	5.47	0.25	5		109	90	110			
Nitrate (NO ₃) - N	5.06	0.25	5		101	90	110			
Phosphate, ortho - P	5.41	0.5	5		108	90	110			
Sulfate (SO ₄)	101	0.5	100		101	90	110			

Sample Matrix Spike

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

File ID: **25**

Batch ID: **26559**

Analysis Date: **05/17/2011 13:51**

Sample ID: **11051702-01ALFM**

Units: **mg/L**

Run ID: **IC_1_110517A**

Prep Date: **05/17/2011 12:26**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	114	0.5	100	12.37	102	80	120			
Nitrite (NO ₂) - N	11	0.25	10	0	110	80	120			
Nitrate (NO ₃) - N	10.1	0.25	10	0	101	80	120			
Phosphate, ortho - P	12.4	0.5	10	0	124	80	120			M1
Sulfate (SO ₄)	199	0.5	200	10.36	94	80	120			

Sample Matrix Spike Duplicate

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

File ID: **26**

Batch ID: **26559**

Analysis Date: **05/17/2011 14:10**

Sample ID: **11051702-01ALFMD**

Units: **mg/L**

Run ID: **IC_1_110517A**

Prep Date: **05/17/2011 12:26**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	115	0.5	100	12.37	103	80	120	114.4	0.9(15)	
Nitrite (NO ₂) - N	11.1	0.25	10	0	111	80	120	10.98	0.8(15)	
Nitrate (NO ₃) - N	10.3	0.25	10	0	103	80	120	10.12	1.4(15)	
Phosphate, ortho - P	11.8	0.5	10	0	118	80	120	12.37	4.7(15)	
Sulfate (SO ₄)	199	0.5	200	10.36	94	80	120	199	0.0(15)	

Comments:

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

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

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



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Date:
27-May-11

QC Summary Report

Work Order:
11051702

Method Blank

File ID: 14	Type: MBLK	Test Code: EPA Method 314.0								
Sample ID: MB-26574	Units: µg/L	Batch ID: 26574	Run ID: IC_3_110519A	Analysis Date: 05/19/2011 13:06						
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								
Sample ID: LFB-26574	Units: µg/L	Batch ID: 26574	Run ID: IC_3_110519A	Analysis Date: 05/19/2011 13:25						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	23.4	2	25		94	85	115			

Sample Matrix Spike

File ID: 20	Type: LFM	Test Code: EPA Method 314.0								
Sample ID: 11051702-01ALFM	Units: µg/L	Batch ID: 26574	Run ID: IC_3_110519A	Analysis Date: 05/19/2011 14:57						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.1	2	25	0	96	80	120			

Sample Matrix Spike Duplicate

File ID: 21	Type: LFMD	Test Code: EPA Method 314.0								
Sample ID: 11051702-01ALFMD	Units: µg/L	Batch ID: 26574	Run ID: IC_3_110519A	Analysis Date: 05/19/2011 15:15						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	25.1	2	25	0	100	80	120	24.12	4.0(15)	

Comments:

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



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Date:
20-May-11

QC Summary Report

Work Order:
11051702

Laboratory Control Spike

Type **LCS** Test Code: **SM2320B**

File ID:

Batch ID: **W0518AL**

Analysis Date: **05/18/2011 11:30**

Sample ID: **LCS-W0518AL**

Units : **mg/L**

Run ID: **WETLAB_110518E**

Prep Date: **05/18/2011 11:30**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO ₃)	239.9	10	250		96	80	120			
Alkalinity, Carbonate (As CaCO ₃)	239.9	10	250		96	80	120			
Alkalinity, Total (As CaCO ₃ at pH 4.5)	240	10	250		96	80	120			

Comments:

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



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Date:
24-May-11

QC Summary Report

Work Order:
11051702

Method Blank

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

File ID: **051911.B\050_M1.D**

Batch ID: **26558**

Analysis Date: **05/19/2011 12:23**

Sample ID: **MB-26558**

Units : **mg/L**

Run ID: **ICP/MS_110519B**

Prep Date: **05/17/2011 10:54**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

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

File ID: **051911.B\050_M2.D**

Batch ID: **26558**

Analysis Date: **05/19/2011 12:29**

Sample ID: **LCS-26558**

Units : **mg/L**

Run ID: **ICP/MS_110519B**

Prep Date: **05/17/2011 10:54**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	4.23	0.5	5		85	85	115			
Magnesium (Mg)	4.94	0.5	5		99	85	115			
Potassium (K)	5.18	0.5	5		104	85	115			
Calcium (Ca)	5.11	0.5	5		102	85	115			
Chromium (Cr)	0.0492	0.005	0.05		98	85	115			
Iron (Fe)	5.05	0.3	5		101	85	115			
Arsenic (As)	0.0506	0.002	0.05		101	85	115			
Lead (Pb)	0.0489	0.005	0.05		98	85	115			

Sample Matrix Spike

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

File ID: **051911.B\050_07.D**

Batch ID: **26558**

Analysis Date: **05/19/2011 12:57**

Sample ID: **11051702-02AMS**

Units : **mg/L**

Run ID: **ICP/MS_110519B**

Prep Date: **05/17/2011 10:54**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	29.7	0.5	5	28.11	32	70	130			M3
Magnesium (Mg)	17.6	0.5	5	12.85	96	70	130			
Potassium (K)	6.99	0.5	5	2.051	99	70	130			
Calcium (Ca)	45	0.5	5	40.29	93	70	130			
Chromium (Cr)	0.0458	0.005	0.05	0	92	70	130			
Iron (Fe)	4.91	0.3	5	0	98	70	130			
Arsenic (As)	0.0504	0.002	0.05	0	101	70	130			
Lead (Pb)	0.0456	0.005	0.05	0	91	70	130			

Sample Matrix Spike Duplicate

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

File ID: **051911.B\050_08.D**

Batch ID: **26558**

Analysis Date: **05/19/2011 13:02**

Sample ID: **11051702-02AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110519B**

Prep Date: **05/17/2011 10:54**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	33.3	0.5	5	28.11	103	70	130	29.71	11.3(20)	
Magnesium (Mg)	16.8	0.5	5	12.85	79	70	130	17.63	4.9(20)	
Potassium (K)	7.11	0.5	5	2.051	101	70	130	6.994	1.6(20)	
Calcium (Ca)	45	0.5	5	40.29	95	70	130	44.95	0.2(20)	
Chromium (Cr)	0.0477	0.005	0.05	0	95	70	130	0.04578	4.1(20)	
Iron (Fe)	5.17	0.3	5	0	103	70	130	4.91	5.2(20)	
Arsenic (As)	0.0506	0.002	0.05	0	101	70	130	0.05035	0.4(20)	
Lead (Pb)	0.0463	0.005	0.05	0	93	70	130	0.04555	1.6(20)	

Comments:

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

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

M3 = The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to the spike level. The method control sample recovery was acceptable.



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Date:
20-May-11

QC Summary Report

Work Order:
11051702

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0517PH**

Analysis Date: **05/17/2011 14:58**

Sample ID: **LCS-W0517PH**

Units: **pH Units**

Run ID: **WETLAB_110517C**

Prep Date: **05/17/2011 14:58**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
pH	5.06	1.7	5		101	90	110			

Comments:

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



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Date:
23-May-11

QC Summary Report

Work Order:
11051702

Method Blank

Type **MBLK** Test Code: **SM2540C**

File ID:

Batch ID: **W0517DS**

Analysis Date: **05/18/2011 00:00**

Sample ID: **MBLK-W0517DS**

Units : **mg/L**

Run ID: **WETLAB_110517D**

Prep Date: **05/18/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
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Solids, Total Dissolved (TDS)	ND	10								
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Laboratory Control Spike

Type **LCS** Test Code: **SM2540C**

File ID:

Batch ID: **W0517DS**

Analysis Date: **05/18/2011 00:00**

Sample ID: **LCS-W0517DS**

Units : **mg/L**

Run ID: **WETLAB_110517D**

Prep Date: **05/18/2011 00:00**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
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Solids, Total Dissolved (TDS)	103	10	100		103	70	130			
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Comments:

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



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Date:
27-May-11

QC Summary Report

Work Order:
11051702

Method Blank

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

File ID: **11052306.D**

Batch ID: **MS15W0523M**

Analysis Date: **05/23/2011 09:58**

Sample ID: **MBLK MS15W0523M**

Units: **µg/L**

Run ID: **MSD_15_110523C**

Prep Date: **05/23/2011 09:58**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	9.65		10		97	70	130			
Surr: Toluene-d8	10.3		10		103	70	130			



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Date:

27-May-11

QC Summary Report

Work Order:

11051702

Surr: 4-Bromofluorobenzene

9.63

10

96

70

130



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Date:
27-May-11

QC Summary Report

Work Order:
11051702

Laboratory Control Spike

Type: LCS

Test Code: EPA Method SW8260B

File ID: 11052303.D

Batch ID: MS15W0523M

Analysis Date: 05/23/2011 08:43

Sample ID: LCS MS15W0523M

Units : µg/L

Run ID: MSD_15_110523C

Prep Date: 05/23/2011 08:43

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	9.88	1	10		99	70	130			
Chloromethane	9.49	2	10		95	70	130			
Vinyl chloride	10.2	1	10		102	70	130			
Chloroethane	10	1	10		100	70	130			
Bromomethane	11	2	10		110	70	130			
Trichlorofluoromethane	12.9	1	10		129	70	130			
1,1-Dichloroethene	11.1	1	10		111	70	130			
Dichloromethane	9.89	2	10		99	70	130			
Freon-113	11.5	1	10		115	70	137			
trans-1,2-Dichloroethene	11.1	1	10		111	70	130			
Methyl tert-butyl ether (MTBE)	8.33	0.5	10		83	70	130			
1,1-Dichloroethane	10.1	1	10		101	70	130			
2-Butanone (MEK)	181	10	200		90	70	130			
cis-1,2-Dichloroethene	10.7	1	10		107	70	130			
Bromochloromethane	10.1	1	10		101	70	130			
Chloroform	10.6	1	10		106	70	130			
2,2-Dichloropropane	10.1	1	10		101	70	130			
1,2-Dichloroethane	9.59	1	10		96	70	130			
1,1,1-Trichloroethane	11	1	10		110	70	130			
1,1-Dichloropropene	11	1	10		110	70	130			
Carbon tetrachloride	11.2	1	10		112	70	130			
Benzene	10	0.5	10		100	70	130			
Dibromomethane	9.53	1	10		95	70	130			
1,2-Dichloropropane	9.63	1	10		96	70	130			
Trichloroethene	10.8	1	10		108	70	130			
Bromodichloromethane	10.3	1	10		103	70	130			
4-Methyl-2-pentanone (MIBK)	19.8	2.5	25		79	20	182			
cis-1,3-Dichloropropene	9.32	1	10		93	70	130			
trans-1,3-Dichloropropene	8.71	1	10		87	70	130			
1,1,2-Trichloroethane	8.77	1	10		88	70	130			
Toluene	10.7	0.5	10		107	70	130			
1,3-Dichloropropane	9.14	1	10		91	70	130			
Dibromochloromethane	9.57	1	10		96	70	130			
1,2-Dibromoethane (EDB)	19.7	2	20		99	70	130			
Tetrachloroethene	11.6	1	10		116	70	130			
1,1,1,2-Tetrachloroethane	10.6	1	10		106	70	130			
Chlorobenzene	10.7	1	10		107	70	130			
Ethylbenzene	10.8	0.5	10		108	70	130			
m,p-Xylene	11.1	0.5	10		111	70	130			
Bromoform	8.65	1	10		87	70	130			
Styrene	10.5	1	10		105	70	130			
o-Xylene	10.9	0.5	10		109	70	130			
1,1,2,2-Tetrachloroethane	8.25	1	10		83	70	130			
1,2,3-Trichloropropane	18.4	2	20		92	70	130			
Isopropylbenzene	10.5	1	10		105	70	130			
Bromobenzene	10.2	1	10		102	70	130			
n-Propylbenzene	10.8	1	10		108	70	130			
4-Chlorotoluene	10.7	1	10		107	70	130			
2-Chlorotoluene	10.6	1	10		106	70	130			
1,3,5-Trimethylbenzene	10.7	1	10		107	70	130			
tert-Butylbenzene	10.6	1	10		106	70	130			
1,2,4-Trimethylbenzene	10.4	1	10		104	70	130			
sec-Butylbenzene	11	1	10		110	70	130			
1,3-Dichlorobenzene	10.6	1	10		106	70	130			
1,4-Dichlorobenzene	10.1	1	10		101	70	130			
4-Isopropyltoluene	10.7	1	10		107	70	130			
1,2-Dichlorobenzene	9.68	1	10		97	70	130			
n-Butylbenzene	10.9	1	10		109	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	36.9	3	50		74	67	130			
1,2,4-Trichlorobenzene	9.48	2	10		95	70	130			
Naphthalene	5.15	2	10		52	70(70)	130			
Hexachlorobutadiene	19.1	2	20		96	70	130			
1,2,3-Trichlorobenzene	7.7	2	10		77	70	130			
Surr: 1,2-Dichloroethane-d4	9.25		10		93	70	130			
Surr: Toluene-d8	10.2		10		102	70	130			



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Date:

27-May-11

QC Summary Report

Work Order:

11051702

Surr: 4-Bromofluorobenzene

9.57

10

96

70

130



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Date:

27-May-11

QC Summary Report

Work Order:

11051702

Sample Matrix Spike

File ID: 11052307.D

Type: MS

Test Code: EPA Method SW8260B

Batch ID: MS15W0523M

Analysis Date: 05/23/2011 10:20

Sample ID: 11051802-01AMS

Units: µg/L

Run ID: MSD_15_110523C

Prep Date: 05/23/2011 10:20

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	49.8	2.5	50	0	99.6	21	138			
Chloromethane	41.3	10	50	0	83	23	144			
Vinyl chloride	58.8	2.5	50	0	118	49	136			
Chloroethane	51.4	2.5	50	0	102	21	159			
Bromomethane	64.9	10	50	0	130	10	174			
Trichlorofluoromethane	68.1	2.5	50	0	136	32	154			
1,1-Dichloroethene	56.8	2.5	50	0	114	64	130			
Dichloromethane	51.1	10	50	0	102	69	130			
Freon-113	62.8	2.5	50	0	126	55	141			
trans-1,2-Dichloroethene	56.1	2.5	50	0	112	63	130			
Methyl tert-butyl ether (MTBE)	48.9	1.3	50	0	98	47	150			
1,1-Dichloroethane	51.5	2.5	50	0	103	66	130			
2-Butanone (MEK)	712	50	1000	0	71	23	182			
cis-1,2-Dichloroethene	54.6	2.5	50	0	109	70	130			
Bromochloromethane	54.7	2.5	50	0	109	70	132			
Chloroform	53.9	2.5	50	0	108	70	130			
2,2-Dichloropropane	50.2	2.5	50	0	100	38	154			
1,2-Dichloroethane	52.4	2.5	50	0	105	65	134			
1,1,1-Trichloroethane	56.7	2.5	50	0	113	65	136			
1,1-Dichloropropene	56.5	2.5	50	0	113	68	132			
Carbon tetrachloride	58.6	2.5	50	0	117	58	148			
Benzene	51.8	1.3	50	0	104	59	138			
Dibromomethane	52.1	2.5	50	0	104	70	130			
1,2-Dichloropropane	49.6	2.5	50	0	99	70	131			
Trichloroethene	54.3	2.5	50	0	109	65	144			
Bromodichloromethane	53.9	2.5	50	0	108	50	157			
4-Methyl-2-pentanone (MIBK)	107	13	125	0	85	20	182			
cis-1,3-Dichloropropene	48.1	2.5	50	0	96	63	131			
trans-1,3-Dichloropropene	46	2.5	50	0	92	65	136			
1,1,2-Trichloroethane	48.3	2.5	50	0	97	70	131			
Toluene	54	1.3	50	0	108	68	130			
1,3-Dichloropropane	49.5	2.5	50	0	99	70	130			
Dibromochloromethane	51.6	2.5	50	0	103	42	155			
1,2-Dibromoethane (EDB)	107	5	100	0	107	70	130			
Tetrachloroethene	58.9	2.5	50	0	118	65	130			
1,1,1,2-Tetrachloroethane	53.9	2.5	50	0	108	70	130			
Chlorobenzene	54.3	2.5	50	0	109	70	130			
Ethylbenzene	54.3	1.3	50	0	109	68	130			
m,p-Xylene	55.7	1.3	50	0	111	68	131			
Bromoform	48.9	2.5	50	0	98	65	143			
Styrene	54.5	2.5	50	0	109	59	153			
o-Xylene	54.4	1.3	50	0	109	70	130			
1,1,2,2-Tetrachloroethane	47.3	2.5	50	0	95	67	130			
1,2,3-Trichloropropane	103	10	100	0	103	70	130			
Isopropylbenzene	50.7	2.5	50	0	101	55	138			
Bromobenzene	50.5	2.5	50	0	101	70	130			
n-Propylbenzene	52.2	2.5	50	0	104	67	133			
4-Chlorotoluene	53.3	2.5	50	0	107	70	130			
2-Chlorotoluene	51.5	2.5	50	0	103	70	130			
1,3,5-Trimethylbenzene	51.4	2.5	50	0	103	67	134			
tert-Butylbenzene	51.7	2.5	50	0	103	55	147			
1,2,4-Trimethylbenzene	51	2.5	50	0	102	65	135			
sec-Butylbenzene	52.5	2.5	50	0	105	68	135			
1,3-Dichlorobenzene	52.6	2.5	50	0	105	70	130			
1,4-Dichlorobenzene	50.7	2.5	50	0	101	70	130			
4-Isopropyltoluene	52.2	2.5	50	0	104	68	132			
1,2-Dichlorobenzene	49.6	2.5	50	0	99	70	130			
n-Butylbenzene	53.1	2.5	50	0	106	62	134			
1,2-Dibromo-3-chloropropane (DBCP)	201	15	250	0	80	64	130			
1,2,4-Trichlorobenzene	48.9	10	50	0	98	62	133			
Naphthalene	28.2	10	50	0	56	32	166			
Hexachlorobutadiene	95.5	10	100	0	95	63	130			
1,2,3-Trichlorobenzene	40.5	10	50	0	81	55	138			
Surr: 1,2-Dichloroethane-d4	50.6		50		101	70	130			
Surr: Toluene-d8	51.1		50		102	70	130			



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Date:

27-May-11

QC Summary Report

Work Order:

11051702

Surr: 4-Bromofluorobenzene

47.4

50

95

70

130



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Date:
27-May-11

QC Summary Report

Work Order:
11051702

Sample Matrix Spike Duplicate
File ID: 11052308.D

Type: MSD Test Code: EPA Method SW8260B

Batch ID: MS15W0523M

Analysis Date: 05/23/2011 10:41

Sample ID: 11051802-01AMSD

Units: µg/L

Run ID: MSD_15_110523C

Prep Date: 05/23/2011 10:41

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	40.9	2.5	50	0	82	21	138	49.79	19.6(33)	
Chloromethane	33.7	10	50	0	67	23	144	41.33	20.3(27)	
Vinyl chloride	49.6	2.5	50	0	99	49	136	58.84	17.0(21)	
Chloroethane	42.4	2.5	50	0	84	21	159	51.39	19.2(40)	
Bromomethane	57.8	10	50	0	116	10	174	64.91	11.6(40)	
Trichlorofluoromethane	56	2.5	50	0	112	32	154	68.12	19.5(37)	
1,1-Dichloroethene	47.2	2.5	50	0	94	64	130	56.83	18.5(21)	
Dichloromethane	43.4	10	50	0	87	69	130	51.05	16.2(20)	
Freon-113	51.7	2.5	50	0	103	55	141	62.77	19.4(40)	
trans-1,2-Dichloroethene	46.6	2.5	50	0	93	63	130	56.08	18.5(20)	
Methyl tert-butyl ether (MTBE)	43.7	1.3	50	0	87	47	150	48.89	11.2(40)	
1,1-Dichloroethane	42.8	2.5	50	0	86	66	130	51.49	18.4(20)	
2-Butanone (MEK)	640	50	1000	0	64	23	182	712.3	10.8(22)	
cis-1,2-Dichloroethene	46.1	2.5	50	0	92	70	130	54.61	17.0(20)	
Bromochloromethane	47.9	2.5	50	0	96	70	132	54.74	13.3(20)	
Chloroform	44.9	2.5	50	0	90	70	130	53.9	18.2(20)	
2,2-Dichloropropane	41.8	2.5	50	0	84	38	154	50.24	18.4(22)	
1,2-Dichloroethane	45.1	2.5	50	0	90	65	134	52.42	15.0(20)	
1,1,1-Trichloroethane	46.5	2.5	50	0	93	65	136	56.66	19.7(20)	
1,1-Dichloropropene	46.7	2.5	50	0	93	68	132	56.46	19.0(20)	
Carbon tetrachloride	48.5	2.5	50	0	97	58	148	58.61	18.9(20)	
Benzene	42.8	1.3	50	0	86	59	138	51.8	19.1(21)	
Dibromomethane	44.3	2.5	50	0	89	70	130	52.13	16.3(20)	
1,2-Dichloropropane	41.6	2.5	50	0	83	70	131	49.62	17.5(20)	
Trichloroethene	45.5	2.5	50	0	91	65	144	54.29	17.7(20)	
Bromodichloromethane	45.7	2.5	50	0	91	50	157	53.85	16.4(20)	
4-Methyl-2-pentanone (MIBK)	94.5	13	125	0	76	20	182	106.5	12.0(20)	
cis-1,3-Dichloropropene	41.3	2.5	50	0	83	63	131	48.14	15.2(20)	
trans-1,3-Dichloropropene	39.9	2.5	50	0	80	65	136	46.04	14.3(20)	
1,1,2-Trichloroethane	41.7	2.5	50	0	83	70	131	48.31	14.6(20)	
Toluene	44.7	1.3	50	0	89	68	130	53.99	18.8(20)	
1,3-Dichloropropane	43.5	2.5	50	0	87	70	130	49.49	13.0(20)	
Dibromochloromethane	44.9	2.5	50	0	90	42	155	51.56	13.7(20)	
1,2-Dibromoethane (EDB)	93.7	5	100	0	94	70	130	107	13.3(20)	
Tetrachloroethene	48.1	2.5	50	0	96	65	130	58.85	20.0(20)	R5
1,1,1,2-Tetrachloroethane	46.6	2.5	50	0	93	70	130	53.94	14.7(20)	
Chlorobenzene	45.7	2.5	50	0	91	70	130	54.25	17.2(20)	
Ethylbenzene	45.6	1.3	50	0	91	68	130	54.32	17.6(20)	
m,p-Xylene	46.5	1.3	50	0	93	68	131	55.74	18.1(20)	
Bromoform	43.2	2.5	50	0	86	65	143	48.88	12.4(20)	
Styrene	46	2.5	50	0	92	59	153	54.5	16.9(37)	
o-Xylene	46.1	1.3	50	0	92	70	130	54.44	16.7(20)	
1,1,2,2-Tetrachloroethane	42.6	2.5	50	0	85	67	130	47.31	10.5(20)	
1,2,3-Trichloropropane	90.1	10	100	0	90	70	130	103.2	13.6(20)	
Isopropylbenzene	42.2	2.5	50	0	84	55	138	50.71	18.3(20)	
Bromobenzene	43.2	2.5	50	0	86	70	130	50.52	15.6(20)	
n-Propylbenzene	43.1	2.5	50	0	86	67	133	52.23	19.1(30)	
4-Chlorotoluene	44.5	2.5	50	0	89	70	130	53.25	17.9(20)	
2-Chlorotoluene	43.7	2.5	50	0	87	70	130	51.49	16.4(20)	
1,3,5-Trimethylbenzene	42.9	2.5	50	0	86	67	134	51.4	18.1(21)	
tert-Butylbenzene	42.7	2.5	50	0	85	55	147	51.68	19.1(20)	
1,2,4-Trimethylbenzene	42.7	2.5	50	0	85	65	135	50.98	17.8(25)	
sec-Butylbenzene	43.9	2.5	50	0	88	68	135	52.54	18.0(20)	
1,3-Dichlorobenzene	44.3	2.5	50	0	89	70	130	52.64	17.1(20)	
1,4-Dichlorobenzene	42.8	2.5	50	0	86	70	130	50.74	17.0(20)	
4-Isopropyltoluene	43.1	2.5	50	0	86	68	132	52.18	19.2(20)	
1,2-Dichlorobenzene	42.2	2.5	50	0	84	70	130	49.64	16.3(20)	
n-Butylbenzene	43.9	2.5	50	0	88	62	134	53.05	18.9(21)	
1,2-Dibromo-3-chloropropane (DBCP)	176	15	250	0	71	64	130	200.9	12.9(20)	
1,2,4-Trichlorobenzene	41.5	10	50	0	83	62	133	48.86	16.4(29)	
Naphthalene	24.6	10	50	0	49	32	166	28.23	13.6(40)	
Hexachlorobutadiene	82.5	10	100	0	82	63	130	95.45	14.6(21)	
1,2,3-Trichlorobenzene	35.5	10	50	0	71	55	138	40.48	13.0(36)	
Surr: 1,2-Dichloroethane-d4	49		50		98	70	130			
Surr: Toluene-d8	50.7		50		101	70	130			



Alpha Analytical, Inc.

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

Date:

27-May-11

QC Summary Report

Work Order:

11051702

Surr: 4-Bromofluorobenzene	46.9	50	94	70	130
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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.

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

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

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA AMENDED
Page 1 of 1

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

WorkOrder : BMIS11051702
Report Due By : 5:00 PM On : 01-Jun-2011

Client:

Battelle Memorial Institute
655 West Broadway
Suite 1420
San Diego, CA 92101
PO : 218013

Report Attention

Phone Number (619) 726-7311 x
Email Address davidc@battelle.org
Betsy Cutie (614) 424-4899 x cutiee@battelle.org
Shane Walton (614) 424-4117 x waltons@battelle.org

EDD Required : No

Sampled by : Chase Brogdon/ Mark Mendoza

Client's COC # : 33394

Job : G005862/JPL Groundwater Monitoring

3 °C

17-May-2011

22-Jul-2011

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

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles		Requested Tests		Sample Remarks							
			Alpha	Sub	300_0_W	314_W		ALKALINT Y_W	METALS_D W	PH_W	TDS_W	VOC TIC_W	VOC_W	
BM11051702-01A	NW-18-5	05/16/11 08:15	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051702-02A	NW-18-4	05/16/11 09:20	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria + Additional TICs	VOC by 524 Criteria + Additional TICs	Level IV QC
BM11051702-03A	NW-18-3	05/16/11 12:56	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051702-04A	NW-18-2	05/16/11 13:33	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051702-05A	NW-18-1	05/16/11 14:06	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051702-06A	EB-12-5/16/11	05/16/11 13:53	5	0	10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bearb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051702-07A	TB-12-5/16/11	05/16/11 00:00	1	0	10									Reno Trip Blank 4/4/11

Comments: No security seals. Frozen ice. Temp Blank #9007 received @ 3°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E. MS/MSD). Amended 7/22/11. Per email from David Corner via Reyna added additional TICs: 1,1-Dichloropropane, Hexachloroethane, Nitrobenzene, and Propionitrile to sample -02A. EA

Logged in by: Empabeth Adcox Signature: Empabeth Adcox Print Name: Elizabeth Adcox Company: Alpha Analytical, Inc. Date/Time: 7.22.11 16:26

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-Tedar 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 : BMIS11051702
Report Due By : 5:00 PM On : 01-Jun-2011

Client:
 Battelle Memorial Institute
 655 West Broadway
 Suite 1420
 San Diego, CA 92101
 PO : 218013

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

EDD Required : Yes

Sampled by : Chase Brogdon/ Mark Mendoza

Client's COC # : 33394

Job : G005862/JPL Groundwater Monitoring

Cooler Temp 3 °C Samples Received 17-May-2011 Date Printed 17-May-2011

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	
				300_0_W	314_W	ALKALINITY_W	METALS_D	PH_W	TDS_W	VOC_TIC_W		VOC_W
BM11051702-01A	NWV-18-5	05/16/11 08:15	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051702-02A	NWV-18-4	05/16/11 09:20	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	Level IV QC
BM11051702-03A	NWV-18-3	05/16/11 12:56	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051702-04A	NWV-18-2	05/16/11 13:33	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051702-05A	NWV-18-1	05/16/11 14:06	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051702-06A	EB-12-5/16/11	05/16/11 13:53	5 0 10	NO2, NO3, SO4, Cl, PO4	Perchlorate	Alk (Carb/Bicarb)	Cr, As, Pb, Ca, Mg, K, Na, Fe	pH	TDS	VOC by 524 Criteria	VOC by 524 Criteria	
BM11051702-07A	TB-12-5/16/11	05/16/11 00:00	1 0 10									Reno Trip Blank 4/4/11

Comments: No security seals. Frozen ice. Temp Blank #9007 received @ 3°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD):.

Logged in by: Elizabeth Adcox Signature Elizabeth Adcox Print Name Elizabeth Adcox Company Alpha Analytical, Inc. Date/Time 5-17-11 9:44

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:

Company Name BATTELLE
 Attn: GERALD TOMPKINS
 Address 505 KINF AVE
 City, State, Zip COLUMBUS, OH 43201
 Phone Number _____ Fax _____



Samples Collected From Which State?
 AZ CA NV WA
 ID OR OTHER
DOD Site _____
 Page # 1 of 1

33394

Consultant / Client Name BATTELLE / DAVID CONVEN Job # 5005562 Job Name JPL GW MON 2011
 Address 3810 OLD TOWN AVE, C-205 Report Attention / Project Manager _____
 City, State, Zip SAUN DIEGO, CA 92110 Name: DAVID CONVEN
 Email: CONVEN@BATTELLE.COM
 Phone: 619-726-7311 Fax: 619-458-6641

Time Sampled	Date Sampled	Matrix See Key Below	P.O. #	Lab ID Number (Use Only)	Office (Use Only)	Sample Description	TAT	Field Filtered	# Containers**	Analyses Required	REMARKS
815	5/16/11	AR	BMT	1105170201		MW - 18 - 5	Normal		5	VOA (574.0) LEAD, ARSENIC TOTAL Cr (200.8) Cd (314.0) Ni, K, Ca, Mg, Fe (200.8) Co, H2O2, TDS, PH, ALKALINITY Mn, Zn, Cu, Pb, Zn, Cd, Cr, Ni, Mo, NO3, NO2, SO4, PO4 Cl-, NO3-, NO2-, SO4-, PO4-	IV RC
920						MW - 18 - 4			5		
1256						MW - 18 - 3			5		
1333						MW - 18 - 2			5		
1406						MW - 18 - 1			5		
1353						EB - 12 - 5/16/11			5		Equip Blank
-						TR - 12 - 5/16/11			1		TRIP BLANK

ADDITIONAL INSTRUCTIONS:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action (NAC 445.0636 (c) (2)). Sampled By: CHRIS STODOLNICK

Relinquished by: (Signature/Affiliation) _____ Received by: (Signature/Affiliation) _____ Date: _____ Time: _____
 Relinquished by: (Signature/Affiliation) _____ Received by: (Signature/Affiliation) _____ Date: 5-17-11 Time: 9:44
 Relinquished by: (Signature/Affiliation) _____ Received by: (Signature/Affiliation) _____ Date: _____ Time: _____

*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: 27-May-11

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

Suite 1420

CASE NARRATIVE

Job: G005862/JPL Groundwater Monitoring

Work Order: BMI11051802

Cooler Temp: 0 °C

Alpha's Sample ID	Client's Sample ID	Matrix
11051802-01A	MW-25-5	Aqueous
11051802-02A	MW-25-4	Aqueous
11051802-03A	MW-25-3	Aqueous
11051802-04A	MW-25-2	Aqueous
11051802-05A	MW-25-1	Aqueous
11051802-06A	DUPE-4-2Q11	Aqueous
11051802-07A	EB-13-5/17/11	Aqueous
11051802-08A	TB-13-5/17/11	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
11051802-01A	EPA Method 314.0	Perchlorate
11051802-04A	EPA Method 314.0	Perchlorate
11051802-05A	EPA Method 314.0	Perchlorate
11051802-06A	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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

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

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



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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/18/11

Job: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-25-5				
Lab ID : BMI11051802-01A	Chloride	18	0.50 mg/L	05/18/11 11:09 05/18/11 12:28
Date Sampled 05/17/11 08:15	Nitrite (NO2) - N	ND	0.25 mg/L	05/18/11 11:09 05/18/11 12:28
	Nitrate (NO3) - N	ND	0.25 mg/L	05/18/11 11:09 05/18/11 12:28
	Phosphate, ortho - P	ND	0.50 mg/L	05/18/11 11:09 05/18/11 12:28
	Sulfate (SO4)	87	0.50 mg/L	05/18/11 11:09 05/18/11 12:28
Client ID: MW-25-4				
Lab ID : BMI11051802-02A	Chloride	42	0.50 mg/L	05/18/11 11:09 05/18/11 13:24
Date Sampled 05/17/11 08:56	Nitrite (NO2) - N	ND	0.25 mg/L	05/18/11 11:09 05/18/11 13:24
	Nitrate (NO3) - N	5.6	0.25 mg/L	05/18/11 11:09 05/18/11 13:24
	Phosphate, ortho - P	ND	0.50 mg/L	05/18/11 11:09 05/18/11 13:24
	Sulfate (SO4)	71	0.50 mg/L	05/18/11 11:09 05/18/11 13:24
Client ID: MW-25-3				
Lab ID : BMI11051802-03A	Chloride	45	0.50 mg/L	05/18/11 11:09 05/18/11 13:42
Date Sampled 05/17/11 09:28	Nitrite (NO2) - N	ND	0.25 mg/L	05/18/11 11:09 05/18/11 13:42
	Nitrate (NO3) - N	8.9	0.25 mg/L	05/18/11 11:09 05/18/11 13:42
	Phosphate, ortho - P	ND	0.50 mg/L	05/18/11 11:09 05/18/11 13:42
	Sulfate (SO4)	74	0.50 mg/L	05/18/11 11:09 05/18/11 13:42
Client ID: MW-25-2				
Lab ID : BMI11051802-04A	Chloride	43	0.50 mg/L	05/18/11 11:09 05/18/11 14:01
Date Sampled 05/17/11 10:03	Nitrite (NO2) - N	ND	0.25 mg/L	05/18/11 11:09 05/18/11 14:01
	Nitrate (NO3) - N	9.9	0.25 mg/L	05/18/11 11:09 05/18/11 14:01
	Phosphate, ortho - P	ND	0.50 mg/L	05/18/11 11:09 05/18/11 14:01
	Sulfate (SO4)	77	0.50 mg/L	05/18/11 11:09 05/18/11 14:01
Client ID: MW-25-1				
Lab ID : BMI11051802-05A	Chloride	69	0.50 mg/L	05/18/11 11:09 05/18/11 14:19
Date Sampled 05/17/11 11:00	Nitrite (NO2) - N	ND	0.25 mg/L	05/18/11 11:09 05/18/11 14:19
	Nitrate (NO3) - N	10	0.25 mg/L	05/18/11 11:09 05/18/11 14:19
	Phosphate, ortho - P	ND	0.50 mg/L	05/18/11 11:09 05/18/11 14:19
	Sulfate (SO4)	140	0.50 mg/L	05/18/11 11:09 05/18/11 14:19
Client ID: DUPE-4-2Q11				
Lab ID : BMI11051802-06A	Chloride	43	0.50 mg/L	05/18/11 11:09 05/18/11 14:38
Date Sampled 05/17/11 00:00	Nitrite (NO2) - N	ND	0.25 mg/L	05/18/11 11:09 05/18/11 14:38
	Nitrate (NO3) - N	9.8	0.25 mg/L	05/18/11 11:09 05/18/11 14:38
	Phosphate, ortho - P	ND	0.50 mg/L	05/18/11 11:09 05/18/11 14:38
	Sulfate (SO4)	77	0.50 mg/L	05/18/11 11:09 05/18/11 14:38



Alpha Analytical, Inc.

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

Client ID: **EB-13-S/17/11**

Lab ID : BMI11051802-07A	Chloride	ND	0.50 mg/L	05/18/11 11:09	05/18/11 14:56
Date Sampled 05/17/11 10:47	Nitrite (NO2) - N	ND	0.25 mg/L	05/18/11 11:09	05/18/11 14:56
	Nitrate (NO3) - N	ND	0.25 mg/L	05/18/11 11:09	05/18/11 14:56
	Phosphate, ortho - P	ND	0.50 mg/L	05/18/11 11:09	05/18/11 14:56
	Sulfate (SO4)	ND	0.50 mg/L	05/18/11 11:09	05/18/11 14:56

ND = Not Detected

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

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

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

5/31/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/18/11

Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-25-5				
Lab ID : BMI11051802-01A Perchlorate	39.2	1.00 µg/L	05/19/11 12:10	05/19/11 17:06
Date Sampled 05/17/11 08:15				
Client ID: MW-25-4				
Lab ID : BMI11051802-02A Perchlorate	7.27	1.00 µg/L	05/19/11 12:10	05/19/11 17:24
Date Sampled 05/17/11 08:56				
Client ID: MW-25-3				
Lab ID : BMI11051802-03A Perchlorate	8.45	1.00 µg/L	05/19/11 12:10	05/19/11 17:42
Date Sampled 05/17/11 09:28				
Client ID: MW-25-2				
Lab ID : BMI11051802-04A Perchlorate	13.3	1.00 µg/L	05/19/11 12:10	05/19/11 18:01
Date Sampled 05/17/11 10:03				
Client ID: MW-25-1				
Lab ID : BMI11051802-05A Perchlorate	9.19	1.00 µg/L	05/19/11 12:10	05/19/11 19:33
Date Sampled 05/17/11 11:00				
Client ID: DUPE-4-2Q11				
Lab ID : BMI11051802-06A Perchlorate	13.1	1.00 µg/L	05/19/11 12:10	05/19/11 19:51
Date Sampled 05/17/11 00:00				
Client ID: EB-13-5/17/11				
Lab ID : BMI11051802-07A Perchlorate	ND	1.00 µg/L	05/19/11 12:10	05/19/11 20:10
Date Sampled 05/17/11 10:47				

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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5/31/11

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
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/18/11

Job: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-25-5				
Lab ID : BM111051802-01A	Alkalinity, Bicarbonate (As CaCO ₃)	66	10 mg/L	05/18/11 11:57
Date Sampled 05/17/11 08:15	Alkalinity, Carbonate (As CaCO ₃)	36	10 mg/L	05/18/11 11:57
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	100	10 mg/L	05/18/11 11:57
Client ID: MW-25-4				
Lab ID : BM111051802-02A	Alkalinity, Bicarbonate (As CaCO ₃)	230	10 mg/L	05/18/11 12:01
Date Sampled 05/17/11 08:56	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/18/11 12:01
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	230	10 mg/L	05/18/11 12:01
Client ID: MW-25-3				
Lab ID : BM111051802-03A	Alkalinity, Bicarbonate (As CaCO ₃)	210	10 mg/L	05/18/11 12:05
Date Sampled 05/17/11 09:28	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/18/11 12:05
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	210	10 mg/L	05/18/11 12:05
Client ID: MW-25-2				
Lab ID : BM111051802-04A	Alkalinity, Bicarbonate (As CaCO ₃)	190	10 mg/L	05/18/11 12:09
Date Sampled 05/17/11 10:03	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/18/11 12:09
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	190	10 mg/L	05/18/11 12:09
Client ID: MW-25-1				
Lab ID : BM111051802-05A	Alkalinity, Bicarbonate (As CaCO ₃)	180	10 mg/L	05/18/11 12:17
Date Sampled 05/17/11 11:00	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/18/11 12:17
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	180	10 mg/L	05/18/11 12:17
Client ID: DUPE-4-2Q11				
Lab ID : BM111051802-06A	Alkalinity, Bicarbonate (As CaCO ₃)	190	10 mg/L	05/18/11 12:22
Date Sampled 05/17/11 00:00	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/18/11 12:22
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	190	10 mg/L	05/18/11 12:22
Client ID: EB-13-5/17/11				
Lab ID : BM111051802-07A	Alkalinity, Bicarbonate (As CaCO ₃)	ND	10 mg/L	05/18/11 12:28
Date Sampled 05/17/11 10:47	Alkalinity, Carbonate (As CaCO ₃)	ND	10 mg/L	05/18/11 12:28
	Alkalinity, Total (As CaCO ₃ at pH 4.5)	ND	10 mg/L	05/18/11 12:28



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ND = Not Detected

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5/31/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/18/11

Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-25-5				
Lab ID : BM111051802-01A	Sodium (Na)	58	0.50 mg/L	05/19/11 15:01 05/19/11 20:10
Date Sampled 05/17/11 08:15	Magnesium (Mg)	7.2	0.50 mg/L	05/19/11 15:01 05/19/11 20:10
	Potassium (K)	2.1	0.50 mg/L	05/19/11 15:01 05/19/11 20:10
	Calcium (Ca)	13	0.50 mg/L	05/19/11 15:01 05/19/11 20:10
	Chromium (Cr)	ND	0.0050 mg/L	05/19/11 15:01 05/19/11 20:10
	Iron (Fe)	ND	0.30 mg/L	05/19/11 15:01 05/19/11 20:10
	Arsenic (As)	ND	0.0020 mg/L	05/19/11 15:01 05/19/11 20:10
	Lead (Pb)	ND	0.0050 mg/L	05/19/11 15:01 05/19/11 20:10
Client ID: MW-25-4				
Lab ID : BM111051802-02A	Sodium (Na)	42	0.50 mg/L	05/19/11 15:01 05/19/11 20:32
Date Sampled 05/17/11 08:56	Magnesium (Mg)	18	0.50 mg/L	05/19/11 15:01 05/19/11 20:32
	Potassium (K)	2.3	0.50 mg/L	05/19/11 15:01 05/19/11 20:32
	Calcium (Ca)	72	0.50 mg/L	05/19/11 15:01 05/19/11 20:32
	Chromium (Cr)	ND	0.0050 mg/L	05/19/11 15:01 05/19/11 20:32
	Iron (Fe)	ND	0.30 mg/L	05/19/11 15:01 05/19/11 20:32
	Arsenic (As)	ND	0.0020 mg/L	05/19/11 15:01 05/19/11 20:32
	Lead (Pb)	ND	0.0050 mg/L	05/19/11 15:01 05/19/11 20:32
Client ID: MW-25-3				
Lab ID : BM111051802-03A	Sodium (Na)	30	0.50 mg/L	05/19/11 15:01 05/19/11 20:38
Date Sampled 05/17/11 09:28	Magnesium (Mg)	21	0.50 mg/L	05/19/11 15:01 05/19/11 20:38
	Potassium (K)	2.8	0.50 mg/L	05/19/11 15:01 05/19/11 20:38
	Calcium (Ca)	77	0.50 mg/L	05/19/11 15:01 05/19/11 20:38
	Chromium (Cr)	ND	0.0050 mg/L	05/19/11 15:01 05/19/11 20:38
	Iron (Fe)	ND	0.30 mg/L	05/19/11 15:01 05/19/11 20:38
	Arsenic (As)	ND	0.0020 mg/L	05/19/11 15:01 05/19/11 20:38
	Lead (Pb)	ND	0.0050 mg/L	05/19/11 15:01 05/19/11 20:38
Client ID: MW-25-2				
Lab ID : BM111051802-04A	Sodium (Na)	26	0.50 mg/L	05/19/11 15:01 05/19/11 20:43
Date Sampled 05/17/11 10:03	Magnesium (Mg)	22	0.50 mg/L	05/19/11 15:01 05/19/11 20:43
	Potassium (K)	2.4	0.50 mg/L	05/19/11 15:01 05/19/11 20:43
	Calcium (Ca)	74	0.50 mg/L	05/19/11 15:01 05/19/11 20:43
	Chromium (Cr)	ND	0.0050 mg/L	05/19/11 15:01 05/19/11 20:43
	Iron (Fe)	0.40	0.30 mg/L	05/19/11 15:01 05/19/11 20:43
	Arsenic (As)	ND	0.0020 mg/L	05/19/11 15:01 05/19/11 20:43
	Lead (Pb)	ND	0.0050 mg/L	05/19/11 15:01 05/19/11 20:43



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Client ID: MW-25-1

Lab ID : BMI11051802-05A	Sodium (Na)	24	0.50 mg/L	05/19/11 15:01	05/19/11 20:49
Date Sampled 05/17/11 11:00	Magnesium (Mg)	24	0.50 mg/L	05/19/11 15:01	05/19/11 20:49
	Potassium (K)	2.3	0.50 mg/L	05/19/11 15:01	05/19/11 20:49
	Calcium (Ca)	85	0.50 mg/L	05/19/11 15:01	05/19/11 20:49
	Chromium (Cr)	ND	0.0050 mg/L	05/19/11 15:01	05/19/11 20:49
	Iron (Fe)	1.0	0.30 mg/L	05/19/11 15:01	05/19/11 20:49
	Arsenic (As)	ND	0.0020 mg/L	05/19/11 15:01	05/19/11 20:49
	Lead (Pb)	ND	0.0050 mg/L	05/19/11 15:01	05/19/11 20:49

Client ID: DUPE-4-2Q11

Lab ID : BMI11051802-06A	Sodium (Na)	25	0.50 mg/L	05/19/11 15:01	05/19/11 20:54
Date Sampled 05/17/11 00:00	Magnesium (Mg)	21	0.50 mg/L	05/19/11 15:01	05/19/11 20:54
	Potassium (K)	2.4	0.50 mg/L	05/19/11 15:01	05/19/11 20:54
	Calcium (Ca)	73	0.50 mg/L	05/19/11 15:01	05/19/11 20:54
	Chromium (Cr)	ND	0.0050 mg/L	05/19/11 15:01	05/19/11 20:54
	Iron (Fe)	0.37	0.30 mg/L	05/19/11 15:01	05/19/11 20:54
	Arsenic (As)	ND	0.0020 mg/L	05/19/11 15:01	05/19/11 20:54
	Lead (Pb)	ND	0.0050 mg/L	05/19/11 15:01	05/19/11 20:54

Client ID: EB-13-5/17/11

Lab ID : BMI11051802-07A	Sodium (Na)	ND	0.50 mg/L	05/19/11 15:01	05/19/11 21:00
Date Sampled 05/17/11 10:47	Magnesium (Mg)	ND	0.50 mg/L	05/19/11 15:01	05/19/11 21:00
	Potassium (K)	ND	0.50 mg/L	05/19/11 15:01	05/19/11 21:00
	Calcium (Ca)	ND	0.50 mg/L	05/19/11 15:01	05/19/11 21:00
	Chromium (Cr)	ND	0.0050 mg/L	05/19/11 15:01	05/19/11 21:00
	Iron (Fe)	ND	0.30 mg/L	05/19/11 15:01	05/19/11 21:00
	Arsenic (As)	ND	0.0020 mg/L	05/19/11 15:01	05/19/11 21:00
	Lead (Pb)	ND	0.0050 mg/L	05/19/11 15:01	05/19/11 21:00

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/31/11

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/18/11

Job: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.1 / SM4500HB / SW9040C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-25-5				
Lab ID : BM11051802-01A pH	9.0	1.7 pH Units	05/18/11 13:53	05/18/11 13:53
Date Sampled 05/17/11 08:15 pH - Temperature	21	1.0 °C	05/18/11 13:53	05/18/11 13:53
Client ID: MW-25-4				
Lab ID : BM11051802-02A pH	7.8	1.7 pH Units	05/18/11 13:56	05/18/11 13:56
Date Sampled 05/17/11 08:56 pH - Temperature	20	1.0 °C	05/18/11 13:56	05/18/11 13:56
Client ID: MW-25-3				
Lab ID : BM11051802-03A pH	7.9	1.7 pH Units	05/18/11 13:59	05/18/11 13:59
Date Sampled 05/17/11 09:28 pH - Temperature	21	1.0 °C	05/18/11 13:59	05/18/11 13:59
Client ID: MW-25-2				
Lab ID : BM11051802-04A pH	7.8	1.7 pH Units	05/18/11 14:01	05/18/11 14:01
Date Sampled 05/17/11 10:03 pH - Temperature	21	1.0 °C	05/18/11 14:01	05/18/11 14:01
Client ID: MW-25-1				
Lab ID : BM11051802-05A pH	7.3	1.7 pH Units	05/18/11 14:03	05/18/11 14:03
Date Sampled 05/17/11 11:00 pH - Temperature	21	1.0 °C	05/18/11 14:03	05/18/11 14:03
Client ID: DUPE-4-2Q11				
Lab ID : BM11051802-06A pH	8.0	1.7 pH Units	05/18/11 14:07	05/18/11 14:07
Date Sampled 05/17/11 00:00 pH - Temperature	21	1.0 °C	05/18/11 14:07	05/18/11 14:07
Client ID: EB-13-5/17/11				
Lab ID : BM11051802-07A pH	6.3	1.7 pH Units	05/18/11 14:13	05/18/11 14:13
Date Sampled 05/17/11 10:47 pH - Temperature	21	1.0 °C	05/18/11 14:13	05/18/11 14:13

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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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101

Attn: David Conner
Phone: (619) 726-7311
Fax: (614) 458-6641
Date Received : 05/18/11

Job: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)
SM2540C

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-25-5				
Lab ID : BMII1051802-01A Solids, Total Dissolved (TDS)	270	10 mg/L	05/25/11	05/25/11
Date Sampled 05/17/11 08:15				
Client ID: MW-25-4				
Lab ID : BMII1051802-02A Solids, Total Dissolved (TDS)	420	10 mg/L	05/25/11	05/25/11
Date Sampled 05/17/11 08:56				
Client ID: MW-25-3				
Lab ID : BMII1051802-03A Solids, Total Dissolved (TDS)	440	10 mg/L	05/25/11	05/25/11
Date Sampled 05/17/11 09:28				
Client ID: MW-25-2				
Lab ID : BMII1051802-04A Solids, Total Dissolved (TDS)	430	10 mg/L	05/25/11	05/25/11
Date Sampled 05/17/11 10:03				
Client ID: MW-25-1				
Lab ID : BMII1051802-05A Solids, Total Dissolved (TDS)	520	10 mg/L	05/25/11	05/25/11
Date Sampled 05/17/11 11:00				
Client ID: DUPE-4-2Q11				
Lab ID : BMII1051802-06A Solids, Total Dissolved (TDS)	420	10 mg/L	05/25/11	05/25/11
Date Sampled 05/17/11 00:00				
Client ID: EB-13-5/17/11				
Lab ID : BMII1051802-07A Solids, Total Dissolved (TDS)	ND	10 mg/L	05/25/11	05/25/11
Date Sampled 05/17/11 10:47				

ND = Not Detected

Roger Scholl *Randy Gardner* *Walter Hinchman*

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated Concentration	Estimated Reporting Limit	Date Extracted	Date Analyzed
Client ID : MW-25-5 Lab ID : BMII1051802-01A Date Received : 05/18/11 Date Sampled : 05/17/11 08:15	Sulfur dioxide	29	2.0 µg/L	05/23/11 15:22	05/23/11 15:22
Client ID : MW-25-4 Lab ID : BMII1051802-02A Date Received : 05/18/11 Date Sampled : 05/17/11 08:56	*** None Found ***	ND	2.0 µg/L	05/23/11 15:43	05/23/11 15:43
Client ID : MW-25-3 Lab ID : BMII1051802-03A Date Received : 05/18/11 Date Sampled : 05/17/11 09:28	*** None Found ***	ND	2.0 µg/L	05/23/11 16:05	05/23/11 16:05
Client ID : MW-25-2 Lab ID : BMII1051802-04A Date Received : 05/18/11 Date Sampled : 05/17/11 10:03	*** None Found ***	ND	2.0 µg/L	05/23/11 16:27	05/23/11 16:27
Client ID : MW-25-1 Lab ID : BMII1051802-05A Date Received : 05/18/11 Date Sampled : 05/17/11 11:00	*** None Found ***	ND	2.0 µg/L	05/23/11 16:48	05/23/11 16:48
Client ID : DUPE-4-2Q11 Lab ID : BMII1051802-06A Date Received : 05/18/11 Date Sampled : 05/17/11 00:00	*** None Found ***	ND	2.0 µg/L	05/23/11 17:10	05/23/11 17:10
Client ID : EB-13-5/17/11 Lab ID : BMII1051802-07A Date Received : 05/18/11 Date Sampled : 05/17/11 10:47	*** None Found ***	ND	2.0 µg/L	05/23/11 13:13	05/23/11 13:13
Client ID : TB-13-5/17/11 Lab ID : BMII1051802-08A Date Received : 05/18/11 Date Sampled : 05/17/11 00:00	*** None Found ***	ND	2.0 µg/L	05/23/11 12:51	05/23/11 12:51



Alpha Analytical, Inc.

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Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Randy Gardner

Walter Hinchman

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

5/31/11

Report Date

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051802-01A
Client I.D. Number: MW-25-5

Sampled: 05/17/11 08:15
Received: 05/18/11
Extracted: 05/23/11 15:22
Analyzed: 05/23/11 15:22

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	104	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	91	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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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5/31/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051802-02A
Client I.D. Number: MW-25-4

Sampled: 05/17/11 08:56
Received: 05/18/11
Extracted: 05/23/11 15:43
Analyzed: 05/23/11 15:43

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	103	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	90	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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Report Date

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Page 1 of 1



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051802-03A
Client I.D. Number: MW-25-3

Sampled: 05/17/11 09:28
Received: 05/18/11
Extracted: 05/23/11 16:05
Analyzed: 05/23/11 16:05

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	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	0.75	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	101	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	102	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	94	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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5/31/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051802-04A
Client I.D. Number: MW-25-2

Sampled: 05/17/11 10:03
Received: 05/18/11
Extracted: 05/23/11 16:27
Analyzed: 05/23/11 16:27

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	102	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	105	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	91	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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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5/31/11

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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051802-05A
Client I.D. Number: MW-25-1

Sampled: 05/17/11 11:00
Received: 05/18/11
Extracted: 05/23/11 16:48
Analyzed: 05/23/11 16:48

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	3.5	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	101	(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	92	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/31/11

Report Date



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ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051802-06A
Client I.D. Number: DUPE-4-2Q11

Sampled: 05/17/11 00:00
Received: 05/18/11
Extracted: 05/23/11 17:10
Analyzed: 05/23/11 17:10

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	104	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	92	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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5/31/11

Report Date

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



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
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051802-07A
Client I.D. Number: EB-13-5/17/11

Sampled: 05/17/11 10:47
Received: 05/18/11
Extracted: 05/23/11 13:13
Analyzed: 05/23/11 13:13

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	103	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	101	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	91	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
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Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

5/31/11

Report Date

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Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
655 West Broadway
San Diego, CA 92101
Job: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI11051802-08A
Client I.D. Number: TB-13-5/17/11

Sampled: 05/17/11 00:00
Received: 05/18/11
Extracted: 05/23/11 12:51
Analyzed: 05/23/11 12:51

Volatile Organics by GC/MS EPA Method SW8260B

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	102	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	103	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	90	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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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5/31/11

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: BMI11051802

Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
11051802-01A	MW-25-5	Aqueous	2
11051802-02A	MW-25-4	Aqueous	2
11051802-03A	MW-25-3	Aqueous	2
11051802-04A	MW-25-2	Aqueous	2
11051802-05A	MW-25-1	Aqueous	2
11051802-06A	DUPE-4-2Q11	Aqueous	2
11051802-07A	EB-13-5/17/11	Aqueous	2
11051802-08A	TB-13-5/17/11	Aqueous	2

5/31/11
Report Date



Alpha Analytical, Inc.

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

Date:
31-May-11

QC Summary Report

Work Order:
11051802

Method Blank

Method Blank		Type: MBLK	Test Code: EPA Method 300.0							
File ID: 21			Batch ID: 26566					Analysis Date: 05/18/2011 11:33		
Sample ID: MB-26566	Units : mg/L		Run ID: IC_1_110518A					Prep Date: 05/18/2011 11:09		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.5								
Sulfate (SO4)	ND	0.5								

Laboratory Fortified Blank

Laboratory Fortified Blank		Type: LFB	Test Code: EPA Method 300.0							
File ID: 22			Batch ID: 26566					Analysis Date: 05/18/2011 11:51		
Sample ID: LFB-26566	Units : mg/L		Run ID: IC_1_110518A					Prep Date: 05/18/2011 11:09		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	51.2	0.5	50		102	90	110			
Nitrite (NO2) - N	5.4	0.25	5		108	90	110			
Nitrate (NO3) - N	5.11	0.25	5		102	90	110			
Phosphate, ortho - P	5.52	0.5	5		110	90	110			
Sulfate (SO4)	102	0.5	100		102	90	110			

Sample Matrix Spike

Sample Matrix Spike		Type: LFM	Test Code: EPA Method 300.0							
File ID: 25			Batch ID: 26566					Analysis Date: 05/18/2011 12:47		
Sample ID: 11051802-01ALFM	Units : mg/L		Run ID: IC_1_110518A					Prep Date: 05/18/2011 11:09		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	121	0.5	100	18.3	102	80	120			
Nitrite (NO2) - N	10.8	0.25	10	0	108	80	120			
Nitrate (NO3) - N	10.3	0.25	10	0	103	80	120			
Phosphate, ortho - P	12	0.5	10	0	120	80	120			
Sulfate (SO4)	268	0.5	200	86.64	91	80	120			

Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type: LFMD	Test Code: EPA Method 300.0							
File ID: 26			Batch ID: 26566					Analysis Date: 05/18/2011 13:05		
Sample ID: 11051802-01ALFMD	Units : mg/L		Run ID: IC_1_110518A					Prep Date: 05/18/2011 11:09		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	120	0.5	100	18.3	102	80	120	120.6	0.2(15)	
Nitrite (NO2) - N	10.8	0.25	10	0	108	80	120	10.81	0.5(15)	
Nitrate (NO3) - N	10.2	0.25	10	0	102	80	120	10.33	1.0(15)	
Phosphate, ortho - P	12.1	0.5	10	0	121	80	120	11.95	1.6(15)	M1
Sulfate (SO4)	266	0.5	200	86.64	90	80	120	267.6	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 uses descriptive data qualifier flags, which could be replaced with either a DOD Q or J flag.

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



Alpha Analytical, Inc.

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

Date:
27-May-11

QC Summary Report

Work Order:
11051802

Method Blank

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

File ID: **14**

Batch ID: **26574**

Analysis Date: **05/19/2011 13:06**

Sample ID: **MB-26574**

Units : **µg/L**

Run ID: **IC_3_110519A**

Prep Date: **05/19/2011 12:10**

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

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

File ID: **15**

Batch ID: **26574**

Analysis Date: **05/19/2011 13:25**

Sample ID: **LFB-26574**

Units : **µg/L**

Run ID: **IC_3_110519A**

Prep Date: **05/19/2011 12:10**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
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Perchlorate	23.4	2	25		94	85	115			
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Sample Matrix Spike

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

File ID: **20**

Batch ID: **26574**

Analysis Date: **05/19/2011 14:57**

Sample ID: **11051702-01ALFM**

Units : **µg/L**

Run ID: **IC_3_110519A**

Prep Date: **05/19/2011 12:10**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
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Perchlorate	24.1	2	25	0	96	80	120			
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Sample Matrix Spike Duplicate

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

File ID: **21**

Batch ID: **26574**

Analysis Date: **05/19/2011 15:15**

Sample ID: **11051702-01ALFMD**

Units : **µg/L**

Run ID: **IC_3_110519A**

Prep Date: **05/19/2011 12:10**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
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Perchlorate	25.1	2	25	0	100	80	120	24.12	4.0(15)	
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Comments:

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



Alpha Analytical, Inc.

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

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

Date:
20-May-11

QC Summary Report

Work Order:
11051802

Laboratory Control Spike

Type **LCS**

Test Code: **SM2320B**

File ID:

Batch ID: **W0518AL**

Analysis Date: **05/18/2011 11:30**

Sample ID: **LCS-W0518AL**

Units : **mg/L**

Run ID: **WETLAB_110518E**

Prep Date: **05/18/2011 11:30**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Alkalinity, Bicarbonate (As CaCO ₃)	239.9	10	250		96	80	120			
Alkalinity, Carbonate (As CaCO ₃)	239.9	10	250		96	80	120			
Alkalinity, Total (As CaCO ₃ at pH 4.5)	240	10	250		96	80	120			

Comments:

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



Alpha Analytical, Inc.

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

Date:
24-May-11

QC Summary Report

Work Order:
11051802

Method Blank

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

File ID: **051911.B\115_M.D**

Batch ID: **26580**

Analysis Date: **05/19/2011 19:42**

Sample ID: **MB-26580**

Units : **mg/L**

Run ID: **ICP/MS_110519E**

Prep Date: **05/19/2011 15:01**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	ND	0.5								
Magnesium (Mg)	ND	0.5								
Potassium (K)	ND	0.5								
Calcium (Ca)	ND	0.5								
Chromium (Cr)	ND	0.005								
Iron (Fe)	ND	0.3								
Arsenic (As)	ND	0.002								
Lead (Pb)	ND	0.005								

Laboratory Control Spike

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

File ID: **051911.B\116_M.D**

Batch ID: **26580**

Analysis Date: **05/19/2011 19:47**

Sample ID: **LCS-26580**

Units : **mg/L**

Run ID: **ICP/MS_110519E**

Prep Date: **05/19/2011 15:01**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	4.55	0.5	5		91	85	115			
Magnesium (Mg)	4.67	0.5	5		93	85	115			
Potassium (K)	5.03	0.5	5		101	85	115			
Calcium (Ca)	4.99	0.5	5		99.8	85	115			
Chromium (Cr)	0.0508	0.005	0.05		102	85	115			
Iron (Fe)	5.23	0.3	5		105	85	115			
Arsenic (As)	0.0497	0.002	0.05		99	85	115			
Lead (Pb)	0.0469	0.005	0.05		94	85	115			

Sample Matrix Spike

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

File ID: **051911.B\121_M.D**

Batch ID: **26580**

Analysis Date: **05/19/2011 20:15**

Sample ID: **11051802-01AMS**

Units : **mg/L**

Run ID: **ICP/MS_110519E**

Prep Date: **05/19/2011 15:01**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	60.8	0.5	5	58.11	54	70	130			M3
Magnesium (Mg)	11.7	0.5	5	7.156	91	70	130			
Potassium (K)	7.05	0.5	5	2.057	99.9	70	130			
Calcium (Ca)	17.7	0.5	5	12.81	98	70	130			
Chromium (Cr)	0.0509	0.005	0.05	0	102	70	130			
Iron (Fe)	5.16	0.3	5	0	103	70	130			
Arsenic (As)	0.0526	0.002	0.05	0	105	70	130			
Lead (Pb)	0.0545	0.005	0.05	0	109	70	130			

Sample Matrix Spike Duplicate

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

File ID: **051911.B\122_M.D**

Batch ID: **26580**

Analysis Date: **05/19/2011 20:21**

Sample ID: **11051802-01AMSD**

Units : **mg/L**

Run ID: **ICP/MS_110519E**

Prep Date: **05/19/2011 15:01**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sodium (Na)	60.6	0.5	5	58.11	50	70	130	60.83	0.4(20)	M3
Magnesium (Mg)	11.5	0.5	5	7.156	86	70	130	11.72	2.2(20)	
Potassium (K)	6.72	0.5	5	2.057	93	70	130	7.053	4.9(20)	
Calcium (Ca)	17.7	0.5	5	12.81	97	70	130	17.72	0.2(20)	
Chromium (Cr)	0.0493	0.005	0.05	0	99	70	130	0.05093	3.2(20)	
Iron (Fe)	4.9	0.3	5	0	98	70	130	5.155	5.1(20)	
Arsenic (As)	0.0504	0.002	0.05	0	101	70	130	0.0526	4.3(20)	
Lead (Pb)	0.0456	0.005	0.05	0	91	70	130	0.05448	17.8(20)	

Comments:

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

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

M3 = The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to the spike level. The method control sample recovery was acceptable.



Alpha Analytical, Inc.

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Date:
20-May-11

QC Summary Report

Work Order:
11051802

Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 150.1 / SM4500HB / SW9040C**

File ID:

Batch ID: **W0518PH**

Analysis Date: **05/18/2011 13:50**

Sample ID: **LCS-W0518PH**

Units : **pH Units**

Run ID: **WETLAB_110518D**

Prep Date: **05/18/2011 13:50**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
pH	5.07	1.7	5		101	90	110			

Comments:

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



Alpha Analytical, Inc.

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Date:
26-May-11

QC Summary Report

Work Order:
11051802

Method Blank

Type **MBLK** Test Code: **SM2540C**

File ID: Batch ID: **W0520DS** Analysis Date: **05/25/2011 00:00**
Sample ID: **MBLK-W0520DS** Units : **mg/L** Run ID: **WETLAB_110520G** Prep Date: **05/25/2011 00:00**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS) ND 10

Laboratory Control Spike

Type **LCS** Test Code: **SM2540C**

File ID: Batch ID: **W0520DS** Analysis Date: **05/25/2011 00:00**
Sample ID: **LCS-W0520DS** Units : **mg/L** Run ID: **WETLAB_110520G** Prep Date: **05/25/2011 00:00**
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Solids, Total Dissolved (TDS) 100 10 100 100 70 130

Comments:

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