

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

ANALYTICAL REPORT

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

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

Job#: G005862/JPL Groundwater Monitoring

Tentatively Identified Compounds - Volatile Organics by GC/MS

		Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID:	MW-7					•	,
Lab ID:	BMI09052005-01A	*** None Found ***	ND	2.0 μg/L	05/20/09	05/19/09	05/27/09
Client ID:	MW-16						
Lab ID:	BMI09052005-02A	*** None Found ***	ND	2.0 µg/L	05/20/09	05/19/09	05/27/09
Client ID:	TB-16-05/19/09						
Lab ID:	BMI09052005-03A	Sulfur dioxide	3.3	2.0 μg/L	05/20/09	05/19/09	05/27/09

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

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

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

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09052005-01A

Client I.D. Number: MW-7

Attn: **David Conner**

Phone: (818) 393-2808

Fax: (614) 458-6641

Sampled: 05/19/09

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

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	7.8	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCF	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	6.0	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	99	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L					
33	Dibromochloromethane	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

ND

ND

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

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

μg/L

6/3/09 **Report Date**



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09052005-02A Client I.D. Number: MW-16

Attn: David Conner

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

Sampled: 05/19/09

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

Volatile Organics by GC/MS

	Compound	Concentration	Reporting !	Limit		Compound	Concentration	Reporting L	mit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	9.8	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND .	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	6.0	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	9.7	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	DN	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	104	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	101	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			•		
33	Dibromochloromethane	14	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulne

ND

Dalter Finn

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

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

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

6/3/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09052005-03A

Client I.D. Number: TB-16-05/19/09

David Conner Attn:

Phone: (818) 393-2808

(614) 458-6641 Fax:

Sampled: 05/19/09

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

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	93	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	106	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

ND

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

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

1.0

0.50

μg/L

μg/L

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

6/3/09

Report Date



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

VOC Sample Preservation Report

Work Order: BMI09052005 Project: G005862/JPL Groundwater Monitoring

Work Orack Prints to be			
Alpha's Sample ID	Client's Sample ID	Matrix	pН
09052005-01A	MW-7	Aqueous	2
09052005-02A	MW-16	Aqueous	2
09052005-03A	TB-16-05/19/09	Aqueous	2

6/3/09

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

Report Due By: 5:00 PM On: 04-Jun-2009

WorkOrder: BMIS09052005

Page: 1 of 2

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

Client

Battelle Memorial Institute

Shane Walton David Conner Phone Number (614) 424-4117 x (818) 393-2808 x waltons@battelle.org connerd@battelle.org EMail Address

EDD Required: Yes

Sampled by: Client

Cooler Temp

4°C Samples Received 20-May-2009 20-May-2009 Date Printed

QC Level: DS4 Client's COC #: 25538 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job: G005862/JPL Groundwater Monitoring

PO: 218013

San Diego, CA 92110

Betsy Cutie

(614) 424-4899

cutiee@batelle.org

Suite C-205 3990 Old Town Ave

Sample ID BMI09052005-03A TB-16-05/19/09 BMI09052005-02A MW-16 BMI09052005-01A MW-7 Sample ID AQ 05/19/09 09:41 AQ 05/19/09 00:00 ò Matrix Date 05/19/09 11:47 Collection No. of Bottles Alpha Sub TAT Ŋ G 0 0 0 6 5 6 NO2, NO3, SO4, CI, Ortho P 300_0(A)_W|300_0(B)_W|300_0(C)_W| 314_W| ALKALINIT METALS_D| PH_W NO2, NO3, NO2, NO3, SO4, Cl, SO4, Cl, Ortho P Ortho P NO2, NO3, SO4, CI, Ortho P NO2, NO3, SO4, CI, Ortho P , NO2, NO3, SO4, CI, Ortho P Perchlorate Alk (Bicarb, Cr, Pb, As, Carb, Total) Na, K, Ca, Perchlorate Alk (Bicarb, Carb, Total) Requested Tests Cr, Pb, As, Na, K, Ca, Mg, Fe ΡH pΗ TDS TDS TDS Reno Trip Blank 3/16/09 Sample Remarks

Comments: No security seals. Frozen ice. Temp Blank #7737 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

	Logged in by: (englowth (lacox	Signature
TOTAL	Elizabeth Hdcox	Print Name
THE RESIDENCE OF THE PROPERTY	Alpha Analytical, Inc.	Company
790.00.20	5:20:09 1219	Date/Time

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

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

Report Due By: 5:00 PM On: 04-Jun-2009

WorkOrder: BMIS09052005

Page: 2012

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

Report Attention Phone Number EMail Addre

Client:

Battelle Memorial Institute

 Report Attention
 Phone Number
 EMail Address

 David Conner
 (818) 393-2808 x
 connerd@battelle.org

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

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

org EDD Required : Yes

Sampled by : Client

Cooler Temp Samples Recei

Cooler Temp Samples Received Date Printed

4 °C 20-May-2009 20-May-2009

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

G005862/JPL Groundwater Monitoring

Client's COC #: 25538

PO: 218013

San Diego, CA 92110

3990 Old Town Ave Suite C-205

BMI09052005-03A TB-16-05/19/09 BMI09052005-02A MW-16 BMI09052005-01A MW-7 Sample ID Sample ID AQ 05/19/09 11:47 Š AQ 05/19/09 09:41 Matrix Date 05/19/09 00:00 Collection No. of Bottles Alpha Sub TAT 5 G 0 0 0 6 5 6 VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 Criteria Criteria VOC_TIC_ VOC_W Requested Tests Reno Trip Blank 3/16/09 Sample Remarks

Comments: No security scals. Frozen ice, Temp Blank #7737 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

	Logged in by: (lapporth (lacor	Signature
THE RESERVE THE PROPERTY OF TH	Elizabeth Adlcox	Print Name
The state of the s	Alpha Analytical, Inc.	Company
The state of the s	5-20-07 1219	Date/Time

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

Name (ZERALD TOMPKINS City, State, Zip Columbus, OH 4320 Billing Information: Phone Number Address 505 KING ALE ADDITIONAL INSTRUCTIONS: *Key: AQ - Aqueous City, State, Zip DIE LO, CA 92110 Address O OLD TOWN ALE, C-205 Client Name Received by Relinquished by Received by Relinquished by Received by Relipardshed by iii e DAVID CONNER See Key 10.90020000000 Below Matrix* Signature Sampled by SO - Soil Lab ID Number (Use Only) WA - Waste ·02 \mathcal{E} TB-16-057 MW-16 Report Attention Phone # 619 - 726 -EMail Address P.O. # スシーフ OT - Other 218013 Sample Description Print Name AR - Air 731 Phone (775) 355-1044 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778 Alpha Analytical, Inc. Fax (775) 355-0406 **: L-Liter Fax # Job# G05862 TAT V-Voa ** See below Total and type of S-Soil Jar 1 4 X X ō Samples Collected From Which State? 25538 Company O-Orbo X CA X NV Analyses Required T-Tedlar OTHER X B-Brass ¥ Date TRUP BLANK EDUIPHEST BEADLY P-Plastic Global ID# EDD / EDF? YES Required QC Level? Page # REMARKS = Time of_ Š ₹

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

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



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

Date: 28-May-09

David Conner

Battelle Memorial Institute

3990 Old Town Ave

San Diego, CA 92110

Suite C-205

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

Work Order:

(818) 393-2808

BMI09051940

Cooler Temp:

4°C

Alpha's Sample ID	Client's Sample ID	Matrix
09051940-01A	MW-26-2	Aqueous
09051940-02A	MW-26-1	Aqueous
09051940-03A	EB-15-05/18/09	Aqueous
09051940-04A	TB-15-05/18/09	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
09051940-02A	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

Kandy Saulner

Dalter Hindrey



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

ANALYTICAL REPORT

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

Attn: David Conner

Phone: (818) 393-2808 Fax:

(614) 458-6641 Date Received: 05/19/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC

EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID: MW-26-2	Nitrite (NO2) - N	ND	0.25 mg/L	05/18/09 08:55	05/19/09 13:16
Lab ID: BMI09051940-01A	Nitrate (NO3) - N	0.35	0.25 mg/L	05/18/09 08:55	05/19/09 13:16
Client ID: MW-26-1	Nitrite (NO2) - N	ND	0.25 mg/L	05/18/09 09:30	05/19/09 14:12
Lab ID: BMI09051940-02A	Nitrate (NO3) - N	8.3	0.25 mg/L	05/18/09 09:30	05/19/09 14:12
Client ID : EB-15-05/18/09	Nitrite (NO2) - N	ND	0.25 mg/L	05/18/09 09:18	05/19/09 14:30
Lab ID: BMI09051940-03A	Nitrate (NO3) - N	ND	0.25 mg/L	05/18/09 09:18	05/19/09 14:30

ND = Not Detected

Roger Scholl

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

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

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



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

ANALYTICAL REPORT

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

David Conner Attn:

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

Date Received: 05/19/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC

EPA Method 300.0 / 9056

		Parameter	Concentration 1	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	MW-26-2					
Lab ID:	BMI09051940-01A	Chloride	13	0.50 mg/L	05/18/09	05/19/09
		Sulfate (SO4)	17	0.50 mg/L	05/18/09	05/19/09
Client ID:	MW-26-1					
Lab ID:	BMI09051940-02A	Chloride	87	2.5 mg/L	05/18/09	05/27/09
		Sulfate (SO4)	100	2.5 mg/L	05/18/09	05/27/09
Client ID:	EB-15-05/18/09					
Lab ID:	BMI09051940-03A	Chloride	ND	0.50 mg/L	05/18/09	05/19/09
		Sulfate (SO4)	ND	0.50 mg/L	05/18/09	05/19/09

ND = Not Detected

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

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



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110 Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/19/09

Job#:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration I	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-26-2 BMI09051940-01A	Perchlorate	ND	1.00 µg/L	05/18/09	05/21/09
Client ID: Lab ID:	MW-26-1 BMI09051940-02A	Perchlorate	1.67	1.00 µg/L	05/18/09	05/21/09
Client ID: Lab ID:	EB-15-05/18/09 BMI09051940-03A	Perchlorate	ND	1.00 µg/L	05/18/09	05/21/09

ND = Not Detected

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

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



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110 Attn:

David Conner

Phone:

(818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/19/09

Job#:

G005862/JPL Groundwater Monitoring

Alkalinity

SM2320B

		Parameter	Concentration	Reporting Limit	Date Date Sampled Analyzed
Client ID:	MW-26-2				
Lab ID:	BMI09051940-01A	Alkalinity, Bicarbonate (As CaCO3)	210	10 mg/L	05/18/09 05/27/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/18/09 05/27/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	210	10 mg/L	05/18/09 05/27/09
Client ID:	MW-26-1				
Lab ID:	BMI09051940-02A	Alkalinity, Bicarbonate (As CaCO3)	260	10 mg/L	05/18/09 05/27/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/18/09 05/27/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	260	10 mg/L	05/18/09 05/27/09
Client ID:	EB-15-05/18/09				
Lab ID:	BMI09051940-03A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/18/09 05/27/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/18/09 05/27/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/18/09 05/27/09

ND = Not Detected

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

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

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



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave San Diego, CA 92110 Attn: David Conner

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

Date Received: 05/19/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

		Parameter	Concentration	Reporting	Date	Date
				Limit	Sampled	Analyzed
Client ID:	MW-26-2					
Lab ID:	BMI09051940-01A	Sodium (Na)	38	0.50 mg/L	05/18/09	06/02/09
		Magnesium (Mg)	13	0.50 mg/L	05/18/09	06/02/09
		Potassium (K)	2.0	0.50 mg/L	05/18/09	06/02/09
		Calcium (Ca)	42	0.50 mg/L	05/18/09	06/02/09
		Chromium (Cr)	ND	0.0050 mg/L	05/18/09	06/02/09
		Iron (Fe)	4.6	0.10 mg/L	05/18/09	06/02/09
		Arsenic (As)	0.0030	0.0020~mg/L	05/18/09	06/02/09
		Lead (Pb)	ND	$0.0050~\mathrm{mg/L}$	05/18/09	06/02/09
Client ID:	MW-26-1					
Lab ID:	BMI09051940-02A	Sodium (Na)	27	0.50 mg/L	05/18/09	05/19/09
		Magnesium (Mg)	35	0.50 mg/L	05/18/09	05/19/09
		Potassium (K)	2.6	0.50 mg/L	05/18/09	05/19/09
		Calcium (Ca)	110	0.50 mg/L	05/18/09	05/19/09
		Chromium (Cr)	ND	0.0050 mg/L	05/18/09	05/19/09
		Iron (Fe)	1.3	0.10 mg/L	05/18/09	05/19/09
		Arsenic (As)	ND	0.0020 mg/L	05/18/09	05/19/09
		Lead (Pb)	ND	0.0050~mg/L	05/18/09	05/19/09
Client ID:	EB-15-05/18/09					
Lab ID:	BMI09051940-03A	Sodium (Na)	ND	0.50 mg/L	05/18/09	06/01/09
		Magnesium (Mg)	ND	0.50 mg/L	05/18/09	06/01/09
		Potassium (K)	ND	0.50 mg/L	05/18/09	06/01/09
		Calcium (Ca)	ND	0.50 mg/L	05/18/09	06/01/09
		Chromium (Cr)	ND	0.0050 mg/L	05/18/09	06/01/09
		Iron (Fe)	ND	0.10 mg/L	05/18/09	06/01/09
		Arsenic (As)	ND	0.0020 mg/L	05/18/09	06/01/09
		Lead (Pb)	ND	0.0050 mg/L	05/18/09	06/01/09

ND = Not Detected

Roger Scholl Kandy Santur Walter F

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

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

6/3/09 Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110 Attn: David Conner

Phone: (818) 393-2808

Fax: (614) 458-6641

Date Received: 05/19/09

Job#:

G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4)

EPA Method 150.2 / SM4500HB / SW9040C

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID: MW-26-2	pН	8.0	1.7 pH Units	05/18/09 08:55	05/19/09 16:07
Lab ID: BMI09051940-01A	pH - Temperature	22	1.0 °C	05/18/09 08:55	05/19/09 16:07
Client ID: MW-26-1	рН	7.3	1.7 pH Units	05/18/09 09:30	05/19/09 16:22
Lab ID: BMI09051940-02A	pH - Temperature	21	1.0 °C	05/18/09 09:30	05/19/09 16:22
Client ID: EB-15-05/18/09	рН	6.2	1.7 pH Units	05/18/09 09:18	05/19/09 16:30
Lab ID: BMI09051940-03A	pH - Temperature	21	1.0 °C	05/18/09 09:18	05/19/09 16:30

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

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

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

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

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



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110 Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/19/09

Job#:

G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)

SM2540C

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-26-2 BMI09051940-01A	Solids, Total Dissolved (TDS)	260	10 mg/L	05/18/09	05/21/09
Client ID : Lab ID :	MW-26-1 BMI09051940-02A	Solids, Total Dissolved (TDS)	570	10 mg/L	05/18/09	05/26/09
Client ID: Lab ID:	EB-15-05/18/09 BMI09051940-03A	Solids, Total Dissolved (TDS)	ND	10 mg/L	05/18/09	05/21/09

ND = Not Detected

Roger Scholl

Kandy Sadner

Walter Hirihon

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

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

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

6/2/09



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110 Attn: David Conner Phone: (818) 393-2808 Fax: (614) 458-6641

Inh#: C005962/IDI Cross

Job#: G005862/JPL Groundwater Monitoring

Tentatively Identified Compounds - Volatile Organics by GC/MS

				Estimated			
		Parameter	Estimated	Reporting	Date	Date	Date
			Concentration	Limit	Received	Sampled	Analyzed
Client ID:	MW-26-2						
Lab ID:	BMI09051940-01A	* * * None Found * * *	ND	$2.0~\mu g/L$	05/19/09	05/18/09	05/21/09
Client ID:	MW-26-1						
Lab ID:	BMI09051940-02A	*** None Found ***	ND	$2.0~\mu\text{g/L}$	05/19/09	05/18/09	05/21/09
Client ID:	EB-15-05/18/09						
Lab ID:	BMI09051940-03A	Tertiary Butyl Alcohol (TBA)	18	10 μg/L	05/19/09	05/18/09	05/21/09
Client ID:	TB-15-05/18/09						
Lab ID:	BMI09051940-04A	*** None Found ***	ND	2.0 μg/L	05/19/09	05/18/09	05/21/09

Note: Analysis conducted using EPA Method 524.2 criteria.

Roger Scholl

ND = Not Detected

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

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

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

6/2/09

Report Date



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

ANALYTICAL REPORT

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

Attn: Phone:

David Conner (818) 393-2808

Fax:

(614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051940-01A

Sampled: 05/18/09

Received: 05/19/09

Client I.D. Number: MW-26-2

Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propvibenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC)	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	99	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	98	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L	. •		1	, ,	
33	Dibromochloromethane	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

ND

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

μg/L

μg/L

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

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

Report Date



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

ANALYTICAL REPORT

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

Attn: Phone:

Fax:

David Conner (818) 393-2808

(614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051940-02A

Sampled: 05/18/09

Client I.D. Number: MW-26-1

Received: 05/19/09 Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0,50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	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	98	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	101	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

ND

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

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

1.0

μg/L

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

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

Attn: I Phone: (

Fax:

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

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051940-03A Client I.D. Number: EB-15-05/18/09

Sampled: 05/18/09 Received: 05/19/09

Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachioroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Banzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	93	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	102	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
	4 6 5 11 ()								

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saula

ND

Walter Hirkory

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

μg/L

1.0

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

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

6/2/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

Attn: Phone:

David Conner (818) 393-2808

San Diego, CA 92110 G005862/JPL Groundwater Monitoring Fax:

(614) 458-6641

Alpha Analytical Number: BMI09051940-04A

Sampled: 05/18/09

Client I.D. Number: TB-15-05/18/09

Received: 05/19/09

Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MiBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	93	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	102	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	μg/L					
24	4.0 Dibasas adbasas (EDD)	1 10							

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

ND

ND

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

1.0

0.50

μg/L

μg/L

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

6/2/09

Report Date



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

VOC Sample Preservation Report

Work Order: BMI09051940

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН	
09051940-01A	MW-26-2	Aqueous	2	
09051940-02A	MW-26-1	Aqueous	2	
09051940-03A	EB-15-05/18/09	Aqueous	2	
09051940-04A	TB-15-05/18/09	Aqueous	2	

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

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

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

Battelle Memorial Institute

3990 Old Town Ave Suite C-205

San Diego, CA 92110

Betsy Cutie

(614) 424-4899 x

cutiee@batelle.org

EDD Required: No

Report Due By: 5:00 PM On: 03-Jun-09

WorkOrder: BMIS09051940

CAMENDED: 1008

Sampled by: Client

Cooler Temp Samples Received

Date Printed

19-May-09

Client's COC #: 25539 PO: 218013 Job : G005862/JPL Groundwater Monitoring

Sample ID BMI09051940-01A MW-26-2 QC Level: DS4 BMI09051940-02A MW-26-1 Sample ID Client DOD QC Required: Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Matrix Date AQ 05/18/09 08:55 å 05/18/09 09:30 Collection No. of Bottles Alpha Sub G 0 TAT 10 70
 NO2, NO3,
 NO2, NO3,
 NO2, NO3,
 Perchlorate
 Alk (Bicarb, Carb, Total)
 Cr, Pb, As, Ca, K, Ca, Mg, Fe
 NO2, NO3, NO2, NO3, NO2, NO3, Perchlorate Alk (Bicarb, Cr, Pb, As, SO4, CL SO4, CL Carb, Total) Na, K, Ca, Mg, Fe 300_0(A)_ 300_0(B)_ 300_0(C)_ W W 314_W ALKALINIT METALS_D PH_W
Y_W W Requested Tests μq pΗ TDS TDS TDS Sample Remarks 29-May-09

BMI09051940-04A TB-15-05/18/09

å

05/18/09 00:00

0

6

BMI09051940-03A EB-15-05/18/09

AQ 05/18/09 09:18

Çī

0

6

NO2, NO3, NO2, NO3, NO2, NO3, Perchlorate Alk (Bicarb, SO4, CL SO4, CL Carb, Total) Na, K, Ca, Mg, Fe

모

TDS

Reno Trip Blank 03/16/09

Comments: No security seals. Frozen ice. Temp Blank #7745 received @ 4 ° Celcius. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 5/29/09 to change QC Level to DS4- due to login error. : LE

Logged in by: Total Land Eduasa hatricia. **Print Name** Lawson D Alpha Analytical, Inc. Company 014:8 bolo8/G Date/Time

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

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

Report Due By: 5:00 PM On: 03-Jun-09

WorkOrder: BMIS09051940

CAMENDED ... 307

Report Attention **EMail Address**

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

EDD Required: No

Sampled by: Client

Cooler Temp Samples Received 19-May-09

29-May-09 Date Printed

Client's COC #: 25539 QC Level: DS4 DOD QC Required: Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates . qo G005862/JPL Groundwater Monitoring PO: 218013

San Diego, CA 92110

Suite C-205 3990 Old Town Ave Client:

Battelle Memorial Institute

Sample ID BMI09051940-01A MW-26-2 BMI09051940-04A TB-15-05/18/09 BMI09051940-03A EB-15-05/18/09 BMI09051940-02A MW-26-1 Client Sample ID Matrix Date Š å ð 05/18/09 08:55 05/18/09 00:00 05/18/09 09:18 Collection No. of Bottles 05/18/09 09:30 Alpha Sub G Ġ 0 0 0 TAT 6 70 6 6 VOC_TIC_ VOC by 524 VOC by 524 Criteria Criteria VOC_W Requested Tests Reno Trip Blank 03/16/09 Sample Remarks

Logged in by: No security seals. Frozen ice. Temp Blank #7745 received @ 4 ° Celcius. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 5/29/09 to change QC Level to DS4- due to login error: : LE Eduasa Aptricia Print Name TO VOSO Alpha Analytical, Inc. Company DH:8 69/26/5

Comments:

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

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

Report Attention

Phone Number

(818) 393-2808 x (614) 424-4117 x

connerd@battelle.org

EMail Address

Shane Walton David Conner

Betsy Cutie

(614) 424-4899 x

cutiee@batelle.org waltons@battelle.org

Battelle Memorial Institute Suite C-205 3990 Old Town Ave

San Diego, CA 92110

Page: 1 of

WorkOrder: BMIS09051940

Report Due By: 5:00 PM On: 03-Jun-09

EDD Required: Yes

Sampled by: Client Cooler Temp

Samples Received 19-May-09 19-May-09 Date Printed

PO: 218013 Job : G005862/JPL Groundwater Monitoring

Client's COC #: 25539 QC Level: DS3 DOD QC Required: Final Rpt, MBLK, LCS, MS/MSD With Surrogates

				-			Requested Tests	Tests				
Alpha Sample ID	Client Sample ID	Collectio Matrix Date	Collection No. of Bottles x Date Alpha Sub TAT	300_0(A) W	300_0(B)_ W	00_0(C)_ W	314_W ALI	Y_W MI	ALKALINIT METALS_D PH_W	PH	TDS	Sample Remarks
BMI09051940-01A	MW-26-2	AQ 05/18/09 08:55	5 0 10		NO2, NO3, NO2, NO3, N SO4, CL SO4, CL	NO2, NO3, Per SO4, CL	Perchlorate Alk	Alk (Bicarb, Cr, Pb, As, Carb, Total) Na, K, Ca, Mg, Fe	r, Pb, As, la, K, Ca, Mg, Fe	рН	TDS	
BM109051940-02A	MW-26-1	AQ 05/18/09 09:30	5 0 10		NO2, NO3, NO2, NO3, N SO4, CL SO4, CL	NO2, NO3, Per SO4, CL	Perchlorate Alk	Alk (Bicarb, Cr, Pb, As, Carb, Total) Na, K, Ca, Mg, Fe	r, Pb, As, la, K, Ca, Mg, Fe	PH	TDS	
BMI09051940-03A EB-15-05/18/09	EB-15-05/18/09	AQ 05/18/09 09:18	5 0 10	0 NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, Per SO4, CL	Perchlorate Alk	Alk (Bicarb, Cr, Pb, As, Carb, Total) Na, K, Ca, Mg, Fe	r, Pb, As, la, K, Ca, Mg, Fe	рН	TDS	
BMI09051940-04A TB-15-05/18/09	TB-15-05/18/09	AQ 05/18/09 00:00	1 0 10	0								Reno Trip Blank 03/16/09

Comments:

Logged in by: AQ+VICIA Print Name Alpha Analytical, Inc. Company 5/19/109

No security seals. Frozen ice. Temp Blank #7745 received @ 4 ° Celcius. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

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

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

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

Battelle Memorial Institute

San Diego, CA 92110

Suite C-205 3990 Old Town Ave

EDD Required: Yes

Report Due By: 5:00 PM On: 03-Jun-09

WorkOrder: BMIS09051940

Page: Lof L

Sampled by: Client

Samples Received

19-May-09 Date Printed

QC Level: DS3 Client's COC #: 25539 PO: 218013 = DOD QC Required : Final Rpt, MBLK, LCS, MS/MSD With Surrogates Job : G005862/JPL Groundwater Monitoring Cooler Temp

Sample ID BMI09051940-04A TB-15-05/18/09 BMI09051940-03A EB-15-05/18/09 BMI09051940-02A MW-26-1 BMI09051940-01A MW-26-2 Client Sample ID Ã Matrix Date B å AQ 05/18/09 08:55 05/18/09 09:30 05/18/09 00:00 05/18/09 09:18 Collection No. of Bottles Alpha Sub σı S G 0 0 0 0 TAT 6 6 5 5 VOC_TIC_ VOC by 524 | VOC by 524 Criteria | Criteria VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 Criteria Criteria VOC by 524 | VOC by 524 VOC_W Requested Tests Reno Trip Blank 03/16/09 Sample Remarks

Comments:

Logged in by:

Palasa

atricia

Alpha Analytical, Inc.

No security seals. Frozen ice. Temp Blank #7745 received @ 4 ° Celcius. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). **Print Name** Company 9/19/09

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

255 Glend		CA X NV WA	\
Sparks, N. Phone (7) Fax (775)	5778	nalys	Page # (or .
	2	10 No.	Required QC Level?
EMail Address		(No. 120). 14. (300)	/ ' " (III) IV
-726-7311	ax#	() () () () () () () () () ()	EDD / EDF? YES NO
	Total and type of	19 / Of en	Global ID #
Sample Description	TAT Filtered ** See below	3/V/S	REMARKS
MW-26-2	X)
MW-26-1	×	XXX	141/11/ca
EB-15-5/18/09	×	X X X	EQUIPMENT BUNIL
7B-15-05/16/09	1 ×		TRIPRIAM
Print Name	Co	mpany	Date Time
CHANG FRAIDAN	188114	8	18/6 1700
Latricia Edwso	H(ph	- Cz	19/09/10:05
			10 mm
OT - Other AR - Air **: Le reported unless other arrangements are mad	Liter V-Voa S-Soil Jar C B. Hazardous samples will be returne	-Orbo T-Tedlar B-Brass d to client or disposed of at client expe	P-Plastic OT-Other ense. The report for the analysis
	255 Glendt 256	Pion # 2/80/3 Job # Cos 56 (2) Pion Pion # Ali Pion P	Design Print Name Print N

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



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

Date: 27-May-09

David Conner

(818) 393-2808

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110

Suite C-205

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

Work Order:

BMI09051505

Cooler Temp:

4°C

Alpha's Sample ID	Client's Sample ID	Matrix
090515 05- 01A	MW-4-5	Aqueous
09051 505 -02A	MW-4-4	Aqueous
09051 505- 03A	MW-4-3	Aqueous
090515 0 5-04A	MW-4-2	Aqueous
09051 505- 05A	MW-4-1	Aqueous
09051 505- 06A	EB-14-05/14/09	Aqueous
09051 505- 07A	TB-14-05/14/09	Aqueous

Manually Integrated Analytes

	· · · · · · · · · · · · · · · · · · ·		
Alpha's Sample ID	Test Reference	<u>Analyte</u>	
			,
09051505 -0 4A	EPA Method 314.0	Perchlorate	

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

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

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

Roger Scholl

Kandy Saulmer

Walter Hirihan



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave San Diego, CA 92110 Attn: David Conner Phone: (818) 393-2808 Fax: (614) 458-6641

Date Received: 05/15/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID: MW-4-5	Nitrite (NO2) - N	ND	0.25 mg/L	05/14/09 08:34	05/15/09 13:32
Lab ID: BMI0905 505-01A	Nitrate (NO3) - N	ND	0.25 mg/L	05/14/09 08:34	05/15/09 13:32
Client ID: MW-4-4	Nitrite (NO2) - N	ND	0.25 mg/L	05/14/09 09:04	05/15/09 13:50
Lab ID : BMI0905 505-02A	Nitrate (NO3) - N	2.4	0.25 mg/L	05/14/09 09:04	05/15/09 13:50
Client ID: MW-4-3	Nitrite (NO2) - N	ND	0.25 mg/L	05/14/09 09:34	05/15/09 14:09
Lab ID : BMI0905 505-03A	Nitrate (NO3) - N	ND	0.25 mg/L	05/14/09 09:34	05/15/09 14:09
Client ID: MW-4-2	Nitrite (NO2) - N	ND	0.25 mg/L	05/14/09 10:06	05/15/09 14:27
Lab ID : BMI0905 505-04A	Nitrate (NO3) - N	10	0.25 mg/L	05/14/09 10:06	05/15/09 14:27
Client ID: MW-4-1	Nitrite (NO2) - N	ND	0.25 mg/L	05/14/09 10:43	05/15/09 14:46
Lab ID: BMI0905 505-05A	Nitrate (NO3) - N	1.2	0.25 mg/L	05/14/09 10:43	05/15/09 14:46
Client ID: EB-14-05/14/09	Nitrite (NO2) - N	ND	0.25 mg/L	05/14/09 10:28	05/15/09 15:04
Lab ID: BMI09051505-06A	Nitrate (NO3) - N	ND	0.25 mg/L	05/14/09 10:28	05/15/09 15:04

ND = Not Detected

Roger Scholl Ph D. Labourer District Randy Saulmer Walter Fire

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

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

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

5/29/09 Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110 Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/15/09

Job#:

G005862/JPL Groundwater Monitoring

Anions by IC

EPA Method 300.0 / 9056

		Parameter	Concentrat	tion Reporting Limit	Date Sampled	Date Analyzed
Client ID:	MW-4-5					
Lab ID:	BMI0905150	5-01A Chloride	29	0.50 mg/L	05/14/09	05/15/09
		Sulfate (SO4)	ND	0.50 mg/L	05/14/09	05/15/09
Client ID:	MW-4-4					
Lab ID:	BMI0905150	5-02A Chloride	27	0.50 mg/L	05/14/09	05/15/09
		Sulfate (SO4)	14	0.50 mg/L	05/14/09	05/15/09
Client ID:	MW-4-3	, ,				
Lab ID:	BMI0905150		13	0.50 mg/L	05/14/09	05/15/09
		Sulfate (SO4)	ND	0.50 mg/L	05/14/09	05/15/09
Client ID:	MW-4-2					
Lab ID:	BMI0905150:	5-04A Chloride	99	2.5 mg/L	05/14/09	05/15/09
		Sulfate (SO4)	130	2.5 mg/L	05/14/09	05/15/09
Client ID:	MW-4-1					
Lab ID :	BMI0905150:	5-05A Chloride	20	0.50 mg/L	05/14/09	05/15/09
240 12 .	2.11.0905130.	Sulfate (SO4)	43	0.50 mg/L	05/14/09	05/15/09
		Samue (501)	47	0.50 mg E	03/11/07	03/13/07
Client ID:	EB-14-05/14/	09				
Lab ID:	BMI0905150:	5-06A Chloride	ND	0.50 mg/L	05/14/09	05/15/09
		Sulfate (SO4)	ND	0.50 mg/L	05/14/09	05/15/09

ND = Not Detected

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

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

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



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave San Diego, CA 92110 Attn: David Conner

Phone: (818) 393-2808

Fax: (614) 458-6641

Date Received: 05/15/09

Job#:

G00\$862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	MW-4-5					
Lab ID:	BMI09051505-01A	Perchlorate	ND	1.00 µg/L	05/14/09	05/15/09
Client ID:	MW-4-4					
Lab ID:	BMI09 05 1505-02A	Perchlorate	ND	1.00 µg/L	05/14/09	05/15/09
Client ID:	MW-4-3					
Lab ID:	BMI09051505-03A	Perchlorate	ND	1.00 µg/L	05/14/09	05/15/09
Client ID:	MW-4-2					
Lab ID:	BMI09051505-04A	Perchlorate	2.01	1.00 µg/L	05/14/09	05/15/09
Client ID:	MW-4-1					
Lab ID:	BMI09 0 51505-05A	Perchlorate	ND	1.00 µg/L	05/14/09	05/15/09
Client ID:	EB-14-05/14/09					
Lab ID:	BMI09051505-06A	Perchlorate	ND	1.00 µg/L	05/14/09	05/15/09

ND = Not Detected

Roger Scholl

Kandy Saulner

Walter Hirkon

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

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.

5/29/09



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave San Diego, CA 92110 Attn: David Conner

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

Date Received: 05/15/09

Job#:

G005862/JPL Groundwater Monitoring

Alkalinity

SM2320B

		Parameter	Concentration	Reporting Limit	Date Date Sampled Analyzed
Client ID:	MW-4-5				
Lab ID:	BM109051505-01A	Alkalinity, Bicarbonate (As CaCO3)	150	10 mg/L	05/14/09 05/18/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/14/09 05/18/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	150	10 mg/L	05/14/09 05/18/09
Client ID:	MW-4-4				
Lab ID:	BMI09051505-02A	Alkalinity, Bicarbonate (As CaCO3)	160	10 mg/L	05/14/09 05/18/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/14/09 05/18/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	160	10 mg/L	05/14/09 05/18/09
Client ID:	MW-4-3				
Lab ID:	BMI09051505-03A	Alkalinity, Bicarbonate (As CaCO3)	230	10 mg/L	05/14/09 05/18/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/14/09 05/18/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	230	10 mg/L	05/14/09 05/18/09
Client ID:	MW-4-2				
Lab ID:	BMI09051505-04A	Alkalinity, Bicarbonate (As CaCO3)	240	10 mg/L	05/14/09 05/18/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/14/09 05/18/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	240	10 mg/L	05/14/09 05/18/09
Client ID:	MW-4-1				
Lab ID:	BMI09051505-05A	Alkalinity, Bicarbonate (As CaCO3)	160	10 mg/L	05/14/09 05/18/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/14/09 05/18/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	160	10 mg/L	05/14/09 05/18/09
Client ID:	EB-14-05/14/09				
Lab ID:	BMI09051505-06A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/14/09 05/18/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/14/09 05/18/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/14/09 05/18/09

ND = Not Detected

Roger Scholl Kandy Saulus Walter Firehow

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

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

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

5/29/09 Report Date



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

ANALYTICAL REPORT

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

Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/15/09

Job#:

G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

		Parameter	Concentration	Reporting	Date	Date
				Limit	Sampled	Analyzed
Client ID:	MW-4-5					
Lab ID:	BMI09051505-01A	Sodium (Na)	42	0.50 mg/L	05/14/09	05/18/09
		Magnesium (Mg)	13	0.50 mg/L	05/14/09	05/18/09
		Potassium (K)	2.1	0.50 mg/L	05/14/09	05/18/09
		Calcium (Ca)	20	0.50 mg/L	05/14/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/14/09	05/18/09
		Iron (Fe)	3.7	0.10 mg/L	05/14/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/14/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/14/09	05/18/09
Client ID:	MW-4-4					
Lab ID:	BMI09051505-02A	Sodium (Na)	41	0.50 mg/L	05/14/09	05/18/09
		Magnesium (Mg)	13	0.50 mg/L	05/14/09	05/18/09
		Potassium (K)	2.0	0.50 mg/L	05/14/09	05/18/09
		Calcium (Ca)	36	0.50 mg/L	05/14/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/14/09	05/18/09
		Iron (Fe)	0.62	0.10 mg/L	05/14/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/14/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/14/09	05/18/09
Client ID:	MW-4-3					
Lab ID:	BMI09051505-03A	Sodium (Na)	43	0.50 mg/L	05/14/09	05/18/09
		Magnesium (Mg)	19	0.50 mg/L	05/14/09	05/18/09
		Potassium (K)	2.8	0.50 mg/L	05/14/09	05/18/09
		Calcium (Ca)	40	0.50 mg/L	05/14/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/14/09	05/18/09
		Iron (Fe)	3.9	0.10 mg/L	05/14/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/14/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/14/09	05/18/09
Client ID:	MW-4-2					
Lab ID:	BMI09051505-04A	Sodium (Na)	35	0.50 mg/L	05/14/09	05/18/09
		Magnesium (Mg)	42	0.50 mg/L		05/18/09
		Potassium (K)	3.1	0.50 mg/L		05/18/09
		Calcium (Ca)	130	0.50 mg/L		05/18/09
		Chromium (Cr)	ND	0.0050 mg/L		05/18/09
		Iron (Fe)	1.3	0.10 mg/L		05/18/09
		Arsenic (As)	ND	0.0020 mg/L		05/18/09
		Lead (Pb)	ND	0.0050 mg/L		05/18/09
	1					



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

Client ID:	MW-4-1					
Lab ID:	BMI09051505-05A	Sodium (Na)	19	0.50 mg/L	05/14/09	05/18/09
		Magnesium (Mg)	16	0.50 mg/L	05/14/09	05/18/09
		Potassium (K)	2.7	0.50 mg/L	05/14/09	05/18/09
		Calcium (Ca)	. 55	0.50 mg/L	05/14/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/14/09	05/18/09
		Iron (Fe)	0.77	0.10 mg/L	05/14/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/14/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/14/09	05/18/09
Client ID:	EB-14-05/14/09					
Lab ID:	BMI09051505-06A	Sodium (Na)	ND	0.50 mg/L	05/14/09	05/18/09
		Magnesium (Mg)	ND	0.50 mg/L	05/14/09	05/18/09
		Potassium (K)	ND	0.50 mg/L	05/14/09	05/18/09
		Calcium (Ca)	ND	0.50 mg/L	05/14/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/14/09	05/18/09
		Iron (Fe)	ND	0.10 mg/L	05/14/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/14/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/14/09	05/18/09

ND = Not Detected

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

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



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

ANALYTICAL REPORT

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

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

Date Received: 05/15/09

Job#: G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4) EPA Method 150.2 / SM4500HB / SW9040C

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID: MW-4-5	рН	8.1	1.7 pH Units	05/14/09 08:34	05/15/09 14:34
Lab ID: BMI09051505-01A	pH - Temperature	18	1.0 °C	05/14/09 08:34	05/15/09 14:34
Client ID: MW-4-4	pН	8.0	1.7 pH Units	05/14/09 09:04	05/15/09 14:37
Lab ID: BMI0905 505-02A	pH - Temperature	20	1.0 °C	05/14/09 09:04	05/15/09 14:37
Client ID: MW-4-3	рН	7.7	1.7 pH Units	05/14/09 09:34	05/15/09 14:40
Lab ID: BMI09051505-03A	pH - Temperature	20	1.0 ℃	05/14/09 09:34	05/15/09 14:40
Client ID: MW-4-2	рН	7.4	1.7 pH Units	05/14/09 10:06	05/15/09 14:44
Lab ID: BMI09051505-04A	pH - Temperature	20	1.0 °C	05/14/09 10:06	05/15/09 14:44
Client ID: MW-4-1	рН	7.1	1.7 pH Units	05/14/09 10:43	05/15/09 14:46
Lab ID: BMI09051505-05A	pH - Temperature	20	1.0 ℃	05/14/09 10:43	05/15/09 14:46
Client ID : EB-14-05/14/09	рН	6.2	1.7 pH Units	05/14/09 10:28	05/15/09 14:50
Lab ID: BMI09051505-06A	pH - Temperature	20	1.0 °C	05/14/09 10:28	05/15/09 14:50

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.

loger Scholl Kandy Saulur

Waller Hiredown

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

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

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

5/29/09 Report Date



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

ANALYTICAL REPORT

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

Attn:

David Conner

Phone:

(818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/15/09

Job#:

G00\$862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)

SM2540C

		Parameter	Concentration	Reporting Limit	Date Date Sampled Analyzed
Client ID:	MW-4-5				
Lab ID:	BMI09051505-0	OlA Solids, Total Dissolved (TDS)	190	10 mg/L	05/14/09 05/19/09
Client ID:	MW-4-4				
Lab ID:	BMI09 05 1505-0	O2A Solids, Total Dissolved (TDS)	240	10 mg/L	05/14/09 05/19/09
Client ID:	MW-4-3				
Lab ID:	BMI09051505-0	O3A Solids, Total Dissolved (TDS)	260	10 mg/L	05/14/09 05/19/09
Client ID:	MW-4-2				
Lab ID:	BMI09051505-0	94A Solids, Total Dissolved (TDS)	660	10 mg/L	05/14/09 05/19/09
Client ID:	MW-4-1				
Lab ID:	BMI09051505-0	95A Solids, Total Dissolved (TDS)	260	10 mg/L	05/14/09 05/19/09
Client ID:	EB-14-05/14/09				
Lab ID:	BMI09051505-0	06A Solids, Total Dissolved (TDS)	ND	10 mg/L	05/14/09 05/19/09

ND = Not Detected

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

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

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



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

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

Fax:

(614) 458-6641

Job#: G005862/JPL Groundwater Monitoring

Tentatively Identified Compounds - Volatile Organics by GC/MS

	Parameter	Estimated	Estimated Reporting	Date	Date	Date
	T WI WILL					
MXX 4 E					•	,
BMI09051505-01A	Sulfur dioxide	15	2.0 μg/L	05/15/09	05/14/09	05/21/09
MW-4-4						
BMI09051505-02A	Sulfur dioxide	4.1	2.0 μg/L	05/15/09	05/14/09	05/21/09
MW-4-3						
BMI09051505-03A	* * * None Found * * *	ND	$2.0~\mu\text{g/L}$	05/15/09	05/14/09	05/21/09
MW-4-2						
BMI09051505-04A	* * * None Found * * *	ND	$2.0~\mu g/L$	05/15/09	05/14/09	05/21/09
MW-4-1						
BMI09051505-05A	* * * None Found * * *	ND	$2.0~\mu g/L$	05/15/09	05/14/09	05/21/09
EB-14-05/14/09						
BMI09051505-06A	* * * None Found * * *	ND	$2.0~\mu\text{g/L}$	05/15/09	05/14/09	05/21/09
TB-14-05/14/09						
BMI09051505-07A	* * * None Found * * *	ND	$2.0~\mu\text{g/L}$	05/15/09	05/14/09	05/21/09
	MW-4-4 BMI09051505-02A MW-4-3 BMI09051505-03A MW-4-2 BMI09051505-04A MW-4-1 BMI09051505-05A EB-14-05/14/09 BMI09051505-06A TB-14-05/14/09	BMI09051505-01A Sulfur dioxide MW-4-4 BMI09051505-02A Sulfur dioxide MW-4-3 BMI09051505-03A *** None Found *** MW-4-2 BMI09051505-04A *** None Found *** MW-4-1 BMI09051505-05A *** None Found *** EB-14-05/14/09 BMI09051505-06A *** None Found ***	MW-4-5 BMI09051505-01A Sulfur dioxide 15 MW-4-4 BMI09051505-02A Sulfur dioxide 4.1 MW-4-3 BMI09051505-03A *** None Found *** ND MW-4-2 BMI09051505-04A *** None Found *** ND MW-4-1 BMI09051505-05A *** None Found *** ND EB-14-05/14/09 BMI09051505-06A *** None Found *** ND	Parameter Estimated Concentration Limit MW-4-5 BMI09051505-01A Sulfur dioxide 15 2.0 μg/L MW-4-4 BMI09051505-02A Sulfur dioxide 4.1 2.0 μg/L MW-4-3 BMI09051505-03A *** None Found *** ND 2.0 μg/L MW-4-2 BMI09051505-04A *** None Found *** ND 2.0 μg/L MW-4-1 BMI09051505-05A *** None Found *** ND 2.0 μg/L EB-14-05/14/09 BMI09051505-06A *** None Found *** ND 2.0 μg/L	Parameter Estimated Reporting Date Concentration Limit Received MW-4-5 BMI09051505-01A Sulfur dioxide 15 2.0 μg/L 05/15/09 MW-4-4 BMI09051505-02A Sulfur dioxide 4.1 2.0 μg/L 05/15/09 MW-4-3 BMI09051505-03A *** None Found *** ND 2.0 μg/L 05/15/09 MW-4-2 BMI09051505-04A *** None Found *** ND 2.0 μg/L 05/15/09 MW-4-1 BMI09051505-05A *** None Found *** ND 2.0 μg/L 05/15/09 EB-14-05/14/09 BMI09051505-06A *** None Found *** ND 2.0 μg/L 05/15/09	Parameter Estimated Reporting Date Date Concentration Limit Received Sampled MW-4-5 BM109051505-01A Sulfur dioxide 15 2.0 μg/L 05/15/09 05/14/09 MW-4-4 BM109051505-02A Sulfur dioxide 4.1 2.0 μg/L 05/15/09 05/14/09 MW-4-3 BM109051505-03A *** None Found *** ND 2.0 μg/L 05/15/09 05/14/09 MW-4-2 BM109051505-04A *** None Found *** ND 2.0 μg/L 05/15/09 05/14/09 MW-4-1 BM109051505-05A *** None Found *** ND 2.0 μg/L 05/15/09 05/14/09 EB-14-05/14/09 BM109051505-06A *** None Found *** ND 2.0 μg/L 05/15/09 05/14/09

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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.

5/29/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051505-01A

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

David Conner Attn:

Phone: (818) 393-2808 Fax:

(614) 458-6641

Sampled: 05/14/09

Received: 05/15/09 Analyzed: 05/21/09

Volatile Organics by GC/MS

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

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

μg/L

μg/L

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

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

5/29/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051505-02A

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

David Conner Attn:

(818) 393-2808 Phone: Fax:

(614) 458-6641

Sampled: 05/14/09

Received: 05/15/09 Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1.3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	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)	%RE
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	98	(70-130)	%RE
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102	(70-130)	%RE
32	1,3-Dichloropropane	ND	0.50	μg/L			'	• •	
33	Dibromochloromethane	ND	0.50	ua/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

μg/L

μg/L

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

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

5/29/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/IPI

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051505-03A

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

Attn: David Conner

Phone: (818) 393-2808

Fax: (614) 458-6641

Sampled: 05/14/09

Received: 05/15/09 Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μ g/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	1.4	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-Dichloroeth en e	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μ g/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	106	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

Kandy Saulner

Walter Hirkory

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

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

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

µg/L

1.0

5/29/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051505-04A

Client I.D. Number: MW-4-2

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

(614) 458-6641 Fax:

Sampled: 05/14/09

Received: 05/15/09 Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroeth e ne	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)) ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochlorometha ne	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC		2.5	μg/L
25	Trichloroethene	0.69	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-Dichloropro pene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichlorop rope ne	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	101	(70-130)	%REC
32	1,3-Dichloropropan e	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

33 Dibromochloromethane 34 1,2-Dibromoethane (ÈDB)

Tetrachloroethene

ND

ND

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

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

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

5/29/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09051505-05A

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

Fax:

(614) 458-6641

Sampled: 05/14/09

Received: 05/15/09 Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1.1.1.2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	μg/L ·	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroetha ne	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	100	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L					
33	Dibromochloromethane	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

μg/L

µg/L

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

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

5/29/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051505-06A

Client I.D. Number: EB-14-05/14/09

Attn: David Conner

Phone: (818) 393-2808

Fax: (614) 458-6641

Sampled: 05/14/09

Received: 05/15/09 Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	: ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichioromethane	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-Dichlorop rope ne	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	89	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	101	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulur

ND

ND

Walter Finhous

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

μg/L

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

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

5/29/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110 Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051505-07A

Client I.D. Number: TB-14-05/14/09

Attn: David Conner

Phone: (818) 393-2808 Fax:

(614) 458-6641

Sampled: 05/14/09 Received: 05/15/09

Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroeth e ne	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	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-Trichloroetha ne	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropro pene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	89	(70-130)	%REC
30	1,1,2-Trichloroetha ne	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(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					
24	4.0 Dibromosthana (FDD)	ND							

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

µg/L

μg/L

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

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

5/29/09

Report Date



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

VOC Sample Preservation Report

Work Order: BMI09051505 Project: G005862/JPL Groundwater Monitoring

_					
	Alpha's Sample ID	Client's Sample ID	Matrix	рН	
	09051 5 05-01A	MW-4-5	Aqueous	2	
	09051 5 05-02A	MW-4-4	Aqueous	2	
	09051 5 05-03A	MW-4-3	Aqueous	2	
	09051 5 05-04A	MW-4-2	Aqueous	2	
	09051 5 05-05A	MW-4-1	Aqueous	2	
	09051 5 05-06A	EB-14-05/14/09	Aqueous	2	
	090 515 05-07A	TB-14-05/14/09	Aqueous	2	

5/29/09

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

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

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

PO: 218013

San Diego, CA 92110

Betsy Cutie

(614) 424-4899 x

cutiee@batelle.org

Suite C-205 3990 Old Town Ave Battelle Memorial Institute

EDD Required: Yes

Report Due By: 5:00 PM On: 01-Jun-2009

WorkOrder: BMIS09051505

Page: 1 of 2

Sampled by: Client

Cooler Temp 4 0°

Samples Received 15-May-2009

Date Printed

QC Level: DS4 Client's COC #: 25551 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job: G005862/JPL Groundwater Monitoring 15-May-2009

										Requested Tests	ed Tests				
Alpha Sample ID	Client Sample ID	Collecti Matrix Date	Collection c Date	No. of Bottle Alpha Sub	No. of Bottles	TAT	300_0(A)_W 300_0(B)_W 300_0(C)_W	300_0(B)_W	300_0(C)_W		314_W ALKALINIT METALS_D Y_W W	METALS_D W	PH V	TDS	Sample Remarks
BMI09051505-01A	MW-4-5	AQ 05	05/14/09 08:34	σ	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, C1	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr. Pb, As, Na, K, Ca,	рH	rps	
BMI09051505-02A	MW-4-4	AQ 05	05/14/09 09:04	51	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, C1	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	рН	TDS	
BMI09051505-03A	MW-4-3	AQ 05	05/14/09 09:34	5	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	рH	TDS	
BMI09051505-04A	MW-4-2	AQ 05	05/14/09 10:06	51	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, Cl	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	рH	TDS	Level IV QC
BMI09051505-05A	MW-4-1	AQ 05	05/14/09 10:43	ე	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	рН	TDS	
BMI09051505-06A	EB-14-05/14/09	AQ 05	05/14/09 10:28	5	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	рН	TDS	
BMI09051505-07A	TB-14-05/14/09	AQ 05	05/14/09 00:00		0	10									Reno Trip Blank 3/16/09

Comments: No security seals. Frozen ice. Temp Blank #7708 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (LE.: MS/MSD). Company Date/Time

aboth (Ideax clizaboth Hobox

Alpha Analytical, Inc.

51507115

Logged in by:

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

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

Report Due By: 5:00 PM On: 01-Jun-2009

WorkOrder: BMIS09051505

Page: 2 of 2

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

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

EDD Required: Yes Sampled by: Client

Cooler Temp

Samples Received

15-May-2009 15-May-2009

Date Printed

Client's COC #: 25551 QC Level: DS4 = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates G005862/JPL Groundwater Monitoring PO: 218013

San Diego, CA 92110

Suite C-205 3990 Old Town Ave Battelle Memorial Institute

BMI09051505-07A TB-14-05/14/09 BMI09051505-06A EB-14-05/14/09 BMI09051505-05A BMI09051505-04A MW-4-2 Sample ID BMI09051505-03A MW-4-3 BMI09051505-02A MW-4-4 BMI09051505-01A MW-4-5 MW-4-1 Sample ID ð Š Š å å Š AQ 05/14/09 08:34 Matrix Date 05/14/09 00:00 05/14/09 09:34 05/14/09 09:04 05/14/09 10:28 05/14/09 10:43 05/14/09 10:06 Collection No. of Bottles Alpha Sub თ S S G Ç O 0 0 0 0 0 0 0 ΤAΤ 6 **a** 6 6 5 5 6 VOC by 524 VOC by 524 Criteria Criteria VOC_TIC_ VOC_W Requested Tests Reno Trip Blank 3/16/09 Sample Remarks Level IV QC

No security seals. Frozen ice. Temp Blank #7708 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). **Print Name** Company Date/Time

Comments:

Logged in by:

abouth

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.

i zaboth

Alpha Analytical, Inc.

5,15-0 11:15

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

The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information:	Alpl	Alpha Analytical, Inc.	Samples C	Samples Collected From Which State? AZ CA NV WA	Which State?	25551
KING AVE	2	255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778				Page # / of /
City, State, Zip <i>Col. UMBUS , oH 937</i> 01 Phone Number Fax		Phone (7/5) 355-1044 Fax (775) 355-0406		Analyses Required	quired /	
Client Name DAUD CONNET	PO.# 218013	Job# 600 5867		1 () () () ()		Required QC Level?
	EMail Address		24.7	100	15. TE 200.	1 11 (111) IV
P	Phone # 6/9-726-73//	Fax#	(5.	3/ 164. (0.)		EDD/EDF? YESNO
Matrix* Sampled by	Report Attention	Total and type of	25 m	~	PHE Global ID #	ID #
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	TAT Filered ** See below	1/0 24/5	C10/50 310	5 /	REMARKS
0347/4/10 00 BM T0905/505-01	MW-4-5	5	×	XXX		
984	h-4-4		×	×		
-03			×	×		
-04	Mw-4-2		×	×	RL	TEVET IN
1043	Mw-4-1		×	×		
1028 - Olo	EB-14-05/14/09	7	×	^ ×	EQU	EQUITHENT BLANK
, 0,	TB-14-05/14/09	12	X		TRUP	BLANK
ADDITIONAL INSTRUCTIONS:						
Signature	Print Name		Company		Date	Time
Relinguished by	CHASE BAUGDON	RIL (1. H. J.	IET	5/14/09	1300
Received by Canada And All Cox	Elizabeth Fldcox	X	llpha		5.15-09	7 1104
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-I	B-Brass P-Plastic	stic OT-Other

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

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



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

Date: 27-May-09

David Conner

Battelle Memorial Institute

3990 Old Town Ave

San Diego, CA 92110

(818) 393-2808

Suite C-205

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

Work Order:

BMI09051406

Cooler Temp:

4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09051406-01A	MW-23-5	Aqueous
09051406-02A	MW-23-4	Aqueous
09051406-03A	MW-23-3	Aqueous
09051406-04A	MW-23-2	Aqueous
09051406-05A	MW-23-1	Aqueous
09051406-06A	EB-13-05/13/09	Aqueous
09051406-07A	TB-13-05/13/09	Aqueous

Manually Integrated Analytes

	Manually Integrated Anal	y tes	
Alpha's Sample ID	Test Reference	<u>Analyte</u>	
00051404 044			
09051406-04A	EPA Method 314.0	Perchlorate	
09051406-05A	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

Kandy Saulner

Walter Airihour



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Attn: David Conner

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

Date Received: 05/14/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID: MW-23-5	Nitrite (NO2) - N	ND	0.25 mg/L	05/13/09 08:15	05/14/09 13:36
Lab ID: BMI09051406-01A	Nitrate (NO3) - N	ND	0.25 mg/L	05/13/09 08:15	05/14/09 13:36
Client ID: MW-23-4	Nitrite (NO2) - N	ND	0.25 mg/L	05/13/09 08:47	05/14/09 13:54
Lab ID: BMI09051406-02A	Nitrate (NO3) - N	5.6	0.25 mg/L	05/13/09 08:47	05/14/09 13:54
Client ID: MW-23-3	Nitrite (NO2) - N	ND	0.25 mg/L	05/13/09 09:37	05/14/09 14:13
Lab ID: BMI09051406-03A	Nitrate (NO3) - N	4.6	0.25 mg/L	05/13/09 09:37	05/14/09 14:13
Client ID: MW-23-2	Nitrite (NO2) - N	ND	0.25 mg/L	05/13/09 10:04	05/14/09 14:31
Lab ID: BMI09051406-04A	Nitrate (NO3) - N	14	0.25 mg/L	05/13/09 10:04	05/14/09 14:31
Client ID: MW-23-1	Nitrite (NO2) - N	ND	0.25 mg/L	05/13/09 10:41	05/14/09 15:27
Lab ID: BMI09051406-05A	Nitrate (NO3) - N	14	0.25 mg/L	05/13/09 10:41	05/14/09 15:27
Client ID : EB-13-05/13/09	Nitrite (NO2) - N	ND	0.25 mg/L	05/13/09 10:23	05/14/09 15:45
Lab ID: BMI09051406-06A	Nitrate (NO3) - N	ND	0.25 mg/L	05/13/09 10:23	05/14/09 15:45

ND = Not Detected

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

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



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110 Attn:

David Conner

Phone:

(818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/14/09

Job#:

G005862/JPL Groundwater Monitoring

Anions by IC

EPA Method 300.0 / 9056

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	MW-23-5					
Lab ID:	BMI09051406-01A	Chloride	12	0.50 mg/L	05/13/09	05/14/09
		Sulfate (SO4)	ND	0.50 mg/L	05/13/09	05/14/09
Client ID:	MW-23-4					
Lab ID:	BMI09051406-02A	Chloride	14	0.50 mg/L	05/13/09	05/14/09
		Sulfate (SO4)	8.3	0.50 mg/L	05/13/09	05/14/09
Client ID:	MW-23-3					
Lab ID:	BMI09051406-03A	Chloride	13	0.50 mg/L	05/13/09	05/14/09
		Sulfate (SO4)	11	0.50 mg/L	05/13/09	05/14/09
Client ID:	MW-23-2					
Lab ID:	BMI09051406-04A	Chloride	82	5.0 mg/L	05/13/09	05/14/09
		Sulfate (SO4)	110	5.0 mg/L	05/13/09	05/14/09
Client ID:	MW-23-1					
Lab ID:	BMI09051406-05A	Chloride	120	5.0 mg/L	05/13/09	05/14/09
		Sulfate (SO4)	190	5.0 mg/L	05/13/09	05/14/09
Client ID:	EB-13-05/13/09					
Lab ID:	BMI09051406-06A	Chloride	ND	0.50 mg/L	05/13/09	05/14/09
		Sulfate (SO4)	ND	0.50 mg/L	05/13/09	05/14/09

ND = Not Detected

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.



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

ANALYTICAL REPORT

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

Attn: David Conner

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

Date Received: 05/14/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-23-5 BMI09051406-01A	Perchlorate	ND	1.00 µg/L	05/13/09	05/21/09
Client ID : Lab ID :	MW-23-4 BMI09051406-02A	Perchlorate	ND	1.00 μg/L	05/13/09	05/15/09
Client ID : Lab ID :	MW-23-3 BMI09051406-03A	Perchlorate	ND	1.00 μg/L	05/13/09	05/15/09
Client ID: Lab ID:	MW-23-2 BMI09051406-04A	Perchlorate	4.06	1.00 µg/L	05/13/09	05/15/09
Client ID: Lab ID:	MW-23-1 BMI09051406-05A	Perchlorate	2.55	1.00 µg/L	05/13/09	05/15/09
Client ID : Lab ID :	EB-13-05/13/09 BMI09051406-06A	Perchlorate	ND	1.00 µg/L	05/13/09	05/15/09

ND = Not Detected

Roger Scholl Kandy Saulner

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

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

5/28/09



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110 Attn:

David Conner

Phone:

(818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/14/09

Job#:

G005862/JPL Groundwater Monitoring

Alkalinity

SM2320B

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	MW-23-5					
Lab ID:	BMI09051406-01A	Alkalinity, Bicarbonate (As CaCO3)	63	10 mg/L	05/13/09	05/18/09
		Alkalinity, Carbonate (As CaCO3)	120	10 mg/L	05/13/09	05/18/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	190	10 mg/L	05/13/09	05/18/09
Client ID:	MW-23-4					
Lab ID:	BMI09051406-02A	Alkalinity, Bicarbonate (As CaCO3)	130	10 mg/L	05/13/09	05/18/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/13/09	05/18/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	130	10 mg/L	05/13/09	05/18/09
Client ID:	MW-23-3					
Lab ID:	BMI09051406-03A	Alkalinity, Bicarbonate (As CaCO3)	150	10 mg/L	05/13/09	05/18/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/13/09	05/18/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	150	10 mg/L	05/13/09	05/18/09
Client ID:	MW-23-2					
Lab ID:	BMI09051406-04A	Alkalinity, Bicarbonate (As CaCO3)	200	10 mg/L	05/13/09	05/18/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/13/09	05/18/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	200	10 mg/L	05/13/09	05/18/09
Client ID:	MW-23-1					
Lab ID:	BMI09051406-05A	Alkalinity, Bicarbonate (As CaCO3)	270	10 mg/L	05/13/09	05/18/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/13/09	05/18/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	270	10 mg/L	05/13/09	05/18/09
Client ID:	EB-13-05/13/09					
Lab ID:	BMI09051406-06A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/13/09	05/18/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/13/09	05/18/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/13/09	05/18/09

ND = Not Detected

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Attn: David Conner

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

Date Received: 05/14/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

		Parameter	Concentration	Reporting	Date	Date
				Limit	Sampled	Analyzed
Client ID:	MW-23-5					
Lab ID :	BMI09051406-01A	Sodium (Na)	93	0.50 mg/L	05/13/09	05/18/09
		Magnesium (Mg)	ND	0.50 mg/L	05/13/09	05/18/09
		Potassium (K)	1.7	0.50 mg/L	05/13/09	05/18/09
		Calcium (Ca)	4.9	0.50 mg/L	05/13/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/13/09	05/18/09
		Iron (Fe)	ND	0.10 mg/L	05/13/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/13/09	05/19/09
		Lead (Pb)	ND	0.0050 mg/L	05/13/09	05/18/09
Client ID:	MW-23-4					
Lab ID:	BMI09051406-02A	Sodium (Na)	30	0.50 mg/L	05/13/09	05/18/09
		Magnesium (Mg)	12	0.50 mg/L	05/13/09	05/18/09
		Potassium (K)	2.0	0.50 mg/L	05/13/09	05/18/09
		Calcium (Ca)	30	0.50 mg/L	05/13/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/13/09	05/18/09
		Iron (Fe)	0.18	0.10 mg/L	05/13/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/13/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/13/09	05/18/09
Client ID:	MW-23-3					
Lab ID:	BMI09051406-03A	Sodium (Na)	29	0.50 mg/L	05/13/09	05/18/09
		Magnesium (Mg)	13	0.50 mg/L	05/13/09	05/18/09
		Potassium (K)	1.9	0.50 mg/L	05/13/09	05/18/09
		Calcium (Ca)	36	0.50 mg/L	05/13/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/13/09	05/18/09
		Iron (Fe)	0.24	0.10 mg/L	05/13/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/13/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/13/09	05/18/09
Client ID:	MW-23-2					
Lab ID:	BMI09051406-04A	Sodium (Na)	39	0.50 mg/L	05/13/09	05/18/09
		Magnesium (Mg)	41	0.50 mg/L	05/13/09	05/18/09
		Potassium (K)	3.0	0.50 mg/L	05/13/09	05/18/09
		Calcium (Ca)	100	0.50 mg/L	05/13/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/13/09	05/18/09
		Iron (Fe)	0.75	0.10 mg/L	05/13/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/13/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/13/09	05/18/09



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

Client ID:	MW-23-1					
Lab ID:	BMI09051406-05A	Sodium (Na)	43	0.50 mg/L	05/13/09	05/18/09
		Magnesium (Mg)	61	0.50 mg/L	05/13/09	05/18/09
		Potassium (K)	3.7	0.50 mg/L	05/13/09	05/18/09
		Calcium (Ca)	150	0.50 mg/L	05/13/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/13/09	05/18/09
		Iron (Fe)	1.2	0.10 mg/L	05/13/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/13/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/13/09	05/18/09
Client ID:	EB-13-05/13/09					
Lab ID:	BMI09051406-06A	Sodium (Na)	0.58	0.50 mg/L	05/13/09	05/18/09
		Magnesium (Mg)	ND	0.50 mg/L	05/13/09	05/18/09
		Potassium (K)	ND	0.50 mg/L	05/13/09	05/18/09
		Calcium (Ca)	ND	0.50 mg/L	05/13/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/13/09	05/18/09
		Iron (Fe)	ND	0.10 mg/L	05/13/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/13/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/13/09	05/18/09

ND = Not Detected

Roger Scholl Kandy Saulner Walter Hinchman, Quality Assurance Officer

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

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

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

5/28/09 **Report Date**



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

ANALYTICAL REPORT

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

Attn: **David Conner** Phone: (818) 393-2808 Fax: (614) 458-6641 Date Received: 05/14/09

G005862/JPL Groundwater Monitoring Job#:

> pH (Range 1.7 to 12.4) EPA Method 150.2 / SM4500HB / SW9040C

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID: MW-23-5	рН	9.7	1.7 pH Units	05/13/09 08:15	05/14/09 16:09
Lab ID: BMI09051406-01A	pH - Temperature	18	1.0 °C	05/13/09 08:15	05/14/09 16:09
Client ID: MW-23-4	рН	8.2	1.7 pH Units	05/13/09 08:47	05/14/09 16:10
Lab ID: BMI09051406-02A	pH - Temperature	17	1.0 °C	05/13/09 08:47	05/14/09 16:10
Client ID: MW-23-3	pН	7.7	1.7 pH Units	05/13/09 09:37	05/14/09 16:13
Lab ID: BMI09051406-03A	pH - Temperature	17	1.0 °C	05/13/09 09:37	05/14/09 16:13
Client ID: MW-23-2	рН	7.6	1.7 pH Units	05/13/09 10:04	05/14/09 16:15
Lab ID: BMI09051406-04A	pH - Temperature	17	1.0 °C	05/13/09 10:04	05/14/09 16:15
Client ID: MW-23-1	pН	7.1	1.7 pH Units	05/13/09 10:41	05/14/09 16:17
Lab ID: BMI09051406-05A	pH - Temperature	18	1.0 °C	05/13/09 10:41	05/14/09 16:17
Client ID : EB-13-05/13/09	pН	6.1	1.7 pH Units	05/13/09 10:23	05/14/09 16:19
Lab ID: BMI09051406-06A	pH - Temperature	18	1.0 °C	05/13/09 10:23	05/14/09 16:19

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

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

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

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

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



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

ANALYTICAL REPORT

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

Attn: David Conner

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

Date Received: 05/14/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)

SM2540C

		Parameter	Concentration	Reporting Limit	Date Date Sampled Analyzed
Client ID: Lab ID:	MW-23-5 BMI09051406-01A	Solids, Total Dissolved (TDS)	240	10 mg/L	05/13/09 05/19/09
Client ID : Lab ID :	MW-23-4 BMI09051406-02A	Solids, Total Dissolved (TDS)	220	10 mg/L	05/13/09 05/19/09
Client ID : Lab ID :	MW-23-3 BMI09051406-03A	Solids, Total Dissolved (TDS)	230	10 mg/L	05/13/09 05/19/09
Client ID: Lab ID:	MW-23-2 BMI09051406-04A	Solids, Total Dissolved (TDS)	600	10 mg/L	05/13/09 05/19/09
Client ID: Lab ID:	MW-23-1 BMI09051406-05A	Solids, Total Dissolved (TDS)	820	10 mg/L	05/13/09 05/20/09
Client ID: Lab ID:	EB-13-05/13/09 BMI09051406-06A	Solids, Total Dissolved (TDS)	ND	10 mg/L	05/13/09 05/19/09

ND = Not Detected

Loger Scholl Kandy Scalner

Walter Findows

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

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

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



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

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

Attn: David Conner

Job#: G005862/JPL Groundwater Monitoring

Tentatively Identified Compounds - Volatile Organics by GC/MS

		Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID: Lab ID:	MW-23-5 BMI09051406-01A	Sulfur dioxide	22	2.0 μg/L	05/14/09	05/13/09	05/21/09
Client ID : Lab ID :	MW-23-4 BMI09051406-02A	Sulfur dioxide	11	2.0 μg/L	05/14/09	05/13/09	05/21/09
Client ID : Lab ID :	MW-23-3 BMI09051406-03A	Sulfur dioxide	6.9	2.0 μg/L	05/14/09	05/13/09	05/21/09
Client ID : Lab ID :	MW-23-2 BMI09051406-04A	Sulfur dioxide	2.1	2.0 μg/L	05/14/09	05/13/09	05/21/09
Client ID : Lab ID :	MW-23-1 BMI09051406-05A	*** None Found ***	ND	2.0 μg/L	05/14/09	05/13/09	05/21/09
Client ID : Lab ID :	EB-13-05/13/09 BMI09051406-06A	*** None Found ***	ND	2.0 μg/L	05/14/09	05/13/09	05/20/09
Client ID : Lab ID :	TB-13-05/13/09 BMI09051406-07A	*** None Found ***	ND	2.0 μg/L	05/14/09	05/13/09	05/20/09

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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

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

Report Date Page 1 of 1

5/28/09



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051406-01A

Client I.D. Number: MW-23-5

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

(614) 458-6641

Sampled: 05/13/09 Received: 05/14/09

Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	. ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1.4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyitoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butvibenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1.2.4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1.2-Dichloroethane-d4	105	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	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					
~ 4	40.00		5.00	~ -					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

ND

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

1.0

µg/L

µg/L

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

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

5/28/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051406-02A

Client I.D. Number: MW-23-4

Attn:

David Conner Phone: (818) 393-2808

Fax:

(614) 458-6641

Sampled: 05/13/09

Received: 05/14/09 Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L.	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC)	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	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	98	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L					
33	Dibromochloromethane	, ND	0.50	µg/L					
0.4	4.0 Dilement (EDD)								

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

μg/L

µg/L

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

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

5/28/09

Report Date Page 1 of 1



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051406-03A

Client I.D. Number: MW-23-3

Attn:

David Conner (818) 393-2808

Phone: Fax:

(614) 458-6641

Sampled: 05/13/09

Received: 05/14/09 Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	МD	0.50	µg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	, ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1.2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	100	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	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					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

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

0.50

μg/L

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

5/28/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051406-04A

Client I.D. Number: MW-23-2

Attn: David Conner

Phone: (818) 393-2808 Fax:

(614) 458-6641

Sampled: 05/13/09

Received: 05/14/09 Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	0.50	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	: ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	μg/L
25	Trichloroethene	0.78	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	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					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

Roger Scholl

ND

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

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

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

5/28/09

Report Date Page 1 of 1



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051406-05A

Client I.D. Number: MW-23-1

Attn:

David Conner Phone: (818) 393-2808

Fax:

(614) 458-6641

Sampled: 05/13/09

Received: 05/14/09 Analyzed: 05/21/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	. ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xvlene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propvlbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chiorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	1.0	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	103	(70-130)	%RE
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	99	(70-130)	%RE
31	Toluene	ND	0.50	μ g/L	66	Surr: 4-Bromofluorobenzene	100	(70-130)	%RE
32	1,3-Dichloropropane	ND	0.50	μg/L					
33	Dibromochloromethane	ND	0.50	μg/L					
3/	1.2-Dibromoethono (EDB)	ND	4.0						

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

ND

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

µg/L

μg/L

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

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

5/28/09

Report Date Page 1 of 1



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051406-06A

Client I.D. Number: EB-13-05/13/09

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

(614) 458-6641

Sampled: 05/13/09

Received: 05/14/09 Analyzed: 05/20/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochioromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC)	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	109	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	99	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	97	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L	-		•	,	
33	Dibromochloromethane	ND	0.50	μg/L					
24	4.0 Dibanasa Abana (CDD)	!		. 🗢					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

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

µg/L

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

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

5/28/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051406-07A

Client I.D. Number: TB-13-05/13/09

Attn:

David Conner Phone: (818) 393-2808

Fax:

(614) 458-6641

Sampled: 05/13/09

Received: 05/14/09 Analyzed: 05/20/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L.
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC)	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	111	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	98	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L				, ,	
33	Dibromochloromethane	ND	0.50	μg/L					
~ .				. •					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

ND

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

μg/L

μg/L

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

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

5/28/09

Report Date



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

VOC Sample Preservation Report

Work Order: BMI09051406 Project: G005862/JPL Groundwater Monitoring

	 · ·	_		
Alpha's Sample I	Client's Sample ID	Matrix	рН	
09051406-01A	MW-23-5	Aqueous	2	
09051406-02A	MW-23-4	Aqueous	2	
09051406-03A	MW-23-3	Aqueous	2	
09051406-04A	MW-23-2	Aqueous	2	
09051406-05A	MW-23-1	Aqueous	2	
09051406-06A	EB-13-05/13/09	Aqueous	2	
09051406-07A	TB-13-05/13/09	Aqueous	2	

5/28/09 Report Date

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

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

Client:

Battelle Memorial Institute

Report AttentionPhone NumberEMail AddressDavid Conner(818) 393-2808 xconnerd@battelle.orgShane Walton(614) 424-4117 xwaltons@battelle.org

EDD Required : Yes

Report Due By: 5:00 PM On: 29-May-2009

WorkOrder: BMIS09051406

Page: 1 of 2

Sampled by: Client

Cooler Temp Samples Received
4 °C 14-May-2009

Date Printed
14-May-2009

Co

Sob: G005862/JPL Groundwater Monitoring

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

Client's COC #: 25541

PO: 218013

San Diego, CA 92110

Betsy Cutie

(614) 424-4899 x

cutiee@batelle.org

3990 Old Town Ave Suite C-205

										Requested Tests	ed Tests				
Alpha Sample ID	Client Sample ID	Collecti Matrix Date	Collection Collection	No. of Alpha	No. of Bottles Alpha Sub	TAT	300_0(A)_W	300_0(A)_W 300_0(B)_W 300_0(C)_W	300_0(C)_W	314_W	314_W ALKALINIT METALS_D Y_W W	METALS_D W	PH_W	TDS	Sample Remarks
BMI09051406-01A	MW-23-5	AQ 0	05/13/09 08:15	S ī	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Cr, Pb, As, Carb, Total) Na, K, Ca,	Cr, Pb, As, Na, K, Ca, Mg. Fe	pH	TDS	
BMI09051406-02A	MW-23-4	AQ 05	05/13/09 08:47	10	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Cr, Pb, As, Carb, Total) Na, K, Ca,	Cr. Pb, As, Na, K, Ca,	рН	TDS	MS/MSD
BMI09051406-03A	MW-23-3	AQ 05	05/13/09 09:37	σ 1	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pН	TDS	
BMI09051406-04A	MW-23-2	AQ 05	05/13/09 10:04	ڻ. ص	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, C1	Perchlorate	Alk (Bicarb, Cr, Pb, As, Carb, Total) Na, K, Ca,	Cr, Pb, As, Na, K, Ca, Mg, Fe	Нq	TDS	
BMI09051406-05A	MW-23-1	AQ 08	05/13/09 10:41	თ	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Cr, Pb, As, Carb, Total) Na, K, Ca, Mg, Fe	Cr, Pb, As. Na, K, Ca, Mg, Fe	рН	TDS	Level IV QC
BMI09051406-06A	EB-13-05/13/09	AQ 05	05/13/09 10:23	C 1	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Perchlorate Alk (Bicarb, Cr, Pb, As, Carb, Total) Na, K. Ca, Mg. Fe	Cr, Pb, As, Na, K, Ca, Mg, Fe	Нq	TDS	
BMI09051406-07A	TB-13-05/13/09	AQ 05	05/13/09 00:00	_	0	10									Reno Trip Blank 3/16/09

Comments: No security seals. Frozen ice, Temp Blank #7634 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by:	
Campbath (Ideax	Signature
Elizabeth Adcox	Print Name
naly	Company
11	Date/Time

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

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

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

Report Attention Shane Walton David Conner Phone Number (818) 393-2808 x (614) 424-4117 x

connerd@battelle.org

waltons@battelle.org cutiee@batelle.org

Betsy Cutie

(614) 424-4899 x

Battelle Memorial Institute

PO: 218013

San Diego, CA 92110

Suite C-205 3990 Old Town Ave

Page: 202

Report Due By: 5:00 PM On: 29-May-2009 WorkOrder: BMIS09051406

EDD Required: Yes

Sampled by: Client Cooler Temp

Samples Received 14-May-2009

Date Printed

Sample ID BMI09051406-07A BMI09051406-06A EB-13-05/13/09 BMI09051406-05A MW-23-1 BMI09051406-04A MW-23-2 BMI09051406-03A MW-23-3 BMI09051406-02A BMI09051406-01A MW-23-5 QC Level: DS4 Client's COC #: 25541 TB-13-05/13/09 MW-23-4 Client Sample ID = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job : å å Š Š å Matrix Date ğ 05/13/09 00:00 05/13/09 08:15 G005862/JPL Groundwater Monitoring 05/13/09 10:04 05/13/09 10:23 05/13/09 10:41 05/13/09 09:37 05/13/09 08:47 Collection No. of Bottles Alpha Sub Ç S G Ç 5 Ç 0 0 0 0 0 0 0 ΤΑΤ 5 5 5 6 6 5 6 VOC_TIC_ VOC by 524 VOC by 524 Criteria Criteria VOC_W Requested Tests Reno Trip Blank 3/16/09 Sample Remarks Level IV QC MS/MSD 14-May-2009

Comments: No security seals. Frozen ice. Temp Blank #7634 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

	Logged in by:	
	Canabath (Idoux	Signature
	Elizabeth Hdcox	Name
The same of the sa	Alpha Analytical, Inc.	Company
	5.14.09 11.DLp	Date/Time

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

Billing Information:	Alpha		Samples Collected From Which State?	State? 25541
\$ 505 KINC AVE	C.	Sparks, Nevada 89431-5778 Phone (775) 355-1044	OR OTHER	Page # / of /
Phone Number Fax		355-0406	Analyses Required	<u></u>
Client Name DOUG CONJEN	013	Job# 6-005862	K 7 0 0 0 0	Required QC Level?
Address 990 OLD TOWN INE, C-25	EMail Addr			/ " " \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
560, C	Phone #6/9-726-7311	Fax#	10 (3) (3) (4) (4)	EDD / EDF? YESNO
Time Date Matrix* Sampled by	Report Attention	Total and type of	2/- 	Global ID#
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description		17 Pro 16 1 Co 16 30 0 0	REMARKS
01/5/13/6 NO BMIO905/40/00	Mw-23-5		× × × ×	
	NW-73-4	0/0		M5/M5D
P37 - 03		2		
7-	+			
0-	5mw-23-1			OC LEVEL II
1073	06 58-13-05/13/09	×/	× × × × .	•
Ċ	778-13-05/13/09	/~		TRIP BLOKE
				and the second s
ADDITIONAL INSTRUCTIONS:				
Signature	Print Name	Co	Company	Date Time
Relinquished by	CHASE BROGER	1NS/CA	1/2 J	13/09 1300
Relinquished by	Elizabeth Hdcox		19ha 5.15	409 1106
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	ste OT - Other AR - Air **: L-Liter are reported unless other arrangements are made. Ha	Liter V-Voa S-Soil Jar (. Hazardous samples will be returne	O-Orbo T-Tedlar B-Brass ed to client or disposed of at client expen	P-Plastic OT-Other se. The report for the analysis

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



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

Date: 26-May-09

David Conner

Battelle Memorial Institute

3990 Old Town Ave

San Diego, CA 92110 (818) 393-2808

Suite C-205

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

Work Order:

BMI09051301

Cooler Temp:

4 ℃

Alpha's Sample ID	Client's Sample ID	Matrix
09051301-01A	MW-11-5	Aqueous
09051301-02A	MW-11-4	Aqueous
09051301-03A	MW-11-3	Aqueous
09051301-04A	MW-11-2	Aqueous
09051301-05A	MW-11-1	Aqueous
09051301-06A	EB-12-05/12/09	Aqueous
09051301-07A	TB-12-05/12/09	Aqueous

Manually Integrated Analytes

Alpha's Sample ID Test Reference Analyte

NONE

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

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

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

Roger Scholl

Kandy Saulur

Walter Hirihour



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

ANALYTICAL REPORT

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

Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/13/09

Job#:

G005862/JPL Groundwater Monitoring

Anions by IC

EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID: MW-11-5	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/09 08:37	05/13/09 13:14
Lab ID: BMI09051301-01A	Nitrate (NO3) - N	ND	0.25 mg/L	05/12/09 08:37	05/13/09 13:14
Client ID: MW-11-4	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/09 09:29	05/13/09 13:33
Lab ID: BMI09051301-02A	Nitrate (NO3) - N	ND	0.25 mg/L	05/12/09 09:29	05/13/09 13:33
Client ID: MW-11-3	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/09 10:26	05/13/09 13:51
Lab ID: BMI09051301-03A	Nitrate (NO3) - N	ND	0.25 mg/L	05/12/09 10:26	05/13/09 13:51
Client ID: MW-11-2	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/09 10:54	05/13/09 14:10
Lab ID: BMI09051301-04A	Nitrate (NO3) - N	ND	0.25 mg/L	05/12/09 10:54	05/13/09 14:10
Client ID: MW-11-1	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/09 11:32	05/13/09 14:28
Lab ID: BMI09051301-05A	Nitrate (NO3) - N	1.1	0.25 mg/L	05/12/09 11:32	05/13/09 14:28
Lab ID: BM109051301-05A	Phosphate, ortho - P	ND	0.25 mg/L	05/12/09 11:32	05/13/09 14:28
Client ID : EB-12-05/12/09	Nitrite (NO2) - N	ND	0.25 mg/L	05/12/09 11:17	05/13/09 14:47
Lab ID: BMI09051301-06A	Nitrate (NO3) - N	ND	0.25 mg/L	05/12/09 11:17	05/13/09 14:47

ND = Not Detected

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

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

5/27/09



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110 Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/13/09

Job#:

G005862/JPL Groundwater Monitoring

Anions by IC

EPA Method 300.0 / 9056

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	MW-11-5					
Lab ID:	BMI09051301-01A	Chloride	12	0.50 mg/L	05/12/09	05/13/09
		Sulfate (SO4)	18	0.50 mg/L	05/12/09	05/13/09
Client ID:	MW-11-4					
Lab ID:	BMI09051301-02A	Chloride	11	0.50 mg/L	05/12/09	05/13/09
		Sulfate (SO4)	0.59	0.50 mg/L	05/12/09	05/13/09
Client ID:	MW-11-3					
Lab ID:	BMI09051301-03A	Chloride	12	0.50 mg/L	05/12/09	05/13/09
		Sulfate (SO4)	26	0.50 mg/L	05/12/09	05/13/09
Client ID:	MW-11-2					
Lab ID:	BMI09051301-04A	CII : I		0.50 7	05/13/00	05/13/09
Lab ID :	DM109031301-04A	Chloride	17	0.50 mg/L	05/12/09	
		Sulfate (SO4)	33	0.50 mg/L	05/12/09	05/13/09
Client ID:	MW-11-1					
Lab ID:	BMI09051301-05A	Chloride	25	0.50 mg/L	05/12/09	05/13/09
		Sulfate (SO4)	55	0.50 mg/L	05/12/09	05/13/09
Client ID:	EB-12-05/12/09	•				
Lab ID :	BMI09051301-06A	Chloride	ND	0.50 mg/L	05/12/09	05/13/09
	2	Sulfate (SO4)	ND	0.50 mg/L	05/12/09	05/13/09
			• • •			

ND = Not Detected

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

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

5/27/09



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

ANALYTICAL REPORT

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

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

Fax: (614) 458-6641

Date Received: 05/13/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	MW-11-5 BMI09051301-01A	Perchlorate	ND	1.00 μg/L	05/12/09	05/13/09
Client ID: Lab ID:	MW-11-4 BMI09051301-02A	Perchlorate	ND	1.00 μg/L	05/12/09	05/13/09
Client ID: Lab ID:	MW-11-3 BMI09051301-03A	Perchlorate	ND	1.00 μg/L	05/12/09	05/13/09
Client ID: Lab ID:	MW-11-2 BMI09051301-04A	Perchlorate	ND	1.00 μg/L	05/12/09	05/13/09
Client ID: Lab ID:	MW-11-1 BMI09051301-05A	Perchlorate	ND	1.00 μg/L	05/12/09	05/13/09
Client ID: Lab ID:	EB-12-05/12/09 BMI09051301-06A	Perchlorate	ND	1.00 µg/L	05/12/09	05/13/09

ND = Not Detected

Roger Scholl Kandy Sanbur

Walter Airihm

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

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

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

5/27/09



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

ANALYTICAL REPORT

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

Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/13/09

Job#:

G005862/JPL Groundwater Monitoring

Alkalinity

SM2320B

		Parameter	Concentration	Reporting	Date	Date
				Limit	Sampled	Analyzed
Client ID:	MW-11-5					
Lab ID:	BMI09051301-01A	Alkalinity, Bicarbonate (As CaCO3)	130	10 mg/L	05/12/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/09	05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	130	10 mg/L	05/12/09	05/13/09
Client ID:	MW-11-4					
Lab ID:	BMI09051301-02A	Alkalinity, Bicarbonate (As CaCO3)	47	10 mg/L	05/12/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	55	10 mg/L	05/12/09	05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	100	10 mg/L	05/12/09	05/13/09
Client ID:	MW-11-3					
Lab ID:	BMI09051301-03A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	05/12/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/09	05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	170	10 mg/L	05/12/09	05/13/09
Client ID:	MW-11-2					
Lab ID:	BMI09051301-04A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/12/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/09	05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/12/09	05/13/09
Client ID:	MW-11-1					
Lab ID:	BMI09051301-05A	Alkalinity, Bicarbonate (As CaCO3)	210	10 mg/L	05/12/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/09	05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	210	10 mg/L	05/12/09	05/13/09
Client ID:	EB-12-05/12/09					
Lab ID:	BMI09051301-06A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/12/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/12/09	05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/12/09	05/13/09

ND = Not Detected

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

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

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

5/27/09



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/13/09

Job#:

G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

		Parameter	Concentration	Reporting	Date	Date
				Limit	Sampled	Analyzed
Client ID:	MW-11-5					
Lab ID:	BMI09051301-01A	Sodium (Na)	40	0.50	05/12/00	05/10/00
	209051501 0171	Magnesium (Mg)	48 2.1	0.50 mg/L	05/12/09	05/18/09
		Potassium (K)	1.1	0.50 mg/L 0.50 mg/L	05/12/09	05/18/09
		Calcium (Ca)	21	0.50 mg/L	05/12/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/12/09	05/18/09
		Iron (Fe)	0.39	-	05/12/09 05/12/09	05/18/09
		Arsenic (As)	0.0051	0.10 mg/L 0.0020 mg/L	05/12/09	05/18/09
		Lead (Pb)	ND	0.0020 mg/L 0.0050 mg/L	05/12/09	05/18/09 05/18/09
		2000 (10)	ND	0.0030 mg/L	03/12/09	03/18/09
Client ID:	MW-11-4					
Lab ID:	BMI09051301-02A	Sodium (Na)	26	0.50 mg/L	05/12/09	05/18/09
		Magnesium (Mg)	7.8	0.50 mg/L	05/12/09	05/18/09
		Potassium (K)	1.8	0.50 mg/L	05/12/09	05/18/09
		Calcium (Ca)	9.0	0.50 mg/L	05/12/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/12/09	05/18/09
		Iron (Fe)	ND	0.10 mg/L	05/12/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/12/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/12/09	05/18/09
Client ID:	MW-11-3			-		
Lab ID:	-	0 t' 0 t)				
Lao ID :	BMI09051301-03A	Sodium (Na)	27	0.50 mg/L	05/12/09	05/18/09
		Magnesium (Mg)	14	0.50 mg/L	05/12/09	05/18/09
		Potassium (K)	2.1	0.50 mg/L		05/18/09
		Calcium (Ca)	45	0.50 mg/L		05/18/09
		Chromium (Cr)	ND	0.0050 mg/L		05/18/09
		Iron (Fe)	0.46	0.10 mg/L		05/18/09
		Arsenic (As)	ND	0.0020 mg/L		05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/12/09	05/18/09
Client ID:	MW-11-2					
Lab ID:	BMI09051301-04A	Sodium (Na)	24	0.50 mg/L	05/12/09	05/18/09
		Magnesium (Mg)	18	0.50 mg/L		05/18/09
		Potassium (K)	3.2	0.50 mg/L		05/18/09
		Calcium (Ca)	46	0.50 mg/L		05/18/09
		Chromium (Cr)	ND	0.0050 mg/L		05/18/09
		Iron (Fe)	0.60	0.10 mg/L		05/18/09
		Arsenic (As)	ND	0.0020 mg/L		05/18/09
		Lead (Pb)	ND	0.0020 mg/L 0.0050 mg/L		05/18/09
		··· (/	112	0.0000 mg/L	03/12/09	03/18/09



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

Client ID:	MW-11-1					
Lab ID:	BMI09051301-05A	Sodium (Na)	29	0.50 mg/L	05/12/09	05/18/09
		Magnesium (Mg)	22	0.50 mg/L	05/12/09	05/18/09
		Potassium (K)	3.5	0.50 mg/L	05/12/09	05/18/09
		Calcium (Ca)	62	0.50 mg/L	05/12/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/12/09	05/18/09
		Iron (Fe)	0.52	0.10 mg/L	05/12/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/12/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/12/09	05/18/09
Client ID:	EB-12-05/12/09					
Lab ID:	BMI09051301-06A	Sodium (Na)	ND	0.50 mg/L	05/12/09	05/18/09
		Magnesium (Mg)	ND	0.50 mg/L	05/12/09	05/18/09
		Potassium (K)	ND	0.50 mg/L	05/12/09	05/18/09
		Calcium (Ca)	ND	0.50 mg/L	05/12/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/12/09	05/18/09
		Iron (Fe)	ND	0.10 mg/L	05/12/09	05/18/09
•		Arsenic (As)	ND	0.0020 mg/L	05/12/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/12/09	05/18/09

ND = Not Detected

Roger Scholl Kandy Soulan

Walter Hirihow

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

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

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

Q 5/27/09



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

ANALYTICAL REPORT

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

Attn: **David Conner** Phone: (818) 393-2808 (614) 458-6641 Fax: Date Received: 05/13/09

Job#:

G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4) EPA Method 150.2 / SM4500HB / SW9040C

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID: MW-11-5	pН	8.0	1.7 pH Units	05/12/09 08:37	05/13/09 14:26
Lab ID: BMI09051301-01A	pH - Temperature	20	1.0 ℃	05/12/09 08:37	05/13/09 14:26
Client ID: MW-11-4	рН	9.1	1.7 pH Units	05/12/09 09:29	05/13/09 14:28
Lab ID: BMI09051301-02A	pH - Temperature	21	1.0 °C	05/12/09 09:29	05/13/09 14:28
Client ID: MW-11-3	рН	8.0	1.7 pH Units	05/12/09 10:26	05/13/09 14:32
Lab ID: BMI09051301-03A	pH - Temperature	20	1.0 °C	05/12/09 10:26	05/13/09 14:32
Client ID: MW-11-2	pН	8.2	1.7 pH Units	05/12/09 10:54	05/13/09 14:35
Lab ID: BMI09051301-04A	pH - Temperature	20	1.0 °C	05/12/09 10:54	05/13/09 14:35
Client ID: MW-11-1	рН	7.7	1.7 pH Units	05/12/09 11:32	05/13/09 14:37
Lab ID: BMI09051301-05A	pH - Temperature	20	1.0 °C	05/12/09 11:32	05/13/09 14:37
Client ID : EB-12-05/12/09	рН	6.2	1.7 pH Units	05/12/09 11:17	05/13/09 14:40
Lab ID: BMI09051301-06A	pH - Temperature	20	1.0 °C	05/12/09 11:17	05/13/09 14:40

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.

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

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

5/27/09



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

ANALYTICAL REPORT

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

Attn: **David Conner**

Phone: (818) 393-2808

(614) 458-6641 Fax:

Date Received: 05/13/09

Job#:

G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)

SM2540C

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-11-5 BMI09051301-01A	Solids, Total Dissolved (TDS)	190	10 mg/L	05/12/09	05/19/09
Client ID : Lab ID :	MW-11-4 BMI09051301-02A	Solids, Total Dissolved (TDS)	130	10 mg/L	05/12/09	05/19/09
Client ID : Lab ID :	MW-11-3 BMI09051301-03A	Solids, Total Dissolved (TDS)	240	10 mg/L	05/12/09	05/19/09
Client ID: Lab ID:	MW-11-2 BMI09051301-04A	Solids, Total Dissolved (TDS)	260	10 mg/L	05/12/09	05/19/09
Client ID : Lab ID :	MW-11-1 BMI09051301-05A	Solids, Total Dissolved (TDS)	340	10 mg/L	05/12/09	05/19/09
Client ID: Lab ID:	EB-12-05/12/09 BMI09051301-06A	Solids, Total Dissolved (TDS)	ND	10 mg/L	05/12/09	05/19/09

ND = Not Detected

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

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

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



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

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

Fax: (614) 458-6641

Tentatively Identified Compounds - Volatile Organics by GC/MS

				Estimated			
		Parameter	Estimated	Reporting	Date	Date	Date
			Concentration	Limit	Received	Sampled	Analyzed
Client ID: Lab ID:	MW-11-5 BMI09051301-01A	Sulfur dioxide	18	2.0 μg/L	05/13/09	05/12/09	05/18/09
Client ID: Lab ID:	MW-11-4 BMI09051301-02A	Sulfur dioxide	20	2.0 μg/L	05/13/09	05/12/09	05/18/09
Client ID: Lab ID:	MW-11-3 BMI09051301-03A	Sulfur dioxide	21	2.0 μg/L	05/13/09	05/12/09	05/18/09
Client ID: Lab ID:	MW-11-2 BMI09051301-04A	Sulfur dioxide	20	2.0 μg/L	05/13/09	05/12/09	05/18/09
Client ID : Lab ID :	MW-11-1 BMI09051301-05A	Sulfur dioxide	14	2.0 μg/L	05/13/09	05/12/09	05/18/09
Client ID : Lab ID :	EB-12-05/12/09 BMI09051301-06A	*** None Found ***	ND	2.0 μg/L	05/13/09	05/12/09	05/18/09
Client ID : Lab ID :	TB-12-05/12/09 BMI09051301-07A	*** None Found ***	ND	2.0 μg/L	05/13/09	05/12/09	05/18/09

ND = Not Detected

Roger Scholl

Kandy Saulur

Walter Atrihun

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

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

Report Date

5/27/09



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051301-01A Client I.D. Number: MW-11-5

Attn: I

David Conner (818) 393-2808

Fax:

(614) 458-6641

Sampled: 05/12/09

Received: 05/13/09 Analyzed: 05/18/09

Volatile Organics by GC/MS

Compound		Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit	
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L	
2	Chloromethane	ND	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	μ g/L	
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L	
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L	
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L	
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	. ND	0.50	μg/L	
15	Bromochloromethane	ND	0.50	μ g/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	μ g/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L	
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L	
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L	
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L	
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L	
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L	
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L	
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) 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)	%RE	
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	98	(70-130)	%RE	
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	95	(70-130)	%RE	
32	1,3-Dichloropropane	ND	0.50	μg/L			1	, ,		
33	Dibromochloromethane	ND	0.50	μg/L						
24	1.2 Dibromoothono (EDP)	ND	0.0							

ND = Not Detected

Tetrachloroethene

35

1,2-Dibromoethane (EDB)

Roger Scholl

ND

Kandg Saulmer

Walter Hirihow

 $Roger\ L.\ Scholl,\ Ph.D.,\ Laboratory\ Director \bullet \bullet Randy\ Gardner,\ Laboratory\ Manager \bullet \bullet Walter\ Hinchman,\ Quality\ Assurance\ Officer \ Assurance\ Officer \ Assurance\ Officer\ Manager\ Officer\ Office$

μg/L

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

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

5/27/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051301-02A

Client I.D. Number: MW-11-4

Attn: David Conner

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

Sampled: 05/12/09

Received: 05/13/09

Analyzed: 05/18/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	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-Xviene	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	μ g/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	μ g/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) 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	105	(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	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	2.0	μg/L					

ND = Not Detected

Tetrachloroethene

Roger Scholl

ND

Kandy Saulur

Dalter Atrichus

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

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

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

5/27/09

Report Date



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

ANALYTICAL REPORT

Attn:

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

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

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051301-03A

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

Sampled: 05/12/09 Received: 05/13/09 Analyzed: 05/18/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	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	μ g/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	μ g/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	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	μ g/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND '	0.50	μ g/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC)	P) ND	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	107	(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					

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

ND

Kandy Saulmer

Dalter Strikm

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

2.0

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

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

5/27/09

Report Date



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

ANALYTICAL REPORT

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

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

(614) 458-6641

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051301-04A

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

Sampled: 05/12/09 Received: 05/13/09

Analyzed: 05/18/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	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	μ g/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μ g/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	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	97	(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	2.0	μg/L					
00	Takeashlanashlana	l		1.0.					

ND = Not Detected

Tetrachloroethene

Roger Scholl

ND

Kandy Saulner

Dalter Atrihon

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

μg/L

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

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

5/27/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051301-05A Client I.D. Number: MW-11-1

Attn: I Phone: (

David Conner (818) 393-2808

Fax:

(614) 458-6641

Sampled: 05/12/09

Received: 05/13/09 Analyzed: 05/18/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	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 (DBC)	P) 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	115	(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					

ND = Not Detected

35 Tetrachioroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

ND

ND

Kandy Saulmer

Dalter Strikm

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

2.0

μg/L

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

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

5/27/09

Report Date



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

ANALYTICAL REPORT

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

Phone: Fax:

Attn:

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

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051301-06A

Client I.D. Number: EB-12-05/12/09

Sampled: 05/12/09 Received: 05/13/09 Analyzed: 05/18/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	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	μ g/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	3.0	μg/L
25	Trichloroethene	ND	0.50	μ g /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	104	(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	94	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			•		

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

ND

ND

Kandy Saulner

Dalter Strikm

 $Roger\ L.\ Scholl,\ Ph.D.,\ Laboratory\ Director \bullet \bullet Randy\ Gardner,\ Laboratory\ Manager \bullet \bullet Walter\ Hinchman,\ Quality\ Assurance\ Officer \ Offic$

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

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

5/27/09

Report Date



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

ANALYTICAL REPORT

Attn:

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

Phone: Fax:

David Conner (818) 393-2808

(614) 458-6641

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051301-07A Client I.D. Number: TB-12-05/12/09

Sampled: 05/12/09 Received: 05/13/09 Analyzed: 05/18/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	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	μ g/L	43	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	μ g/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	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	97	(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					

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

ND

Kandy Saulner

Dalter Strikm

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

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

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

5/27/09

Report Date



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

VOC Sample Preservation Report

Work Order: BMI09051301

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН	
09051301-01A	MW-11-5	Aqueous	2	
09051301-02A	MW-11-4	Aqueous	2	
09051301-03A	MW-11-3	Aqueous	2	
09051301-04A	MW-11-2	Aqueous	2	
09051301-05A	MW-11-1	Aqueous	2	
09051301-06A	EB-12-05/12/09	Aqueous	2	
09051301-07A	TB-12-05/12/09	Aqueous	2 .	

5/27/09



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

Date: 22-May-09	(QC S	ummar	y Report			Work Orde 09051301	
Method Blank File ID: Sample ID: MBLK-W0517DS Analyte	Units : mg/L Result	Type M	Ba Run ID: W	est Code: SM2540C atch ID: W0517DS ETLAB_090517E SpkRefVal %REC		Prep Date:	05/19/2009 00:00 05/19/2009 (Val. %RPD(Limit)	Qua
Solids, Total Dissolved (TDS)	ND	10		Opriller val 707120	<u> </u>	002(11.2) 11. 2.10.		
Laboratory Control Spike File ID: Sample ID: LCS-W0517DS Analyte	Units : mg/L Result	Type L	Ba Run ID: W	est Code: SM2540C atch ID: W0517DS ETLAB_090517E SpkRefVal %REC		Prep Date:	05/19/2009 00:00 05/19/2009 (Val. %RPD(Limit)	Qua
Solids, Total Dissolved (TDS)	193	10		97	80	120	vai /ora D(Emile)	- 400

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.



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

Date: 26-May-09	•	QC Sumn	nary Report		Work Order 09051301	r:
Method Blank File ID: 09051807.D		Type MBLK	Test Code:Batch ID: MS15W0518M	Analysis Date:	05/18/2009 10:33	
Sample ID: MBLK MS15W0518M	Units : µg/L	Dun II	D: MSD_15_090518B	= = = = = = = = = = = = = = = = = = =	05/18/2009	
Analyte	Result		.Vai SpkRefVal %REC LCL(·		Qual
			(Val Spkhelval %HEC LCL)	(ME) OCL(ME) REDREIV	ai mrb(Liiiii)	Quai
Dichlorodifluoromethane Chloromethane	ND	0.5				
Vinyl chloride	ND ND	1				
Chloroethane	ND ND	0.5 0.5				
Bromomethane	ND	0.5				
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 1,1,1-Trichloroethane	ND	0.5				
1,1-Dichloropropene	ND	0.5				
Carbon tetrachloride	ND	0.5				
Benzene	ND ND	0.5				
Dibromomethane	ND ND	0.5 0.5				
1,2-Dichloropropane	ND	0.5				
Trichloroethene	ND	0.5				
Bromodichloromethane	ND	0.5				
4-Methyl-2-pentanone (MIBK)	ND	2.5				
cis-1,3-Dichloropropene	ND	0.5				
trans-1,3-Dichloropropene	ND	0.5				
1,1,2-Trichloroethane	ND	0.5				
Toluene	ND	0.5				
1,3-Dichloropropane	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 Styrene	ND	0.5				
o-Xylene	ND	0.5				
1,1,2,2-Tetrachloroethane	ND ND	0.5				
1,2,3-Trichloropropane	ND ND	0.5 1				
Isopropylbenzene	ND 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 Surr: 1,2-Dichloroethane-d4	ND 0.16	1	10 00 7	0 120		
Surr: Toluene-d8	9.16 10.3		10 92 70 10 103 70			
22 700000 00	10.3		10 103 /	0 130		



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

Surr: 4-Bromofluorobenzene Laboratory Control Spike	9.42								1
Laboratory Control Spike	3.42		10	94	70	130			
		Type LC	S Test C	Code:					
File ID: 09051804.D			Batch	ID: MS15W051	8M	Analys	is Date:	05/18/2009 09:17	
Sample ID: LCS MS15W0518M	Units : µg/L	F	lun ID: MSD_	15_090518B		Prep D	ate:	05/18/2009	
Analyte	Result	PQL	SpkVal Spk	RefVal %REC	LCL(ME	UCL(ME)	RPDRefV	al %RPD(Limit)	Qua
Dichlorodifluoromethane	12.7	1	10	127	70	130			
Chloromethane	9.84	2	10	98	70	130			
Vinyl chloride	10.9	1	10	109	70	130			
Chloroethane	13.8	1	10	117	70	130			
Bromomethane Trichlorofluoromethane	8.74	2	10	87	70 70	130			
1,1-Dichloroethene	12.9 11.3	1	10 10	129 113	70 70	130 130			
Dichloromethane	11.7	2	10	117	70	130			
trans-1,2-Dichloroethene	10.6	1	10	106	70	130			
Methyl tert-butyl ether (MTBE)	10.3	0.5	10	103	70	130			
1,1-Dichloroethane	10.7	1	10	107	70	130			
cis-1,2-Dichloroethene	10.6	1	10	106	70	130			
Bromochloromethane	11.3	1	10	113	70	130			
Chloroform	10.6	1	10	106	70 70	130			
2,2-Dichloropropane 1,2-Dichloroethane	10.1	1	10	101	70 70	130			
1,1,1-Trichloroethane	11.7 11.4	1	10 10	117 114	70 70	130 130			
1,1-Dichloropropene	11	· i	10	110	70	130			
Carbon tetrachloride	10.2	· i	10	102	70	130			
Benzene	9.67	0.5	10	97	70	130			
Dibromomethane	11.8	1	10	118	70	130			
1,2-Dichloropropane	9.96	1	10	99.6	70	130			
Trichloroethene	10.6	1	10	106	70	130			
Bromodichloromethane cis-1,3-Dichloropropene	10.7	1	10	107	70 70	130			
trans-1,3-Dichloropropene	9.56 9.49	1 1	10 10	96 95	70 70	130 130			
1,1,2-Trichloroethane	10.1	; 1	10	101	70	130			
Toluene	9.18	0.5	10	92	70	130			
1,3-Dichloropropane	9.84	1	10	98	70	130			
Dibromochloromethane	10.2	1	10	102	70	130			
1,2-Dibromoethane (EDB)	19.2	2	20	96	70	130			
Tetrachloroethene	10.2	1	10	102	70	130			
1,1,1,2-Tetrachloroethane	9.13	1	10	91	70	130			
Chlorobenzene Ethylbenzene	8.78	1	10	88	70 70	130 130			
m,p-Xylene	8.39 8.88	0.5 0.5	10 10	84 89	70 70	130			
Bromoform	9.84	1	10	98	70	130			
Styrene	8.42	1	10	84	70	130			
o-Xylene	9.36	0.5	10	94	70	130			
1,1,2,2-Tetrachloroethane	9.42	1	10	94	70	130			
1,2,3-Trichloropropane	20.2	2	20	101	70	130			
lsopropylbenzene Bromobenzene	7.8	1	10	78	70 70	130			
n-Propylbenzene	8.73 8.41	1 1	10 10	87 84	70 70	130 130			
4-Chlorotoluene	8.86	1	10	89	70 70	130			
2-Chlorotoluene	8.76	i	10	88	70	130			
1,3,5-Trimethylbenzene	9.31	1	10	93	70	130			
tert-Butylbenzene	8.61	1	10	86	70	130			
1,2,4-Trimethylbenzene	9.54	1	10	9 5	70	130			
sec-Butylbenzene	8.65	1	10	87	70	130			
1,3-Dichlorobenzene	9.08	1	10	91	70 70	130			
1,4-Dichlorobenzene 4-Isopropyltoluene	9.16 9.05	1 1	10 10	92 91	70 70	130 130			
1,2-Dichlorobenzene	9.54	1	10	95	70	130			
n-Butylbenzene	9.02	1	10	90	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	46.5	3	50	93	70	130			
1,2,4-Trichlorobenzene	11.9	2	10	119	70	130			
Naphthalene	11.4	2	10	114	70	130			
Hexachlorobutadiene	20.9	2	20	104	70	130			
1,2,3-Trichlorobenzene	12.3	2	10	123	70	130			
Surr: 1,2-Dichloroethane-d4 Surr: Toluene-d8	8.91		10	89	70 70	130			
Surr: 101uene-a8 Surr: 4-Bromofluorobenzene	9.75 9.12		10 10	98 91	70 70	130 130			



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

Work Order: Date: **OC Summary Report** 26-May-09 Sample Matrix Spike Type MS Test Code: Analysis Date: 05/18/2009 10:55 File ID: 09051808.D Batch ID: MS15W0518M 09051301-02AMS Sample ID: Units: µg/L Run ID: MSD 15 090518B Prep Date: 05/18/2009 SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Analyte Result **PQL** Qual Dichlorodifluoromethane 54.1 Chloromethane 40.8 Vinyl chloride 47.4 2.5 Chloroethane 57.5 2.5 Bromomethane 33.6 Trichlorofluoromethane 59.3 2.5 1.1-Dichloroethene 49.1 2.5 Dichloromethane 52.6 trans-1,2-Dichloroethene 2.5 Methyl tert-butyl ether (MTBE) 48.7 1.3 1.1-Dichloroethane 2.5 48.3 cis-1.2-Dichloroethene 2.5 Bromochloromethane 52.5 2.5 Chloroform 47.8 2.5 2,2-Dichloropropane 44.5 2.5 1,2-Dichloroethane 55.6 2.5 1,1,1-Trichloroethane 50.8 2.5 1,1-Dichloropropene 48.9 2.5 Carbon tetrachloride 47.7 2.5 Benzene 43.3 1.3 Dibromomethane 53.3 2.5 1,2-Dichloropropane 45.5 2.5 Trichloroethene 46.9 2.5 Bromodichloromethane 49.3 2.5 cis-1,3-Dichloropropene 40.2 2.5 trans-1,3-Dichloropropene 41.8 2.5 1,1,2-Trichloroethane 44.8 2.5 Toluene 1.3 1,3-Dichloropropane 45.7 2.5 Dibromochloromethane 48.3 2.5 1.2-Dibromoethane (EDB) 87.5 Tetrachloroethene 44.4 2.5 1,1,1,2-Tetrachloroethane 42.6 2.5 Chlorobenzene 39.7 2.5 Ethylbenzene 36.9 1.3 m,p-Xylene 37.7 1.3 **Bromoform** 46.8 2.5 Styrene 38.9 2.5 n o-Xylene 41.4 1.3 1,1,2,2-Tetrachloroethane 46.1 2.5 1,2,3-Trichloropropane 98.3 Isopropylbenzene 34.6 2.5 Bromobenzene 39.5 2.5 n-Propylbenzene 36.6 2.5 4-Chlorotoluene 39.7 2.5 2-Chlorotoluene 39.2 2.5 1,3,5-Trimethylbenzene 2.5 41.2 tert-Butylbenzene 38.7 2.5 1,2,4-Trimethylbenzene 41.5 2.5 sec-Butvlbenzene 38.4 2.5 1,3-Dichlorobenzene 41.7 2.5 1,4-Dichlorobenzene 41.8 2.5 4-Isopropyltoluene 40.7 2.5 1.2-Dichlorobenzene 44 5 2.5 n n-Butylbenzene 40.3 2.5 1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene Naphthalene 51.7 Hexachlorobutadiene 96.5 1,2,3-Trichlorobenzene 56.4 Surr: 1,2-Dichloroethane-d4 44.7 Surr: Toluene-d8 48.8 Surr: 4-Bromofluorobenzene



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

Work Order: Date: **OC Summary Report** 09051301 26-May-09 Test Code: Sample Matrix Spike Duplicate Type MSD Analysis Date: 05/18/2009 11:17 File ID: 09051809.D Batch ID: MS15W0518M Units: µg/L Prep Date: 05/18/2009 Sample ID: 09051301-02AMSD Run ID: MSD 15_090518B SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual Analyte Result **PQL** 4.4(20) 0 113 167 54.12 Dichlorodifluoromethane 56.6 2.5 13 Chloromethane 10 0 28 145 40.76 11.9(20) 45.9 50 92 47.38 8.7(20) Vinyl chloride 50 103 43 134 51.7 2.5 Chloroethane 39 3.4(20)154 57.5 55.6 2.5 50 0 111 33.59 16.6(20) Bromomethane 39.7 10 50 0 79 19 176 59.27 3.2(20)Trichlorofluoromethane 2.5 50 0 122 34 160 61.2 49.11 8.8(20) 1.1-Dichloroethene 2.5 50 0 107 60 130 53.6 130 52.59 7.9(20)Dichloromethane 56.9 10 50 0 114 68 7.1(20) 46.99 trans-1,2-Dichloroethene 50.5 2.5 50 0 101 63 130 Methyl tert-butyl ether (MTBE) 56 141 48.65 6.2(20)1.3 50 O 104 51.8 1,1-Dichloroethane 48.02 6.9(20)51.5 2.5 50 103 130 cis-1,2-Dichloroethene 130 48.3 9.0(20)52.8 2.5 50 0 106 70 7.5(20)Bromochloromethane 113 70 130 52.46 56.6 2.5 50 0 6.7(20)Chloroform 51.1 2.5 50 0 102 67 130 47.84 2.2-Dichloropropane 44.52 6.4(20)0 95 30 2.5 50 152 47.4 1,2-Dichloroethane 57.8 2.5 50 0 116 60 135 55.57 3.9(20)6.9(20)50.78 1.1.1-Trichloroethane 59 137 54.4 2.5 50 0 109 48.93 6.0(20)1,1-Dichloropropene 52 2.5 50 0 104 63 130 6.8(20)Carbon tetrachloride 2.5 50 102 50 147 47.65 51 Benzene 46.7 1.3 50 0 93 67 130 43.27 7.7(20)Dibromomethane 53.28 5.4(20) 56.2 2.5 50 112 69 133 45.51 130 7.6(20)1.2-Dichloropropane 49.1 2.5 50 0 98 69 Trichloroethene 101 69 130 46.85 7.7(20)50.6 2.5 50 0 6.8(20)Bromodichloromethane 105 66 134 49.26 52.7 2.5 50 cis-1,3-Dichloropropene 130 40.24 7.9(20)63 43.5 2.5 50 0 87 trans-1,3-Dichloropropene 41.81 4.7(20)43.8 2.5 50 0 88 66 131 1,1,2-Trichloroethane 44.82 6.9(20)48 2.5 50 0 96 68 130 6.1(20)Toluene 85 66 130 39.97 42.5 1.3 50 0 1,3-Dichloropropane 47.1 2.5 50 94 70 130 45.69 3.0(20)3.9(20)Dibromochloromethane 100 70 130 48.3 50.2 2.5 50 0 1,2-Dibromoethane (EDB) 91.1 10 100 0 91 70 130 87.5 4.1(20)Tetrachloroethene 44.44 6.8(20)47.6 2.5 50 0 95 61 134 1,1,1,2-Tetrachloroethane 2.5 90 70 130 42.6 5.2(20) 44.9 50 0 6.1(20)Chlorobenzene 84 130 39.74 42.2 2.5 50 Ethylbenzene 80 68 130 36.93 7.6(20)39.9 1.3 50 0 m,p-Xylene 37.66 6.8(20) 0 81 64 130 40.3 1.3 50 46.78 6.5(20)**Bromoform** 0 99.9 64 138 49.9 2.5 50 Styrene 69 130 38.91 7.3(20)41.9 2.5 50 0 84 41.35 8.5(20) o-Xvlene 45 1.3 50 0 90 70 130 6.2(20) 1,1,2,2-Tetrachloroethane 49 2.5 50 0 98 65 131 46.06 1,2,3-Trichloropropane 70 98.29 2.6(20)100 101 130 101 10 n Isopropylbenzene 38.4 2.5 50 77 64 138 34.64 10.2(20) 6.4(20) 39.49 Bromobenzene 70 130 42.1 2.5 50 0 84 n-Propylbenzene 2.5 0 80 66 132 36.6 8.9(20) 40 50 8.5(20) 4-Chlorotoluene 43.2 2.5 0 86 70 130 39.66 50 2-Chlorotoluene 0 86 70 130 39.17 9.0(20)2.5 50 42.8 1.3.5-Trimethylbenzene 66 136 41.22 6.3(20)43.9 2.5 50 0 88 38.74 8.2(20) tert-Butylbenzene 65 137 42 2.5 50 0 84 41.54 7.5(20) 1,2,4-Trimethylbenzene 2.5 0 90 65 137 44 8 50 9.8(20) 38.35 sec-Butylbenzene 42.3 2.5 50 0 85 66 134 70 130 41.72 9.2(20)1.3-Dichlorobenzene 45.8 2.5 50 0 92 1,4-Dichlorobenzene 41.79 8.4(20)45.5 2.5 50 91 130 40.71 8.6(20) 4-Isopropyltoluene 44.4 2.5 50 0 89 66 137 5.8(20) 1,2-Dichlorobenzene 47.1 70 130 44.46 2.5 50 Ω 94 n-Butylbenzene 2.5 0 88 60 142 40.33 8.6(20) 50 217.6 7.0(20)1,2-Dibromo-3-chloropropane (DBCP) 93 67 130 233 250 0 15 1,2,4-Trichlorobenzene 60.7 10 50 0 121 61 137 11.7(20) 10.6(20) 51.69 Naphthalene 57.5 10 50 0 115 40 167 Hexachlorobutadiene 61 130 96.47 9.8(20) 0 106 106 10 100 1,2,3-Trichlorobenzene 51 144 56.43 13.4(20) 64.6 10 50 129 Surr: 1.2-Dichloroethane-d4 89 70 130 44.7 50 70 Surr: Toluene-d8 49.2 50 98 130 Surr: 4-Bromofluorobenzene 92 70 130 46.1



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

Date:	OC Communicate Property	Work Order:
26-May-09	QC Summary Report	09051301

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

Report Due By: 5:00 PM On: 28-May-2009

WorkOrder: BMIS09051301

AMENDED

Report AttentionPhone NumberEMail AddressDavid Conner(818) 393-2808 xconnerd@battelle.orgShane Walton(614) 424-4117 xwaltons@battelle.org

San Diego, CA 92110 O: 218013

3990 Old Town Ave Suite C-205 Client:

Battelle Memorial Institute

Client's COC #: 25550

waltons@battelle.org EDD Required : No

Sampled by : Client

Cooler Temp San

Samples Received Date Printed
13-May-2009 14-May-2009

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

Job: G005862/JPL Groundwater Monitoring

Betsy Cutie

(614) 424-4899 x

cutiee@batelle.org

										Requested Tests	ed Tests				The second section of the section of the second section of the section of the second section of the sect
Alpha Sample ID	Client Sample ID	Collecti Matrix Date	9	No. of Alpha	No. of Bottles Alpha Sub	TAT	300_0(A)_W 300_0(B)_W 300_0(C)_W	300_0(B)_W	300_0(C)_W	314_W	ALKALINIT Y_W	314_W ALKALINIT METALS_D	PH_W	TDS	Sample Remarks
BMI09051301-01A	MW-11-5	AQ 05	05/12/09 08:37	Ŋ	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca,	Hq	TDS	
BMI09051301-02A	MW-11-4	AQ 05	05/12/09 09:29	10	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Ct, Pb, As, Na, K, Ca,	pH	TDS	MS/MSD
BMI09051301-03A	MW-11-3	AQ 05	05/12/09 10:26	Οī	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09051301-04A	MW-11-2	AQ 05	05/12/09 10:54	5	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	Hq	TDS	
BMI09051301-05A	MW-11-1	AQ 05	05/12/09 11:32	σ 1	o	10	NO2, NO3, SO4, Cl, Ortho - P	NO2, NO3, SO4, Cl, Ortho - P	NO2, NO3, SO4, Ct, Ortho - P	Perchlorate	Alk (Bicarb, Carb, Total)	Cr. Pb, As, Na, K, Ca, Mg, Fe	PH	TDS	Level IV QC
BMI09051301-06A	EB-12-05/12/09	AQ 05	05/12/09 11:17	5	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Cr. Pb, As, Carb, Total) Na, K, Ca, Mg, Fe	Cr, Pb, As, Na, K, Ca, Mg, Fe	рН	TDS	
BMI09051301-07A	TB-12-05/12/09	AQ 05	05/12/09 00:00		0	10									Reno Trip Blank 3/16/09

Logged in by: Canal th Clacox Elizabeth Holcox Alpha Analytical, Inc. Company 5.1409 149 Date/Time

No security seals. Frozen ice. Temp Blank #2587 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Added

Comments:

ortho - P to sample -05A due to login error. EA:

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

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

Report Due By: 5:00 PM On: 28-May-2009

WorkOrder: BMIS09051301

CA AMENDED 02

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

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

Battelle Memorial Institute

3990 Old Town Ave Suite C-205

EDD Required: No

Sampled by: Client

Cooler Temp

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

Client's COC #: 25550

PO: 218013

San Diego, CA 92110

Betsy Cutie

(614) 424-4899 x

cutiee@batelle.org

Samples Received 13-May-2009 14-May-2009 **Date Printed**

BMI09051301-06A EB-12-05/12/09 BMI09051301-03A MW-11-3 Sample ID BMI09051301-07A BMI09051301-05A MW-11-1 BMI09051301-04A MW-11-2 BMI09051301-01A MW-11-5 QC Level: DS4 BMI09051301-02A MW-11-4 TB-12-05/12/09 Sample ID Client AQ 05/12/09 08:37 å Š Š Matrix Date Š 05/12/09 05/12/09 10:54 05/12/09 10:26 05/12/09 11:32 05/12/09 11:17 05/12/09 09:29 Collection No. of Bottles Alpha Sub TAT G 5 S S 0 0 0 0 0 0 5 **a** 6 6 5 5 VOC_TIC_ VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 VOC by 524 VOC by 524 Criteria Criteria Requested Tests Reno Trip Blank 3/16/09 Sample Remarks Level IV QC MS/MSD

Comments: ortho - P to sample -05A due to login error. EA: No security seals. Frozen ice. Temp Blank #2587 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Added

Logged in by: NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. matouth lacox Elizabeth Adrax Alpha Analytical, Inc. Company 5.14.09 1419 Date/Time

Matrix Type: AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

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

Client

Battelle Memorial Institute

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

EDD Required: Yes

Report Due By: 5:00 PM On: 28-May-2009

WorkOrder: BMIS09051301

Page: 1 of

Sampled by: Client

Cooler Temp

Samples Received

13-May-2009 13-May-2009 Date Printed

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

. მ

G005862/JPL Groundwater Monitoring

Client's COC #: 25550

PO: 218013

San Diego, CA 92110

Betsy Cutie

(614) 424-4899 x

cutiee@batelle.org

Suite C-205 3990 Old Town Ave

	!									Requested Tests	ed Tests				
Aipna Sample ID	Client Sample ID	Matri	Collection Matrix Date /	No. of Bottle Alpha Sub	No. of Bottles Alpha Sub	TAT	300_0(A)_W 300_0(B)_W 300_0(C)_W	300_0(B)_W	300_0(C)_W		314_W ALKALINIT METALS_D Y_W W	METALS_D W	PH_W	TDS	Sample Remarks
BMI09051301-01A	MW-11-5	Ą	05/12/09 08:37	5	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Perchlorate Alk (Bicarb, Carb, Total)	Cr. Pb, As, Na, K, Ca,	pН	TDS	
						-	-		-			Mg, Fe		_	
BMI09051301-02A	MW-11-4	Ą	05/12/09 09:29	10	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	zρi	рH	TDS	MS/MSD
												Mg, Fe			
BMI09051301-03A	MW-11-3	Ą	05/12/09 10:26	Ŋ	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca,	pН	TDS	3.00
200014004044												Mg, Fe			
BMI09051301-04A	MW-11-2	Ą	05/12/09 10:54	Οī	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, C1	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca,	pН	TDS	
DAMINOS AND OF A												Mg, re			
BMI09051301-05A	MW-11-1	Ą	05/12/09 11:32	U 1	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, C1	NO2, NO3, SO4, C1	Perchlorate	Perchlorate Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca,	рН	TDS	Level IV QC
BMI09051301-06A	EB-12-05/12/09	ΑQ	05/12/09 11:17	51	0	10	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	NO2, NO3, SO4, CI	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca,	рН	TDS	
DAMINONE AND A OF A	To or large	•										Mg, Fe			
BMI09051301-07A 1B-12-05/12/09	18-12-05/12/09	Ã	05/12/09		0	10									Reno Trip Blank 3/16/09

Comments: No security seals. Frozen ice, Temp Blank #2587 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by:	
 Canabeth U	Signature
don Elizab	P
th Fldcox	rint Name
Alpha Analytical, Inc.	Company
 5-13-09 9:47	

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

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

Report Due By: 5:00 PM On: 28-May-2009

WorkOrder: BMIS09051301

Page: 2012

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

Client:

Battelle Memorial Institute

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

EDD Required: Yes Sampled by: Client

Cooler Temp

Date Printed

Samples Received 13-May-2009 13-May-2009

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

Job :

G005862/JPL Groundwater Monitoring

Client's COC #: 25550

PO: 218013

San Diego, CA 92110

Suite C-205 3990 Old Town Ave

BMI09051301-07A BMI09051301-06A EB-12-05/12/09 BMI09051301-05A BMI09051301-04A MW-11-2 BMI09051301-01A MW-11-5 Sample ID BMI09051301-03A MW-11-3 BMI09051301-02A MW-11-4 TB-12-05/12/09 MW-11-1 Client Sample ID AQ 05/12/09 08:37 å ð å Matrix Date Š ģ å 05/12/09 00:00 05/12/09 11:17 05/12/09 11:32 05/12/09 10:54 05/12/09 10:26 05/12/09 09:29 Collection No. of Bottles Alpha Sub G S G S 6 0 0 0 0 0 0 0 TAT 10 7 6 3 6 7 5 VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 Criteria Criteria VOC by 524 | VOC by 524 Criteria | Criteria VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 Criteria Criteria VOC by 524 VOC by 524 Criteria Criteria VOC_TIC_ VOC_W Requested Tests Reno Trip Blank 3/16/09 Sample Remarks Level IV QC MS/MSD

No security seals. Frozen ice. Temp Blank #2587 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Comments:

	Logged in by: Lingubath (Lacox	Signature
	Elizabuth Eldcox	Print Name
	Alpha Analytical, Inc.	Company
5	5.13.09 9:47	Date/Time

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

Billing Information:			J	Samples Collected From Which State?	s Coll	ected	Froi	n Whi	ch Sta	S	コカカコ
Semolo		Alpha Analytical, inc. 255 Glendale Avenue, Suite 21 Sparks Nevada 89431-5778	-	N	S CA	1	NV OTHER	R		Dage #	/ or /
Dity, State, Zip Columbus, OH 43201		Phone (775) 355-1044 Fax (775) 355-0406	<u> </u>			-	,		•		
Phone Number Fax Fax					ז	naiys	es na	Analyses Required		_	
Client Name DAVID CONNER	PO.# 218013	1985009 # qor	62	2)	8	2) b.o.	~ .\I	\prec	/ Require	Required QC Level?
77	EMail Address			24.	CAN CAN	Z00.	70 Za		*	/ 1 11	(III) IV
DIEGO, CA 92110	Phone # 619-726-731	// Fax#		É	ZSEM HOM.	'EX.	HEM	60.1 PHATE 31		EDD / EDF? YES	S NO
Matrix* Sampled by	Report Attention		Total and type of	PI	V C	Lay	20	**************************************	_	Global ID #	
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	TAT Field Filtered	** See below	107 107	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	C	Ge. 310.	0.7	<u></u>	REMARKS	RKS
837 1/26 10 BMIU905/301-01	MW-11-5		×	X	×	×	×				
			10 ×	X	×	×	×		7	MS/MSD	
1026 .03			x(X	×	X	Х				
	MW-11-2		×	X,	×	×	×				
			×	×	X	×	×	×	81	OR LEVEL	A
-0(4			×	×	×	X	\times		0	EQUIPMENT BLANK	BLANK
.07	73-12-05/12/09		+4 ×						-{	THE BLANK	κ
ADDITIONAL INSTRUCTIONS:											
Signature	Print Name			Company	<			_	Date	ē	Time
Relinquished by	CHASE BUGT	a a	11811	1	1				5/12	18	1300
Received by Chath the Coy Relinquished by	Elizabeth Ac	Cox			pha			()	5./3	60.	7:47
Received by											
Relinquished by			2 2 3								
Received by											
*Key: AQ - Aqueous SO - Soil WA - Waste	te OT - Other AR - Air	**: L-Liter V-Voa	S-Soil Jar	O-Orbo		T-Tedlar		B-Brass	ط	P-Plastic	OT-Other

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

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



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

Date: 21-May-09
David Conner

Battelle Memorial Institute

3990 Old Town Ave

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

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

Work Order:

BMI09051205

Cooler Temp:

4°C

	`	
Matrix	Client's Sample ID	Alpha's Sample ID
Aqueous	MW-19-5	09051205-01A
Aqueous	MW-19-4	09051205-02A
Aqueous	MW-19-3	09051205-03A
Aqueous	MW-19-2	09051205-04A
Aqueous	MW-19-1	09051205-05A
Aqueous	DUPE-08-2Q09	09051205-06A
Aqueous	EB-11-05/11/09	09051205-07A
Aqueous	TB-11-05/11/09	09051205-08A

Manually Integrated Analytes

Manually Integrated Analytes				
Alpha's Sample ID	Test Reference	Analyte		
09051205-01A	EPA Method 314.0	Perchiorate		
09051205-02A	EPA Method 314.0	Perchlorate		
09051205-03A	EPA Method 314.0	Perchlorate		
09051205-04A	EPA Method 314.0	Perchlorate		
09051205-05A	EPA Method 314.0	Perchlorate		
09051205-06A	EPA Method 314.0	Perchlorate		

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

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

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

Roger Scholl

Kandy Saulner

Walter Hinkow



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

ANALYTICAL REPORT

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

Attn: David Conner

Phone: (818) 393-2808

Fax: (614) 458-6641

Date Received: 05/12/09

Job#:

G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting	Date / Time	Date / Time
			Limit	Sampled	Analyzed
Client ID: MW-19-5	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/09 08:42	05/12/09 13:24
Lab ID: BMI09051205-01A	Nitrate (NO3) - N	8.1	0.25 mg/L	05/11/09 08:42	05/12/09 13:24
Client ID: MW-19-4	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/09 00:00	05/12/09 13:42
Lab ID: BMI09051205-02A	Nitrate (NO3) - N	9.1	0.25 mg/L	05/11/09 00:00	05/12/09 13:42
Client ID: MW-19-3	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/09 00:00	05/12/09 14:00
Lab ID: BMI09051205-03A	Nitrate (NO3) - N	11	0.25 mg/L	05/11/09 00:00	05/12/09 14:00
Client ID: MW-19-2	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/09 00:00	05/12/09 14:19
Lab ID: BMI09051205-04A	Nitrate (NO3) - N	16	1.3 mg/L	05/11/09 00:00	05/12/09 16:10
Client ID: MW-19-1	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/09 00:00	05/12/09 14:38
Lab ID: BMI09051205-05A	Nitrate (NO3) - N	8.3	0.25 mg/L	05/11/09 00:00	05/12/09 14:38
Client ID: DUPE-08-2Q09	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/09 00:00	05/12/09 14:56
Lab ID: BMI09051205-06A	Nitrate (NO3) - N	9.1	0.25 mg/L	05/11/09 00:00	05/12/09 14:56
Client ID: EB-11-05/11/09	Nitrite (NO2) - N	ND	0.25 mg/L	05/11/09 11:07	05/12/09 15:15
Lab ID: BMI09051205-07A	Nitrate (NO3) - N	ND	0.25 mg/L	05/11/09 11:07	05/12/09 15:15

ND = Not Detected

Roger L. Scholl Ph. D. Laboratory Director . . Randy Gardner Laboratory Manager . . . Wa

Walter Hinkman

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com
Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.

5/



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

ANALYTICAL REPORT

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

Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/12/09

Job#:

G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0 / 9056

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	MW-19-5					
Lab ID:	BMI09051205-01A	Chloride	64	2.5 mg/L	05/11/09	05/12/09
		Sulfate (SO4)	78	0.50 mg/L	05/11/09	05/12/09
Client ID:	MW-19-4					
Lab ID:	BMI09051205-02A	Chloride	47	2.5 mg/L	05/11/09	05/12/09
		Sulfate (SO4)	62	0.50 mg/L	05/11/09	05/12/09
Client ID:	MW-19-3					
Lab ID:	BMI09051205-03A	Chloride	47	0.50 mg/L	05/11/09	05/12/09
		Sulfate (SO4)	44	0.50 mg/L	05/11/09	05/12/09
Client ID:	MW-19-2					
Lab ID:	BMI09051205-04A	Chloride	95	2.5 mg/L	05/11/09	05/12/09
		Sulfate (SO4)	140	2.5 mg/L	05/11/09	05/12/09
Client ID:	MW-19-1			Ü		
Lab ID :		Chl. 24		0.5 //	05/11/00	05/12/00
Lau ID .	BMI09051205-05A	Chloride	51	2.5 mg/L	05/11/09	05/12/09
		Sulfate (SO4)	59	0.50 mg/L	05/11/09	05/12/09
Client ID:	DUPE-08-2Q09					
Lab ID:	BMI09051205-06A	Chloride	47	2.5 mg/L	05/11/09	05/12/09
		Sulfate (SO4)	62	0.50 mg/L	05/11/09	05/12/09
Client ID:	EB-11-05/11/09					
Lab ID :	BMI09051205-07A	Chloride	ND	0.50 mg/L	05/11/09	05/12/09
		Sulfate (SO4)	ND	0.50 mg/L	05/11/09	05/12/09
		• /		· ·		

ND = Not Detected

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

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



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

ANALYTICAL REPORT

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

Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/12/09

Job#:

G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Date Sampled Analyzed
Client ID: Lab ID:	MW-19-5 BMI09051205-01A	Perchlorate	2.81	1.00 μg/L	05/11/09 05/13/09
Client ID: Lab ID:	MW-19-4 BMI09051205-02A	Perchlorate	3.08	1.00 μg/L	05/11/09 05/13/09
Client ID : Lab ID :	MW-19-3 BMI09051205-03A	Perchlorate	2.89	1.00 µg/L	05/11/09 05/13/09
Client ID : Lab ID :	MW-19-2 BMI09051205-04A	Perchlorate	5.05	1.00 µg/L	05/11/09 05/13/09
Client ID: Lab ID:	MW-19-1 BMI09051205-05A	Perchlorate	7.07	1.00 µg/L	05/11/09 05/13/09
Client ID: Lab ID:	DUPE-08-2Q09 BMI09051205-06A	Perchlorate	2.85	1.00 µg/L	05/11/09 05/13/09
Client ID: Lab ID:	EB-11-05/11/09 BMI09051205-07A	Perchlorate	ND	1.00 μg/L	05/11/09 05/13/09

ND = Not Detected

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

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

5/26/09



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

ANALYTICAL REPORT

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

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

Date Received: 05/12/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity SM2320B

	Parameter		Concentration	Reporting	Date	Date
				Limit	Sampled	Analyzed
Client ID:	MW-19-5					
Lab ID:	BMI09051205-01A	Alkalinity, Bicarbonate (As CaCO3)	200	10 mg/L	05/11/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/11/09	05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	200	10 mg/L	05/11/09	05/13/09
Client ID:	MW-19-4					
Lab ID:	BMI09051205-02A	Alkalinity, Bicarbonate (As CaCO3)	160	10 mg/L	05/11/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/11/09	05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	160	10 mg/L	05/11/09	05/13/09
Client ID:	MW-19-3					
Lab ID:	BMI09051205-03A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	05/11/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/11/09	05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	170	10 mg/L	05/11/09	05/13/09
Client ID:	MW-19-2					
Lab ID:	BMI09051205-04A	Alkalinity, Bicarbonate (As CaCO3)	210	10 mg/L	05/11/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/11/09	05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	210	10 mg/L	05/11/09	05/13/09
Client ID:	MW-19-1					
Lab ID:	BMI09051205-05A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	05/11/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/11/09	05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	170	10 mg/L	05/11/09	05/13/09
Client ID:	DUPE-08-2Q09					
Lab ID:	BMI09051205-06A	Alkalinity, Bicarbonate (As CaCO3)	160	10 mg/L	05/11/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L		05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	160	10 mg/L	05/11/09	05/13/09
Client ID:	EB-11-05/11/09					
Lab ID:	BMI09051205-07A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/11/09	05/13/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L		05/13/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L		05/13/09



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

Roger Scholl Kandy Saulman Walter Arrihour Roger L. Scholl, Ph.D., Laboratory Director · Randy Gardner, Laboratory Manager · · Walter Hinchman, Quality Assurance Officer

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

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

0 5/26/09



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

ANALYTICAL REPORT

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

Attn: David Conner

Phone: (818) 393-2808

Fax: (614) 458-6641

Date Received: 05/12/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

		Parameter	Concentration	Reporting	Date	Date
				Limit	Sampled	Analyzed
Client ID:	MW-19-5					
Lab ID:	BMI09051205-01A	Sodium (Na)	34	0.50 mg/L	05/11/09	05/18/09
		Magnesium (Mg)	33	0.50 mg/L	05/11/09	05/18/09
		Potassium (K)	3.0	0.50 mg/L	05/11/09	05/18/09
		Calcium (Ca)	72	0.50 mg/L	05/11/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/11/09	05/18/09
		Iron (Fe)	0.70	0.10 mg/L	05/11/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/11/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/11/09	05/18/09
Client ID:	MW-19-4					
Lab ID:	BMI09051205-02A	Sodium (Na)	35	0.50 mg/L	05/11/09	05/18/09
		Magnesium (Mg)	28	0.50 mg/L	05/11/09	05/18/09
		Potassium (K)	3.0	0.50 mg/L	05/11/09	05/18/09
		Calcium (Ca)	55	0.50 mg/L	05/11/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/11/09	05/18/09
		Iron (Fe)	0.50	0.10 mg/L	05/11/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/11/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/11/09	05/18/09
Client ID:	MW-19-3					
Lab ID:	BMI09051205-03A	Sodium (Na)	28	0.50 mg/L	05/11/09	05/18/09
		Magnesium (Mg)	24	0.50 mg/L	05/11/09	05/18/09
		Potassium (K)	2.6	0.50 mg/L	05/11/09	05/18/09
		Calcium (Ca)	63	0.50 mg/L	05/11/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/11/09	05/18/09
		Iron (Fe)	0.58	0.10 mg/L	05/11/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/11/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/11/09	05/18/09
Client ID:	MW-19-2					
Lab ID :	BMI09051205-04A	Sodium (Na)	35	0.50 mg/L		05/18/09
		Magnesium (Mg)	42	0.50 mg/L	05/11/09	05/18/09
		Potassium (K)	3.0	0.50 mg/L	05/11/09	05/18/09
		Calcium (Ca)	130	0.50 mg/L		05/18/09
		Chromium (Cr)	0.0053	0.0050 mg/L	05/11/09	05/18/09
		Iron (Fe)	4.6	0.10 mg/L	05/11/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/11/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/11/09	05/18/09



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

Client ID:	MW-19-1					
Lab ID:	BMI09051205-05A	Sodium (Na)	19	0.50 mg/L	05/11/09	05/18/09
		Magnesium (Mg)	26	0.50 mg/L	05/11/09	05/18/09
		Potassium (K)	3.6	0.50 mg/L	05/11/09	05/18/09
		Calcium (Ca)	72	0.50 mg/L	05/11/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/11/09	05/18/09
		Iron (Fe)	1.1	0.10 mg/L	05/11/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/11/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/11/09	05/18/09
Client ID:	DUPE-08-2Q09					
Lab ID:	BMI09051205-06A	Sodium (Na)	33	0.50 mg/L	05/11/09	05/18/09
		Magnesium (Mg)	26	0.50 mg/L	05/11/09	05/18/09
		Potassium (K)	2.7	0.50 mg/L	05/11/09	05/18/09
		Calcium (Ca)	58	0.50 mg/L	05/11/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/11/09	05/18/09
		Iron (Fe)	0.59	0.10 mg/L	05/11/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/11/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/11/09	05/18/09
Client ID:	EB-11-05/11/09					
Lab ID:	BMI09051205-07A	Sodium (Na)	ND	0.50 mg/L	05/11/09	05/18/09
		Magnesium (Mg)	ND	0.50 mg/L	05/11/09	05/18/09
		Potassium (K)	ND	0.50 mg/L	05/11/09	05/18/09
		Calcium (Ca)	ND	0.50 mg/L	05/11/09	05/18/09
		Chromium (Cr)	ND	0.0050 mg/L	05/11/09	05/18/09
		Iron (Fe)	ND	0.10 mg/L	05/11/09	05/18/09
		Arsenic (As)	ND	0.0020 mg/L	05/11/09	05/18/09
		Lead (Pb)	ND	0.0050 mg/L	05/11/09	05/18/09

ND = Not Detected

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

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



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave San Diego, CA 92110 Attn: David Conner Phone: (818) 393-2808 Fax: (614) 458-6641 Date Received: 05/12/09

Job#:

G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4) EPA Method 150.2 / SM4500HB / SW9040C

	Parameter	Concentration	Reporting	Date / Time	Date / Time
			Limit	Sampled	Analyzed
Client ID: MW-19-5	рН	7.8	1.7 pH Units	05/11/09 08:42	05/12/09 14:34
Lab ID: BMI09051205-01A	pH - Temperature	19	1.0 °C	05/11/09 08:42	05/12/09 14:34
Client ID: MW-19-4	рН	8.0	1.7 pH Units	05/11/09 00:00	05/12/09 14:37
Lab ID: BMI09051205-02A	pH - Temperature	19	1.0 °C	05/11/09 00:00	05/12/09 14:37
Client ID: MW-19-3	рН	7.4	1.7 pH Units	05/11/09 00:00	05/12/09 14:40
Lab ID: BMI09051205-03A	pH - Temperature	19	1.0 °C	05/11/09 00:00	05/12/09 14:40
Client ID: MW-19-2	рН	7.1	1.7 pH Units	05/11/09 00:00	05/12/09 14:47
Lab ID: BMI09051205-04A	pH - Temperature	19	1.0 °C	05/11/09 00:00	05/12/09 14:47
Client ID: MW-19-1	pН	7.6	1.7 pH Units	05/11/09 00:00	05/12/09 14:50
Lab ID: BMI09051205-05A	pH - Temperature	19	1.0 °C	05/11/09 00:00	05/12/09 14:50
Client ID: DUPE-08-2Q09	рН	7.9	1.7 pH Units	05/11/09 00:00	05/12/09 14:53
Lab ID: BMI09051205-06A	pH - Temperature	19	1.0 °C	05/11/09 00:00	05/12/09 14:53
Client ID: EB-11-05/11/09	рН	6.3	1.7 pH Units	05/11/09 11:07	05/12/09 14:56
Lab ID: BMI09051205-07A	pH - Temperature	20	1.0 °C	05/11/09 11:07	05/12/09 14:56

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

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

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

5/26/09



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

ANALYTICAL REPORT

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

Attn: David Conner

Phone: (818) 393-2808

Fax: (614) 458-6641 Date Received: 05/12/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)

SM2540C

		777			
		Parameter	Concentration	Reporting Limit	Date Date Sampled Analyzed
Client ID : Lab ID :	MW-19-5 BMI09051205-01A	Solids, Total Dissolved (TDS)	460	10 mg/L	05/11/09 05/19/09
Client ID : Lab ID :	MW-19-4 BMI09051205-02A	Solids, Total Dissolved (TDS)	360	10 mg/L	05/11/09 05/19/09
Client ID : Lab ID :	MW-19-3 BMI09051205-03A	Solids, Total Dissolved (TDS)	370	10 mg/L	05/11/09 05/19/09
Client ID: Lab ID:	MW-19-2 BMI09051205-04A	Solids, Total Dissolved (TDS)	660	10 mg/L	05/11/09 05/19/09
Client ID: Lab ID:	MW-19-1 BMI09051205-05A	Solids, Total Dissolved (TDS)	380	10 mg/L	05/11/09 05/19/09
Client ID: Lab ID:	DUPE-08-2Q09 BMI09051205-06A	Solids, Total Dissolved (TDS)	370	10 mg/L	05/11/09 05/19/09
Client ID: Lab ID:	EB-11-05/11/09 BMI09051205-07A	Solids, Total Dissolved (TDS)	ND	10 mg/L	05/11/09 05/19/09

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

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



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave San Diego, CA 92110 Attn: David Conner Phone: (818) 393-2808 Fax: (614) 458-6641

Job#: G005862/JPL Groundwater Monitoring

Tentatively Identified Compounds - Volatile Organics by GC/MS

				Estimated			
		Parameter	Estimated	Reporting	Date	Date	Date
			Concentration	Limit	Received	Sampled	Analyzed
Client ID: Lab ID:	MW-19-5 BMI09051205-01A	* * * None Found * * *	ND	2.0 μg/L	05/12/09	05/11/09	05/14/09
Client ID: Lab ID:	MW-19-4 BMI09051205-02A	* * * None Found * * *	ND	2.0 μg/L	05/12/09	05/11/09	05/14/09
Client ID: Lab ID:	MW-19-3 BMI09051205-03A	* * * None Found * * *	ND	2.0 μg/L	05/12/09	05/11/09	05/14/09
Client ID : Lab ID :	MW-19-2 BMI09051205-04A	* * * None Found * * *	ND	2.0 μg/L	05/12/09	05/11/09	05/14/09
Client ID: Lab ID:	MW-19-1 BMI09051205-05A	* * * None Found * * *	ND	2.0 μg/L	05/12/09	05/11/09	05/14/09
Client ID : Lab ID :	DUPE-08-2Q09 BMI09051205-06A	* * * None Found * * *	ND	2.0 μg/L	05/12/09	05/11/09	05/14/09
Client ID: Lab ID:	EB-11-05/11/09 BMI09051205-07A	2-Methyl-1-propene Tertiary Butyl Alcohol (TBA)	2.8 16	2.0 μg/L 10 μg/L	05/12/09 05/12/09	05/11/09 05/11/09	05/14/09 05/14/09
Client ID:	TB-11-05/11/09 BMI09051205-08A	* * * None Found * * *	ND	2.0 μg/L	05/12/09	05/11/09	05/14/09

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

loger Scholl Randy

• Walter Hinchman Quality Assurance Office

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

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

Report Date



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

Date: 19-May-09

David Conner

Battelle Memorial Institute

3990 Old Town Ave

San Diego, CA 92110 (818) 393-2808

Suite C-205

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

Work Order:

BMI09051205

Cooler Temp:

4°C

Alpha's Sample ID	Client's Sample ID	Matrix
09051205-01A	MW-19-5	Aqueous
09051205-02A	MW-19-4	Aqueous
09051205-03A	MW-19-3	Aqueous
09051205-04A	MW-19-2	Aqueous
09051205-05A	MW-19-1	Aqueous
09051205-06A	DUPE-08-2Q09	Aqueous
09051205-07A	EB-11-05/11/09	Aqueous
09051205-08A	TB-11-05/11/09	Aqueous

Manually Integrated Analytes

Alpha's Sample ID

Test Reference

Analyte

NONE

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

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

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

Roger Scholl

Kandy Soulner

Walter Hirkon



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

ANALYTICAL REPORT

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

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051205-01A

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

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

Fax: (614) 458-6641

Sampled: 05/11/09 Received: 05/12/09

Analyzed: 05/14/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	* 0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m.p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xvlene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	97	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	105	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	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					

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5% recovery.

ND = Not Detected

Tetrachloroethene

Kandg Saulner Roger Scholl

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

μg/L

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

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

5/26/09 **Report Date**



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051205-02A

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

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

Fax: (614) 458-6641

Sampled: 05/11/09

Received: 05/12/09 Analyzed: 05/14/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	* 0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	. ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	· ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ; ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	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	105	(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	μα/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5% recovery.

ND = Not Detected

35 Tetrachloroethene

Roger Scholl Kandy Sanlaur

Walter Firehour

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

μg/L

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

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

5/26/09

Report Date
Page 1 of 1



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

ANALYTICAL REPORT

Attn:

Fax:

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051205-03A

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

Sampled: 05/11/09 Received: 05/12/09 Analyzed: 05/14/09

Phone: (818) 393-2808

David Conner

(614) 458-6641

Volatile Organics by GC/MS

	Compound	Concentration	ncentration Reporting L		Limit Compound		Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	* 0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L.	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	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	92	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L					
33	Dibromochloromethane	ND	0.50	μg/L					
24	4.0 Diberes - (EDD)			. •					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

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

μg/L

μg/L

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

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

5/26/09

^{*}Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5% recovery.



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051205-04A Client I.D. Number: MW-19-2

Attn:

David Conner Phone: (818) 393-2808

Fax:

(614) 458-6641

Sampled: 05/11/09

Received: 05/12/09 Analyzed: 05/14/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting I	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	* 0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	, ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L.
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	· ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	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/Ľ	64	Surr: 1,2-Dichloroethane-d4	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	102	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	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					

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5% recovery.

ND = Not Detected

35 Tetrachloroethene

Roger Scholl

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

μg/L

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

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

5/26/09

Report Date Page 1 of 1



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

ANALYTICAL REPORT

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

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051205-05A

Client I.D. Number: MW-19-1

Attn:

David Conner Phone: (818) 393-2808

Fax:

(614) 458-6641

Sampled: 05/11/09 Received: 05/12/09

Analyzed: 05/14/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	* 0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	0.52	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	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					

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5% recovery.

ND

ND

ND = Not Detected

33 Dibromochloromethane

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

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

μg/L

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

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

5/26/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051205-06A Client I.D. Number: DUPE-08-2Q09

Attn:

David Conner Phone: (818) 393-2808

Fax:

(614) 458-6641

Sampled: 05/11/09 Received: 05/12/09

Analyzed: 05/14/09

Volatile Organics by GC/MS

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

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5% recovery.

ND = Not Detected

35 Tetrachloroethene

Roger Scholl Kandg Saulner

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

μg/L

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

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

5/26/09

Report Date



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

ANALYTICAL REPORT

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

#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051205-07A

Client I.D. Number: EB-11-05/11/09

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

Sampled: 05/11/09 Received: 05/12/09

Analyzed: 05/14/09

Volatile Organics by GC/MS

	Compound	Concentration	Re	porting l	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	ug/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	: ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND		0.50	μg/L.	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC)	P) ND	2.5	μg/L
25	Trichloroethene	ND		0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND		0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	μ g /L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND		0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	89	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	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					
24	1.0 Dibanasa Abana (EDD)				·					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl Kandy Saulur

Walter Hiriham

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

1.0

μg/L

µg/L

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

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

5/26/09

Report Date

^{*}Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5% recovery.



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09051205-08A

Client I.D. Number: TB-11-05/11/09

Attn:

David Conner Phone: (818) 393-2808

Fax:

(614) 458-6641

Sampled: 05/11/09

Received: 05/12/09 Analyzed: 05/14/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	* 0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	, ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochioromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	: ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	89	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	108	(70-130)	%RE0
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	94	(70-130)	%RE0
32	1,3-Dichloropropane	ND	0.50	μg/L			•	•	
33	Dibromochloromethane	ND	0.50	μg/L.					
34	1.2 Dibromosthone (EDB)	NE	4.0						

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5% recovery.

ND

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl

Kandy Sadner

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

μg/L

μg/L

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

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

5/26/09

Report Date



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

VOC Sample Preservation Report

Work Order: BMI09051205 Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН
09051205-01A	MW-19-5	Aqueous	2
09051205-02A	MW-19-4	Aqueous	2
09051205-03A	MW-19-3	Aqueous	2
09051205-04A	MW-19-2	Aqueous	2
09051205-05A	MW-19-1	Aqueous	2
09051205-06A	DUPE-08-2Q09	Aqueous	2
09051205-07A	EB-11-05/11/09	Aqueous	2
09051205-08A	TB-11-05/11/09	Aqueous	2

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

Report Attention

Phone Number

connerd@battelle.org

EMail Address

Battelle Memorial Institute

Client:

218013

Client's COC #: 25545

G005862/JPL Groundwater Monitoring

QC Level: DS4

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

> Betsy Cutie Shane Walton David Conner

(614) 424-4899 x (614) 424-4117 x (818) 393-2808 x

cutiee@batelle.org waltons@battelle.org

Page: 1 of

Report Due By: 5:00 PM On: 27-May-2009 WorkOrder: BMIS09051205

EDD Required: Yes

Cooler Temp

Sampled by: Client

Samples Received

12-May-2009 12-May-2009 **Date Printed**

BMI09051205-08A TB-11-05/11/09 BMI09051205-07A BMI09051205-06A DUPE-08-2Q09 BMI09051205-05A BMI09051205-04A BMI09051205-03A BMI09051205-01A MW-19-5 Sample ID BMI09051205-02A EB-11-05/11/09 MW-19-4 MW-19-3 MW-19-1 MW-19-2 Sample ID Client DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Š å Š ð å å Š å Matrix Date 05/11/09 08:42 05/11/09 11:07 05/11/09 00:00 05/11/09 00:00 05/11/09 00:00 05/11/09 00:00 05/11/09 00:00 05/11/09 00:00 Collection No. of Bottles Alpha S G S S G 5 G Sub 0 0 0 0 0 0 0 0 TAT **7** 5 6 6 5 6 3 5 NO2, NO3, SO4, CI NO2, NO3, SO4, CI 300_0(A)_W 300_0(B)_W 300_0(C)_W NO2, NO3, NO2, NO3, NO2, NO3, SO4, CI SO4, CI SO4, CI NO2, NO3, NO2, NO3, SO4, CI SO4, CI NO2, NO3, NO2, NO3, NO2, NO3, Perchlorate Alk (Bicarb, Cz, Pb, As, SO4, CI SO4, CI SO4, CI Carb, Total) Na, K, Ca, NO2, NO3, NO2, NO3, NO2, NO3, SO4, CI SO4, CI SO4, CI NO2, NO3, SO4, CI NO2, NO3, SO4, CI NO2, NO3, SO4, CI , NO2, NO3, SO4, C1 NO2, NO3, SO4, CI NO2, NO3, SO4, CI NO2, NO3, Perchlorate Alk (Bicarb, SO4, Cl Carb, Total) Perchlorate Alk (Bicarb, Carb, Total) Perchlorate Alk (Bicarb, Carb, Total) Perchlorate Alk (Bicarb. Cr. Pb, As, Ca, Total) Na, K, Ca, Mg, Fe Perchlorate Perchlorate 314_W ALKALINIT METALS_D
Y_W W Requested Tests Alk (Bicarb, Carb, Total) Alk (Bicarb, Cr, Pb, As, Carb, Total) Na, K, Ca, Cr, Pb, As, Na, K, Ca, Mg, Fe Cr. Pb, As, Na, K, Ca, Mg, Fe Cr, Pb, As, Na, K, Ca, Cr, Pb, As, Na, K, Ca, PH_W Ħ ΡĘ PΗ μq Ηď ÞН PΗ TDS TDS TDS SQL TDS TDS TDS Reno Trip Blank 3/16/09 Sample Remarks Level IV QC

Comments:

No security seals. Frozen ice. Temp Blank #7280 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by:	
Inporth Idox	Signature
Elizabeth Eldcox	Print Name
Alpha Analytical, Inc.	Company
Analytical, Inc. 5-/2-09/058	ate/

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

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

Phone Number

(614) 424-4117 x (818) 393-2808 x

connerd@battelle.org

EMail Address

Report Due By: 5:00 PM On: 27-May-2009

WorkOrder: BMIS09051205

Page: 2 of 2

(614) 424-4899 x

cutiee@batelle.org waltons@battelle.org

San Diego, CA 92110 Battelle Memorial Institute Report Attention Shane Walton David Conner Betsy Cutie

Client:

PO: 218013

Suite C-205

3990 Old Town Ave

EDD Required: Yes

Sampled by: Client Cooler Temp

Samples Received

12-May-2009 Date Printed

BMI09051205-08A TB-11-05/11/09 BMI09051205-07A EB-11-05/11/09 BMI09051205-06A Sample ID BMI09051205-05A MW-19-1 BMI09051205-02A MW-19-4 BMI09051205-04A MW-19-2 BMI09051205-03A MW-19-3 BMI09051205-01A MW-19-5 Client's COC #: 25545 QC Level: DS4 DUPE-08-2Q09 Client Sample ID = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job: G005862/JPL Groundwater Monitoring AQ 05/11/09 08:42 å Š å Ş å Matrix Date Š Š 05/11/09 00:00 05/11/09 00:00 05/11/09 00:00 05/11/09 00:00 05/11/09 00:00 05/11/09 05/11/09 Collection No. of Bottles 00:00 Alpha Sub TAT G Οī S Ç, S ა 0 0 0 0 0 0 0 0 5 6 5 5 5 5 5 6 VOC by 524 VOC by 524 Criteria Criteria VOC_TIC_ VOC_W VOC by 524 VOC by 524 Criteria Criteria Requested Tests Reno Trip Blank 3/16/09 Sample Remarks Level IV QC 12-May-2009

Logged in by: Clinabuth Edwx Elizabeth Hdcax Print Name Alpha Analytical, Inc. Company 5-12-09 1058 Date/Time

No security seals. Frozen ice. Temp Blank #7280 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).:

Comments:

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

ion:	Alpha 255 Gler	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21	Sampl AZ ID	es Collected CA X	Samples Collected From Which State? AZ CA NV WA OTHER	State? 25545
City, State, Zip Calumbus, OH 93201 Phone Number Fax	Phone (Fax (77)	Phone (775) 355-1044 Fax (775) 355-0406		Analys	Analyses Required	
Client Nama V D CONNER	PO.# 2/8 0 13	Job# (-005867	2)) [3.5] (1.5)	Required QC Level:
3996 OLD Paus AVE. C-205	EMail Address		24.	0.8 Va., 200	10 Jan 15) / ' " (!!) !V
SAN THEGO, CA 92110	Phone # 619-726-7311	Fax#	(5.	c (Z EXT.)	Si Sin	EDD / EDF? YES NO
Time Date Matrix* Sampled by	Report Attention	Total and type of	1 25	SENICH NO MG	PHOS	Global ID #
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	TAT Filtered ** See below	X	20	3/0-	REMARKS
242 1/1 6 12 BM [0905/205-01	MW-19-5	7	×	XX	×	
50-02	MW-19-4		XX		×	
1015	MW-19-3		X	XX	X	
- Of	mw-19-2		×	×	×	OCTENET ID
127	MW-19-1		×	×	×	
-0	DUPE-08-1009		×	×	×	DUPLICATE
107 -07	23-11-05/11/09	Z	×	×	*	EQUIPMENT BLANK
- 08	73-11-05/11/09	7	×			They so soll
ADDITIONAL INSTRUCTIONS:					3	
Relinquished by	OHASH RONDON	<i>"</i> "	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\) in	1	Value / Range
Propingly by	Culting Machalo		1 450			
Received by Conglish Conglished by	Elizabeth Fldcox		Chaph	a	Ż.	1058
Received by						
Relinquished by						
Received by						
*Key: AQ - Aqueous SO - Soil WA - Waste	OT - Other AR - Air **:	L-Liter V-Voa S-Soil Jar	Jar O-Orbo	o T-Tedlar	B-Brass	P-Plastic OT-Other

đ,

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

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



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

Date: 19-May-09

David Conner

Battelle Memorial Institute

3990 Old Town Ave

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

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

Work Order:

BMI09050802

Cooler Temp:

4 °C

	_	
Alpha's Sample ID	Client's Sample ID	Matrix
09050802-01A	MW-12-5	Aqueous
09050802-02A	MW-12-4	Aqueous
09050802-03A	MW-12-3	Aqueous
09050802-04A	MW-12-2	Aqueous
09050802-05A	MW-12-1	Aqueous
09050802-06A	DUPE-07-2Q09	Aqueous
09050802-07A	EB-10-5/07/09	Aqueous
09050802-08A	TB-10-5/07/09	Aqueous

Manually Integrated Analytes

		,	
Alpha's Sample ID	Test Reference	Analyte	
09050802-01A	EPA Method 314.0	Perchlorate	
09050802-02A	EPA Method 314.0	Perchlorate	
09050802-04A	EPA Method 314.0	Perchlorate	
09050802-05A	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

Kandy Saulmer

Walter Hiridran



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

ANALYTICAL REPORT

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

Attn: **David Conner**

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

Date Received: 05/08/09

Job#: G005862/JPL Groundwater Monitoring

> Anions by IC EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting	Date / Time	Date / Time
			Limit	Sampled	Analyzed
Client ID: MW-12-5	Nitrite (NO2) - N	ND	0.25 mg/L	05/07/09 08:35	05/08/09 14:41
Lab ID: BMI09050802-01A	Nitrate (NO3) - N	1.6	0.25 mg/L	05/07/09 08:35	05/08/09 14:41
Client ID: MW-12-4	Nitrite (NO2) - N	ND	0.25 mg/L	05/07/09 09:07	05/08/09 15:00
Lab ID: BMI09050802-02A	Nitrate (NO3) - N	1.3	0.25 mg/L	05/07/09 09:07	05/08/09 15:00
Client ID: MW-12-3	Nitrite (NO2) - N	ND	0.25 mg/L	05/07/09 09:50	05/08/09 15:59
Lab ID: BMI09050802-03A	Nitrate (NO3) - N	ND	0.25 mg/L	05/07/09 09:50	05/08/09 15:59
Client ID: MW-12-2	Nitrite (NO2) - N	ND	0.25 mg/L	05/07/09 10:35	05/08/09 16:18
Lab ID: BMI09050802-04A	Nitrate (NO3) - N	1.6	0.25 mg/L	05/07/09 10:35	05/08/09 16:18
Client ID: MW-12-1	Nitrite (NO2) - N	ND	0.25 mg/L	05/07/09 11:07	05/08/09 16:36
Lab ID: BMI09050802-05A	Nitrate (NO3) - N	1.3	0.25 mg/L	05/07/09 11:07	05/08/09 16:36
Client ID: DUPE-07-2Q09	Nitrite (NO2) - N	ND	0.25 mg/L	05/07/09 00:00	05/08/09 16:55
Lab ID: BMI09050802-06A	Nitrate (NO3) - N	ND	0.25 mg/L	05/07/09 00:00	05/08/09 16:55
Client ID: EB-10-5/07/09	Nitrite (NO2) - N	ND	0.25 mg/L	05/07/09 10:51	05/08/09 17:13
Lab ID: BMI09050802-07A	Nitrate (NO3) - N	ND	0.25 mg/L	05/07/09 10:51	05/08/09 17:13

ND = Not Detected

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

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

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



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

ANALYTICAL REPORT

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

Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/08/09

Job#:

G005862/JPL Groundwater Monitoring

Anions by IC

EPA Method 300.0 / 9056

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	MW-12-5					
Lab ID:	BMI09050802-01A	Chloride	17	0.50 mg/L	05/07/09	05/08/09
		Sulfate (SO4)	22	0.50 mg/L	05/07/09	05/08/09
Client ID:	MW-12-4					
Lab ID:	BMI09050802-02A	Chloride	16	0.50 mg/L	05/07/09	05/08/09
		Sulfate (SO4)	34	0.50 mg/L	05/07/09	05/08/09
Client ID:	MW-12-3					
Lab ID:	BMI09050802-03A	Chloride	16	0.50 mg/L	05/07/09	05/08/09
		Sulfate (SO4)	29	0.50 mg/L	05/07/09	05/08/09
Client ID:	MW-12-2					
Lab ID:	BMI09050802-04A	Chloride	21	0.50 mg/L	05/07/09	05/08/09
		Sulfate (SO4)	45	0.50 mg/L	05/07/09	05/08/09
Client ID:	MW-12-1					
Lab ID:	BMI09050802-05A	Chloride	29	0.50 mg/L	05/07/09	05/08/09
		Sulfate (SO4)	59	0.50 mg/L	05/07/09	05/08/09
Client ID:	DUPE-07-2Q09					
Lab ID:	BMI09050802-06A	Chloride	16	0.50 mg/L	05/07/09	05/08/09
		Sulfate (SO4)	29	0.50 mg/L	05/07/09	05/08/09
Client ID:	EB-10-5/07/09					
Lab ID:	BMI09050802-07A	Chloride	ND	0.50 mg/L	05/07/09	05/08/09
		Sulfate (SO4)	ND	0.50 mg/L	05/07/09	05/08/09
		• •		_		

ND = Not Detected

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

3990 Old Town Ave San Diego, CA 92110 Attn: David Conner

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

Date Received: 05/08/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-12-5 BMI09050802-01A	Perchlorate	1.95	1.00 µg/L	05/07/09	05/08/09
Client ID: Lab ID:	MW-12-4 BMI09050802-02A	Perchlorate	2.99	1.00 µg/L	05/07/09	05/08/09
Client ID: Lab ID:	MW-12-3 BMI09050802-03A	Perchlorate	ND	1.00 µg/L	05/07/09	05/08/09
Client ID: Lab ID:	MW-12-2 BMI09050802-04A	Perchlorate	2.12	1.00 µg/L	05/07/09	05/08/09
Client ID: Lab ID:	MW-12-1 BMI09050802-05A	Perchlorate	1.01	1.00 µg/L	05/07/09	05/08/09
Client ID: Lab ID:	DUPE-07-2Q09 BMI09050802-06A	Perchlorate	ND	1.00 µg/L	05/07/09	05/08/09
Client ID: Lab ID:	EB-10-5/07/09 BMI09050802-07A	Perchlorate	ND	1.00 µg/L	05/07/09	05/08/09

ND = Not Detected

Roger Scholl Kandy Salmer

Walter Hinchman Quality Assurance Office

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

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

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

5/21/09 Report Date



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

ANALYTICAL REPORT

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

Attn: David Conner

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

Date Received: 05/08/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity SM2320B

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	MW-12-5					
Lab ID:	BMI09050802-01A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/07/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/07/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/07/09	05/11/09
Client ID:	MW-12-4					
Lab ID:	BMI09050802-02A	Alkalinity, Bicarbonate (As CaCO3)	200	10 mg/L	05/07/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/07/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	200	10 mg/L	05/07/09	05/11/09
Client ID:	MW-12-3					
Lab ID:	BMI09050802-03A	Alkalinity, Bicarbonate (As CaCO3)	160	10 mg/L	05/07/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/07/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	160	10 mg/L	05/07/09	05/11/09
Client ID:	MW-12-2					
Lab ID:	BMI09050802-04A	Alkalinity, Bicarbonate (As CaCO3)	210	10 mg/L	05/07/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/07/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	210	10 mg/L	05/07/09	05/11/09
Client ID:	MW-12-1					
Lab ID:	BMI09050802-05A	Alkalinity, Bicarbonate (As CaCO3)	190	10 mg/L	05/07/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/07/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	190	10 mg/L	05/07/09	05/11/09
Client ID:	DUPE-07-2Q09					
Lab ID:	BMI09050802-06A	Alkalinity, Bicarbonate (As CaCO3)	150	10 mg/L	05/07/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/07/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	150	10 mg/L	05/07/09	05/11/09
Client ID:	EB-10-5/07/09					
Lab ID:	BMI09050802-07A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/07/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/07/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/07/09	05/11/09



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 Kundy Sulma

Walter Hirkman

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

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

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

5/21/09



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110 Attn: David Conner

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

Date Received: 05/08/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	MW-12-5					
Lab ID:	BMI09050802-01A	Sodium (Na)	36	0.50 mg/L	05/07/09	05/08/09
Duo ID .	BM107030002-0174	Magnesium (Mg)	12	0.50 mg/L	05/07/09	05/08/09
		Potassium (K)	2.1	0.50 mg/L	05/07/09	05/08/09
		Calcium (Ca)	42	0.50 mg/L	05/07/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/07/09	05/08/09
		Iron (Fe)	1.1	0.10 mg/L	05/07/09	05/08/09
		Arsenic (As)	ND	0.0020 mg/L	05/07/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/07/09	05/08/09
Client ID:	MW-12-4					
Lab ID:	BMI09050802-02A	Sodium (Na)	24	0.50 mg/L	05/07/09	05/08/09
		Magnesium (Mg)	15	0.50 mg/L	05/07/09	05/08/09
		Potassium (K)	2.3	0.50 mg/L	05/07/09	05/08/09
		Calcium (Ca)	61	0.50 mg/L	05/07/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/07/09	05/08/09
		Iron (Fe)	0.60	0.10 mg/L	05/07/09	05/08/09
		Arsenic (As)	ND	0.0020 mg/L	05/07/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/07/09	05/08/09
Client ID:	MW-12-3					
Lab ID:	BMI09050802-03A	Sodium (Na)	26	0.50 mg/L	05/07/09	05/08/09
		Magnesium (Mg)	16	0.50 mg/L	05/07/09	05/08/09
		Potassium (K)	3.1	0.50 mg/L	05/07/09	05/08/09
		Calcium (Ca)	37	0.50 mg/L	05/07/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/07/09	05/08/09
		Iron (Fe)	0.60	0.10 mg/L	05/07/09	05/08/09
		Arsenic (As)	ND	0.0020 mg/L	05/07/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/07/09	05/08/09
Client ID:	MW-12-2					
Lab ID:	BMI09050802-04A	Sodium (Na)	25	0.50 mg/L	05/07/09	05/08/09
		Magnesium (Mg)	20	0.50 mg/L	05/07/09	05/08/09
		Potassium (K)	3.4	0.50 mg/L	05/07/09	05/08/09
		Calcium (Ca)	62	0.50 mg/L	05/07/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/07/09	05/08/09
		Iron (Fe)	0.69	0.10 mg/L	05/07/09	05/08/09
		Arsenic (As)	ND	0.0020 mg/L	05/07/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/07/09	05/08/09



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

Client ID:	MW-12-1					
Lab ID:	BMI09050802-05A	Sodium (Na)	24	0.50 mg/L	05/07/09	05/08/09
		Magnesium (Mg)	19	0.50 mg/L	05/07/09	05/08/09
		Potassium (K)	3.2	0.50 mg/L	05/07/09	05/08/09
		Calcium (Ca)	59	0.50 mg/L	05/07/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/07/09	05/08/09
		Iron (Fe)	0.87	0.10 mg/L	05/07/09	05/08/09
		Arsenic (As)	ND	0.0020 mg/L	05/07/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/07/09	05/08/09
Client ID:	DUPE-07-2Q09					
Lab ID:	BMI09050802-06A	Sodium (Na)	25	0.50 mg/L	05/07/09	05/08/09
		Magnesium (Mg)	15	0.50 mg/L	05/07/09	05/08/09
		Potassium (K)	3.0	0.50 mg/L	05/07/09	05/08/09
		Calcium (Ca)	38	0.50 mg/L	05/07/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/07/09	05/08/09
		Iron (Fe)	0.56	0.10 mg/L	05/07/09	05/08/09
		Arsenic (As)	ND	0.0020 mg/L	05/07/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/07/09	05/08/09
Client ID:	EB-10-5/07/09					
Lab ID:	BMI09050802-07A	Sodium (Na)	ND	0.50 mg/L	05/07/09	05/08/09
		Magnesium (Mg)	ND	0.50 mg/L	05/07/09	05/08/09
		Potassium (K)	ND	0.50 mg/L	05/07/09	05/08/09
		Calcium (Ca)	ND	0.50 mg/L	05/07/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/07/09	05/08/09
		Iron (Fe)	ND	0.10 mg/L	05/07/09	05/08/09
		Arsenic (As)	ND	0.0020 mg/L	05/07/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/07/09	05/08/09

ND = Not Detected

Roger Scholl

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

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

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



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave San Diego, CA 92110 Attn: David Conner Phone: (818) 393-2808 Fax: (614) 458-6641

Date Received: 05/08/09

Job#:

G005862/JPL Groundwater Monitoring

pH (Range 1.7 to 12.4) EPA Method 150.2 / SM4500HB / SW9040C

	Parameter	Concentration	Reporting	Date / Time	Date / Time
			Limit	Sampled	Analyzed
Client ID: MW-12-5	рН	8.0	1.7 pH Units	05/07/09 08:35	05/08/09 12:08
Lab ID: BMI09050802-01A	pH - Temperature	16	1.0 °C	05/07/09 08:35	05/08/09 12:08
Client ID: MW-12-4	рН	7.8	1.7 pH Units	05/07/09 09:07	05/08/09 12:11
Lab ID: BMI09050802-02A	pH - Temperature	16	1.0 °C	05/07/09 09:07	05/08/09 12:11
Client ID: MW-12-3	рН	8.1	1.7 pH Units	05/07/09 09:50	05/08/09 12:13
Lab ID: BMI09050802-03A	pH - Temperature	16	1.0 °C	05/07/09 09:50	05/08/09 12:13
Client ID: MW-12-2	рН	7.7	1.7 pH Units	05/07/09 10:35	05/08/09 12:15
Lab ID: BMI09050802-04A	pH - Temperature	16	1.0 °C	05/07/09 10:35	05/08/09 12:15
Client ID: MW-12-1	рН	7.6	1.7 pH Units	05/07/09 11:07	05/08/09 12:17
Lab ID: BMI09050802-05A	pH - Temperature	16	1.0 °C	05/07/09 11:07	05/08/09 12:17
Client ID: DUPE-07-2Q09	рН	8.1	1.7 pH Units	05/07/09 00:00	05/08/09 12:19
Lab ID: BMI09050802-06A	pH - Temperature	16	1.0 °C	05/07/09 00:00	05/08/09 12:19
Client ID : EB-10-5/07/09	рН	6.2	1.7 pH Units	05/07/09 10:51	05/08/09 12:21
Lab ID: BMI09050802-07A	pH - Temperature	16	1.0 °C	05/07/09 10:51	05/08/09 12:21

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.

oger Scholl Kandy Saulmir

Walter Hinkow

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

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

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

S/Z1/09

Report Date



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

ANALYTICAL REPORT

Battelle Memorial Institute

3990 Old Town Ave San Diego, CA 92110 Attn:

David Conner

Phone: (818) 393-2808

Fax:

(614) 458-6641

Date Received: 05/08/09

Job#:

G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)

SM2540C

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	MW-12-5 BMI09050802-01A	Solids, Total Dissolved (TDS)	260	10 mg/L	05/07/09	05/15/09
Client ID: Lab ID:	MW-12-4 BMI09050802-02A	Solids, Total Dissolved (TDS)	270	10 mg/L	05/07/09	05/17/09
Client ID: Lab ID:	MW-12-3 BMI09050802-03A	Solids, Total Dissolved (TDS)	230	10 mg/L	05/07/09	05/15/09
Client ID: Lab ID:	MW-12-2 BMI09050802-04A	Solids, Total Dissolved (TDS)	320	10 mg/L	05/07/09	05/15/09
Client ID: Lab ID:	MW-12-1 BMI09050802-05A	Solids, Total Dissolved (TDS)	250	10 mg/L	05/07/09	05/15/09
Client ID: Lab ID:	DUPE-07-2Q09 BMI09050802-06A	Solids, Total Dissolved (TDS)	220	10 mg/L	05/07/09	05/15/09
Client ID: Lab ID:	EB-10-5/07/09 BMI09050802-07A	Solids, Total Dissolved (TDS)	ND	10 mg/L	05/07/09	05/15/09

ND = Not Detected

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

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



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

ANALYTICAL REPORT

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

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

(614) 458-6641

Job#: G005862/JPL Groundwater Monitoring

Tentatively Identified Compounds - Volatile Organics by GC/MS

		Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID : Lab ID :	MW-12-5 BMI09050802-01A	Sulfur dioxide	9.6	2.0 μg/L	05/08/09	05/07/09	05/14/09
Client ID: Lab ID:	MW-12-4 BMI09050802-02A	Sulfur dioxide	15	2.0 μg/L	05/08/09	05/07/09	05/14/09
Client ID: Lab ID:	MW-12-3 BMI09050802-03A	Sulfur dioxide	15	2.0 μg/L	05/08/09	05/07/09	05/14/09
Client ID: Lab ID:	MW-12-2 BMI09050802-04A	Sulfur dioxide	10	2.0 μg/L	05/08/09	05/07/09	05/14/09
Client ID : Lab ID :	MW-12-1 BMI09050802-05A	Sulfur dioxide	8.1	· 2.0 μg/L	05/08/09	05/07/09	05/14/09
Client ID : Lab ID :	DUPE-07-2Q09 BMI09050802-06A	Sulfur dioxide	13	2.0 μg/L	05/08/09	05/07/09	05/14/09
Client ID : Lab ID :	EB-10-5/07/09 BMI09050802-07A	*** None Found ***	ND	2.0 μg/L	05/08/09	05/07/09	05/14/09
Client ID : Lab ID :	TB-10-5/07/09 BMI09050802-08A	* * * None Found * * *	ND	2.0 μg/L	05/08/09	05/07/09	05/14/09

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

5/21/09 Report Date

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09050802-01A Client I.D. Number: MW-12-5 Attn: David Conner

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

Sampled: 05/07/09

Received: 05/08/09 Analyzed: 05/14/09

Volatile Organics by GC/MS

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

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

35 Tetrachloroethene

Roger Scholl Kandy Saulun

ND

Walter Hinkow

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

1.0

μg/L

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

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

5/21/09 Report Date

^{*} Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5%.



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

Attn: Fax:

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

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09050802-02A Client I.D. Number: MW-12-4

Sampled: 05/07/09 Received: 05/08/09

Analyzed: 05/14/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	0.63	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	0.75	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND 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	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					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

Roger Scholl

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

μg/L

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

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

5/21/09

^{*} Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5%.



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

ANALYTICAL REPORT

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

Attn: Phone:

David Conner (818) 393-2808

Fax:

(614) 458-6641

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09050802-03A

Sampled: 05/07/09

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

Received: 05/08/09 Analyzed: 05/14/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	* 0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	0.88	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	107	(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	92	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			'	, ,	
33	Dibromochloromethane	ND	0.50	μg/L					
~ 4	4.0.D3 (EDD)	l		. •					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulmer

ND

Walter Hirihun

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

1.0

0.50

µg/L

μg/L

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

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

5/21/09 Report Date

^{*} Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5%.



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

Attn: Phone:

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

San Diego, CA 92110

G005862/JPL Groundwater Monitoring

Fax:

Alpha Analytical Number: BMI09050802-04A

Sampled: 05/07/09

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

Received: 05/08/09 Analyzed: 05/14/09

Volatile Organics by GC/MS

	Compound	Concentration		Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	*	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND		1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND		0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	ND		0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND		0.50	μg/L	61	Naphthalene	ND	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	101	(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					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandg Saulner

ND

ND

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

1.0

μg/L

µg/L

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

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

5/21/09

Report Date

^{*} Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5%.



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

ANALYTICAL REPORT

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

Attn:

David Conner Phone: (818) 393-2808

Fax:

(614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09050802-05A Client I.D. Number: MW-12-1

Sampled: 05/07/09 Received: 05/08/09

Analyzed: 05/14/09

Volatile Organics by GC/MS

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

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl

Dalter Hirihun

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

μg/L

1.0

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

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

5/21/09

Report Date

^{*} Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5%.



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

ANALYTICAL REPORT

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

Attn: Phone:

David Conner (818) 393-2808

Fax:

(614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09050802-06A

Sampled: 05/07/09 Client I.D. Number: DUPE-07-2Q09

Received: 05/08/09

Analyzed: 05/14/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	* 0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L.	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	0.97	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	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	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					
25	Totrophlaranthana	ND	0.50	. • "					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

Roger Scholl

ND

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

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

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

5/21/09

Report Date

^{*} Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5%.



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

ANALYTICAL REPORT

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

Attn:

David Conner Phone: (818) 393-2808

Fax:

(614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09050802-07A

Sampled: 05/07/09

Client I.D. Number: EB-10-5/07/09

Received: 05/08/09 Analyzed: 05/14/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	* 0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCF	P) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	87	(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	93	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			•		
33	Dibromochloromethane	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachioroethene

Roger Scholl

ND

ND

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

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

1.0

μg/L

5/21/09

Report Date

^{*} Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5%.



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

ANALYTICAL REPORT

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

Attn:

David Conner Phone: (818) 393-2808

Fax:

(614) 458-6641

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI09050802-08A

Sampled: 05/07/09

Client I.D. Number: TB-10-5/07/09

Received: 05/08/09 Analyzed: 05/14/09

Volatile Organics by GC/MS

	Compound	Concentration	F	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	*	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND		1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND		0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND		1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND		0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND		1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND		0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	μg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	μg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND		0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND		0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND		0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND		0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC)	P) ND	2.5	μg/L
25	Trichloroethene	ND		0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND		0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND		0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	84	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	104	(70-130)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	95	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L					
33	Dibromochloromethane	ND		0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

35 Tetrachloroethene

Kandy Saulner Roger Scholl

ND

ND

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

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

1.0

μg/L

μg/L

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

5/21/09 Report Date

^{*} Note: Dichlorodifluoromethane failed the Method CV criteria of 70-130% @ 63.5%.



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: BMI09050802 Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pН
09050802-01A	MW-12-5	Aqueous	2
09050802-02A	MW-12-4	Aqueous	2
09050802-03A	MW-12-3	Aqueous	2
09050802-04A	MW-12-2	Aqueous	2
09050802-05A	MW-12-1	Aqueous	2
09050802-06A	DUPE-07-2Q09	Aqueous	2
09050802-07A	EB-10-5/07/09	Aqueous	2
09050802-08A	TB-10-5/07/09	Aqueous	2

5/21/09 Report Date

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

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

oort Attention Phone Number EMail Address

Client:

Battelle Memorial Institute

Report AttentionPhone NumberEMail AddressDavid Conner(818) 393-2808xconnerd@battelle.orgShane Walton(614) 424-4117xwaltons@battelle.org

CA

Page: 1 of 2

WorkOrder: BMIS09050802

Report Due By: 5:00 PM On: 22-May-2009

EDD Required : Yes

Sampled by : Client

Cooler Temp Samples

Cooler Temp Samples Received Date Printed
4 °C 08-May-2009 08-May-2009

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

G005862/JPL Groundwater Monitoring

Client's COC #: 25548

PO: 218013

San Diego, CA 92110

Betsy Cutie

(614) 424-4899 x

cutiee@batelle.org

3990 Old Town Ave Suite C-205

>	:	•				Requ	Requested Tests				The state of the s
Sample ID	Sample ID	Collection Matrix Date	ion No. of Bottles Alpha Sub	7AT 300	300_0(A)_W 300_0(B)_W 300_0(C)_N	0_0(C)_W 314_W	W ALKALINIT METALS_D	METALS_D	완	TDS	Sample Remarks
DMIOOCEOOO OAA											Campio Nemana
ВМI09050802-01A	MW-12-5	AQ 05/07/09 08:35	5 0	10 NO	NO2, NO3, NO2, NO3, N SO4, CI SO4, CI	NO2, NO3, Perchlorate SO4, CI	rate Alk (Bicarb, Cr, Pb, As, Carb, Total) Na, K, Ca,	Cr, Pb, As, Na, K, Ca,	Hq	TDS	Level IV QC
BMI09050802-02A	MW-12-4	AQ 05/07/09 09:07	7 5 0	10 NO.	NO2, NO3, NO2, NO3, N SO4, CI SO4, CI N	NO2, NO3, Perchlorate SO4, Cl	Alk (Bicarb, Carb, Total)	70	рH	TDS	
DMIOOCEOOO OOA			1		-			Mg, Fe		-	
Aco-2000coaninia	IVI-V	AQ 05/07/09 09:50	5	10 S	NO2, NO3, NO2, NO3, N SO4, CI SO4, CI	NO2, NO3, Perchlorate SO4, CI	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050802-04A	MW-12-2	AQ 05/07/09 10:35	5 5	10 NO.	NO2, NO3, NO2, NO3, NO3, NO4, CI SO4, CI	NO2, NO3, Perchlorate SO4, CI	Alk (Bicarb, Carb, Total)	70	РН	TDS	
BMI09050802-05A	MW-12-1	AO 05/07/09	55	10 NO	NO2 NO3	NO2 NO3 Perchlorate	All (Bicarh	C. pr. A.	žE –	The	
						_	Carb, Total)	Na, K, Ca, Mg, Fe		-	
BM109050802-06A	DUPE-07-2Q09	AQ 05/07/09 00:00	5 0	10 NO.	NO2, NO3, NO2, NO3, NO SO4, Cl SO4, Cl	NO2, NO3, Perchlorate SO4, Cl	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca,	рH	TDS	
BMIDODEDSDS 074	EB 40 E/07/00	4	1		-i			Mg, Fe			
BMIO9050802-07A	EB-10-5/07/09	AQ 05/07/09 10:51	5 0	10 NO.	NO2, NO3, NO2, NO3, NO SO4, CI SO4, CI	NO2, NO3, Perchlorate SO4, Cl	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca,	рН	TDS	
RMINGOROSOS OSA	TB 10 5/07/00							Mg, Fe			
BIVIIU9U0U8U2-U8A	IB-10-5/0//09	AQ 05/07/09 00:00	1 0	10							Reno Trip Blank 3/16/09

Comments:

No security seals. Frozen ice, Temp Blank #7710 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

 Logged in by:	
Campbeth ledcox	Signature
Elizabeth Holcox	Print Name
Alpha Analytical, Inc.	Company
	Dai

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

Billing Information:

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

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

Report Attention David Conner Phone Number (818) 393-2808 x connerd@battelle.org EMail Address

PO: 218013 San Diego, CA 92110 Client:

Battelle Memorial Institute

Suite C-205 3990 Old Town Ave

Client's COC #: 25548

QC Level: DS4

Betsy Cutie Shane Walton

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

Job: G005862/JPL Groundwater Monitoring

WorkOrder: BMIS09050802

Page: 2012

Report Due By: 5:00 PM On: 22-May-2009

EDD Required: Yes

Sampled by: Client

waltons@battelle.org

cutiee@batelle.org

Cooler Temp Samples Received

08-May-2009 08-May-2009 Date Printed

BMI09050802-08A BMI09050802-07A EB-10-5/07/09 BMI09050802-06A BMI09050802-05A BMI09050802-04A MW-12-2 BMI09050802-03A MW-12-3 Sample ID BMI09050802-02A MW-12-4 BMI09050802-01A MW-12-5 DUPE-07-2Q09 TB-10-5/07/09 MW-12-1 Client Sample ID = DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates ğ Š Š Ø å Ş Š å Matrix Date 05/07/09 05/07/09 11:07 05/07/09 08:35 05/07/09 10:51 05/07/09 05/07/09 10:35 05/07/09 09:50 05/07/09 09:07 Collection No. of Bottles Alpha Sub S Çī Ġ G O Çī Çī 0 0 0 C 0 0 0 0 TAT 6 6 6 6 6 5 5 10 VOC by 524 VOC by 524 Criteria Criteria VOC_TIC_ VOC_W VOC by 524 VOC by 524 Criteria Requested Tests Reno Trip Blank 3/16/09 Sample Remarks Level IV QC

Comments:

Logged in by:

Compatity Oelcox

No security seals. Frozen ice. Temp Blank #7710 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).:

Elizabeth Holcox Print Name

Alpha Analytical, Inc. Company

5.8.09 9:45

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

Billing Information: Name (SETUPL) TOMPKINS	Alp 255 C	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21 Sparks Nevada 89431-5778	Samples Collected From Which State? AZ CA NV WA ID OR OTHER	NV WA Page # 1 of /
te, Zip <i>LaLL</i> lumber	Phon Fax	Phone (775) 355-1044 Fax (775) 355-0406	Analyses Required	Required
SVID COMMET	PO.# 2/8013	Job# 6005817	2) 8) 15,7	0.50 Required QC Level?
TOWN ALE, C-205	*EMail Address		24. 200.2 200 3/4/2	- 11 CD IV
92110	Phone # 6/9 - 726 - 73//	Fax #	ني آ	\$\overline{\sigma}_{\sigma}^{\sigma}
Matrix* Sampled by	Report Attention	Total and type of	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Global ID#
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	TAT Field ** See below	Northern Coll	
035 67/01 00 BMT09050802-01 M	MW-12-5	>	XXXXX	De Level II
Ś.	MW-12-4		* × × ×	
_	MW-12-3		× ×	
-	MW-12-2		× × × ×	
107	MW-12-1		× × ×	
A90.	JUDE-07-2009		×	Duplicate
3.10.	83-10-5/07/09	2	X X X X	EQUIPMENT BLONK
-08 T	13-10-5/07/09	2	×	TRIP BLANK
ADDITIONAL INSTRUCTIONS:				
Signature	Print Name		Company	Date Time
Relinquished by	Wester 344	115164	4	05/07/09/1300
Received by Congression of the Congression of the Relinquished by	lizabeth Adox		lloha	5.8.09 9:45
Received by	The state of the s			
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.	OT - Other AR - Air orted unless other arrangements are serived by the laboratory with this coo	**: L-Liter V-Voa S-Soil Jar made. Hazardous samples will be r c. The liability of the laboratory is lim	r O-Orbo T-Tedlar returned to client or disposed o mited to the amount paid for the	B-Brass P-Plastic OT-Other at client expense. The report for the analyst report.



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

Date: 12-May-09

David Conner

Battelle Memorial Institute

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

CASE NARRATIVE

Project:

(818) 393-2808

G005862/JPL Groundwater Monitoring

Work Order: BMI09050740

Cooler Temp:

4 ℃

Alpha's Sample ID	Client's Sample ID	Matrix
09050740-01A	MW-17-5	Aqueous
09050740-02A	MW-17-4	Aqueous
09050740-03A	MW-17-3	Aqueous
09050740-04A	MW-17-2	Aqueous
09050740-05A	MW-17-1	Aqueous
09050740-06A	EB-08-5/05/09	Aqueous
09050740-07A	TB-08-5/05/09	Aqueous

Manually Integrated Analytes

And the Control of th				
Alpha's Sample ID	Test Reference	<u>Analyte</u>		
			_	
09050740-03A	EPA Method 314.0	Perchlorate		
09050740-04A	EPA Method 314.0	Perchlorate		

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

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

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

Roger Scholl

Kandy Saulner

Walter Hirihour



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave San Diego, CA 92110 Attn: David Conner Phone: (818) 393-2808 Fax: (614) 458-6641

Date Received: 05/07/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID: MW-17-5	Nitrite (NO2) - N	ND *	0.25 mg/L	05/05/09 08:40	05/07/09 12:47
Lab ID: BMI09050740-01A	Nitrate (NO3) - N	ND *	0.25 mg/L	05/05/09 08:40	05/07/09 12:47
Client ID: MW-17-4	Nitrite (NO2) - N	ND *	0.25 mg/L	05/05/09 09:18	05/07/09 13:06
Lab ID: BMI09050740-02A	Nitrate (NO3) - N	ND *	0.25 mg/L	05/05/09 09:18	05/07/09 13:06
Client ID: MW-17-3	Nitrite (NO2) - N	ND	0.25 mg/L	05/05/09 11:07	05/07/09 10:38
Lab ID: BMI09050740-03A	Nitrate (NO3) - N	11	0.25 mg/L	05/05/09 11:07	05/07/09 10:38
Client ID: MW-17-2	Nitrite (NO2) - N	ND	0.25 mg/L	05/05/09 11:41	05/07/09 11:15
Lab ID: BMI09050740-04A	Nitrate (NO3) - N	8.5	0.25 mg/L	05/05/09 11:41	05/07/09 11:15
Client ID: MW-17-1	Nitrite (NO2) - N	ND	0.25 mg/L	05/05/09 12:13	05/07/09 11:33
Lab ID: BMI09050740-05A	Nitrate (NO3) - N	0.55	0.25 mg/L	05/05/09 12:13	05/07/09 11:33
Client ID : EB-08-5/05/09	Nitrite (NO2) - N	ND	0.25 mg/L	05/05/09 11:30	05/07/09 10:56
Lab ID: BMI09050740-06A	Nitrate (NO3) - N	ND	0.25 mg/L	05/05/09 11:30	05/07/09 10:56

^{*}These samples were received outside the 48 hour holding time for non-preserved samples.

ND = Not Detected

Roger Scholl Kundy Salver Walter

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

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

5/19/09



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

ANALYTICAL REPORT

Battelle Memorial Institute 3990 Old Town Ave

San Diego, CA 92110

Attn:

David Conner

Phone:

(818) 393-2808

Fax:

(614) 458-6641 Date Received: 05/07/09

Job#:

G005862/JPL Groundwater Monitoring

Anions by IC

EPA Method 300.0 / 9056

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	MW-17-5					
Lab ID:	BMI09050740-01A	Chloride	10	0.50 mg/L	05/05/09	05/07/09
		Sulfate (SO4)	21	0.50 mg/L	05/05/09	05/07/09
Client ID:	MW-17-4					
Lab ID:	BMI09050740-02A	Chloride	11	0.50 mg/L	05/05/09	05/07/09
		Sulfate (SO4)	21	0.50 mg/L	05/05/09	05/07/09
Client ID:	MW-17-3					
Lab ID:	BMI09050740-03A	Chloride	55	2.5 mg/L	05/05/09	05/09/09
		Sulfate (SO4)	71	0.50 mg/L	05/05/09	05/07/09
Client ID:	MW-17-2					
Lab ID:	BMI09050740-04A	Chloride	79	5.0 mg/L	05/05/09	05/07/09
Luo ID .	DM107030740-04A	Sulfate (SO4)	120	5.0 mg/L 5.0 mg/L	05/05/09	05/07/09
		Saliate (504)	120	J.O Mg/L	05/05/07	05/01/05
Client ID:	MW-17-1					
Lab ID:	BMI09050740-05A	Chloride	10	0.50 mg/L	05/05/09	05/07/09
		Sulfate (SO4)	36	0.50 mg/L	05/05/09	05/07/09
Client ID:	EB-08-5/05/09					
Lab ID:	BMI09050740-06A	Chloride	ND	0.50 mg/L	05/05/09	05/07/09
		Sulfate (SO4)	ND	0.50 mg/L	05/05/09	05/07/09

ND = Not Detected

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

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.

5/19/09



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

ANALYTICAL REPORT

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

David Conner Attn:

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

Date Received: 05/07/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	MW-17-5 BM109050740-01A	Perchlorate	ND	1.00 µg/L	05/05/09	05/07/09
Client ID: Lab ID:	MW-17-4 BMI09050740-02A	Perchlorate	ND	1.00 µg/L	05/05/09	05/07/09
Client ID: Lab ID:	MW-17-3 BMI09050740-03A	Perchlorate	12.9	1.00 μg/L	05/05/09	05/07/09
Client ID: Lab ID:	MW-17-2 BMI09050740-04A	Perchlorate	5.32	1.00 µg/L	05/05/09	05/07/09
Client ID: Lab ID:	MW-17-1 BMI09050740-05A	Perchlorate	ND	1.00 μg/L	05/05/09	05/07/09
Client ID: Lab ID:	EB-08-5/05/09 BMI09050740-06A	Perchlorate	ND	1.00 μg/L	05/05/09	05/07/09

ND = Not Detected

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

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



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

ANALYTICAL REPORT

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

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

Fax: (614) 458-6641

Date Received: 05/07/09

Job#:

G005862/JPL Groundwater Monitoring

Alkalinity SM2320B

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	MW-17-5					
Lab ID:	BMI09050740-01A	Alkalinity, Bicarbonate (As CaCO3)	120	10 mg/L	05/05/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/05/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	120	10 mg/L	05/05/09	05/11/09
Client ID:	MW-17-4					
Lab ID:	BMI09050740-02A	Alkalinity, Bicarbonate (As CaCO3)	130	10 mg/L	05/05/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/05/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	130	10 mg/L	05/05/09	05/11/09
Client ID:	MW-17-3					
Lab ID:	BMI09050740-03A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/05/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/05/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/05/09	05/11/09
Client ID:	MW-17-2					
Lab ID:	BMI09050740-04A	Alkalinity, Bicarbonate (As CaCO3)	210	10 mg/L	05/05/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/05/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	210	10 mg/L	05/05/09	05/11/09
Client ID:	MW-17-1					
Lab ID:	BMI09050740-05A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	05/05/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/05/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	170	10 mg/L	05/05/09	05/11/09
Client ID:	EB-08-5/05/09					
Lab ID:	BMI09050740-06A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/05/09	05/12/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/05/09	05/12/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/05/09	05/12/09

ND = Not Detected

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

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

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