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

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



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

**Date:** 04-Aug-08 David Conner

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201 (619) 574-4827 **CASE NARRATIVE** 

Project:	G005862/JPL Gro	undwater Monitoring		
Work Order:	BMI08072222		Cooler Temp: 4 °C	
Alpha's	Sample ID	Client's Sample ID	Matrix	
08072	222-01A	MW-14-5	Aqueous	
08072	222-02A	MW-14-4	Aqueous	
08072	222-03A	MW-14-3	Aqueous	
08072	222-04A	MW-14-2	Aqueous	
08072	222-05A	MW-14-1	Aqueous	
08072	222-06A	DUPE-01-3Q08	Aqueous	
08072	222-07A	EB-02-7/21/08	Aqueous	
08072	222-08A	TB-02-7/21/08	Aqueous	

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 Hiriham



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### **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

Phone: (619) 574-4827

(614) 458-6641

Attn: David Conner

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 :	<b>MW-14-5</b> BMI08072222-01A	*** None Found ***	ND	2.0 μg/L	07/22/08	07/21/08	07/29/08
Client ID: Lab ID:	<b>MW-14-4</b> BMI08072222-02A	*** None Found ***	ND	2.0 μg/L	07/22/08	07/21/08	07/29/08
Client ID: Lab ID:	<b>MW-14-3</b> BMI08072222-03A	*** None Found ***	ND	2.0 μg/L	07/22/08	07/21/08	07/29/08
Client ID: Lab ID:	<b>MW-14-2</b> BMI08072222-04A	*** None Found ***	ND	2.0 μg/L	07/22/08	07/21/08	07/29/08
Client ID: Lab ID:	<b>MW-14-1</b> BMI08072222-05A	*** None Found ***	ND	2.0 μg/L	07/22/08	07/21/08	07/29/08
Client ID : Lab ID :	<b>DUPE-01-3Q08</b> BMI08072222-06A	*** None Found ***	ND	2.0 μg/L	07/22/08	07/21/08	07/29/08
Client ID : Lab ID :	EB-02-7/21/08 BMI08072222-07A	*** None Found ***	ND	2.0 μg/L	07/22/08	07/21/08	07/29/08
Client ID: Lab ID:	<b>TB-02-7/21/08</b> BMI08072222-08A	*** None Found ***	ND	2.0 μg/L	07/22/08	07/21/08	07/29/08

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.

8/4/08 Report Date



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072222-01A Client I.D. Number: MW-14-5

Attn: David Conner

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/21/08

Received: 07/22/08 Analyzed: 07/29/08

### 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	ug/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	ug/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	ug/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butvlbenzene	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	ug/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	(70-120)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	102	(85-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99	(75-120)	%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

Tetrachloroethene

ND

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

μg/L

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8/4/08

Report Date



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072222-02A

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

Attn: David Conner

(619) 574-4827 Phone:

(614) 458-6641 Fax:

Sampled: 07/21/08

Received: 07/22/08

Analyzed: 07/29/08

### 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	91	(70-120)	%RE
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	101	(85-120)	%RE
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99	(75-120)	%RE
32	1,3-Dichloropropane	ND	0.50	μg/L				,	
33	Dibromochloromethane	ND	0.50	μg/L		•			
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					
25	Totas ablass athas a	115		~ <del>~</del> ~					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Tetrachloroethene

ND

μg/L

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

8/4/08 **Report Date** 



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### ANALYTICAL REPORT

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072222-03A

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

Attn: David Conner

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/21/08

Received: 07/22/08 Analyzed: 07/29/08

### 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-Chlorotoiuene	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 <b>g</b> /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	1.2	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	90	(70-120)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	102	(85-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99	(75-120)	%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

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

μg/L

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

8/4/08

Report Date



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072222-04A

Client I.D. Number: MW-14-2

Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/21/08

Received: 07/22/08 Analyzed: 07/29/08

### Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xvlene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	μg/L
25	Trichloroethene	8.1	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	90	(70-120)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	102	(85-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	100	(75-120)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			1	` ,	
33	Dibromochloromethane	ND	0.50	μg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					
	T. C 1 1	1							

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Tetrachloroethene

Roger Scholl Kandy Soulman

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

μg/L

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

8/4/08



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

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072222-05A

Client I.D. Number: MW-14-1

Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/21/08

Received: 07/22/08 Analyzed: 07/29/08

### 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-Butvlbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	⊃) ND	2.5	μg/L
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MiBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	94	(70-120)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	101	(85-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	98	(75-120)	%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

μg/L

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8/4/08

Report Date



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072222-06A

Client I.D. Number: DUPE-01-3Q08

Attn: David Conner

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/21/08

Received: 07/22/08 Analyzed: 07/29/08

### Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	1.0	μg/L	36	1.1.1.2-Tetrachloroethane	l ND	1.0	μg/L
2	Chloromethane	ND	2.0	μg/L	37	Chlorobenzene	ND	1.0	μg/L
3	Vinyl chloride	ND	1.0	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	1.0	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	2.0	μg/L	40	Bromoform	ND	1.0	μg/L
6	Trichlorofluoromethane	ND	1.0	μg/L	41	Styrene	ND	1.0	μg/L
7	1,1-Dichloroethene	ND	1.0	μg/L	42	o-Xvlene	ND	0.50	μg/L
8	Dichloromethane	l ND	2.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	1.0	μg/L
9	Freon-113	ND	1.0	μg/L	44	1,2,3-Trichloropropane	ND	2.0	μg/L
10	trans-1,2-Dichloroethene	ND	1.0	μg/L	45	Isopropylbenzene	ND	1.0	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	1.0	μg/L
12	1,1-Dichloroethane	ND	1.0	µg/L	47	n-Propylbenzene	ND	1.0	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	1.0	μg/L
14	cis-1,2-Dichloroethene	ND	1.0	μg/L	49	2-Chlorotoluene	ND	1.0	μg/L
15	Bromochloromethane	ND	1.0	μg/L	50	1,3,5-Trimethylbenzene	ND	1.0	μg/L
16	Chloroform	ND	1.0	μg/L	51	tert-Butylbenzene	ND	1.0	μg/L
17	2,2-Dichloropropane	ND	1.0	μg/L	52	1,2,4-Trimethylbenzene	ND	1.0	μg/L
18	1,2-Dichloroethane	ND	1.0	µg/L	53	sec-Butylbenzene	ND	1.0	μg/L
19	1,1,1-Trichloroethane	ND	1.0	μg/L	54	1,3-Dichlorobenzene	ND	1.0	μg/L
20	1,1-Dichloropropene	ND	1.0	μg/L	55	1,4-Dichlorobenzene	ND	1.0	μg/L
21	Carbon tetrachloride	ND	1.0	μg/L	56	4-Isopropyltoluene	ND	1.0	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	1.0	μg/L
23	Dibromomethane	ND	1.0	μg/L	58	n-Butylbenzene	ND	1.0	μg/L
24	1,2-Dichloropropane	ND	1.0	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	3.0	μg/L
25	Trichloroethene	7.9	1.0	μg/L	60	1,2,4-Trichlorobenzene	ND	2.0	μg/L
26	Bromodichloromethane	ND	1.0	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	1.0	μg/L	63	1,2,3-Trichlorobenzene	ND	2.0	μg/L
29	trans-1,3-Dichloropropene	ND	1.0	μg/L	64	Surr: 1,2-Dichloroethane-d4	91	(70-120)	%REC
30	1,1,2-Trichloroethane	ND	1.0	μg/L	65	Surr: Toluene-d8	101	(85-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	101	(75-120)	%REC
32	1,3-Dichloropropane	ND	1.0	μg/L			*	,	
33	Dibromochloromethane	ND	1.0	μg/L					
34	1,2-Dibromoethane (EDB)	ND	2.0	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

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

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8/4/08

**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

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072222-07A

Client I.D. Number: EB-02-7/21/08

Attn: David Conner

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/21/08

Received: 07/22/08 Analyzed: 07/29/08

### 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	1.0	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	ИD	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	ug/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	ug/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	94	(70-120)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	102	(85-120)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	100	(75-120)	%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

1.0

μg/L

μg/L

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8/4/08



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072222-08A

Client I.D. Number: TB-02-7/21/08

Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/21/08

Received: 07/22/08 Analyzed: 07/29/08

### 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-Chiorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	ug/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 (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	(70-120)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	102	(85-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	101	(75-120)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L	- •		1	,,	
33	Dibromochloromethane	ND	0.50	μg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

μg/L

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

8/4/08

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: BMI08072222 Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН	
08072222-01A	MW-14-5	Aqueous	2	
08072222-02A	MW-14-4	Aqueous	2	
08072222-03A	MW-14-3	Aqueous	2	
08072222-04A	MW-14-2	Aqueous	2	
08072222-05A	MW-14-1	Aqueous	2	
08072222-06A	DUPE-01-3Q08	Aqueous	2	
08072222-07A	EB-02-7/21/08	Aqueous	2	
08072222-08A	TB-02-7/21/08	Aqueous	2	

8/4/08



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 505 King Avenue

Columbus, OH 43201

Attn: David Conner

Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/22/08

Job#: G005862/JPL Groundwater Monitoring

### Specific Conductance at 25°C EPA Method 120.1 / SM2510B / SW9050A

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	<b>MW-14-5</b> BMI08072222-01A	Specific Conductance (at 25°C)	310	10 μS/cm	07/21/08	07/22/08
Client ID: Lab ID:	<b>MW-14-4</b> BMI08072222-02A	Specific Conductance (at 25°C)	580	10 μS/cm	07/21/08	07/22/08
Client ID: Lab ID:	<b>MW-14-3</b> BMI08072222-03A	Specific Conductance (at 25°C)	1,100	10 μS/cm	07/21/08	07/22/08
Client ID: Lab ID:	<b>MW-14-2</b> BMI08072222-04A	Specific Conductance (at 25°C)	1,200	10 μS/cm	07/21/08	07/22/08
Client ID : Lab ID :	<b>MW-14-1</b> BMI08072222-05A	Specific Conductance (at 25°C)	1,200	10 μS/cm	07/21/08	07/22/08
Client ID : Lab ID :	<b>DUPE-01-3Q08</b> BMI08072222-06A	Specific Conductance (at 25°C)	1,200	10 μS/cm	07/21/08	07/22/08
Client ID : Lab ID :	<b>EB-02-7/21/08</b> BMI08072222-07A	Specific Conductance (at 25°C)	ND	10 μS/cm	07/21/08	07/22/08

ND = Not Detected

Roger Scholl

Kandy Soulmer

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.

8/4/08



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 505 King Avenue Columbus, OH 43201 Attn: David Conner Phone: (619) 574-4827

Fax: (614) 458-6641

Date Received: 07/22/08

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 :	<b>MW-14-5</b> BMI08072222-01A	Perchlorate	ND	1.00 μg/L	07/21/08	07/24/08
Client ID: Lab ID:	<b>MW-14-4</b> BMI08072222-02A	Perchlorate	2.27	1.00 μg/L	07/21/08	07/24/08
Client ID: Lab ID:	<b>MW-14-3</b> BMI08072222-03A	Perchlorate	4.66	1.00 μg/L	07/21/08	07/24/08
Client ID: Lab ID:	<b>MW-14-2</b> BMI08072222-04A	Perchlorate	3.21	1.00 μg/L	07/21/08	07/24/08
Client ID: Lab ID:	<b>MW-14-1</b> BMI08072222-05A	Perchlorate	2.71	1.00 μg/L	07/21/08	07/24/08
Client ID : Lab ID :	<b>DUPE-01-3Q08</b> BMI08072222-06A	Perchlorate	2.80	1.00 μg/L	07/21/08	07/29/08
Client ID : Lab ID :	<b>EB-02-7/21/08</b> BMI08072222-07A	Perchlorate	ND	1.00 μg/L	07/21/08	07/24/08

ND = Not Detected

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

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8/4/08



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201 Attn:

David Conner

Phone:

(626) 345-0598

Fax:

(760) 385-4613

D 4

Date Received: 07/22/08

Job#:

G005862/JPL Groundwater Monitoring

Metals by ICPMS

EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	<b>MW-14-3</b> BMI08072222-03A	Chromium (Cr)	ND	0.0050 mg/L	07/21/08	07/28/08
Client ID : Lab ID :	MW-14-2 BMI08072222-04A	Chromium (Cr)	ND	0.0050 mg/L	07/21/08	07/28/08
Client ID: Lab ID:	MW-14-1 BMI08072222-05A	Chromium (Cr)	ND	0.0050 mg/L	07/21/08	07/28/08
Client ID: Lab ID:	<b>DUPE-01-3Q08</b> BMI08072222-06A	Chromium (Cr)	ND	0.0050 mg/L	07/21/08	07/28/08
Client ID: Lab ID:	EB-02-7/21/08 BMI08072222-07A	Chromium (Cr)	ND	0.0050 mg/L	07/21/08	07/28/08

ND = Not Detected

Roger Scholl

Kandy Sadner

Walter 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.

8/4/08 Report Date



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

<b>Date:</b> 30-Jul-08	(	C Su	ımmar	y Repor	t				Work Orde 08072222	
Method Blank File ID: 16		Туре М		est Code: <b>El</b> atch ID: <b>203</b> (		thod 314.0		ate: (	07/24/2008 14:06	
Sample ID: MBLK-20307	Units : µg/L	1	Run ID: IC	_3_0807244	١.		Prep Date:	0	7/24/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	C LCL(ME)	UCL(ME) RPD	RefVa	al %RPD(Limit)	Qual
Perchlorate	ND	1								
Laboratory Fortified Blank		Type LF	В Т	est Code: Ef	A Me	thod 314.0	· ·			
File ID: <b>17</b>			Ва	atch ID: 2030	)7		Analysis D	ate: (	07/24/2008 14:24	
Sample ID: LFB-20307	Units : µg/L	ı	Run ID: IC	_3_080724	١		Prep Date:	0	7/24/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	C LCL(ME)	UCL(ME) RPD	RefVa	al %RPD(Limit)	Qual
Perchlorate	22.3	2	25		89	85	115			
Sample Matrix Spike		Type LF	M Te	est Code: EF	A Me	thod 314.0				
File ID: <b>21</b>			Ва	atch ID: <b>203</b> 0	)7		Analysis D	ate: (	07/24/2008 15:38	
Sample ID: <b>08072345-02ALFM</b>	Units : µg/L	i	Run ID: IC	_3_080724 <i>A</i>			Prep Date:	0	7/24/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	C LCL(ME)	UCL(ME) RPD	RefVa	al %RPD(Limit)	Qual
Perchlorate	24.5	2	25	2.29	89	80	120			
Sample Matrix Spike Duplicate		Type LF	MD T	est Code: El	A Me	thod 314.0				
File ID: 22			Ва	atch ID: 2030	)7		Analysis D	ate: (	07/24/2008 15:57	
Sample ID: 08072345-02ALFMD	Units : µg/L	i	Run ID: IC	_3_0807244	١.		Prep Date:	0	7/24/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	C LCL(ME)	UCL(ME) RPD	RefVa	al %RPD(Limit)	Qual
Perchlorate	24.2	2	25	2.29	88	80	120 2	24.52	1.3(15)	

### Comments:



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<b>Date:</b> 30-Jul-08	Q	C Summ	ary Report		Work Order: 08072222
Method Blank File ID: Sample ID: MBLK-W0722CNA	T Units : <b>µS/cm</b>	ype <b>MBLK</b> Run ID	Test Code: EPA Method Batch ID: W0722CNA D: WETLAB_080722B	•	50A 07/22/2008 00:00 07/22/2008
Analyte	Result I	PQL Spk	Val SpkRefVal %REC LC	L(ME) UCL(ME) RPDRef\	/al %RPD(Limit) Qua
Specific Conductance (at 25°C)	ND	10			
Laboratory Control Spike File ID:	Т	ype LCS	Test Code: EPA Method Batch ID: W0722CNA	120.1 / SM2510B / SW90 Analysis Date:	50A 07/22/2008 00:00
Sample ID: LCS-W0722CNA Analyte	Units : <b>µS/cm</b> Result I		): <b>WETLAB_080722B</b> Val SpkRefVal %REC LC		<b>07/22/2008</b> /al %RPD(Limit) Qua
Specific Conductance (at 25°C)	1380	10 14	110 98	98 102	

### Comments:



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<b>Date:</b> 30-Jul-08	(	OC S	ummar	y Repor	t				<b>Work Orde</b> 08072222	
Method Blank File ID: 072808.B\032SMPL.D\		Type N		est Code: EP		thod 200.8	Analy	sis Date:	07/28/2008 15:12	
Sample ID: MB-20289	Units: mg/L		Run ID: IC	P/MS_08072	28A		Prep i	Date:	07/22/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	ND	0.005	5							
Laboratory Control Spike		Type L	.CS Te	est Code: EP	A Met	thod 200.8				
File ID: 072808.B\033_LCS.D\			Ba	tch ID: 2028	9K		Analy	sis Date:	07/28/2008 15:18	
Sample ID: LCS-20289	Units: mg/L		Run ID: IC	P/MS_08072	28A		Prep	Date:	07/22/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	0.0484	0.005	0.05		97	85	115			
Sample Matrix Spike		Type N	AS Te	est Code: EP	A Met	hod 200.8				
File ID: 072808.B\036SMPL.D\			Ba	tch ID: 2028	9K		Analy	sis Date:	07/28/2008 15:34	
Sample ID: 08072222-03AMS	Units : mg/L		Run ID: IC	P/MS_08072	28A		Prep	Date:	07/22/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	0.0502	0.005	0.05	0	100	70	130			
Sample Matrix Spike Duplicate		Type N	ISD Te	est Code: EP	A Met	hod 200.8				
File ID: 072808.B\037SMPL.D\			Ba	tch ID: 2028	9K		Analy	sis Date:	07/28/2008 15:40	
Sample ID: 08072222-03AMSD	Units: mg/L		Run ID: IC	P/MS_08072	28A		Prep	Date:	07/22/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	0.0481	0.005	0.05	0	96	70	130	0.050	21 4.4(20)	

### Comments:



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Date: Work Order: OC Summary Report 04-Aug-08 08072222 Method Blank Type MBLK Test Code: SW8260B File ID: 08072907.D Analysis Date: 07/29/2008 10:53 Batch ID: MS15W0729K5 Sample ID: **MBLK MS15W0729K** Prep Date: 07/29/2008 Units: µg/L Run ID: MSD\_15\_080729A SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Analyte **PQL** Result Qual Dichlorodifluoromethane ND 0.5 Chloromethane ND Vinyl chloride ND 0.5 Chloroethane ND 0.5 Bromomethane ND 1 Trichlorofluoromethane ND 0.5 1,1-Dichloroethene ND 0.5 Dichloromethane ND 1 Freon-113 ND 0.5 trans-1,2-Dichloroethene ND 0.5 Methyl tert-butyl ether (MTBE) ND 0.5 1.1-Dichloroethane ND 0.5 2-Butanone (MEK) ND 10 cis-1,2-Dichloroethene ND 0.5 Bromochloromethane ND 0.5 Chloroform ND 0.5 2,2-Dichloropropane ND 0.5 1,2-Dichloroethane ND 0.5 1,1,1-Trichloroethane ND 0.5 1,1-Dichloropropene ND 0.5 Carbon tetrachloride ND 0.5 Benzene ND 0.5 Dibromomethane ND 0.5 1,2-Dichloropropane ND 0.5 Trichloroethene ND 0.5 Bromodichloromethane ND 0.5 4-Methyl-2-pentanone (MIBK) ND 2.5 cis-1,3-Dichloropropene ND 0.5 trans-1,3-Dichloropropene ND 0.5 1,1,2-Trichloroethane ND 0.5 Toluene ND 0.5 1,3-Dichloropropane ND 0.5 Dibromochloromethane ND 0.5 1,2-Dibromoethane (EDB) ND Tetrachioroethene ND 0.5 1,1,1,2-Tetrachloroethane ND 0.5 Chlorobenzene ND 0.5 Ethylbenzene ND 0.5 m,p-Xylene ND 0.5 Bromoform ND 0.5 Styrene ND 0.5 o-Xylene ND 0.5 1,1,2,2-Tetrachloroethane ND 0.5 1,2,3-Trichloropropane ND Isopropylbenzene ND 0.5 Bromobenzene ND 0.5 n-Propylbenzene ND 0.5 4-Chlorotoluene ND 0.5 2-Chlorotoluene ND 0.5 1,3,5-Trimethylbenzene ND 0.5 tert-Butylbenzene ND 0.5 1,2,4-Trimethylbenzene ND 0.5 sec-Butylbenzene ND 0.5 1,3-Dichlorobenzene ND 0.5 1,4-Dichlorobenzene ND 0.5 4-isopropyltoluene ND 0.5 1,2-Dichlorobenzene ND 0.5 n-Butylbenzene ND 0.5 1,2-Dibromo-3-chloropropane (DBCP) ND 2.5 1,2,4-Trichlorobenzene ND 1 Naphthalene ND 1 Hexachlorobutadiene ND 1 1,2,3-Trichlorobenzene ND Surr: 1,2-Dichloroethane-d4 128 10 90 75 Surr: Toluene-d8 10 100 80 120 10



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<b>Date:</b> 04-Aug-08	(	C Sun	nmary R	eport			<b>Work Ord</b> 08072222	
Surr: 4-Bromofluorobenzene	9.93		10	99	70	130		
Laboratory Control Spike		Type LCS	Test C	ode: <b>SW8260B</b>				
File ID: <b>08072905.D</b>			Batch I	D: MS15W0729K	5	Analysis Dat	e: 07/29/2008 09:47	
Sample ID: LCS MS15W0729K	Units : µg/L		_	15_080729A		Prep Date:	07/29/2008	
Analyte	Result	PQL :	SpkVal Spk	RefVal %REC LC	L(ME)	UCL(ME) RPDR	efVal %RPD(Limit)	Qual
Dichlorodifluoromethane	7.24	1	10	72	29	133		
Chloromethane Vinyl chloride	9.67	2	10 10	97 98	44 70	140 130		
Chloroethane	9.77 9.09	1 1	10 10	96 91	62	158		
Bromomethane	11.9	2	10	119	20	179		
Trichlorofluoromethane	9.73	1	10	97	63	156		
1,1-Dichloroethene Dichloromethane	10.8	1	10	108	70	130		
trans-1,2-Dichloroethene	10.4 11.3	2 1	10 10	104 113	70 70	130 130		
Methyl tert-butyl ether (MTBE)	12.1	0.5	10	121	70	130		
1,1-Dichloroethane	10.3	1	10	103	70	130		
cis-1,2-Dichloroethene	11.6	1	10	116	70	130		
Bromochloromethane Chloroform	11.5 9.88	1 1	10 10	115 99	70 80	130 120		
2,2-Dichloropropane	10.5	1	10	105	65	152		
1,2-Dichloroethane	10.1	1	10	101	70	130		
1,1,1-Trichloroethane	10.5	1	10	105	70	130		
1,1-Dichloropropene Carbon tetrachloride	11.2	1	10	112	70	130 130		
Benzene	10.6 10.7	1 0.5	10 10	106 107	70 70	130		
Dibromomethane	11.8	1	10	118	70	130		
1,2-Dichloropropane	11.2	1	10	112	70	130		
Trichloroethene	11.3	1	10	113	70	130		
Bromodichloromethane cis-1,3-Dichloropropene	11.2 10	1 1	10 10	112 100	70 70	130 130		
trans-1,3-Dichloropropene	9.81	1	10	98	68	134		
1,1,2-Trichloroethane	11.8	1	10	118	70	130		
Toluene	10.3	0.5	10	103	70	130		
1,3-Dichloropropane Dibromochloromethane	11.4	1	10	114	70	130 130		
1,2-Dibromoethane (EDB)	10.6 24.1	1 2	10 20	106 120	68 70	130		
Tetrachloroethene	11.1	1	10	111	70	130		
1,1,1,2-Tetrachloroethane	10.9	1	10	109	70	130		
Chlorobenzene Ethylbenzene	10.5	1	10	105	70	130 130		
m,p-Xylene	10.5 11.5	0.5 0.5	10 10	105 115	70 70	130		
Bromoform	11.8	1	10	118	59	132		
Styrene	10.7	1	10	107	70	130		
o-Xylene	10.7	0.5	10	107	70	130		
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	10.1 20.9	1 2	10 20	101 105	65 68	135 132		
Isopropylbenzene	10.4	1	10	104	70	130		
Bromobenzene	9.99	1	10	99.9	70	130		
n-Propylbenzene	10.6	1	10	106	70	130		
4-Chlorotoluene 2-Chlorotoluene	10.4 10.4	1 1	10 10	104 104	70 70	130 130		
1,3,5-Trimethylbenzene	10.4	1	10 10	102	70	141		
tert-Butylbenzene	10.9	i	10	109	70	130		
1,2,4-Trimethylbenzene	10.3	1	10	103	67	146		
sec-Butylbenzene	10.5	1	10	105	70	130		
1,3-Dichlorobenzene 1,4-Dichlorobenzene	9.86 9.74	1 1	10 10	99 97	70 70	130 130		
4-Isopropyltoluene	10.5	1	10	105	70	133		
1,2-Dichlorobenzene	9.22	1	10	92	70	130		
n-Butylbenzene	10.5	1	10	105	68	145		
1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene	47.9 10.4	3 2	50 10	96 104	57 70	133 130		
Naphthalene	10.4	2	10	104	70 26	161		
Hexachlorobutadiene	19.9	2	20	100	39	172		
1,2,3-Trichlorobenzene	11.2	2	10	112	33	166		
Surr: 1,2-Dichloroethane-d4 Surr: Toluene-d8	8.23 9.79		10 10	82 98	75 80	128 120		
Surr: 4-Bromofluorobenzene	10.1		10	101	70	130		



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

Date:	000	Work Order:
04-Aug-08	QC Summary Report	08072222
· · · · · · · · · · · · · · · · · · ·		

### Comments:

### Billing Information:

505 King Avenue

Battelle Memorial Institute

505 King Avenue

Columbus, OH 43201

Columbus, OH 43201

# CHAIN-OF-CUSTODY RECORD

## Alpha Analytical, Inc.

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

Report Attention FEL: (775) 355-1044 FAX: (775) 355-0406 Phone Number

David Conner

(619) 574-4827 x connerd@battelle.org EMail Address

EDD Required: Yes

Report Due By: 5:00 PM On: 05-Aug-08

WorkOrder: BMI08072222

A Page: 1011

Sampled by: Client

Cooler Temp

Samples Received

Date Printed 31-Jul-08

QC Level: S4 Client's COC #: 026277 = Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job : G005862/JPL Groundwater Monitoring

BMI08072222-06A DUPE-01-3Q08 Sample ID BMI08072222-08A TB-02-7/21/08 BMI08072222-07A EB-02-7/21/08 BMI08072222-05A MW-14-1 BMI08072222-04A MW-14-2 BMI08072222-02A MW-14-4 BMI08072222-03A MW-14-3 BMI08072222-01A MW-14-5 Sample ID AQ 07/21/08 10:40 AQ 07/21/08 00:00 AQ 07/21/08 09:30 AQ 07/21/08 08:26 AQ 07/21/08 08:00 AQ 07/21/08 å Matrix Date AQ 07/21/08 07/21/08 Collection No. of Bottles 10:50 Alpha Sub TAT G G G S 0 0 0 0 0 0 0 **1** 6 5 6 5 6 **a** <del>1</del>0 Perchlorate Perchlorate Perchlorate Perchlorate 314\_W CONDUCTI METALS\_D VOC\_TIC\_ Perchlorate | Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Ç Ç Ç 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 VOC by 524 VOC by 524 Criteria Criteria Requested Tests VOC\_W Reno Trip Blank 6/26/08 Level IV QC required. Sample Remarks

Comments:

No security seals. Frozen ice. Level IV QC. Amended 7/24/08 14:30 to change Job Name, QC Level and VOC test description due to project requirements. KM Amended #2 7/31/08 13:50 to add TICs due to project requirements.KM

Logged in by:

**Print Name** 

Company

Alpha Analytical, Inc.

7/31/08 1350 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:

Battelle

505 King Avenue

Columbus, OH 43201

505 King Avenue Battelle Memorial Institute

# 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 (626) 345-0598 x Phone Number connerd@battelle.org EMail Address

Columbus, OH 43201

Client's COC #: 026277 PO: 218017

Job : G005862/JPL Groundwater Monitoring

CANENDE BO 1011

Report Due By: 5:00 PM On: 05-Aug-08 WorkOrder: BMI08072222

EDD Required: Yes

Sampled by: Client

Samples Received

Cooler Temp Date Printed 24-Jul-08

		Criteria							00:00	   		
Reno Trip Blank 6/26/08		VOC by 524				<b>1</b>	0	_	07/21/08	Ą	TB-02-7/21/08	BMI08072222-08A
		VOC by 524 Criteria	ද	Perchlorate	Perchlorate	10	0	Ó	07/21/08 10:40	AQ	EB-02-7/21/08	BMI08072222-07A
		VOC by 524 Criteria	ç	Perchlorate	Perchlorate	10	0	51	07/21/08 00:00	à	DUPE-01-3Q08	BMI08072222-06A
		VOC by 524 Criteria	Ç	Perchlorate	Perchlorate	10	0	თ	07/21/08 10:50	Ą	MW-14-1	BMI08072222-05A
		VOC by 524 Criteria	Ω	Perchlorate	Perchlorate	10	0	Δı	07/21/08 09:30	Ą	MW-14-2	BMI08072222-04A
		VOC by 524 Criteria	Çr	Perchlorate	Perchlorate	10	0	σı	07/21/08 08:55	ĄQ	MW-14-3	BMI08072222-03A
Level IV QC required.		VOC by 524 Criteria		Perchlorate	Perchlorate Perchlorate	10	0	4	07/21/08 08:26	AQ	MW-14-4	BMI08072222-02A
		VOC by 524 Criteria		Perchlorate	Perchlorate	10	0	4	07/21/08 08:00	AQ	MW-14-5	BMI08072222-01A
Sample Remarks		VOC_W	HETALS_D W	CONDUCTI METALS_D VITY W	314_W	TAT	No. of Bottles Alpha Sub		Collection Matrix Date	Matri	Client Sample ID	Alpha Sample ID
- Address - Addr	d Tests	Requested Tests	1	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,								
The state of the s					gates	ith Surro	MSD W	CS, MS/	าCal data, L	InitCal/Co	= Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates	QC Level: S4

Comments: No security seals. Frozen ice. Level IV QC. Amended 7/24/08 14:30 to change Job Name, QC Level and VOC test description due to project requirements.KM:

	Logged in by:	
	Kullman	Signature
	1,	
	Alpha Analytical, Inc. 7	Print Name Company Dat
CARAMINET OF THE CONTRACT OF T	7/24/08 143	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:

505 King Avenue

Columbus, OH 43201

505 King Avenue Battelle Memorial Institute

# 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 (626) 345-0598 x connerd@battelle.org EMail Address

Columbus, OH 43201

C A

Page: 1 of 1

WorkOrder: BMI08072222

Report Due By: 5:00 PM On: 05-Aug-08

EDD Required: Yes

Cooler Temp

Sampled by: Client

Samples Received

Date Printed

BMI08072222-07A Sample ID QC Level: DS4 BMI08072222-08A BMI08072222-06A DUPE-01-3Q08 BMI08072222-05A MW-14-1 BMI08072222-04A MW-14-2 BMI08072222-03A BMI08072222-02A MW-14-4 Client's COC #: 026277 BMI08072222-01A MW-14-5 TB-02-7/21/08 EB-02-7/21/08 MW-14-3 Sample ID DOD QC Required: Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job: G005862 à å ð Š å Š Ś Š Matrix Date 07/21/08 10:40 07/21/08 08:26 07/21/08 08:00 07/21/08 00:00 07/21/08 00:00 07/21/08 10:50 07/21/08 09:30 07/21/08 08:55 Collection No. of Bottles Alpha Sub S Ġ G S S 4 0 0 0 0 0 0 0 0 ΤAΤ 6 5 5 5 6 5 5 6 Perchlorate Perchlorate Perchlorate | Perchlorate Perchlorate Perchlorate | Perchlorate Perchlorate | Perchlorate Perchlorate Perchlorate 314\_W CONDUCTI METALS\_D Perchlorate Perchlorate Perchlorate Ď Ç Ç Ç Ω 8260 by 524 Criteria VOC\_W Requested Tests 4 0° 22-Jul-08 Reno Trip Blank 6/26/08 Level IV QC required. Sample Remarks 22-Jul-08

Comments: No security seals. Frozen ice. Level IV QC.:

Signature

Logged in by:

**Print Name** 

K Muray

Company

Alpha Analytical, Inc.

Date/Time

7/22/08 1125

Billing Information: Name Gでにかいと アロベアドルら Address 5つ5 ドルル・プレビ	222	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778	Samples Collected From Which State?  AZ CA NV WA ID OTHER	NV WA Page # / of /
City, State, Zip Corrangus, off 43 20/		Fax (775) 355-0406	Analyses	Analyses Required
Client Name DAVI CONVER	PO.# 218017	Job# C.005 862	(0,000)	Required QC Level?
~	EMail Address		84.2	/
"Go, CA 92110	Phone # 6/9 - 726 - 731/	Fax #	(5) C.	EDD / EDF? YES NO
Matrix* Sampled by	Report Attention	Total and type of	201	Global ID#
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	TAT Filtered ** See below	1 St CX	REMARKS
800 7/11/4 AR BM108072222-01	MW-14-5	MOM 4	×	
826	M~-14-4	7	×	R MAN
955 03	MW-14-3	2	× × X	Alpha Analytical Sample Receipt
0930	MW-14-2	7	× × X Se	Security Control YES NO
	$\neg$			Frozen 137 MB NC
020	WW-14-1	5	× ×	(
	2	1		Lemperature C
1000	12-01-3008	2,5	< X X X	DUPLICATE
08	- 7/21/		×	121
ADDITIONAL INSTRUCTIONS:				
Signature	Print Name		Company	Date Time
Relinquished by	CHASE BLOGTON	1115/16	HEET H	07/2/04 1200
Received by Kalaman	K Murau	A4		7/25/00 1100
Relinquished by				
Received by				
Relinquished by				
Received by				

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.

\*Key: AQ - Aqueous

SO - Soil

WA - Waste

OT - Other

AR - Air

\*\*: L-Liter

V-Voa

S-Soil Jar

0-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



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

Date: 04-Aug-08

**David Conner** Battelle Memorial Institute

505 King Avenue Columbus, OH 43201 (619) 574-4827

CASE NARRATIVE

Project:

G005862/ JPL Groundwater Monitoring

Work Ordon

DMINONTOOAA

ork Order: BM1080/2244	C	cooler Temp: 4 °C	
Alpha's Sample ID	Client's Sample ID	Matrix	
08072244-01A	MW-21-5	Aqueous	
08072244-02A	MW-21-4	Aqueous	
08072244-03A	MW-21-3	Aqueous	
08072244-04A	MW-21-2	Aqueous	
08072244-05A	MW-21-1	Aqueous	
08072244-06A	EB-01-7/18/08	Aqueous	
08072244-07A	TB-01-7/18/08	Aqueous	

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

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

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

Roger Scholl



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

505 King Avenue Columbus, OH 43201 Attn:

David Conner

Phone:

(619) 574-4827

Fax:

(614) 458-6641

Date Received: 07/22/08

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:	<b>MW-21-5</b> BMI08072244-01A	Perchlorate	2.84	1.00 μg/L	07/18/08	07/24/08
Client ID: Lab ID:	MW-21-4 BMI08072244-02A	Perchlorate	2.08	1.00 µg/L	07/18/08	07/24/08
Client ID: Lab ID:	<b>MW-21-3</b> BMI08072244-03A	Perchlorate	3.56	1.00 µg/L	07/18/08	07/24/08
Client ID: Lab ID:	<b>MW-21-2</b> BMI08072244-04A	Perchlorate	1.99	1.00 µg/L	07/18/08	07/29/08
Client ID: Lab ID:	<b>MW-21-1</b> BMI08072244-05A	Perchlorate	3.36	1.00 µg/L	07/18/08	07/24/08
Client ID : Lab ID :	<b>EB-01-7/18/08</b> BMI08072244-06A	Perchlorate	ND	1.00 μg/L	07/18/08	07/24/08

This replaces the report signed 8/4/08 due to a change in the date analyzed for -04A.

ND = Not Detected

loger Scholl Kandy Saulmer

Walter Airchner

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.

9/5/08

Report Date



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue

Columbus, OH 43201

Job#: G005862/ JPL Groundwater Monitoring

Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641

Tentatively Identified Compounds - Volatile Organics by GC/MS

		Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID : Lab ID :	<b>MW-21-5</b> BMI08072244-01A	*** None Found ***	ND	2.0 μg/L	07/22/08	07/18/08	07/29/08
Client ID : Lab ID :	<b>MW-21-4</b> BMI08072244-02A	* * * None Found * * *	ND	2.0 μg/L	07/22/08	07/18/08	07/29/08
Client ID : Lab ID :	MW-21-3 BMI08072244-03A	* * * None Found * * *	ND	2.0 μg/L	07/22/08	07/18/08	07/29/08
Client ID: Lab ID:	MW-21-2 BMI08072244-04A	* * * None Found * * *	ND	2.0 μg/L	07/22/08	07/18/08	07/29/08
Client ID: Lab ID:	MW-21-1 BMI08072244-05A	*** None Found ***	ND	2.0 μg/L	07/22/08	07/18/08	07/29/08
Client ID: Lab ID:	EB-01-7/18/08 BMI08072244-06A	* * * None Found * * *	ND	2.0 μg/L	07/22/08	07/18/08	07/29/08
Client ID: Lab ID:	<b>TB-01-7/18/08</b> BMI08072244-07A	*** None Found ***	ND	2.0 μg/L	07/22/08	07/18/08	07/29/08

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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andy Soulin Dalter Atrikum

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

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

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8/4/08 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

505 King Avenue Columbus, OH 43201

G005862/ JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072244-01A

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

Attn: David Conner

(619) 574-4827 Phone: Fax:

(614) 458-6641

Sampled: 07/18/08

Received: 07/22/08 Analyzed: 07/29/08

### 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	3.3	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butvibenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1.3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1.4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	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/∟ µg/L	63	1.2.3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64		95	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	101	(80-120)	%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)

ND

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

μg/L

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

8/4/08

**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

505 King Avenue Columbus, OH 43201

h#: G005862/ IPI Gra

G005862/ JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072244-02A

Client I.D. Number: MW-21-4

Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/18/08

Received: 07/22/08 Analyzed: 07/29/08

### 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-Xviene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	ug/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	4.8	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 (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	95	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	98	(80-120)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

33 Dibromochloromethane

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Santon a

ND

ND

Walter Herikun

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

1.0

μg/L

μg/L

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8/4/08

**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

505 King Avenue Columbus, OH 43201

Job#: G005862/ JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072244-03A

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

Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/18/08

Received: 07/22/08 Analyzed: 07/29/08

### 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	1.2	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	3.0	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	1.7	0.50	μg/L	60	1.2.4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	98	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	101	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99	(80-120)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			,		
33	Dibromochloromethane	ND	0.50	μg/L					
24	4.2 Dibermanthese (EDD)	:=	2.00	r <i>-</i> -					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

toger Scholl Kandy Soulur

ND

Walter Hirkon

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

μg/L

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

8/4/08

Report Date



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/ JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072244-04A Client I.D. Number: MW-21-2

Attn: **David Conner** 

(619) 574-4827 Phone: (614) 458-6641 Fax:

Sampled: 07/18/08

Received: 07/22/08 Analyzed: 07/29/08

### Volatile Organics by GC/MS

499.00	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	1.5	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1.3.5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	3.6	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1.3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1.4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μα/L	56	4-Isopropyttoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1.2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
25	Trichloroethene	0.61	0.50	µg/L	60	1.2.4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	95	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	100	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102	(80-120)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L			,		

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

33 Dibromochloromethane

Tetrachioroethene

34 1,2-Dibromoethane (EDB)

ND

ND

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

μg/L

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8/4/08

Report Date



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### ANALYTICAL REPORT

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

ob#: G005862/ IDI G

G005862/ JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072244-05A Client I.D. Number: MW-21-1

Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/18/08

Received: 07/22/08 Analyzed: 07/29/08

### 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	0.53	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	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	101	(80-120)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	101	(80-120)	%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 Kandy Saulun

ND

ND

Dalter Hinkon

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

μg/L

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8/4/08

Report Date



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/ JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072244-06A

Client I.D. Number: EB-01-7/18/08

Attn: **David Conner** 

(619) 574-4827 Phone:

(614) 458-6641 Fax:

Sampled: 07/18/08

Received: 07/22/08 Analyzed: 07/29/08

### 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	0.72	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	ug/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1.3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1.4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	µg/L	57	1.2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butvlbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (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	96	(75-128)	%RE
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	101	(80-120)	%RE
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	102	(80-120)	%RE
32	1,3-Dichloropropane	ND	0.50	μg/L		<del></del>		, ,	
33	Dibromochloromethane	ND	0.50	μg/L					
~ 4	4.0 Dibarra etha (CDD)	_	2.00	r-a-					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

μg/L

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8/4/08

**Report Date** 



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### ANALYTICAL REPORT

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

Job#:

G005862/ JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072244-07A Client I.D. Number: TB-01-7/18/08

**David Conner** Attn:

(619) 574-4827 Phone: Fax:

(614) 458-6641

Sampled: 07/18/08

Received: 07/22/08 Analyzed: 07/29/08

### Volatile Organics by GC/MS

	Compound	Concentration	ncentration Reporting Limit			Compound	Concentration	Reporting Li	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L	
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	µg/L	
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L	
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	μg/L	
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	µg/L	
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L	
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	μg/L	
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L	
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L	
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L	
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	µg/L	
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	µg/L	
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L	
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	µg/L	
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L	
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L	
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L	
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	µg/L	
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L	
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L	
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ФИ	0.50	μg/L	
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L	
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	µg/L	
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC		2.5	µg/L	
25	Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L	
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	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	(75-128)	%REC	
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(80-120)	%REC	
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	103	(80-120)	%REC	
32	1,3-Dichloropropane	ND	0.50	μg/L						
33	Dibromochloromethane	ND	0.50	µg/L						
		í								

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

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8/4/08

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: BMI08072244 Project: G005862/ JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pН
08072244-01A	MW-21-5	Aqueous	2
08072244-02A	MW-21-4	Aqueous	2
08072244-03A	MW-21-3	Aqueous	2
08072244-04A	MW-21-2	Aqueous	2
08072244-05A	MW-21-1	Aqueous	2
08072244-06A	EB-01-7/18/08	Aqueous	2
08072244-07A	TB-01-7/18/08	Aqueous	2

8/4/08



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 505 King Avenue Columbus, OH 43201

Attn: David Conner

Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/22/08

Job#:

G005862/ JPL Groundwater Monitoring

### Specific Conductance at 25°C EPA Method 120.1 / SM2510B / SW9050A

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	MW-21-5 BMI08072244-01A	Specific Conductance (at 25°C)	900	10 μS/cm	07/18/08	07/22/08
Client ID: Lab ID:	MW-21-4 BMI08072244-02A	Specific Conductance (at 25°C)	800	10 μS/cm	07/18/08	07/22/08
Client ID: Lab ID:	<b>MW-21-3</b> BMI08072244-03A	Specific Conductance (at 25°C)	1,200	10 μS/cm	07/18/08	07/22/08
Client ID: Lab ID:	MW-21-2 BMI08072244-04A	Specific Conductance (at 25°C)	1,300	10 μS/cm	07/18/08	07/22/08
Client ID : Lab ID :	<b>MW-21-1</b> BMI08072244-05A	Specific Conductance (at 25°C)	1,200	10 μS/cm	07/18/08	07/22/08
Client ID: Lab ID:	EB-01-7/18/08 BMI08072244-06A	Specific Conductance (at 25°C)	ND	10 μS/cm	07/18/08	07/22/08

ND = Not Detected

Roger Scholl Kandys

Dalter Firedown

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

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

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

8/4/08



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 505 King Avenue

Columbus, OH 43201

**David Conner** Attn:

Phone: (626) 345-0598

Fax:

(760) 385-4613

Date Received: 07/22/08

Job#:

G005862/ JPL Groundwater Monitoring

Metals by ICPMS

EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	MW-21-5 BMI08072244-01A	Chromium (Cr)	ND	0.0050 mg/L	07/18/08	07/28/08
Client ID: Lab ID:	MW-21-4 BMI08072244-02A	Chromium (Cr)	ND	0.0050 mg/L	07/18/08	07/28/08
Client ID: Lab ID:	MW-21-3 BMI08072244-03A	Chromium (Cr)	ND	0.0050 mg/L	07/18/08	07/28/08
Client ID: Lab ID:	MW-21-2 BMI08072244-04A	Chromium (Cr)	ND	0.0050 mg/L	07/18/08	07/28/08
Client ID: Lab ID:	MW-21-1 BMI08072244-05A	Chromium (Cr)	ND	0.0050 mg/L	07/18/08	07/28/08
Client ID: Lab ID:	EB-01-7/18/08 BMI08072244-06A	Chromium (Cr)	ND	0.0050 mg/L	07/18/08	07/28/08

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.



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<b>Date:</b> 30-Jul-08		(	OC S	umn	nary l	Repor	t				<b>Work Orde</b> 08072244	
Method Bla File ID: 16	nk		Type i	MBLK		Code: <b>EF</b>		thod 314.0	Analy	sis Date:	07/24/2008 14:06	
Sample ID:	MBLK-20307	Units: µg/L		Run II	D: IC_3_	080724A			Prep	Date:	07/24/2008	
Analyte		Result	PQL	Spk	Val Sp	kRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		ND	· · · · · · · · · · · · · · · · · · ·	1								
Laboratory File ID: 17	Fortified Blank		Type	LFB				thod 314.0				
Sample ID: Analyte	LFB-20307	Units : µg/L Result	PQL		D: IC_3_	n ID: <b>2030</b> _ <b>080724A</b> nkRefVal		: LCL(ME)	Prep	Date:	07/24/2008 14:24 07/24/2008 Val %RPD(Limit)	Qual
Perchlorate		22.3		2	25		89	85	115			
Sample Mat File ID: 21	rix Spike		Туре	LFM		Code: <b>EF</b>		thod 314.0	Analy	sis Date:	07/24/2008 15:38	
Sample ID: Analyte	08072345-02ALFM	Units : μg/L Result	PQL			_ <b>080724A</b> okRefVal		LCL(ME)	Prep UCL(ME)		<b>07/24/2008</b> Val %RPD(Limit)	Qual
Perchlorate		24.5		2	25	2.29	89	80	120			
Sample Mat	rix Spike Duplicate		Туре	LFMD				thod 314.0	Analy	oio Dato:	07/24/2009 45:57	
Sample ID:	08072345-02ALFMD	Units : µg/L		Dun if		n ID: 2030			Prep		07/24/2008 15:57 07/24/2008	
Analyte	TOTAL TO THE STATE OF THE STATE	Result	PQL			_ <b>080724A</b> kRefVal		LCL(ME)	•		Val %RPD(Limit)	Qual
Perchlorate		24.2	····	2	25	2.29	88	80	120	24.5		

### Comments:



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<b>Date:</b> 30-Jul-08		QC S	umma	ry Report			Work Orde 08072244	
Method Blank File ID: Sample ID: MBLK-W0722CNA Analyte	Units : <b>µS/c</b> Result	Type I m PQL	Run ID: V	Batch ID: W0722CNA VETLAB_080722B		1 / SM2510B / SW9050A Analysis Date: 07/2 Prep Date: 07/2 ) UCL(ME) RPDRefVal %	22/2008 00:00 22/2008	Qua
Specific Conductance (at 25°C)	ND	10		Spkneivai /6NLO	LOC(IVIL	) OOL(WIE) TO DITCHAIL )	, or a 'D(C, mill)	
Laboratory Control Spike File ID:		Type I		Batch ID: W0722CNA		1 / SM2510B / SW9050A Analysis Date: 07/2	22/2008 00:00	
Sample ID: LCS-W0722CNA Analyte	Units : <b>µS/c</b> Result	m PQL		<b>VETLAB_080722B</b> I SpkRefVal %REC	LCL(ME)	Prep Date: <b>07/2</b> ) UCL(ME) RPDRefVal %	22/2008 %RPD(Limit)	Qua
Specific Conductance (at 25°C)	1380	10			98	102		

### Comments:



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		<u></u>		<u> </u>		4
Method Blank		Type MBLK	Test Code: SW8260B			
File ID: 08072907.D			Batch ID: MS15W0729K5	5 Analysis Da	te: 07/29/2008 10:53	
Sample ID: MBLK MS15W0729K	Units : µg/L	Run I	D: MSD_15_080729A	Prep Date:	07/29/2008	
Analyte	Result		«Val SpkRefVal %REC LC	L(ME) UCL(ME) RPDR	efVal %RPD(Limit)	Qu
Dichlorodifluoromethane	ND	0.5		<u> </u>		
Chloromethane	ND	0.5				
Vinyl chloride	ND	0.5				
Chloroethane	ND	0.5				
Bromomethane	ND	1				
Trichlorofluoromethane	ND	0.5				
1,1-Dichloroethene	ND	0.5				
Dichloromethane	ND	1				
Freon-113	ND	0.5				
trans-1,2-Dichloroethene	ND	0.5				
Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane	ND	0.5				
2-Butanone (MEK)	ND ND	0.5 20				
cis-1,2-Dichloroethene	ND	0.5				
Bromochloromethane	ND	0.5				
Chloroform	ND	0.5				
2,2-Dichloropropane	ND	0.5				
1,2-Dichloroethane	ND	0.5				
1,1,1-Trichloroethane	ND	0.5				
1,1-Dichloropropene	ND	0.5				
Carbon tetrachloride	ND	0.5				
Benzene	ND	0.5				
Dibromomethane	ND	0.5				
1,2-Dichloropropane Trichloroethene	ND	0.5				
Promodichloromethane	ND	0.5				
4-Methyl-2-pentanone (MIBK)	ND	0.5				
cis-1,3-Dichloropropene	ND ND	2.5 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 Bromoform	ND	0.5				
Styrene	ND ND	0.5 0.5				
o-Xylene	ND ND	0.5 0.5				
1,1,2,2-Tetrachloroethane	ND	0.5				
1,2,3-Trichloropropane	ND	1				
Isopropylbenzene	ND	0.5				
Bromobenzene	ND	0.5				
n-Propylbenzene	ND	0.5				
4-Chlorotoluene	ND	0.5				
2-Chlorotoluene	ND	0.5				
1,3,5-Trimethylbenzene	ND	0.5				
tert-Butylbenzene	ND	0.5				
1,2,4-Trimethylbenzene sec-Butylbenzene	ND	0.5				
sec-butylbenzene 1,3-Dichlorobenzene	ND ND	0.5				
1,4-Dichlorobenzene	ND ND	0.5 0.5				
4-Isopropyltoluene	ND ND	0.5 0.5				
1,2-Dichlorobenzene	ND ND	0.5 0.5				
n-Butylbenzene	ND ND	0.5 0.5				
1,2-Dibromo-3-chloropropane (DBCP)	ND ND	0.5 5				
1,2,4-Trichlorobenzene	ND	1				
Naphthalene	ND	1				
Hexachlorobutadiene	ND	i				
1,2,3-Trichlorobenzene	ND	1				
Surr: 1,2-Dichloroethane-d4	9		10 90	75 128		
Surr: Toluene-d8	10		10 100	80 120		



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<b>Date:</b> 04-Aug-08	(	C Sum	mary R	Report			Work Orde 08072244	
Surr: 4-Bromofluorobenzene	9.93		10	99	70	130		
Laboratory Control Spike		Type LCS	Test 0	Code: SW8260B				
File ID: 08072905.D			Batch	ID: MS15W0729I	<b>K</b> 5	· · · · · · · · · · · · · · · · · · ·	: 07/29/2008 09:47	
Sample ID: LCS MS15W0729K	Units : µg/L			15_080729A		Prep Date:	07/29/2008	
Analyte	Result	PQL S	pkVal Spl	RefVal %REC L	CL(ME)	UCL(ME) RPDRe	fVal %RPD(Limit)	Qual
Dichlorodifluoromethane	7.24	1	10	72	29	133		
Chloromethane	9.67	2	10	97	44	140		
Vinyl chloride Chloroethane	9.77 9.09	1	10 10	98 91	70 62	130 158		
Bromomethane	11.9	2	10	119	20	179		
Trichlorofluoromethane	9.73	1	10	97	63	156		
1,1-Dichloroethene	10.8	1	10	108	70	130		
Dichloromethane trans-1,2-Dichloroethene	10.4	2	10	104	70	130 130		
Methyl tert-butyl ether (MTBE)	11.3 12.1	1 0.5	10 10	113 121	70 70	130		
1,1-Dichloroethane	10.3	1	10	103	70	130		
cis-1,2-Dichloroethene	11.6	1	10	116	70	130		
Bromochloromethane	11.5	1	10	115	70	130		
Chloroform	9.88	1	10	99	80	120		
2,2-Dichloropropane 1,2-Dichloroethane	10.5	1	10	105 101	65 70	152 130		
1,1,1-Trichloroethane	10.1 10.5	1 1	10 10	101	70 70	130		
1,1-Dichloropropene	11.2	i	10	112	70	130		
Carbon tetrachloride	10.6	1	10	106	70	130		
Benzene	10.7	0.5	10	107	70	130		
Dibromomethane	11.8	1	10	118	70	130		
1,2-Dichloropropane Trichloroethene	11.2 11.3	1 1	10 10	112 113	70 70	130 130		
Bromodichloromethane	11.2	1	10	112	70	130		
cis-1,3-Dichloropropene	10	1	10	100	70	130		
trans-1,3-Dichloropropene	9.81	1	10	98	68	134		
1,1,2-Trichloroethane	11.8	1	10	118	70	130		
Toluene 1,3-Dichloropropane	10.3 11.4	0.5 1	10	103 114	70 70	130 130		
Dibromochloromethane	10.6	1	10 10	106	68	130		
1,2-Dibromoethane (EDB)	24.1	2	20	120	70	130		
Tetrachloroethene	11.1	1	10	111	70	130		
1,1,1,2-Tetrachloroethane	10.9	1	10	109	70	130		
Chlorobenzene Ethylbenzene	10.5	1	10	105	70 70	130 130		
m,p-Xylene	10.5 11.5	0.5 0.5	10 10	105 115	70 70	130		
Bromoform	11.8	1	10	118	59	132		
Styrene	10.7	1	10	107	70	130		
o-Xylene	10.7	0.5	10	107	70	130		
1,1,2,2-Tetrachloroethane	10.1	1	10	101	65	135 132		
1,2,3-Trichloropropane Isopropylbenzene	20.9 10.4	2	20 10	105 104	68 70	130		
Bromobenzene	9.99	1	10	99.9	70	130		
n-Propylbenzene	10.6	1	10	106	70	130		
4-Chlorotoluene	10.4	1	10	104	70	130		
2-Chlorotoluene	10.4	1	10	104	70	130		
1,3,5-Trimethylbenzene tert-Butylbenzene	10.2	1	10	102 109	70 70	141 130		
1,2,4-Trimethylbenzene	10.9 10.3	1	10 10	103	67	146		
sec-Butylbenzene	10.5	1	10	105	70	130		
1,3-Dichlorobenzene	9.86	1	10	99	70	130		
1,4-Dichlorobenzene	9.74	1	10	97	70	130		
4-Isopropyltoluene 1,2-Dichlorobenzene	10.5 9.22	1 1	10 10	105 92	70 70	133 130		
n-Butylbenzene	9.22 10.5	1	10 10	92 105	68	145		
1,2-Dibromo-3-chloropropane (DBCP)	47.9	3	50	96	57	133		
1,2,4-Trichlorobenzene	10.4	2	10	104	70	130		
Naphthalene	11.1	2	10	111	26	161		
Hexachlorobutadiene 1,2,3-Trichlorobenzene	19.9	2	20	100 112	39 33	172 166		
Surr: 1,2-Dichloroethane-d4	11.2 8.23	2	10 10	82	33 75	128		
Surr: Toluene-d8	9.79		10	98	80	120		
Surr: 4-Bromofluorobenzene	10.1		10	101	70	130		



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**Date:** 04-Aug-08

**QC Summary Report** 

Work Order: 08072244

### Comments:



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

<b>Date:</b> 30-Jul-08	OC Summary Report  Work Ord 0807224	
Method Blank File ID: 072808.B\032SMPL.D\ Sample ID: MB-20289 Analyte Chromium (Cr)	Type MBLK Test Code: EPA Method 200.8  Batch ID: 20289K Analysis Date: 07/28/2008 15:12  Units: mg/L Run ID: ICP/MS_080728A Prep Date: 07/22/2008  Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit)  ND 0.005	Qual
Laboratory Control Spike File ID: 072808.B\033_LCS.D\ Sample ID: LCS-20289	Type LCS Test Code: EPA Method 200.8  Batch ID: 20289K Analysis Date: 07/28/2008 15:18  Units: mg/L Run ID: ICP/MS 080728A Prep Date: 07/22/2008	
Analyte Chromium (Cr)	Result         PQL         SpkVal         SpkRefVal         %REC         LCL(ME)         UCL(ME)         RPDRefVal         %RPD(Limit)           0.0484         0.005         0.05         97         85         115	Qual
Sample Matrix Spike File ID: 072808.B\036SMPL.D\ Sample ID: 08072222-03AMS Analyte	Type MS Test Code: EPA Method 200.8  Batch ID: 20289K Analysis Date: 07/28/2008 15:34  Units: mg/L Run ID: ICP/MS_080728A Prep Date: 07/22/2008  Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit)	Qual
Chromium (Cr)  Sample Matrix Spike Duplicate File ID: 072808.B\037SMPL.D\ Sample ID: 08072222-03AMSD	0.0502 0.005 0.05 0 100 70 130  Type MSD Test Code: EPA Method 200.8  Batch ID: 20289K Analysis Date: 07/28/2008 15:40  Units: mg/L Run ID: ICP/MS_080728A Prep Date: 07/22/2008	······································
Analyte Chromium (Cr)	Result         PQL         SpkVal         SpkRefVal         %REC         LCL(ME)         UCL(ME)         RPDRefVal         %RPD(Limit)           0.0481         0.005         0.05         0         96         70         130         0.05021         4.4(20)	Qual

### Comments:

Billing Information:

505 King Avenue

Columbus, OH 43201

Columbus, OH 43201

Battelle Memorial Institute 505 King Avenue

# 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 EMail Address

(619) 574-4827 x connerd@battelle.org

EDD Required: Yes

Report Due By: 5:00 PM On: 05-Aug-08

WorkOrder: BMI08072244

Page: 1 of 1

Cooler Temp

Sampled by: Client

Client's COC #: 026283 PO: 218017 QC Level: S4 = Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job: G005862/ JPL Groundwater Monitoring Samples Received 22-Jul-08 Date Printed 31-Jul-08

										Request	Requested Tests	
Alpha	Client		Collection No. of Bottles	No. o	f Bottles	y,	314_W	CONDUCTI METALS_D	METALS_C	VOC_TIC_ VOC_W	V0C_W	
Sample ID	Sample ID	Mat	Matrix Date	Alpha	Alpha Sub	TAT		VITY	*			 Sample Remarks
BMI08072244-01A	MW-21-5	Ą	07/18/08 08:00	51	0	10	Perchlorate	Perchlorate	Ω	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	
BMI08072244-02A	MW-21-4	å	07/18/08 08:55	55	0	10	Perchlorate	Perchlorate	ဂ	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	
BMI08072244-03A	MW-21-3	ΔA	07/18/08 09:19	Ŋ	0	10	Perchlorate	Perchlorate	Ω	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	
BMI08072244-04A MW-21-2	MW-21-2	å	07/18/08 09:47	Çî.	0	10	Perchlorate	Perchlorate	Ω	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	
BMI08072244-05A	MW-21-1	å	07/18/08 10:58	თ	0	10	Perchlorate	Perchlorate	ဂ	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	
BMI08072244-06A	EB-01-7/18/08	Ą	07/18/08 10:15	رن د	0	10	Perchlorate	Perchlorate	င္	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	3 voa's rec'd w/ air bubbles > 6mm
BMI08072244-07A	TB-01-7/18/08	å	07/18/08	_	0	10				VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	Client provided trip blank

Logged in by: . project requirements. TP asha **Print Name** Fasca Alpha Analytical, Inc. Company

No security seals. Frozen ice. Level IV QC. Amended 7/25 8:00 to change Job Name, QC Level and VQC test description due to project requirements. TP Amended 7/31/08 13:46 to add TICS per

Comments:

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

Billing Information:

505 King Avenue

Columbus, OH 43201

505 King Avenue Battelle Memorial Institute

# 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 **EMail Address** 

David Conner (626) 345-0598 x connerd@battelle.org

EDD Required: Yes

**Report Due By: 5:00 PM On: 05-Aug-08** 

WorkOrder: BMI08072244

Page: 1 of 1

Sampled by: Client

Cooler Temp

Samples Received **Date Printed** 25-Jul-08

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

. <del>g</del>o

G005862/ JPL Groundwater Monitoring

Client's COC #: 026283

Columbus, OH 43201

										Requested Tests	37
Alpha	Client		Collection No. of Bottles	No. o	f Bottles	¥,	314_W	CONDUCTI METALS	METALS_	VOC_W	
Sample ID	Sample ID	Matr	Matrix Date	Alpha	Alpha Sub	TAT		ΥΠΥ	*		Sample Remarks
BMI08072244-01A	MW-21-5	Ą	07/18/08 08:00	Sī	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	
BMI08072244-02A	MW-21-4	Ą	07/18/08 08:55	رن ن	0	10	Perchlorate	Perchlorate	Ω	VOC by 524 Criteria	
BMI08072244-03A	MW-21-3	Ą	07/18/08 09:19	Ŋ	0	10	Perchlorate	Perchlorate	Ω	VOC by 524 Criteria	
BMI08072244-04A	MW-21-2	AQ	07/18/08 09:47	Ŋ	0	10	Perchlorate	Perchlorate	Ω	VOC by 524 Criteria	
BMI08072244-05A	MW-21-1	Ą	07/18/08 10:58	5	0	10	Perchlorate	Perchlorate	ç	VOC by 524 Criteria	
BMI08072244-06A	EB-01-7/18/08	å	07/18/08 10:15	Ŋ	0	10	Perchlorate	Perchlorate   Perchlorate	Ω	VOC by 524 Criteria	3 voa's rec'd w/ air bubbles > 6mm
BMI08072244-07A TB-01-7/18/08	TB-01-7/18/08	å	07/18/08		0	10				VOC by 524 Criteria	Client provided trip blank

Comments: No security seals. Frozen ice, Level IV QC. Amended 7/25 8:00 to change Job Name, QC Level and VOC test description due to project requirements. TP:

	Logged in by:	
•	Rome	Signature /
THE THE PARTY OF T	Tasha Pascal	Print Name
	Alpha Ar	Company
	7/25/08810	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: Battelle

505 King Avenue

Columbus, OH 43201

Client: 505 King Avenue Battelle Memorial Institute

# 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 **EMail Address** 

(626) 345-0598 x connerd@battelle.org

EDD Required: Yes

Report Due By: 5:00 PM On: 05-Aug-08

WorkOrder: BMI08072244

Page: 1 of 1

Sampled by: Client

Cooler Temp Samples Received 22-Jul-08 Date Printed 22-Jul-08

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

Job :

G005862

Client's COC #: 026283

PO: 218017

Columbus, OH 43201

										Requested Tests	d Tests	
Alpha Sample ID	Client Sample ID	Matr	Collection Matrix Date	No. of Bottle Alpha Sub	No. of Bottles Alpha Sub	TAT	314_W	CONDUCTI METALS_D	WETALS_D			Sample Remarks
BMI08072244-01A MW-21-5	MW-21-5	AQ	07/18/08 08:00	CI	0	6	Perchlorate	Perchlorate	Ç.	8260 by 524 Criteria		
BMI08072244-02A	MW-21-4	å	07/18/08 08:55	Οı	0	10	Perchlorate	Perchlorate	Ç	8260 by 524 Criteria		
BMI08072244-03A	MW-21-3	å	07/18/08 09:19	თ	0	6	Perchlorate	Perchlorate	Cr	8260 by 524 Criteria		
BMI08072244-04A	MW-21-2	á	07/18/08 09:47	თ	0	5	Perchlorate	Perchlorate	Ç	8260 by 524 Criteria		
BMI08072244-05A	MW-21-1	å	07/18/08 10:58	თ	0	10	Perchlorate	Perchlorate	Ω	8260 by 524 Criteria		
BMI08072244-06A	EB-01-7/18/08	å	07/18/08 10:15	ڻ.	0	6	Perchlorate	Perchlorate	Ç	8260 by 524 Criteria		3 voa's rec'd w/ air bubbles > 6mm
BMI08072244-07A TB-01-7/18/08	TB-01-7/18/08	å	07/18/08 00:00		0	10				8260 by 524 Criteria		Client provided trip blank

Comments: No security seals. Frozen ice. Level IV QC.:

Logged in by: The Royal	Signature
Tasha Pascal	Print Name
Alpha Analytical, Inc.	Company
7/22/08 1300	Date/Time

Dilling Information.						707	3/00	Callacted	ram Whi	ink Ctata9	
CORPLE TOMPO		255 255	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21 Sparks Nevada 89/31-5778	<b>ical, II</b> ue, Suite	a 21	ō A		CA OR	AZ CA NV WA ID OR OTHER	<b>A</b>	Page # / of /
COLLUNG BUS		Phor Fax	Phone (775) 355-1044 Fax (775) 355-0406	044				Analys	Analyses Required		
rione Number rax											
Client Name  OND  COUNTY	P.O.# 2/801-	\ <u>\</u>	f goor	5000	2882			10 /B	/ /	/ /	Required QC Level
~1	-EMail Add						2	Z00.	<u> </u>	<u> </u>	1    (iii) 1V
	Phone #6/9-7	619-716-7311	Fax #				ر ڊ •		<u></u>	/ EDD	EDD / EDF? YESNO
Matrix* Sampled by See Key	Report Attention				Total and type of	_ De	702	<u></u>	<u> </u>	Global ID #	ID#
Sampled Sampled Below Lab ID Number (Use Only)	Sar	Sample Description	TAT	Filtered	2	u	70	W.	/ / /		REMARKS
800 7/18/38 AR BMIOSD72244-01	MW-21-5		NORM	Ι'		X	×	X			
855 -02	MW-21-4			$\vdash$		×	X	×			
	21-2								Aupna A	nalytica!	Analytical Sample Recei
700	W.K.					×	×	<u> </u>	Security	\$2.37	YES
ho-	1-18-MM					×	X	×	Frozen (	ice?	NES .
705	MW-21-1			-		X	X	X	i cuiperature	ure	7
				-						3 Va	a was for hiser s
1015 -Ob	EB- 01	- 7/18	108			×	$\times$	X		100 E	Sec 80
-07	TB -01	- 7/18/08	8			X				712	IP BLANK
ADDITIONAL INSTRUCTIONS:											
Signature		Print Name				င္ပ	Company			Date	Time
Relinquished by	CHASE I	BROLDON			1NS/61	TH	233	7		80/12/10	1200
Received by M. Forth	Tasha	Pasca			本本山	1				7/22/08	08 11:30
Relinquished by										•	
Received by											
Relinquished by											
Received by											
*Key: AQ - Aqueous SO - Soil WA - Waste	e OT - Other	AR - Air	**: L-Liter	V-Voa	S-Soil Jar	o	0-Orbo	T-Tedlar	B-Brass	P-Plastic	tic OT-Other
						(	(		0 0 000		

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: 04-Aug-08
David Conner
Battelle Memorial Institute
505 King Avenue
Columbus, OH 43201
(619) 574-4827

**CASE NARRATIVE** 

Project:

G005862/JPL Groundwater Monitoring

Work Order:

BMI08072345

Cooler Temp:

4°C

DIVITO0072545	•	ooiei Temp. 4 °	
Alpha's Sample ID	Client's Sample ID	Matrix	
08072345-01A	MW-19-5	Aqueous	
08072345-02A	MW-19-4	Aqueous	
08072345-03A	MW-19-3	Aqueous	
08072345-04A	MW-19-2	Aqueous	
08072345-05A	MW-19-1	Aqueous	
08072345-06A	DUPE-2-3Q08	Aqueous	
08072345-07A	EB-03-7/22/08	Aqueous	
08072345-08A	TB-03-7/22/08	Aqueous	

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

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

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

Roger Scholl

Kandy Sandner

Walter Hirihren



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 505 King Avenue

Attn: David Conner Phone: (619) 574-4827 Fax: (614) 458-6641

Columbus, OH 43201

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 :	<b>MW-19-5</b> BMI08072345-01A	*** None Found ***	ND	2.0 μg/L	07/23/08	07/22/08	07/29/08
Client ID: Lab ID:	<b>MW-19-4</b> BMI08072345-02A	* * * None Found * * *	ND	2.0 μg/L	07/23/08	07/22/08	07/29/08
Client ID: Lab ID:	<b>MW-19-3</b> BMI08072345-03A	*** None Found ***	ND	2.0 μg/L	07/23/08	07/22/08	07/29/08
Client ID : Lab ID :	<b>MW-19-2</b> BMI08072345-04A	*** None Found ***	ND	2.0 μg/L	07/23/08	07/22/08	07/29/08
Client ID: Lab ID:	<b>MW-19-1</b> BMI08072345-05A	*** None Found ***	ND	2.0 μg/L	07/23/08	07/22/08	07/29/08
Client ID: Lab ID:	<b>DUPE-2-3Q08</b> BMI08072345-06A	*** None Found ***	ND	2.0 μg/L	07/23/08	07/22/08	07/29/08
Client ID: Lab ID:	EB-03-7/22/08 BMI08072345-07A	*** None Found ***	ND	2.0 μg/L	07/23/08	07/22/08	07/30/08
Client ID: Lab ID:	<b>TB-03-7/22/08</b> BMI08072345-08A	*** None Found ***	ND	2.0 μg/L	07/23/08	07/22/08	07/30/08

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



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### ANALYTICAL REPORT

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072345-01A

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

David Conner Attn:

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/22/08

Received: 07/23/08 Analyzed: 07/29/08

### Volatile Organics by GC/MS

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	UJ	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	1.0		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 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	ug/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	(70-120)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	100	(85-120)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	98	(75-120)	%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.

UJ- The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte.

μg/L

ND = Not Detected

35 Tetrachloroethene

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

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### ANALYTICAL REPORT

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072345-02A

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

David Conner Attn:

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/22/08

Received: 07/23/08

Analyzed: 07/29/08

### Volatile Organics by GC/MS

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	UJ	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)	NĎ		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	(70-120)	%RE
30	1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	100	(85-120)	%RE
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99	(75-120)	%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

ND

UJ- The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte.

µg/L

μg/L

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

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

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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072345-03A Client I.D. Number: MW-19-3

Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/22/08

Received: 07/23/08 Analyzed: 07/29/08

### Volatile Organics by GC/MS

	Compound	Concentration	Re	eporting l	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	l ND	UJ	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	97	(70-120)	%REC
30	1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	99	(85-120)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99	(75-120)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

UJ- The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte.

ND = Not Detected

33 Dibromochloromethane34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl Kandy Saulner

ND

Walter Hirehow

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

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

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

*8*/5/08



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

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072345-04A

Client I.D. Number: MW-19-2

Attn: David Conner

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/22/08

Received: 07/23/08 Analyzed: 07/29/08

### Volatile Organics by GC/MS

	Compound	Concentration	R	eporting I	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	UJ	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	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	98	(70-120)	%REC
30	1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	100	(85-120)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99	(75-120)	%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.

UJ- The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte.

µg/L

ND = Not Detected

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



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### **ANALYTICAL REPORT**

Fax:

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072345-05A

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

Attn: David Conner

Phone: (619) 574-4827

(614) 458-6641

Sampled: 07/22/08

Received: 07/23/08 Analyzed: 07/29/08

### Volatile Organics by GC/MS

	Compound	Concentration	Re	porting l	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	UJ	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	j 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	(70-120)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	100	(85-120)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	98	(75-120)	%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.

UJ- The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte.

μg/L

ND = Not Detected

Tetrachloroethene

Toger Scholl Nandy Saulaur Walter

ND

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

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



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072345-06A

Client I.D. Number: DUPE-2-3008

Attn: David Conner

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/22/08

Received: 07/23/08 Analyzed: 07/29/08

### Volatile Organics by GC/MS

	Compound	Concentration	Re	eporting l	_imit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	UJ	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	0.99		0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND		0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND		0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND		0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	98	(70-120)	%REC
30	1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	100	(85-120)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	101	(75-120)	%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.

UJ- The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte.

μg/L

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

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.

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### ANALYTICAL REPORT

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072345-07A

Client I.D. Number: EB-03-7/22/08

Attn: David Conner

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/22/08

Received: 07/23/08 Analyzed: 07/30/08

### Volatile Organics by GC/MS

	Compound	Concentration	Re	porting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	UJ	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	0.99	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	99	(70-120)	%REC
30	1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	99	(85-120)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	100	(75-120)	%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					
^-	T 1 11 0	1								

Note: Analysis conducted using EPA Method 524.2 criteria.

UJ- The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte.

μg/L

ND = Not Detected

Tetrachloroethene

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

0.50

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

Page 1 of 1



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072345-08A

Client I.D. Number: TB-03-7/22/08

Attn: David Conner

Phone: (619) 574-4827

(614) 458-6641

Sampled: 07/22/08

Received: 07/23/08 Analyzed: 07/30/08

### Volatile Organics by GC/MS

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	UJ	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 (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	(70-120)	%REC
30	1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	99	(85-120)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102	(75-120)	%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.

UJ- The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte.

μg/L

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl Kandy Saulaur

ND

ND

Walter Hornhour

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

10

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8/5/08 Report Date

Page 1 of 1



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# **VOC Sample Preservation Report**

Work Order: BMI08072345 Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН	
08072345-01A	MW-19-5	Aqueous	2	
08072345-02A	MW-19-4	Aqueous	2	
08072345-03A	MW-19-3	Aqueous	2	
08072345-04A	MW-19-2	Aqueous	2	
08072345-05A	MW-19-1	Aqueous	2	
08072345-06A	DUPE-2-3Q08	Aqueous	2	
08072345-07A	EB-03-7/22/08	Aqueous	2	
08072345-08A	TB-03-7/22/08	Aqueous	2	

8/5/08



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### ANALYTICAL REPORT

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

**David Conner** Attn:

Phone: (626) 345-0598

(760) 385-4613 Fax: Date Received: 07/23/08

Job#: G005862/JPL Groundwater Monitoring

> Specific Conductance at 25°C EPA Method 120.1 / SM2510B / SW9050A

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	<b>MW-19-5</b> BMI08072345-01A	Specific Conductance (at 25°C)	750	10 μS/cm	07/22/08	07/23/08
Client ID: Lab ID:	<b>MW-19-4</b> BMI08072345-02A	Specific Conductance (at 25°C)	620	10 μS/cm	07/22/08	07/23/08
Client ID: Lab ID:	MW-19-3 BMI08072345-03A	Specific Conductance (at 25°C)	230	10 μS/cm	07/22/08	07/23/08
Client ID : Lab ID :	<b>MW-19-2</b> BMI08072345-04A	Specific Conductance (at 25°C)	1,000	10 μS/cm	07/22/08	07/23/08
Client ID : Lab ID :	<b>MW-19-1</b> BMI08072345-05A	Specific Conductance (at 25°C)	370	10 μS/cm	07/22/08	07/23/08
Client ID : Lab ID :	<b>DUPE-2-3Q08</b> BMI08072345-06A	Specific Conductance (at 25°C)	1,000	10 μS/cm	07/22/08	07/23/08
Client ID : Lab ID :	EB-03-7/22/08 BMI08072345-07A	Specific Conductance (at 25°C)	ND	10 μS/cm	07/22/08	07/23/08

ND = Not Detected

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



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### **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

**David Conner** Attn: Phone: (626) 345-0598

Fax: (760) 385-4613

Date Received: 07/23/08

G005862/JPL Groundwater Monitoring Job#:

### Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	<b>MW-19-5</b> BMI08072345-01A	Perchlorate	2.33	1.00 μg/L	07/22/08	07/24/08
Client ID : Lab ID :	<b>MW-19-4</b> BMI08072345-02A	Perchlorate	2.29	1.00 µg/L	07/22/08	07/24/08
Client ID: Lab ID:	<b>MW-19-3</b> BMI08072345-03A	Perchlorate	2.54	1.00 µg/L	07/22/08	07/24/08
Client ID: Lab ID:	<b>MW-19-2</b> BMI08072345-04A	Perchlorate	4.68	1.00 μg/L	07/22/08	07/24/08
Client ID: Lab ID:	<b>MW-19-1</b> BMI08072345-05A	Perchlorate	ND	1.00 µg/L	07/22/08	07/24/08
Client ID: Lab ID:	<b>DUPE-2-3Q08</b> BMI08072345-06A	Perchlorate	4.87	1.00 µg/L	07/22/08	07/24/08
Client ID : Lab ID :	<b>EB-03-7/22/08</b> BMI08072345-07A	Perchlorate	ND	1.00 μg/L	07/22/08	07/24/08

ND = Not Detected

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

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<b>Date:</b> 30-Jul-08		(	OC S	umma	ary Rer	ort						ork Orde 08072345	
Method Bla File ID: 16	nk		Туре	MBLK	Test Code Batch ID:		Method 3	314.0	Analy	sis Date:	07/24/20	08 14:06	
Sample ID:	MBLK-20307	Units : µg/L		Run ID:	IC_3_080	724A			Prep	Date:	07/24/200	8	
Analyte		Result	PQL	SpkV	al SpkRe	fVal %F	REC LCL	(ME) U	JCL(ME)	RPDRef	Val %RPD	(Limit)	Qual
Perchlorate		ND		1									
Laboratory	Fortified Blank		Туре	LFB	Test Code	e: EPA	Method 3	14.0					
File ID: <b>17</b>					Batch ID:	20307			Analy	sis Date:	07/24/20	08 14:24	
Sample ID:	LFB-20307	Units : µg/L		Run ID:	IC_3_080	724A			Prep	Date:	07/24/200	8	
Analyte		Result	PQL	SpkV	al SpkRet	fVal %F	REC LCL	(ME) U	JCL(ME)	RPDRef	Val %RPD	(Limit)	Qual
Perchlorate		22.3		2 2	25	8	39 8	5	115				
Sample Mat	rix Spike		Туре	LFM	Test Code	e: EPA	Method 3	14.0					
File ID: <b>21</b>					Batch ID:	20307			Analy	sis Date:	07/24/200	08 15:38	
Sample ID:	08072345-02ALFM	Units : μg/L		Run ID:	IC_3_080	724A			Prep l	Date:	07/24/200	8	
Analyte		Result	PQL	SpkV	al SpkRei	fVal %F	REC LCL	(ME) l	JCL(ME)	RPDRef	Val %RPD	(Limit)	Qual
Perchlorate		24.5		2 2	25 2	2.29 8	39 8	0	120				
Sample Mat	rix Spike Duplicate		Туре	LFMD	Test Code	e: EPA	Method 3	14.0					
File ID: 22					Batch ID:	20307			Analy	sis Date:	07/24/200	08 15:57	
Sample ID:	08072345-02ALFMD	Units : µg/L		Run ID:	IC_3_080	724A			Prep	Date:	07/24/200	8	
Analyte		Result	PQL	SpkV	al SpkRet	fVal %F	REC LCL	(ME) l	JCL(ME)	RPDRef	Val %RPD	(Limit)	Qual
Perchlorate		24.2		2 2	25 2	2.29 8	38 8	0	120	24.5	2 1.3	3(15)	

### Comments:



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<b>Date:</b> 30-Jul-08	OC Summary Report  Work Order: 08072345	: 
Method Blank File ID: Sample ID: MBLK-W07230	Type MBLK Test Code: EPA Method 120.1 / SM2510B / SW9050A  Batch iD: W0723CN Analysis Date: 07/23/2008 00:00  N Units: μS/cm Run iD: WETLAB 080723E Prep Date: 07/23/2008	_
Analyte	10110.102121	Qual
Specific Conductance (at 25°C	ND 10	_
Laboratory Control Spike File ID:	Type LCS Test Code: EPA Method 120.1 / SM2510B / SW9050A  Batch ID: W0723CN Analysis Date: 07/23/2008 00:00	
Sample ID: LCS-W0723CN	Units : µS/cm Run ID: WETLAB_080723E Prep Date: 07/23/2008	
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) 0	Qual
Specific Conductance (at 25°C)	1400 10 1410 99.6 98 102	

### Comments:



# Alpha Analytical, Inc.

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Date: 04-Aug-08	(	QC Sumn	nary Repoi	rt			Work Or 080723	
Method Blank File ID: 08072936.D		Type MBLK	Test Code: E Batch ID: MS				Date: 07/29/2008 21:4	0
Sample ID: MBLK MS15W0729L	Units : µg/L	Run I	D: <b>MSD_15_080</b>	729B		Prep Dat	te: 07/29/2008	
Analyte	Result	PQL Spl	kVal SpkRefVal	%REC	LCL(ME)	JCL(ME) RF	PDRefVal %RPD(Limit)	Qua
Dichlorodifluoromethane	ND	0.5						
Chloromethane	ND	1						
Vinyl chloride	ND	0.5						
Chloroethane	ND	0.5						
Bromomethane	ND	1						
Trichlorofluoromethane	ND	0.5						
1,1-Dichloroethene	ND	0.5						
Dichloromethane	ND	1						
Freon-113	ND	0.5						
trans-1,2-Dichloroethene Methyl tert-butyl ether (MTBE)	ND	0.5						
1,1-Dichloroethane	ND ND	0.5 0.5						
2-Butanone (MEK)	ND ND	10						
cis-1,2-Dichloroethene	ND ND	0.5						
Bromochloromethane	ND	0.5						
Chloroform	ND	0.5						
2,2-Dichloropropane	ND	0.5						
1,2-Dichloroethane	ND	0.5						
1,1,1-Trichloroethane	ND	0.5						
1,1-Dichloropropene	ND	0.5						
Carbon tetrachloride	ND	0.5						
Benzene	ND	0.5						
Dibromomethane	ND	0.5						
1,2-Dichloropropane	ND	0.5						
Trichloroethene	ND	0.5						
Bromodichloromethane	ND	0.5						
4-Methyl-2-pentanone (MIBK)	ND	2.5						
cis-1,3-Dichloropropene	ND	0.5						
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	ND	0.5						
Toluene	ND	0.5						
1,3-Dichloropropane	ND ND	0.5 0.5						
Dibromochloromethane	ND ND	0.5						
1,2-Dibromoethane (EDB)	ND ND	0.5						
Tetrachloroethene	ND	0.5						
1,1,1,2-Tetrachloroethane	ND	0.5						
Chlorobenzene	ND	0.5						
Ethylbenzene	ND	0.5						
m,p-Xylene	ND	0.5						
Bromoform	ND	0.5						
Styrene	ND	0.5						
o-Xylene	ND	0.5						
1,1,2,2-Tetrachloroethane	ND	0.5						
1,2,3-Trichloropropane	ND	1						
Isopropylbenzene	ND	0.5						
Bromobenzene	ND	0.5						
n-Propylbenzene	ND	0.5						
4-Chlorotoluene 2-Chlorotoluene	ND ND	0.5						
1,3,5-Trimethylbenzene	ND ND	0.5 0.5						
tert-Butylbenzene	ND ND	0.5 0.5						
1,2,4-Trimethylbenzene	ND ND	0.5 0.5						
sec-Butylbenzene	ND	0.5						
1,3-Dichlorobenzene	ND	0.5						
1,4-Dichlorobenzene	ND	0.5						
4-Isopropyltoluene	ND	0.5						
1,2-Dichlorobenzene	ND	0.5						
n-Butylbenzene	ND	0.5						
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5						
1,2,4-Trichlorobenzene	ND	1						
Naphthalene	ND	1						
Hexachlorobutadiene	ND	1						
1,2,3-Trichlorobenzene	ND	1						
Surr: 1,2-Dichloroethane-d4	9.34		10	93	75	128		
Surr: Toluene-d8	10.2		10	102	80	120		



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<b>Date:</b> 04-Aug-08	(	C Su	ımmary R	eport			Work Orde 08072345	
Surr: 4-Bromofluorobenzene	9.95		10	100	70	130		
Laboratory Control Spike		Type LC	S Test Co	ode: EPA Metho	od SW8	260B		
File ID: <b>08072934.D</b>			Batch I	D: <b>MS15W0729</b>	L5	Analysis Da	te: 07/29/2008 20:55	
Sample ID: LCS MS15W0729L	Units : µg/L	1	Run ID: MSD_1	5_080729B		Prep Date:	07/29/2008	
Analyte	Result	PQL	SpkVal Spkl	RefVal %REC L	.CL(ME)	UCL(ME) RPDF	RefVal %RPD(Limit)	Qual
Dichlorodifluoromethane	6.8	1	10	68	29	133		
Chloromethane Visual phlorida	9.73	2	10	97	44	140		
Vinyl chloride Chloroethane	9.83 9.33	1	10 10	98 93	70 62	130 158		
Bromomethane	11.3	2	10	113	20	179		
Trichlorofluoromethane	10.1	1	10	101	63	156		
1,1-Dichloroethene	10.8	1	10	108	70	130		
Dichloromethane trans-1,2-Dichloroethene	10.3	2	10	103	70 70	130		
Methyl tert-butyl ether (MTBE)	11.2 12.4	1 0.5	10 10	112 124	70 70	130 130		
1,1-Dichloroethane	10.4	1	10	104	70	130		
cis-1,2-Dichloroethene	11.6	1	10	116	70	130		
Bromochloromethane	11.5	1	10	115	70	130		
Chloroform	10.1	1	10	101	80 65	120		
2,2-Dichloropropane 1,2-Dichloroethane	9.29 10.4	1	10 10	93 104	65 70	152 130		
1,1,1-Trichloroethane	10.4	1	10	107	70	130		
1,1-Dichloropropene	11.3	1	10	113	70	130		
Carbon tetrachloride	10.5	1	10	105	70	130		
Benzene	10.7	0.5	10	107	70	130		
Dibromomethane 1,2-Dichloropropane	12.3 11	1	10 10	123 110	70 70	130 130		
Trichloroethene	11.9	1	10	119	70 70	130		
Bromodichloromethane	11.4	· 1	10	114	70	130		
cis-1,3-Dichloropropene	10.1	1	10	101	70	130		
trans-1,3-Dichloropropene	9.64	1	10	96	68	134		
1,1,2-Trichloroethane Toluene	11.9	1	10	119	70 70	130 130		
1,3-Dichloropropane	10.1 11.4	0.5 1	10 10	101 114	70 70	130		
Dibromochloromethane	10.7	1	10	107	68	130		
1,2-Dibromoethane (EDB)	24.5	2	20	122	70	130		
Tetrachloroethene	10.7	1	10	107	70	130		
1,1,1,2-Tetrachloroethane	10.7	1	10	107	70 70	130		
Chlorobenzene Ethylbenzene	10.4 10.5	1 0.5	10 10	104 105	70 70	130 130		
m,p-Xylene	11.3	0.5	10	113	70	130		
Bromoform	12.1	1	10	121	59	132		
Styrene	10.6	1	10	106	70	130		
o-Xylene	10.6	0.5	10	106	70	130		
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	9.41 21.7	1 2	10 20	94 109	65 68	135 132		
Isopropylbenzene	10.5	1	10	105	70	130		
Bromobenzene	10.2	1	10	102	70	130		
n-Propylbenzene	10.6	1	10	106	70	130		
4-Chlorotoluene	10.7	1	10	107	70	130		
2-Chlorotoluene 1,3,5-Trimethylbenzene	10.5 10.4	1 1	10 10	105 104	70 70	130 141		
tert-Butylbenzene	9.75	1	10	98	70	130		
1,2,4-Trimethylbenzene	10.4	1	10	104	67	146		
sec-Butylbenzene	10.7	1	10	107	70	130		
1,3-Dichlorobenzene	9.96	1	10	99.6	70	130		
1,4-Dichlorobenzene 4-Isopropyltoluene	9.93 10.6	1	10 10	99 106	70 70	130 133		
1,2-Dichlorobenzene	9.44	1	10	94	70	130		
n-Butylbenzene	10.6	1	10	106	68	145		
1,2-Dibromo-3-chloropropane (DBCP)	50	3	50	100	57	133		
1,2,4-Trichlorobenzene	11.1	2	10	111	70 26	130		
Naphthalene Hexachlorobutadiene	11.9 20.8	2 2	10 20	119 104	26 39	161 172		
1,2,3-Trichlorobenzene	20.8 12.3	2	10	123	33	166		
Surr: 1,2-Dichloroethane-d4	8.48	_	10	85	75	128		
Surr: Toluene-d8	9.63		10	96	80	120		
Surr: 4-Bromofluorobenzene	10.2		10	102	70	130		



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Date:<br/>04-Aug-08QC Summary ReportWork Order:<br/>08072345

Sample Matrix Spike		Type MS	5 Tes	t Code: EF	A Meti	nod SW82	60B		
File ID: 08073109.D		••		h ID: <b>MS1</b>	5W072	9L5	Analysis D	ate: 07/31/2008 11:33	
Sample ID: 08072345-02AMS	Units : µg/L	F	Run ID: MSI				Prep Date:		
Analyte	Result	PQL .				LCL(ME)		RefVal %RPD(Limit)	Qua
Dichlorodifluoromethane	44.5				89	20	137		
Chloromethane	48.8	2.5 10	50 50	0	98	31	148		
Vinyl chloride	55.8	2.5	50	0	112	46	138		
Chloroethane	51.8	2.5	50	Ö	104	34	170		
Bromomethane	72.4	10	50	Ö	145	20	189		
Trichlorofluoromethane	65.6	2.5	50	0	131	51	156		
1,1-Dichloroethene	52.1	2.5	50	0	104	66	132		
Dichloromethane	50.6	10	50	0	101	48	145		
trans-1,2-Dichloroethene	54.6	2.5	50	0	109	68	132		
Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane	56.4	1.3	50 50	0	113	62	139		
cis-1,2-Dichloroethene	51.7 56.2	2.5 2.5	50 50	0	103 112	70 70	130 130		
Bromochloromethane	54.9	2.5	50	0	110	70	130		
Chloroform	50.1	2.5	50	0	100	70	130		
2,2-Dichloropropane	53.4	2.5	50	Ö	107	50	152		
1,2-Dichloroethane	51	2.5	50	Ō	102	65	136		
1,1,1-Trichloroethane	52.8	2.5	50	0	106	67	133		
1,1-Dichloropropene	54.8	2.5	50	0	110	70	130		
Carbon tetrachloride	52.9	2.5	50	0	106	61	142		
Benzene	52.2	1.3	50	0	104	70	130		
Dibromomethane	57	2.5	50	0	114	69	130		
1,2-Dichloropropane Trichloroethene	54.7	2.5	50 50	0	109	70	132		
Bromodichloromethane	51.5 56.2	2.5 2.5	50 50	0	103 112	69 70	130 130		
cis-1,3-Dichloropropene	45.6	2.5	50	0	91	66	130		
trans-1,3-Dichloropropene	46.4	2.5	50	0	93	65	134		
1,1,2-Trichloroethane	55.4	2.5	50	Ō	111	67	132		
Toluene	48.4	1.3	50	0	97	67	130		
1,3-Dichloropropane	51.6	2.5	50	0	103	70	130		
Dibromochloromethane	49.5	2.5	50	0	99	66	130		
1,2-Dibromoethane (EDB)	110	10	100	0	110	70	130		
Tetrachloroethene	50.1	2.5	50	0	100	59	135		
1,1,1,2-Tetrachloroethane	52.1	2.5	50	0	104	70 70	130		
Chlorobenzene Ethylbenzene	49.9 50.7	2.5 1.3	50 50	0	99.7 101	70 70	130 130		
m,p-Xylene	53.4	1.3	50 50	0	107	69	130		
Bromoform	54.4	2.5	50 50	0	109	57	132		
Styrene	50.8	2.5	50	Ö	102	58	135		
o-Xylene	50.6	1.3	50	Ō	101	70	130		
1,1,2,2-Tetrachloroethane	47.2	2.5	50	0	94	65	137		
1,2,3-Trichloropropane	94.9	10	100	0	95	67	132		
Isopropylbenzene	51.2	2.5	50	0	102	70	130		
Bromobenzene	49.6	2.5	50	0	99	70	130		
n-Propylbenzene	51.7	2.5	50	0	103	70	130		
4-Chlorotoluene 2-Chlorotoluene	51.7 52	2.5	50 50	0	103 104	70 70	130 130		
1,3,5-Trimethylbenzene	51.3	2.5 2.5	50 50	0	104	68	141		
tert-Butylbenzene	54.7	2.5	50	0	109	70	130		
1,2,4-Trimethylbenzene	51.2	2.5	50	0	102	67	146		
sec-Butylbenzene	52.5	2.5	50	Ō	105	70	130		
1,3-Dichlorobenzene	48.7	2.5	50	0	97	70	130		
1,4-Dichlorobenzene	48.6	2.5	50	0	97	70	130		
4-Isopropyltoluene	52.4	2.5	50	0	105	70	133		
1,2-Dichlorobenzene	46	2.5	50	0	92	70	130		
n-Butylbenzene	54	2.5	50 250	0	108	66 57	145		
1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene	225	15	250	0	90	57 30	137 157		
Naphthalene	49.9 47.9	10	50 50	0	99.7 96	39 26	157 163		
Hexachlorobutadiene	47.9 105	10 10	50 100	0	96 105	26 35	172		
1,2,3-Trichlorobenzene	50.6	10	50	0	103	30	170		
Surr: 1,2-Dichloroethane-d4	42.6	.0	50	J	85	75	128		
Surr: Toluene-d8	47.4		50		95	80	120		
Surr: 4-Bromofluorobenzene	51.2		50		102	70	130		



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

Date:<br/>04-Aug-08QC Summary ReportWork Order:<br/>08072345

04-Aug-08		7000	illillial y 1						08072345	5
Sample Matrix Spike Duplicate		Type M				nod SW82			(0.4.10.0	
File ID: 08073110.D				ID: <b>MS1</b>		9L5	•		/31/2008 11:55	
Sample ID: 08072345-02AMSD	Units : µg/L		Run ID: MSD_	15_0807	729B		Prep [	Date: <b>07</b> /	31/2008	
Analyte	Result	PQL	SpkVal Sp	kRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qua
Dichlorodifluoromethane	41.4	2.5	50	0	83	20	137	44.52	7.4(20)	
Chloromethane	48.8	10	50	0	98	31	148	48.77	0.1(20)	
Vinyl chloride	51.5	2.5	50	0	103	46	138	55.83	8.0(20)	
Chloroethane	50.2	2.5	50	0	100	34	170	51.75	3.0(20)	
Bromomethane	68.6	10	50	0	137	20	189	72.41	5.4(20)	
Trichlorofluoromethane	59.4	2.5	50	0	119	51	156	65.62	9.9(20)	
1,1-Dichloroethene	49.3	2.5	50	0	99	66	132	52.05	5.4(20)	
Dichloromethane	48.2	10	50	0	96	48	145	50.63	4.9(20)	
trans-1,2-Dichloroethene	51.5	2.5	50	0	103	68	132	54.58	5.8(20)	
Methyl tert-butyl ether (MTBE)	55.4	1.3	50	0	111	62	139	56.38	1.7(20)	
1,1-Dichloroethane	48.7	2.5	50	0	97	70	130	51.65	5.8(20)	
cis-1,2-Dichloroethene	53.4	2.5	50	0	107	70	130	56.21	5.1(20)	
Bromochloromethane	53.1	2.5	50	0	106	70 70	130	54.93	3.4(20)	
Chloroform	48.2	2.5	50	0	96	70	130	50.06	3.9(20)	
2,2-Dichloropropane 1,2-Dichloroethane	49.7	2.5	50 50	0	99	50	152	53.4	7.1(20)	
1,1,1-Trichloroethane	49.6	2.5	50 50	0	99	65 67	136	51.02 52.76	2.8(20)	
1,1-Dichloropropene	49.4	2.5	50 50	0	99	67 70	133	52.76	6.7(20)	
Carbon tetrachloride	51.6 49.7	2.5 2.5	50 50	0	103 99	70 61	130 142	54.76 52.86	6.0(20) 6.1(20)	
Benzene	49.9	1.3	50 50	0	99.8	70	130	52.16	4.4(20)	
Dibromomethane	54.9	2.5	50 50	0	110	69	130	56.98	3.7(20)	
1,2-Dichloropropane	54. <del>3</del> 52.7	2.5	50 50	0	105	70	132	54.67	3.6(20)	
Trichloroethene	48.9	2.5	50	0	98	69	130	51.53	5.2(20)	
Bromodichloromethane	54	2.5	50	0	108	70	130	56.17	3.9(20)	
cis-1,3-Dichloropropene	43.9	2.5	50 50	0	88	66	130	45.58	3.8(20)	
trans-1,3-Dichloropropene	43.9	2.5	50	ŏ	88	65	134	46.42	5.7(20)	
1,1,2-Trichloroethane	52.7	2.5	50	Ŏ	105	67	132	55.43	5.1(20)	
Toluene	45.7	1.3	50	Ŏ	91	67	130	48.38	5.6(20)	
1,3-Dichloropropane	50.6	2.5	50	Ō	101	70	130	51.59	2.0(20)	
Dibromochloromethane	48.4	2.5	50	Ō	97	66	130	49.46	2.3(20)	
1,2-Dibromoethane (EDB)	108	10	100	Ō	108	70	130	109.9	2.1(20)	
Tetrachloroethene	47.4	2.5	50	0	95	59	135	50.08	5.6(20)	
1,1,1,2-Tetrachloroethane	49.9	2.5	50	0	99.8	70	130	52.11	4.3(20)	
Chlorobenzene	48	2.5	50	0	96	70	130	49.87	3.8(20)	
Ethylbenzene	48.1	1.3	50	0	96	70	130	50.69	5.2(20)	
m,p-Xylene	51	1.3	50	0	102	69	130	53.42	4.7(20)	
Bromoform	52.3	2.5	50	0	105	57	132	54.36	3.9(20)	
Styrene	48.3	2.5	50	0	97	58	135	50.81	5.0(20)	
o-Xylene	48.1	1.3	50	0	96	70	130	50.59	5.1(20)	
1,1,2,2-Tetrachloroethane	46	2.5	50	0	92	65	137	47.17	2.6(20)	
1,2,3-Trichloropropane	91.6	10	100	0	92	67	132	94.87	3.5(20)	
Isopropylbenzene	48.5	2.5	50	0	97	70	130	51.23	5.4(20)	
Bromobenzene	47.8	2.5	50	0	96	70	130	49.6	3.7(20)	
n-Propylbenzene	48.6	2.5	50	0	97	70	130	51.74	6.3(20)	
4-Chlorotoluene	50.3	2.5	50	0	101	70	130	51.74	2.9(20)	
2-Chlorotoluene	49.6	2.5	50	0	99	70	130	51.97	4.7(20)	
1,3,5-Trimethylbenzene	49.1	2.5	50	0	98	68	141	51.33	4.5(20)	
tert-Butylbenzene	51.7	2.5	50	0	103	70	130	54.67	5.5(20)	
1,2,4-Trimethylbenzene	48.8	2.5	50	0	98	67	146	51.2	4.8(20)	
sec-Butylbenzene	49.1	2.5	50	0	98	70 70	130	52.47	6.6(20)	
1,3-Dichlorobenzene 1,4-Dichlorobenzene	46.9 46.9	2.5	50 50	0	94 94	70 70	130 130	48.7 48.62	3.7(20) 3.6(20)	
4-Isopropyltoluene	46.9 49.4	2.5 2.5	50 50	0	9 <del>4</del> 99	70 70	130	52.39	5.9(20)	
1.2-Dichlorobenzene	49.4 44.5	2.5	50 50	0	99 89	70 70	133	52.39 45.95	3.2(20)	
n-Butylbenzene	51.1	2.5 2.5	50 50	0	102	66	145	54.03	5.7(20)	
1,2-Dibromo-3-chloropropane (DBCP)	224	2.5 15	250	0	90	57	137	225.2	0.3(20)	
1,2,4-Trichlorobenzene	48.9	10	250 50	0	98	39	157	49.85	2.0(20)	
Naphthalene	47.6	10	50 50	0	95	26	163	47.9	0.6(20)	
Hexachlorobutadiene	101	10	100	0	101	35	172	105.4	4.6(20)	
				0	105	30	170	50.63	3.9(20)	
	52.6	111								
1,2,3-Trichlorobenzene	52.6 43.5	10	50 50	U				30.00	3.9(20)	
	52.6 43.5 47.6	10	50 50 50	U	87 95	75 80	128 120	30.00	3.9(20)	



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

Date:	QC Summary Report	Work Order
04-Aug-08		 08072345

Comments:

Billing Information:

505 King Avenue

Columbus, OH 43201

505 King Avenue Battelle Memorial Institute

# AMENDED & Z CHAIN-OF-CUSTODY RECORD

255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778 Alpha Analytical, Inc.

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

Report Attention David Conner Phone Number (619) 574-4827 x connerd@battelle.org **EMail Address** 

Page: 1 of 1

WorkOrder: BMI08072345

Report Due By: 5:00 PM On: 06-Aug-08

EDD Required: Yes

Sampled by: Client Cooler Temp

Samples Received Date Printed 31-Jul-08

QC Level: S4 = Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Job: G005862/JPL Groundwater Monitoring

Client's COC #: 026280

Columbus, OH 43201

218017

,										Requested Tests	<b>.</b>	
Alpha Sample ID	Client Sample ID	Matr	Collection Matrix Date	No. of Bottle Alpha Sub	No. of Bottles Alpha Sub	TAT	314_W	CONDUCTI	CONDUCTI VOC_TIC_			Sample Remarks
BMI08072345-01A	MW-19-5	AQ	07/22/08 07:43	4	0	10	Perchlorate	Perchlorate	VOC by 524 Criteria	VOC by 524 Criteria		
BMI08072345-02A	MW-19-4	ΑQ	07/22/08 08:18	8	0	10	Perchlorate	Perchlorate	VOC by 524 Criteria	VOC by 524 Criteria		MS/MSD
BMI08072345-03A	MW-19-3	ΑQ	07/22/08 08:50	4	0	10	Perchlorate		Perchlorate VOC by 524 Criteria	VOC by 524 Criteria		
BMI08072345-04A	MW-19-2	ΑΩ	07/22/08 09:22	4	0	10	Perchlorate	Perchlorate	Perchlorate VOC by 524 Criteria	VOC by 524 Criteria		
BM108072345-05A	MW-19-1	ΑQ	07/22/08 09:54	4	0	10	Perchlorate	Perchlorate	VOC by 524 Criteria	VOC by 524 Criteria		Level IV QC.
BMI08072345-06A	DUPE-2-3Q08	ĄQ	07/22/08 00:00	4	0	10	Perchlorate	Perchlorate	VOC by 524 Criteria	VOC by 524 Criteria		
BMI08072345-07A	EB-03-7/22/08	ĄQ	07/22/08 09:39	4	0	10	Perchlorate	Perchlorate	VOC by 524 Criteria	VOC by 524 Criteria		
BMI08072345-08A TB-03-7/22/08	TB-03-7/22/08	Ą	07/22/08 00:00		0	10			VOC by 524 Criteria	VOC by 524 Criteria		Reno Trip Blank 6/26/08

Comments:

No security seals. Frozen ice. Level IV QC. Temp Blank #7669 rec'd @ 4°. Amended 7/25 8:00 to change Job Name, QC Level and VOC test description due to project requirements. TP Amended 7/31/08 13:46 to add TICS per project requirements. TP:

Logged in by:	
 ~ perm	Signature
( Tasha Pascal	Print Name
Alpha Analytical, Inc.	Company
7/31/08/140	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:

505 King Avenue

Columbus, OH 43201

Battelle Memorial Institute 505 King Avenue

# CHAIN-OF-CUSHOLY 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 (626) 345-0598 x connerd@battelle.org **EMail Address** 

EDD Required: Yes

Report Due By: 5:00 PM On: 06-Aug-08

WorkOrder: BMI08072345

Page: 1 of 1

Sampled by: Client

Cooler Temp Samples Received Date Printed 25-Jul-08

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 #: 026280

Columbus, OH 43201

										Requested Tests	
Alpha	Client		Collection No. of Bottles	No. of	Bottles	•	314_W	CONDUCTI	VOC_W		
Sample ID	Sample ID	Matrix	Matrix Date	Alpha Sub		TAT		YTIY			Sample Remarks
BMI08072345-01A	MW-19-5	ð	07/22/08 07:43	4	0	10	Perchlorate	Perchlorate	VOC by 524 Criteria		
BMI08072345-02A	MW-19-4	å	07/22/08 08:18	8	0	10	Perchlorate	Perchlorate	VOC by 524 Criteria		MS/MSD
BMI08072345-03A	MW-19-3	á	07/22/08 08:50	4	0	10	Perchlorate	Perchlorate	Perchlorate VOC by 524 Criteria		
BMI08072345-04A	MW-19-2	Ã	07/22/08 09:22	4	0	10	Perchlorate	Perchlorate	VOC by 524 Criteria		
BMI08072345-05A	MW-19-1	ĄQ	07/22/08 09:54	4	0	10	Perchlorate	Perchlorate	VOC by 524 Criteria		Level IV QC.
BMI08072345-06A DUPE-2-3Q08	DUPE-2-3Q08	Ą	07/22/08 00:00	4	0	10	Perchlorate	Perchlorate Perchlorate	VOC by 524 Criteria		
BMI08072345-07A	EB-03-7/22/08	ĄQ	07/22/08 09:39	4	0	10	Perchlorate	Perchlorate	VOC by 524 Criteria		
BMI08072345-08A	TB-03-7/22/08	AQ	07/22/08 00:00	_	0	6			VOC by 524 Criteria		Reno Trip Blank 6/26/08

Logged in by:	
Rosul	Signature
Tasha Pascal	Print Name
Alpha Analytical, Inc.	ıy
7/25/088	Date/Time

No security seals. Frozen ice. Level IV QC. Temp Blank #7669 rec'd @ 4°. Amended 7/25 8:00 to change Job Name, QC Level and VOC test description due to project requirements. TP:

Comments:

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

Billing Information :
Battelle

505 King Avenue

Columbus, OH 43201

Client:

Battelle Memorial Institute 505 King Avenue

# 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 EMail Address

David Conner (626) 345-0598 x connerd@battelle.org

EDD Required: Yes

Report Due By: 5:00 PM On: 06-Aug-08

WorkOrder: BMI08072345

Page: 1 of 1

Sampled by: Client

Cooler Temp Samp

p Samples Received Date Printed 23-Jul-08 23-Jul-08

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

Job: G005862

Client's COC #: 026280

Columbus, OH 43201

					Requested Tests	ests
Alpha	Client	Collection	No. of Bottles	314_W CONDUCTI	VOC_W	
Sample ID	Sample ID	Matrix Date	Alpha Sub TAT			Sample Remarks
BMI08072345-01A	MW-19-5	AQ 07/22/08 07:43	4 0 10	) Perchlorate Perchlorate	rate 8260 by 524 Criteria	
BMI08072345-02A	MW-19-4	AQ 07/22/08 08:18	8 0 10	) Perchlorate Perchlorate	orate 8260 by 524 Criteria	MS/MSD
BMI08072345-03A	MW-19-3	AQ 07/22/08 08:50	4 0 10	) Perchlorate Perchlorate	orate 8260 by 524 Criteria	
BMI08072345-04A	MW-19-2	AQ 07/22/08 09:22	4 0 10	) Perchlorate Perchlorate	wrate 8260 by 524 Criteria	
BMI08072345-05A	MW-19-1	AQ 07/22/08 09:54	4 0 10	) Perchlorate Perchlorate	rate 8260 by 524 Criteria	Level IV QC.
BMI08072345-06A	DUPE-2-3Q08	AQ 07/22/08 00:00	4 0 10	Perchlorate Perchlorate	rate 8260 by 524 Criteria	
BMI08072345-07A	EB-03-7/22/08	AQ 07/22/08 09:39	4 0 10	) Perchlorate Perchlorate	rate 8260 by 524 Criteria	
BMI08072345-08A	TB-03-7/22/08	AQ 07/22/08 00:00	1 0 10		8260 by 524 Criteria	Reno Trip Blank 6/26/08

omments:
No security seals. Frozen ice. Level IV QC. Temp Blank #7669 rec'd @
ec'd @ 4°.:

XCYU	) signature	Cimat
2	. — <del> </del>	7
-	7	

Logged in by:

asha Pascal

Alpha Analytical, Inc.

Company

Date/Time

1/23/08 1045

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

Vame ( FER ALD TOMPKINS  Address FOST KILLS ALE.	S 22 A	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778	Samples Collected From Which State?  AZ CA NV WA  ID OR OTHER	Which State? 026280
e, Zip <u>CoLUM</u> BUS, umberF		Phone (775) 355-1044  Fax (775) 355-0406	Analyses Required	ired /
Client Name DOVID CONNET	P.O.# 218017	Job# 6.005.862	( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	Required QC Level?
72	EMail Address		24. Z	
CA 92/10	Phone # 6/9-726-73/(	Fax#	(5) (S) (S) (S) (S) (S) (S) (S) (S) (S) (S	EDD / EDF? YESNO
Matrix* Sampled I	Report Attention	Total and type of		Giobal ID #
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	TAT Filed ** See below	Ten Ch	REMARKS
743 MW-8 AR BMIO8072360	Mr. 19-5	haban 4	×	
\$18 -02	4-19-4W	∞	×	MS/MSD
×03	Mw-19-3	7	×	
923	MW-19-2		×	
-05	Mm-19-1		×	ac vener II
90-	DUPE-2-3008	, 4	X	DUPLICATE
939 -07	EB-03-7/22/08		X	FOUR RLANK
80-	TB-03-7/22/08			~
ADDITIONAL INSTRUCTIONS:				
Sionature	Print Name		Company	Date Time
Relinquished by	MAKO MEND	W 15/6#	r EEC	7/22/st /200
Received by The Political	Tasha Pasa	AAT.		
Received by				
Relinquished by				
Received by				
Key: AQ - Aqueous SO - Soil WA - Waste	e OT - Other AR - Air	**: L-Liter V-Voa S-Soil Jar	O-Orbo T-Tedlar B-Brass	ass P-Plastic OT-Other

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

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



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

Date: 06-Aug-08

David Conner

Battelle Memorial Institute
505 King Avenue

Columbus, OH 43201
(619) 574-4827

**CASE NARRATIVE** 

Project:

G005862/JPL Groundwater Monitoring

Work Order:

BMI08072423

Cooler Temp:

4 °C

OIR OIGEI: BIVI1060/2423	•	Looler Temp: 4 C	
Alpha's Sample ID	Client's Sample ID	Matrix	
08072423-01A	MW-17-4	Aqueous	
08072423-02A	MW-17-3	Aqueous	
08072423-03A	MW-17-2	Aqueous	
08072423-04A	DUPE-3-3Q08	Aqueous	
08072423-05A	EB-04-7/23/08	Aqueous	
08072423-06A	TB-04-7/23/08	Aqueous	

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 Atrihun



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 505 King Avenue

Columbus, OH 43201

Job#: G005862/JPL Groundwater Monitoring

Attn: David Conner Phone: (619) 574-4827

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 :	<b>MW-17-4</b> BMI08072423-01A	*** None Found ***	ND	2.0 μg/L	07/24/08	07/23/08	07/30/08
Client ID : Lab ID :	<b>MW-17-3</b> BMI08072423-02A	*** None Found ***	ND	2.0 μg/L	07/24/08	07/23/08	07/30/08
Client ID : Lab ID :	<b>MW-17-2</b> BMI08072423-03A	*** None Found ***	ND	2.0 μg/L	07/24/08	07/23/08	07/30/08
Client ID : Lab ID :	<b>DUPE-3-3Q08</b> BMI08072423-04A	*** None Found ***	ND	2.0 μg/L	07/24/08	07/23/08	07/30/08
Client ID : Lab ID :	<b>EB-04-7/23/08</b> BMI08072423-05A	*** None Found ***	ND	2.0 μg/L	07/24/08	07/23/08	07/30/08
Client ID: Lab ID:	TB-04-7/23/08 BMI08072423-06A	*** None Found ***	ND	2.0 μg/L	07/24/08	07/23/08	07/30/08

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

ll Kandy Saulner

Walter Hirihon

8/6/08

Report Date

Page 1 of 1

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

505 King Avenue Columbus, OH 43201

Columbus, OH 4320.

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072423-01A Client I.D. Number: MW-17-4 Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/23/08

Received: 07/24/08 Analyzed: 07/30/08

## Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xvlene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	μg/L
25	Trichloroethene	0.60	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	99	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	100	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			'	,	
33	Dibromochloromethane	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl Kandy Saular

ND

Dalter Forkman

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

μg/L

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8/6/08

Report Date



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## **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072423-02A

Client I.D. Number: MW-17-3

Attn: David Conner Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/23/08

Received: 07/24/08 Analyzed: 07/30/08

## Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
0	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
1	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
2	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
3	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
4	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
5	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
6	Chloroform	0.66	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
7	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
8	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
9	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
0	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
1	Carbon tetrachloride	1.2	0.50	μg/L	56	4-Isopropyitoluene	ND	0.50	μg/L
2	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
3	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
4	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/L
5	Trichloroethene	0.88	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
6	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
7	4-Methyl-2-pentanone (MiBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
8	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
9	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
0	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	98	(70-130)	%REC
1	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	%REC
2	1,3-Dichloropropane	ND	0.50	μg/L					
3	Dibromochloromethane	ND	0.50	μg/L					
2	1,3-Dichloropropane	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99	(70-13	30)

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachioroethene

Roger Scholl Kandy Soulman

ND

Walter Horidan

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

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8/6/08

Report Date
Page 1 of 1



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## **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072423-03A

Client I.D. Number: MW-17-2

Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/23/08

Received: 07/24/08 Analyzed: 07/30/08

## 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-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	0.51	0.50	µg/L	51	tert-Butvibenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-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	0.99	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	97	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	100	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L		·	,	, ,	
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					

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

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

8/6/08

Report Date Page 1 of 1



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## **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072423-04A

Client I.D. Number: DUPE-3-3Q08

Attn: David Conner Phone:

(619) 574-4827 Fax: (614) 458-6641

Sampled: 07/23/08

Received: 07/24/08 Analyzed: 07/30/08

## 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	ug/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xvlene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chiorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	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	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-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	99	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	100	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			,	. ,	
33	Dibromochloromethane	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

ND

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

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

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8/6/08

Report Date



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## **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072423-05A

Client I.D. Number: EB-04-7/23/08

Attn: **David Conner** Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/23/08

Received: 07/24/08 Analyzed: 07/30/08

## 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-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	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	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	101	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L				,,	
33	Dibromochloromethane	ND	0.50	μg/L					
				r-0-					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

ND

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

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μg/L

8/6/08 **Report Date** 



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## **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072423-06A

Client I.D. Number: TB-04-7/23/08

David Conner Attn:

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/23/08

Received: 07/24/08 Analyzed: 07/30/08

## 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 (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	99	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	103	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L					
33	Dibromochloromethane	ND	0.50	μg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Tetrachloroethene

ND

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

μg/L

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Report Date

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## **VOC Sample Preservation Report**

Work Order: BMI08072423 Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pН
08072423-01A	MW-17-4	Aqueous	2
08072423-02A	MW-17-3	Aqueous	2
08072423-03A	MW-17-2	Aqueous	2
08072423-04A	DUPE-3-3Q08	Aqueous	2
08072423-05A	EB-04-7/23/08	Aqueous	2
08072423-06A	TB-04-7/23/08	Aqueous	2

8/6/08



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## **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201 Attn: David Conner

Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/24/08

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	<b>MW-17-4</b> BMI08072423-01A	Chromium (Cr)	ND	0.0050 mg/L	07/23/08	07/31/08
Client ID: Lab ID:	<b>MW-17-3</b> BMI08072423-02A	Chromium (Cr)	ND	0.0050 mg/L	07/23/08	07/31/08
Client ID: Lab ID:	<b>MW-17-2</b> BMI08072423-03A	Chromium (Cr)	ND	0.0050 mg/L	07/23/08	07/31/08
Client ID: Lab ID:	<b>DUPE-3-3Q08</b> BMI08072423-04A	Chromium (Cr)	ND	0.0050 mg/L	07/23/08	07/31/08
Client ID: Lab ID:	<b>EB-04-7/23/08</b> BMI08072423-05A	Chromium (Cr)	ND	0.0050 mg/L	07/23/08	07/31/08

ND = Not Detected

Roger Scholl Kandy South

Walter Finhon

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

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8/6/08

Report Date



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## **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641 Date Received: 07/24/08

Job#: G005862/JPL Groundwater Monitoring

## Specific Conductance at 25°C EPA Method 120.1 / SM2510B / SW9050A

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	<b>MW-17-4</b> BMI08072423-01A	Specific Conductance (at 25°C)	310	10 μS/cm	07/23/08	07/24/08
Client ID : Lab ID :	<b>MW-17-3</b> BMI08072423-02A	Specific Conductance (at 25°C)	730	10 μS/cm	07/23/08	07/24/08
Client ID : Lab ID :	<b>MW-17-2</b> BMI08072423-03A	Specific Conductance (at 25°C)	960	10 μS/cm	07/23/08	07/24/08
Client ID : Lab ID :	<b>DUPE-3-3Q08</b> BMI08072423-04A	Specific Conductance (at 25°C)	310	10 μS/cm	07/23/08	07/24/08
Client ID: Lab ID:	EB-04-7/23/08 BMI08072423-05A	Specific Conductance (at 25°C)	ND	10 μS/cm	07/23/08	07/24/08

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
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## **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201 Attn: David Conner

Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/24/08

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 :	<b>MW-17-4</b> BMI08072423-01A	Perchlorate	ND	1.00 μg/L	07/23/08	07/25/08
Client ID: Lab ID:	<b>MW-17-3</b> BMI08072423-02A	Perchlorate	17.3	1.00 μg/L	07/23/08	07/29/08
Client ID: Lab ID:	<b>MW-17-2</b> BMI08072423-03A	Perchlorate	5.72	1.00 μg/L	07/23/08	07/25/08
Client ID: Lab ID:	<b>DUPE-3-3Q08</b> BMI08072423-04A	Perchlorate	1.50	1.00 μg/L	07/23/08	07/25/08
Client ID: Lab ID:	<b>EB-04-7/23/08</b> BMI08072423-05A	Perchlorate	ND	1.00 μg/L	07/23/08	07/25/08

ND = Not Detected

Roger Scholl

Kandy Saulmer

Walter Hirkon

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8/6/08



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<b>Date:</b> 30-Jul-08		(	OC S	ummar	y Repor	t				<b>Work Orde</b> 08072423	
Method Bla	ank		Type !		est Code: El atch ID: 203		thod 314.0	Analy	sis Date:	07/25/2008 15:03	
Sample ID:	MBLK-20317	Units : µg/L		Run ID: IC	_3_0807254	4		Prep	Date:	07/25/2008	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		ND		1							
Laboratory	Fortified Blank		Type L	_FB T	est Code: El	PA Me	thod 314.0				
File ID: 15				В	atch ID: 203	17		Analy	sis Date:	07/25/2008 15:21	
Sample ID:	LFB-20317	Units : µg/L		Run ID: IC	_3_080725	4		Prep	Date:	07/25/2008	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		23.2	2	2 25		93	85	115			
Sample Ma	trix Spike		Type I	FM T	est Code: El	PA Me	thod 314.0				
File ID: <b>18</b>				В	atch iD: 203	17		Analy	sis Date:	07/25/2008 16:16	
Sample ID:	08072444-01ALFM	Units : µg/L		Run ID: IC	_3_0807254	4		Prep	Date:	07/25/2008	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	Val %RPD(Limit)	Qual
Perchlorate		24	2	2 25	0	96	80	120			
Sample Ma	trix Spike Duplicate		Type L	FMD T	est Code: El	PA Met	thod 314.0				
File ID: 19				В	atch ID: 203	17		Analy	sis Date:	07/25/2008 16:35	
Sample ID:	08072444-01ALFMD	Units : μg/L		Run ID: IC	_3_080725	4		Prep	Date:	07/25/2008	
Analyte		Result	PQL				LCL(ME)	UCL(ME)	RPDRef\	Val %RPD(Limit)	Qual
Perchlorate		22.9	2	2 25	0	91	80	120	23.9	7 4.7(15)	

## Comments:



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<b>Date:</b> 30-Jul-08	OC Summary Report	<b>Work Order:</b> 08072423
Method Blank File ID: Sample ID: MBLK-W0724CN		07/24/2008 00:00 07/24/2008
Analyte	Units : µS/cm Run ID: WETLAB_080724C Prep Date:  Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefV	****
Specific Conductance (at 25°C)	ND 10	
Laboratory Control Spike File ID:	Type LCS Test Code: EPA Method 120.1 / SM2510B / SW90  Batch ID: W0724CN Analysis Date:	50A 07/24/2008 00:00
Sample ID: LCS-W0724CN Analyte	Units : µS/cm Run ID: WETLAB_080724C Prep Date:  Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefV	<b>07/24/2008</b> /al %RPD(Limit) Qua
Specific Conductance (at 25°C)	1390 10 1410 98 98 102	

## Comments:



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<b>Date:</b> 05-Aug-08	(	OC S	ummar	y Report	t				<b>Work Orde</b> 08072423	
Method Blank File ID: 073108.B\053SMPL.D\		Type N		est Code: EP		thod 200.8	Analysi	is Date:	07/31/2008 18:03	<del></del>
Sample ID: MB-20337	Units : mg/L		Run ID: IC	P/MS_08073	311		Prep D	ate:	07/30/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	JCL(ME) F	RPDRef\	/al %RPD(Limit)	Qual
Chromium (Cr)	ND	0.005	5							
Laboratory Control Spike File ID: 080108.B\011_LCS.D\		Type L		est Code: EP		thod 200.8	Analysi	is Date:	08/01/2008 16:57	
Sample ID: LCS-20337	Units: mg/L		Run ID: ICI	P/MS_08073	311		Prep D		07/30/2008	
Analyte	Result	PQL				LCL(ME)	JCL(ME) F	RPDRef\	/al %RPD(Limit)	Qual
Chromium (Cr)	0.0483	0.005	0.05		97	85	115			
Sample Matrix Spike		Type N	IS Te	est Code: EP	A Met	hod 200.8				
File ID: 073108.B\086SMPL.D\			Ва	tch ID: 2033	7		Analysi	is Date:	07/31/2008 21:09	
Sample ID: <b>08072555-01AMS</b>	Units : mg/L		Run ID: ICI	P/MS_08073	111		Prep Da	ate:	07/30/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal <sup>9</sup>	%REC	LCL(ME)	JCL(ME) F	RPDRef\	/al %RPD(Limit)	Qual
Chromium (Cr)	0.0533	0.005	0.05	0	107	70	130			
Sample Matrix Spike Duplicate		Type N	ISD Te	est Code: EP	A Met	hod 200.8				
File ID: 073108.B\058SMPL.D\			Ba	tch ID: 2033	7		Analysi	is Date:	07/31/2008 18:31	
Sample ID: 08072444-02AMSD	Units: mg/L		Run ID: ICI	P/MS_08073	11		Prep Da	ate:	07/30/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal <sup>4</sup>	%REC	LCL(ME)	JCL(ME) F	RPDRef\	/al %RPD(Limit)	Qual
Chromium (Cr)	0.0534	0.005		0	107	70	130	0.0543		

## Comments:



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<b>Date:</b> 06-Aug-08	(	OC Sum	mary Repo	rt			Work Orde 08072423	
Method Blank		Type MBLI	( Test Code:					_
File ID: <b>08072936.D</b>		•	Batch ID: MS	S15W0729L	5	Analysis Date:	07/29/2008 21:40	
Sample ID: MBLK MS15W0729L	Units : µg/L	Rur	ID: MSD_15_08			Prep Date:	07/29/2008	
Analyte	Result		pkVal SpkRefVa		CL(ME) UC	•		Qual
Dichlorodifluoromethane	ND	0.5	pittai opiittai		()	_(,		
Chloromethane	ND ND	0.5						
Vinyl chloride	ND	0.5						
Chloroethane	ND	0.5						
Bromomethane	ND	1						
Trichlorofluoromethane 1,1-Dichloroethene	ND	0.5						
Dichloromethane	ND ND	0.5 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 Bromochloromethane	ND ND	0.5 0.5						
Chloroform	ND	0.5						
2,2-Dichloropropane	ND	0.5						
1,2-Dichloroethane	ND	0.5						
1,1,1-Trichloroethane	ND	0.5						
1,1-Dichloropropene	ND	0.5						
Carbon tetrachloride Benzene	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 trans-1,3-Dichloropropene	ND	0.5						
1,1,2-Trichloroethane	ND ND	0.5 0.5						
Toluene	ND	0.5						
1,3-Dichloropropane	ND	0.5						٠.
Dibromochloromethane	ND	0.5						
1,2-Dibromoethane (EDB)	ND	1						
Tetrachloroethene	ND	0.5						
1,1,1,2-Tetrachloroethane Chlorobenzene	ND ND	0.5						
Ethylbenzene	ND	0.5 0.5						
m,p-Xylene	ND	0.5						
Bromoform	ND	0.5						
Styrene	ND	0.5						
o-Xylene	ND	0.5						
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	ND ND	0.5						
Isopropylbenzene	ND	1 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 1,2,4-Trimethylbenzene	ND ND	0.5						
sec-Butylbenzene	ND	0.5 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 1,2-Dibromo-3-chloropropane (DBCP)	ND	0.5						
1,2,4-Trichlorobenzene	ND ND	2.5 1						
Naphthalene	ND	1						
Hexachlorobutadiene	ND	i						
1,2,3-Trichlorobenzene	ND	1						
Surr: 1,2-Dichloroethane-d4	9.34		10	93		128		
Surr: Toluene-d8	10.2		10	102	80	120		



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<b>Date:</b> 06-Aug-08	(	C Sum	mary R	Report			Work Orde 08072423	
Surr: 4-Bromofluorobenzene	9.95		10	100	70	130		
Laboratory Control Spike		Type LCS	Test C	Code:				
File ID: <b>08072934.D</b>			Batch	ID: MS15W0729L	_5	Analysis Date	e: 07/29/2008 20:55	
Sample ID: LCS MS15W0729L	Units : μ <b>g/L</b>			15_080729B		Prep Date:	07/29/2008	
Analyte	Result	PQL S	pkVal Spl	kRefVal %REC L	CL(ME)	UCL(ME) RPDRe	efVal %RPD(Limit)	Qual
Dichlorodifluoromethane	6.8	1	10	68	29	133		
Chloromethane Vinyl chloride	9.73 9. <b>8</b> 3	2 1	10 10	97 98	44 70	140 130		
Chloroethane	9.33	1	10	93	62	158		
Bromomethane	11.3	2	10	113	20	179		
Trichlorofluoromethane	10.1	1	10	101	63	156		
1,1-Dichloroethene Dichloromethane	10.8 10.3	1 2	10 10	108 103	70 70	130 130		
trans-1,2-Dichloroethene	11.2	1	10	112	70	130		
Methyl tert-butyl ether (MTBE)	12.4	0.5	10	124	70	130		
1,1-Dichloroethane	10.4	1	10	104	70	130		
cis-1,2-Dichloroethene Bromochloromethane	11.6 11.5	1 1	10 10	116 115	70 70	130 130		
Chloroform	10.1	1	10	101	80	120		
2,2-Dichloropropane	9.29	1	10	93	65	152		
1,2-Dichloroethane	10.4	1	10	104	70	130		
1,1,1-Trichloroethane	10.7	1	10	107	70	130		
1,1-Dichloropropene Carbon tetrachloride	11.3 10.5	1 1	10 10	113 105	70 70	130 130		
Benzene	10.7	0.5	10	107	70	130		
Dibromomethane	12.3	1	10	123	70	130		
1,2-Dichloropropane	11	1	10	110	70	130		
Trichloroethene Bromodichloromethane	11.9	1	10	119 114	70 70	130 130		
cis-1,3-Dichloropropene	11.4 10.1	1 1	10 10	101	70 70	130		
trans-1,3-Dichloropropene	9.64	1	10	96	68	134		
1,1,2-Trichloroethane	11.9	1	10	119	70	130		
Toluene	10.1	0.5	10	101	70 70	130		
1,3-Dichloropropane Dibromochloromethane	11.4 10.7	1 1	10 10	114 107	70 68	130 130		
1,2-Dibromoethane (EDB)	24.5	2	20	122	70	130		
Tetrachloroethene	10.7	1	10	107	70	130		
1,1,1,2-Tetrachloroethane	10.7	1	10	107	70 70	130		
Chlorobenzene Ethylbenzene	10.4 10.5	1 0.5	10 10	104 105	70 70	130 130		
m,p-Xylene	11.3	0.5	10	113	70	130		
Bromoform	12.1	1	10	121	59	132		
Styrene	10.6	1	10	106	70	130		
o-Xylene 1,1,2,2-Tetrachloroethane	10.6 9.41	0.5 1	10 10	106 94	70 65	130 135		
1,2,3-Trichloropropane	21.7	2	20	109	68	132		
Isopropylbenzene	10.5	1	10	105	70	130		
Bromobenzene	10.2	1	10	102	70	130		
n-Propylbenzene 4-Chlorotoluene	10.6 10.7	1	10 10	106 107	70 70	130 130		
2-Chlorotoluene	10.7	1	10	107	70	130		
1,3,5-Trimethylbenzene	10.4	i	10	104	70	141		
tert-Butylbenzene	9.75	1	10	98	70	130		
1,2,4-Trimethylbenzene sec-Butylbenzene	10.4	1	10	104	67 70	146		
1,3-Dichlorobenzene	10.7 9.96	1	10 10	107 99.6	70 70	130 130		
1,4-Dichlorobenzene	9.93	i	10	99	70	130		
4-Isopropyltoluene	10.6	1	10	106	70	133		
1,2-Dichlorobenzene	9.44	1	10	94	70	130		
n-Butylbenzene 1,2-Dibromo-3-chloropropane (DBCP)	10.6 50	1 3	10 50	106 100	68 57	145 133		
1,2,4-Trichlorobenzene	11.1	2	10	111	70	130		
Naphthalene	11.9	2	10	119	26	161		
Hexachlorobutadiene	20.8	2	20	104	39	172		
1,2,3-Trichlorobenzene Surr: 1,2-Dichloroethane-d4	12.3 8.48	2	10 10	123 85	33 75	166 128		
Surr: Toluene-d8	9.63		10	96	80	120		
Surr: 4-Bromofluorobenzene	10.2		10	102	70	130		



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Date: Work Order: OC Summary Report 06-Aug-08 08072423 Type MSD Test Code: Sample Matrix Spike Duplicate File ID: 08073110.D Analysis Date: 07/31/2008 11:55 Batch ID: MS15W0729L5 Sample ID: 08072345-02AMSD Run ID: MSD 15\_080729B Prep Date: 07/31/2008 Units: µg/L Analyte SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Result **PQL** Qual Dichlorodifluoromethane 0 83 137 44.52 7.4(20)41.4 2.5 50 20 Chloromethane 48.8 10 50 0 98 31 148 48.77 0.1(20)Vinvl chloride 138 55.83 8.0(20)51.5 2.5 50 0 103 46 Chloroethane 50.2 50 0 100 34 170 51.75 3.0(20)2.5 Bromomethane 5.4(20) 68.6 10 50 0 137 20 189 72.41 Trichlorofluoromethane 2.5 50 156 65.62 9.9(20)59.4 0 119 51 1,1-Dichloroethene 132 52.05 5.4(20) 49.3 2.5 50 0 99 66 Dichloromethane 48.2 10 50 0 96 48 145 50.63 4.9(20)trans-1,2-Dichloroethene 50 0 103 68 132 54.58 5.8(20) 51.5 2.5 Methyl tert-butyl ether (MTBE) 50 0 62 139 56.38 1.7(20)55.4 1.3 111 1.1-Dichloroethane 70 130 51.65 5.8(20) 48.7 2.5 50 0 97 cis-1,2-Dichloroethene 70 130 56.21 5.1(20) 53.4 2.5 50 0 107 Bromochloromethane 70 53.1 2.5 50 0 106 130 54.93 3.4(20)Chloroform 0 3.9(20) 48.2 2.5 50 96 70 130 50.06 2,2-Dichloropropane 49.7 2.5 50 0 99 50 152 53.4 7.1(20)1,2-Dichloroethane 136 51.02 2.8(20) 49.6 0 99 65 2.5 50 1,1,1-Trichloroethane 49.4 2.5 50 0 99 67 133 52.76 6.7(20)1,1-Dichloropropene 50 0 70 130 54.76 6.0(20)51.6 2.5 103 Carbon tetrachloride 49.7 50 0 99 61 142 52.86 6.1(20)2.5 Benzene 4.4(20)49.9 50 0 99.8 70 130 52.16 Dibromomethane 54.9 50 0 69 130 56.98 3.7(20)2.5 110 1,2-Dichloropropane 132 54.67 3.6(20)52.7 2.5 50 0 105 70 Trichloroethene 0 69 130 51.53 5.2(20)48.9 2.5 50 98 Bromodichloromethane 0 50 108 70 130 56.17 3.9(20)54 2.5 cis-1,3-Dichloropropene 43.9 2.5 50 0 88 66 130 45.58 3.8(20)trans-1.3-Dichloropropene 134 46.42 5.7(20)43.9 2.5 50 0 88 65 1,1,2-Trichloroethane 132 55.43 5.1(20) 52.7 2.5 50 0 105 67 Toluene 45.7 1.3 50 0 91 67 130 48.38 5.6(20) 1,3-Dichloropropane 0 2.0(20) 50.6 2.5 50 101 70 130 51.59 Dibromochloromethane 48.4 50 0 97 66 130 49.46 2.3(20)1,2-Dibromoethane (EDB) 70 130 109.9 2.1(20)108 0 108 10 100 Tetrachloroethene 47.4 2.5 50 0 95 59 135 50.08 5.6(20) 1.1,1,2-Tetrachloroethane 130 50 0 99.8 70 52.11 4.3(20)49.9 2.5 Chlorobenzene 48 50 0 70 130 49.87 3.8(20)2.5 96 Ethylbenzene 5.2(20) 48.1 50 0 96 70 130 50.69 m,p-Xylene 50 0 102 69 130 53.42 4.7(20)51 1.3 Bromoform 52.3 2.5 50 0 105 57 132 54.36 3.9(20)Styrene 58 5.0(20)50 0 135 50.81 48.3 2.5 97 o-Xylene 0 48.1 50 96 70 130 50.59 5.1(20) 1.3 1,1,2,2-Tetrachloroethane 50 0 92 65 137 47.17 2.6(20)46 1,2,3-Trichloropropane 92 67 94.87 3.5(20)91.6 10 100 0 132 isopropylbenzene 0 70 130 51.23 5.4(20) 48.5 2.5 50 97 Bromobenzene 70 3.7(20) 47.8 2.5 50 0 96 130 49.6 n-Propylbenzene 48.6 50 0 97 70 130 51.74 6.3(20)2.5 4-Chlorotoluene 50.3 2.5 50 0 101 70 130 51.74 2.9(20)2-Chlorotoluene 70 130 51.97 4.7(20)49.6 2.5 50 0 99 1,3,5-Trimethylbenzene 49.1 2.5 50 0 98 68 141 51.33 4.5(20)tert-Butylbenzene 50 0 103 70 130 54.67 5.5(20) 51.7 2.5 1,2,4-Trimethylbenzene 48.8 50 0 98 67 146 51.2 4.8(20) 2.5 sec-Butvlbenzene 0 70 52.47 6.6(20)49.1 50 98 130 1,3-Dichlorobenzene 46.9 2.5 50 0 94 70 130 48.7 3.7(20)1,4-Dichlorobenzene 0 94 70 130 48.62 3.6(20)46.9 2.5 50 4-Isopropyltoluene 0 99 70 5.9(20)50 133 52.39 49.4 2.5 1,2-Dichlorobenzene 0 3.2(20) 44.5 50 89 70 130 45.95 2.5 n-Butvibenzene 2.5 50 O. 102 66 145 54.03 5.7(20) 51.1 1,2-Dibromo-3-chloropropane (DBCP) 57 137 225.2 0.3(20)224 15 250 0 90 1,2,4-Trichlorobenzene 0 98 39 157 49.85 2.0(20)48.9 10 50 Naphthalene 47.6 10 50 0 95 26 163 47.9 0.6(20)Hexachlorobutadiene 101 10 100 0 101 35 172 105.4 4.6(20)1,2,3-Trichlorobenzene 52.6 10 50 105 30 170 50.63 3.9(20)Surr: 1,2-Dichloroethane-d4 75 128 50 87 43.5 Surr: Toluene-d8 47.6 50 95 80 120 Surr: 4-Bromofluorobenzene 51.8 50 104 70 130



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Date:	OC Symmetry Dancet	Work Order:
06-Aug-08	OC Summary Report	08072423

**Comments:** 

## Billing Information:

Battelle

505 King Avenue

Columbus, OH 43201

505 King Avenue Battelle Memorial Institute

# 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: 07-Aug-08

WorkOrder: BMI08072423

CAMPAND Page: 10f1

Report Attention Phone Number EMail Address

David Conner (626) 345-0598 x

connerd@battelle.org EDD Required: Yes

Sampled by: Client

Cooler Temp

Samples Received Date Printed 24-Jul-08

QC Level: S4 = Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Job :

G005862/JPL Groundwater Monitoring

Client's COC #: 026278

PO: 218017

Columbus, OH 43201

									Requested Tests	
Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. o	f Bottles Sub	TAT	314_W	CONDUCTI METALS_D VITY W	METALS_[	voc_w	Sample Remarks
BMI08072423-01A MW-17-4	MW-17-4	AQ 07/23/08 09:00	51	0	10	Perchlorate	Perchlorate	Ç	VOC by 524 Criteria	
BMI08072423-02A	MW-17-3	AQ 07/23/08 09:50	51	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	
BMI08072423-03A	MW-17-2	AQ 07/23/08 10:19	51	0	10	Perchlorate	Perchlorate	Çr	VOC by 524 Criteria	
BMI08072423-04A	DUPE-3-3Q08	AQ 07/23/08 00:00	σı	0	10	Perchlorate	Perchlorate	Ç	VOC by 524 Criteria	
BMI08072423-05A	EB-04-7/23/08	AQ 07/23/08 10:07	σ	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	
BMI08072423-06A	TB-04-7/23/08	AQ 07/23/08 00:00		0	10		i		VOC by 524 Criteria	Reno Trip Blank 6/24/08. One voa rec'd only.

Logged in by: No security seals. Frozen ice. Level IV QC. Temp Blank #7697 rec'd @ 4°. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 7/24/08 14:30 to change Job. Name, QC Level and VOC test description due to project: requirements.KM **Print Name** Alpha Analytical, Inc. Company 7/24/08 1430 Date/Time

Comments:

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

## Billing Information:

505 King Avenue

Columbus, OH 43201

Battelle Memorial Institute 505 King Avenue

# 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 (626) 345-0598 x connerd@battelle.org EMail Address

EDD Required: Yes

Report Due By: 5:00 PM On: 07-Aug-08

WorkOrder: BMI08072423

Page: 1 of 1

Sampled by: Client

Cooler Temp

4°C

Samples Received 24-Jul-08

Date Printed 24-Jul-08

Client's COC #: 026278 Job: G005862

PO: 218017

Columbus, OH 43201

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

Sample ID BMI08072423-05A EB-04-7/23/08 BMI08072423-01A MW-17-4 BMI08072423-06A TB-04-7/23/08 BMI08072423-04A DUPE-3-3Q08 BMI08072423-03A MW-17-2 BMI08072423-02A MW-17-3 Sample ID AQ 07/23/08 09:00 Š å á Š Š Matrix Date 07/23/08 00:00 07/23/08 00:00 07/23/08 10:19 07/23/08 10:07 07/23/08 09:50 Collection No. of Bottles Alpha Sub Çī G S S S 0 0 0 0 0 0 ΤAΤ 10 ಕ 5 5 6 6 Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate Perchlorate 314\_W CONDUCTI METALS\_D Perchlorate Perchlorate Ç Ç Ç Ç Ç 8260 by 524 Criteria VOC\_W 8260 by 524 Requested Tests Reno Trip Blank 6/24/08. One voa rec'd only. Sample Remarks

Comments: No security seals. Frozen ice. Level IV QC. Temp Blank #7697 rec'd @ 4°. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by: Chunay Signature **Print Name** Alpha Analytical, Inc. Company 7/24/08 1100 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

Address SOS KING DVE  City, State, Zip COLUMBUS SH 43201  Phone Number DAVID CONER  Address 3896 STOWN DECO CA 921/7  Time Date See Key Lab ID Number (Use Only)  AUCH 1818 AS BM108072423-01  1015  03	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778 Phone (775) 355-1044 Fax (775) 355-0406  P.O. # 2/8 0/7 Job # 6.25 86  EMail Address  Phone # 6/8-726 - 73 // Fax #  Report Attention  Sample Description  TAT Field Field Amu-17-3  MW-17-3  MW-17-3	J. Inc. Suite 21 5778  Total and type of containers Field "See below"  See below	X X X X DIPLE CONSTRUCTION Analys	es Required    Global ID #Rec
and conner	017 Job#			
Matrix* Sampled by	26 - 73//		128 (28 )	<u></u>
Below Lab ID Number		Field **		_
7/by/sx AQ	17-4	- 5		
	- 11	×	<del>                                     </del>	
	1	×		
- ) ) ) oq	Duré - 3 - 3008	×	*	
65	EB-04-7/23/28	X	X	
06	113-04-7/23/08	P)		
ADDITIONAL INSTRUCTIONS:				
Signature .	Print Name	0	Company	
Relinquished by	Marco president	INSIGHT E	EC, 186	7/23/
Received by Edduday Relinquished by	K Muray	AA		7/24/08
Received by				
Relinquished by			100-100-100-100-100-100-100-100-100-100	
Received by	management of the second of th			
*Key: AQ - Aqueous SO - Soil WA - Waste	e OT - Other AR - Air **: L-Liter	V-Voa S-Soil Jar	O-Orbo T-Tedlar	B-Brass

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

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Date: 05-Aug-08 David Conner

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201 (619) 574-4827

**CASE NARRATIVE** 

**Project:** 

G005862/JPL Groundwater Monitoring

	Cooler Temp: 4 °C	
Client's Sample ID	Matrix	
MW-18-5	Aqueous	
MW-18-4	Aqueous	
MW-18-3	Aqueous	
MW-18-2	Aqueous	
DUPE-4-3Q08	Aqueous	
	MW-18-5 MW-18-4 MW-18-3 MW-18-2	Client's Sample ID Matrix  MW-18-5 Aqueous  MW-18-4 Aqueous  MW-18-3 Aqueous  MW-18-2 Aqueous

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

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

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

Roger Scholl



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## **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

Job#: G005862/JPL Groundwater Monitoring

Attn: David Conner Phone: (619) 574-4827

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:	<b>MW-18-5</b> BMI08072444-01A	*** None Found ***	ND	2.0 μg/L	07/24/08	07/23/08	07/29/08
Client ID : Lab ID :	<b>MW-18-4</b> BMI08072444-02A	*** None Found ***	ND	2.0 μg/L	07/24/08	07/23/08	07/29/08
Client ID : Lab ID :	<b>MW-18-3</b> BMI08072444-03A	*** None Found ***	ND	2.0 μg/L	07/24/08	07/23/08	07/29/08
Client ID: Lab ID:	<b>MW-18-2</b> BMI08072444-04A	*** None Found ***	ND	2.0 μg/L	07/24/08	07/23/08	07/29/08
Client ID : Lab ID :	<b>DUPE-4-3Q08</b> BMI08072444-05A	*** None Found ***	ND	2.0 μg/L	07/24/08	07/23/08	07/29/08

Note: Analysis conducted using EPA Method 524.2 criteria.

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.

Report Date Page 1 of 1

8/6/08



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## ANALYTICAL REPORT

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072444-01A

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

David Conner Attn:

Phone: (619) 574-4827 (614) 458-6641 Fax:

Sampled: 07/23/08

Received: 07/24/08 Analyzed: 07/29/08

## 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	97	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(80-120)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	102	(80-120)	%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

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

0.50

μg/L

8/6/08 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

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072444-02A

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

David Conner Attn:

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/23/08

Received: 07/24/08 Analyzed: 07/29/08

## 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	1.9	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	11	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/Ĺ
25	Trichloroethene	1.1	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	96	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	99	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	103	(80-120)	%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

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

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

8/6/08

**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

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072444-03A

Client I.D. Number: MW-18-3

David Conner Attn:

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/23/08

Received: 07/24/08 Analyzed: 07/29/08

## Volatile Organics by GC/MS

Compound		Concentration	Reporting	Limit	Compound		Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	2.1	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	18	0.50	μg/L	. 56	4-Isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND 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	1.2	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	96	(75-128)	%RE
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(80-120)	%RE
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102	(80-120)	%RE
32	1,3-Dichloropropane	ND	0.50	μg/L					
33	Dibromochloromethane	ND	0.50	uo/i					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

μg/L

μg/L

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

8/6/08

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

505 King Avenue Columbus, OH 43201

Ioh#: G005862/IP

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072444-04A

Client I.D. Number: MW-18-2

Attn: David Conner

Phone: (619) 574-4827 Fax: (614) 458-6641

(011)

Sampled: 07/23/08

Received: 07/24/08 Analyzed: 07/29/08

## Volatile Organics by GC/MS

	Compound	Concentration Reporting Limi		Limit		Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-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	96	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	101	(80-120)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			•		
33	Dibromochloromethane	ND	0.50	ua/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Soulun

ND

ND

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

1.0

μg/L

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

8/6/08 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

505 King Avenue Columbus, OH 43201

Job#: G005

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072444-05A

Client I.D. Number: DUPE-4-3Q08

Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/23/08

Received: 07/24/08 Analyzed: 07/29/08

## 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	l ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	• • • •	ND	0.50	μg/L	47	n-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	2.2	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	20	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	1.3	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	NĎ	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	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	104	(80-120)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			,	, ,	
33	Dibromochloromethane	ND	0.50	ua/i					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl Kandy Soulman

ND

ND

Walter Hindrey

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

1.0

0.50

µg/L

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

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

8/6/08

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: BMI08072444 Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН	
08072444-01 <b>A</b>	MW-18-5	Aqueous	2	
08072444-02A	MW-18-4	Aqueous	2	
08072444-03A	MW-18-3	Aqueous	2	
08072444-04A	MW-18-2	Aqueous	2	
08072444-05A	DUPE-4-3Q08	Aqueous	2	

8/6/08



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## **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201 Attn: David Conner

Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/24/08

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS

EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	<b>MW-18-4</b> BM108072444-02A	Chromium (Cr)	ND	0.0050 mg/L	07/23/08	07/31/08
Client ID: Lab ID:	<b>MW-18-3</b> BMI08072444-03A	Chromium (Cr)	ND	0.0050 mg/L	07/23/08	07/31/08
Client ID: Lab ID:	<b>MW-18-2</b> BMI08072444-04A	Chromium (Cr)	ND	0.0050 mg/L	07/23/08	07/31/08
Client ID : Lab ID :	<b>DUPE-4-3Q08</b> BMI08072444-05A	Chromium (Cr)	ND	0.0050 mg/L	07/23/08	07/31/08

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • 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



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## **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

Attn: David Conner

Phone: (626) 345-0598 Fax: (760) 385-4613

Date Received: 07/24/08

Job#: G005862/JPL Groundwater Monitoring

Specific Conductance at 25°C EPA Method 120.1 / SM2510B / SW9050A

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	<b>MW-18-5</b> BMI08072444-01A	Specific Conductance (at 25°C)	290	10 μS/cm	07/23/08	07/24/08
Client ID: Lab ID:	<b>MW-18-4</b> BMI08072444-02A	Specific Conductance (at 25°C)	520	10 μS/cm	07/23/08	07/24/08
Client ID: Lab ID:	<b>MW-18-3</b> BMI08072444-03A	Specific Conductance (at 25°C)	420	10 μS/cm	07/23/08	07/24/08
Client ID: Lab ID:	<b>MW-18-2</b> BMI08072444-04A	Specific Conductance (at 25°C)	520	10 μS/cm	07/23/08	07/24/08
Client ID : Lab ID :	<b>DUPE-4-3Q08</b> BMI08072444-05A	Specific Conductance (at 25°C)	520	10 μS/cm	07/23/08	07/24/08

Roger Scholl

Kandy Saulmer

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

8/6/08



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## **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue Columbus, OH 43201

Attn: David Conner

Phone: (626) 345-0598 Fax: (760) 385-4613

Date Received: 07/24/08

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 :	<b>MW-18-5</b> BMI08072444-01A	Perchlorate	ND	1.00 μg/L	07/23/08	07/25/08
Client ID: Lab ID:	<b>MW-18-4</b> BMI08072444-02A	Perchlorate	29.5	1.00 μg/L	07/23/08	07/25/08
Client ID: Lab ID:	<b>MW-18-3</b> BMI08072444-03A	Perchlorate	37.0	1.00 µg/L	07/23/08	07/25/08
Client ID: Lab ID:	<b>MW-18-2</b> BMI08072444-04A	Perchlorate	ND	1.00 μg/L.	07/23/08	07/25/08
Client ID: Lab ID:	<b>DUPE-4-3Q08</b> BMI08072444-05A	Perchlorate	36.3	1.00 μg/L	07/23/08	07/25/08

ND = Not Detected

loger Scholl Kandy Sow

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.

8/6/08



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<b>Date:</b> 30-Jul-08	OC Summary Report								<b>Work Order:</b> 08072444			
Method Blan	nk		Туре	MBL		Code: <b>EF</b> h ID: <b>2031</b>		thod 314.0	Analy	sis Date:	07/25/2008 15:03	
Sample ID:	MBLK-20317	Units : µg/L				_080725A			Prep		07/25/2008	
Analyte		Result	PQL	S	pkVal S <sub>l</sub>	okRefVal	%REC	LCL(ME)	JCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		ND		1								
Laboratory File ID: 15	Fortified Blank		Туре	LFB		Code: <b>EF</b>		thod 314.0	Analy	sis Date:	07/25/2008 15:21	
Sample ID:	LFB-20317	Units : µg/L		Run	ID: IC 3	080725A	١.		Prep	Date:	07/25/2008	
Analyte		Result	PQL			_		LCL(ME)	JCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		23.2		2	25		93	85	115			
Sample Mat	rix Spike		Type	LFM				thod 314.0				
File ID: 18					Batc	h ID: <b>203</b> 1	7		•		07/25/2008 16:16	
Sample ID:	08072444-01ALFM	Units : µg/L				_080725A			Prep		07/25/2008	
Analyte		Result	PQL	S	pkVal S <sub>l</sub>	okRefVal	%REC	LCL(ME)	JCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		24		2	25	0	96	80	120			
Sample Mat	rix Spike Duplicate		Туре	LFMC	) Test	Code: EF	A Me	thod 314.0				
File ID: 19					Batc	h ID: <b>203</b> 1	17		Analy	sis Date:	07/25/2008 16:35	
Sample ID:	08072444-01ALFMD	Units : µg/L		Run	ID: IC_3	_080725A			Prep	Date:	07/25/2008	
Analyte		Result	PQL	s	pkVal S	okRefVal	%REC	LCL(ME)	JCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		22.9		2	25	0	91	80	120	23.9	7 4.7(15)	

## Comments



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<b>Date:</b> 30-Jul-08	OC Summary Report	<b>Work Order:</b> 08072444
Method Blank File ID: Sample ID: MBLK-W0724CN		50A 07/24/2008 00:00 07/24/2008
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefV	
Specific Conductance (at 25°C)	ND 10	
Laboratory Control Spike File ID:	Type LCS Test Code: EPA Method 120.1 / SM2510B / SW905  Batch ID: W0724CN Analysis Date:	50A 07/24/2008 00:00
Sample ID: LCS-W0724CN	Units: µS/cm Run ID: WETLAB_080724C Prep Date:	07/24/2008
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefV	/al %RPD(Limit) Qua
Specific Conductance (at 25°C)	1390 10 1410 98 98 102	

### Comments:

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



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<b>Date:</b> 05-Aug-08	OC Summary Report	Work Order: 08072444
Method Blank File ID: 073108.B\053SMPL.D\ Sample ID: MB-20337		07/31/2008 18:03 07/30/2008
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRef\	/al %RPD(Limit) Qual
Chromium (Cr)	ND 0.005	
Laboratory Control Spike File ID: 080108.B\011_LCS.D\		08/01/2008 16:57
Sample ID: LCS-20337		07/30/2008
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRef\	/al %RPD(Limit) Qual
Chromium (Cr)	0.0483 0.005 0.05 97 85 115	· · · · · · · · · · · · · · · · · · ·
Sample Matrix Spike File ID: 073108.B\057SMPL.D\	Type MS Test Code: EPA Method 200.8  Batch ID: 20337K Analysis Date:	07/31/2008 18:25
Sample ID: 08072444-02AMS	Units: mg/L Run ID: ICP/MS_080731G Prep Date:	07/30/2008
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRef\	/al %RPD(Limit) Qual
Chromium (Cr)	0.0544 0.005 0.05 0 109 70 130	
Sample Matrix Spike Duplicate File ID: 073108.B\058SMPL.D\	Type MSD Test Code: EPA Method 200.8  Batch ID: 20337K Analysis Date:	07/31/2008 18:31
Sample ID: 08072444-02AMSD	Units: mg/L Run ID: ICP/MS_080731G Prep Date:	07/30/2008
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefV	/al %RPD(Limit) Qual
Chromium (Cr)	0.0534 0.005 0.05 0 107 70 130 0.0543	38 1.9(20)

### Comments:

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



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<b>Date:</b> 06-Aug-08		(	OC Si	ımm	ary Report				Work Ord 0807244	
Method Blank			Type M	BLK	Test Code:					
File ID: 08072907	7.D				Batch ID: MS15	W0729K5		-	07/29/2008 10:53	
Sample ID: N	MBLK MS15W0729K	Units : μg/L			: MSD_15_08072			ep Date:	07/29/2008	
Analyte		Result	PQL	Spk\	/al SpkRefVal %	REC LCL	(ME) UCL(N	IE) RPDRe	Wal %RPD(Limit)	Qua
Dichlorodifluorom	ethane	ND	0.5			.,,				
Chloromethane		ND	1							
Vinyl chloride		ND	0.5							
Chloroethane		ND	0.5							
Bromomethane Trichlorofluorome	thana	ND	1							
1.1-Dichloroethen		ND ND	0.5 0.5							
Dichloromethane		ND	1							
Freon-113		ND	0.5							
trans-1,2-Dichlord		ND	0.5							
Methyl tert-butyl e		ND	0.5							
1,1-Dichloroethan		ND	0.5							
2-Butanone (MEk cis-1,2-Dichloroet	•	ND ND	10 0.5							
Bromochlorometh		ND	0.5							
Chloroform	· <del>-</del>	ND	0.5							
2,2-Dichloropropa		ND	0.5							
1,2-Dichloroethan		ND	0.5							
1,1,1-Trichloroeth		ND	0.5							
1,1-Dichloroprope Carbon tetrachlor		ND	0.5							
Benzene	ide	ND ND	0.5 0.5							
Dibromomethane	!	ND	0.5							
1,2-Dichloropropa		ND	0.5							
Trichloroethene		ND	0.5							
Bromodichlorome		ND	0.5							
4-Methyl-2-pentar	· ·	ND	2.5							
cis-1,3-Dichloropa trans-1,3-Dichloro		ND	0.5							
1,1,2-Trichloroeth		ND ND	0.5 0.5							
Toluene	iano	ND	0.5							
1,3-Dichloropropa	ane	ND	0.5							
Dibromochlorome	ethane	ND	0.5	i						
1,2-Dibromoethar		ND	_ 1							
Tetrachloroethen		ND	0.5							
1,1,1,2-Tetrachlo	roemane	ND ND	0.5 0.5							
Ethylbenzene		ND	0.5							
m,p-Xylene		ND	0.5							
Bromoform		ND	0.5							
Styrene		ND	0.5							
o-Xylene		ND	0.5							
1,1,2,2-Tetrachio		ND ND	0.5							
Isopropylbenzene	· • ·	ND ND	1 0.5							
Bromobenzene		ND	0.5							
n-Propylbenzene		ND	0.5							
4-Chlorotoluene		ND	0.5	<b>,</b>						
2-Chlorotoluene		ND	0.5							
1,3,5-Trimethylbe tert-Butylbenzene		ND ND	0.5							
1,2,4-Trimethylbe		ND ND	0.5 0.5							
sec-Butylbenzene		ND ND	0.5							
1,3-Dichlorobenz		ND	0.5							
1,4-Dichlorobenz		ND	0.5	;						
4-Isopropyltoluen		ND	0.5							
1,2-Dichlorobenz	ene	ND	0.5							
n-Butylbenzene	derenrener - (DDOD)	ND	0.5							
1,2-Dibromo-3-ch 1,2,4-Trichlorobe	nioropropane (DBCP)	ND ND	2.5							
Naphthalene	1145(15	ND ND	1							
Hexachlorobutad	iene	ND ND	1							
1,2,3-Trichlorobe		ND	1							
Surr: 1,2-Dichloro		9	·		10		70 130			
Surr: Toluene-d8		10			10	100	70 130	`		



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Date: 06-Aug-08	(	OC Si	ummar	y Report			<b>Work Ord</b> 08072444	
Surr: 4-Bromofluorobenzene	9.93		10	99	70	130		
Laboratory Control Spike		Type L	cs T	est Code:				
File ID: <b>08072905.D</b>			В	atch ID: MS15W07	'29K5	Analysis Da	ate: 07/29/2008 09:47	
Sample ID: LCS MS15W0729K	Units : µg/L		Run ID: M	SD_15_080729A		Prep Date:	07/29/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal %REG	C LCL(ME)	UCL(ME) RPDI	RefVal %RPD(Limit)	Qual
Dichlorodifluoromethane	7.24	1	10	72	21	160		
Chloromethane	9.67	2	10	97	45	145		
Vinyl chloride	9.77	1		98	80	120		
Chloroethane Bromomethane	9.09	1		91 119	53 10	163 180		
Trichlorofluoromethane	11.9 9.73	1		97	50	160		
1,1-Dichloroethene	10.8	1		108	80	120		
Dichloromethane	10.4	2		104	70	130		
trans-1,2-Dichloroethene	11.3	_ 1		113	70	130		
Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane	12.1	0.5		121 103	68 70	134 130		
cis-1,2-Dichloroethene	10.3 11.6	1		116	70	130		
Bromochloromethane	11.5	1	10	115	70	130		
Chloroform	9.88	1		99	80	120		
2,2-Dichloropropane	10.5	1	. •	105	70	145		
1,2-Dichloroethane	10.1	1		101	69	136		
1,1,1-Trichloroethane 1,1-Dichloropropene	10.5 11.2	1		105 112	70 70	136 130		
Carbon tetrachloride	10.6	1		106	64	150		
Benzene	10.7	0.5		107	70	130		
Dibromomethane	11.8	1	10	118	70	134		
1,2-Dichloropropane	11.2	1		112	80	120		
Trichloroethene	11.3	1	10		70 70	130 134		
Bromodichloromethane cis-1,3-Dichloropropene	11.2 10	1		112 100	70 70	130		
trans-1,3-Dichloropropene	9.81	1			70	130		
1,1,2-Trichloroethane	11.8	1			70	130		
Toluene	10.3	0.5	5 10		80	120		
1,3-Dichloropropane	11.4	1				130		
Dibromochloromethane 1,2-Dibromoethane (EDB)	10.6 24.1	1			70 70	130 130		
Tetrachloroethene	11.1	1			70 70	130		
1,1,1,2-Tetrachloroethane	10.9	1			70	130		
Chlorobenzene	10.5	1			70	130		
Ethylbenzene	10.5	0.5			80	120		
m,p-Xylene Bromoform	11.5 11.8	0.5				130 131		
Styrene	10.7	1				130		
o-Xylene	10.7	0.5			70	130		
1,1,2,2-Tetrachloroethane	10.1	1			70	130		
1,2,3-Trichloropropane	20.9	2				130		
Isopropylbenzene	10.4	1				131 130		
Bromobenzene n-Propylbenzene	9.99 10.6	1				130		
4-Chlorotoluene	10.4	1				130		
2-Chlorotoluene	10.4	1	1 10			130		
1,3,5-Trimethylbenzene	10.2	1				131		
tert-Butylbenzene	10.9	1	1 10			131		
1,2,4-Trimethylbenzene sec-Butylbenzene	10.3 10.5	1	i 10 i 10			130 130		
1,3-Dichlorobenzene	9.86				70	130		
1,4-Dichlorobenzene	9.74		i 10		70	130		
4-Isopropyltoluene	10.5	1	1 10	105		133		
1,2-Dichlorobenzene	9.22	1	1 10		70	130		
n-Butylbenzene	10.5	1			70 70	130 130		
1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene	47.9 10.4	2	3 50 2 10			130		
Naphthalene	11.1	2				153		
Hexachlorobutadiene	19.9		2 20		64	133		
1,2,3-Trichlorobenzene	11.2		2 10			133		
Surr: 1,2-Dichloroethane-d4	8.23		10		70 70	130		
Surr: Toluene-d8 Surr: 4-Bromofluorobenzene	9.79		10		70 70	130 130		
oun, 4-bromonuorobenzene	10.1		10	101	70	100		



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

Date:	OC Summary Report	Work Order:
06-Aug-08	OC Summary Report	08072444

### 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: Battelle

505 King Avenue

Columbus, OH 43201

Battelle Memorial Institute 505 King Avenue

# CHAIN-OF-CUSNODE 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 (619) 574-4827 x connerd@battelle.org EMail Address

EDD Required: Yes

Report Due By: 5:00 PM On: 07-Aug-08

WorkOrder: BMI08072444

Page: 1 of 1

Sampled by: Client

Cooler Temp

Samples Received

Date Printed 31-Jul-08

24-Jul-08

4 °C

QC Level: S4 = Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Job: G005862/JPL Groundwater Monitoring

Client's COC #: 026279

218017

Columbus, OH 43201

Sample ID BMI08072444-05A DUPE-4-3Q08 BMI08072444-04A MW-18-2 BMI08072444-02A MW-18-4 BMI08072444-03A BMI08072444-01A MW-18-5 MW-18-3 Sample ID AQ 07/23/08 00:00 å AQ 07/23/08 12:29 Š AQ 07/23/08 Matrix Date 07/23/08 07/23/08 Collection No. of Bottles 12:00 11:34 13:15 Alpha Sub G G O1 G 0 0 0 0 0 TAT 6 70 6 6 70 Perchlorate | Perchlorate Perchlorate | Perchlorate Perchlorate Perchlorate Perchlorate 314\_W Perchlorate Perchlorate CONDUCTI METALS\_D VOC\_TIC\_ Perchlorate Ç Ç Ç Ç 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 by 524 VOC by 524 Criteria Criteria Requested Tests VOC\_W Sample Remarks

Comments:

No security seals. Frozen ice. Level IV QC. Temp Blank #7697 rec'd @ 4°. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 7/25 8:00 to change Job Name, QC Level and VOC test description due to project requirements. TP: Amended 7/31/08 13:46 to add TICS per project requirements. TP

Logged in by:	
rosan	Signature 1
Tasha Pascal	Print Nam
Alpha Analytical, Inc.	Company
7/3/108/1400	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

505 King Avenue

Columbus, OH 43201

505 King Avenue Battelle Memorial Institute

# 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 (626) 345-0598 x connerd@battelle.org EMail Address

EDD Required: Yes

Report Due By: 5:00 PM On: 07-Aug-08

WorkOrder: BMI08072444

Page: 1 of 1

Sampled by: Client

Cooler Temp

Samples Received

Date Printed 25-Jul-08

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

G005862/JPL Groundwater Monitoring

Client's COC #: 026279

Columbus, OH 43201

									Requested Tests	d Tests	
Alpha Sample ID	Client Sample ID	Collection No. of Bottles Matrix Date Alpha Sub	No. of Bottles Alpha Sub	*Bottles	TAT	314_W	CONDUCTI METALS_D VITY W	METALS_D			Sample Remarks
BMI08072444-01A	MW-18-5	AQ 07/23/08 11:34	4	0	10	Perchlorate	Perchlorate		VOC by 524 Criteria		
BMI08072444-02A	MW-18-4	AQ 07/23/08 12:00	Οī	0	10	Perchlorate	Perchlorate	Ç	VOC by 524 Criteria		
BMI08072444-03A MW-18-3	MW-18-3	AQ 07/23/08 12:29	<b>0</b> 1	0	10	Perchlorate	Perchlorate	င္	VOC by 524 Criteria		
BMI08072444-04A MW-18-2	MW-18-2	AQ 07/23/08 13:15	5	0	10	Perchlorate	Perchlorate	ဌ	VOC by 524 Criteria		
BMI08072444-05A DUPE-4-3Q08	DUPE-4-3Q08	AQ 07/23/08 00:00	51	0	10	Perchlorate Perchlorate	Perchlorate	Ω	VOC by 524 Criteria		

Logged in by: No security seals. Frozen ice. Level IV QC. Temp Blank #7697 rec'd @ 4°. Samples should be used as the control spike sample if possible (I.E.; MS/MSD). Amended 7/25 8:00 to change Job Name, QC Level and VOC test description due to project requirements.TP. **Print Name** Alpha Analytical, Inc. Company

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

505 King Avenue

Columbus, OH 43201

505 King Avenue **Battelle Memorial Institute** 

# 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 (626) 345-0598 x connerd@battelle.org **EMail Address** 

EDD Required: Yes

Report Due By: 5:00 PM On: 07-Aug-08

WorkOrder: BMI08072444

Page: 1 of 1

Sampled by: Client

Cooler Temp

Samples Received Date Printed

24-Jul-08

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

Job :

G005862

Client's COC #: 026279

PO: 218017

Columbus, OH 43201

										Requested Tests	d Tests	
Alpha Sample ID	Client Sample ID	Matr	Collection No. of Bottles Matrix Date Alpha Sub	No. o	No. of Bottles Alpha Sub TAT	TAT	314_W	CONDUCTI METALS_D VITY W	METALS_D	VOC_W		Sample Remarks
BMI08072444-01A	MW-18-5	A Q	AQ 07/23/08 11:34	4	0	10	Perchlorate	Perchlorate		8260 by 524 Criteria		
BMI08072444-02A	MW-18-4	Ą	07/23/08 12:00	5	0	10	Perchlorate	Perchlorate	Q	8260 by 524 Criteria		
BMI08072444-03A	MW-18-3	å	07/23/08 12:29	Ωī	0	10	Perchlorate	Perchlorate	Cr	8260 by 524 Criteria		
BMI08072444-04A	MW-18-2	Ą	AQ 07/23/08 13:15	თ	0	10	Perchlorate	Perchlorate	Ω	8260 by 524 Criteria		
BMI08072444-05A DUPE-4-3Q08	DUPE-4-3Q08	ΑQ	07/23/08 00:00	O1	0	10	Perchlorate	Perchlorate	Сr	8260 by 524 Criteria		

Comments: No security seals. Frozen ice. Level IV QC. Temp Blank #7697 rec'd @ 4°. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by: Rocal	Signature
Tasha Rascal	Print Name
 Alpha Analytical, Inc.	
7/24/08 104	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

3illing Information: lame くんどやかし フロベアドルン		Alpha Analytical, Inc. 255 Glendale Avenue. Suite 21	mples Collectes	WA 02627
1 12		Sparks, Nevada 89431-5778 Phone (775) 355-1044 Fax (775) 355-0406	Analyses Required	red Page # / of /
Client Name DOUID CONNETS Address 3990 OLD TOWN AVE C-205	P.O. # 218017 EMail Address	Job# 6.005862	(4.2) (500.8) (3/4.0)	Required QC Level?
<b>1</b> - 1	Phone # 9-726-731/	Fax #		EDD / EDF? YESNO
Sampled by		Field	Tel de la	Giobal ID #
134 7/12/38 A SMITO8672444-d	Sample Description	TAT Fillered ** See below	×	REMARKS
	_			
1200 -02	MW-18-4	N	× ×	
129 -03	MW-18-3	7	× × ×	
15 -04	MW-18-7	5	× × ×	
	7015 - / - Swox		> > >	2017 C
ADDITIONAL INSTRUCTIONS:				
Signature	Print Name		Company	Date Time
Relinquished by	MARIO MENDOTA	8	EET, INC	7/23/8 1400
Received by TA Panal .	Tashor Pasca	AATT		7/24/108 1040
Received by		The state of the s		
Relinquished by				
2	2		Te Ti	2
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	ss 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: 07-Aug-08 David Conner

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201 (619) 574-4827

CASE NARRATIVE

Project:

G005862/JPL Groundwater Monitoring

	Cooler Temp: 4 °C	
Client's Sample ID	Matrix	
MW-4-3	Aqueous	
MW-4-2	Aqueous	
MW-4-1	Aqueous	
DUPE-5-3Q08	Aqueous	
EB-06-7/28/08	Aqueous	
TB-06-7/28/08	Aqueous	
	MW-4-3 MW-4-2 MW-4-1 DUPE-5-3Q08 EB-06-7/28/08	MW-4-3 Aqueous MW-4-2 Aqueous MW-4-1 Aqueous DUPE-5-3Q08 Aqueous EB-06-7/28/08 Aqueous

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

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

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

Roger Scholl



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 505 King Avenue

Columbus, OH 43201

Job#: G005862/JPL Groundwater Monitoring

Attn: David Conner Phone: (619) 574-4827

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 :	<b>MW-4-3</b> BMI08072904-01A	*** None Found ***	ND	2.0 μg/L	07/29/08	07/28/08	07/30/08
Client ID : Lab ID :	MW-4-2 BMI08072904-02A	*** None Found ***	ND	2.0 μg/L	07/29/08	07/28/08	07/30/08
Client ID: Lab ID:	<b>MW-4-1</b> BMI08072904-03A	*** None Found ***	ND	2.0 μg/L	07/29/08	07/28/08	07/30/08
Client ID: Lab ID:	<b>DUPE-5-3Q08</b> BMI08072904-04A	*** None Found ***	ND	2.0 μg/L	07/29/08	07/28/08	07/30/08
Client ID: Lab ID:	EB-06-7/28/08 BMI08072904-05A	*** None Found ***	ND	2.0 μg/L	07/29/08	07/28/08	07/31/08
Client ID: Lab ID:	<b>TB-06-7/28/08</b> BMI08072904-06A	*** None Found ***	ND	2.0 μg/L	07/29/08	07/28/08	07/31/08

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

8/11/08 **Report Date** 

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 /  $\inf$  (\$\alpha\$ 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.



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072904-01A

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

Attn: **David Conner** Phone: (619) 574-4827

Fax:

(614) 458-6641

Sampled: 07/28/08

Received: 07/29/08 Analyzed: 07/30/08

### 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	2.3	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-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 (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	94	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	100	(80-120)	%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

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

8/11/08 Report Date



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

### **ANALYTICAL REPORT**

Fax:

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072904-02A

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

Attn: David Conner

Phone: (619) 574-4827

(614) 458-6641

Sampled: 07/28/08

Received: 07/29/08 Analyzed: 07/30/08

### 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	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 ND	0.50	μg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/L
24	1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC)	P) ND	2.5	µg/L
25	Trichloroethene	1.1	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	μg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	94	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(80-120)	%REC
31	Toluene	· ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	101	(80-120)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L				, ,	
33	Dibromochloromethane	ND	0.50	µg/L					
24	1.2 Dibromosthone (EDD)	110		. •					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

34 1,2-Dibromoethane (EDB)

Roger Scholl Kandy Saulmer

ND

0.59

Walter Stirkner

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

1.0

µg/L

μg/L

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

8/11/08

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

505 King Avenue Columbus, OH 43201

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072904-03A

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

Attn:

David Conner Phone: (619) 574-4827

Fax:

(614) 458-6641

Sampled: 07/28/08

Received: 07/29/08 Analyzed: 07/30/08

### 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	i 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-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-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	97	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	100	(80-120)	%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

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

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

8/11/08 **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

505 King Avenue Columbus, OH 43201

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072904-04A

Client I.D. Number: DUPE-5-3Q08

Attn:

David Conner Phone: (619) 574-4827

Fax:

(614) 458-6641

Sampled: 07/28/08

Received: 07/29/08 Analyzed: 07/30/08

### 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	2.3	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xvlene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chiorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	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	97	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	99	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	100	(80-120)	%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

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8/11/08

**Report Date** 



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### ANALYTICAL REPORT

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072904-05A

Client I.D. Number: EB-06-7/28/08

Attn:

David Conner Phone: (619) 574-4827

Fax:

(614) 458-6641

Sampled: 07/28/08

Received: 07/29/08

Analyzed: 07/31/08

### Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1.1.1.2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xviene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	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	99	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	101	(80-120)	%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

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8/11/08

**Report Date** Page 1 of 1



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring Job#:

Alpha Analytical Number: BMI08072904-06A

Client I.D. Number: TB-06-7/28/08

Attn: David Conner

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/28/08

Received: 07/29/08

Analyzed: 07/31/08

### 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	
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	101	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	101	(80-120)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	104	(80-120)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L				,	
33	Dibromochloromethane	ND	0.50	μg/L					
34	1.2 Dibromosthone (EDB)	ND	4.0						

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachioroethene

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

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8/11/08

**Report Date** 



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### **VOC Sample Preservation Report**

ject: G005862/JPL Groundwater Monitoring
)

 	<b>.</b>	•		
Alpha's Sample ID	Client's Sample ID	Matrix	pН	
08072904-01A	MW-4-3	Aqueous	2	
08072904-02A	MW-4-2	Aqueous	2	
08072904-03A	MW-4-1	Aqueous	2	
08072904-04A	DUPE-5-3Q08	Aqueous	2	
08072904-05A	EB-06-7/28/08	Aqueous	2	
08072904-06A	TB-06-7/28/08	Aqueous	2	



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### ANALYTICAL REPORT

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201 Attn: David Conner

Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/29/08

Job#: G005862/JPL Groundwater Monitoring

### Specific Conductance at 25°C EPA Method 120.1 / SM2510B / SW9050A

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	<b>MW-4-3</b> BMI08072904-01A	Specific Conductance (at 25°C)	440	10 μS/cm	07/28/08	07/29/08
Client ID: Lab ID:	MW-4-2 BMI08072904-02A	Specific Conductance (at 25°C)	1,000	10 μS/cm	07/28/08	07/29/08
Client ID : Lab ID :	<b>MW-4-1</b> BMI08072904-03A	Specific Conductance (at 25°C)	480	10 μS/cm	07/28/08	07/29/08
Client ID: Lab ID:	<b>DUPE-5-3Q08</b> BMI08072904-04A	Specific Conductance (at 25°C)	450	10 μS/cm	07/28/08	07/29/08
Client ID: Lab ID:	<b>EB-06-7/28/08</b> BMI08072904-05A	Specific Conductance (at 25°C)	ND	10 μS/cm	07/28/08	07/29/08

ND = Not Detected

Roger Scholl

KandySaulner

Walter Striken

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

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8/11/08

Report Date



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### **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue Columbus, OH 43201

Attn: David Conner Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/29/08

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:	<b>MW-4-3</b> BMI08072904-01A	Perchlorate	ND	1.00 µg/L	07/28/08	07/29/08
Client ID: Lab ID:	<b>MW-4-2</b> BMI08072904-02A	Perchlorate	1.69	1.00 µg/L	07/28/08	07/31/08
Client ID: Lab ID:	<b>MW-4-1</b> BMI08072904-03A	Perchlorate	3.09	1.00 µg/L	07/28/08	07/29/08
Client ID: Lab ID:	<b>DUPE-5-3Q08</b> BMI08072904-04A	Perchlorate	ND	1.00 µg/L	07/28/08	07/29/08
Client ID : Lab ID :	<b>EB-06-7/28/08</b> BMI08072904-05A	Perchlorate	ND	1.00 µg/L	07/28/08	07/29/08

ND = Not Detected

oger Scholl Kandy Soulmer

Walter Finhon

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

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### **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

Attn: David Conner

Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/29/08

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	<b>MW-4-3</b> BMI08072904-01A	Chromium (Cr)	ND	0.0050 mg/L	07/28/08	08/01/08
Client ID: Lab ID:	<b>MW-4-2</b> BMI08072904-02A	Chromium (Cr)	ND	0.0050 mg/L	07/28/08	08/01/08
Client ID: Lab ID:	MW-4-1 BMI08072904-03A	Chromium (Cr)	ND	0.0050 mg/L	07/28/08	08/01/08
Client ID : Lab ID :	<b>DUPE-5-3Q08</b> BMI08072904-04A	Chromium (Cr)	ND	0.0050 mg/L	07/28/08	08/01/08
Client ID : Lab ID :	EB-06-7/28/08 BMI08072904-05A	Chromium (Cr)	ND	0.0050 mg/L	07/28/08	08/01/08

ND = Not Detected

Roger Scholl K

Kandy Saulm

Dalter Ainhur

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

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

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8/11/08
Report Date



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<b>Date:</b> 06-Aug-08			OC S	umn	nary	Report	t				<b>Work Orde</b> 08072904	
Method Blas			Type	MBLK		t Code: <b>EP</b> ch ID: <b>203</b> 3		hod 314.0	Analy	sis Date:	07/29/2008 15:22	
Sample ID:	MBLK-20331	Units : µg/L				3_080729A			•	Date:	07/29/2008	
Analyte		Result	PQL	Spl	(Val S	SpkRefVal	%REC	LCL(ME) L	JCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		ND		1								
Laboratory	Fortified Blank		Туре	LFB	Tes	t Code: EF	A Met	hod 314.0				
File ID: <b>15</b>					Bate	ch ID: 2033	1		Analy	sis Date:	07/29/2008 15:40	
Sample ID:	LFB-20331	Units : µg/L		Run II	D: <b>IC_</b> :	3_080729A			Prep	Date:	07/29/2008	
Analyte		Result	PQL	Spł	(Val S	SpkRefVal	%REC	LCL(ME)	JCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		22.8		2	25		91	85	115			
Sample Mat	rix Spike		Туре	LFM	Tes	t Code: <b>EF</b>	A Met	hod 314.0				
File ID: <b>19</b>					Bate	ch ID: <b>203</b> 3	1		Analy	sis Date:	07/29/2008 16:54	
Sample ID:	08072921-02ALFM	Units : µg/L		Run II	D: <b>IC_</b> 3	3_080729A			Prep	Date:	07/29/2008	
Analyte		Result	PQL	Spl	(Val S	SpkRefVal	%REC	LCL(ME)	JCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		48.5		2	25	24.18	97	80	120			
Sample Mat	rix Spike Duplicate	100.0	Туре	LFMD	Tes	t Code: EP	A Met	thod 314.0				<del></del>
File ID: 20	-				Bate	ch ID: <b>203</b> 3	1		Analy	sis Date:	07/29/2008 17:12	
Sample ID:	08072921-02ALFMD	Units : µg/L		Run II	D: <b>IC_</b> :	3_080729A			Prep	Date:	07/29/2008	
Analyte		Result	PQL	Spl	ر Val S	SpkRefVal	%REC	LCL(ME)	JCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		47.3		2	25	24.18	92	80	120	48.4	7 2.5(15)	

### Comments:

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



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<b>Date:</b> 06-Aug-08		QC S	ummar	y Report			<b>Work Orde</b> 08072904	
Method Blank File ID:		Type I		est Code: <b>EPA Met</b> atch ID: <b>W0729CN</b>	hod 120.1		050A 07/29/2008 00:00	
Sample ID: MBLK-W0729CN	Units : µS/c	m	Run ID: W	ETLAB_080729H		Prep Date:	07/29/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC	LCL(ME)	UCL(ME) RPDRef	Val %RPD(Limit)	Qual
Specific Conductance (at 25°C)	ND	10	)					
Laboratory Control Spike		Type I	.cs T	est Code: EPA Met	nod 120.1	/ SM2510B / SW90	050A	
File ID:			В	atch ID: W0729CN		Analysis Date:	07/29/2008 00:00	
Sample ID: LCS-W0729CN	Units : µS/c	m	Run ID: W	ETLAB_080729H		Prep Date:	07/29/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC	LCL(ME)	UCL(ME) RPDRef	Val %RPD(Limit)	Qual
Specific Conductance (at 25°C)	1430	10	1410	101	98	102		<del>,</del>

### Comments:

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



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Date: Work Order: OC Summary Report 07-Aug-08 08072904 Method Blank Type MBLK Test Code: File ID: 08073038.D Analysis Date: 07/30/2008 22:29 Batch ID: MS15W0730L5 Sample ID: MBLK MS15W0730L Prep Date: 07/30/2008 Units: µg/L Run ID: MSD\_15\_080730A Analyte SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) **PQL** Quai Result Dichlorodifluoromethane ND 0.5 Chloromethane ND Vinyl chloride ND 0.5 Chloroethane ND 0.5 Bromomethane ND 1 Trichlorofluoromethane ND 0.5 1,1-Dichloroethene ND 0.5 Dichloromethane ND 1 Freon-113 ND 0.5 trans-1,2-Dichloroethene ND 0.5 Methyl tert-butyl ether (MTBE) ND 0.5 1.1-Dichloroethane ND 0.5 2-Butanone (MEK) ND 10 cis-1,2-Dichloroethene ND 0.5 Bromochloromethane ND 0.5 Chloroform ND 0.5 2,2-Dichloropropane ND 0.5 1,2-Dichloroethane ND 0.5 1,1,1-Trichloroethane ND 0.5 1,1-Dichloropropene ND 0.5 Carbon tetrachloride ND 0.5 Benzene ND 0.5 Dibromomethane ND 0.5 1,2-Dichloropropane ND 0.5 Trichloroethene ND 0.5 Bromodichloromethane ND 0.5 4-Methyl-2-pentanone (MIBK) ND 2.5 cis-1,3-Dichloropropene ND 0.5 trans-1,3-Dichloropropene ND 0.5 1,1,2-Trichloroethane ND 0.5 Toluene ND 0.5 1,3-Dichloropropane ND 0.5 Dibromochloromethane ND 0.5 1,2-Dibromoethane (EDB) ND Tetrachloroethene ND 0.5 1,1,1,2-Tetrachloroethane ND 0.5 Chlorobenzene ND 0.5 Ethylbenzene ND 0.5 m,p-Xylene ND 0.5 Bromoform ND 0.5 Styrene ND 0.5 o-Xylene ND 0.5 1,1,2,2-Tetrachloroethane ND 0.5 1,2,3-Trichloropropane ND Isopropylbenzene ND 0.5 Bromobenzene ND 0.5 n-Propylbenzene ND 0.5 4-Chlorotoluene ND 0.5 2-Chlorotoluene ND 0.5 1,3,5-Trimethylbenzene ND 0.5 tert-Butylbenzene ND 0.5 1.2.4-Trimethylbenzene ND 0.5 sec-Butylbenzene ND 0.5 1,3-Dichlorobenzene ND 0.5 1,4-Dichlorobenzene ND 0.5 4-Isopropyltoluene ND 0.5 1.2-Dichlorobenzene ND 0.5 n-Butylbenzene ND 0.5 1,2-Dibromo-3-chloropropane (DBCP) ND 2.5 1,2,4-Trichlorobenzene ND 1 Naphthalene ND 1 Hexachlorobutadiene ND 1 1,2,3-Trichlorobenzene ND Surr: 1,2-Dichloroethane-d4 128 9.33 10 93 75 Surr: Toluene-d8 102 80 120



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<b>Date:</b> 07-Aug-08	(	QC Sun	ımary R	eport			<b>Work Ord</b> 08072904	
Surr: 4-Bromofluorobenzene	10.1		10	101	70	130		
Laboratory Control Spike		Type LCS	Test C	ode:				
File ID: <b>08073035.D</b>			Batch I	D: <b>MS15W073</b> 0	L5	,	pate: 07/30/2008 21:22	
Sample ID: LCS MS15W0730L	Units : µg/L		n ID: <b>MSD_1</b>			Prep Date		
Analyte	Result	PQL :	SpkVal Spkl	RefVal %REC	LCL(ME	) UCL(ME) RPD	RefVal %RPD(Limit)	Qua
Dichlorodifluoromethane	6.4	1	10	64	29	133		
Chloromethane	8.85	2	10	89	44	140		
Vinyl chloride	9.94	1	10	99	70	130		
Chloroethane Bromomethane	10.2 11.4	1 2	10 10	102 114	62 20	158 179		
Trichlorofluoromethane	11.7	1	10	117	63	156		
1,1-Dichloroethene	10.8	i	10	108	70	130		
Dichloromethane	10	2	10	100	70	130		
trans-1,2-Dichloroethene	11	1	10	110	70	130		
Methyl tert-butyl ether (MTBE)	11.2	0.5	10	112	70 70	130		
1,1-Dichloroethane cis-1,2-Dichloroethene	10.5 11.5	1 1	10 10	105 115	70 70	130 130		
Bromochloromethane	11.1	1	10	111	70	130		
Chloroform	10.1	1	10	101	80	120		
2,2-Dichloropropane	9.58	1	10	96	65	152		
1,2-Dichloroethane	10.2	1	10	102	70	130		
1,1,1-Trichloroethane	10.7	1	10	107	70	130		
1,1-Dichloropropene Carbon tetrachloride	11.1	1	10	111	70 70	130		
Benzene	10.7 10.6	1 0.5	10 10	107 106	70 70	130 130		
Dibromomethane	11.4	0.5	10	114	70	130		
1,2-Dichloropropane	10.9	i	10	109	70	130		
Trichloroethene	11.4	1	10	114	70	130		
Bromodichloromethane	11.3	1	10	113	70	130		
cis-1,3-Dichloropropene	9.57	1	10	96	70	130		
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	9.2	1	10	92	68 70	134 130		
Toluene	11.2 10.2	1 0.5	10 10	112 102	70 70	130		
1,3-Dichloropropane	10.8	0.3	10	108	70	130		
Dibromochloromethane	10.2	1	10	102	68	130		
1,2-Dibromoethane (EDB)	22.9	2	20	114	70	130		
Tetrachloroethene	10.7	1	10	107	70	130		
1,1,1,2-Tetrachloroethane	10.8	1	10	108	70	130		
Chlorobenzene Ethylbenzene	10.4 10.5	1 0.5	10 10	104 105	70 70	130 130		
m,p-Xylene	11.3	0.5 0.5	10	113	70 70	130		
Bromoform	11.1	1	10	111	59	132		
Styrene	10.5	1	10	105	70	130		
o-Xylene	10.5	0.5	10	105	70	130		
1,1,2,2-Tetrachloroethane	8.65	1	10	87	65	135		
1,2,3-Trichloropropane	19.3	2	20	97 405	68	132		
Isopropylbenzene Bromobenzene	10.5 9.95	1	10 10	105 100	70 70	130 130		
n-Propylbenzene	10.6	1	10	106	70	130		
4-Chlorotoluene	10.5	1	10	105	70	130		
2-Chlorotoluene	10.5	1	10	105	70	130		
1,3,5-Trimethylbenzene	10.4	1	10	104	70	141		
tert-Butylbenzene	9.68	1	10	97	70	130		
1,2,4-Trimethylbenzene sec-Butylbenzene	10.4 10.5	1	10 10	104 105	67 70	146 130		
1,3-Dichlorobenzene	9.68	1	10	97	70	130		
1,4-Dichlorobenzene	9.69	i 1	10	97	70	130		
4-Isopropyltoluene	10.4	1	10	104	70	133		
1,2-Dichlorobenzene	9.12	1	10	91	70	130		
n-Butylbenzene	10.5	1	10	105	68	145		
1,2-Dibromo-3-chloropropane (DBCP)	44.4	3	50	89	57 70	133		
1,2,4-Trichlorobenzene Naphthalene	9.37 9.19	2 2	10 10	94 92	70 26	130 161		
Napritralerie Hexachlorobutadiene	9.19 19.1	2	20	92 96	26 39	172		
1,2,3-Trichlorobenzene	9.54	2	10	95	33	166		
Surr: 1,2-Dichloroethane-d4	8.43	_	10	84	75	128		
Surr: Toluene-d8	9.65		10	97	80	120		
Surr: 4-Bromofluorobenzene	10.1		10	101	70	130		



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Date:<br/>07-Aug-08QC Summary ReportWork Order:<br/>08072904

07-Aug-08		2 D u	illilitiet ;	/ KCDOI	·			0807290	14
Sample Matrix Spike		Туре М	S Te	st Code:					
File ID: 08073055.D		*-		tch ID: MS1	5W073	30L5	Analysis Da	te: 07/31/2008 04:48	3
Sample ID: <b>08072923-01AMS</b>	Units : µg/L	1		SD_15_0807			Prep Date:	07/31/2008	
Analyte	Result	PQL .				I CLAME)	•	RefVal %RPD(Limit)	Qu
								terval forti D(Limit)	
Dichlorodifluoromethane	49	2.5	50	0	98	20	137		
Chloromethane Vinyl chloride	45.6 53.5	10	50 50	0	91 105	31	148		
Chloroethane	52.5 60.6	2.5 2.5	50 50	0	105 121	46 34	138 170		
Bromomethane	43.5	10	50	0	87	20	189		
Trichlorofluoromethane	87.2	2.5	50	0	174	51	156		M1
1,1-Dichloroethene	56.6	2.5	50	0	113	66	132		
Dichloromethane	51.5	10	50	0	103	48	145		
trans-1,2-Dichloroethene	53.6	2.5	50	Ö	107	68	132		
Methyl tert-butyl ether (MTBE)	57.5	1.3	50	0	115	62	139		
1,1-Dichloroethane	54.3	2.5	50	0	109	70	130		
cis-1,2-Dichloroethene	56.5	2.5	50	0	113	70	130		
Bromochloromethane	52.1	2.5	50	0	104	70	130		
Chloroform	53	2.5	50	0	106	70	130		
2,2-Dichloropropane	44.7	2.5	50	0	89	50	152		
1,2-Dichloroethane 1,1,1-Trichloroethane	57.9	2.5	50 50	0	116	65 67	136		
1,1-Dichloropropene	58.4 58.7	2.5 2.5	50 50	0	117 117	67 70	133 130		
Carbon tetrachloride	58.6	2.5	50 50	0	117	61	142		
Benzene	54.7	1.3	50	0	109	70	130		
Dibromomethane	59.6	2.5	50	ő	119	69	130		
1,2-Dichloropropane	57.6	2.5	50	0	115	70	132		
Trichloroethene	52.7	2.5	50	0	105	69	130		
Bromodichloromethane	60.2	2.5	50	0	120	70	130		
cis-1,3-Dichloropropene	44.5	2.5	50	0	89	66	130		
trans-1,3-Dichloropropene	48.2	2.5	50	0	96	65	134		
1,1,2-Trichloroethane	57.7	2.5	50	0	115	67 67	132		
Toluene 1,3-Dichloropropane	46.5 50	1.3 2.5	50 50	0	93 100	67 70	130 130		
Dibromochloromethane	47.3	2.5	50	0	95	66	130		
1,2-Dibromoethane (EDB)	105	10	100	0	105	70	130		
Tetrachloroethene	47.3	2.5	50	Ö	95	59	135		
1,1,1,2-Tetrachloroethane	51.1	2.5	50	Ō	102	70	130		
Chlorobenzene	48.7	2.5	50	0	97	70	130		
Ethylbenzene	52.4	1.3	50	0.85	103	70	130		
m,p-Xylene	51.9	1.3	50	0	104	69	130		
Bromoform	53.3	2.5	50	0	107	57	132		
Styrene	50.5	2.5	50	0	101	58	135		
o-Xylene 1,1,2,2-Tetrachloroethane	49.5	1.3	50 50	0	99 99	70 65	130 137		
1,2,3-Trichloropropane	49.3 100	2.5	50 100	0	100	67	132		
Isopropylbenzene	49.5	10 2.5	50	0	99	70	130		
Bromobenzene	47.5	2.5	50	Ö	95	70	130		
n-Propylbenzene	50	2.5	50	Ō	100	70	130		
4-Chlorotoluene	50.4	2.5	50	0	101	70	130		
2-Chlorotoluene	50	2.5	50	0	99.9	70	130		
1,3,5-Trimethylbenzene	50.8	2.5	50	0	102	68	141		
tert-Butylbenzene	53.7	2.5	50	0	107	70	130		
1,2,4-Trimethylbenzene	50.3	2.5	50	0	101	67	146		
sec-Butylbenzene 1.3-Dichlorobenzene	51.4	2.5	50	0	103	70 70	130		
1,4-Dichlorobenzene	47.1 47.8	2.5 2.5	50 50	0	94 96	70 70	130 130		
4-Isopropyltoluene	51.1	2.5	50 50	0	102	70 70	133		
1.2-Dichlorobenzene	45.5	2.5	50	0	91	70	130		
n-Butylbenzene	53.6	2.5	50	0	107	66	145		
1,2-Dibromo-3-chloropropane (DBCP)	241	15	250	ő	96	57	137		
1,2,4-Trichlorobenzene	47.2	10	50	Ö	94	39	157		
Naphthalene	47.3	10	50	0	95	26	163		
Hexachlorobutadiene	97.2	10	100	0	97	35	172		
1,2,3-Trichlorobenzene	50.7	10	50	0	101	30	170		
Surr: 1,2-Dichloroethane-d4	49.3		50		99	75	128		
Surr: Toluene-d8	44.1		50		88	80	120		
Surr: 4-Bromofluorobenzene	49.2		50		98	70	130		



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Date:<br/>07-Aug-08QC Summary ReportWork Order:<br/>08072904

Sample Matrix Spike Duplicate		Type MSE		Code:						
File ID: <b>08073056.D</b>			Batc	h ID: <b>MS1</b>	5W073	10L5	-		//31/2008 05:10	1
Sample ID: 08072923-01AMSD	Units: µg/L		ın ID: <b>MSD</b>				Prep [		/31/2008	
Analyte	Result	PQL	SpkVal S	pkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qua
Dichlorodifluoromethane	51.4	2.5	50	0	103	20	137	49.02	4.7(20)	
Chloromethane	52.8	10	50	0	106	31	148	45.61	14.7(20)	
Vinyl chloride	59.5	2.5	50	0	119	46	138	52.54	12.4(20)	
Chloroethane	60.1	2.5	50	0	120	34	170	60.64	1.0(20)	
Bromomethane	63.9	10	50	0	128	20	189	43.5	38.0(20)	R5
Trichlorofluoromethane	85.3	2.5	50	0	171	51	156	87.22	2.3(20)	M1
1,1-Dichloroethene	56.1	2.5	50	0	112	66	132	56.58	0.8(20)	
Dichloromethane	51	10	50	0	102	48	145	51.49	1.0(20)	
trans-1,2-Dichloroethene	55	2.5	50	0	110	68	132	53.64	2.6(20)	
Methyl tert-butyl ether (MTBE)	58.3	1.3	50	0	117	62	139	57.47	1.4(20)	
1,1-Dichloroethane	54.9	2.5	50	0	110	70	130	54.34	1.0(20)	
cis-1,2-Dichloroethene	56.8	2.5	50	0	114	70	130	56.46	0.5(20)	
Bromochloromethane	53.7	2.5	50	0	107	70	130	52.13	2.9(20)	
Chloroform	52.8	2.5	50 50	0	106	70 50	130	53.03	0.5(20)	
2,2-Dichloropropane 1,2-Dichloroethane	44 56	2.5	50 50	0	88 112	50 65	152	44.65 57.03	1.5(20) 3.4(20)	
1,1,1-Trichloroethane		2.5	50 50	0	112 116	65 67	136 133	57.93 58.42	3.4(20) 1.0(20)	
1,1-Dichloropropene	57.8 59.2	2.5 2.5	50 50	0	118	70	130	58.71	0.8(20)	
Carbon tetrachloride	58	2.5	50 50	0	116	61	142	58.6	1.1(20)	
Benzene	54.3	1.3	50 50	0	109	70	130	54.65	0.7(20)	
Dibromomethane	59.7	2.5	50	0	119	69	130	59.56	0.2(20)	
1,2-Dichloropropane	56.8	2.5	50	Ö	114	70	132	57.62	1.5(20)	
Trichloroethene	52.4	2.5	50	Ö	105	69	130	52.7	0.5(20)	
Bromodichloromethane	59.8	2.5	50	Ŏ	120	70	130	60.18	0.7(20)	
cis-1,3-Dichloropropene	44.8	2.5	50	0	90	66	130	44.52	0.6(20)	
trans-1,3-Dichloropropene	47.1	2.5	50	0	94	65	134	48.16	2.1(20)	
1,1,2-Trichloroethane	57.7	2.5	50	0	115	67	132	57.68	0.1(20)	
Toluene	48	1.3	50	0	96	67	130	46.47	3.3(20)	
1,3-Dichloropropane	52	2.5	50	0	104	70	130	50.01	3.8(20)	
Dibromochloromethane	48.5	2.5	50	0	97	66	130	47.27	2.6(20)	
1,2-Dibromoethane (EDB)	108	10	100	0	108	70	130	105.1	2.7(20)	
Tetrachloroethene	49.5	2.5	50	0	99	59	135	47.34	4.4(20)	
1,1,1,2-Tetrachloroethane	52.7	2.5	50	0	105	70	130	51.08	3.0(20)	
Chlorobenzene	50	2.5	50	0	100	70 70	130	48.72	2.6(20)	
Ethylbenzene m,p-Xylene	53.4	1.3	50	0.85	105	70	130	52.39	1.9(20)	
Bromoform	53.6 54.7	1.3	50 50	0	107 109	69 57	130 132	51.91 53.26	3.2(20) 2.7(20)	
Styrene	54.7 51.3	2.5 2.5	50 50	0	103	57 58	135	50.46	1.6(20)	
o-Xylene	51.3 50.4	1.3	50 50	0	103	70	130	49.47	1.8(20)	
1,1,2,2-Tetrachloroethane	48.6	2.5	50 50	0	97	65	137	49.3	1.5(20)	
1,2,3-Trichloropropane	99.7	10	100	0	99.7	67	132	100.4	0.7(20)	
Isopropylbenzene	51.3	2.5	50	0	103	70	130	49.5	3.6(20)	
Bromobenzene	48.6	2.5	50	0	97	70	130	47.46	2.3(20)	
n-Propylbenzene	51.4	2.5	50	Ö	103	70	130	50.02	2.8(20)	
4-Chlorotoluene	52.2	2.5	50	0	104	70	130	50.35	3.7(20)	
2-Chlorotoluene	52.1	2.5	50	0	104	70	130	49.96	4.1(20)	
1,3,5-Trimethylbenzene	52.2	2.5	50	0	104	68	141	50.8	2.8(20)	
tert-Butylbenzene	48.8	2.5	50	0	98	70	130	53.7	9.6(20)	
1,2,4-Trimethylbenzene	51.4	2.5	50	0	103	67	146	50.3	2.2(20)	
sec-Butylbenzene	52.9	2.5	50	0	106	70	130	51.38	2.8(20)	
1,3-Dichlorobenzene	48.5	2.5	50	0	97	70 70	130	47.08	3.0(20)	
1,4-Dichlorobenzene	48.8	2.5	50 50	0	98	70 70	130	47.77 51.11	2.0(20)	
4-Isopropyltoluene	52.8	2.5	50 50	0	106	70 70	133	51.11	3.2(20)	
1,2-Dichlorobenzene n-Butylbenzene	46.3 54.4	2.5	50 50	0	93 109	70 66	130 145	45.5 53.56	1.7(20) 1.5(20)	
1,2-Dibromo-3-chloropropane (DBCP)	54.4 239	2.5 15	50 250	0	96	57	137	240.9	0.7(20)	
1,2,4-Trichlorobenzene	49.8	15 10	250 50	0	96 99.6	57 39	157	47.19	5.3(20)	
Naphthalene	49.6 49.1	10	50 50	0	98.6	26	163	47.19	3.6(20)	
Hexachlorobutadiene	103	10	100	0	103	35	172	97.22	5.6(20)	
1,2,3-Trichlorobenzene	53	10	50	0	103	30	170	50.72	4.5(20)	
Surr: 1,2-Dichloroethane-d4	47.1	10	50 50	3	94	75	128	00.1 L		
Surr: Toluene-d8	45.7		50		91	80	120			
Surr: 4-Bromofluorobenzene	50		50		100	70	130			



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Date: 07-Aug-08

### **QC Summary Report**

Work Order: 08072904

### 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.

- M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.
- R5 = MS/MSD RPD exceed the laboratory control limit. Recovery met acceptance criteria.



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

<b>Date:</b> 07-Aug-08	(	C S	ummary	Report	ţ				<b>Work Orde</b> 08072904	
Method Blank File ID: 073108.B\145SMPL.D\		Type N		st Code: EP		hod 200.8	Analysi	s Date:	08/01/2008 02:42	<del></del>
Sample ID: MB-20344	Units: mg/L		Run ID: ICF	P/MS_08073	31E		Prep Da	ate:	07/31/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal <sup>4</sup>	%REC	LCL(ME)	UCL(ME) R	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	ND	0.005	5			•				
Laboratory Control Spike		Type L		st Code: EP		hod 200.8				
File ID: 073108.B\149_LCS.D\				tch ID: 2034			•		08/01/2008 03:05	
Sample ID: LCS-20344	Units : mg/L			P/MS_08073			Prep Da		07/31/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal <sup>(</sup>	%REC	LCL(ME)	UCL(ME) R	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	0.052	0.005	0.05		104	85	115			
Sample Matrix Spike		Type N		st Code: EP		hod 200.8				
File ID: 073108.B\152SMPL.D\			Ва	tch ID: 2034	4K		Analysi	s Date:	08/01/2008 03:22	
Sample ID: 08072923-01AMS	Units : mg/L		Run ID: ICF	P/MS_08073	31E		Prep Da	ate:	07/31/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal <sup>1</sup>	%REC	LCL(ME)	UCL(ME) F	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	0.0518	0.005	0.05	0	104	70	130			
Sample Matrix Spike Duplicate		Type N	<b>MSD</b> Te	st Code: EP	A Met	hod 200.8				
File ID: 073108.B\158SMPL.D\			Ва	tch ID: 2034	4K		Analysi	s Date:	08/01/2008 03:55	
Sample ID: 08072923-01AMSD	Units : mg/L		Run ID: ICE	P/MS_08073	31E		Prep Da	ate:	07/31/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) F	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	0.0534	0.005	0.05	0	107	70	130	0.051	84 2.9(20)	

### Comments:

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

Battelle

505 King Avenue

Columbus, OH 43201

Battelle Memorial Institute 505 King Avenue

# 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: 12-Aug-08

WorkOrder: BMI08072904

AMENDED,

Report Attention David Conner Phone Number (619) 574-4827 x connerd@battelle.org **EMail Address** 

EDD Required: Yes

Sampled by: Client

Cooler Temp

Samples Received 29-Jul-08

Date Printed 31-Jul-08

QC Level: S4 = Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates G005862/JPL Groundwater Monitoring

Client's COC #: 026274

Columbus, OH 43201

										Requested Tests	ed Tests	
Alpha Sample ID	Client Sample ID	Mat	Collection No. of Bottles Matrix Date Alpha Sub	No. of Alpha	No. of Bottles Alpha Sub TAT	TAT	314_W	CONDUCTI METALS_D VITY W	METALS_D	W VOC_TIC_ VOC_W	VOC_W	Sample Remarks
BMI08072904-01A	MW-4-3	Ą	07/28/08 08:23	5	0	10	Perchlorate	Perchlorate	Ω	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	
BMI08072904-02A	MW-4-2	Ą	07/28/08 09:15	თ	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	
BMi08072904-03A MW-4-1	MW-4-1	ĄQ	07/28/08 09:50	5	0	10	Perchlorate	Perchlorate	ଦ	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	
BMI08072904-04A DUPE-5-3Q08	DUPE-5-3Q08	Ą	07/28/08 00:00	Çī	0	10	Perchlorate	Perchlorate	Ω	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	
BMI08072904-05A	EB-06-7/28/08	ΑΩ	07/28/08 09:40	Çī	0	10	Perchlorate	Perchlorate	Ω	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	000000000000000000000000000000000000000
BMI08072904-06A	TB-06-7/28/08	Ą	07/28/08 00:00	_ <b>_</b>	0	10				VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	Reno Trip Blank 6/24/08

Comments:

No security seals, Frozen ice, Client provided Temp Blank rec'd @ 4°. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 7/31/08 14:05 to add TICS per project requirements. ES:

Logged in by:	
Compatith Sauvigeau	Signature
Elizabeth Sauvagan	Print Name
Alpha Analytical, Inc.	Company
7:31-08 1411	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

505 King Avenue

Columbus, OH 43201

Battelle Memorial Institute 505 King Avenue

PO: 218017

Columbus, OH 43201

# 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: 12-Aug-08

WorkOrder: BMI08072904

Page: 1 of 1

Report Attention David Conner Phone Number (626) 345-0598 x connerd@battelle.org EMail Address

EDD Required: Yes

Sampled by: Client

Cooler Temp

Samples Received

**Date Printed** 

29-Jul-08

Client's COC #: 026274 QC Level: S4 = Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job: G005862/JPL Groundwater Monitoring

						:				Requested Tests	
Alpha Sample ID	Client Sample ID	Mat	Collection No. of Bottles Matrix Date Alpha Sub	No. of Bottle Alpha Sub	F Bottles	TAT	314_W	CONDUCTI METALS_D VITY W	METALS_D		Sample Remarks
BMI08072904-01A	MW-4-3	ΑQ	07/28/08 08:23	Ŋ	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	
BMI08072904-02A	MW-4-2	Ą	07/28/08 09:15	ر ت	0	10	Perchlorate	Perchlorate	င္	VOC by 524 Criteria	
BMI08072904-03A	MW-4-1	å	07/28/08 09:50	ζi	0	10	Perchlorate	Perchlorate	Ω	VOC by 524 Criteria	
BMI08072904-04A DUPE-5-3Q08	DUPE-5-3Q08	Ą	07/28/08 00:00	5	0	10	Perchlorate	Perchlorate	Ω	VOC by 524 Criteria	
BMI08072904-05A	EB-06-7/28/08	Ą	07/28/08 09:40	51	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	
BMI08072904-06A TB-06-7/28/08	TB-06-7/28/08	à	07/28/08	۷	0	10				VOC by 524 Criteria	Reno Trip Blank 6/24/08

Comments:

No security seals. Frozen ice. Client provided Temp Blank rec'd @ 4°. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by:	
Cenabuth Dauvageau	Signature
Elizabeth Sauvageen	Print Name
Alpha Analytical, Inc.	Company
7:29-08 1036	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

GERALD	Alpha 255 Gle	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21	AZ CA NV	WA Page # / 05 /
City, State, Zip COLUMBUS, off 43201	Phone Fax (77	Phone (775) 355-1044  Fax (775) 355-0406		
Phone Number Fax		0) 000 000	/ Analyses Required	red /
Client Name DAULD COUNER	PO.# 218017	Job# G005862	2 30 0	Required QC Level?
A	EMail Address	The state of the s	24.	/
$\sim$	Phone #6/9-726-73//	Fax#		EDD / EDF? YES NO
Matrix* Sampled	Report Attention	Total and type of	C 1701	Global ID#
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	TAT Filtered ** See below	SOR U	REMARKS
0823 7/18/18 AR BM T08072904-01	MW-4-3	NOW 5	× × ×	
9/13	WW - H - K		× ×	
-03	1-4-MW	7	×	
1	D1061 5 120.0	^	<	0
946	23-06-7/28/08	~(	× ×	EQUIP. BLANK
-0	TB-06-7/28/08		×	TRIP SLANK
ADDITIONAL INSTRUCTIONS:				
Signature	Frint Name		Company	Date Time
Relinquished by	CHASE BLOCK	12/1/2	HT EERT	07/28/08 1400
Received by auvagau	E. Sauvaglan		Cons	7.25-08 1030
Relinquished by	0			
Received by				
Relinquished by		FF 86 (44 - 14 - 14 - 14 - 14 - 14 - 14 - 14		
Received by			The second secon	
*Key: AQ - Aqueous SO - Soil WA - Waste	OT - Other AR - Air **:	L-Liter V-Voa S-Soil Jar	O-Orbo T-Tedlar B-Brass	ss P-Plastic OT-Other

Samples Collected From Which State? 0262/4

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: 11-Aug-08 David Conner

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201 (619) 574-4827

**CASE NARRATIVE** 

Project:

G005862/JPL Groundwater Monitoring

Work Order: BMI08072921		Cooler Temp: 4 °C	
Alpha's Sample ID	Client's Sample ID	Matrix	
08072921-01A	MW-20-5	Aqueous	
08072921-02A	MW-20-4	Aqueous	
08072921-03A	MW-20-3	Aqueous	
08072921-04A	MW-20-2	Aqueous	
08072921-05A	MW-20-1	Aqueous	
08072921-06A	EB-05-7/25/08	Aqueous	
08072921-07A	TB-05-7/25/08	Aqueous	

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

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

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

Roger Scholl



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 505 King Avenue

Columbus, OH 43201

Job#: G005862/JPL Groundwater Monitoring

Attn: David Conner

Phone: (619) 574-4827 Fax: (614) 458-6641

Tentatively Identified Compounds - Volatile Organics by GC/MS

		Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID: Lab ID:	<b>MW-20-5</b> BMI08072921-01A	Sulfur Dioxide	37	2.0 μg/L	07/29/08	07/25/08	07/31/08
Client ID: Lab ID:	<b>MW-20-4</b> BMI08072921-02A	Sulfur Dioxide	32	2.0 μg/L	07/29/08	07/25/08	07/31/08
Client ID : Lab ID :	<b>MW-20-3</b> BMI08072921-03A	Sulfur Dioxide	14	2.0 μg/L	07/29/08	07/25/08	07/31/08
Client ID: Lab ID:	<b>MW-20-2</b> BMI08072921-04A	Sulfur Dioxide	8.7	2.0 μg/L	07/29/08	07/25/08	07/31/08
Client ID: Lab ID:	<b>MW-20-1</b> BMI08072921-05A	Sulfur Dioxide	17	2.0 μg/L	07/29/08	07/25/08	07/31/08
Client ID: Lab ID:	<b>EB-05-7/25/08</b> BMI08072921-06A	Sulfur Dioxide	5.9	2.0 μg/L	07/29/08	07/25/08	07/31/08
Client ID : Lab ID :	<b>TB-05-7/25/08</b> BMI08072921-07A	Sulfur Dioxide	3.8	2.0 μg/L	07/29/08	07/25/08	07/31/08

Note: Analysis conducted using EPA Method 524.2 criteria.

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.

8/11/08 Report Date



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072921-01A Client I.D. Number: MW-20-5

David Conner Attn:

(619) 574-4827 Phone:

(614) 458-6641 Fax:

Sampled: 07/25/08

Received: 07/29/08 Analyzed: 07/31/08

### Volatile Organics by GC/MS

Compound	Concentration	Reporting Limit			Compound	Concentration	Reporting Limit	
1 Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/l
2 Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	μg/l
3 Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/l
4 Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/l
5 Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	µg/l
6 Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/l
7 1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/l
8 Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/l
9 Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/l
10 trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/l
11 Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/l
12 1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/
3 2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/
4 cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/
5 Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/
16 Chloroform	ND	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/
7 2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/
18 1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	μg
19 1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/
20 1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/
21 Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/
22 Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/
23 Dibromomethane	ND	0.50	μg/L	58	n-Butylbenzene	ND	0.50	μg/
24 1,2-Dichloropropane	ND	0.50	μg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	μg/
25 Trichloroethene	ND	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/
26 Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	μg/
27 4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg
28 cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg
29 trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	102	(75-128)	%RI
30 1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	99	(80-120)	%RI
31 Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	105	(80-120)	%R
32 1,3-Dichloropropane	ND	0.50	μg/L		<del></del>	•	, ,	
33 Dibromochloromethane	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

μg/L

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

8/11/08

**Report Date** Page 1 of 1



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### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

p#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072921-02A

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

Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641

Sampled: 07/25/08

Received: 07/29/08

Analyzed: 07/31/08

### Volatile Organics by GC/MS

Compound		Concentration	Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	μg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropyibenzene	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	μ <b>g/L</b>
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	μ <b>g/L</b>
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 <b>g/L</b>
20	1,1-Dichloropropene	ND	0.50	μ <b>g/L</b>	55	1,4-Dichlorobenzene	ND	0.50	μ <b>g/L</b>
21	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μ <b>g/L</b>
22	Benzene	ND	0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	μ <b>g/L</b>	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	μ <b>g/L</b>	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	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	99	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	104	(80-120)	%REC
32	1,3-Dichloropropane	ND	0.50	μ <b>g/L</b>					
33	Dibromochloromethane	ND	0.50	μ <b>g/L</b>					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachloroethene

Roger Scholl Kundy Stulm

ND

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.

8/11/08

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

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072921-03A Client I.D. Number: MW-20-3

David Conner Attn: (619) 574-4827 Phone:

(614) 458-6641 Fax:

Sampled: 07/25/08

Received: 07/29/08 Analyzed: 07/31/08

#### Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	0.50	μ <b>g/L</b>	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	μ <b>g</b> /L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μ <b>g</b> /L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μ <b>g/L</b>
14	cis-1,2-Dichloroethene	ND	0.50	μ <b>g/L</b>	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μ <b>g/L</b>	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	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	97	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	103	(80-120)	%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 Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com

μg/L

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

8/11/08

**Report Date** Page 1 of 1



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#### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201 Attn: Phone:

David Conner (619) 574-4827

Fax:

(614) 458-6641

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072921-04A Client I.D. Number: MW-20-2

Sampled: 07/25/08 Received: 07/29/08

Analyzed: 07/31/08

#### Volatile Organics by GC/MS

			**********						
	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachioroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	μ <b>g/L</b>	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	μ <b>g/L</b>
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	μ <b>g/L</b>	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	0.65	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	μg/L	52	•	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		103	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	97	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	103	(80-120)	%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	Tetre elde se eth e e e	1		٠٠.					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

35 Tetrachloroethene

Roger Scholl Kandy Sauln

ND

Walter Airchner

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

μg/L

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

8/11/08

Report Date



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#### ANALYTICAL REPORT

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072921-05A

Client I.D. Number: MW-20-1

David Conner Attn:

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/25/08

Received: 07/29/08 Analyzed: 07/31/08

#### Volatile Organics by GC/MS

					<del></del>				
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	μ <b>g/L</b>	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	μ <b>g/L</b>
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	106	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	97	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	104	(80-120)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L					
33	Dibromochloromethane	ND	0.50	μα/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

1,2-Dibromoethane (EDB)

Tetrachioroethene

Roger Scholl

ND

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

μg/L

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8/11/08

**Report Date** Page 1 of 1



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#### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072921-06A Client I.D. Number: EB-05-7/25/08

David Conner Attn:

(619) 574-4827 Phone:

(614) 458-6641 Fax:

Sampled: 07/25/08

Received: 07/29/08 Analyzed: 07/31/08

#### 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-Tetrachioroethane	ND	0.50	μ <b>g/L</b>
9	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	μg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	μg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	0.69	0.50	μg/L	51	tert-Butylbenzene	ND	0.50	μ <b>g/L</b>
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	106	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	97	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	104	(80-120)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			•		
33	Dibromochloromethane	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

Tetrachloroethene

ND

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

μg/L

μg/L

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8/11/08 **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

505 King Avenue Columbus, OH 43201

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072921-07A

Client I.D. Number: TB-05-7/25/08

David Conner Attn:

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/25/08

Received: 07/29/08 Analyzed: 07/31/08

#### Volatile Organics by GC/MS

						<del></del>			
	Compound	Concentration	Reporting	ng 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	μ <b>g/L</b>	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	106	(75-128)	%RE
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	98	(80-120)	%RE
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	105	(80-120)	%RE
32	1,3-Dichloropropane	ND	0.50	μg/L	. •	· ·	1	, ,	
	<b>5</b> 0	i		F 3					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

33 Dibromochloromethane

Tetrachloroethene

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

µg/L

μg/L

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**Report Date** Page 1 of 1



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#### **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue Columbus, OH 43201 Attn: David Conner Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/29/08

Job#:

G005862/JPL Groundwater Monitoring

#### Specific Conductance at 25°C EPA Method 120.1 / SM2510B / SW9050A

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	<b>MW-20-5</b> BMI08072921-01A	Specific Conductance (at 25°C)	280	10 μS/cm	07/25/08	07/29/08
Client ID: Lab ID:	<b>MW-20-4</b> BMI08072921-02A	Specific Conductance (at 25°C)	320	10 μS/cm	07/25/08	07/29/08
Client ID: Lab ID:	<b>MW-20-3</b> BMI08072921-03A	Specific Conductance (at 25°C)	470	10 μS/cm	07/25/08	07/29/08
Client ID : Lab ID :	<b>MW-20-2</b> BMI08072921-04A	Specific Conductance (at 25°C)	390	10 μS/cm	07/25/08	07/29/08
Client ID: Lab ID:	<b>MW-20-1</b> BMI08072921-05A	Specific Conductance (at 25°C)	620	10 μS/cm	07/25/08	07/29/08
Client ID: Lab ID:	<b>EB-05-7/25/08</b> BMI08072921-06A	Specific Conductance (at 25°C)	13	10 μS/cm	07/25/08	07/29/08

Roger Scholl

Kandy Saulma

Walter Strikm

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Report Date



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#### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201 Attn: David Conner

Phone: (619) 574-4827

Fax: (614) 458-6641 Date Received: 07/29/08

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 :	<b>MW-20-5</b> BMI08072921-01A	Perchlorate	13.1	1.00 µg/L	07/25/08	07/29/08
Client ID: Lab ID:	<b>MW-20-4</b> BMI08072921-02A	Perchlorate	24.2	1.00 μg/L	07/25/08	07/29/08
Client ID: Lab ID:	<b>MW-20-3</b> BMI08072921-03A	Perchlorate	ND	1.00 µg/L	07/25/08	07/29/08
Client ID: Lab ID:	<b>MW-20-2</b> BMI08072921-04A	Perchlorate	ND	1.00 µg/L	07/25/08	07/29/08
Client ID : Lab ID :	<b>MW-20-1</b> BMI08072921-05A	Perchlorate	1.64	1.00 µg/L	07/25/08	07/29/08
Client ID: Lab ID:	EB-05-7/25/08 BMI08072921-06A	Perchlorate	ND	1.00 µg/L	07/25/08	07/29/08

ND = Not Detected

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8/11/08

Report Date



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<b>Date:</b> 06-Aug-08		(	C S	umma	ry Repor	t			<b>Work Orde</b> 08072921	
Method Bla	nnk		Туре		Test Code: <b>E</b> Batch ID: <b>203</b>		thod 314.0	Analysis Date	e: 07/29/2008 15:22	_
Sample ID:	MBLK-20331	Units : µg/L			C_3_080729			Prep Date:	07/29/2008	
Analyte		Result	PQL	SpkVa	i SpkRefVal	%REC	C LCL(ME)	UCL(ME) RPDRe	fVal %RPD(Limit)	Qual
Perchlorate		ND		1						
Laboratory	Fortified Blank		Туре	LFB	Test Code: E	PA Me	thod 314.0			
File ID: 15				E	Batch ID: <b>203</b>	31		Analysis Date	e: 07/29/2008 15:40	
Sample ID:	LFB-20331	Units : µg/L		Run ID: I	C_3_080729	A		Prep Date:	07/29/2008	
Analyte		Result	PQL	SpkVa	l SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDRe	efVal %RPD(Limit)	Qual
Perchlorate		22.8		2 2	5	91	85	115		
Sample Ma	trix Spike	-	Туре	LFM .	Test Code: E	PA Met	thod 314.0			
File ID: <b>19</b>	•			E	Batch ID: 203	31		Analysis Date	e: 07/29/2008 16:54	
Sample ID:	08072921-02ALFM	Units : µg/L		Run ID: I	C_3_080729	A		Prep Date:	07/29/2008	
Analyte		Result	PQL	SpkVa	l SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDRe	efVal %RPD(Limit)	Qual
Perchlorate		48.5		2 2	24.18	97	80	120		
Sample Ma	trix Spike Duplicate	<del>-</del>	Туре	LFMD	Test Code: E	PA Me	thod 314.0			
File ID: 20	· · · · · · · · · · · · · · · · · · ·			1	Batch ID: <b>203</b>	31		Analysis Date	e: 07/29/2008 17:12	
Sample ID:	08072921-02ALFMD	Units : µg/L		Run ID: I	C_3_080729	A		Prep Date:	07/29/2008	
Analyte		Result	PQL	SpkVa	_ <u>−</u> i SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDRe	efVal %RPD(Limit)	Qual
Perchlorate		47.3		2 2	5 24.18	92	80	120 48.	47 2.5(15)	

#### Comments:



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<b>Date:</b> 06-Aug-08	QC Summary Report							
Method Blank File ID:	Type MBLK Test Code: EPA Method 120.1 / SM2510B / SW9050A  Batch ID: W0729CNA Analysis Date: 07/29	9/2008 00:00						
Sample ID: MBLK-W0729CNA	Units: µS/cm Run ID: WETLAB_080729I Prep Date: 07/29	9/2008						
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %	RPD(Limit) Qua						
Specific Conductance (at 25°C)	ND 10							
Laboratory Control Spike File ID:	Type LCS Test Code: EPA Method 120.1 / SM2510B / SW9050A  Batch ID: W0729CNA Analysis Date: 07/29	9/2008 00:00						
Sample ID: LCS-W0729CNA	Units: µS/cm Run ID: WETLAB 080729I Prep Date: 07/29	9/2008						
Analyte	Result PQL SpkVai SpkRefVai %REC LCL(ME) UCL(ME) RPDRefVai %	RPD(Limit) Qua						
Specific Conductance (at 25°C)	1430 10 1410 101 98 102							

#### Comments:



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#### ANALYTICAL REPORT

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

**David Conner** Attn:

Phone: (619) 574-4827 (614) 458-6641 Fax:

Date Received: 07/29/08

Job#:

G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	MW-20-5 BMI08072921-01A	Chromium (Cr)	ND	0.0050 mg/L	07/25/08	08/01/08
Client ID: Lab ID:	<b>MW-20-4</b> BMI08072921-02A	Chromium (Cr)	ND	0.0050 mg/L	07/25/08	08/01/08
Client ID : Lab ID :	<b>MW-20-3</b> BMI08072921-03A	Chromium (Cr)	ND	0.0050 mg/L	07/25/08	08/01/08
Client ID: Lab ID:	<b>MW-20-2</b> BMI08072921-04A	Chromium (Cr)	ND	0.0050 mg/L	07/25/08	08/01/08
Client ID: Lab ID:	<b>MW-20-1</b> BMI08072921-05A	Chromium (Cr)	ND	0.0050 mg/L	07/25/08	08/01/08
Client ID: Lab ID:	EB-05-7/25/08 BMI08072921-06A	Chromium (Cr)	ND	0.0050 mg/L	07/25/08	08/01/08

ND = Not Detected

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Report Date



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<b>Date:</b> 07-Aug-08	QC Summary Report	Work Order: 08072921
Method Blank File ID: 073108.B\145SMPL.D\ Sample ID: MB-20344 Analyte	Type MBLK Test Code: EPA Method 200.8  Batch ID: 20344K Analysis Date: 08/01/20  Units: mg/L Run ID: ICP/MS_080731E Prep Date: 07/31/20  Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPI	08
Chromium (Cr)	ND 0.005	<u> </u>
Laboratory Control Spike File ID: 073108.B\149_LCS.D\ Sample ID: LCS-20344	Type LCS Test Code: EPA Method 200.8  Batch ID: 20344K Analysis Date: 08/01/20  Units: mg/L Run ID: ICP/MS 080731E Prep Date: 07/31/20	
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPI	D(Limit) Qual
Chromium (Cr)	0.052 0.005 0.05 104 85 115	
Sample Matrix Spike File ID: 073108.B\152SMPL.D\ Sample ID: 08072923-01AMS Analyte	Type MS Test Code: EPA Method 200.8  Batch ID: 20344K Analysis Date: 08/01/20  Units: mg/L Run ID: ICP/MS_080731E Prep Date: 07/31/20  Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD	08
Chromium (Cr)	0.0518	
Sample Matrix Spike Duplicate File ID: 073108.B\158SMPL.D\ Sample ID: 08072923-01AMSD	Type MSD Test Code: EPA Method 200.8  Batch ID: 20344K Analysis Date: 08/01/20 Units: mg/L Run ID: ICP/MS_080731E Prep Date: 07/31/20	08
Analyte Chromium (Cr)	Result         PQL         SpkVal         SpkRefVal         %REC         LCL(ME)         UCL(ME)         RPDRefVal         %RPI           0.0534         0.005         0.05         0         107         70         130         0.05184         2	O(Limit) Qual .9(20)

#### Comments:



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<b>Date:</b> 11-Aug-08	(	OC Sum		<b>Work Order:</b> 08072921		
Method Blank		Type MBL	Test Code: EPA	Method SW826	60B	
File ID: <b>08073038.D</b>			Batch ID: MS15V	V0730L5	Analysis Date: 07/30/2	2008 22:29
Sample ID: MBLK MS15W0730L	Units : µg/L	Run	ID: MSD_15_080730	)A	Prep Date: 07/30/2	008
Analyte	Result				JCL(ME) RPDRefVal %RF	D(Limit) Qual
Dichlorodifluoromethane	ND	0.5		· · · · · · · · · · · · · · · · · · ·		
Chloromethane	ND	1				
Vinyl chloride	ND	0.5				
Chloroethane	ND	0.5				
Bromomethane Trichlorofluoromethane	ND	1				
1,1-Dichloroethene	ND ND	0.5 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 2-Butanone (MEK)	ND	0.5				
cis-1,2-Dichloroethene	ND ND	10 0.5				
Bromochloromethane	ND	0.5				
Chloroform	ND	0.5				
2,2-Dichloropropane	ND	0.5				
1,2-Dichloroethane	ND	0.5				
1,1,1-Trichloroethane 1,1-Dichloropropene	ND ND	0.5 0.5				
Carbon tetrachloride	ND	0.5 0.5				
Benzene	ND	0.5				
Dibromomethane	ND	0.5				
1,2-Dichloropropane	ND	0.5				
Trichloroethene	ND	0.5				
Bromodichloromethane 4-Methyl-2-pentanone (MIBK)	ND ND	0.5 2.5				
cis-1,3-Dichloropropene	ND ND	0.5				
trans-1,3-Dichloropropene	ND	0.5				
1,1,2-Trichloroethane	ND	0.5				
Toluene	ND	0.5				
1,3-Dichloropropane Dibromochloromethane	ND	0.5				
1,2-Dibromoethane (EDB)	ND ND	0.5 1				
Tetrachloroethene	ND	0.5				
1,1,1,2-Tetrachloroethane	ND	0.5				
Chlorobenzene	ND	0.5				
Ethylbenzene	ND	0.5				
m,p-Xylene Bromoform	ND ND	0.5 0.5				
Styrene	ND	0.5				
o-Xylene	ND	0.5				
1,1,2,2-Tetrachloroethane	ND	0.5				
1,2,3-Trichloropropane	ND	1				
Isopropylbenzene Bromobenzene	ND ND	0.5 0.5				
n-Propylbenzene	ND	0.5				
4-Chlorotoluene	ND	0.5				
2-Chlorotoluene	ND	0.5				
1,3,5-Trimethylbenzene	ND	0.5				
tert-Butylbenzene 1,2,4-Trimethylbenzene	ND ND	0.5 0.5				
sec-Butylbenzene	ND 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 1,2-Dibromo-3-chloropropane (DBCP)	ND ND	0.5 2.5				
1,2,4-Trichlorobenzene	ND ND	2.5				
Naphthalene	ND	1				
Hexachlorobutadiene	ND	1				
1,2,3-Trichlorobenzene	ND	1	40	02 75	400	
Surr: 1,2-Dichloroethane-d4 Surr: Toluene-d8	9.33			93 75 02 80	128 120	
Outt. 10lucile-d0	10.2		10	02 80	120	



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<b>Date:</b> 11-Aug-08		JC Sun	nmary R	Leport			Work Orde 08072921	
Surr: 4-Bromofluorobenzene	10.1		10	101	70	130		
Laboratory Control Spike		Type LCS	Test C	Code: EPA Meth	od SW8	260B		
File ID: <b>08073035.D</b>			Batch	ID: MS15W0730	L5	Analysis D	ate: 07/30/2008 21:22	
Sample ID: LCS MS15W0730L	Units : µg/L		_	15_080730A		Prep Date:		
Analyte	Result	PQL	SpkVal Spł	RefVal %REC	LCL(ME	) UCL(ME) RPD	RefVal %RPD(Limit)	Qua
Dichlorodifluoromethane	6.4	1	10	64	29	133		
Chloromethane	8.85	2	10	89	44	140		
Vinyl chloride	9.94	1	10	99	70	130		
Chloroethane Bromomethane	10.2 11.4	1 2	10 10	102 114	62 20	158 179		
Trichlorofluoromethane	11.7	1	10	117	63	156		
1,1-Dichloroethene	10.8	1	10	108	70	130		
Dichloromethane	10	2	10	100	70	130		
trans-1,2-Dichloroethene	11	1	10	110	70	130		
Methyl tert-butyl ether (MTBE)	11.2	0.5	10	112	70	130		
1,1-Dichloroethane	10.5	1	10	105	70 70	130		
cis-1,2-Dichloroethene Bromochloromethane	11.5 11.1	1 1	10 10	115 111	70 70	130 130		
Chloroform	10.1	1	10	101	80	120		
2,2-Dichloropropane	9.58	1	10	96	65	152		
1,2-Dichloroethane	10.2	1	10	102	70	130		
1,1,1-Trichloroethane	10.7	1	10	107	70	130		
1,1-Dichloropropene	11.1	1	10	111	70	130		
Carbon tetrachloride Benzene	10.7	1	10 10	107 106	70 70	130 130		
Dibromomethane	10.6 11.4	0.5 1	10 10	114	70	130		
1,2-Dichloropropane	10.9	1	10	109	70	130		
Trichloroethene	11.4	1	10	114	70	130		
Bromodichloromethane	11.3	1	10	113	70	130		
cis-1,3-Dichloropropene	9.57	1	10	96	70	130		
trans-1,3-Dichloropropene	9.2	1	10	92	68	134		
1,1,2-Trichloroethane Toluene	11.2 10.2	1 0.5	10 10	112 102	70 70	130 130		
1,3-Dichloropropane	10.2	1	10	102	70	130		
Dibromochloromethane	10.2	1	10	102	68	130		
1,2-Dibromoethane (EDB)	22.9	2	20	114	70	130		
Tetrachloroethene	10.7	1	10	107	70	130		
1,1,1,2-Tetrachloroethane	10.8	1	10	108	70	130		
Chlorobenzene	10.4	1	10	104	70	130		
Ethylbenzene m,p-Xylene	10.5 11.3	0.5 0.5	10 10	105 113	70 70	130 130		
Bromoform	11.1	0.5	10	111	59	132		
Styrene	10.5	1	10	105	70	130		
o-Xylene	10.5	0.5	10	105	70	130		
1,1,2,2-Tetrachloroethane	8.65	1	10	87	65	135		
1,2,3-Trichloropropane	19.3	2	20	97	68	132		
Isopropylbenzene Bromobenzene	10.5	1	10	105	70 70	130 130		
n-Propylbenzene	9.95 10.6	1	10 10	100 106	70 70	130		
4-Chlorotoluene	10.5	1	10	105	70	130		
2-Chlorotoluene	10.5	1	10	105	70	130		
1,3,5-Trimethylbenzene	10.4	1	10	104	70	141		
tert-Butylbenzene	9.68	1	10	97	70	130		
1,2,4-Trimethylbenzene	10.4	1	10	104	67	146		
sec-Butylbenzene 1,3-Dichlorobenzene	10.5 9.68	1	10 10	105 97	70 70	130 130		
1,4-Dichlorobenzene	9.69	1	10	97 97	70	130		
4-Isopropyltoluene	10.4	1	10	104	70	133		
1,2-Dichlorobenzene	9.12	1	10	91	70	130		
n-Butylbenzene	10.5	1	10	105	68	145		
1,2-Dibromo-3-chloropropane (DBCP)	44.4	3	50	89	57	133		
1,2,4-Trichlorobenzene	9.37	2	10	94	70 26	130		
Naphthalene Hexachlorobutadiene	9.19 19.1	2 2	10 20	92 96	26 39	161 172		
1,2,3-Trichlorobenzene	9.54	2	10	95	33	166		
Surr: 1,2-Dichloroethane-d4	8.43	4	10	84	75	128		
Surr: Toluene-d8	9.65		10	97	80	120		
Surr: 4-Bromofluorobenzene	10.1		10	101	70	130		



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Date:
11-Aug-08

OC Summary Report

Work Order:
08072921

Sample Matrix Spike		Type MS		est Code: E				_	
File ID: <b>08073055.D</b>			Ba	tch ID: MS	15W07	30L5	Analysis	Date: 07/31/2008 04:48	
Sample ID: 08072923-01AMS	Units : µg/L	F		SD_15_080			Prep Date		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RP	DRefVal %RPD(Limit)	Qu
Dichlorodifluoromethane	49	2.5	50	0	98	20	137		
Chloromethane	45.6	10	50	0	91	31	148		
Vinyl chloride	52.5	2.5	50	0	105	46	138		
Chloroethane	60.6	2.5	50	0	121	34	170		
Bromomethane	43.5	10	50	0	87	20	189		
Trichlorofluoromethane	87.2	2.5	50	0	174	51	156		M1
1,1-Dichloroethene	56.6	2.5	50	0	113	66	132		
Dichloromethane	51.5	10	50	0	103	48	145		
trans-1,2-Dichloroethene	53.6	2.5	50	0	107	68	132		
Methyl tert-butyl ether (MTBE)	57.5	1.3	50	0	115	62	139		
1,1-Dichloroethane	54.3	2.5	50	0	109	70	130		
cis-1,2-Dichloroethene	56.5	2.5	50	0	113	70 70	130		
Bromochloromethane	52.1	2.5	50	0	104	70 70	130		
Chloroform	53	2.5	50	0	106	70	130		
2,2-Dichloropropane	44.7	2.5	50	0	89	50 05	152		
1,2-Dichloroethane	57.9	2.5	50	0	116	65 67	136		
1,1,1-Trichloroethane 1,1-Dichloropropene	58.4 59.7	2.5	50 50	0	117 117	67 70	133 130		
Carbon tetrachloride	58.7 58.6	2.5 2.5	50 50	0	117	70 61	142		
Benzene				0	109	70	130		
Dibromomethane	54.7 59.6	1.3 2.5	50 50	0	119	69	130		
1,2-Dichloropropane	57.6	2.5	50	0	115	70	132		
Trichloroethene	52.7	2.5	50	0	105	69	130		
Bromodichloromethane	60.2	2.5	50	0	120	70	130		
cis-1,3-Dichloropropene	44.5	2.5	50	0	89	66	130		
trans-1,3-Dichloropropene	48.2	2.5	50	0	96	65	134		
1,1,2-Trichloroethane	57.7	2.5	50	ő	115	67	132		
Toluene	46.5	1.3	50	ő	93	67	130		
1,3-Dichloropropane	50	2.5	50	0	100	70	130		
Dibromochloromethane	47.3	2.5	50	Ō	95	66	130		
1,2-Dibromoethane (EDB)	105	10	100	0	105	70	130		
Tetrachloroethene	47.3	2.5	50	0	95	59	135		
1,1,1,2-Tetrachloroethane	51.1	2.5	50	0	102	70	130		
Chlorobenzene	48.7	2.5	50	0	97	70	130		
Ethylbenzene	52.4	1.3	50	0.85	103	70	130		
m,p-Xylene	51.9	1.3	50	0		69	130		
Bromoform	53.3	2.5	50	0	107	57	132		
Styrene	50.5	2.5	50	0	101	58	135		
o-Xylene	49.5	1.3	50	0	99	70	130		
1,1,2,2-Tetrachloroethane	49.3	2.5	50	0		65	137		
1,2,3-Trichloropropane	100	10	100	0		67	132		
Isopropylbenzene	49.5	2.5	50	0		70	130		
Bromobenzene	47.5	2.5	50	0		70 70	130		
n-Propylbenzene	50	2.5	50	0		70 70	130		
4-Chlorotoluene	50.4	2.5	50	0	101	70 70	130		
2-Chlorotoluene 1,3,5-Trimethylbenzene	50 50.8	2.5	50	0	99.9 102	70 68	130 141		
tert-Butylbenzene	50.8	2.5	50	0		70	130		
1,2,4-Trimethylbenzene	53.7 50.3	2.5	50 50	0	107	67	146		
sec-Butylbenzene	50.3 51.4	2.5 2.5	50 50	0		70	130		
1.3-Dichlorobenzene	47.1	2.5	50	0		70 70	130		
1,4-Dichlorobenzene	47.8	2.5	50	0		70	130		
4-Isopropyltoluene	51.1	2.5	50	0		70	133		
1,2-Dichlorobenzene	45.5	2.5	50	0		70	130		
n-Butylbenzene	53.6	2.5	50	0		66	145		
1,2-Dibromo-3-chloropropane (DBCP)	241	15	250	0		57	137		
1,2,4-Trichlorobenzene	47.2	10	50	0		39	157		
Naphthalene	47.3	10	50	0		26	163		
Hexachlorobutadiene	97.2	10	100	0		35	172		
1,2,3-Trichlorobenzene	50.7	10	50	0		30	170		
Surr: 1,2-Dichloroethane-d4	49.3		50	·	99	75	128		
Surr: Toluene-d8	44.1		50		88	80	120		
Surr: 4-Bromofluorobenzene	49.2		50		98	70	130		



Surr: Toluene-d8

Surr: 4-Bromofluorobenzene

# Alpha Analytical, Inc.

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 08072921 11-440-08 Sample Matrix Spike Duplicate Type MSD Test Code: EPA Method SW8260B File ID: 08073056.D Analysis Date: 07/31/2008 05:10 Batch ID: MS15W0730L5 Units: µg/L Prep Date: 07/31/2008 Sample ID: 08072923-01AMSD Run ID: MSD\_15\_080730A SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Analyte Qual Result **PQL** Dichlorodifluoromethane 51.4 2.5 103 137 49.02 4.7(20)45.61 Chloromethane 52.8 106 31 148 14.7(20) 10 50 0 Vinyl chloride 52.54 12.4(20) 59.5 2.5 50 0 119 46 138 Chloroethane 60.1 2.5 50 0 120 34 170 60.64 1.0(20)Bromomethane 50 n 128 20 189 43.5 38.0(20) R5 63.9 10 Trichlorofluoromethane 85.3 2.5 50 0 51 156 87.22 2.3(20)M1 171 1,1-Dichloroethene 56.1 2.5 50 0 112 66 132 56.58 0.8(20)51.49 1.0(20)Dichloromethane 51 10 50 0 102 48 145 2.6(20) trans-1,2-Dichloroethene 55 2.5 50 0 110 68 132 53.64 Methyl tert-butyl ether (MTBE) 58.3 1.3 50 0 117 62 139 57.47 1.4(20)1.1-Dichloroethane 54.9 2.5 70 130 54.34 1.0(20)50 n 110 cis-1,2-Dichloroethene 70 56.46 0.5(20)56.8 2.5 50 114 130 Bromochloromethane 53.7 2.5 50 0 107 70 130 52.13 2.9(20)0.5(20)Chloroform 52.8 2.5 50 0 106 70 130 53 03 2,2-Dichloropropane 44 2.5 50 0 88 50 152 44.65 1.5(20)1,2-Dichloroethane 57.93 3.4(20)56 0 112 65 136 2.5 50 1,1,1-Trichloroethane 57.8 2.5 50 116 67 133 58.42 1.0(20)1.1-Dichloropropene 70 130 58.71 0.8(20)59.2 2.5 50 0 118 Carbon tetrachloride 58 2.5 50 0 116 61 142 58.6 1.1(20)Benzene 54.3 50 0 109 70 130 54.65 0.7(20)1.3 Dibromomethane 59.7 2.5 69 130 59.56 0.2(20)50 0 119 1,2-Dichloropropane 57.62 1.5(20)56.8 2.5 50 114 70 132 Trichloroethene 130 52.7 0.5(20)52.4 2.5 50 0 105 69 0.7(20)Bromodichloromethane 59.8 50 0 120 70 130 60.18 2.5 44.52 0.6(20)cis-1,3-Dichloropropene 44.8 2.5 50 0 90 66 130 trans-1.3-Dichloropropene 65 134 48.16 2.1(20)47.1 2.5 50 0 94 1,1,2-Trichloroethane 115 67 132 57.68 0.1(20)57.7 2.5 50 0 96 46 47 3.3(20)Toluene 48 1.3 50 0 67 130 1,3-Dichloropropane 50.01 52 2.5 50 0 104 70 130 3.8(20)Dibromochloromethane 48.5 2.5 50 0 97 66 130 47.27 2.6(20)1,2-Dibromoethane (EDB) 70 130 105.1 2.7(20)108 10 108 100 0 Tetrachioroethene 49.5 2.5 50 99 135 47.34 4.4(20)1,1,1,2-Tetrachloroethane 105 70 130 51.08 3.0(20)52.7 2.5 50 0 Chlorobenzene 50 2.5 50 0 100 70 130 48.72 2.6(20)52.39 Ethylbenzene 53.4 50 0.85 105 70 130 1.9(20) 1.3 m.p-Xvlene 130 51.91 3.2(20)53.6 1.3 50 107 69 0 Bromoform 54.7 2.5 50 n 109 57 132 53.26 2.7(20)50.46 1.6(20)Styrene 51.3 2.5 50 0 103 58 135 o-Xylene 50.4 50 0 101 70 130 49.47 1.8(20)1.3 1,1,2,2-Tetrachloroethane 48.6 2.5 50 0 97 65 137 49.3 1.5(20)1.2,3-Trichloropropane 100.4 0.7(20)99.7 10 100 0 99.7 67 132 Isopropylbenzene 49.5 3.6(20)51.3 2.5 50 0 103 70 130 47.46 Bromobenzene 48.6 2.5 50 0 97 70 130 2.3(20)n-Propylbenzene 51.4 50 103 70 130 50.02 2.8(20)2.5 0 4-Chlorotoluene 52.2 2.5 50 0 104 70 130 50.35 3.7(20)49.96 4.1(20) 2-Chlorotoluene 104 70 130 52.1 2.5 50 0 1,3,5-Trimethylbenzene 52.2 2.5 50 0 104 68 141 50.8 2.8(20) 70 53.7 9.6(20)tert-Butvlbenzene 48.8 2.5 50 0 98 130 1,2,4-Trimethylbenzene 51.4 2.5 50 0 103 67 146 50.3 2.2(20)sec-Butylbenzene 52.9 2.5 50 0 106 70 130 51.38 2.8(20)1,3-Dichlorobenzene 48 5 2.5 97 70 130 47.08 3.0(20)50 0 1,4-Dichlorobenzene 48.8 70 130 47.77 2.0(20)2.5 50 98 4-Isopropyltoluene 51.11 3.2(20)2.5 50 106 70 133 52.8 n 1,2-Dichlorobenzene 70 45.5 1.7(20)46.3 2.5 50 0 93 130 109 66 145 53.56 1.5(20) n-Butvlbenzene 54.4 2.5 50 n 1,2-Dibromo-3-chloropropane (DBCP) 239 15 250 96 57 137 240.9 0.7(20)0 1,2,4-Trichlorobenzene 49.8 10 50 0 99.6 39 157 47.19 5.3(20) Naphthalene 10 26 163 47.31 3.6(20)49 1 98 50 O Hexachlorobutadiene 103 35 172 97.22 5.6(20)103 10 100 1.2.3-Trichlorobenzene 30 170 50.72 4.5(20)53 10 50 106 Surr: 1,2-Dichloroethane-d4 47.1 50 94 75 128

50

50

91

100

80

70

120

130

45.7

50



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

**Date:** 11-Aug-08

#### **QC Summary Report**

Work Order: 08072921

#### Comments:

- M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.
- R5 = MS/MSD RPD exceed the laboratory control limit. Recovery met acceptance criteria.

# Billing Information:

505 King Avenue Battelle

Columbus, OH 43201

Battelle Memorial Institute 505 King Avenue

# 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 (619) 574-4827 x connerd@battelle.org EMail Address

EDD Required: Yes

Report Due By: 5:00 PM On: 12-Aug-08

WorkOrder: BMI08072921

CANNAL DE lage: 1011

Sampled by: Client Cooler Temp

Samples Received

Date Printed 31-Jul-08

PO: 218017

Columbus, OH 43201

Client's COC #: 026282

Job: G005862/JPL Groundwater Monitoring

QC Level: S4 = Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Reno Trip Blank 6/24/08. One voa rec'd only.	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria				10	0	>	07/25/08 00:00	AQ	TB-05-7/25/08	BMI08072921-07A
	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	۲ <sub></sub>	Perchlorate Perchlorate	Perchlorate	10	0	<b>σ</b> 1	07/25/08 09:38	AQ	EB-05-7/25/08	BMI08072921-06A
	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	Cr	Perchlorate	Perchlorate	10	0	5	07/25/08 09:50	ΑQ	MW-20-1	BMI08072921-05A
	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	Ç	Perchlorate	Perchlorate	10	0	5	AQ 07/25/08 09:23	AC	MW-20-2	BMI08072921-04A
	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	Cr	Perchlorate	Perchlorate	10	0	ڻ ن	07/25/08 08:56	Ą	MW-20-3	
Level IV QC.	VOC by 524 Criteria	VOC by \$24 VOC by 524 Criteria Criteria	Çr	Perchlorate Perchlorate	Perchlorate	10	0	<b>U</b> 1	07/25/08 08:26	ΑQ	MW-20-4	BMI08072921-02A
	VOC by 524 Criteria	VOC by 524 VOC by 52e Criteria Criteria	c۲	Perchlorate	Perchlorate Perchlorate	10	0	5	07/25/08 07:47	Ą	MW-20-5	BMI08072921-01A
Sample Remarks	voc_w	Requested Tests s_D_VOC_TICVOC_W	METAL W	CONDUCTI METALS_D	314_W	TAT	f Bottles Sub	No. of Bottles Alpha Sub	Collection Matrix Date	Ma	Client Sample ID	Alpha Sample ID

Comments:

No security seals. Frozen ice. Client provided Temp Blank rec'd @ 4°. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 7/31/08 13:50 to add TICs due to project requirements.KM

Logged in by: **Print Name** 

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

Alpha Analytical, Inc. 7/31/08 1350 Date/Time

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

# Billing Information:

505 King Avenue

Columbus, OH 43201

Battelle Memorial Institute 505 King Avenue

David Conner

# CHAIN-OF-CUSTODY RECORD

# Alpha Analytical, Inc.

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

Report Due By: 5:00 PM On: 12-Aug-08

WorkOrder: BMI08072921

Page: 1 of 1

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

(626) 345-0598 x connerd@battelle.org

EDD Required: Yes

Sampled by: Client

Cooler Temp

Samples Received Date Printed 29-Jul-08

QC Level: S4 = Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Job :

G005862/JPL Groundwater Monitoring

Client's COC #: 026282

Columbus, OH 43201

Reno Trip Blank 6/24/08. One voa rec'd only.	VOC by 524 Criteria				10	0		07/25/08 00:00	AQ	TB-05-7/25/08	BMI08072921-07A
	VOC by 524 Criteria	Ċ	Perchlorate	Perchlorate	10	0	Ŋ	07/25/08 09:38	Ą	EB-05-7/25/08	BMI08072921-06A
	VOC by 524 Criteria	ç	Perchlorate	Perchlorate	10	0	თ	07/25/08 09:50	ĄQ	MW-20-1	BMI08072921-05A
	VOC by 524 Criteria	Ω V	Perchlorate	Perchlorate Perchlorate	10	0	თ	07/25/08 09:23	AQ.	MW-20-2	BMi08072921-04A
	VOC by 524 Criteria	Cr V	Perchlorate	Perchlorate Perchlorate	10	0	ហ	07/25/08 08:56	Ą	MW-20-3	BMI08072921-03A
Level IV QC.	VOC by 524 Criteria	Cr V	Perchlorate	Perchlorate	10	0	Ŋ	07/25/08 08:26	a AQ	MW-20-4	BMI08072921-02A
	VOC by 524 Criteria	Cr V	Perchlorate	Perchlorate Perchlorate	10	0	ڻ. ن	AQ 07/25/08 07:47	Ą	MW-20-5	BMI08072921-01A MW-20-5
Sample Remarks	VOC_W	WETALS_D W	CONDUCTI METALS_D VITY W	314_W	TAT	No. of Bottles Alpha Sub		Collection Matrix Date	Matr	Client Sample ID	Alpna Sample ID
	Requested Tests	1						:			•

Comments: No security seals. Frozen ice. Client provided Temp Blank rec'd @ 4°. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

•	Logged in by:	
	Kulunay	Signature
_	Muran	Print Na
	Alpha Analytical, Inc.	y
	7/29/08/02	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

g Information:	Alpha		Samples Collected From Which State?	State? 026282
Name GERALD POMPKING	255 Gle Sparks,	Suite 21 5778	OR OTHER	Page # / of /
e, Zip <u>(タレルルおれろ</u> umber	Fax (77	Phone (775) 355-1044  Fax (775) 355-0406	Analyses Required	
orner	P.O. # <b>1/8017</b> EMail Address	Job# 605867	(200.8)	Required QC Level:
	Phone #6/9-726-731/	Fax#		EDD / EDF? YESNO
Matrix* Sampled by		Total and type of	Troll ax	Global ID #
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	TAT Filtered ** See below	TO CO	REMARKS
747/1/25/8 PQ BM108072921-01	MW-20-5	NORM	× × ×	
97/	MW-20-4		×	Be LEVEL THE
85%	MW-20-3		× × ×	
725 04	MW-10-2		×	
20 1 05	MW-20-1		XXX	
90	EB-05-7/75/08		X X	EQUIP BLANK
	713-05-7/25/08	я -	*	TRIP BLANK
ADDITIONAL INSTRUCTIONS:				
Simplify	Print Name		Company	Date Time
Relinquishedby 2	MARCO LUENDOTA	THDICHT	1/2	125/38 1300
Received by Klllllan	KMurau	AM	7/2	7/29/08 095
Relinquished by		The state of the s		
Received by	Company of the compan			
Relinquished by				
Received by				

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.

\*Key: AQ - Aqueous

SO - Soil

WA - Waste

OT - Other

AR - Air

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

V-Voa

S-Soil Jar

T-Tedlar

B-Brass

P-Plastic

OT-Other



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

Date: 07-Aug-08 David Conner Battelle Memorial Institute 505 King Avenue Columbus, OH 43201

**CASE NARRATIVE** 

Project:

G005862/JPL Groundwater Monitoring

(619) 574-4827

Alpha's Sample ID Client's Sample ID Matrix	Work Order: BMI	I08072923	Cooler Temp:	4°C
09072022 014	Alpha's Sample	ID Client's Sample ID	Matrix	-
06072923-01A MW-3-4 Aqueous	08072923-01A	A MW-3-4	Aqueous	;
08072923-02A MW-3-3 Aqueous	08072923-024	A MW-3-3	Aqueous	;
08072923-03A MW-3-2 Aqueous	08072923-03A	A MW-3-2	Aqueous	;

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

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

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

Roger Scholl



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

505 King Avenue

Columbus, OH 43201

Job#: G005862/JPL Groundwater Monitoring

Phone: (619) 574-4827 Fax: (614) 458-6641

Attn: David Conner

Tentatively Identified Compounds - Volatile Organics by GC/MS

				Estimated			
		Parameter	Estimated Concentration	Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID : Lab ID :	<b>MW-3-4</b> BMI08072923-01A	*** None Found ***	ND	2.0 μg/L	07/29/08	07/28/08	07/31/08
Client ID : Lab ID :	<b>MW-3-3</b> BMI08072923-02A	*** None Found ***	ND	2.0 μg/L	07/29/08	07/28/08	07/31/08
Client ID : Lab ID :	<b>MW-3-2</b> BMI08072923-03A	*** None Found ***	ND	2.0 μg/L	07/29/08	07/28/08	07/31/08

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

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

8/11/08

**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

505 King Avenue Columbus, OH 43201

Job#: G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072923-01A

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

David Conner Attn:

Phone: (619) 574-4827 Fax:

(614) 458-6641

Sampled: 07/28/08

Received: 07/29/08 Analyzed: 07/31/08

#### Volatile Organics by GC/MS

	Compound	Concentration	Re	eporting	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	0.85	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	J	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-Butvlbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND		0.50	μg/L	54	1.3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND		0.50	μg/L	55	1.4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	ND		0.50	μg/L	56	4-isopropyltoluene	ND	0.50	μg/L
22	Benzene	ND		0.50	μg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-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	108	(75-128)	%REC
30	1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	97	(80-120)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	96	(80-120)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L			'	,	
33		ND		0.50	µa/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

J = Estimated: The analyte was positively identified; the quantitation is an estimation.

ND = Not Detected

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

ND

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

1.0

0.50

μg/L

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8/11/08

Report Date



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#### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072923-02A

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

David Conner Attn: Phone: (619) 574-4827

(614) 458-6641 Fax:

Sampled: 07/28/08

Received: 07/29/08 Analyzed: 07/31/08

#### Volatile Organics by GC/MS

	Compound	Concentration	Re	eporting l	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	J	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	110	(75-128)	%REC
30	1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	96	(80-120)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102	(80-120)	%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.

J = Estimated: The analyte was positively identified; the quantitation is an estimation.

ND

ND

ND = Not Detected

35 Tetrachloroethene

1,2-Dibromoethane (EDB)

Roger Scholl

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

1.0

μg/L

μg/L

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8/11/08

Report Date



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#### **ANALYTICAL REPORT**

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

Ioh#: G00586

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08072923-03A

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

Attn: David Conner

Phone: (619) 574-4827

Fax: (614)

(614) 458-6641

Sampled: 07/28/08

Received: 07/29/08 Analyzed: 07/31/08

#### Volatile Organics by GC/MS

	Compound	Concentration	Re	porting	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	J	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	0.72		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	0.86		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	0.61		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	(75-128)	%REC
30	1,1,2-Trichloroethane	ND		0.50	μg/L	65	Surr: Toluene-d8	97	(80-120)	%REC
31	Toluene	ND		0.50	μg/L	66	Surr: 4-Bromofluorobenzene	106	(80-120)	%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.

J = Estimated: The analyte was positively identified; the quantitation is an estimation.

ND = Not Detected

34 1,2-Dibromoethane (EDB)

35 Tetrachloroethene

loger Scholl Kandy Souther

ND

Walter Atrihun

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

μg/L

μg/L

1.0

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8/11/08

Report Date



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### **VOC Sample Preservation Report**

Work Order: BMI08072923 Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН	
08072923-01A	MW-3-4	Aqueous	2	
08072923-02A	MW-3-3	Aqueous	2	
08072923-03A	MW-3-2	Aqueous	2	



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#### **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

Attn:

David Conner

Phone:

(619) 574-4827

Fax:

(614) 458-6641

D .

Date Received: 07/29/08

Job#:

G005862/JPL Groundwater Monitoring

Specific Conductance at 25°C

EPA Method 120.1 / SM2510B / SW9050A

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	<b>MW-3-4</b> BMI08072923-01A	Specific Conductance (at 25°C)	450	10 μS/cm	07/28/08	07/29/08
Client ID : Lab ID :	<b>MW-3-3</b> BMI08072923-02A	Specific Conductance (at 25°C)	410	10 μS/cm	07/28/08	07/29/08
Client ID: Lab ID:	<b>MW-3-2</b> BMI08072923-03A	Specific Conductance (at 25°C)	520	10 μS/cm	07/28/08	07/29/08

Roger Scholl

Kandy Saulner

Walter Hirihun

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

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8/11/08

Report Date



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#### **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

Attn: David Conner

Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/29/08

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration F	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	<b>MW-3-4</b> BMI08072923-01A	Perchlorate	ND	1.00 µg/L	07/28/08	07/29/08
Client ID: Lab ID:	<b>MW-3-3</b> BMI08072923-02A	Perchlorate	ND	1.00 µg/L	07/28/08	07/29/08
Client ID: Lab ID:	<b>MW-3-2</b> BMI08072923-03A	Perchlorate	206	5.00 μg/L	07/28/08	07/31/08

ND = Not Detected

Roger Scholl Kandy

Walter Hirkon

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

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8/11/08

Report Date



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

Date: Work Order: OC Summary Report 07-Aug-08 08072923 Method Blank Type MBLK Test Code: File ID: 08073038.D Batch ID: MS15W0730L5 Analysis Date: 07/30/2008 22:29 Sample ID: MBLK MS15W0730L Units: µg/L Run ID: MSD\_15\_080730A Prep Date: 07/30/2008 Analyte SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Result **PQL** Dichlorodifluoromethane ND 0.5 Chloromethane ND Vinyl chloride ND 0.5 Chloroethane ND 0.5 Bromomethane ND 1 Trichlorofluoromethane ND 0.5 1.1-Dichloroethene ND 0.5 Dichloromethane ND 1 Freon-113 ND 0.5 trans-1,2-Dichloroethene ND 0.5 Methyl tert-butyl ether (MTBE) ND 0.5 1,1-Dichloroethane ND 0.5 2-Butanone (MEK) ND 10 cis-1,2-Dichloroethene ND 0.5 Bromochloromethane ND 0.5 Chloroform ND 0.5 2,2-Dichloropropane ND 0.5 1,2-Dichloroethane ND 0.5 1,1,1-Trichloroethane ND 0.5 1.1-Dichloropropene ND 0.5 Carbon tetrachloride ND 0.5 Benzene ND 0.5 Dibromomethane ND 0.5 1,2-Dichloropropane ND 0.5 Trichloroethene ND 0.5 Bromodichloromethane ND 0.5 4-Methyl-2-pentanone (MIBK) ND 2.5 cis-1,3-Dichloropropene ND 0.5 trans-1,3-Dichloropropene ND 0.5 1,1,2-Trichloroethane ND 0.5 Toluene ND 0.5 1.3-Dichloropropane ND 0.5 Dibromochloromethane ND 0.5 1,2-Dibromoethane (EDB) ND 1 Tetrachloroethene ND 0.5 1,1,1,2-Tetrachloroethane ND 0.5 Chlorobenzene ND 0.5 Ethylbenzene ND 0.5 m,p-Xylene ND 0.5 Bromoform ND 0.5 Styrene ND 0.5 o-Xylene ND 0.5 1,1,2,2-Tetrachloroethane ND 0.5 1,2,3-Trichloropropane ND 1 Isopropylbenzene ND 0.5 Bromobenzene ND 0.5 n-Propylbenzene ND 0.5 4-Chlorotoluene ND 0.5 2-Chlorotoluene ND 0.5 1,3,5-Trimethylbenzene ND 0.5 tert-Butylbenzene ND 0.5 1,2,4-Trimethylbenzene ND 0.5 sec-Butylbenzene ND 0.5 1,3-Dichlorobenzene ND 0.5 1,4-Dichlorobenzene ND 0.5 4-Isopropyltoluene ND 0.5 1.2-Dichlorobenzene ND 0.5 n-Butylbenzene ND 0.5 1,2-Dibromo-3-chloropropane (DBCP) ND 2.5 1,2,4-Trichlorobenzene ND 1 Naphthalene ND 1 Hexachlorobutadiene ND 1 1,2,3-Trichlorobenzene ND 1 Surr: 1,2-Dichloroethane-d4 9.33 10 93 75 128 Surr: Toluene-d8 10 102 80 120



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Date: 07-Aug-08	(	QC Su	mmary Re	eport			<b>Work Ordo</b> 08072923	
Surr: 4-Bromofluorobenzene	10.1		10	101	70	130		
Laboratory Control Spike		Type LC	S Test Co	de:				
File ID: <b>08073035.D</b>			Batch II	D: MS15W0730	)L5	Analysis [	Date: 07/30/2008 21:22	
Sample ID: LCS MS15W0730L	Units : µg/L	F	Run ID: <b>MSD_1</b>	5_080730A		Prep Date	e: 07/30/2008	
Analyte	Result	PQL	SpkVal SpkF	tefVal %REC l	LCL(ME)	UCL(ME) RPI	DRefVal %RPD(Limit)	Qua
Dichlorodifluoromethane	6.4	1	10	64	29	133		
Chloromethane	8.85	2	10	89	44	140		
Vinyl chloride Chloroethane	9.94	1	10	99	70	130		
Bromomethane	10.2 11.4	1 2	10 10	102 114	62 20	158 179		
Trichlorofluoromethane	11.7	1	10	117	63	156		
1,1-Dichloroethene	10.8	1	10	108	70	130		
Dichloromethane	10	2	10	100	70	130		
trans-1,2-Dichloroethene	11	1	10	110	70	130		
Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane	11.2	0.5	10	112	70 70	130		
cis-1,2-Dichloroethene	10.5 11.5	1	10 10	105 115	70 70	130 130		
Bromochloromethane	11.1	1	10	111	70	130		
Chloroform	10.1	1	10	101	80	120		
2,2-Dichloropropane	9.58	1	10	96	65	152		
1,2-Dichloroethane	10.2	1	10	102	70	130		
1,1,1-Trichloroethane 1,1-Dichloropropene	10.7	1	10	107	70 70	130		
Carbon tetrachloride	11.1 10.7	1 1	10 10	111 107	70 70	130 130		
Benzene	10.6	0.5	10	106	70	130		
Dibromomethane	11.4	1	10	114	70	130		
1,2-Dichloropropane	10.9	1	10	109	70	130		
Trichloroethene	11.4	1	10	114	70	130		
Bromodichloromethane	11.3	1	10	113	70	130		
cis-1,3-Dichloropropene trans-1,3-Dichloropropene	9.57 9.2	1	10	96 92	70 68	130 134		
1,1,2-Trichloroethane	11.2	1	10 10	112	70	130		
Toluene	10.2	0.5	10	102	70	130		
1,3-Dichloropropane	10.8	1	10	108	70	130		
Dibromochloromethane	10.2	1	10	102	68	130		
1,2-Dibromoethane (EDB) Tetrachloroethene	22.9	2	20	114	70 70	130		
1,1,1,2-Tetrachloroethane	10.7 10.8	1	10 10	107 108	70 70	130 130		
Chlorobenzene	10.4	1	10	104	70	130		
Ethylbenzene	10.5	0.5	10	105	70	130		
m,p-Xylene	11.3	0.5	10	113	70	130		
Bromoform	11.1	1	10	111	59	132		
Styrene o-Xylene	10.5	1	10	105	70 70	130		
1,1,2,2-Tetrachloroethane	10.5 8.65	0.5 1	10 10	105 87	70 65	130 135		
1,2,3-Trichloropropane	19.3	2	20	97	68	132		
Isopropylbenzene	10.5	1	10	105	70	130		
Bromobenzene	9.95	1	10	100	70	130		
n-Propylbenzene	10.6	1	10	106	70	130		
4-Chlorotoluene 2-Chlorotoluene	10.5	1	10	105	70 70	130 130		
1,3,5-Trimethylbenzene	10.5 10.4	1	10 10	105 104	70 70	141		
tert-Butylbenzene	9.68	1	10	97	70	130		
1,2,4-Trimethylbenzene	10.4	1	10	104	67	146		
sec-Butylbenzene	10.5	1	10	105	70	130		
1,3-Dichlorobenzene	9.68	1	10	97	70	130		
1,4-Dichlorobenzene 4-Isopropyltoluene	9.69 10.4	1 1	10 10	97 104	70 70	130 133		
1,2-Dichlorobenzene	9.12	1	10	91	70 70	130		
n-Butylbenzene	10.5	1	10	105	68	145		
1,2-Dibromo-3-chloropropane (DBCP)	44.4	3	50	89	57	133		
1,2,4-Trichlorobenzene	9.37	2	10	94	70	130		
Naphthalene Hexachlerobutadione	9.19	2	10	92	26	161 173		
Hexachlorobutadiene 1,2,3-Trichlorobenzene	19.1 9.54	2 2	20 10	96 95	39 33	172 166		
Surr: 1,2-Dichloroethane-d4	8.43	2	10	84	75	128		
Surr: Toluene-d8	9.65		10	97	80	120		
Surr: 4-Bromofluorobenzene	10.1		10	101	70	130		



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Date: O7-Aug-08 OC Summary Report Work Order: 08072923

07-Aug-08		<del>200</del>	AIIIIIII	y Kepoi	ι				0807292	23
Sample Matrix Spike		Type N	IS Te	est Code:						
File ID: <b>08073055.D</b>			Ba	tch ID: MS1	15W07	30L5	Analys	sis Date:	: 07/31/2008 04:48	3
Sample ID: 08072923-01AMS	Units : µg/L		Run ID: MS	SD_15_0807	730A		Prep [	Date:	07/31/2008	
Analyte	Result	PQL				LCL(ME)	•		Val %RPD(Limit)	Qua
Dichlorodifluoromethane	49	2.5		0	98	20	137			
Chloromethane	45.6	10		0	91	31	148			
Vinyl chloride	52.5	2.5		ő	105	46	138			
Chloroethane	60.6	2.5		ō	121	34	170			
Bromomethane	43.5	10	50	0	87	20	189			
Trichlorofluoromethane	87.2	2.5	50	0	174	51	156			M1
1,1-Dichloroethene	56.6	2.5	50	0	113	66	132			
Dichloromethane	51.5	10		0	103	48	145			
trans-1,2-Dichloroethene	53.6	2.5		0	107	68	132			
Methyl tert-butyl ether (MTBE)	57.5	1.3		0	115	62	139			
1,1-Dichloroethane	54.3	2.5		0	109	70 70	130			
cis-1,2-Dichloroethene	56.5	2.5		0	113	70 70	130 130			
Bromochloromethane Chloroform	52.1 53	2.5 2.5		0	104 106	70 70	130			
2,2-Dichloropropane	44.7	2.5		0	89	50	152			
1,2-Dichloroethane	57.9	2.5		0	116	65	136			
1,1,1-Trichloroethane	58.4	2.5		0	117	67	133			
1,1-Dichloropropene	58.7	2.5		ő	117	70	130			
Carbon tetrachloride	58.6	2.5		Ō	117	61	142			
Benzene	54.7	1.3		0	109	70	130			
Dibromomethane	59.6	2.5	50	0	119	69	130			
1,2-Dichloropropane	57.6	2.5	50	0	115	70	132			
Trichloroethene	52.7	2.5		0	105	69	130			
Bromodichloromethane	60.2	2.5		0	120	70	130			
cis-1,3-Dichloropropene	44.5	2.5		0	89	66	130			
trans-1,3-Dichloropropene	48.2	2.5		0	96	65	134			
1,1,2-Trichloroethane Toluene	57.7 40.5	2.5		0	115	67 67	132			
1,3-Dichloropropane	46.5 50	1.3		0	93 100	67 70	130 130			
Dibromochloromethane	47.3	2.5 2.5		0	95	66	130			
1,2-Dibromoethane (EDB)	105	10		0	105	70	130			
Tetrachloroethene	47.3	2.5		0	95	59	135			
1,1,1,2-Tetrachloroethane	51.1	2.5		ő	102	70	130			
Chlorobenzene	48.7	2.5		0	97	70	130			
Ethylbenzene	52.4	1.3	50	0.85	103	70	130			
m,p-Xylene	51.9	1.3	50	0	104	69	130			
Bromoform	53.3	2.5		0	107	57	132			
Styrene	50.5	2.5		0	101	58	135			
o-Xylene	49.5	1.3		0	99	70	130			
1,1,2,2-Tetrachloroethane	49.3	2.5		0	99	65	137			
1,2,3-Trichloropropane Isopropylbenzene	100	10		0	100	67 70	132 130			
Bromobenzene	49.5 47.5	2.5 2.5		0	99 95	70 70	130			
n-Propylbenzene	50	2.5		0	100	70	130			
4-Chlorotoluene	50.4	2.5		0	101	70	130			
2-Chlorotoluene	50	2.5		0	99.9	70	130			
1,3,5-Trimethylbenzene	50.8	2.5		0	102	68	141			
tert-Butylbenzene	53.7	2.5		0	107	70	130			
1,2,4-Trimethylbenzene	50.3	2.5	50	0	101	67	146			
sec-Butylbenzene	51.4	2.5		0	103	70	130			
1,3-Dichlorobenzene	47.1	2.5		0	94	70	130			
1,4-Dichlorobenzene	47.8	2.5		0	96	70 70	130			
4-Isopropyltoluene	51.1	2.5		0	102	70 70	133			
1,2-Dichlorobenzene n-Butylbenzene	45.5 53.6	2.5		0	91 107	70 66	130 145			
1,2-Dibromo-3-chloropropane (DBCP)	53.6 241	2.5 15		0	96	66 57	137			
1,2,4-Trichlorobenzene	47.2	10		0	94	39	157			
Naphthalene	47.3	10		0		26	163			
Hexachlorobutadiene	97.2	10		0		35	172			
1,2,3-Trichlorobenzene	50.7	10		0	101	30	170			
Surr: 1,2-Dichloroethane-d4	49.3		50	·	99	75	128			
Surr: Toluene-d8	44.1		50		88	80	120			
Surr: 4-Bromofluorobenzene	49.2		50		98	70	130			



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Date:<br/>07-Aug-08QC Summary ReportWork Order:<br/>08072923

07-Aug-08		2C D	anninai	y ICCDOI	ι 		·		0807292	:3
Sample Matrix Spike Duplicate		Type M		est Code:						
File ID: 08073056.D				atch ID: MS1		30L5	•		/31/2008 05:10	)
Sample ID: 08072923-01AMSD	Units : µg/L		Run ID: M	SD_15_0807	730A		Prep [	Date: <b>07</b> /	31/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qua
Dichlorodifluoromethane	51.4	2.5	50	0	103	20	137	49.02	4.7(20)	
Chloromethane	52.8	10		0	106	31	148	45.61	14.7(20)	
Vinyl chloride	59.5	2.5		0	119	46	138	52.54	12.4(20)	
Chloroethane	60.1	2.5		0	120	34	170	60.64	1.0(20)	0.5
Bromomethane	63.9	10		0	128	20	189	43.5	38.0(20)	R5
Trichlorofluoromethane	85.3	2.5		0	171	51	156	87.22	2.3(20)	M1
1,1-Dichloroethene Dichloromethane	56.1	2.5		0	112	66	132	56.58	0.8(20)	
trans-1,2-Dichloroethene	51 55	10 2.5		0	102 110	48 68	145 132	51.49 53.64	1.0(20) 2.6(20)	
Methyl tert-butyl ether (MTBE)	58.3	1.3		0	117	62	139	57.47	1.4(20)	
1,1-Dichloroethane	54.9	2.5		Ŏ	110	70	130	54.34	1.0(20)	
cis-1,2-Dichloroethene	56.8	2.5	50	0	114	70	130	56.46	0.5(20)	
Bromochloromethane	53.7	2.5		0	107	70	130	52.13	2.9(20)	
Chloroform	52.8	2.5		0	106	70	130	53.03	0.5(20)	
2,2-Dichloropropane 1,2-Dichloroethane	44 56	2.5		0	88 112	50 65	152 136	44.65 57.93	1.5(20) 3.4(20)	
1,1,1-Trichloroethane	56 57.8	2.5 2.5		0	112	67	133	57.93 58.42	1.0(20)	
1,1-Dichloropropene	59.2	2.5		0	118	70	130	58.71	0.8(20)	
Carbon tetrachloride	58	2.5		0	116	61	142	58.6	1.1(20)	
Benzene	54.3	1.3		Ō	109	70	130	54.65	0.7(20)	
Dibromomethane	59.7	2.5	50	0	119	69	130	59.56	0.2(20)	
1,2-Dichloropropane	56.8	2.5		0	114	70	132	57.62	1.5(20)	
Trichloroethene	52.4	2.5		0	105	69	130	52.7	0.5(20)	
Bromodichloromethane	59.8	2.5		0	120	70	130	60.18	0.7(20)	
cis-1,3-Dichloropropene trans-1,3-Dichloropropene	44.8 47.1	2.5		0	90 94	66 65	130 134	44.52 48.16	0.6(20) 2.1(20)	
1,1,2-Trichloroethane	57.7	2.5 2.5		0	115	67	132	57.68	0.1(20)	
Toluene	48	1.3		0	96	67	130	46.47	3.3(20)	
1,3-Dichloropropane	52	2.5		Ō	104	70	130	50.01	3.8(20)	
Dibromochloromethane	48.5	2.5		0	97	66	130	47.27	2.6(20)	
1,2-Dibromoethane (EDB)	108	10		0	108	70	130	105.1	2.7(20)	
Tetrachloroethene	49.5	2.5		0	99	59	135	47.34	4.4(20)	
1,1,1,2-Tetrachloroethane	52.7	2.5		0	105	70 70	130	51.08	3.0(20)	
Chlorobenzene Ethylbenzene	50 53.4	2.5 1.3		0 0.85	100 105	70 70	130 130	48.72 52.39	2.6(20) 1.9(20)	
m,p-Xylene	53.6	1.3		0.83	107	69	130	51.91	3.2(20)	
Bromoform	54.7	2.5		0	109	57	132	53.26	2.7(20)	
Styrene	51.3	2.5		ō	103	58	135	50.46	1.6(20)	
o-Xylene	50.4	1.3		0	101	70	130	49.47	1.8(20)	
1,1,2,2-Tetrachloroethane	48.6	2.5		0	97	65	137	49.3	1.5(20)	
1,2,3-Trichloropropane	99.7	10		0	99.7	67	132	100.4	0.7(20)	
Isopropylbenzene Bromobenzene	51.3 48.6	2.5		0	103 97	70 70	130 130	49.5 47.46	3.6(20) 2.3(20)	
n-Propylbenzene	51.4	2.5 2.5		0	103	70 70	130	50.02	2.8(20)	
4-Chlorotoluene	52.2	2.5		0	103	70	130	50.35	3.7(20)	
2-Chlorotoluene	52.1	2.5		ŏ	104	70	130	49.96	4.1(20)	
1,3,5-Trimethylbenzene	52.2	2.5		0	104	68	141	50.8	2.8(20)	
tert-Butylbenzene	48.8	2.5		0	98	70	130	53.7	9.6(20)	
1,2,4-Trimethylbenzene	51.4	2.5		0	103	67	146	50.3	2.2(20)	
sec-Butylbenzene	52.9	2.5		0	106	70	130	51.38	2.8(20)	
1,3-Dichlorobenzene	48.5	2.5		0	97	70 70	130	47.08 47.77	3.0(20)	
1,4-Dichlorobenzene 4-Isopropyltoluene	48.8 52.8	2.5 2.5		0	98 106	70 70	130 133	47.77 51.11	2.0(20) 3.2(20)	
1,2-Dichlorobenzene	46.3	2.5		0	93	70	130	45.5	1.7(20)	
n-Butylbenzene	54.4	2.5		Ö	109	66	145	53.56	1.5(20)	
1,2-Dibromo-3-chloropropane (DBCP)	239	15		Ō	96	57	137	240.9	0.7(20)	
1,2,4-Trichlorobenzene	49.8	10		0	99.6	39	157	47.19	5.3(20)	
Naphthalene	49.1	10		0	98	26	163	47.31	3.6(20)	
Hexachlorobutadiene	103	10		0	103	35	172	97.22	5.6(20)	
1,2,3-Trichlorobenzene Surr: 1,2-Dichloroethane-d4	53	10		0	106	30 75	170 128	50.72	4.5(20)	
Surr: T,2-Dichloroethane-d4 Surr: Toluene-d8	47.1 45.7		50 50		94 91	75 80	128			
Surr: 4-Bromofluorobenzene	45.7 50		50 50		100	70	130			
	50		50		.00	, 0	.50			



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**Date:** 07-Aug-08

#### **QC Summary Report**

Work Order: 08072923

#### Comments

- M1 = Matrix spike recovery was high, the method control sample recovery was acceptable.
- R5 = MS/MSD RPD exceed the laboratory control limit. Recovery met acceptance criteria.



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<b>Date:</b> 06-Aug-08			C S	umma	ry Ret	ort				<b>Work Ord</b> 0807292	
Method Blas	nk		Type I		Test Code Batch ID:		lethod 314		nalysis Date	: 07/29/2008 15:22	
Sample ID:	MBLK-20331	Units : µg/L		Run ID:	C_3_080	729A		Pr	rep Date:	07/29/2008	
Analyte		Result	PQL	SpkVa	al SpkRe	fVal %R	EC LCL(M	E) UCL(N	ME) RPDRe	Val %RPD(Limit)	Qual
Perchlorate		ND		1							
Laboratory	Fortified Blank		Type I	LFB	Test Code	e: EPA N	Method 314	1.0			
File ID: 15					Batch ID:	20331		ıΑ	nalysis Date	07/29/2008 15:40	
Sample ID:	LFB-20331	Units : µg/L		Run ID:	C_3_080	729A		Pi	rep Date:	07/29/2008	
Analyte		Result	PQL	SpkVa	al SpkRe	fVal %R	EC LCL(M	E) UCL(N	ME) RPDRef	fVal %RPD(Limit)	Qual
Perchlorate		22.8		2 2	5	9	1 85	115	5		
Sample Mat	rix Spike		Type I	LFM	Test Code	e: EPA N	Nethod 314	1.0			
File ID: 19					Batch ID:	20331		A	nalysis Date	: 07/29/2008 16:54	
Sample ID:	08072921-02ALFM	Units : µg/L		Run ID:	IC_3_080	729A		Pi	rep Date:	07/29/2008	
Analyte		Result	PQL	SpkVa	al SpkRe	fVal %R	EC LCL(M	E) UCL(N	ME) RPDRef	fVal %RPD(Limit)	Qual
Perchlorate		48.5	:	2 2	5 24	1.18 97	7 80	120	)		
Sample Mat	rix Spike Duplicate		Type I	LFMD	Test Code	e: EPA N	Method 314	1.0			
File ID: 20					Batch ID:	20331		A	nalysis Date	: 07/29/2008 17:12	
Sample ID:	08072921-02ALFMD	Units : µg/L		Run ID:	IC_3_080	729A		Pı	rep Date:	07/29/2008	
Analyte		Result	PQL	SpkVa	al SpkRe	fVal %R	EC LCL(M	E) UCL(	ME) RPDRe	fVal %RPD(Limit)	Qual
Perchlorate		47.3	:	2 2	5 24	1.18 92	2 80	120	) 48.4	17 2.5(15)	<u>_</u>

#### Comments:



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<b>Date:</b> 06-Aug-08	OC Summary Report  Work Order 08072923	Work Order: 08072923		
Method Blank File ID: Sample ID: MBLK-W0729CNA	Type MBLK Test Code: EPA Method 120.1 / SM2510B / SW9050A  Batch ID: W0729CNA Analysis Date: 07/29/2008 00:00  Units: μS/cm Run ID: WETLAB 080729I Prep Date: 07/29/2008			
Analyte	, , , , , , , , , , , , , , , , , , , ,	Qua		
Specific Conductance (at 25°C)	ND 10			
Laboratory Control Spike File ID:	Type LCS Test Code: EPA Method 120.1 / SM2510B / SW9050A  Batch ID: W0729CNA Analysis Date: 07/29/2008 00:00			
Sample ID: LCS-W0729CNA Analyte	Units: µS/cm Run ID: WETLAB_080729I Prep Date: 07/29/2008  Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit)	Qua		
Specific Conductance (at 25°C)	1430 10 1410 101 98 102	_		

#### Comments:



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#### **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

**David Conner** Attn:

(619) 574-4827 Phone: (614) 458-6641

Date Received: 07/29/08

Job#:

G005862/JPL Groundwater Monitoring

Metals by ICPMS

EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : Lab ID :	<b>MW-3-4</b> BMI08072923-01A	Chromium (Cr)	ND	0.0050 mg/L	07/28/08	08/01/08
Client ID : Lab ID :	<b>MW-3-3</b> BMI08072923-02A	Chromium (Cr)	ND	0.0050 mg/L	07/28/08	08/01/08
Client ID : Lab ID :	<b>MW-3-2</b> BMI08072923-03A	Chromium (Cr)	ND	0.0050 mg/L	07/28/08	08/01/08

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



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Date: 07-Aug-08	QC Summary Report Work O 08072	
Method Blank File ID: 073108.B\145SMPL.D\ Sample ID: MB-20344 Analyte	Type MBLK Test Code: EPA Method 200.8  Batch ID: 20344K Analysis Date: 08/01/2008 02:  Units : mg/L Run ID: ICP/MS_080731E Prep Date: 07/31/2008  Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit)	
Chromium (Cr)	ND 0.005	
Laboratory Control Spike File ID: 073108.B\149_LCS.D\ Sample ID: LCS-20344	Type LCS Test Code: EPA Method 200.8  Batch ID: 20344K Analysis Date: 08/01/2008 03:  Units: mg/L Run ID: ICP/MS_080731E Prep Date: 07/31/2008	05
Analyte	Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit)	Qual
Chromium (Cr)	0.052	
Sample Matrix Spike File ID: 073108.B\152SMPL.D\ Sample ID: 08072923-01AMS Analyte	Type MS Test Code: EPA Method 200.8  Batch ID: 20344K Analysis Date: 08/01/2008 03:  Units: mg/L Run ID: ICP/MS_080731E Prep Date: 07/31/2008  Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit)	
Chromium (Cr)	0.0518	
Sample Matrix Spike Duplicate File ID: 073108.B\158SMPL.D\ Sample ID: 08072923-01AMSD	Type MSD Test Code: EPA Method 200.8  Batch ID: 20344K Analysis Date: 08/01/2008 03:  Units: mg/L Run ID: ICP/MS_080731E Prep Date: 07/31/2008	
Analyte Chromium (Cr)	Result         PQL         SpkVal         SpkRefVal         %REC         LCL(ME)         UCL(ME)         RPDRefVal         %RPD(Limit)           0.0534         0.005         0.05         0         107         70         130         0.05184         2.9(20)	Qual

#### Comments:

### Billing Information:

Battelle

505 King Avenue

## Columbus, OH 43201

Battelle Memorial Institute 505 King Avenue

# 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 EMail Address

David Conner

(619) 574-4827 x

connerd@battelle.org

EDD Required: Yes

Report Due By: 5:00 PM On: 12-Aug-08

WorkOrder: BMI08072923

CA Page: 10f1

Sampled by: Client

Cooler Temp

Samples Received

Date Printed 31-Jul-08

QC Level: S4 = Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Job :

G005862/JPL Groundwater Monitoring

Client's COC #: 026273

PO: 218017

Columbus, OH 43201

									Requested Tests	ed Tests	
Alpha Sample ID	Client Sample ID	Collection No. of Bottles Matrix Date Alpha Sub	No. o Alpha	No. of Bottles Alpha Sub TAT	TAT	314_W	314_W CONDUCTI METALS_D VITY W	METALS W	D VOC_TIC_ VOC_W	VOC_W	Sample Remarks
BMI08072923-01A MW-3-4	MW-3-4	AQ 07/28/08 11:12	10	0	10	Perchlorate	Perchlorate Perchlorate	Ð.	VOC by 524 VOC by 522 Criteria Criteria	VOC by 524 Criteria	 MS/MSD
BMI08072923-02A MW-3-3	MW-3-3	AQ 07/28/08 11:59	ڻ.	0	10	Perchlorate	Perchlorate Perchlorate	Cr	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	
BMI08072923-03A MW-3-2	MW-3-2	AQ 07/28/08 12:28	5	0	0 10	Perchlorate Perchlorate	Perchlorate	Ω	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	

Comments:

No security seals. Frozen ice. Client provided Temp Blank rec'd @ 4°. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Amended 7/31/08 13:50 to add TICs due to project requirements.KM:

7/31/08 1350	Alpha Analytical, Inc. 7/31/	moray	Logged in by: $\operatorname{{f L}{\it M}{\it M}{\it M}{\it M}{\it M}{\it M}{\it M}{\it M$	ogged in by:
Date/Time	Company	Print Name	Signature	

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:

505 King Avenue

## Columbus, OH 43201

505 King Avenue Battelle Memorial Institute

# 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

(626) 345-0598 x connerd@battelle.org EMail Address

EDD Required: Yes

Report Due By: 5:00 PM On: 12-Aug-08

WorkOrder: BMI08072923

Page: 1 of 1

Sampled by: Client Cooler Temp

Samples Received 29-Jul-08 Date Printed 29-Jul-08

QC Level: S4 = Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates Job: G005862/JPL Groundwater Monitoring

Client's COC #: 026273

PO: 218017

Columbus, OH 43201

						Requested Tests	sts		
Alpha Client Sample ID Sample ID	Collection Matrix Date	Collection No. of Bottles x Date Alpha Sub TAT	»s TAT	314_W CONDUCTI METALS_D	TI METALS		· · - i		Sample Remarks
BMI08072923-01A MW-3-4	AQ 07/28/08 10	10 0	10	Perchlorate Perchlorate	ರ	VOC by 524 Criteria			 MS/MSD
BMI08072923-02A MW-3-3	AQ 07/28/08 11:59		0 10	Perchlorate Perchlorate	Q	VOC by 524 : Criteria			
BMI08072923-03A MW-3-2	AQ 07/28/08 5 12:28	ļ	0 10	Perchlorate Perchlorate	0	VOC by 524 Criteria		-	
					-				

Comments: No security seals. Frozen ice. Client provided Temp Blank rec'd @ 4°. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by:	
 Kuman	Signature
F. Minery	Signature Print Name
Alpha Analytical, Inc.	င္ပ
 7/29/08 1115	mpany 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

i				
Billing Information: らみ TECLE Name CoERALD TOMPKINS	Alph 255 G	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21	mples Collected From W	WA 0262/3
COLUMBUS, O	Spark Phone Fax (		Analyses Beginned	Page # of _
Clinat Name				
Client Name DAVI) CONNEC	P.O.# 218017	Job# 6.005862	. ]	Required QC Level?
	EMail Address		24.	/
City, State, Zip SAN DIEGO, CA 921/0	Phone # 6/9-726-73//	Fax #	ح	EDD / EDF? YES NO
Matrix* Sampled by	:	Total and type of	24	Global ID #
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	TAT Filtered "See below"		REMARKS
1112 1/28/10 PO BM108072923-01	MW-3-4	My John	× ×	CHN/HN
•				
02	MW-3-3	~	XXX	
1,228 1 1 0.3	Mh-3-1	×	×	
ADDITIONAL INSTRUCTIONS:				
Signature	Print Name		Company	Date Time
Relinquished by	CHOX BLOGDO	J 1NS/6HT	EE-CT 0	0041 80/82/10
Received by Edduard	KMMay	AA		1/29/08 1100
Relinquished by	/			
Received by				
Relinquished by				
Received by				
'Key: AQ - Aqueous SO - Soil WA - Waste	OT - Other AR - Air	**: L-Liter V-Voa S-Soil Jar	O-Orbo T-Tedlar B-Brass	P-Plastic OT-Other

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: 11-Aug-08 David Conner Battelle Memorial Institute 505 King Avenue Columbus, OH 43201

CASE NARRATIVE

**Project:** 

(619) 574-4827

G005862/JPL Groundwater Monitoring

Work Order

BM108073040

ork Order: BM1080/3040	C	Cooler Temp: 4 °C	
Alpha's Sample ID	Client's Sample ID	Matrix	
08073040-01A	MW-23-4	Aqueous	
08073040-02A	MW-23-3	Aqueous	
08073040-03A	MW-23-2	Aqueous	
08073040-04A	MW-23-1	Aqueous	
08073040-05A	EB-07-07/29/08	Aqueous	
08073040-06A	TB-07-07/29/08	Aqueous	

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

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

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

Roger Scholl



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 505 King Avenue

Columbus, OH 43201

Attn: David Conner Phone: (619) 574-4827 Fax: (614) 458-6641

Job#: G005862/JPL Groundwater Monitoring

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

				Estimated			The second secon
		Parameter	Estimated	Reporting	Date	Date	Date
			Concentration	Limit	Received	Sampled	Analyzed
Client ID: Lab ID:	MW-23-3 BMI08073040-02A	*** None Found ***	ND	2.0 μg/L	07/30/08	07/29/08	08/05/08
Client ID: Lab ID:	MW-23-2 BMI08073040-03A	*** None Found ***	ND	2.0 μg/L	07/30/08	07/29/08	08/05/08
Client ID : Lab ID :	MW-23-1 BMI08073040-04A	*** None Found ***	ND	2.0 μg/L	07/30/08	07/29/08	08/05/08
Client ID : Lab ID :	<b>EB-07-07/29/08</b> BMI08073040-05A	*** None Found ***	ND	2.0 μg/L	07/30/08	07/29/08	08/05/08
Client ID: Lab ID:	<b>TB-07-07/29/08</b> BMI08073040-06A	*** None Found ***	ND	2.0 μg/L	07/30/08	07/29/08	08/05/08

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.

8/12/08 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

505 King Avenue Columbus, OH 43201

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08073040-02A

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

Attn:

David Conner Phone: (619) 574-4827

(614) 458-6641

Sampled: 07/29/08

Received: 07/30/08 Analyzed: 08/05/08

### Volatile Organics by GC/MS

						<del></del>			
	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 E	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 1	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachioroethane	ND	0.50	μg/L
9 1	Freon-113	ND	0.50	μg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10 t	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	μg/L
11 1	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12 1	1,1-Dichloroethane	ND	0.50	μg/L	47	n-Propylbenzene	ND	0.50	µg/L
13 2	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 E	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	2,2-Dichloropropane	ND	0.50	μg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18 1	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19 1	1,1,1-Trichloroethane	ND	0.50	μg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20 1	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
	Carbon tetrachloride	ND	0.50	μg/L	56	4-Isopropyltoluene	ND	0.50	μg/L
22 E	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	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 E	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	μg/L
27 4	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28 0	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29 t	rans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	117	(75-128)	%REC
30 1	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	97	(80-120)	%REC
	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	100	(80-120)	%REC
	1,3-Dichloropropane	ND	0.50	μg/L					
33 [	Dibromochloromethane	ND	0.50	μg/L					
34 1	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35 1	Tetrachloroethene	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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

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8/12/08



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

505 King Avenue Columbus, OH 43201

Job#: (

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08073040-03A

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

Attn:

David Conner (619) 574-4827

Phone: Fax:

(614) 458-6641

Sampled: 07/29/08

Received: 07/30/08 Analyzed: 08/05/08

### 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	0.51	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 (DBCF	P) ND	2.5	μg/L
25	Trichloroethene	0.72	0.50	μg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	μg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MiBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	117	(75-128)	%REC
30	1,1,2-Trichloroethane	ND ND	0.50	μg/L	65	Surr: Toluene-d8	98	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	101	(80-120)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L			,	, , , , ,	
33	Dibromochloromethane	ND	0.50	μg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					
35	Tetrachloroethene	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Kandy Sand

Walter Hiramor

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / info@alpha-analytical.com
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8/12/08



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

505 King Avenue Columbus, OH 43201

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08073040-04A

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

Attn:

David Conner (619) 574-4827

Phone:

(614) 458-6641

Sampled: 07/29/08

Received: 07/30/08 Analyzed: 08/05/08

### Volatile Organics by GC/MS

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachioroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	μg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-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-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	0.60	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	μg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	μg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1.3-Dichlorobenzene	ND	0.50	μg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	μg/L
21	Carbon tetrachloride	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	1.3	0.50	ug/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/L	63	1.2.3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	μg/L	64	Surr: 1,2-Dichloroethane-d4	119	(75-128)	%RE
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	97	(80-120)	%RE
31	Toluene	ND	0.50	μα/L	66	Surr: 4-Bromofluorobenzene	101	(80-120)	%RE
32	1,3-Dichloropropane	ND	0.50	µg/L			1 7	(==)	
33	Dibromochloromethane	ND	0.50	μg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					
35	Tetrachloroethene	0.93	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Kandy Saulun

Walter Herikum

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

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8/12/08



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### **ANALYTICAL REPORT**

**Battelle Memorial Institute** 

505 King Avenue Columbus, OH 43201

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08073040-05A

Client I.D. Number: EB-07-07/29/08

Attn:

David Conner (619) 574-4827

Phone: Fax:

(614) 458-6641

Sampled: 07/29/08

Received: 07/30/08 Analyzed: 08/05/08

### 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-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		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 <b>g/L</b>	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	0.110.0.0.1	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		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	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	99	(80-120)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	98	(80-120)	%REC
32	· / · · · · · · · · · · · · · · · ·	ND	0.50	μg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	· ,= = · · · · · · · · · · · · · · · · ·	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

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

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8/12/08



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### ANALYTICAL REPORT

Battelle Memorial Institute

505 King Avenue Columbus, OH 43201

Job#:

G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI08073040-06A

Client I.D. Number: TB-07-07/29/08

Attn:

David Conner (619) 574-4827

Phone:

(614) 458-6641

Sampled: 07/29/08

Received: 07/30/08 Analyzed: 08/05/08

### 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	107	(75-128)	%REC
30	1,1,2-Trichloroethane	ND	0.50	μg/L	65	Surr: Toluene-d8	100	(80-120)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99	(80-120)	%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

1,2-Dibromoethane (EDB)

Tetrachloroethene

34

Roger Scholl Kans

ND

Kandy Soulner

Walter Findens

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

0.50

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μg/L

μg/L

Report Date

Page 1 of 1



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### **VOC Sample Preservation Report**

Work Order: BMI08073040

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН
08073040-02A	MW-23-3	Aqueous	2
08073040-03A	MW-23-2	Aqueous	2
08073040-04 <b>A</b>	MW-23-1	Aqueous	2
08073040-05A	EB-07-07/29/08	Aqueous	2
08073040-06A	TB-07-07/29/08	Aqueous	2

8/12/08



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### **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

Attn: David Conner

Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/30/08

Job#:

G005862/JPL Groundwater Monitoring

Specific Conductance at 25°C EPA Method 120.1 / SM2510B / SW9050A

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	<b>MW-23-3</b> BMI08073040-02A	Specific Conductance (at 25°C)	370	10 μS/cm	07/29/08	07/30/08
Client ID: Lab ID:	<b>MW-23-2</b> BMI08073040-03A	Specific Conductance (at 25°C)	940	10 μS/cm	07/29/08	07/30/08
Client ID: Lab ID:	<b>MW-23-1</b> BMI08073040-04A	Specific Conductance (at 25°C)	1,300	10 μS/cm	07/29/08	07/30/08
Client ID : Lab ID :	<b>EB-07-07/29/08</b> BMI08073040-05A	Specific Conductance (at 25°C)	ND	10 μS/cm	07/29/08	07/30/08

ND = Not Detected

Roger Scholl Kandy Soulman Walter Hirkon

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8/12/08 Report Date

Report Date



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### **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue

Columbus, OH 43201

Attn: David Conner

Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/30/08

Job#: G005862/JPL Groundwater Monitoring

### Perchlorate by Ion Chromatography

EPA Method 314.0

		Parameter	Concentration F	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	<b>MW-23-3</b> BMI08073040-02A	Perchlorate	ND	1.00 μg/L	07/29/08	07/31/08
Client ID: Lab ID:	<b>MW-23-2</b> BMI08073040-03A	Perchlorate	3.77	1.00 μg/L	07/29/08	07/31/08
Client ID:	<b>MW-23-1</b> BMI08073040-04A	Perchlorate	2.16	1.00 μg/L	07/29/08	07/31/08
Client ID: Lab ID:	<b>EB-07-07/29/08</b> BMI08073040-05A	Perchlorate	ND	1.00 µg/L	07/29/08	07/31/08

ND = Not Detected

Roger Scholl Randy Salma Water Hirthur

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8/12/08
Report Date

Report Date



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### **ANALYTICAL REPORT**

Battelle Memorial Institute 505 King Avenue Columbus, OH 43201

Attn: **David Conner** 

Phone: (619) 574-4827 Fax: (614) 458-6641

Date Received: 07/30/08

Job#: G005862/JPL Groundwater Monitoring

> Metals by ICPMS EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: Lab ID:	<b>MW-23-4</b> BMI08073040-01A	Chromium (Cr)	ND	0.0050 mg/L	07/29/08	08/07/08
Client ID: Lab ID:	<b>MW-23-3</b> BMI08073040-02A	Chromium (Cr)	ND	0.0050 mg/L	07/29/08	08/07/08
Client ID: Lab ID:	<b>MW-23-2</b> BMI08073040-03A	Chromium (Cr)	ND	0.0050 mg/L	07/29/08	08/07/08
Client ID: Lab ID:	<b>MW-23-1</b> BMI08073040-04A	Chromium (Cr)	ND	0.0050 mg/L	07/29/08	08/07/08
Client ID : Lab ID :	<b>EB-07-07/29/08</b> BMI08073040-05A	Chromium (Cr)	ND	0.0050 mg/L	07/29/08	08/07/08

ND = Not Detected

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Report Date