



# Alpha Analytical, Inc.

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:  
08073040

### Method Blank

Method Blank		Type	Test Code: EPA Method 200.8							
File ID: 080608.BIA108SMPL.D		MBLK	Batch ID: 20360K							
Sample ID: MB-20360	Units : mg/L	Run ID: ICP/MS_080806F	Analysis Date: 08/07/2008 00:38							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

### Laboratory Control Spike

Laboratory Control Spike		Type	Test Code: EPA Method 200.8							
File ID: 080608.B\007_LCS.D\		LCS	Batch ID: 20360K							
Sample ID: LCS-20360	Units : mg/L	Run ID: ICP/MS_080806F	Analysis Date: 08/07/2008 11:39							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0579	0.005	0.05		116	80	120			

### Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: EPA Method 200.8							
File ID: 080608.BIA116SMPL.D		MS	Batch ID: 20360K							
Sample ID: 08073040-02AMS	Units : mg/L	Run ID: ICP/MS_080806F	Analysis Date: 08/07/2008 01:24							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0551	0.005	0.05	0	110	80	120			

### Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 200.8							
File ID: 080608.BIA117SMPL.D		MSD	Batch ID: 20360K							
Sample ID: 08073040-02AMSD	Units : mg/L	Run ID: ICP/MS_080806F	Analysis Date: 08/07/2008 01:30							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0539	0.005	0.05	0	108	80	120	0.05507	2.2(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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Date:  
06-Aug-08

## QC Summary Report

Work Order:  
08073040

### Method Blank

Method Blank		Type	Test Code: EPA Method 314.0							
File ID: 14		MBLK	Batch ID: 20339							
Sample ID: MBLK-20339	Units : µg/L		Run ID: IC_3_080731A							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND		1							

### Laboratory Fortified Blank

Laboratory Fortified Blank		Type	Test Code: EPA Method 314.0							
File ID: 15		LFB	Batch ID: 20339							
Sample ID: LFB-20339	Units : µg/L		Run ID: IC_3_080731A							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.2		2	25	97	85	115			

### Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: EPA Method 314.0							
File ID: 46		LFM	Batch ID: 20339							
Sample ID: 08073040-02ALFM	Units : µg/L		Run ID: IC_3_080731A							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.2		2	25	0	89	80	120		

### Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 314.0							
File ID: 47		LFMD	Batch ID: 20339							
Sample ID: 08073040-02ALFMD	Units : µg/L		Run ID: IC_3_080731A							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.3		2	25	0	89	80	120	22.19	0.4(15)

### Comments:

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Date:  
06-Aug-08

## QC Summary Report

Work Order:  
08073040

### Method Blank

File ID:	Type <b>MBLK</b>	Test Code: <b>EPA Method 120.1 / SM2510B / SW9050A</b>	Batch ID: <b>W0730CN</b>	Analysis Date: <b>07/30/2008 00:00</b>						
Sample ID: <b>MBLK-W0730CN</b>	Units : <b>µS/cm</b>	Run ID: <b>WETLAB_080730A</b>	Prep Date: <b>07/30/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Specific Conductance (at 25°C)	ND	10								

### Laboratory Control Spike

File ID:	Type <b>LCS</b>	Test Code: <b>EPA Method 120.1 / SM2510B / SW9050A</b>	Batch ID: <b>W0730CN</b>	Analysis Date: <b>07/30/2008 00:00</b>						
Sample ID: <b>LCS-W0730CN</b>	Units : <b>µS/cm</b>	Run ID: <b>WETLAB_080730A</b>	Prep Date: <b>07/30/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Specific Conductance (at 25°C)	1420	10	1410		101	98	102			

### Comments:

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Date:  
11-Aug-08

## QC Summary Report

Work Order:  
08073040

### Method Blank

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

File ID: **08080506.D**

Batch ID: **MS15W0805K5**

Analysis Date: **08/05/2008 10:26**

Sample ID: **MBLK MS15W0805K**

Units: **µg/L**

Run ID: **MSD\_15\_080805A**

Prep Date: **08/05/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	11.7		10		117	70	130			
Surr: Toluene-d8	9.74		10		97	70	130			



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11-Aug-08

## QC Summary Report

Work Order:  
08073040

Surr: 4-Bromofluorobenzene 9.79 10 98 70 130

### Laboratory Control Spike

Type LCS

Test Code: EPA Method SW8260B

File ID: 08080504.D

Batch ID: MS15W0805K5

Analysis Date: 08/05/2008 09:24

Sample ID: LCS MS15W0805K

Units : µg/L

Run ID: MSD\_15\_080805A

Prep Date: 08/05/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	12	1	10		120	21	160			
Chloromethane	8.45	2	10		85	45	145			
Vinyl chloride	11.4	1	10		114	80	120			
Chloroethane	12.1	1	10		121	53	163			
Bromomethane	13.4	2	10		134	10	180			
Trichlorofluoromethane	16.7	1	10		167	50	160			L51
1,1-Dichloroethene	11.4	1	10		114	80	120			
Dichloromethane	10.2	2	10		102	70	130			
trans-1,2-Dichloroethene	11.2	1	10		112	70	130			
Methyl tert-butyl ether (MTBE)	13.1	0.5	10		131	68	134			
1,1-Dichloroethane	10.4	1	10		104	70	130			
cis-1,2-Dichloroethene	11.6	1	10		116	70	130			
Bromochloromethane	12.4	1	10		124	70	130			
Chloroform	11.3	1	10		113	80	120			
2,2-Dichloropropane	12.4	1	10		124	70	145			
1,2-Dichloroethane	12.9	1	10		129	69	136			
1,1,1-Trichloroethane	13	1	10		130	70	136			
1,1-Dichloropropene	11.8	1	10		118	70	130			
Carbon tetrachloride	13.4	1	10		134	64	150			
Benzene	10.2	0.5	10		102	70	130			
Dibromomethane	13.2	1	10		132	70	134			
1,2-Dichloropropane	10.1	1	10		101	80	120			
Trichloroethene	11.7	1	10		117	70	130			
Bromodichloromethane	13.2	1	10		132	70	134			
cis-1,3-Dichloropropene	10.5	1	10		105	70	130			
trans-1,3-Dichloropropene	11.3	1	10		113	70	130			
1,1,2-Trichloroethane	11.9	1	10		119	70	130			
Toluene	9.53	0.5	10		95	80	120			
1,3-Dichloropropane	10.9	1	10		109	70	130			
Dibromochloromethane	11.6	1	10		116	70	130			
1,2-Dibromoethane (EDB)	24.5	2	20		122	70	130			
Tetrachloroethene	11.2	1	10		112	70	130			
1,1,1,2-Tetrachloroethane	11.9	1	10		119	70	130			
Chlorobenzene	10.3	1	10		103	70	130			
Ethylbenzene	10.5	0.5	10		105	80	120			
m,p-Xylene	11.2	0.5	10		112	70	130			
Bromoform	13.2	1	10		132	70	131			L51
Styrene	10.4	1	10		104	70	130			
o-Xylene	10.3	0.5	10		103	70	130			
1,1,2,2-Tetrachloroethane	9.71	1	10		97	70	130			
1,2,3-Trichloropropane	23.9	2	20		120	70	130			
Isopropylbenzene	10.3	1	10		103	70	131			
Bromobenzene	10.2	1	10		102	70	130			
n-Propylbenzene	10.4	1	10		104	70	130			
4-Chlorotoluene	10.4	1	10		104	70	130			
2-Chlorotoluene	10.1	1	10		101	70	130			
1,3,5-Trimethylbenzene	10.5	1	10		105	70	131			
tert-Butylbenzene	11.2	1	10		112	70	131			
1,2,4-Trimethylbenzene	10.5	1	10		105	70	130			
sec-Butylbenzene	10.6	1	10		106	70	130			
1,3-Dichlorobenzene	9.93	1	10		99	70	130			
1,4-Dichlorobenzene	10	1	10		100	70	130			
4-Isopropyltoluene	10.8	1	10		108	70	133			
1,2-Dichlorobenzene	9.49	1	10		95	70	130			
n-Butylbenzene	10.3	1	10		103	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	55.2	3	50		110	70	130			
1,2,4-Trichlorobenzene	11	2	10		110	67	130			
Naphthalene	11.2	2	10		112	45	153			
Hexachlorobutadiene	23.1	2	20		116	64	133			
1,2,3-Trichlorobenzene	12.2	2	10		122	58	133			
Surr: 1,2-Dichloroethane-d4	10.8		10		108	70	130			
Surr: Toluene-d8	9.25		10		93	70	130			
Surr: 4-Bromofluorobenzene	10.1		10		101	70	130			



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11-Aug-08

## QC Summary Report

Work Order:  
08073040

### Sample Matrix Spike

Type MS

Test Code: EPA Method SW8260B

File ID: 08080507.D

Batch ID: MS15W0805K5

Analysis Date: 08/05/2008 10:48

Sample ID: 08073040-02AMS

Units : µg/L

Run ID: MSD\_15\_080805A

Prep Date: 08/05/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	41.7	2.5	50	0	83	10	160			
Chloromethane	32.2	10	50	0	64	27	145			
Vinyl chloride	42.7	2.5	50	0	85	38	132			
Chloroethane	48.7	2.5	50	0	95	25	163			
Bromomethane	59.8	10	50	0	120	10	180			
Trichlorofluoromethane	71.7	2.5	50	0	143	34	160			
1,1-Dichloroethene	46.3	2.5	50	0	93	51	130			
Dichloromethane	43.6	10	50	0	87	65	130			
trans-1,2-Dichloroethene	47.8	2.5	50	0	96	63	130			
Methyl tert-butyl ether (MTBE)	57.5	1.3	50	0	115	53	151			
1,1-Dichloroethane	45.2	2.5	50	0	90	65	130			
cis-1,2-Dichloroethene	50.3	2.5	50	0	101	70	130			
Bromochloromethane	53.5	2.5	50	0	107	70	130			
Chloroform	50.1	2.5	50	0	100	70	130			
2,2-Dichloropropane	54.8	2.5	50	0	110	40	146			
1,2-Dichloroethane	57.5	2.5	50	0	115	66	136			
1,1,1-Trichloroethane	55.7	2.5	50	0	111	59	136			
1,1-Dichloropropene	49.6	2.5	50	0	99	59	130			
Carbon tetrachloride	58.2	2.5	50	0	116	44	150			
Benzene	44.4	1.3	50	0	89	69	130			
Dibromomethane	57.2	2.5	50	0	114	70	134			
1,2-Dichloropropane	44.5	2.5	50	0	89	69	130			
Trichloroethene	48.5	2.5	50	0	97	64	130			
Bromodichloromethane	58.1	2.5	50	0	116	70	134			
cis-1,3-Dichloropropene	44.6	2.5	50	0	89	66	130			
trans-1,3-Dichloropropene	48.1	2.5	50	0	96	67	130			
1,1,2-Trichloroethane	51.5	2.5	50	0	103	70	130			
Toluene	40.7	1.3	50	0	81	65	130			
1,3-Dichloropropane	47	2.5	50	0	94	70	130			
Dibromochloromethane	50.7	2.5	50	0	101	70	130			
1,2-Dibromoethane (EDB)	104	10	100	0	104	70	130			
Tetrachloroethene	46.5	2.5	50	0	93	54	130			
1,1,1,2-Tetrachloroethane	51.5	2.5	50	0	103	70	130			
Chlorobenzene	44.6	2.5	50	0	89	70	130			
Ethylbenzene	44.8	1.3	50	0	90	67	130			
m,p-Xylene	47.5	1.3	50	0	95	67	130			
Bromoform	57.7	2.5	50	0	115	68	131			
Styrene	45.4	2.5	50	0	91	62	130			
o-Xylene	44.7	1.3	50	0	89	70	130			
1,1,2,2-Tetrachloroethane	42.9	2.5	50	0	86	70	130			
1,2,3-Trichloropropane	103	10	100	0	103	70	130			
Isopropylbenzene	43.5	2.5	50	0	87	59	131			
Bromobenzene	43.9	2.5	50	0	88	70	130			
n-Propylbenzene	42.9	2.5	50	0	86	61	130			
4-Chlorotoluene	44.4	2.5	50	0	89	70	130			
2-Chlorotoluene	44	2.5	50	0	88	68	130			
1,3,5-Trimethylbenzene	44.7	2.5	50	0	89	64	131			
tert-Butylbenzene	47.4	2.5	50	0	95	58	130			
1,2,4-Trimethylbenzene	44.9	2.5	50	0	90	59	133			
sec-Butylbenzene	44	2.5	50	0	88	59	130			
1,3-Dichlorobenzene	43.2	2.5	50	0	86	70	130			
1,4-Dichlorobenzene	43.1	2.5	50	0	86	70	130			
4-Isopropyltoluene	45	2.5	50	0	90	62	133			
1,2-Dichlorobenzene	41	2.5	50	0	82	70	130			
n-Butylbenzene	44.1	2.5	50	0	88	58	131			
1,2-Dibromo-3-chloropropane (DBCP)	236	15	250	0	95	70	130			
1,2,4-Trichlorobenzene	45.2	10	50	0	90	67	130			
Naphthalene	43.7	10	50	0	87	45	155			
Hexachlorobutadiene	96.3	10	100	0	96	51	133			
1,2,3-Trichlorobenzene	48.3	10	50	0	97	58	133			
Surr: 1,2-Dichloroethane-d4	52.8		50		106	70	130			
Surr: Toluene-d8	45.9		50		92	70	130			
Surr: 4-Bromofluorobenzene	49.4		50		99	70	130			



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Date:  
11-Aug-08

## QC Summary Report

Work Order:  
08073040

### Sample Matrix Spike Duplicate

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

File ID: **08080508.D**

Batch ID: **MS15W0805K5**

Analysis Date: **08/05/2008 11:10**

Sample ID: **08073040-02AMSD**

Units : **µg/L**

Run ID: **MSD\_15\_080805A**

Prep Date: **08/05/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	39.2	2.5	50	0	78	10	160	41.72	6.2(	
Chloromethane	33.5	10	50	0	67	27	145	32.22	4.0(	
Vinyl chloride	42.7	2.5	50	0	85	38	132	42.67	0.0(	
Chloroethane	47.9	2.5	50	0	93	25	163	48.67	1.6(	
Bromomethane	66	10	50	0	132	10	180	59.79	9.8(	
Trichlorofluoromethane	64.8	2.5	50	0	130	34	160	71.73	10.1(	
1,1-Dichloroethene	44.1	2.5	50	0	88	51	130	46.26	4.8(	
Dichloromethane	44.5	10	50	0	89	65	130	43.62	1.9(	
trans-1,2-Dichloroethene	47.3	2.5	50	0	95	63	130	47.79	0.9(	
Methyl tert-butyl ether (MTBE)	60.7	1.3	50	0	121	53	151	57.52	5.4(	
1,1-Dichloroethane	44.9	2.5	50	0	90	65	130	45.15	0.6(	
cis-1,2-Dichloroethene	51.2	2.5	50	0	102	70	130	50.32	1.7(	
Bromochloromethane	57.4	2.5	50	0	115	70	130	53.5	7.0(	
Chloroform	49.8	2.5	50	0	100	70	130	50.11	0.7(	
2,2-Dichloropropane	52.2	2.5	50	0	104	40	146	54.78	4.9(	
1,2-Dichloroethane	59.2	2.5	50	0	118	66	136	57.53	2.8(	
1,1,1-Trichloroethane	53.2	2.5	50	0	106	59	136	55.68	4.5(	
1,1-Dichloropropene	48.8	2.5	50	0	98	59	130	49.57	1.6(	
Carbon tetrachloride	54.8	2.5	50	0	110	44	150	58.15	6.0(	
Benzene	44.2	1.3	50	0	88	69	130	44.4	0.4(	
Dibromomethane	60.6	2.5	50	0	121	70	134	57.24	5.7(	
1,2-Dichloropropane	45.6	2.5	50	0	91	69	130	44.52	2.3(	
Trichloroethene	48	2.5	50	0	96	64	130	48.47	0.9(	
Bromodichloromethane	58.2	2.5	50	0	116	70	134	58.11	0.2(	
cis-1,3-Dichloropropene	45.6	2.5	50	0	91	66	130	44.55	2.3(	
trans-1,3-Dichloropropene	50.1	2.5	50	0	100	67	130	48.11	4.0(	
1,1,2-Trichloroethane	53.7	2.5	50	0	107	70	130	51.45	4.3(	
Toluene	40.7	1.3	50	0	81	65	130	40.71	0.1(	
1,3-Dichloropropane	49.1	2.5	50	0	98	70	130	47.02	4.3(	
Dibromochloromethane	52.1	2.5	50	0	104	70	130	50.67	2.8(	
1,2-Dibromoethane (EDB)	110	10	100	0	110	70	130	103.7	5.8(	
Tetrachloroethene	45.8	2.5	50	0	92	54	130	46.5	1.5(	
1,1,1,2-Tetrachloroethane	52.4	2.5	50	0	105	70	130	51.51	1.8(	
Chlorobenzene	45.1	2.5	50	0	90	70	130	44.55	1.3(	
Ethylbenzene	43.8	1.3	50	0	88	67	130	44.8	2.2(	
m,p-Xylene	47	1.3	50	0	94	67	130	47.53	1.1(	
Bromoform	60.3	2.5	50	0	121	68	131	57.68	4.5(	
Styrene	46.1	2.5	50	0	92	62	130	45.43	1.4(	
o-Xylene	44.7	1.3	50	0	89	70	130	44.71	0.0(	
1,1,2,2-Tetrachloroethane	45.3	2.5	50	0	91	70	130	42.92	5.3(	
1,2,3-Trichloropropane	106	10	100	0	106	70	130	102.5	3.7(	
Isopropylbenzene	43.3	2.5	50	0	87	59	131	43.48	0.4(	
Bromobenzene	45.8	2.5	50	0	92	70	130	43.91	4.2(	
n-Propylbenzene	43.1	2.5	50	0	86	61	130	42.93	0.4(	
4-Chlorotoluene	45.1	2.5	50	0	90	70	130	44.36	1.7(	
2-Chlorotoluene	44.6	2.5	50	0	89	68	130	43.98	1.4(	
1,3,5-Trimethylbenzene	44.8	2.5	50	0	90	64	131	44.66	0.4(	
tert-Butylbenzene	47.3	2.5	50	0	95	58	130	47.43	0.3(	
1,2,4-Trimethylbenzene	45.6	2.5	50	0	91	59	133	44.92	1.5(	
sec-Butylbenzene	44.1	2.5	50	0	88	59	130	43.98	0.3(	
1,3-Dichlorobenzene	44.8	2.5	50	0	90	70	130	43.23	3.5(	
1,4-Dichlorobenzene	45	2.5	50	0	90	70	130	43.08	4.3(	
4-Isopropyltoluene	45.2	2.5	50	0	90	62	133	45	0.4(	
1,2-Dichlorobenzene	43.3	2.5	50	0	87	70	130	40.95	5.7(	
n-Butylbenzene	43.9	2.5	50	0	88	58	131	44.05	0.3(	
1,2-Dibromo-3-chloropropane (DBCP)	250	15	250	0	99.9	70	130	236.5	5.4(	
1,2,4-Trichlorobenzene	48.9	10	50	0	98	67	130	45.23	7.9(	
Naphthalene	48.2	10	50	0	96	45	155	43.71	9.8(	
Hexachlorobutadiene	101	10	100	0	101	51	133	96.3	4.3(	
1,2,3-Trichlorobenzene	53	10	50	0	106	58	133	48.31	9.3(	
Surr: 1,2-Dichloroethane-d4	52.3		50		105	70	130			
Surr: Toluene-d8	46.1		50		92	70	130			
Surr: 4-Bromofluorobenzene	50.3		50		101	70	130			



# *Alpha Analytical, Inc.*

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

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

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**Date:**

*11-Aug-08*

## QC Summary Report

**Work Order:**

08073040

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**Comments:**

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

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



AMENDED

Billing Information :

Battelle  
505 King Avenue

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

CA

WorkOrder : BMI08073040

Report Due By : 5:00 PM On : 13-Aug-08

Client: Battelle Memorial Institute  
505 King Avenue

Report Attention: Phone Number: (619) 574-4827 x  
David Corner Email Address: cornerd@battelle.org

EDD Required : Yes

Sampled by : Client

Cooler Temp 4 °C

Samples Received 30-Jul-08

Date Printed 31-Jul-08

PO : Columbus, OH 43201

Client's COC # : 026286

Job : G005862/JPL Groundwater Monitoring

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

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles			Requested Tests						Sample Remarks			
			Alpha	Sub	TAT	314_W	CONDUCTI VITY	METALS_D W	VOC_TIC_W	VOC_W					
BMI08073040-01A	MW-23-4	07/29/08 07:56	1	0	10			Cr							
BMI08073040-02A	MW-23-3	07/29/08 08:45	10	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					MS/MSD
BMI08073040-03A	MW-23-2	07/29/08 09:34	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI08073040-04A	MW-23-1	07/29/08 10:01	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI08073040-05A	EB-07-07/29/08	07/29/08 09:24	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria					
BMI08073040-06A	TB-07-07/29/08	07/29/08 00:00	1	0	10				VOC by 524 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. Amended 7/31/08 13:46 to add TICs per project requirements. TP.

Logged in by: Tasha Pasca Signature: Tasha Pasca Print Name: Tasha Pasca  
 Company: Alpha Analytical, Inc. Date/Time: 7/31/08 1405

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

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

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

Billing Information :

Battelle  
505 King Avenue

Columbus, OH 43201

Client:

Battelle Memorial Institute  
505 King Avenue

Columbus, OH 43201

PO :

Client's COC # : 026286

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

# CHAIN-OF-CUSTODY RECORD

## Alpha Analytical, Inc.

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

# CA

WorkOrder : BMI08073040

Report Due By : 5:00 PM On : 13-Aug-08

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  
4 °C 30-Jul-08 30-Jul-08

Job : G005862/JPL Groundwater Monitoring

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles			Requested Tests				Sample Remarks	
			Alpha	Sub	TAT	314_W	CONDUCTI VITY	METALS_D W	VOC_W		
BMI08073040-01A	MW-23-4	AQ 07/29/08 07:56	1	0	10						
BMI08073040-02A	MW-23-3	AQ 07/29/08 08:45	10	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria		MS/MSD
BMI08073040-03A	MW-23-2	AQ 07/29/08 09:34	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria		
BMI08073040-04A	MW-23-1	AQ 07/29/08 10:01	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria		
BMI08073040-05A	EB-07-07/29/08	AQ 07/29/08 09:24	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria		
BMI08073040-06A	TB-07-07/29/08	AQ 07/29/08 00:00	1	0	10				VOC by 524 Criteria		RENO TRIP BLANK 6/22/08

Comments : No security seals, Frozen ice, Client provided Temp Blank rec'd @ 4° Level IV OC.

Logged in by: Paul Signature: [Signature] Print Name: Tasha Pascal Company: Alpha Analytical, Inc. Date/Time: 7/30/08 10:00

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





# Alpha Analytical, Inc.

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

Date: 12-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: BMI08073120

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
08073120-01A	MW-11-4	Aqueous
08073120-02A	MW-11-3	Aqueous
08073120-03A	MW-11-2	Aqueous
08073120-04A	MW-11-1	Aqueous
08073120-05A	DUPE-06-3Q08	Aqueous
08073120-06A	MW-22-3	Aqueous
08073120-07A	MW-22-2	Aqueous
08073120-08A	MW-22-1	Aqueous
08073120-09A	EB-08-07/30/08	Aqueous
08073120-10A	TB-08-07/30/08	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*

*Randy Gardner*

*Walter Hinchman*

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

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

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



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
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: <b>MW-11-4</b> Lab ID: BMI08073120-01A	Sulfur dioxide	5.9	2.0 µg/L	07/31/08	07/30/08	08/05/08
Client ID: <b>MW-11-3</b> Lab ID: BMI08073120-02A	Sulfur dioxide	5.3	2.0 µg/L	07/31/08	07/30/08	08/05/08
Client ID: <b>MW-11-2</b> Lab ID: BMI08073120-03A	Sulfur dioxide	3.4	2.0 µg/L	07/31/08	07/30/08	08/05/08
Client ID: <b>MW-11-1</b> Lab ID: BMI08073120-04A	Sulfur dioxide	2.3	2.0 µg/L	07/31/08	07/30/08	08/05/08
Client ID: <b>DUPE-06-3Q08</b> Lab ID: BMI08073120-05A	Sulfur dioxide	8.3	2.0 µg/L	07/31/08	07/30/08	08/05/08
Client ID: <b>MW-22-3</b> Lab ID: BMI08073120-06A	*** None Found ***	ND	2.0 µg/L	07/31/08	07/30/08	08/05/08
Client ID: <b>MW-22-2</b> Lab ID: BMI08073120-07A	*** None Found ***	ND	2.0 µg/L	07/31/08	07/30/08	08/05/08
Client ID: <b>MW-22-1</b> Lab ID: BMI08073120-08A	*** None Found ***	ND	2.0 µg/L	07/31/08	07/30/08	08/05/08
Client ID: <b>EB-08-07/30/08</b> Lab ID: BMI08073120-09A	*** None Found ***	ND	2.0 µg/L	07/31/08	07/30/08	08/05/08
Client ID: <b>TB-08-07/30/08</b> Lab ID: BMI08073120-10A	*** None Found ***	ND	2.0 µg/L	07/31/08	07/30/08	08/05/08

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

8/13/08

Report Date

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

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08073120-01A  
Client I.D. Number: MW-11-4

Sampled: 07/30/08  
Received: 07/31/08  
Analyzed: 08/05/08

### 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	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	120	(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	105	(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 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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8/13/08

Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08073120-02A  
Client I.D. Number: MW-11-3

Sampled: 07/30/08  
Received: 07/31/08  
Analyzed: 08/05/08

### 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	1.0 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	119	(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	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 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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8/13/08

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08073120-03A  
Client I.D. Number: MW-11-2

Sampled: 07/30/08  
Received: 07/31/08  
Analyzed: 08/05/08

### 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-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	123	(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	99	(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

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08073120-04A  
Client I.D. Number: MW-11-1

Sampled: 07/30/08  
Received: 07/31/08  
Analyzed: 08/05/08

### 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-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	124	(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	100	(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

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08073120-05A  
Client I.D. Number: DUPE-06-3Q08

Sampled: 07/30/08  
Received: 07/31/08  
Analyzed: 08/05/08

### 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-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	1.0 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	122	(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	104	(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

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08073120-06A  
Client I.D. Number: MW-22-3

Sampled: 07/30/08  
Received: 07/31/08  
Analyzed: 08/05/08

### 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-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	121	(75-128) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(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			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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# Alpha Analytical, Inc.

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## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08073120-07A  
Client I.D. Number: MW-22-2

Sampled: 07/30/08  
Received: 07/31/08  
Analyzed: 08/05/08

### 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	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	123	(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	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 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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8/13/08

Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08073120-08A  
Client I.D. Number: MW-22-1

Sampled: 07/30/08  
Received: 07/31/08  
Analyzed: 08/05/08

### 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	1.0 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	121	(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	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			
35 Tetrachloroethene	1.0	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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8/13/08

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08073120-09A  
Client I.D. Number: EB-08-07/30/08

Sampled: 07/30/08  
Received: 07/31/08  
Analyzed: 08/05/08

### 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	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-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	111	(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	100	(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 L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08073120-10A  
Client I.D. Number: TB-08-07/30/08

Sampled: 07/30/08  
Received: 07/31/08  
Analyzed: 08/05/08

### 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	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	111	(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	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 L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer

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# Alpha Analytical, Inc.

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

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

## VOC Sample Preservation Report

**Work Order:** BMI08073120

**Project:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
08073120-01A	MW-11-4	Aqueous	2
08073120-02A	MW-11-3	Aqueous	2
08073120-03A	MW-11-2	Aqueous	2
08073120-04A	MW-11-1	Aqueous	2
08073120-05A	DUPE-06-3Q08	Aqueous	2
08073120-06A	MW-22-3	Aqueous	2
08073120-07A	MW-22-2	Aqueous	2
08073120-08A	MW-22-1	Aqueous	2
08073120-09A	EB-08-07/30/08	Aqueous	2
08073120-10A	TB-08-07/30/08	Aqueous	2

**8/13/08**  
**Report Date**





# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 07/31/08

Job#: G005862/JPL Groundwater Monitoring

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

Client ID	Lab ID	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-11-4</b>	Lab ID : BMI08073120-01A	Specific Conductance (at 25°C)	220	10 µS/cm	07/30/08	07/31/08
Client ID : <b>MW-11-3</b>	Lab ID : BMI08073120-02A	Specific Conductance (at 25°C)	400	10 µS/cm	07/30/08	07/31/08
Client ID : <b>MW-11-2</b>	Lab ID : BMI08073120-03A	Specific Conductance (at 25°C)	440	10 µS/cm	07/30/08	07/31/08
Client ID : <b>MW-11-1</b>	Lab ID : BMI08073120-04A	Specific Conductance (at 25°C)	560	10 µS/cm	07/30/08	07/31/08
Client ID : <b>DUPE-06-3Q08</b>	Lab ID : BMI08073120-05A	Specific Conductance (at 25°C)	220	10 µS/cm	07/30/08	07/31/08
Client ID : <b>MW-22-3</b>	Lab ID : BMI08073120-06A	Specific Conductance (at 25°C)	640	10 µS/cm	07/30/08	07/31/08
Client ID : <b>MW-22-2</b>	Lab ID : BMI08073120-07A	Specific Conductance (at 25°C)	560	10 µS/cm	07/30/08	07/31/08
Client ID : <b>MW-22-1</b>	Lab ID : BMI08073120-08A	Specific Conductance (at 25°C)	1,200	10 µS/cm	07/30/08	07/31/08
Client ID : <b>EB-08-07/30/08</b>	Lab ID : BMI08073120-09A	Specific Conductance (at 25°C)	ND	10 µS/cm	07/30/08	07/31/08

ND = Not Detected

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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 : 07/31/08

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-11-4</b> Lab ID : BMI08073120-01A	Perchlorate	ND	2.00 µg/L	07/30/08 07/31/08
Client ID : <b>MW-11-3</b> Lab ID : BMI08073120-02A	Perchlorate	ND	2.00 µg/L	07/30/08 07/31/08
Client ID : <b>MW-11-2</b> Lab ID : BMI08073120-03A	Perchlorate	ND	2.00 µg/L	07/30/08 07/31/08
Client ID : <b>MW-11-1</b> Lab ID : BMI08073120-04A	Perchlorate	ND	2.00 µg/L	07/30/08 07/31/08
Client ID : <b>DUPE-06-3Q08</b> Lab ID : BMI08073120-05A	Perchlorate	ND	2.00 µg/L	07/30/08 07/31/08
Client ID : <b>MW-22-3</b> Lab ID : BMI08073120-06A	Perchlorate	2.28	2.00 µg/L	07/30/08 07/31/08
Client ID : <b>MW-22-2</b> Lab ID : BMI08073120-07A	Perchlorate	ND	2.00 µg/L	07/30/08 07/31/08
Client ID : <b>MW-22-1</b> Lab ID : BMI08073120-08A	Perchlorate	2.07	2.00 µg/L	07/30/08 07/31/08
Client ID : <b>EB-08-07/30/08</b> Lab ID : BMI08073120-09A	Perchlorate	ND	2.00 µg/L	07/30/08 07/31/08

ND = Not Detected

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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 : 07/31/08

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-11-3</b> Lab ID : BMI08073120-02A Chromium (Cr)	ND	0.0050 mg/L	07/30/08	08/07/08
Client ID : <b>MW-11-2</b> Lab ID : BMI08073120-03A Chromium (Cr)	ND	0.0050 mg/L	07/30/08	08/07/08
Client ID : <b>MW-11-1</b> Lab ID : BMI08073120-04A Chromium (Cr)	ND	0.0050 mg/L	07/30/08	08/07/08
Client ID : <b>MW-22-3</b> Lab ID : BMI08073120-06A Chromium (Cr)	ND	0.0050 mg/L	07/30/08	08/07/08
Client ID : <b>MW-22-2</b> Lab ID : BMI08073120-07A Chromium (Cr)	ND	0.0050 mg/L	07/30/08	08/07/08
Client ID : <b>MW-22-1</b> Lab ID : BMI08073120-08A Chromium (Cr)	ND	0.0050 mg/L	07/30/08	08/07/08
Client ID : <b>EB-08-07/30/08</b> Lab ID : BMI08073120-09A Chromium (Cr)	ND	0.0050 mg/L	07/30/08	08/07/08

ND = Not Detected

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8/13/08

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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 : 07/31/08

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-11-1	Nitrite (NO <sub>2</sub> ) - N	ND	0.25 mg/L	07/30/08 13:34	07/31/08 12:38
Lab ID : BMI08073120-04A	Nitrate (NO <sub>3</sub> ) - N	1.2	0.25 mg/L	07/30/08 13:34	07/31/08 12:38
	Phosphate, ortho - P	ND	0.25 mg/L	07/30/08 13:34	07/31/08 12:38

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.

8/13/08

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 07/31/08

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-11-1				
Lab ID : BMI08073120-04A				
Chloride	26	0.50 mg/L	07/30/08	07/31/08
Sulfate (SO4)	58	0.50 mg/L	07/30/08	07/31/08

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

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

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

8/13/08

Report Date



# Alpha Analytical, Inc.

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

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

Date:  
12-Aug-08

## OC Summary Report

Work Order:  
08073120

### Method Blank

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

File ID: **08080506.D**

Batch ID: **MS15W0805K5**

Analysis Date: **08/05/2008 10:26**

Sample ID: **MBLK MS15W0805K**

Units: **µg/L**

Run ID: **MSD\_15\_080805A**

Prep Date: **08/05/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	11.7		10		117	70	130			
Surr: Toluene-d8	9.74		10		97	70	130			



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

Date:  
12-Aug-08

## OC Summary Report

Work Order:  
08073120

Surr: 4-Bromofluorobenzene 9.79 10 98 70 130

### Laboratory Control Spike

Type LCS

Test Code: EPA Method SW8260B

File ID: 08080504.D

Batch ID: MS15W0805K5

Analysis Date: 08/05/2008 09:24

Sample ID: LCS MS15W0805K

Units: µg/L

Run ID: MSD\_15\_080805A

Prep Date: 08/05/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	12	1	10		120	21	160			
Chloromethane	8.45	2	10		85	45	145			
Vinyl chloride	11.4	1	10		114	80	120			
Chloroethane	12.1	1	10		121	53	163			
Bromomethane	13.4	2	10		134	10	180			
Trichlorofluoromethane	16.7	1	10		167	50	160			L51
1,1-Dichloroethene	11.4	1	10		114	80	120			
Dichloromethane	10.2	2	10		102	70	130			
trans-1,2-Dichloroethene	11.2	1	10		112	70	130			
Methyl tert-butyl ether (MTBE)	13.1	0.5	10		131	68	134			
1,1-Dichloroethane	10.4	1	10		104	70	130			
cis-1,2-Dichloroethene	11.6	1	10		116	70	130			
Bromochloromethane	12.4	1	10		124	70	130			
Chloroform	11.3	1	10		113	80	120			
2,2-Dichloropropane	12.4	1	10		124	70	145			
1,2-Dichloroethane	12.9	1	10		129	69	136			
1,1,1-Trichloroethane	13	1	10		130	70	136			
1,1-Dichloropropene	11.8	1	10		118	70	130			
Carbon tetrachloride	13.4	1	10		134	64	150			
Benzene	10.2	0.5	10		102	70	130			
Dibromomethane	13.2	1	10		132	70	134			
1,2-Dichloropropane	10.1	1	10		101	80	120			
Trichloroethene	11.7	1	10		117	70	130			
Bromodichloromethane	13.2	1	10		132	70	134			
cis-1,3-Dichloropropene	10.5	1	10		105	70	130			
trans-1,3-Dichloropropene	11.3	1	10		113	70	130			
1,1,2-Trichloroethane	11.9	1	10		119	70	130			
Toluene	9.53	0.5	10		95	80	120			
1,3-Dichloropropane	10.9	1	10		109	70	130			
Dibromochloromethane	11.6	1	10		116	70	130			
1,2-Dibromoethane (EDB)	24.5	2	20		122	70	130			
Tetrachloroethene	11.2	1	10		112	70	130			
1,1,1,2-Tetrachloroethane	11.9	1	10		119	70	130			
Chlorobenzene	10.3	1	10		103	70	130			
Ethylbenzene	10.5	0.5	10		105	80	120			
m,p-Xylene	11.2	0.5	10		112	70	130			
Bromoform	13.2	1	10		132	70	131			L51
Styrene	10.4	1	10		104	70	130			
o-Xylene	10.3	0.5	10		103	70	130			
1,1,2,2-Tetrachloroethane	9.71	1	10		97	70	130			
1,2,3-Trichloropropane	23.9	2	20		120	70	130			
Isopropylbenzene	10.3	1	10		103	70	131			
Bromobenzene	10.2	1	10		102	70	130			
n-Propylbenzene	10.4	1	10		104	70	130			
4-Chlorotoluene	10.4	1	10		104	70	130			
2-Chlorotoluene	10.1	1	10		101	70	130			
1,3,5-Trimethylbenzene	10.5	1	10		105	70	131			
tert-Butylbenzene	11.2	1	10		112	70	131			
1,2,4-Trimethylbenzene	10.5	1	10		105	70	130			
sec-Butylbenzene	10.6	1	10		106	70	130			
1,3-Dichlorobenzene	9.93	1	10		99	70	130			
1,4-Dichlorobenzene	10	1	10		100	70	130			
4-Isopropyltoluene	10.8	1	10		108	70	133			
1,2-Dichlorobenzene	9.49	1	10		95	70	130			
n-Butylbenzene	10.3	1	10		103	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	55.2	3	50		110	70	130			
1,2,4-Trichlorobenzene	11	2	10		110	67	130			
Naphthalene	11.2	2	10		112	45	153			
Hexachlorobutadiene	23.1	2	20		116	64	133			
1,2,3-Trichlorobenzene	12.2	2	10		122	58	133			
Surr: 1,2-Dichloroethane-d4	10.8		10		108	70	130			
Surr: Toluene-d8	9.25		10		93	70	130			
Surr: 4-Bromofluorobenzene	10.1		10		101	70	130			



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

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

Date:  
12-Aug-08

## OC Summary Report

Work Order:  
08073120

### Sample Matrix Spike

File ID: 08080509.D

Type MS

Test Code: EPA Method SW8260B

Batch ID: MS15W0805K5

Analysis Date: 08/05/2008 11:33

Sample ID: 08073120-03AMS

Units: µg/L

Run ID: MSD\_15\_080805A

Prep Date: 08/05/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	41.9	2.5	50	0	84	10	160			
Chloromethane	35.9	10	50	0	72	27	145			
Vinyl chloride	45.6	2.5	50	0	91	38	132			
Chloroethane	51.7	2.5	50	0	103	25	163			
Bromomethane	72.1	10	50	0	144	10	180			
Trichlorofluoromethane	68.7	2.5	50	0	137	34	160			
1,1-Dichloroethene	48.6	2.5	50	0	97	51	130			
Dichloromethane	47.3	10	50	0	95	65	130			
trans-1,2-Dichloroethene	51.7	2.5	50	0	103	63	130			
Methyl tert-butyl ether (MTBE)	57.9	1.3	50	0	116	53	151			
1,1-Dichloroethane	48	2.5	50	0	96	65	130			
cis-1,2-Dichloroethene	53.3	2.5	50	0	107	70	130			
Bromochloromethane	56.5	2.5	50	0	113	70	130			
Chloroform	52.3	2.5	50	0	105	70	130			
2,2-Dichloropropane	56	2.5	50	0	112	40	146			
1,2-Dichloroethane	58.5	2.5	50	0	117	66	136			
1,1,1-Trichloroethane	57.5	2.5	50	0	115	59	136			
1,1-Dichloropropene	52.7	2.5	50	0	105	59	130			
Carbon tetrachloride	59.2	2.5	50	0	118	44	150			
Benzene	47.2	1.3	50	0	94	69	130			
Dibromomethane	58.3	2.5	50	0	117	70	134			
1,2-Dichloropropane	47.2	2.5	50	0	94	69	130			
Trichloroethene	51.7	2.5	50	0	103	64	130			
Bromodichloromethane	59.5	2.5	50	0	119	70	134			
cis-1,3-Dichloropropene	46.1	2.5	50	0	92	66	130			
trans-1,3-Dichloropropene	49.3	2.5	50	0	99	67	130			
1,1,2-Trichloroethane	52.1	2.5	50	0	104	70	130			
Toluene	43.5	1.3	50	0	87	65	130			
1,3-Dichloropropane	48.3	2.5	50	0	97	70	130			
Dibromochloromethane	52.8	2.5	50	0	106	70	130			
1,2-Dibromoethane (EDB)	108	10	100	0	108	70	130			
Tetrachloroethene	49.6	2.5	50	0	99	54	130			
1,1,1,2-Tetrachloroethane	53.5	2.5	50	0	107	70	130			
Chlorobenzene	47.3	2.5	50	0	95	70	130			
Ethylbenzene	47.2	1.3	50	0	94	67	130			
m,p-Xylene	49.9	1.3	50	0	99.9	67	130			
Bromoform	57.6	2.5	50	0	115	68	131			
Styrene	48.6	2.5	50	0	97	62	130			
o-Xylene	47	1.3	50	0	94	70	130			
1,1,2,2-Tetrachloroethane	43	2.5	50	0	86	70	130			
1,2,3-Trichloropropane	100	10	100	0	100	70	130			
Isopropylbenzene	47	2.5	50	0	94	59	131			
Bromobenzene	47.6	2.5	50	0	95	70	130			
n-Propylbenzene	46.5	2.5	50	0	93	61	130			
4-Chlorotoluene	47.6	2.5	50	0	95	70	130			
2-Chlorotoluene	47.2	2.5	50	0	94	68	130			
1,3,5-Trimethylbenzene	48.5	2.5	50	0	97	64	131			
tert-Butylbenzene	51	2.5	50	0	102	58	130			
1,2,4-Trimethylbenzene	48.7	2.5	50	0	97	59	133			
sec-Butylbenzene	47.6	2.5	50	0	95	59	130			
1,3-Dichlorobenzene	47.1	2.5	50	0	94	70	130			
1,4-Dichlorobenzene	46.8	2.5	50	0	94	70	130			
4-Isopropyltoluene	49	2.5	50	0	98	62	133			
1,2-Dichlorobenzene	43.7	2.5	50	0	87	70	130			
n-Butylbenzene	47.8	2.5	50	0	96	58	131			
1,2-Dibromo-3-chloropropane (DBCP)	232	15	250	0	93	70	130			
1,2,4-Trichlorobenzene	51.2	10	50	0	102	67	130			
Naphthalene	48.3	10	50	0	97	45	155			
Hexachlorobutadiene	110	10	100	0	110	51	133			
1,2,3-Trichlorobenzene	55.7	10	50	0	111	58	133			
Surr: 1,2-Dichloroethane-d4	49		50		98	70	130			
Surr: Toluene-d8	46.4		50		93	70	130			
Surr: 4-Bromofluorobenzene	50		50		100	70	130			





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Date:  
12-Aug-08

## OC Summary Report

Work Order:  
08073120

### Sample Matrix Spike

File ID: 08080511.D

Sample ID: 08073120-08AMS

Units: µg/L

Type MS

Test Code: EPA Method SW8260B

Batch ID: MS15W0805K5

Analysis Date: 08/05/2008 12:17

Run ID: MSD\_15\_080805A

Prep Date: 08/05/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	41.5	2.5	50	0	83	10	160			
Chloromethane	35.4	10	50	0	71	27	145			
Vinyl chloride	46.8	2.5	50	0	94	38	132			
Chloroethane	50	2.5	50	0	100	25	163			
Bromomethane	72.6	10	50	0	145	10	180			
Trichlorofluoromethane	66	2.5	50	0	132	34	160			
1,1-Dichloroethene	49	2.5	50	0	98	51	130			
Dichloromethane	47.6	10	50	0	95	65	130			
trans-1,2-Dichloroethene	52.1	2.5	50	0	104	63	130			
Methyl tert-butyl ether (MTBE)	59.5	1.3	50	0	119	53	151			
1,1-Dichloroethane	48.2	2.5	50	0	96	65	130			
cis-1,2-Dichloroethene	54.4	2.5	50	0	109	70	130			
Bromochloromethane	58.5	2.5	50	0	117	70	130			
Chloroform	52.1	2.5	50	0	104	70	130			
2,2-Dichloropropane	54.5	2.5	50	0	109	40	146			
1,2-Dichloroethane	57.2	2.5	50	0	114	66	136			
1,1,1-Trichloroethane	56.8	2.5	50	0	114	59	136			
1,1-Dichloropropene	52.3	2.5	50	0	105	59	130			
Carbon tetrachloride	58.2	2.5	50	0	116	44	150			
Benzene	47	1.3	50	0	94	69	130			
Dibromomethane	59.4	2.5	50	0	119	70	134			
1,2-Dichloropropane	47.1	2.5	50	0	94	69	130			
Trichloroethene	52.2	2.5	50	0	104	64	130			
Bromodichloromethane	59.4	2.5	50	0	119	70	134			
cis-1,3-Dichloropropene	47.1	2.5	50	0	94	66	130			
trans-1,3-Dichloropropene	47.7	2.5	50	0	95	67	130			
1,1,2-Trichloroethane	53.3	2.5	50	0	107	70	130			
Toluene	44	1.3	50	0	88	65	130			
1,3-Dichloropropane	49.6	2.5	50	0	99	70	130			
Dibromochloromethane	52.6	2.5	50	0	105	70	130			
1,2-Dibromoethane (EDB)	108	10	100	0	108	70	130			
Tetrachloroethene	51.5	2.5	50	1.03	101	54	130			
1,1,1,2-Tetrachloroethane	54	2.5	50	0	108	70	130			
Chlorobenzene	47.3	2.5	50	0	95	70	130			
Ethylbenzene	47	1.3	50	0	94	67	130			
m,p-Xylene	50.1	1.3	50	0	100	67	130			
Bromoform	58.5	2.5	50	0	117	68	131			
Styrene	47.9	2.5	50	0	96	62	130			
o-Xylene	47.8	1.3	50	0	96	70	130			
1,1,2,2-Tetrachloroethane	43.8	2.5	50	0	88	70	130			
1,2,3-Trichloropropane	101	10	100	0	101	70	130			
Isopropylbenzene	46.9	2.5	50	0	94	59	131			
Bromobenzene	48	2.5	50	0	96	70	130			
n-Propylbenzene	47.2	2.5	50	0	94	61	130			
4-Chlorotoluene	47.8	2.5	50	0	96	70	130			
2-Chlorotoluene	48	2.5	50	0	96	68	130			
1,3,5-Trimethylbenzene	48.3	2.5	50	0	97	64	131			
tert-Butylbenzene	50.9	2.5	50	0	102	58	130			
1,2,4-Trimethylbenzene	48.4	2.5	50	0	97	59	133			
sec-Butylbenzene	47.5	2.5	50	0	95	59	130			
1,3-Dichlorobenzene	46.9	2.5	50	0	94	70	130			
1,4-Dichlorobenzene	47	2.5	50	0	94	70	130			
4-Isopropyltoluene	49.1	2.5	50	0	98	62	133			
1,2-Dichlorobenzene	44.2	2.5	50	0	88	70	130			
n-Butylbenzene	47.1	2.5	50	0	94	58	131			
1,2-Dibromo-3-chloropropane (DBCP)	231	15	250	0	92	70	130			
1,2,4-Trichlorobenzene	51.5	10	50	0	103	67	130			
Naphthalene	48	10	50	0	96	45	155			
Hexachlorobutadiene	108	10	100	0	108	51	133			
1,2,3-Trichlorobenzene	54.4	10	50	0	109	58	133			
Fluorobenzene	10	0	50	0	20	50	200			
Chlorobenzene-d5	10	0	50	0	20	50	200			
1,2-Dichlorobenzene-d4	10	0	50	0	20	50	200			
Surr: 1,2-Dichloroethane-d4	49.7		50		99	70	130			
Surr: Toluene-d8	46.7		50		93	70	130			



# Alpha Analytical, Inc.

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

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

Date:  
12-Aug-08

## OC Summary Report

Work Order:  
08073120

Surr: 4-Bromofluorobenzene 49.7 50 99 70 130

### Sample Matrix Spike Duplicate

Type MSD Test Code: EPA Method SW8260B

File ID: 08080510.D

Batch ID: MS15W0805K5

Analysis Date: 08/05/2008 11:55

Sample ID: 08073120-03AMSD

Units: µg/L

Run ID: MSD\_15\_080805A

Prep Date: 08/05/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	35.6	2.5	50	0	71	10	160	41.87	16.3(0)	
Chloromethane	35.5	10	50	0	71	27	145	35.91	1.2(0)	
Vinyl chloride	40.6	2.5	50	0	81	38	132	45.61	11.7(0)	
Chloroethane	46.9	2.5	50	0	94	25	163	51.74	9.8(0)	
Bromomethane	67.7	10	50	0	135	10	180	72.11	6.4(0)	
Trichlorofluoromethane	57.4	2.5	50	0	115	34	160	68.68	18.0(0)	
1,1-Dichloroethene	41.8	2.5	50	0	84	51	130	48.6	15.1(0)	
Dichloromethane	44.5	10	50	0	89	65	130	47.29	6.0(0)	
trans-1,2-Dichloroethene	47	2.5	50	0	94	63	130	51.66	9.5(0)	
Methyl tert-butyl ether (MTBE)	57.2	1.3	50	0	114	53	151	57.92	1.2(0)	
1,1-Dichloroethane	44.5	2.5	50	0	89	65	130	48.01	7.7(0)	
cis-1,2-Dichloroethene	51	2.5	50	0	102	70	130	53.28	4.4(0)	
Bromochloromethane	54.6	2.5	50	0	109	70	130	56.48	3.4(0)	
Chloroform	49.1	2.5	50	0	98	70	130	52.34	6.5(0)	
2,2-Dichloropropane	49.8	2.5	50	0	99.7	40	146	56.03	11.7(0)	
1,2-Dichloroethane	56	2.5	50	0	112	66	136	58.45	4.4(0)	
1,1,1-Trichloroethane	50.6	2.5	50	0	101	59	136	57.46	12.8(0)	
1,1-Dichloropropene	46.1	2.5	50	0	92	59	130	52.67	13.3(0)	
Carbon tetrachloride	51.1	2.5	50	0	102	44	150	59.22	14.7(0)	
Benzene	43.7	1.3	50	0	87	69	130	47.18	7.8(0)	
Dibromomethane	57.3	2.5	50	0	115	70	134	58.27	1.6(0)	
1,2-Dichloropropane	44.8	2.5	50	0	90	69	130	47.21	5.2(0)	
Trichloroethene	47	2.5	50	0	94	64	130	51.69	9.6(0)	
Bromodichloromethane	56.3	2.5	50	0	113	70	134	59.52	5.5(0)	
cis-1,3-Dichloropropene	44	2.5	50	0	88	66	130	46.13	4.8(0)	
trans-1,3-Dichloropropene	45.4	2.5	50	0	91	67	130	49.31	8.2(0)	
1,1,2-Trichloroethane	50.4	2.5	50	0	101	70	130	52.13	3.5(0)	
Toluene	40.1	1.3	50	0	80	65	130	43.53	8.3(0)	
1,3-Dichloropropane	46.6	2.5	50	0	93	70	130	48.33	3.6(0)	
Dibromochloromethane	50.9	2.5	50	0	102	70	130	52.77	3.7(0)	
1,2-Dibromoethane (EDB)	104	10	100	0	104	70	130	107.7	3.2(0)	
Tetrachloroethene	44.5	2.5	50	0	89	54	130	49.59	10.9(0)	
1,1,1,2-Tetrachloroethane	50.8	2.5	50	0	102	70	130	53.45	5.2(0)	
Chlorobenzene	44.2	2.5	50	0	88	70	130	47.27	6.8(0)	
Ethylbenzene	43	1.3	50	0	86	67	130	47.15	9.3(0)	
m,p-Xylene	46	1.3	50	0	92	67	130	49.94	8.2(0)	
Bromoform	56.8	2.5	50	0	114	68	131	57.59	1.4(0)	
Styrene	45.2	2.5	50	0	90	62	130	48.56	7.1(0)	
o-Xylene	44.1	1.3	50	0	88	70	130	47	6.4(0)	
1,1,2,2-Tetrachloroethane	42.1	2.5	50	0	84	70	130	42.98	2.0(0)	
1,2,3-Trichloropropane	95.9	10	100	0	96	70	130	100.3	4.6(0)	
Isopropylbenzene	42.8	2.5	50	0	86	59	131	46.95	9.2(0)	
Bromobenzene	45.9	2.5	50	0	92	70	130	47.6	3.8(0)	
n-Propylbenzene	42.7	2.5	50	0	85	61	130	46.54	8.7(0)	
4-Chlorotoluene	45.5	2.5	50	0	91	70	130	47.64	4.5(0)	
2-Chlorotoluene	44.8	2.5	50	0	90	68	130	47.19	5.2(0)	
1,3,5-Trimethylbenzene	44.7	2.5	50	0	89	64	131	48.48	8.2(0)	
tert-Butylbenzene	40.9	2.5	50	0	82	58	130	51.01	22.0(0)	
1,2,4-Trimethylbenzene	45.4	2.5	50	0	91	59	133	48.7	7.1(0)	
sec-Butylbenzene	43.5	2.5	50	0	87	59	130	47.57	8.9(0)	
1,3-Dichlorobenzene	44.9	2.5	50	0	90	70	130	47.06	4.8(0)	
1,4-Dichlorobenzene	44.9	2.5	50	0	90	70	130	46.76	4.1(0)	
4-Isopropyltoluene	44.5	2.5	50	0	89	62	133	49.03	9.7(0)	
1,2-Dichlorobenzene	42.8	2.5	50	0	86	70	130	43.73	2.2(0)	
n-Butylbenzene	42.8	2.5	50	0	86	58	131	47.79	11.0(0)	
1,2-Dibromo-3-chloropropane (DBCP)	231	15	250	0	92	70	130	232.1	0.6(0)	
1,2,4-Trichlorobenzene	49.4	10	50	0	99	67	130	51.16	3.6(0)	
Naphthalene	46.4	10	50	0	93	45	155	48.29	3.9(0)	
Hexachlorobutadiene	97.4	10	100	0	97	51	133	110.2	12.4(0)	
1,2,3-Trichlorobenzene	52.4	10	50	0	105	58	133	55.69	6.1(0)	
Surr: 1,2-Dichloroethane-d4	50.5		50		101	70	130			
Surr: Toluene-d8	46.5		50		93	70	130			
Surr: 4-Bromofluorobenzene	51		50		102	70	130			



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Date:  
12-Aug-08

## OC Summary Report

Work Order:  
08073120

### Sample Matrix Spike Duplicate

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

File ID: **08080512.D**

Batch ID: **MS15W0805K5**

Analysis Date: **08/05/2008 12:39**

Sample ID: **08073120-08AMSD**

Units : **µg/L**

Run ID: **MSD\_15\_080805A**

Prep Date: **08/05/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	42.4	2.5	50	0	85	10	160	41.5	2.1()	
Chloromethane	39.8	10	50	0	80	27	145	35.35	11.8()	
Vinyl chloride	48.5	2.5	50	0	97	38	132	46.79	3.6()	
Chloroethane	52.6	2.5	50	0	105	25	163	49.98	5.0()	
Bromomethane	75.9	10	50	0	152	10	180	72.55	4.5()	
Trichlorofluoromethane	67.4	2.5	50	0	135	34	160	65.98	2.1()	
1,1-Dichloroethene	49.9	2.5	50	0	99.7	51	130	48.96	1.8()	
Dichloromethane	48.2	10	50	0	96	65	130	47.6	1.3()	
trans-1,2-Dichloroethene	53.6	2.5	50	0	107	63	130	52.05	3.0()	
Methyl tert-butyl ether (MTBE)	59.7	1.3	50	0	119	53	151	59.53	0.3()	
1,1-Dichloroethane	49	2.5	50	0	98	65	130	48.21	1.6()	
cis-1,2-Dichloroethene	55	2.5	50	0	110	70	130	54.38	1.1()	
Bromochloromethane	59.2	2.5	50	0	118	70	130	58.53	1.2()	
Chloroform	52.8	2.5	50	0	106	70	130	52.13	1.3()	
2,2-Dichloropropane	55.5	2.5	50	0	111	40	146	54.53	1.7()	
1,2-Dichloroethane	58	2.5	50	0	116	66	136	57.23	1.3()	
1,1,1-Trichloroethane	58.2	2.5	50	0	116	59	136	56.8	2.4()	
1,1-Dichloropropene	53.2	2.5	50	0	106	59	130	52.34	1.6()	
Carbon tetrachloride	59.1	2.5	50	0	118	44	150	58.18	1.5()	
Benzene	48.3	1.3	50	0	97	69	130	47	2.7()	
Dibromomethane	59.5	2.5	50	0	119	70	134	59.36	0.3()	
1,2-Dichloropropane	48.6	2.5	50	0	97	69	130	47.1	3.1()	
Trichloroethene	52.6	2.5	50	0	105	64	130	52.19	0.7()	
Bromodichloromethane	60.4	2.5	50	0	121	70	134	59.39	1.6()	
cis-1,3-Dichloropropene	47.8	2.5	50	0	96	66	130	47.07	1.5()	
trans-1,3-Dichloropropene	49.3	2.5	50	0	99	67	130	47.68	3.3()	
1,1,2-Trichloroethane	52.9	2.5	50	0	106	70	130	53.28	0.7()	
Toluene	45.2	1.3	50	0	90	65	130	44.03	2.6()	
1,3-Dichloropropane	49.9	2.5	50	0	99.7	70	130	49.55	0.6()	
Dibromochloromethane	53.5	2.5	50	0	107	70	130	52.59	1.7()	
1,2-Dibromoethane (EDB)	112	10	100	0	112	70	130	108.4	3.0()	
Tetrachloroethene	52.2	2.5	50	1.03	102	54	130	51.47	1.4()	
1,1,1,2-Tetrachloroethane	54.9	2.5	50	0	110	70	130	53.97	1.7()	
Chlorobenzene	48.5	2.5	50	0	97	70	130	47.3	2.4()	
Ethylbenzene	48	1.3	50	0	96	67	130	46.97	2.2()	
m,p-Xylene	51.8	1.3	50	0	104	67	130	50.06	3.3()	
Bromoform	60.1	2.5	50	0	120	68	131	58.52	2.6()	
Styrene	49.2	2.5	50	0	98	62	130	47.94	2.5()	
o-Xylene	49.2	1.3	50	0	98	70	130	47.83	2.8()	
1,1,2,2-Tetrachloroethane	44.3	2.5	50	0	89	70	130	43.81	1.2()	
1,2,3-Trichloropropane	102	10	100	0	102	70	130	100.9	1.6()	
Isopropylbenzene	48	2.5	50	0	96	59	131	46.94	2.2()	
Bromobenzene	47.8	2.5	50	0	96	70	130	47.98	0.4()	
n-Propylbenzene	47.2	2.5	50	0	94	61	130	47.17	0.0()	
4-Chlorotoluene	48.6	2.5	50	0	97	70	130	47.8	1.7()	
2-Chlorotoluene	47.9	2.5	50	0	96	68	130	48.01	0.2()	
1,3,5-Trimethylbenzene	48.4	2.5	50	0	97	64	131	48.3	0.3()	
tert-Butylbenzene	51.7	2.5	50	0	103	58	130	50.9	1.5()	
1,2,4-Trimethylbenzene	48.8	2.5	50	0	98	59	133	48.41	0.8()	
sec-Butylbenzene	49.1	2.5	50	0	98	59	130	47.48	3.4()	
1,3-Dichlorobenzene	47.1	2.5	50	0	94	70	130	46.9	0.4()	
1,4-Dichlorobenzene	47.6	2.5	50	0	95	70	130	46.99	1.3()	
4-Isopropyltoluene	49.4	2.5	50	0	99	62	133	49.12	0.6()	
1,2-Dichlorobenzene	44.7	2.5	50	0	89	70	130	44.19	1.2()	
n-Butylbenzene	47.6	2.5	50	0	95	58	131	47.05	1.2()	
1,2-Dibromo-3-chloropropane (DBCP)	229	15	250	0	92	70	130	230.9	0.9()	
1,2,4-Trichlorobenzene	51.1	10	50	0	102	67	130	51.54	0.9()	
Naphthalene	47.6	10	50	0	95	45	155	47.98	0.8()	
Hexachlorobutadiene	108	10	100	0	108	51	133	108.5	0.1()	
1,2,3-Trichlorobenzene	53.5	10	50	0	107	58	133	54.38	1.7()	
Surr: 1,2-Dichloroethane-d4	49.1		50		98	70	130			
Surr: Toluene-d8	47.4		50		95	70	130			
Surr: 4-Bromofluorobenzene	49.9		50		99.8	70	130			



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**Date:**

*12-Aug-08*

## OC Summary Report

**Work Order:**

08073120

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**Comments:**

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

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



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Date:  
06-Aug-08

## QC Summary Report

Work Order:  
08073120

### Method Blank

Type **MBLK** Test Code: **EPA Method 120.1 / SM2510B / SW9050A**

File ID:			Batch ID: <b>W0731CN</b>	Analysis Date: <b>07/31/2008 00:00</b>						
Sample ID: <b>MBLK-W0731CN</b>	Units : <b>µS/cm</b>	Run ID: <b>WETLAB_080731D</b>	Prep Date: <b>07/31/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Specific Conductance (at 25°C)	ND	10								

### Laboratory Control Spike

Type **LCS** Test Code: **EPA Method 120.1 / SM2510B / SW9050A**

File ID:			Batch ID: <b>W0731CN</b>	Analysis Date: <b>07/31/2008 00:00</b>						
Sample ID: <b>LCS-W0731CN</b>	Units : <b>µS/cm</b>	Run ID: <b>WETLAB_080731D</b>	Prep Date: <b>07/31/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Specific Conductance (at 25°C)	1400	10	1410		99	98	102			

### Comments:

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Date:  
06-Aug-08

## OC Summary Report

Work Order:  
08073120

### Method Blank

Method Blank		Type	Test Code: EPA Method 314.0							
File ID: 14		MBLK	Batch ID: 20339					Analysis Date: 07/31/2008 11:45		
Sample ID: MBLK-20339	Units : µg/L		Run ID: IC_3_080731A					Prep Date: 07/31/2008		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND		2							

### Laboratory Fortified Blank

Laboratory Fortified Blank		Type	Test Code: EPA Method 314.0							
File ID: 15		LFB	Batch ID: 20339					Analysis Date: 07/31/2008 12:04		
Sample ID: LFB-20339	Units : µg/L		Run ID: IC_3_080731A					Prep Date: 07/31/2008		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.2		2	25	97	85	115			

### Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: EPA Method 314.0							
File ID: 46		LFM	Batch ID: 20339					Analysis Date: 07/31/2008 21:34		
Sample ID: 08073040-02ALFM	Units : µg/L		Run ID: IC_3_080731A					Prep Date: 07/31/2008		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.2		2	25	0	89	80	120		

### Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 314.0							
File ID: 47		LFMD	Batch ID: 20339					Analysis Date: 07/31/2008 21:53		
Sample ID: 08073040-02ALFMD	Units : µg/L		Run ID: IC_3_080731A					Prep Date: 07/31/2008		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.3		2	25	0	89	80	120	22.19	0.4(15)

### Comments:

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Date:  
13-Aug-08

## QC Summary Report

Work Order:  
08073120

### Method Blank

File ID: 080608.BVA108SMPL.D	Type <b>MBLK</b>	Test Code: <b>EPA Method 200.8</b>	Batch ID: <b>20360K</b>	Analysis Date: <b>08/07/2008 00:38</b>						
Sample ID: <b>MB-20360</b>	Units : <b>mg/L</b>	Run ID: <b>ICP/MS_080806F</b>	Prep Date: <b>08/04/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

### Laboratory Control Spike

File ID: 080608.BV007_LCS.D\	Type <b>LCS</b>	Test Code: <b>EPA Method 200.8</b>	Batch ID: <b>20360K</b>	Analysis Date: <b>08/07/2008 11:39</b>						
Sample ID: <b>LCS-20360</b>	Units : <b>mg/L</b>	Run ID: <b>ICP/MS_080806F</b>	Prep Date: <b>08/04/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0579	0.005	0.05		116	80	120			

### Sample Matrix Spike

File ID: 080608.BVA116SMPL.D	Type <b>MS</b>	Test Code: <b>EPA Method 200.8</b>	Batch ID: <b>20360K</b>	Analysis Date: <b>08/07/2008 01:24</b>						
Sample ID: <b>08073040-02AMS</b>	Units : <b>mg/L</b>	Run ID: <b>ICP/MS_080806F</b>	Prep Date: <b>08/04/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0551	0.005	0.05	0	110	80	120			

### Sample Matrix Spike Duplicate

File ID: 080608.BVA117SMPL.D	Type <b>MSD</b>	Test Code: <b>EPA Method 200.8</b>	Batch ID: <b>20360K</b>	Analysis Date: <b>08/07/2008 01:30</b>						
Sample ID: <b>08073040-02AMSD</b>	Units : <b>mg/L</b>	Run ID: <b>ICP/MS_080806F</b>	Prep Date: <b>08/04/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0539	0.005	0.05	0	108	80	120	0.05507	2.2(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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Date:  
07-Aug-08

## QC Summary Report

Work Order:  
08073120

### Method Blank

Method Blank		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 16		MBLK	Batch ID: 20343A				Analysis Date: 07/31/2008 11:43			
Sample ID: MB-20343	Units : mg/L		Run ID: IC_2_080731A				Prep Date: 07/31/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.25								

### Laboratory Fortified Blank

Laboratory Fortified Blank		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 17		LFB	Batch ID: 20343A				Analysis Date: 07/31/2008 12:01			
Sample ID: LFB-20343	Units : mg/L		Run ID: IC_2_080731A				Prep Date: 07/31/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.15	0.25	1.25		92	90	110			
Nitrate (NO3) - N	1.16	0.25	1.25		93	90	110			
Phosphate, ortho - P	1.13	0.25	1.25		90	90	110			

### Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 25		LFM	Batch ID: 20343A				Analysis Date: 07/31/2008 14:29			
Sample ID: 08073120-04ALFM	Units : mg/L		Run ID: IC_2_080731A				Prep Date: 07/31/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.23	0.25	1.25		0 98	80	120			
Nitrate (NO3) - N	2.36	0.25	1.25	1.16	96	80	120			
Phosphate, ortho - P	1.36	0.25	1.25		0 109	80	120			

### Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 26		LFMD	Batch ID: 20343A				Analysis Date: 07/31/2008 14:48			
Sample ID: 08073120-04ALFMD	Units : mg/L		Run ID: IC_2_080731A				Prep Date: 07/31/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.22	0.25	1.25		0 98	80	120	1.229	0.4(10)	
Nitrate (NO3) - N	2.37	0.25	1.25	1.16	97	80	120	2.362	0.4(10)	
Phosphate, ortho - P	1.36	0.25	1.25		0 109	80	120	1.357	0.0(10)	

### Comments:

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





# Alpha Analytical, Inc.

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

Date:  
07-Aug-08

## QC Summary Report

Work Order:  
08073120

### Method Blank

File ID: 16	Type MBLK	Test Code: EPA Method 300.0 / 9056								
Sample ID: MB-20343	Units : mg/L	Batch ID: 20343B			Analysis Date: 07/31/2008 11:43					
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	ND	0.5								

### Laboratory Fortified Blank

File ID: 17	Type LFB	Test Code: EPA Method 300.0 / 9056								
Sample ID: LFB-20343	Units : mg/L	Batch ID: 20343B			Analysis Date: 07/31/2008 12:01					
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	9.38	0.5	10		94	90	110			

### Sample Matrix Spike

File ID: 25	Type LFM	Test Code: EPA Method 300.0 / 9056								
Sample ID: 08073120-04ALFM	Units : mg/L	Batch ID: 20343B			Analysis Date: 07/31/2008 14:29					
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	67.2	0.5	10	58.43	88	80	120			

### Sample Matrix Spike Duplicate

File ID: 26	Type LFMD	Test Code: EPA Method 300.0 / 9056								
Sample ID: 08073120-04ALFMD	Units : mg/L	Batch ID: 20343B			Analysis Date: 07/31/2008 14:48					
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	69.6	0.5	10	58.43	111	80	120	67.2	3.5(10)	

### Comments:

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



# Alpha Analytical, Inc.

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

Date:  
07-Aug-08

## QC Summary Report

Work Order:  
08073120

### Method Blank

File ID: 16	Type	MBLK	Test Code: EPA Method 300.0 / 9056	Batch ID: 20343C	Analysis Date: 07/31/2008 11:43					
Sample ID: MB-20343	Units : mg/L	Run ID: IC_2_080731A	Prep Date: 07/31/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								

### Laboratory Fortified Blank

File ID: 17	Type	LFB	Test Code: EPA Method 300.0 / 9056	Batch ID: 20343C	Analysis Date: 07/31/2008 12:01					
Sample ID: LFB-20343	Units : mg/L	Run ID: IC_2_080731A	Prep Date: 07/31/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	4.56	0.5	5		91	90	110			

### Sample Matrix Spike

File ID: 25	Type	LFM	Test Code: EPA Method 300.0 / 9056	Batch ID: 20343C	Analysis Date: 07/31/2008 14:29					
Sample ID: 08073120-04ALFM	Units : mg/L	Run ID: IC_2_080731A	Prep Date: 07/31/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	30.6	0.5	5	26.13	89	80	120			

### Sample Matrix Spike Duplicate

File ID: 26	Type	LFMD	Test Code: EPA Method 300.0 / 9056	Batch ID: 20343C	Analysis Date: 07/31/2008 14:48					
Sample ID: 08073120-04ALFMD	Units : mg/L	Run ID: IC_2_080731A	Prep Date: 07/31/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	30.7	0.5	5	26.13	91	80	120	30.58	0.3(10)	

### 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

Columbus, OH 43201

PO : 218017

Client's COC # : 026275

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

**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** (619) 574-4827 x **Email Address** connerd@battelle.org  
David Conner

**CA AMENDED** Page: 1 of 2

WorkOrder : BMI08073120

Report Due By : 5:00 PM On : 14-Aug-08

EDD Required : Yes

Sampled by : Client

Cooler Temp **4 °C** Samples Received **31-Jul-08** Date Printed **31-Jul-08**

Job : G005862/JPL Groundwater Monitoring

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles Alpha Sub	TAT	Requested Tests				Sample Remarks													
					314_W ANIONS(A)_W	ANIONS(B)_W	ANIONS(C)_W	CONDUCTI VITY		METALS_D W	VOC_TIC W	VOC_W										
BMI08073120-01A	MW-11-4	07/30/08 11:20	4	0	10	Perchlorate																
BMI08073120-02A	MW-11-3	07/30/08 11:57	5	0	10	Perchlorate															Level IV QC	
BMI08073120-03A	MW-11-2	07/30/08 12:37	10	0	10	Perchlorate															MS/MSD	
BMI08073120-04A	MW-11-1	07/30/08 13:34	5	0	10	Perchlorate	CLNO2:NO3 PO4:SO4	CLNO2:NO3 PO4:SO4	CLNO2:NO3 PO4:SO4	Perchlorate												NO2 not listed on client chain, logged in per bottle order.
BMI08073120-05A	DUPE-06-3Q08	07/30/08 00:00	4	0	10	Perchlorate																Duplicate
BMI08073120-06A	MW-22-3	07/30/08 08:02	5	0	10	Perchlorate																Level IV QC
BMI08073120-07A	MW-22-2	07/30/08 08:35	5	0	10	Perchlorate																
BMI08073120-08A	MW-22-1	07/30/08 09:16	10	0	10	Perchlorate																MS/MSD. One set of bottles rec'd labeled MW-21-1, sample times match for MW-22-1.

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

Logged in by: *K Murray* Signature *K Murray* Print Name *K Murray* Company Alpha Analytical, Inc. Date/Time 7/31/08 1350

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

**Billing Information :**

Battelle  
505 King Avenue

Columbus, OH 43201

Battelle Memorial Institute  
505 King Avenue

Columbus, OH 43201

PO : 218017

Client's COC # : 026275

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

**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 (619) 574-4827 x connerd@battelle.org  
Phone Number: (619) 574-4827 x  
Email Address: connerd@battelle.org

**CA AMENDED**

WorkOrder : BMI08073120

Report Due By : 5:00 PM On : 14-Aug-08

EDD Required : Yes

Sampled by : Client

Cooler Temp 4 °C Samples Received 31-Jul-08 Date Printed 31-Jul-08

Alpha Sample ID	Client Sample ID	Collection Date	Matrix	No. of Bottles			Requested Tests				Sample Remarks		
				Alpha	Sub	TAT	314 W ANIONS(A) W	ANIONS(B) W	ANIONS(C) W	CONDUCTIVITY		METALS_D W	VOC_TIC W
BMI08073120-09A	EB-08-07/30/08	07/30/08 08:59	AQ	5	0	10	Perchlorate			Cr	VOC by 524 Criteria	VOC by 524 Criteria	Equipment Blank
BMI08073120-10A	TB-08-07/30/08	07/30/08 00:00	AQ	1	0	10	Perchlorate				VOC by 524 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 OC. Amended 7/31/08 13:50 to add workorder note. Samples should be used as the control spike sample if possible. (LE: MS/MSD); and to add TICs due to project requirements. KM.

Logged in by: K Murray Signature: K Murray Print Name: K Murray Company: Alpha Analytical, Inc. Date/Time: 7/31/08 1350

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

**Billing Information :**

Battelle  
505 King Avenue  
Columbus, OH 43201

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

Client: Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

PO : 218017

Client's COC # : 026275

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

**CHAIN-OF-CUSTODY RECORD**

**CA**

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

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

Alpha Analytical, Inc.  
Workorder : BMI08073120  
Report Due By : 5:00 PM On : 14-Aug-08

EDD Required : Yes

Sampled by : Client

Cooler Temp 4 °C Samples Received 31-Jul-08 Date Printed 31-Jul-08

**Requested Tests**

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles Alpha Sub	TAT	314_W ANIONS(A)_W	ANIONS(B)_W	ANIONS(C)_W	CONDUCTI VITY	METALS_D W	VOC_W	Sample Remarks
BMI08073120-01A	MW-11-4	AQ 07/30/08 11:20	4	0	10	Perchlorate				VOC by 524 Criteria	
BMI08073120-02A	MW-11-3	AQ 07/30/08 11:57	5	0	10	Perchlorate				VOC by 524 Criteria	Level IV QC
BMI08073120-03A	MW-11-2	AQ 07/30/08 12:37	10	0	10	Perchlorate				VOC by 524 Criteria	MS/MSD
BMI08073120-04A	MW-11-1	AQ 07/30/08 13:34	5	0	10	Perchlorate	CLNO2,NO3,PO4,S04	CLNO2,NO3,PO4,S04		VOC by 524 Criteria	NO2 not listed on client rec'd labeled in per bottle chain, logged in order.
BMI08073120-05A	DUPE-06-3Q08	AQ 07/30/08 00:00	4	0	10	Perchlorate				VOC by 524 Criteria	Duplicate
BMI08073120-06A	MW-22-3	AQ 07/30/08 08:02	5	0	10	Perchlorate				VOC by 524 Criteria	Level IV QC
BMI08073120-07A	MW-22-2	AQ 07/30/08 08:35	5	0	10	Perchlorate				VOC by 524 Criteria	
BMI08073120-08A	MW-22-1	AQ 07/30/08 09:16	10	0	10	Perchlorate				VOC by 524 Criteria	MS/MSD. One set of bottles rec'd labeled MW-21-1, sample times match for MW-22-1.

Comments: No security seals. Frozen ice. Client provided Temp Blank rec'd @ 4° Level IV QC.

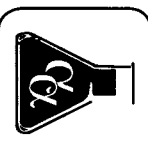
Logged in by: K Murray Signature K Murray Print Name K Murray Company Alpha Analytical, Inc. Date/Time 7/31/08 1040

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



**Billing Information:**

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



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

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

Analyses Required

Required QC Level?  
 I  II  III  IV

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

REMARKS

Client Name	Address	City, State, Zip	PO #	Email Address	Phone #	Fax #	Job #	Matrix* See Key Below	Sampled by	Lab ID Number	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOC (524-2)	TOTAL Cr (200-8)	ClO4-(314.0)	Global ID #	REMARKS
DAVID COVERER	3990 OLD TOWN AVE C-205	SONoma, CA 92110	218017		619-726-7311		6005862	AO		BM108073120-06		MW-22-3				5	X	X	X		QC LEVEL IV
																5	X	X	X		
																10	X	X	X		MS/MSD
																5	X	X	X		Equip Blank
																1	X				TRIP BLANK.

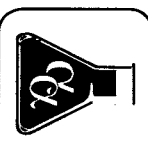
**ADDITIONAL INSTRUCTIONS:**

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	CHASE BRADTON	INSIGHT ETCI	07/30/08	1500
<i>[Signature]</i>	K MURRAY	AAA	7/31/08	0940
Received by				
Relinquished by				
Received by				
Relinquished by				
Received by				
Relinquished by				

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

**Billing Information:**

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



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

**Samples Collected From Which State?** 026275  
 AZ \_\_\_\_\_ CA \_\_\_\_\_ NV \_\_\_\_\_ WA \_\_\_\_\_  
 ID \_\_\_\_\_ OR \_\_\_\_\_ OTHER \_\_\_\_\_  
 Page # 1 of 1

Analyses Required

Client Name DAVID CONNELL P.O. # 218017 Job # C005862  
 Address 3990 OLD TOWN AVE C-205 EMail Address \_\_\_\_\_  
 City, State, Zip SAN DIEGO, CA 92110 Phone # 619-726-7311 Fax # \_\_\_\_\_

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number (Use Only)	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOE (524.2)	TOTAL Cr (200.0)	Cr, NO <sub>3</sub> , SO <sub>4</sub> , NITRATE O-PHOSPHATE (300.0)	Global ID #	REMARKS
1120	7/30/08	AQ		BM108078120-01			MW-11-4	norm		4	X	X			
1157							MW-11-3			5	X	X			QC LEVEL III
1237							MW-11-2			10	X	X			MS/MSD
1334							MW-11-1			5	X	X	X		
							DURE - 06 - 3008			4	X	X			DUPLICATE

**ADDITIONAL INSTRUCTIONS:**

Signature	Print Name	Company	Date	Time
	K. Murray	INSIGHT EECI	07/30/08	1500
	K. Murray	AAI	7/31/08	0940

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





# Alpha Analytical, Inc.

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

**Date:** 13-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:** BMI08080155

**Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
08080155-01A	MW-12-5	Aqueous
08080155-02A	MW-12-4	Aqueous
08080155-03A	MW-12-3	Aqueous
08080155-04A	MW-12-2	Aqueous
08080155-05A	MW-12-1	Aqueous
08080155-06A	DUPE-7-3Q08	Aqueous
08080155-07A	EB-09-7/31/08	Aqueous
08080155-08A	TB-09-7/31/08	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 L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer

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



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 08/01/08

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 : <b>MW-12-5</b> Lab ID : BMI08080155-01A	Specific Conductance (at 25°C)	440	10 µS/cm	07/31/08 08/01/08
Client ID : <b>MW-12-4</b> Lab ID : BMI08080155-02A	Specific Conductance (at 25°C)	490	10 µS/cm	07/31/08 08/01/08
Client ID : <b>MW-12-3</b> Lab ID : BMI08080155-03A	Specific Conductance (at 25°C)	380	10 µS/cm	07/31/08 08/01/08
Client ID : <b>MW-12-2</b> Lab ID : BMI08080155-04A	Specific Conductance (at 25°C)	540	10 µS/cm	07/31/08 08/01/08
Client ID : <b>MW-12-1</b> Lab ID : BMI08080155-05A	Specific Conductance (at 25°C)	550	10 µS/cm	07/31/08 08/01/08
Client ID : <b>DUPE-7-3Q08</b> Lab ID : BMI08080155-06A	Specific Conductance (at 25°C)	540	10 µS/cm	07/31/08 08/01/08
Client ID : <b>EB-09-7/31/08</b> Lab ID : BMI08080155-07A	Specific Conductance (at 25°C)	ND	10 µS/cm	07/31/08 08/01/08

ND = Not Detected

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

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

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

8/14/08

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 08/01/08

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Client ID	Lab ID	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
MW-12-5	BMI08080155-01A	Perchlorate	1.85	1.00 µg/L	07/31/08	08/01/08
MW-12-4	BMI08080155-02A	Perchlorate	2.90	1.00 µg/L	07/31/08	08/01/08
MW-12-3	BMI08080155-03A	Perchlorate	ND	1.00 µg/L	07/31/08	08/01/08
MW-12-2	BMI08080155-04A	Perchlorate	1.66	1.00 µg/L	07/31/08	08/01/08
MW-12-1	BMI08080155-05A	Perchlorate	ND	1.00 µg/L	07/31/08	08/01/08
DUPE-7-3Q08	BMI08080155-06A	Perchlorate	1.74	1.00 µg/L	07/31/08	08/01/08
EB-09-7/31/08	BMI08080155-07A	Perchlorate	ND	1.00 µg/L	07/31/08	08/01/08

ND = Not Detected

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

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

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8/14/08

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 08/01/08

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-12-3</b> Lab ID : BMI08080155-03A Chromium (Cr)	ND	0.0050 mg/L	07/31/08	08/07/08
Client ID : <b>MW-12-2</b> Lab ID : BMI08080155-04A Chromium (Cr)	ND	0.0050 mg/L	07/31/08	08/07/08
Client ID : <b>MW-12-1</b> Lab ID : BMI08080155-05A Chromium (Cr)	ND	0.0050 mg/L	07/31/08	08/07/08
Client ID : <b>DUPE-7-3Q08</b> Lab ID : BMI08080155-06A Chromium (Cr)	ND	0.0050 mg/L	07/31/08	08/07/08
Client ID : <b>EB-09-7/31/08</b> Lab ID : BMI08080155-07A Chromium (Cr)	ND	0.0050 mg/L	07/31/08	08/07/08

ND = Not Detected

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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: <b>MW-12-5</b> Lab ID: BMI08080155-01A	*** None Found ***	ND	2.0 µg/L	08/01/08	07/31/08	08/06/08
Client ID: <b>MW-12-4</b> Lab ID: BMI08080155-02A	*** None Found ***	ND	2.0 µg/L	08/01/08	07/31/08	08/06/08
Client ID: <b>MW-12-3</b> Lab ID: BMI08080155-03A	*** None Found ***	ND	2.0 µg/L	08/01/08	07/31/08	08/06/08
Client ID: <b>MW-12-2</b> Lab ID: BMI08080155-04A	*** None Found ***	ND	2.0 µg/L	08/01/08	07/31/08	08/06/08
Client ID: <b>MW-12-1</b> Lab ID: BMI08080155-05A	*** None Found ***	ND	2.0 µg/L	08/01/08	07/31/08	08/06/08
Client ID: <b>DUPE-7-3Q08</b> Lab ID: BMI08080155-06A	*** None Found ***	ND	2.0 µg/L	08/01/08	07/31/08	08/06/08
Client ID: <b>EB-09-7/31/08</b> Lab ID: BMI08080155-07A	*** None Found ***	ND	2.0 µg/L	08/01/08	07/31/08	08/06/08
Client ID: <b>TB-09-7/31/08</b> Lab ID: BMI08080155-08A	*** None Found ***	ND	2.0 µg/L	08/01/08	07/31/08	08/06/08

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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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

Alpha Analytical Number: BMI08080155-01A  
Client I.D. Number: MW-12-5

Sampled: 07/31/08  
Received: 08/01/08  
Analyzed: 08/06/08

### 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	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	0.97	J* 0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	119	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

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

\*Note: Carbon Tetrachloride failed the method CV criteria of 70-130% at 134%.

ND = Not Detected

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Report Date



# Alpha Analytical, Inc.

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

## 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

Alpha Analytical Number: BMI08080155-02A  
Client I.D. Number: MW-12-4

Sampled: 07/31/08  
Received: 08/01/08  
Analyzed: 08/06/08

### Volatiles Organics by GC/MS

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	0.80	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	1.8	J* 0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	123	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	96	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	99	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

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

\*Note: Carbon Tetrachloride failed the method CV criteria of 70-130% at 134%.

ND = Not Detected

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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

Alpha Analytical Number: BMI08080155-03A  
Client I.D. Number: MW-12-3

Sampled: 07/31/08  
Received: 08/01/08  
Analyzed: 08/06/08

### 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	0.67	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	123	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	95	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	98	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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(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

Alpha Analytical Number: BMI08080155-04A  
Client I.D. Number: MW-12-2

Sampled: 07/31/08  
Received: 08/01/08  
Analyzed: 08/06/08

### 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	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	128	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	94	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	102	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

8/14/08

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Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080155-05A  
Client I.D. Number: MW-12-1

Sampled: 07/31/08  
Received: 08/01/08  
Analyzed: 08/06/08

### 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	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	128	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	96	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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Report Date

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080155-06A  
Client I.D. Number: DUPE-7-3Q08

Sampled: 07/31/08  
Received: 08/01/08  
Analyzed: 08/06/08

### Volatiles Organics by GC/MS

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	129	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	95	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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# Alpha Analytical, Inc.

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

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080155-07A  
Client I.D. Number: EB-09-7/31/08

Sampled: 07/31/08  
Received: 08/01/08  
Analyzed: 08/06/08

### 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	2.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	2.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	2.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	2.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	0.71	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	118	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	2.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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

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*RS*

8/14/08

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(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

Alpha Analytical Number: BMI08080155-08A  
Client I.D. Number: TB-09-7/31/08

Sampled: 07/31/08  
Received: 08/01/08  
Analyzed: 08/06/08

### 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	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	118	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	97	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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# Alpha Analytical, Inc.

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

## VOC Sample Preservation Report

Work Order: BMI08080155

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
08080155-01A	MW-12-5	Aqueous	2
08080155-02A	MW-12-4	Aqueous	2
08080155-03A	MW-12-3	Aqueous	2
08080155-04A	MW-12-2	Aqueous	2
08080155-05A	MW-12-1	Aqueous	2
08080155-06A	DUPE-7-3Q08	Aqueous	2
08080155-07A	EB-09-7/31/08	Aqueous	2
08080155-08A	TB-09-7/31/08	Aqueous	2

8/14/08

Report Date



# Alpha Analytical, Inc.

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

Date:  
13-Aug-08

## OC Summary Report

Work Order:  
08080155

### Method Blank

Type **MBLK** Test Code: **Volatile Organics by GC/MS**

File ID: **08080536.D**

Batch ID: **MS15W0805L5**

Analysis Date: **08/05/2008 21:35**

Sample ID: **MBLK MS15W0805L**

Units: **µg/L**

Run ID: **MSD\_15\_080805C**

Prep Date: **08/05/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	11.4		10		114	70	130			
Surr: Toluene-d8	9.67		10		97	70	130			



# Alpha Analytical, Inc.

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Date:  
13-Aug-08

## QC Summary Report

Work Order:  
08080155

Surr: 4-Bromofluorobenzene 9.77 10 98 70 130

### Laboratory Control Spike

Type LCS

Test Code: Volatile Organics by GC/MS

File ID: 08080533.D

Batch ID: MS15W0805L5

Analysis Date: 08/05/2008 20:28

Sample ID: LCS MS15W0805L

Units : µg/L

Run ID: MSD\_15\_080805C

Prep Date: 08/05/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	10.9	1	10		109	21	160			
Chloromethane	8.29	2	10		83	45	145			
Vinyl chloride	11.2	1	10		112	80	120			
Chloroethane	12.5	1	10		125	53	163			
Bromomethane	13.5	2	10		135	10	180			
Trichlorofluoromethane	16.5	1	10		165	50	160			
1,1-Dichloroethene	11.3	1	10		113	80	120			L51
Dichloromethane	9.87	2	10		99	70	130			
trans-1,2-Dichloroethene	10.9	1	10		109	70	130			
Methyl tert-butyl ether (MTBE)	12.5	0.5	10		125	68	134			
1,1-Dichloroethane	10.3	1	10		103	70	130			
cis-1,2-Dichloroethene	11.5	1	10		115	70	130			
Bromochloromethane	11.9	1	10		119	70	130			
Chloroform	11.2	1	10		112	80	120			
2,2-Dichloropropane	11.3	1	10		113	70	145			
1,2-Dichloroethane	12.4	1	10		124	69	136			
1,1,1-Trichloroethane	13.1	1	10		131	70	136			
1,1-Dichloropropene	11.7	1	10		117	70	130			
Carbon tetrachloride	13.4	1	10		134	64	150			
Benzene	10.2	0.5	10		102	70	130			
Dibromomethane	12.5	1	10		125	70	134			
1,2-Dichloropropane	9.99	1	10		99.9	80	120			
Trichloroethene	12.3	1	10		123	70	130			
Bromodichloromethane	12.9	1	10		129	70	134			
cis-1,3-Dichloropropene	9.88	1	10		99	70	130			
trans-1,3-Dichloropropene	10.5	1	10		105	70	130			
1,1,2-Trichloroethane	11.1	1	10		111	70	130			
Toluene	9.44	0.5	10		94	80	120			
1,3-Dichloropropane	10.2	1	10		102	70	130			
Dibromochloromethane	10.9	1	10		109	70	130			
1,2-Dibromoethane (EDB)	22.5	2	20		112	70	130			
Tetrachloroethene	11	1	10		110	70	130			
1,1,1,2-Tetrachloroethane	11.4	1	10		114	70	130			
Chlorobenzene	9.93	1	10		99	70	130			
Ethylbenzene	10.2	0.5	10		102	80	120			
m,p-Xylene	10.9	0.5	10		109	70	130			
Bromoform	12.2	1	10		122	70	131			
Styrene	10.1	1	10		101	70	130			
o-Xylene	10.2	0.5	10		102	70	130			
1,1,2,2-Tetrachloroethane	8.28	1	10		83	70	130			
1,2,3-Trichloropropane	21.4	2	20		107	70	130			
Isopropylbenzene	10.3	1	10		103	70	131			
Bromobenzene	10	1	10		100	70	130			
n-Propylbenzene	10.3	1	10		103	70	130			
4-Chlorotoluene	10.2	1	10		102	70	130			
2-Chlorotoluene	10.2	1	10		102	70	130			
1,3,5-Trimethylbenzene	10.5	1	10		105	70	131			
tert-Butylbenzene	11.2	1	10		112	70	131			
1,2,4-Trimethylbenzene	10.5	1	10		105	70	130			
sec-Butylbenzene	10.4	1	10		104	70	130			
1,3-Dichlorobenzene	9.84	1	10		98	70	130			
1,4-Dichlorobenzene	9.82	1	10		98	70	130			
4-Isopropyltoluene	10.5	1	10		105	70	133			
1,2-Dichlorobenzene	9.29	1	10		93	70	130			
n-Butylbenzene	10.3	1	10		103	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	50	3	50		99.9	70	130			
1,2,4-Trichlorobenzene	10.2	2	10		102	67	130			
Naphthalene	9.72	2	10		97	45	153			
Hexachlorobutadiene	21.9	2	20		109	64	133			
1,2,3-Trichlorobenzene	10.5	2	10		105	58	133			
Surr: 1,2-Dichloroethane-d4	10.4		10		104	70	130			
Surr: Toluene-d8	9.14		10		91	70	130			
Surr: 4-Bromofluorobenzene	10.1		10		101	70	130			





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Date:  
13-Aug-08

## QC Summary Report

Work Order:  
08080155

### Sample Matrix Spike

Type MS

Test Code: Volatile Organics by GC/MS

File ID: 08080537.D

Batch ID: MS15W0805L5

Analysis Date: 08/05/2008 21:57

Sample ID: 08080103-04AMS

Units : µg/L

Run ID: MSD\_15\_080805C

Prep Date: 08/05/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	45.1	2.5	50	0	90	10	160			
Chloromethane	37.4	10	50	0	75	27	145			
Vinyl chloride	47.5	2.5	50	0	95	38	132			
Chloroethane	55	2.5	50	0	102	25	163			
Bromomethane	68.2	10	50	0	136	10	180			
Trichlorofluoromethane	77.3	2.5	50	0	155	34	160			
1,1-Dichloroethene	51.6	2.5	50	0	103	51	130			
Dichloromethane	48.1	10	50	0	96	65	130			
trans-1,2-Dichloroethene	53	2.5	50	0	106	63	130			
Methyl tert-butyl ether (MTBE)	61.9	1.3	50	0	124	53	151			
1,1-Dichloroethane	49.9	2.5	50	0	99.8	65	130			
cis-1,2-Dichloroethene	55.2	2.5	50	0	110	70	130			
Bromochloromethane	59.8	2.5	50	0	120	70	130			
Chloroform	55.5	2.5	50	0	111	70	130			
2,2-Dichloropropane	50.4	2.5	50	0	101	40	146			
1,2-Dichloroethane	62.2	2.5	50	0	124	66	136			
1,1,1-Trichloroethane	62.7	2.5	50	0	125	59	136			
1,1-Dichloropropene	56.6	2.5	50	0	113	59	130			
Carbon tetrachloride	64.7	2.5	50	0	129	44	150			
Benzene	48.6	1.3	50	0	97	69	130			
Dibromomethane	62.3	2.5	50	0	125	70	134			
1,2-Dichloropropane	48.3	2.5	50	0	97	69	130			
Trichloroethene	54.4	2.5	50	0	109	64	130			
Bromodichloromethane	62.6	2.5	50	0	125	70	134			
cis-1,3-Dichloropropene	47.9	2.5	50	0	96	66	130			
trans-1,3-Dichloropropene	50.9	2.5	50	0	102	67	130			
1,1,2-Trichloroethane	54.9	2.5	50	0	110	70	130			
Toluene	45.1	1.3	50	0	90	65	130			
1,3-Dichloropropane	50	2.5	50	0	100	70	130			
Dibromochloromethane	54.4	2.5	50	0	109	70	130			
1,2-Dibromoethane (EDB)	112	10	100	0	112	70	130			
Tetrachloroethene	51.8	2.5	50	0	104	54	130			
1,1,1,2-Tetrachloroethane	56.5	2.5	50	0	113	70	130			
Chlorobenzene	48.6	2.5	50	0	97	70	130			
Ethylbenzene	49.3	1.3	50	0	99	67	130			
m,p-Xylene	52	1.3	50	0	104	67	130			
Bromoform	61.4	2.5	50	0	123	68	131			
Styrene	48.9	2.5	50	0	98	62	130			
o-Xylene	49.3	1.3	50	0	99	70	130			
1,1,2,2-Tetrachloroethane	44.6	2.5	50	0	89	70	130			
1,2,3-Trichloropropane	106	10	100	0	106	70	130			
Isopropylbenzene	48.5	2.5	50	0	97	59	131			
Bromobenzene	47.8	2.5	50	0	96	70	130			
n-Propylbenzene	47.3	2.5	50	0	95	61	130			
4-Chlorotoluene	49.2	2.5	50	0	98	70	130			
2-Chlorotoluene	48.2	2.5	50	0	96	68	130			
1,3,5-Trimethylbenzene	49.1	2.5	50	0	98	64	131			
tert-Butylbenzene	52.6	2.5	50	0	105	58	130			
1,2,4-Trimethylbenzene	49.7	2.5	50	0	99	59	133			
sec-Butylbenzene	49.6	2.5	50	0	99	59	130			
1,3-Dichlorobenzene	47.4	2.5	50	0	95	70	130			
1,4-Dichlorobenzene	47	2.5	50	0	94	70	130			
4-Isopropyltoluene	50	2.5	50	0	99.9	62	133			
1,2-Dichlorobenzene	44.9	2.5	50	0	90	70	130			
n-Butylbenzene	48.4	2.5	50	0	97	58	131			
1,2-Dibromo-3-chloropropane (DBCP)	250	15	250	0	99.9	70	130			
1,2,4-Trichlorobenzene	50.4	10	50	0	101	67	130			
Naphthalene	50.3	10	50	0	101	45	155			
Hexachlorobutadiene	107	10	100	0	107	51	133			
1,2,3-Trichlorobenzene	53.5	10	50	0	107	58	133			
Surr: 1,2-Dichloroethane-d4	53		50		106	70	130			
Surr: Toluene-d8	45.9		50		92	70	130			
Surr: 4-Bromofluorobenzene	49.3		50		99	70	130			



# Alpha Analytical, Inc.

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Date:  
13-Aug-08

## QC Summary Report

Work Order:  
08080155

### Sample Matrix Spike Duplicate

Type **MSD** Test Code: **Volatile Organics by GC/MS**

File ID: **08080538.D**

Batch ID: **MS15W0805L5**

Analysis Date: **08/05/2008 22:19**

Sample ID: **08080103-04AMSD**

Units: **µg/L**

Run ID: **MSD\_15\_080805C**

Prep Date: **08/05/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	39	2.5	50	0	78	10	160	45.1	14.4(	
Chloromethane	35.4	10	50	0	71	27	145	37.36	5.4(	
Vinyl chloride	44	2.5	50	0	88	38	132	47.46	7.7(	
Chloroethane	50.9	2.5	50	0	94	25	163	54.95	7.7(	
Bromomethane	71.7	10	50	0	143	10	180	68.19	5.0(	
Trichlorofluoromethane	63.7	2.5	50	0	127	34	160	77.26	19.3(	
1,1-Dichloroethene	46.4	2.5	50	0	93	51	130	51.57	10.5(	
Dichloromethane	47.5	10	50	0	95	65	130	48.06	1.2(	
trans-1,2-Dichloroethene	49.5	2.5	50	0	99	63	130	53.03	6.9(	
Methyl tert-butyl ether (MTBE)	60.6	1.3	50	0	121	53	151	61.88	2.2(	
1,1-Dichloroethane	47.2	2.5	50	0	94	65	130	49.89	5.6(	
cis-1,2-Dichloroethene	53.1	2.5	50	0	106	70	130	55.24	4.0(	
Bromochloromethane	57.6	2.5	50	0	115	70	130	59.82	3.7(	
Chloroform	51.9	2.5	50	0	104	70	130	55.47	6.6(	
2,2-Dichloropropane	45.5	2.5	50	0	91	40	146	50.35	10.0(	
1,2-Dichloroethane	59.1	2.5	50	0	118	66	136	62.19	5.1(	
1,1,1-Trichloroethane	55.3	2.5	50	0	111	59	136	62.65	12.4(	
1,1-Dichloropropene	50.7	2.5	50	0	101	59	130	56.58	11.0(	
Carbon tetrachloride	56.9	2.5	50	0	114	44	150	64.65	12.8(	
Benzene	46.3	1.3	50	0	93	69	130	48.61	5.0(	
Dibromomethane	60.3	2.5	50	0	121	70	134	62.34	3.3(	
1,2-Dichloropropane	46.8	2.5	50	0	94	69	130	48.31	3.1(	
Trichloroethene	50.7	2.5	50	0	101	64	130	54.36	7.0(	
Bromodichloromethane	60.5	2.5	50	0	121	70	134	62.64	3.5(	
cis-1,3-Dichloropropene	46.6	2.5	50	0	93	66	130	47.87	2.7(	
trans-1,3-Dichloropropene	49.3	2.5	50	0	99	67	130	50.92	3.3(	
1,1,2-Trichloroethane	53.8	2.5	50	0	108	70	130	54.87	2.0(	
Toluene	43.1	1.3	50	0	86	65	130	45.1	4.6(	
1,3-Dichloropropane	49	2.5	50	0	98	70	130	50.02	2.1(	
Dibromochloromethane	53.2	2.5	50	0	106	70	130	54.44	2.2(	
1,2-Dibromoethane (EDB)	110	10	100	0	110	70	130	112.5	2.4(	
Tetrachloroethene	48.2	2.5	50	0	96	54	130	51.81	7.2(	
1,1,1,2-Tetrachloroethane	53.8	2.5	50	0	108	70	130	56.53	5.0(	
Chlorobenzene	46.9	2.5	50	0	94	70	130	48.6	3.6(	
Ethylbenzene	46.1	1.3	50	0	92	67	130	49.28	6.7(	
m,p-Xylene	49.1	1.3	50	0	98	67	130	52.03	5.9(	
Bromoform	59.4	2.5	50	0	119	68	131	61.39	3.2(	
Styrene	47.2	2.5	50	0	94	62	130	48.89	3.5(	
o-Xylene	46.9	1.3	50	0	94	70	130	49.31	5.1(	
1,1,2,2-Tetrachloroethane	44.4	2.5	50	0	89	70	130	44.57	0.4(	
1,2,3-Trichloropropane	104	10	100	0	104	70	130	105.6	1.1(	
Isopropylbenzene	45.9	2.5	50	0	92	59	131	48.5	5.6(	
Bromobenzene	47.3	2.5	50	0	95	70	130	47.83	1.2(	
n-Propylbenzene	45.3	2.5	50	0	91	61	130	47.29	4.3(	
4-Chlorotoluene	47.4	2.5	50	0	95	70	130	49.17	3.8(	
2-Chlorotoluene	47.1	2.5	50	0	94	68	130	48.2	2.4(	
1,3,5-Trimethylbenzene	47.3	2.5	50	0	95	64	131	49.06	3.7(	
tert-Butylbenzene	43.9	2.5	50	0	88	58	130	52.64	18.1(	
1,2,4-Trimethylbenzene	47.7	2.5	50	0	95	59	133	49.69	4.1(	
sec-Butylbenzene	46.4	2.5	50	0	93	59	130	49.55	6.5(	
1,3-Dichlorobenzene	46.6	2.5	50	0	93	70	130	47.42	1.7(	
1,4-Dichlorobenzene	47.1	2.5	50	0	94	70	130	47.03	0.0(	
4-Isopropyltoluene	47.2	2.5	50	0	94	62	133	49.96	5.6(	
1,2-Dichlorobenzene	44.5	2.5	50	0	89	70	130	44.85	0.8(	
n-Butylbenzene	45.1	2.5	50	0	90	58	131	48.43	7.2(	
1,2-Dibromo-3-chloropropane (DBCP)	246	15	250	0	98	70	130	249.6	1.4(	
1,2,4-Trichlorobenzene	52.4	10	50	0	105	67	130	50.36	3.9(	
Naphthalene	53.5	10	50	0	107	45	155	50.34	6.0(	
Hexachlorobutadiene	102	10	100	0	102	51	133	106.6	4.3(	
1,2,3-Trichlorobenzene	57.8	10	50	0	116	58	133	53.48	7.7(	
Surr: 1,2-Dichloroethane-d4	50.1		50		100	70	130			
Surr: Toluene-d8	46.5		50		93	70	130			
Surr: 4-Bromofluorobenzene	50.4		50		101	70	130			



# Alpha Analytical, Inc.

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**Date:**  
13-Aug-08

## QC Summary Report

**Work Order:**  
08080155

**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.

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



# Alpha Analytical, Inc.

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Date:  
14-Aug-08

## QC Summary Report

Work Order:  
08080155

### Method Blank

Method Blank		Type	Test Code: EPA Method 200.8							
File ID: 080608.BVA108SMPL.D			Batch ID: 20360K			Analysis Date: 08/07/2008 00:38				
Sample ID: MB-20360	Units : mg/L		Run ID: ICP/MS_080806F			Prep Date: 08/04/2008				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

### Laboratory Control Spike

Laboratory Control Spike		Type	Test Code: EPA Method 200.8							
File ID: 080608.B1007_LCS.D\			Batch ID: 20360K			Analysis Date: 08/07/2008 11:39				
Sample ID: LCS-20360	Units : mg/L		Run ID: ICP/MS_080806F			Prep Date: 08/04/2008				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0579	0.005	0.05		116	80	120			

### Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: EPA Method 200.8							
File ID: 080608.BVA116SMPL.D			Batch ID: 20360K			Analysis Date: 08/07/2008 01:24				
Sample ID: 08073040-02AMS	Units : mg/L		Run ID: ICP/MS_080806F			Prep Date: 08/04/2008				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0551	0.005	0.05	0	110	80	120			

### Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 200.8							
File ID: 080608.BVA117SMPL.D			Batch ID: 20360K			Analysis Date: 08/07/2008 01:30				
Sample ID: 08073040-02AMSD	Units : mg/L		Run ID: ICP/MS_080806F			Prep Date: 08/04/2008				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0539	0.005	0.05	0	108	80	120	0.05507	2.2(20)	

### Comments:

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



# Alpha Analytical, Inc.

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Date:  
06-Aug-08

## QC Summary Report

Work Order:  
08080155

### Method Blank

File ID:	Type	MBLK	Test Code:	EPA Method 314.0							
17			Batch ID:	20348							
Sample ID:	MBLK-20348	Units :	µg/L	Run ID:	IC_3_080801A						
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate		ND		1							

### Laboratory Fortified Blank

File ID:	Type	LFB	Test Code:	EPA Method 314.0							
18			Batch ID:	20348							
Sample ID:	LFB-20348	Units :	µg/L	Run ID:	IC_3_080801A						
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate		21.4	2	25		86	85	115			

### Sample Matrix Spike

File ID:	Type	LFM	Test Code:	EPA Method 314.0							
28			Batch ID:	20348							
Sample ID:	08080155-02ALFM	Units :	µg/L	Run ID:	IC_3_080801A						
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate		24.7	2	25	2.902	87	80	120			

### Sample Matrix Spike Duplicate

File ID:	Type	LFMD	Test Code:	EPA Method 314.0							
29			Batch ID:	20348							
Sample ID:	08080155-02ALFMD	Units :	µg/L	Run ID:	IC_3_080801A						
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate		25.1	2	25	2.902	89	80	120	24.66	1.7(15)	

### Comments:

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



# Alpha Analytical, Inc.

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

Date:  
06-Aug-08

## QC Summary Report

Work Order:  
08080155

### Method Blank

Type **MBLK** Test Code: **EPA Method 120.1 / SM2510B / SW9050A**

File ID:			Batch ID: <b>W0801CN</b>	Analysis Date: <b>08/01/2008 00:00</b>						
Sample ID: <b>MBLK-W0801CN</b>	Units : <b>µS/cm</b>	Run ID: <b>WETLAB_080801E</b>	Prep Date: <b>08/01/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Specific Conductance (at 25°C)	ND		10							

### Laboratory Control Spike

Type **LCS** Test Code: **EPA Method 120.1 / SM2510B / SW9050A**

File ID:			Batch ID: <b>W0801CN</b>	Analysis Date: <b>08/01/2008 00:00</b>						
Sample ID: <b>LCS-W0801CN</b>	Units : <b>µS/cm</b>	Run ID: <b>WETLAB_080801E</b>	Prep Date: <b>08/01/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Specific Conductance (at 25°C)	1400	10	1410		99.6	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.

**Billing Information :**

Battelle  
505 King Avenue

Columbus, OH 43201

**Client:**

Battelle Memorial Institute  
505 King Avenue

Columbus, OH 43201

PO : 218017

Client's COC # : 026276

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

**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

**CA**

WorkOrder : BMI08080155

Report Due By : 5:00 PM On : 15-Aug-08

EDD Required : Yes

Sampled by : Client

Cooler Temp

4 °C

Samples Received

01-Aug-08

Date Printed

01-Aug-08

Job : G005862/JPL Groundwater Monitoring

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles		Matrix	Alpha	Sub	TAT	Requested Tests				Sample Remarks	
			314_W	CONDUCTI VTY					METALS_D W	VOC_TIC_W	VOC_W			
BMI08080155-01A	NW-12-5	07/31/08 07:18	4	0	AQ	4	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI08080155-02A	NW-12-4	07/31/08 07:44	4	0	AQ	4	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	Level IV QC
BMI08080155-03A	NW-12-3	07/31/08 08:08	5	0	AQ	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI08080155-04A	NW-12-2	07/31/08 08:33	5	0	AQ	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI08080155-05A	NW-12-1	07/31/08 09:23	5	0	AQ	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	Duplicate
BMI08080155-06A	DUPE-7-3Q08	07/31/08 00:00	5	0	AQ	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	Equip. Blank
BMI08080155-07A	EB-09-7/31/08	07/31/08 09:12	5	0	AQ	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI08080155-08A	TB-09-7/31/08	07/31/08 00:00	1	0	AQ	1	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	Reno TB, 6/26/08. Only one TB rec'd.

Comments: No security seals. Frozen ice. Temp Blank #7651 rec'd @ 4°. Level IV QC. Perchlorate RL of 1.0 ug/L. Samples should be used as the control spike sample if possible (I.E. MS/MSD).

Logged in by: *Anna Jickelmeier* Signature *Tara Jickelmeier* Print Name **Alpha Analytical, Inc.** Company *sljlor* Date/Time **1210**

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







# Alpha Analytical, Inc.

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

Date: 19-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: BMI08080506

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
08080506-01A	MW-24-4	Aqueous
08080506-02A	MW-24-3	Aqueous
08080506-03A	MW-24-2	Aqueous
08080506-04A	MW-24-1	Aqueous
08080506-05A	EB-11-08/04/08	Aqueous
08080506-06A	TB-11-08/04/08	Aqueous
08080506-07A	MW-25-5	Aqueous
08080506-08A	MW-25-4	Aqueous
08080506-09A	MW-25-3	Aqueous
08080506-10A	MW-25-2	Aqueous
08080506-11A	MW-25-1	Aqueous
08080506-12A	EB-10-8/1/08	Aqueous
08080506-13A	TB-10-8/1/08	Aqueous
08080506-14A	MW-26-2	Aqueous
08080506-15A	MW-26-1	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*

*Randy Gardner*

*Walter Hinchman*

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

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

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



# Alpha Analytical, Inc.

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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 : <b>MW-24-3</b> Lab ID : BMI08080506-02A	*** None Found ***	ND	2.0 µg/L	08/05/08	08/04/08	08/06/08
Client ID : <b>MW-24-2</b> Lab ID : BMI08080506-03A	*** None Found ***	ND	2.0 µg/L	08/05/08	08/04/08	08/06/08
Client ID : <b>MW-24-1</b> Lab ID : BMI08080506-04A	*** None Found ***	ND	2.0 µg/L	08/05/08	08/04/08	08/06/08
Client ID : <b>EB-11-08/04/08</b> Lab ID : BMI08080506-05A	*** None Found ***	ND	2.0 µg/L	08/05/08	08/04/08	08/06/08
Client ID : <b>TB-11-08/04/08</b> Lab ID : BMI08080506-06A	*** None Found ***	ND	2.0 µg/L	08/05/08	08/04/08	08/06/08
Client ID : <b>MW-25-5</b> Lab ID : BMI08080506-07A	Sulfur Dioxide	18	2.0 µg/L	08/05/08	08/01/08	08/06/08
Client ID : <b>MW-25-4</b> Lab ID : BMI08080506-08A	Sulfur Dioxide	3.9	2.0 µg/L	08/05/08	08/01/08	08/06/08
Client ID : <b>MW-25-3</b> Lab ID : BMI08080506-09A	*** None Found ***	ND	2.0 µg/L	08/05/08	08/01/08	08/06/08
Client ID : <b>MW-25-2</b> Lab ID : BMI08080506-10A	*** None Found ***	ND	2.0 µg/L	08/05/08	08/01/08	08/06/08
Client ID : <b>MW-25-1</b> Lab ID : BMI08080506-11A	*** None Found ***	ND	2.0 µg/L	08/05/08	08/01/08	08/06/08
Client ID : <b>EB-10-8/1/08</b> Lab ID : BMI08080506-12A	*** None Found ***	ND	2.0 µg/L	08/05/08	08/01/08	08/06/08
Client ID : <b>TB-10-8/1/08</b> Lab ID : BMI08080506-13A	*** None Found ***	ND	2.0 µg/L	08/05/08	08/01/08	08/06/08
Client ID : <b>MW-26-2</b> Lab ID : BMI08080506-14A	*** None Found ***	ND	2.0 µg/L	08/05/08	08/04/08	08/06/08
Client ID : <b>MW-26-1</b> Lab ID : BMI08080506-15A	*** None Found ***	ND	2.0 µg/L	08/05/08	08/04/08	08/06/08



# Alpha Analytical, Inc.

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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](mailto:info@alpha-analytical.com)

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

*Randy Gardner*

*Walter Hinchman*

*PG*

8/19/08

**Report Date**

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080506-02A  
Client I.D. Number: MW-24-3

Sampled: 08/04/08  
Received: 08/05/08  
Analyzed: 08/06/08

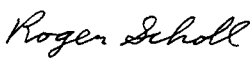

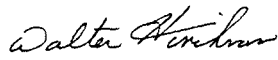
### Volatile Organics by GC/MS

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-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	1.0 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	116	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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.



  
 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.

  
 8/19/08

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080506-03A  
Client I.D. Number: MW-24-2

Sampled: 08/04/08  
Received: 08/05/08  
Analyzed: 08/06/08

### 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-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	0.65	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	119	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	97	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	103	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

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

ND = Not Detected

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.

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

8/19/08

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



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080506-04A  
Client I.D. Number: MW-24-1

Sampled: 08/04/08  
Received: 08/05/08  
Analyzed: 08/06/08

### 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-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	16	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	5.3	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	122	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	102	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

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

ND = Not Detected

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.

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

8/19/08

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Report Date



# Alpha Analytical, Inc.

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

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

## 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

Alpha Analytical Number: BMI08080506-05A  
Client I.D. Number: EB-11-08/04/08

Sampled: 08/04/08  
Received: 08/05/08  
Analyzed: 08/06/08

### 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	0.57	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	115	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	99	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	102	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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.

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Report Date



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(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

Alpha Analytical Number: BMI08080506-06A  
Client I.D. Number: TB-11-08/04/08

Sampled: 08/04/08  
Received: 08/05/08  
Analyzed: 08/06/08

### 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-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	1.0 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	108	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	99	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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.

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Report Date





# Alpha Analytical, Inc.

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

## 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

Alpha Analytical Number: BMI08080506-07A  
Client I.D. Number: MW-25-5

Sampled: 08/01/08  
Received: 08/05/08  
Analyzed: 08/06/08

### 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	UJ 1.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	121	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	104	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080506-08A  
Client I.D. Number: MW-25-4

Sampled: 08/01/08  
Received: 08/05/08  
Analyzed: 08/06/08

### 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	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	122	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	96	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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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

Alpha Analytical Number: BMI08080506-09A  
Client I.D. Number: MW-25-3

Sampled: 08/01/08  
Received: 08/05/08  
Analyzed: 08/06/08

### 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	0.91	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	123	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	96	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	100	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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.

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

8/19/08

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Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080506-10A  
Client I.D. Number: MW-25-2

Sampled: 08/01/08  
Received: 08/05/08  
Analyzed: 08/06/08

### 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
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12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	123	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	96	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	103	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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.

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8/19/08

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

Alpha Analytical Number: BMI08080506-11A  
Client I.D. Number: MW-25-1

Sampled: 08/01/08  
Received: 08/05/08  
Analyzed: 08/06/08

### 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-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	126	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	94	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	103	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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Report Date



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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

Alpha Analytical Number: BMI08080506-12A  
Client I.D. Number: EB-10-8/1/08

Sampled: 08/01/08  
Received: 08/05/08  
Analyzed: 08/06/08

### 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	0.50	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	115	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

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Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080506-13A  
Client I.D. Number: TB-10-8/1/08

Sampled: 08/01/08  
Received: 08/05/08  
Analyzed: 08/06/08

### Volatile Organics by GC/MS

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
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14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
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26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	114	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	99	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	99	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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.

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.

8/19/08

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080506-14A  
Client I.D. Number: MW-26-2

Sampled: 08/04/08  
Received: 08/05/08  
Analyzed: 08/06/08

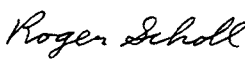

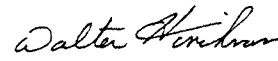
### Volatile Organics by GC/MS

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	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	125	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	96	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	101	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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.



  
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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080506-15A  
Client I.D. Number: MW-26-1

Sampled: 08/04/08  
Received: 08/05/08  
Analyzed: 08/06/08

### 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	1.0 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	124	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	95	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	102	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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.

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8/19/08

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Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

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

## VOC Sample Preservation Report

Work Order: BMI08080506

Project: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
08080506-02A	MW-24-3	Aqueous	2
08080506-03A	MW-24-2	Aqueous	3
08080506-04A	MW-24-1	Aqueous	2
08080506-05A	EB-11-08/04/08	Aqueous	2
08080506-06A	TB-11-08/04/08	Aqueous	2
08080506-07A	MW-25-5	Aqueous	2
08080506-08A	MW-25-4	Aqueous	2
08080506-09A	MW-25-3	Aqueous	2
08080506-10A	MW-25-2	Aqueous	2
08080506-11A	MW-25-1	Aqueous	2
08080506-12A	EB-10-8/1/08	Aqueous	2
08080506-13A	TB-10-8/1/08	Aqueous	2
08080506-14A	MW-26-2	Aqueous	2
08080506-15A	MW-26-1	Aqueous	2

8/19/08

Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 08/05/08

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-24-1	Nitrite (NO <sub>2</sub> ) - N	ND	0.25 mg/L	08/04/08 09:52	08/05/08 15:35
Lab ID : BMI08080506-04A	Nitrate (NO <sub>3</sub> ) - N	0.60	0.25 mg/L	08/04/08 09:52	08/05/08 15:35
	Phosphate, ortho - P	ND	0.25 mg/L	08/04/08 09:52	08/05/08 15:35

ND = Not Detected

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

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer  
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8/18/08

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Date Received : 08/05/08

Job#: G005862/JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-24-1				
Lab ID : BMI08080506-04A				
Chloride	63	2.5 mg/L	08/04/08	08/07/08
Sulfate (SO4)	49	0.50 mg/L	08/04/08	08/05/08

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## ANALYTICAL REPORT

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505 King Avenue  
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Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 08/05/08

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 : MW-24-3					
Lab ID : BMI08080506-02A	Specific Conductance (at 25°C)	350	10 µS/cm	08/04/08	08/05/08
Client ID : MW-24-2					
Lab ID : BMI08080506-03A	Specific Conductance (at 25°C)	490	10 µS/cm	08/04/08	08/05/08
Client ID : MW-24-1					
Lab ID : BMI08080506-04A	Specific Conductance (at 25°C)	620	10 µS/cm	08/04/08	08/05/08
Client ID : EB-11-08/04/08					
Lab ID : BMI08080506-05A	Specific Conductance (at 25°C)	ND	10 µS/cm	08/04/08	08/05/08
Client ID : MW-25-5					
Lab ID : BMI08080506-07A	Specific Conductance (at 25°C)	470	10 µS/cm	08/01/08	08/05/08
Client ID : MW-25-4					
Lab ID : BMI08080506-08A	Specific Conductance (at 25°C)	680	10 µS/cm	08/01/08	08/05/08
Client ID : MW-25-3					
Lab ID : BMI08080506-09A	Specific Conductance (at 25°C)	660	10 µS/cm	08/01/08	08/05/08
Client ID : MW-25-2					
Lab ID : BMI08080506-10A	Specific Conductance (at 25°C)	670	10 µS/cm	08/01/08	08/05/08
Client ID : MW-25-1					
Lab ID : BMI08080506-11A	Specific Conductance (at 25°C)	890	10 µS/cm	08/01/08	08/05/08
Client ID : EB-10-8/1/08					
Lab ID : BMI08080506-12A	Specific Conductance (at 25°C)	ND	10 µS/cm	08/01/08	08/05/08
Client ID : MW-26-2					
Lab ID : BMI08080506-14A	Specific Conductance (at 25°C)	450	10 µS/cm	08/04/08	08/05/08
Client ID : MW-26-1					
Lab ID : BMI08080506-15A	Specific Conductance (at 25°C)	920	10 µS/cm	08/04/08	08/05/08



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---

ND = Not Detected

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*Randy Gardner*

*Walter Hinchman*

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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 : 08/05/08

Job#: G005862/JPL Groundwater Monitoring

### Perchlorate by Ion Chromatography EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-24-3 Lab ID : BMI08080506-02A	Perchlorate	ND	1.00 µg/L	08/04/08	08/07/08
Client ID : MW-24-2 Lab ID : BMI08080506-03A	Perchlorate	16.4	1.00 µg/L	08/04/08	08/07/08
Client ID : MW-24-1 Lab ID : BMI08080506-04A	Perchlorate	1.14	1.00 µg/L	08/04/08	08/07/08
Client ID : EB-11-08/04/08 Lab ID : BMI08080506-05A	Perchlorate	ND	1.00 µg/L	08/04/08	08/07/08
Client ID : MW-25-5 Lab ID : BMI08080506-07A	Perchlorate	33.8	1.00 µg/L	08/01/08	08/07/08
Client ID : MW-25-4 Lab ID : BMI08080506-08A	Perchlorate	6.83	1.00 µg/L	08/01/08	08/07/08
Client ID : MW-25-3 Lab ID : BMI08080506-09A	Perchlorate	8.89	1.00 µg/L	08/01/08	08/07/08
Client ID : MW-25-2 Lab ID : BMI08080506-10A	Perchlorate	13.1	1.00 µg/L	08/01/08	08/07/08
Client ID : MW-25-1 Lab ID : BMI08080506-11A	Perchlorate	8.20	1.00 µg/L	08/01/08	08/07/08
Client ID : EB-10-8/1/08 Lab ID : BMI08080506-12A	Perchlorate	ND	1.00 µg/L	08/01/08	08/07/08
Client ID : MW-26-2 Lab ID : BMI08080506-14A	Perchlorate	ND	1.00 µg/L	08/04/08	08/08/08
Client ID : MW-26-1 Lab ID : BMI08080506-15A	Perchlorate	1.97	1.00 µg/L	08/04/08	08/08/08



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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 : 08/05/08

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-24-4 Lab ID : BMI08080506-01A	Chromium (Cr)	ND	0.0050 mg/L	08/04/08	08/14/08
Client ID : MW-24-3 Lab ID : BMI08080506-02A	Chromium (Cr)	0.0059	0.0050 mg/L	08/04/08	08/14/08
Client ID : MW-24-2 Lab ID : BMI08080506-03A	Chromium (Cr)	ND	0.0050 mg/L	08/04/08	08/14/08
Client ID : MW-24-1 Lab ID : BMI08080506-04A	Chromium (Cr)	0.011	0.0050 mg/L	08/04/08	08/14/08
Client ID : EB-11-08/04/08 Lab ID : BMI08080506-05A	Chromium (Cr)	ND	0.0050 mg/L	08/04/08	08/14/08
Client ID : MW-25-5 Lab ID : BMI08080506-07A	Chromium (Cr)	ND	0.0050 mg/L	08/01/08	08/14/08
Client ID : MW-25-4 Lab ID : BMI08080506-08A	Chromium (Cr)	ND	0.0050 mg/L	08/01/08	08/14/08
Client ID : MW-25-3 Lab ID : BMI08080506-09A	Chromium (Cr)	ND	0.0050 mg/L	08/01/08	08/15/08
Client ID : MW-25-2 Lab ID : BMI08080506-10A	Chromium (Cr)	ND	0.0050 mg/L	08/01/08	08/15/08
Client ID : MW-25-1 Lab ID : BMI08080506-11A	Chromium (Cr)	ND	0.0050 mg/L	08/01/08	08/15/08
Client ID : EB-10-8/1/08 Lab ID : BMI08080506-12A	Chromium (Cr)	ND	0.0050 mg/L	08/01/08	08/15/08
Client ID : MW-26-2 Lab ID : BMI08080506-14A	Chromium (Cr)	ND	0.0050 mg/L	08/04/08	08/15/08
Client ID : MW-26-1 Lab ID : BMI08080506-15A	Chromium (Cr)	ND	0.0050 mg/L	08/04/08	08/15/08



# Alpha Analytical, Inc.

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---

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.

*8/18/08*

**Report Date**



# Alpha Analytical, Inc.

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

Date:  
14-Aug-08

## QC Summary Report

Work Order:  
08080506

### Method Blank

Type **MBLK** Test Code: **EPA Method 300.0 / 9056**

File ID: <b>13</b>	Batch ID: <b>20370A</b>		Analysis Date: <b>08/05/2008 14:39</b>							
Sample ID: <b>MB-20370</b>	Units : <b>mg/L</b>	Run ID: <b>IC_2_080805A</b>		Prep Date: <b>08/05/2008</b>						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.25								

### Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 300.0 / 9056**

File ID: <b>14</b>	Batch ID: <b>20370A</b>		Analysis Date: <b>08/05/2008 14:58</b>							
Sample ID: <b>FB-20370</b>	Units : <b>mg/L</b>	Run ID: <b>IC_2_080805A</b>		Prep Date: <b>08/05/2008</b>						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.19	0.25	1.25		95	90	110			
Nitrate (NO3) - N	1.23	0.25	1.25		98	90	110			
Phosphate, ortho - P	1.22	0.25	1.25		98	90	110			

### Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 300.0 / 9056**

File ID: <b>17</b>	Batch ID: <b>20370A</b>		Analysis Date: <b>08/05/2008 15:53</b>							
Sample ID: <b>08080506-04ALFM</b>	Units : <b>mg/L</b>	Run ID: <b>IC_2_080805A</b>		Prep Date: <b>08/05/2008</b>						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.29	0.25	1.25	0	103	80	120			
Nitrate (NO3) - N	1.82	0.25	1.25	0.5947	98	80	120			

### Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 300.0 / 9056**

File ID: <b>18</b>	Batch ID: <b>20370A</b>		Analysis Date: <b>08/05/2008 16:12</b>							
Sample ID: <b>08080506-04ALFMD</b>	Units : <b>mg/L</b>	Run ID: <b>IC_2_080805A</b>		Prep Date: <b>08/05/2008</b>						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.36	0.25	1.25	0	109	80	120	1.289	5.6(10)	
Nitrate (NO3) - N	1.87	0.25	1.25	0.5947	102	80	120	1.816	3.2(10)	

### Comments:

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Date:  
14-Aug-08

## QC Summary Report

Work Order:  
08080506

### Method Blank

Method Blank		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 13		MBLK	Batch ID: 20370B				Analysis Date: 08/05/2008 14:39			
Sample ID: MB-20370	Units : mg/L		Run ID: IC_2_080805A				Prep Date: 08/05/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	ND	0.5								

### Laboratory Fortified Blank

Laboratory Fortified Blank		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 14		LFB	Batch ID: 20370B				Analysis Date: 08/05/2008 14:58			
Sample ID: FB-20370	Units : mg/L		Run ID: IC_2_080805A				Prep Date: 08/05/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	9.83	0.5	10		98	90	110			

### Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 17		LFM	Batch ID: 20370B				Analysis Date: 08/05/2008 15:53			
Sample ID: 08080506-04ALFM	Units : mg/L		Run ID: IC_2_080805A				Prep Date: 08/05/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	60.6	0.5	10	48.99	116	80	120			

### Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 18		LFMD	Batch ID: 20370B				Analysis Date: 08/05/2008 16:12			
Sample ID: 08080506-04ALFMD	Units : mg/L		Run ID: IC_2_080805A				Prep Date: 08/05/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	60.2	0.5	10	48.99	112	80	120	60.61	0.7(10)	

### Comments:

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Date:  
14-Aug-08

## QC Summary Report

Work Order:  
08080506

### Method Blank

File ID: 13	Type MBLK	Test Code: EPA Method 300.0 / 9056	Batch ID: 20370C	Analysis Date: 08/05/2008 14:39						
Sample ID: MB-20370	Units : mg/L	Run ID: IC_2_080805B	Prep Date: 08/05/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								

### Laboratory Fortified Blank

File ID: 14	Type LFB	Test Code: EPA Method 300.0 / 9056	Batch ID: 20370C	Analysis Date: 08/05/2008 14:58						
Sample ID: FB-20370	Units : mg/L	Run ID: IC_2_080805B	Prep Date: 08/05/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	4.69	0.5	5		94	90	110			

### Sample Matrix Spike

File ID: 63	Type LFM	Test Code: EPA Method 300.0 / 9056	Batch ID: 20370C	Analysis Date: 08/07/2008 05:14						
Sample ID: 08080506-04ALFM	Units : mg/L	Run ID: IC_2_080805B	Prep Date: 08/07/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	88.1	0.5	25	63.12	100	80	120			

### Sample Matrix Spike Duplicate

File ID: 64	Type LFMD	Test Code: EPA Method 300.0 / 9056	Batch ID: 20370C	Analysis Date: 08/07/2008 05:32						
Sample ID: 08080506-04ALFMD	Units : mg/L	Run ID: IC_2_080805B	Prep Date: 08/07/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	88.6	0.5	25	63.12	102	80	120	88.11	0.6(10)	

### Comments:

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Date:  
14-Aug-08

## QC Summary Report

Work Order:  
08080506

### Method Blank

Type **MBLK** Test Code: **EPA Method 120.1 / SM2510B / SW9050A**

File ID:				Batch ID: <b>W0805CN</b>		Analysis Date: <b>08/05/2008 00:00</b>					
Sample ID:	<b>MBLK-W0805CN</b>	Units : <b>µS/cm</b>		Run ID: <b>WETLAB_080805D</b>		Prep Date: <b>08/05/2008</b>					
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Specific Conductance (at 25°C)		ND		10							

### Laboratory Control Spike

Type **LCS** Test Code: **EPA Method 120.1 / SM2510B / SW9050A**

File ID:				Batch ID: <b>W0805CN</b>		Analysis Date: <b>08/05/2008 00:00</b>					
Sample ID:	<b>LCS-W0805CN</b>	Units : <b>µS/cm</b>		Run ID: <b>WETLAB_080805D</b>		Prep Date: <b>08/05/2008</b>					
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Specific Conductance (at 25°C)		1410	10	1410		99.7	98	102			

### Comments:

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Date:  
14-Aug-08

## QC Summary Report

Work Order:  
08080506

### Method Blank

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

File ID: 13				Batch ID: 20384				Analysis Date: 08/07/2008 18:43		
Sample ID: MBLK-20384	Units : µg/L		Run ID: IC_3_080807A					Prep Date: 08/07/2008		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND		1							

### Laboratory Fortified Blank

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

File ID: 14				Batch ID: 20384				Analysis Date: 08/07/2008 19:02		
Sample ID: LFB-20384	Units : µg/L		Run ID: IC_3_080807A					Prep Date: 08/07/2008		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	25.7		2	25	103	85	115			

### Sample Matrix Spike

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

File ID: 19				Batch ID: 20384				Analysis Date: 08/07/2008 20:34		
Sample ID: 08080506-04ALFM	Units : µg/L		Run ID: IC_3_080807A					Prep Date: 08/07/2008		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	23.5		2	25	1.137	90	80	120		

### Sample Matrix Spike Duplicate

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

File ID: 20				Batch ID: 20384				Analysis Date: 08/07/2008 20:52		
Sample ID: 08080506-04ALFMD	Units : µg/L		Run ID: IC_3_080807A					Prep Date: 08/07/2008		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	23.2		2	25	1.137	88	80	120	23.53	1.3(15)

### Comments:

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Date:  
18-Aug-08

## OC Summary Report

Work Order:  
08080506

### Method Blank

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

File ID: **081408.B\A034SMPL.D**

Batch ID: **20397K**

Analysis Date: **08/14/2008 16:37**

Sample ID: **MB-20397**

Units : **mg/L**

Run ID: **ICP/MS\_080814D**

Prep Date: **08/08/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

### Laboratory Control Spike

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

File ID: **081408.B\018\_LCS.D\**

Batch ID: **20397K**

Analysis Date: **08/15/2008 11:26**

Sample ID: **LCS-20397**

Units : **mg/L**

Run ID: **ICP/MS\_080814D**

Prep Date: **08/08/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0513	0.005	0.05		103	80	120			

### Sample Matrix Spike

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

File ID: **081408.B\A038SMPL.D**

Batch ID: **20397K**

Analysis Date: **08/14/2008 17:00**

Sample ID: **08080506-04AMS**

Units : **mg/L**

Run ID: **ICP/MS\_080814D**

Prep Date: **08/08/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0638	0.005	0.05	0.01082	106	80	120			

### Sample Matrix Spike Duplicate

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

File ID: **081408.B\A039SMPL.D**

Batch ID: **20397K**

Analysis Date: **08/14/2008 17:05**

Sample ID: **08080506-04AMSD**

Units : **mg/L**

Run ID: **ICP/MS\_080814D**

Prep Date: **08/08/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0606	0.005	0.05	0.01082	99.6	80	120	0.06378	5.1(20)	

### Comments:

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Date:  
19-Aug-08

## OC Summary Report

Work Order:  
08080506

### Method Blank

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

File ID: **08080606.D**

Batch ID: **MS15W0806K5**

Analysis Date: **08/06/2008 09:58**

Sample ID: **MBLK MS15W0806K**

Units: **µg/L**

Run ID: **MSD\_15\_080806A**

Prep Date: **08/06/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	11.3		10		113	75	128			
Surr: Toluene-d8	9.71		10		97	80	120			



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19-Aug-08

## OC Summary Report

Work Order:  
08080506

Surr: 4-Bromofluorobenzene 9.99 10 99.9 70 130

### Laboratory Control Spike

Type LCS

Test Code:

File ID: 08080604.D

Batch ID: MS15W0806K5

Analysis Date: 08/06/2008 08:56

Sample ID: LCS MS15W0806K

Units: µg/L

Run ID: MSD\_15\_080806A

Prep Date: 08/06/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	11.7	1	10		117	70	130			
Chloromethane	6.7	2	10		67	70	130			L50
Vinyl chloride	11.1	1	10		111	70	130			
Chloroethane	13.7	1	10		137	70	130			L51
Bromomethane	8.48	2	10		85	70	130			
Trichlorofluoromethane	18.1	1	10		181	70	130			L51
1,1-Dichloroethene	11.3	1	10		113	70	130			
Dichloromethane	9.82	2	10		98	70	130			
trans-1,2-Dichloroethene	11	1	10		110	70	130			
Methyl tert-butyl ether (MTBE)	11.8	0.5	10		118	70	130			
1,1-Dichloroethane	10.5	1	10		105	70	130			
cis-1,2-Dichloroethene	11.6	1	10		116	70	130			
Bromochloromethane	11.7	1	10		117	70	130			
Chloroform	11.5	1	10		115	70	130			
2,2-Dichloropropane	12.9	1	10		129	70	130			
1,2-Dichloroethane	12.6	1	10		126	70	130			
1,1,1-Trichloroethane	13.4	1	10		134	70	130			L51
1,1-Dichloropropene	12	1	10		120	70	130			
Carbon tetrachloride	14	1	10		140	70	130			L51
Benzene	10.2	0.5	10		102	70	130			
Dibromomethane	12.5	1	10		125	70	130			
1,2-Dichloropropane	9.91	1	10		99	70	130			
Trichloroethene	11.9	1	10		119	70	130			
Bromodichloromethane	13.1	1	10		131	70	130			L51
cis-1,3-Dichloropropene	10.4	1	10		104	70	130			
trans-1,3-Dichloropropene	10.6	1	10		106	70	130			
1,1,2-Trichloroethane	11	1	10		110	70	130			
Toluene	9.7	0.5	10		97	70	130			
1,3-Dichloropropane	9.99	1	10		99.9	70	130			
Dibromochloromethane	11.1	1	10		111	70	130			
1,2-Dibromoethane (EDB)	22.5	2	20		113	70	130			
Tetrachloroethene	11.3	1	10		113	70	130			
1,1,1,2-Tetrachloroethane	11.8	1	10		118	70	130			
Chlorobenzene	10.3	1	10		103	70	130			
Ethylbenzene	10.6	0.5	10		106	70	130			
m,p-Xylene	11.3	0.5	10		113	70	130			
Bromoform	12.5	1	10		125	70	130			
Styrene	10.5	1	10		105	70	130			
o-Xylene	10.5	0.5	10		105	70	130			
1,1,2,2-Tetrachloroethane	8.76	1	10		88	70	130			
1,2,3-Trichloropropane	21.4	2	20		107	70	130			
Isopropylbenzene	10.8	1	10		108	70	130			
Bromobenzene	10.1	1	10		101	70	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	10.8	1	10		108	70	130			
tert-Butylbenzene	11.6	1	10		116	70	130			
1,2,4-Trimethylbenzene	10.9	1	10		109	70	130			
sec-Butylbenzene	11	1	10		110	70	130			
1,3-Dichlorobenzene	10.2	1	10		102	70	130			
1,4-Dichlorobenzene	10.1	1	10		101	70	130			
4-Isopropyltoluene	11.1	1	10		111	70	130			
1,2-Dichlorobenzene	9.39	1	10		94	70	130			
n-Butylbenzene	10.9	1	10		109	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	49	3	50		98	57	133			
1,2,4-Trichlorobenzene	10.5	2	10		105	70	130			
Naphthalene	9.45	2	10		95	70	130			
Hexachlorobutadiene	23	2	20		115	70	130			
1,2,3-Trichlorobenzene	10.5	2	10		105	70	130			
Surr: 1,2-Dichloroethane-d4	10.5		10		105	75	128			
Surr: Toluene-d8	9.26		10		93	80	120			
Surr: 4-Bromofluorobenzene	10.2		10		102	70	130			



# Alpha Analytical, Inc.

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Date:  
19-Aug-08

## OC Summary Report

Work Order:  
08080506

### Sample Matrix Spike

File ID: 08080607.D

Type MS

Test Code:

Batch ID: MS15W0806K5

Analysis Date: 08/06/2008 10:20

Sample ID: 08080506-04AMS

Units: µg/L

Run ID: MSD\_15\_080806A

Prep Date: 08/06/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	42.1	2.5	50	0	84	20	137			
Chloromethane	27.3	10	50	0	55	31	148			
Vinyl chloride	43.1	2.5	50	0	86	46	138			
Chloroethane	53.3	2.5	50	0	107	34	170			
Bromomethane	42.9	10	50	0	86	20	189			
Trichlorofluoromethane	78.5	2.5	50	0	157	51	156			
1,1-Dichloroethene	48.5	2.5	50	0	97	66	132			
Dichloromethane	46.9	10	50	0	94	48	145			
trans-1,2-Dichloroethene	49.6	2.5	50	0	99	68	132			
Methyl tert-butyl ether (MTBE)	55.2	1.3	50	0	110	62	139			
1,1-Dichloroethane	48.5	2.5	50	0	97	70	130			
cis-1,2-Dichloroethene	52.8	2.5	50	0	106	70	130			
Bromochloromethane	55.9	2.5	50	0	112	70	130			
Chloroform	70	2.5	50	15.83	108	70	130			
2,2-Dichloropropane	59.5	2.5	50	0	119	50	152			
1,2-Dichloroethane	59.9	2.5	50	0	120	65	136			
1,1,1-Trichloroethane	59.7	2.5	50	0	119	67	133			
1,1-Dichloropropene	53.2	2.5	50	0	106	70	130			
Carbon tetrachloride	62.5	2.5	50	0	125	61	142			
Benzene	46.9	1.3	50	0	94	70	130			
Dibromomethane	58.4	2.5	50	0	117	69	130			
1,2-Dichloropropane	46.8	2.5	50	0	94	70	132			
Trichloroethene	52	2.5	50	0	104	69	130			
Bromodichloromethane	68.1	2.5	50	5.32	126	70	130			
cis-1,3-Dichloropropene	46.9	2.5	50	0	94	66	130			
trans-1,3-Dichloropropene	49.2	2.5	50	0	98	65	134			
1,1,2-Trichloroethane	51.2	2.5	50	0	102	67	132			
Toluene	43	1.3	50	0	86	67	130			
1,3-Dichloropropane	46.4	2.5	50	0	93	70	130			
Dibromochloromethane	50.7	2.5	50	0	101	66	130			
1,2-Dibromoethane (EDB)	104	10	100	0	104	70	130			
Tetrachloroethene	49.2	2.5	50	0	98	59	135			
1,1,1,2-Tetrachloroethane	53.7	2.5	50	0	107	70	130			
Chlorobenzene	46.6	2.5	50	0	93	70	130			
Ethylbenzene	47.3	1.3	50	0	95	70	130			
m,p-Xylene	49.9	1.3	50	0	99.9	69	130			
Bromoform	56.5	2.5	50	0	113	57	132			
Styrene	47.4	2.5	50	0	95	58	135			
o-Xylene	46.8	1.3	50	0	94	70	130			
1,1,2,2-Tetrachloroethane	41.2	2.5	50	0	82	65	137			
1,2,3-Trichloropropane	98.9	10	100	0	99	67	132			
Isopropylbenzene	48	2.5	50	0	96	70	130			
Bromobenzene	47.8	2.5	50	0	96	70	130			
n-Propylbenzene	47.6	2.5	50	0	95	70	130			
4-Chlorotoluene	49	2.5	50	0	98	70	130			
2-Chlorotoluene	48.2	2.5	50	0	96	70	130			
1,3,5-Trimethylbenzene	49.6	2.5	50	0	99	68	141			
tert-Butylbenzene	52.3	2.5	50	0	105	70	130			
1,2,4-Trimethylbenzene	50.1	2.5	50	0	100	67	146			
sec-Butylbenzene	48.6	2.5	50	0	97	70	130			
1,3-Dichlorobenzene	47.1	2.5	50	0	94	70	130			
1,4-Dichlorobenzene	47	2.5	50	0	94	70	130			
4-Isopropyltoluene	50.2	2.5	50	0	100	70	133			
1,2-Dichlorobenzene	44.3	2.5	50	0	89	70	130			
n-Butylbenzene	49	2.5	50	0	98	66	145			
1,2-Dibromo-3-chloropropane (DBCP)	225	15	250	0	90	57	137			
1,2,4-Trichlorobenzene	46.9	10	50	0	94	39	157			
Naphthalene	41.5	10	50	0	83	26	163			
Hexachlorobutadiene	106	10	100	0	106	35	172			
1,2,3-Trichlorobenzene	46.6	10	50	0	93	30	170			
Surr: 1,2-Dichloroethane-d4	52.8		50		106	75	128			
Surr: Toluene-d8	45.5		50		91	80	120			
Surr: 4-Bromofluorobenzene	51.3		50		103	70	130			



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Date:  
19-Aug-08

## OC Summary Report

Work Order:  
08080506

### Sample Matrix Spike

Type MS

Test Code:

File ID: 08080609.D

Batch ID: MS15W0806K5

Analysis Date: 08/06/2008 11:04

Sample ID: 08080506-09AMS

Units: µg/L

Run ID: MSD\_15\_080806A

Prep Date: 08/06/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	43.4	2.5	50	0	87	20	137			
Chloromethane	32.4	10	50	0	65	31	148			
Vinyl chloride	47.4	2.5	50	0	95	46	138			
Chloroethane	61.4	2.5	50	0	123	34	170			
Bromomethane	61.5	10	50	0	123	20	189			
Trichlorofluoromethane	77.1	2.5	50	0	154	51	156			
1,1-Dichloroethene	51.5	2.5	50	0	103	66	132			
Dichloromethane	47.4	10	50	0	95	48	145			
trans-1,2-Dichloroethene	52.1	2.5	50	0	104	68	132			
Methyl tert-butyl ether (MTBE)	57.2	1.3	50	0	114	62	139			
1,1-Dichloroethane	49.5	2.5	50	0	99	70	130			
cis-1,2-Dichloroethene	54.8	2.5	50	0	110	70	130			
Bromochloromethane	56.2	2.5	50	0	112	70	130			
Chloroform	54.6	2.5	50	0.91	107	70	130			
2,2-Dichloropropane	60.3	2.5	50	0	121	50	152			
1,2-Dichloroethane	58.3	2.5	50	0	117	65	136			
1,1,1-Trichloroethane	60.8	2.5	50	0	122	67	133			
1,1-Dichloropropene	55.2	2.5	50	0	110	70	130			
Carbon tetrachloride	63	2.5	50	0	126	61	142			
Benzene	48.3	1.3	50	0	97	70	130			
Dibromomethane	58.5	2.5	50	0	117	69	130			
1,2-Dichloropropane	46.9	2.5	50	0	94	70	132			
Trichloroethene	53.4	2.5	50	0	107	69	130			
Bromodichloromethane	60.1	2.5	50	0	120	70	130			
cis-1,3-Dichloropropene	47.4	2.5	50	0	95	66	130			
trans-1,3-Dichloropropene	48.5	2.5	50	0	97	65	134			
1,1,2-Trichloroethane	51.4	2.5	50	0	103	67	132			
Toluene	44.8	1.3	50	0	90	67	130			
1,3-Dichloropropane	48	2.5	50	0	96	70	130			
Dibromochloromethane	51.7	2.5	50	0	103	66	130			
1,2-Dibromoethane (EDB)	106	10	100	0	106	70	130			
Tetrachloroethene	52.8	2.5	50	0	106	59	135			
1,1,1,2-Tetrachloroethane	53.9	2.5	50	0	108	70	130			
Chlorobenzene	48.2	2.5	50	0	96	70	130			
Ethylbenzene	48.9	1.3	50	0	98	70	130			
m,p-Xylene	51.9	1.3	50	0	104	69	130			
Bromoform	57.4	2.5	50	0	115	57	132			
Styrene	48.2	2.5	50	0	96	58	135			
o-Xylene	48.1	1.3	50	0	96	70	130			
1,1,2,2-Tetrachloroethane	41.8	2.5	50	0	84	65	137			
1,2,3-Trichloropropane	98.2	10	100	0	98	67	132			
Isopropylbenzene	49.6	2.5	50	0	99	70	130			
Bromobenzene	47.7	2.5	50	0	95	70	130			
n-Propylbenzene	49.4	2.5	50	0	99	70	130			
4-Chlorotoluene	49.4	2.5	50	0	99	70	130			
2-Chlorotoluene	49.4	2.5	50	0	99	70	130			
1,3,5-Trimethylbenzene	50.6	2.5	50	0	101	68	141			
tert-Butylbenzene	53.8	2.5	50	0	108	70	130			
1,2,4-Trimethylbenzene	50.6	2.5	50	0	101	67	146			
sec-Butylbenzene	50.3	2.5	50	0	101	70	130			
1,3-Dichlorobenzene	48.1	2.5	50	0	96	70	130			
1,4-Dichlorobenzene	48	2.5	50	0	96	70	130			
4-Isopropyltoluene	52	2.5	50	0	104	70	133			
1,2-Dichlorobenzene	44.8	2.5	50	0	90	70	130			
n-Butylbenzene	51	2.5	50	0	102	66	145			
1,2-Dibromo-3-chloropropane (DBCP)	231	15	250	0	92	57	137			
1,2,4-Trichlorobenzene	49.9	10	50	0	99.9	39	157			
Naphthalene	44.7	10	50	0	89	26	163			
Hexachlorobutadiene	114	10	100	0	114	35	172			
1,2,3-Trichlorobenzene	52.1	10	50	0	104	30	170			
Surr: 1,2-Dichloroethane-d4	50.5		50		101	75	128			
Surr: Toluene-d8	46		50		92	80	120			
Surr: 4-Bromofluorobenzene	50.7		50		101	70	130			



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Date:  
19-Aug-08

## OC Summary Report

Work Order:  
08080506

### Sample Matrix Spike Duplicate

Type MSD

Test Code:

File ID: 08080608.D

Batch ID: MS15W0806K5

Analysis Date: 08/06/2008 10:42

Sample ID: 08080506-04AMSD

Units: µg/L

Run ID: MSD\_15\_080806A

Prep Date: 08/06/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	38.2	2.5	50	0	76	20	137	42.11	9.9(20)	
Chloromethane	25.3	10	50	0	51	31	148	27.26	7.4(20)	
Vinyl chloride	40.4	2.5	50	0	81	46	138	43.14	6.6(20)	
Chloroethane	53.5	2.5	50	0	107	34	170	53.3	0.3(20)	
Bromomethane	48.5	10	50	0	97	20	189	42.91	12.2(20)	
Trichlorofluoromethane	67.6	2.5	50	0	135	51	156	78.52	15.0(20)	
1,1-Dichloroethene	44.7	2.5	50	0	89	66	132	48.49	8.2(20)	
Dichloromethane	45.2	10	50	0	90	48	145	46.91	3.7(20)	
trans-1,2-Dichloroethene	47.1	2.5	50	0	94	68	132	49.56	5.0(20)	
Methyl tert-butyl ether (MTBE)	56.2	1.3	50	0	112	62	139	55.18	1.9(20)	
1,1-Dichloroethane	45.9	2.5	50	0	92	70	130	48.45	5.4(20)	
cis-1,2-Dichloroethene	50.9	2.5	50	0	102	70	130	52.84	3.7(20)	
Bromochloromethane	55.5	2.5	50	0	111	70	130	55.87	0.7(20)	
Chloroform	67.4	2.5	50	15.83	103	70	130	70.02	3.9(20)	
2,2-Dichloropropane	54.4	2.5	50	0	109	50	152	59.49	9.0(20)	
1,2-Dichloroethane	58.2	2.5	50	0	116	65	136	59.94	3.0(20)	
1,1,1-Trichloroethane	54.5	2.5	50	0	109	67	133	59.88	9.0(20)	
1,1-Dichloropropene	49.1	2.5	50	0	98	70	130	53.16	7.9(20)	
Carbon tetrachloride	55.5	2.5	50	0	111	61	142	62.51	12.0(20)	
Benzene	44.9	1.3	50	0	90	70	130	46.88	4.3(20)	
Dibromomethane	59.3	2.5	50	0	119	69	130	58.42	1.4(20)	
1,2-Dichloropropane	45.9	2.5	50	0	92	70	132	46.75	1.9(20)	
Trichloroethene	48.9	2.5	50	0	98	69	130	52	6.1(20)	
Bromodichloromethane	65.6	2.5	50	5.32	121	70	130	68.09	3.7(20)	
cis-1,3-Dichloropropene	46.6	2.5	50	0	93	66	130	46.86	0.6(20)	
trans-1,3-Dichloropropene	49.2	2.5	50	0	98	65	134	49.24	0.1(20)	
1,1,2-Trichloroethane	51.6	2.5	50	0	103	67	132	51.21	0.8(20)	
Toluene	41.7	1.3	50	0	83	67	130	42.98	3.1(20)	
1,3-Dichloropropane	46.8	2.5	50	0	94	70	130	46.44	0.7(20)	
Dibromochloromethane	51.8	2.5	50	0	104	66	130	50.88	2.2(20)	
1,2-Dibromoethane (EDB)	105	10	100	0	105	70	130	104.2	0.7(20)	
Tetrachloroethene	46.9	2.5	50	0	94	59	135	49.15	4.8(20)	
1,1,1,2-Tetrachloroethane	53	2.5	50	0	106	70	130	53.86	1.2(20)	
Chlorobenzene	45.9	2.5	50	0	92	70	130	46.55	1.5(20)	
Ethylbenzene	45.5	1.3	50	0	91	70	130	47.28	3.9(20)	
m,p-Xylene	48.1	1.3	50	0	96	69	130	49.94	3.8(20)	
Bromoform	57.4	2.5	50	0	115	57	132	56.5	1.5(20)	
Styrene	46.9	2.5	50	0	94	58	135	47.37	1.1(20)	
o-Xylene	45.9	1.3	50	0	92	70	130	46.76	1.9(20)	
1,1,2,2-Tetrachloroethane	41.7	2.5	50	0	83	65	137	41.17	1.2(20)	
1,2,3-Trichloropropane	99.1	10	100	0	99	67	132	98.87	0.2(20)	
Isopropylbenzene	45.4	2.5	50	0	91	70	130	48.03	5.7(20)	
Bromobenzene	46.9	2.5	50	0	94	70	130	47.76	1.8(20)	
n-Propylbenzene	44.6	2.5	50	0	89	70	130	47.6	6.5(20)	
4-Chlorotoluene	47.4	2.5	50	0	95	70	130	48.99	3.3(20)	
2-Chlorotoluene	46.7	2.5	50	0	93	70	130	48.15	3.0(20)	
1,3,5-Trimethylbenzene	47.3	2.5	50	0	95	68	141	49.6	4.7(20)	
tert-Butylbenzene	43.5	2.5	50	0	87	70	130	52.32	18.4(20)	
1,2,4-Trimethylbenzene	48	2.5	50	0	96	67	146	50.13	4.4(20)	
sec-Butylbenzene	45.7	2.5	50	0	91	70	130	48.56	6.0(20)	
1,3-Dichlorobenzene	46.3	2.5	50	0	93	70	130	47.14	1.7(20)	
1,4-Dichlorobenzene	46.7	2.5	50	0	93	70	130	46.97	0.6(20)	
4-Isopropyltoluene	47.4	2.5	50	0	95	70	133	50.15	5.7(20)	
1,2-Dichlorobenzene	43.8	2.5	50	0	88	70	130	44.28	1.1(20)	
n-Butylbenzene	46.2	2.5	50	0	92	66	145	49.01	6.0(20)	
1,2-Dibromo-3-chloropropane (DBCP)	229	15	250	0	92	57	137	225.4	1.7(20)	
1,2,4-Trichlorobenzene	49.3	10	50	0	99	39	157	46.9	5.0(20)	
Naphthalene	44.2	10	50	0	88	26	163	41.49	6.4(20)	
Hexachlorobutadiene	103	10	100	0	103	35	172	105.7	2.4(20)	
1,2,3-Trichlorobenzene	51.1	10	50	0	102	30	170	46.82	9.1(20)	
Surr: 1,2-Dichloroethane-d4	52.3		50		105	75	128			
Surr: Toluene-d8	46.1		50		92	80	120			
Surr: 4-Bromofluorobenzene	51.2		50		102	70	130			



# Alpha Analytical, Inc.

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Date:  
19-Aug-08

## OC Summary Report

Work Order:  
08080506

### Sample Matrix Spike Duplicate

Type **MSD**

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

File ID: **08080610.D**

Batch ID: **MS15W0806K5**

Analysis Date: **08/06/2008 11:27**

Sample ID: **08080506-09AMSD**

Units: **µg/L**

Run ID: **MSD\_15\_080806A**

Prep Date: **08/06/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	40.5	2.5	50	0	81	20	137	43.38	7.0(20)	
Chloromethane	28.2	10	50	0	56	31	148	32.39	13.9(20)	
Vinyl chloride	44.8	2.5	50	0	90	46	138	47.39	5.7(20)	
Chloroethane	54.1	2.5	50	0	108	34	170	61.35	12.6(20)	
Bromomethane	60.8	10	50	0	122	20	189	61.53	1.2(20)	
Trichlorofluoromethane	70.5	2.5	50	0	141	51	156	77.09	9.0(20)	
1,1-Dichloroethene	48.7	2.5	50	0	97	66	132	51.45	5.4(20)	
Dichloromethane	47.2	10	50	0	94	48	145	47.4	0.4(20)	
trans-1,2-Dichloroethene	51.6	2.5	50	0	103	68	132	52.1	1.0(20)	
Methyl tert-butyl ether (MTBE)	58.2	1.3	50	0	116	62	139	57.24	1.7(20)	
1,1-Dichloroethane	48.9	2.5	50	0	98	70	130	49.47	1.2(20)	
cis-1,2-Dichloroethene	54.5	2.5	50	0	109	70	130	54.79	0.5(20)	
Bromochloromethane	57.9	2.5	50	0	116	70	130	56.18	3.0(20)	
Chloroform	54	2.5	50	0.91	106	70	130	54.55	1.0(20)	
2,2-Dichloropropane	58.1	2.5	50	0	116	50	152	60.31	3.8(20)	
1,2-Dichloroethane	57.7	2.5	50	0	115	65	136	58.34	1.2(20)	
1,1,1-Trichloroethane	57.8	2.5	50	0	116	67	133	60.84	5.1(20)	
1,1-Dichloropropene	52.9	2.5	50	0	106	70	130	55.18	4.1(20)	
Carbon tetrachloride	59.1	2.5	50	0	118	61	142	63.03	6.5(20)	
Benzene	47.5	1.3	50	0	95	70	130	48.25	1.6(20)	
Dibromomethane	59	2.5	50	0	118	69	130	58.47	1.0(20)	
1,2-Dichloropropane	47.6	2.5	50	0	95	70	132	46.92	1.5(20)	
Trichloroethene	52.5	2.5	50	0	105	69	130	53.35	1.7(20)	
Bromodichloromethane	60.6	2.5	50	0	121	70	130	60.08	0.9(20)	
cis-1,3-Dichloropropene	48.3	2.5	50	0	97	66	130	47.4	1.8(20)	
trans-1,3-Dichloropropene	49.8	2.5	50	0	99.6	65	134	48.51	2.6(20)	
1,1,2-Trichloroethane	52.3	2.5	50	0	105	67	132	51.43	1.6(20)	
Toluene	45.2	1.3	50	0	90	67	130	44.8	0.9(20)	
1,3-Dichloropropane	49.4	2.5	50	0	99	70	130	47.96	2.9(20)	
Dibromochloromethane	53.5	2.5	50	0	107	66	130	51.7	3.4(20)	
1,2-Dibromoethane (EDB)	109	10	100	0	109	70	130	106.1	2.5(20)	
Tetrachloroethene	51.6	2.5	50	0	103	59	135	52.82	2.3(20)	
1,1,1,2-Tetrachloroethane	55.4	2.5	50	0	111	70	130	53.88	2.7(20)	
Chlorobenzene	48.8	2.5	50	0	98	70	130	48.18	1.3(20)	
Ethylbenzene	48.5	1.3	50	0	97	70	130	48.93	0.8(20)	
m,p-Xylene	51.7	1.3	50	0	103	69	130	51.92	0.5(20)	
Bromoform	58.2	2.5	50	0	116	57	132	57.4	1.4(20)	
Styrene	49.4	2.5	50	0	99	58	135	48.16	2.6(20)	
o-Xylene	49.6	1.3	50	0	99	70	130	48.11	3.0(20)	
1,1,2,2-Tetrachloroethane	42.5	2.5	50	0	85	65	137	41.76	1.8(20)	
1,2,3-Trichloropropane	102	10	100	0	102	67	132	98.24	3.5(20)	
Isopropylbenzene	48.5	2.5	50	0	97	70	130	49.57	2.3(20)	
Bromobenzene	48.5	2.5	50	0	97	70	130	47.65	1.8(20)	
n-Propylbenzene	48.3	2.5	50	0	97	70	130	49.35	2.2(20)	
4-Chlorotoluene	50.6	2.5	50	0	101	70	130	49.35	2.5(20)	
2-Chlorotoluene	49.2	2.5	50	0	98	70	130	49.41	0.5(20)	
1,3,5-Trimethylbenzene	49.7	2.5	50	0	99	68	141	50.62	1.9(20)	
tert-Butylbenzene	46.7	2.5	50	0	93	70	130	53.75	14.1(20)	
1,2,4-Trimethylbenzene	50.3	2.5	50	0	101	67	146	50.55	0.5(20)	
sec-Butylbenzene	49.6	2.5	50	0	99	70	130	50.32	1.5(20)	
1,3-Dichlorobenzene	48.5	2.5	50	0	97	70	130	48.05	1.0(20)	
1,4-Dichlorobenzene	48.4	2.5	50	0	97	70	130	47.97	0.9(20)	
4-Isopropyltoluene	50.8	2.5	50	0	102	70	133	52.02	2.5(20)	
1,2-Dichlorobenzene	45.2	2.5	50	0	90	70	130	44.82	0.8(20)	
n-Butylbenzene	49.4	2.5	50	0	99	66	145	50.95	3.1(20)	
1,2-Dibromo-3-chloropropane (DBCP)	232	15	250	0	93	57	137	231.1	0.3(20)	
1,2,4-Trichlorobenzene	51.9	10	50	0	104	39	157	49.94	3.8(20)	
Naphthalene	47	10	50	0	94	26	163	44.71	4.9(20)	
Hexachlorobutadiene	111	10	100	0	111	35	172	113.9	2.9(20)	
1,2,3-Trichlorobenzene	54.2	10	50	0	108	30	170	52.12	3.8(20)	
Surr: 1,2-Dichloroethane-d4	49		50		98	75	128			
Surr: Toluene-d8	47.4		50		95	80	120			
Surr: 4-Bromofluorobenzene	50.7		50		101	70	130			



# *Alpha Analytical, Inc.*

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

**Date:**  
19-Aug-08

## OC Summary Report

**Work Order:**  
08080506

**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.

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

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





**Billing Information :**

Battelle  
505 King Avenue  
Columbus, OH 43201

**CHAIN-OF-CUSTODY RECORD**

**CA**

**Alpha Analytical, Inc.**

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

**WorkOrder : BMI08080506**  
**Report Due By : 5:00 PM On : 19-Aug-08**

**Client:**  
Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

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

**EDD Required : Yes**

PO : 218017

Sampled by : Client  
Cooler Temp    Samples Received    Date Printed  
4 °C    05-Aug-08    05-Aug-08

Client's COC # : 026287, 026288, 026289    Job : G005862/JPL Groundwater Monitoring  
QC Level : S4    = Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests						Sample Remarks		
						314_W	ANIONS(A)_W	ANIONS(B)_W	ANIONS(C)_W	CONDUCTI VITY	METALS_D W		VOC_TIC_W	VOC_W
BMI08080506-11A	MW-25-1	08/01/08 10:18	5	0	10	Perrchlorate				Perrchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI08080506-12A	EB-10-8/1/08	08/01/08 10:02	5	0	10	Perrchlorate				Perrchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	Equipment Blank
BMI08080506-13A	TB-10-8/1/08	08/01/08 00:00	1	0	10							VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 6/24/08. Only 1 HCl vva received whereas COC states 2.
BMI08080506-14A	MW-26-2	08/04/08 11:30	5	0	10	Perrchlorate				Perrchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI08080506-15A	MW-26-1	08/04/08 12:05	5	0	10	Perrchlorate				Perrchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	

**Comments:** No security seals. Frozen ice. Temp Blank #7848 rec'd @ 4°. Level IV QC. Perrchlorate RL of 1.0 ug/L. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by: Elizabeth Sauvageau    Signature: Elizabeth Sauvageau    Print Name: Elizabeth Sauvageau    Company: Alpha Analytical, Inc.    Date/Time: 8-5-08 11:17

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

**Billing Information:**

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



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

**Samples Collected From Which State?** 026287  
 AZ  CA  NV  WA   
 ID  OR  OTHER   
 Page # 1 of 1

**Analyses Required**

Required QC Level?  
 I  II  III  IV

EDD / EDF? YES  NO

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

Client Name	Address	City, State, Zip	PO #	Job #	Phone #	Fax #	Matrix* See Key Below	Sampled by	Lab ID Number (Use Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Analyses Required	EDD / EDF? YES <input type="checkbox"/> NO <input type="checkbox"/>	Global ID #	REMARKS
DAVID CONNER	3990 OLD TOWN AVE, C-205	SPRINGFIELD, CA 92110	218017	6005862	619-726-7311		AR	BMI08080506-01	MW-24-4			NORM	1		VOC (624.2) TOTAL Cr (200.8) COU- (514.0) CI, NO3, SO4 (300.8) NITRATE, O-PHOSPHATE			
									MW-24-3				5	X				
									MW-24-2				5	X				
									MW-24-1				10	X				MS/MSD
									MW-24-1				5	X				EQUIPMENT BLANK
									MW-24-1				2	X				T21P BLANK

**ADDITIONAL INSTRUCTIONS:**

Signature	Print Name	Company	Date	Time
	CHASE BRANDON	MS/MSD	08/04/08	1330
	E. Savarogian	Dequa	8-5-08	1117
Received by _____				
Relinquished by _____				
Relinquished by _____				
Received by _____				

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







# Alpha Analytical, Inc.

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

**Date:** 16-Sep-08

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

## CASE NARRATIVE

**Project:** G005862 / JPL Goundwater Monitoring

**Work Order:** BMI08080649

**Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
08080649-01A	MW-7	Aqueous
08080649-02A	TB-12-08/05/08	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*

*Randy Gardner*

*Walter Hinchman*

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

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



# Alpha Analytical, Inc.

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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 : 08/06/08

Job#: G005862/ JPL Goundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-7	Nitrite (NO <sub>2</sub> ) - N	ND	0.25 mg/L	08/05/08 09:55	08/06/08 14:44
Lab ID : BMI08080649-01A	Nitrate (NO <sub>3</sub> ) - N	1.0	0.25 mg/L	08/05/08 09:55	08/06/08 14:44
	Phosphate, ortho - P	ND	0.25 mg/L	08/05/08 09:55	08/06/08 14:44

ND = Not Detected

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<sup>e</sup>  
8/19/08  
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 : 08/06/08

Job#: G005862/ JPL Goundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-7				
Lab ID : BMI08080649-01A				
Chloride	63	5.0 mg/L	08/05/08	08/06/08
Sulfate (SO4)	50	0.50 mg/L	08/05/08	08/06/08

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8/19/08

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 : 08/06/08

Job#: G005862/ JPL Goundwater Monitoring

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

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-7				
Lab ID : BMI08080649-01A	Specific Conductance (at 25°C)	620	10 µS/cm	08/05/08 08/06/08

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<sup>c</sup>  
8/19/08  
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 : 08/06/08

Job#: G005862/ JPL Goundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-7				
Lab ID : BMI08080649-01A    Perchlorate	1.52	1.00 µg/L	08/05/08	08/08/08

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*e*  
8/19/08

**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 : 08/06/08

Job#: G005862/ JPL Goundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-7</b>				
Lab ID : BMI08080649-01A    Chromium (Cr)	0.0065	0.0050 mg/L	08/05/08	08/15/08

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

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~~8/19/08~~

**Report Date**



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## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/ JPL Goundwater 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: <b>MW-7</b>						
Lab ID: BMI08080649-01A	*** None Found ***	ND	2.0 µg/L	08/06/08	08/05/08	08/14/08
Client ID: <b>TB-12-08/05/08</b>						
Lab ID: BMI08080649-02A	*** None Found ***	ND	2.0 µg/L	08/06/08	08/05/08	08/14/08

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

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8/19/08

**Report Date**

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/ JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080649-01A  
Client I.D. Number: MW-7

Sampled: 08/05/08  
Received: 08/06/08  
Analyzed: 08/14/08

### Volatile Organics by GC/MS

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	46 Bromobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
16 Chloroform	7.9	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	94	(70-130) %REC
21 Carbon tetrachloride	ND	0.50 µg/L	65 Surr: Toluene-d8	99	(70-130) %REC
22 Benzene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	109	(70-130) %REC
23 Dibromomethane	ND	0.50 µg/L			
24 1,2-Dichloropropane	ND	0.50 µg/L			
25 Trichloroethene	ND	0.50 µg/L			
26 Bromodichloromethane	7.8	0.50 µg/L			
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L			
28 cis-1,3-Dichloropropene	ND	0.50 µg/L			
29 trans-1,3-Dichloropropene	ND	0.50 µg/L			
30 1,1,2-Trichloroethane	ND	0.50 µg/L			
31 Toluene	1.2	0.50 µg/L			
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	1.3	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			
36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L			
37 Chlorobenzene	ND	0.50 µg/L			
38 Ethylbenzene	ND	0.50 µg/L			
39 m,p-Xylene	ND	0.50 µg/L			
40 Bromoform	ND	0.50 µg/L			
41 Styrene	ND	0.50 µg/L			
42 o-Xylene	ND	0.50 µg/L			
43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L			
44 1,2,3-Trichloropropane	ND	1.0 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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

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*JJG*

8/19/08

Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862/ JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08080649-02A  
Client I.D. Number: TB-12-08/05/08

Sampled: 08/05/08  
Received: 08/06/08  
Analyzed: 08/14/08

### Volatile Organics by GC/MS

Compound	Concentration	Reporting Limit	Compound	Concentration	Reporting Limit
1 Dichlorodifluoromethane	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
2 Chloromethane	ND	1.0 µg/L	46 Bromobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
5 Bromomethane	ND	1.0 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
16 Chloroform	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	95	(70-130) %REC
21 Carbon tetrachloride	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
22 Benzene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	111	(70-130) %REC
23 Dibromomethane	ND	0.50 µg/L			
24 1,2-Dichloropropane	ND	0.50 µg/L			
25 Trichloroethene	ND	0.50 µg/L			
26 Bromodichloromethane	ND	0.50 µg/L			
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L			
28 cis-1,3-Dichloropropene	ND	0.50 µg/L			
29 trans-1,3-Dichloropropene	ND	0.50 µg/L			
30 1,1,2-Trichloroethane	ND	0.50 µg/L			
31 Toluene	ND	0.50 µg/L			
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			
36 1,1,1,2-Tetrachloroethane	ND	0.50 µg/L			
37 Chlorobenzene	ND	0.50 µg/L			
38 Ethylbenzene	ND	0.50 µg/L			
39 m,p-Xylene	ND	0.50 µg/L			
40 Bromoform	ND	0.50 µg/L			
41 Styrene	ND	0.50 µg/L			
42 o-Xylene	ND	0.50 µg/L			
43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L			
44 1,2,3-Trichloropropane	ND	1.0 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

8/19/08

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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# Alpha Analytical, Inc.

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

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

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## VOC Sample Preservation Report

**Work Order:** BMI08080649

**Project:** G005862/ JPL Goundwater Monitoring

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Alpha's Sample ID	Client's Sample ID	Matrix	pH
08080649-01A	MW-7	Aqueous	2
08080649-02A	TB-12-08/05/08	Aqueous	2

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8/19/08

Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

Date:  
14-Aug-08

## QC Summary Report

Work Order:  
08080649

### Method Blank

File ID: 13	Type MBLK	Test Code: EPA Method 300.0 / 9056									
Sample ID: MB-20376	Units: mg/L	Batch ID: 20376A		Analysis Date: 08/06/2008 13:48							
Analyte	Result	PQL	Run ID: IC_2_080806A	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	ND	0.25									
Nitrate (NO3) - N	ND	0.25									
Phosphate, ortho - P	ND	0.25									

### Laboratory Fortified Blank

File ID: 14	Type LFB	Test Code: EPA Method 300.0 / 9056									
Sample ID: LFB-20376	Units: mg/L	Batch ID: 20376A		Analysis Date: 08/06/2008 14:07							
Analyte	Result	PQL	Run ID: IC_2_080806A	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.16	0.25	1.25			93	90	110			
Nitrate (NO3) - N	1.19	0.25	1.25			96	90	110			
Phosphate, ortho - P	1.2	0.25	1.25			96	90	110			

### Sample Matrix Spike

File ID: 17	Type LFM	Test Code: EPA Method 300.0 / 9056									
Sample ID: 08080649-01ALFM	Units: mg/L	Batch ID: 20376A		Analysis Date: 08/06/2008 15:02							
Analyte	Result	PQL	Run ID: IC_2_080806A	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.3	0.25	1.25	0	104	80	120				
Nitrate (NO3) - N	2.25	0.25	1.25	1.044	97	80	120				
Phosphate, ortho - P	1.2	0.25	1.25	0	96	80	120				

### Sample Matrix Spike Duplicate

File ID: 18	Type LFMD	Test Code: EPA Method 300.0 / 9056									
Sample ID: 08080649-01ALFMD	Units: mg/L	Batch ID: 20376A		Analysis Date: 08/06/2008 15:21							
Analyte	Result	PQL	Run ID: IC_2_080806A	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.33	0.25	1.25	0	107	80	120	1.302	2.4(10)		
Nitrate (NO3) - N	2.22	0.25	1.25	1.044	94	80	120	2.252	1.3(10)		
Phosphate, ortho - P	1.26	0.25	1.25	0	101	80	120	1.201	4.7(10)		

### Comments:

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



# Alpha Analytical, Inc.

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Date:  
14-Aug-08

## QC Summary Report

Work Order:  
08080649

### Method Blank

File ID: 13	Type MBLK	Test Code: EPA Method 300.0 / 9056	Batch ID: 20376B	Analysis Date: 08/06/2008 13:48
Sample ID: MB-20376	Units : mg/L	Run ID: IC_2_080806A	Prep Date: 08/06/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Sulfate (SO4)	ND	0.5		

### Laboratory Fortified Blank

File ID: 14	Type LFB	Test Code: EPA Method 300.0 / 9056	Batch ID: 20376B	Analysis Date: 08/06/2008 14:07
Sample ID: LFB-20376	Units : mg/L	Run ID: IC_2_080806A	Prep Date: 08/06/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Sulfate (SO4)	9.83	0.5	10	98 90 110

### Sample Matrix Spike

File ID: 17	Type LFM	Test Code: EPA Method 300.0 / 9056	Batch ID: 20376B	Analysis Date: 08/06/2008 15:02
Sample ID: 08080649-01ALFM	Units : mg/L	Run ID: IC_2_080806A	Prep Date: 08/06/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Sulfate (SO4)	60.5	0.5	10	49.63 109 80 120

### Sample Matrix Spike Duplicate

File ID: 18	Type LFMD	Test Code: EPA Method 300.0 / 9056	Batch ID: 20376B	Analysis Date: 08/06/2008 15:21
Sample ID: 08080649-01ALFMD	Units : mg/L	Run ID: IC_2_080806A	Prep Date: 08/06/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual
Sulfate (SO4)	60.3	0.5	10	49.63 107 80 120 60.53 0.4(10)

### Comments:

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Date:  
14-Aug-08

## QC Summary Report

Work Order:  
08080649

### Method Blank

File ID: 13	Type MBLK	Test Code: EPA Method 300.0 / 9056								
Sample ID: MB-20376	Units : mg/L	Batch ID: 20376C		Analysis Date: 08/06/2008 13:48						
Analyte	Result	PQL	Run ID: IC_2_080806B	Prep Date: 08/06/2008						
Chloride	ND	0.5								

### Laboratory Fortified Blank

File ID: 14	Type LFB	Test Code: EPA Method 300.0 / 9056								
Sample ID: LFB-20376	Units : mg/L	Batch ID: 20376C		Analysis Date: 08/06/2008 14:07						
Analyte	Result	PQL	Run ID: IC_2_080806B	Prep Date: 08/06/2008						
Chloride	4.6	0.5	5	92	90	110				

### Sample Matrix Spike

File ID: 20	Type LFM	Test Code: EPA Method 300.0 / 9056								
Sample ID: 08080649-01ALFM	Units : mg/L	Batch ID: 20376C		Analysis Date: 08/06/2008 15:58						
Analyte	Result	PQL	Run ID: IC_2_080806B	Prep Date: 08/06/2008						
Chloride	112	0.5	50	63.08	98	80	120			

### Sample Matrix Spike Duplicate

File ID: 21	Type LFMD	Test Code: EPA Method 300.0 / 9056								
Sample ID: 08080649-01ALFMD	Units : mg/L	Batch ID: 20376C		Analysis Date: 08/06/2008 16:16						
Analyte	Result	PQL	Run ID: IC_2_080806B	Prep Date: 08/06/2008						
Chloride	112	0.5	50	63.08	97	80	120	112.1	0.5(10)	

### Comments:

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Date:  
14-Aug-08

## OC Summary Report

Work Order:  
08080649

### Method Blank

File ID: 13	Type MBLK	Test Code: EPA Method 314.0	Batch ID: 20384	Analysis Date: 08/07/2008 18:43
Sample ID: MBLK-20384	Units : µg/L	Run ID: IC_3_080807A	Prep Date: 08/07/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDPRefVal %RPD(Limit) Qual
Perchlorate	ND	1		

### Laboratory Fortified Blank

File ID: 14	Type LFB	Test Code: EPA Method 314.0	Batch ID: 20384	Analysis Date: 08/07/2008 19:02
Sample ID: LFB-20384	Units : µg/L	Run ID: IC_3_080807A	Prep Date: 08/07/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDPRefVal %RPD(Limit) Qual
Perchlorate	25.7	2	25	103 85 115

### Sample Matrix Spike

File ID: 19	Type LFM	Test Code: EPA Method 314.0	Batch ID: 20384	Analysis Date: 08/07/2008 20:34
Sample ID: 08080506-04ALFM	Units : µg/L	Run ID: IC_3_080807A	Prep Date: 08/07/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDPRefVal %RPD(Limit) Qual
Perchlorate	23.5	2	25	1.137 90 80 120

### Sample Matrix Spike Duplicate

File ID: 20	Type LFMD	Test Code: EPA Method 314.0	Batch ID: 20384	Analysis Date: 08/07/2008 20:52
Sample ID: 08080506-04ALFMD	Units : µg/L	Run ID: IC_3_080807A	Prep Date: 08/07/2008	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC LCL(ME) UCL(ME) RPDPRefVal %RPD(Limit) Qual
Perchlorate	23.2	2	25	1.137 88 80 120 23.53 1.3(15)

### Comments:

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# Alpha Analytical, Inc.

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Date:  
14-Aug-08

## QC Summary Report

Work Order:  
08080649

### Method Blank

Type **MBLK** Test Code: **EPA Method 120.1 / SM2510B / SW9050A**

File ID:

Batch ID: **W0806CN**

Analysis Date: **08/06/2008 00:00**

Sample ID: **MBLK-W0806CN**

Units : **µS/cm**

Run ID: **WETLAB\_080806E**

Prep Date: **08/06/2008**

Analyte

Result

PQL

SpkVal

SpkRefVal

%REC

LCL(ME)

UCL(ME)

RPDRefVal

%RPD(Limit)

Qual

Specific Conductance (at 25°C)

ND

10

### Laboratory Control Spike

Type **LCS**

Test Code: **EPA Method 120.1 / SM2510B / SW9050A**

File ID:

Batch ID: **W0806CN**

Analysis Date: **08/06/2008 00:00**

Sample ID: **LCS-W0806CN**

Units : **µS/cm**

Run ID: **WETLAB\_080806E**

Prep Date: **08/06/2008**

Analyte

Result

PQL

SpkVal

SpkRefVal

%REC

LCL(ME)

UCL(ME)

RPDRefVal

%RPD(Limit)

Qual

Specific Conductance (at 25°C)

1420

10

1410

100

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.



# Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778  
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Date:  
19-Aug-08

## OC Summary Report

Work Order:  
08080649

### Method Blank

File ID: 081408.BVA034SMPL.D

Sample ID: MB-20397

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

### Laboratory Control Spike

File ID: 081408.BVA018\_LCS.D

Sample ID: LCS-20397

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0513	0.005	0.05		103	80	120			

### Sample Matrix Spike

File ID: 081408.BVA038SMPL.D

Sample ID: 08080506-04AMS

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0638	0.005	0.05	0.01082	106	80	120			

### Sample Matrix Spike Duplicate

File ID: 081408.BVA039SMPL.D

Sample ID: 08080506-04AMSD

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0606	0.005	0.05	0.01082	99.6	80	120	0.06378	5.1(20)	

### Comments:

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Billing Information :

Battelle  
505 King Avenue

Columbus, OH 43201

Client:  
Battelle Memorial Institute  
505 King Avenue

Columbus, OH 43201

PO : 218017

Client's COC # : 026272

QC Level : S4

Job : G005862/ JPL Groundwater Monitoring  
= Final Rpt MBLK, InitCal/Concal data, LCS, MS/MSD With Surrogates

# CHAIN-OF-CUSTODY RECORD

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

# CA

**WorkOrder : BMI08080649**  
**Report Due By : 5:00 PM On : 20-Aug-08**

Report Attention Phone Number Email Address  
David Comer (619) 574-4827 x comment@battelle.org

EDD Required : Yes

Sampled by : Client

Cooler Temp 4 °C Samples Received 06-Aug-08 Date Printed 06-Aug-08

Alpha Sample ID	Client Sample ID	Collection Matrix Date	No. of Bottles		Requested Tests						Sample Remarks			
			Alpha	Sub TAT	314_W	ANIONS(A)_W	ANIONS(S)_W	ANIONS(C)_W	CONDUCTI_VNTY	METALS_D_W		VOC_TIC_W	VOC_W	
BMI08080649-01A	MW-7	AQ 08/05/08 09:55	5	0	10	Perchlorate	NO2,NO3,PO4,S04,Cl	NO2,NO3,PO4,S04,Cl	NO2,NO3,PO4,S04,Cl	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI08080649-02A	TB-12-08/05/08	AQ 08/05/08 00:00	2	0	10							VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blanks 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).

Signature: Tasha Pasca Print Name: Tasha Pasca Company: Alpha Analytical, Inc. Date/Time: 8/20/08 1230

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





# Alpha Analytical, Inc.

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

Date: 25-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: BMI08081223

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
08081223-01A	MW-5	Aqueous
08081223-02A	MW-6	Aqueous
08081223-03A	TB-13-08/08/08	Aqueous
08081223-04A	MW-15	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*

*Randy Gardner*

*Walter Hinchman*

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

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

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



# Alpha Analytical, Inc.

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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: <b>MW-5</b>						
Lab ID: BMI08081223-01A	*** None Found ***	ND	2.0 µg/L	08/12/08	08/08/08	08/15/08
Client ID: <b>MW-6</b>						
Lab ID: BMI08081223-02A	*** None Found ***	ND	2.0 µg/L	08/12/08	08/08/08	08/15/08
Client ID: <b>TB-13-08/08/08</b>						
Lab ID: BMI08081223-03A	*** None Found ***	ND	2.0 µg/L	08/12/08	08/08/08	08/15/08

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.

8/25/08

Report Date

Page 1 of 1





# Alpha Analytical, Inc.

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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

Alpha Analytical Number: BMI08081223-01A  
Client I.D. Number: MW-5

Sampled: 08/08/08  
Received: 08/12/08  
Analyzed: 08/15/08

### 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	2.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	2.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	2.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	2.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	97	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	112	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	2.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer  
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8/25/08

Report Date

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862 / JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08081223-02A  
Client I.D. Number: MW-6

Sampled: 08/08/08  
Received: 08/12/08  
Analyzed: 08/15/08

### 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	2.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	2.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	2.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	2.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	0.61	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0 µg/L
25 Trichloroethene	2.2	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	95	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	0.78	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	112	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	2.0 µg/L			
35 Tetrachloroethene	1.3	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer  
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8/25/08

Report Date

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862 / JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08081223-03A  
Client I.D. Number: TB-13-08/08/08

Sampled: 08/08/08  
Received: 08/12/08  
Analyzed: 08/15/08

### 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	2.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	2.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	2.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	2.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	93	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	ND	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	112	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	2.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer  
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8/25/08

Report Date

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# Alpha Analytical, Inc.

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

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

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## VOC Sample Preservation Report

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**Work Order:** BMI08081223

**Project:** G005862 / JPL Groundwater Monitoring

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Alpha's Sample ID	Client's Sample ID	Matrix	pH
08081223-01A	MW-5	Aqueous	2
08081223-02A	MW-6	Aqueous	2
08081223-03A	TB-13-08/08/08	Aqueous	2

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8/25/08

**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 : 08/12/08

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 : <b>MW-5</b>				
Lab ID : BMI08081223-01A	Specific Conductance (at 25°C)	340	10 µS/cm	08/08/08 08/12/08
Client ID : <b>MW-6</b>				
Lab ID : BMI08081223-02A	Specific Conductance (at 25°C)	1,300	10 µS/cm	08/08/08 08/12/08

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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 : 08/12/08

Job#: G005862 / JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-5</b> Lab ID : BMI08081223-01A      Perchlorate	1.12	1.00 µg/L	08/08/08	08/14/08
Client ID : <b>MW-6</b> Lab ID : BMI08081223-02A      Perchlorate	2.02	1.00 µg/L	08/08/08	08/14/08

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

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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 : 08/12/08

Job#: G005862 / JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-5</b> Lab ID : BMI08081223-01A Chromium (Cr)	ND	0.0050 mg/L	08/08/08	08/15/08
Client ID : <b>MW-6</b> Lab ID : BMI08081223-02A Chromium (Cr)	0.0099	0.0050 mg/L	08/08/08	08/15/08
Client ID : <b>MW-15</b> Lab ID : BMI08081223-04A Chromium (Cr)	0.0051	0.0050 mg/L	08/08/08	08/15/08

ND = Not Detected

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

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8/25/08

Report Date



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

Date:  
22-Aug-08

## QC Summary Report

Work Order:  
08081223

### Method Blank

File ID: 18	Type MBLK	Test Code: EPA Method 314.0	Batch ID: 20433	Analysis Date: 08/14/2008 10:28						
Sample ID: MBLK-20433	Units : µg/L	Run ID: IC_3_080814A	Prep Date: 08/13/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND		1							

### Laboratory Fortified Blank

File ID: 16	Type LFB	Test Code: EPA Method 314.0	Batch ID: 20433	Analysis Date: 08/14/2008 09:51						
Sample ID: LFB-20433	Units : µg/L	Run ID: IC_3_080814A	Prep Date: 08/13/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.8	2	25	91	85	115				

### Sample Matrix Spike

File ID: 20	Type LFM	Test Code: EPA Method 314.0	Batch ID: 20433	Analysis Date: 08/14/2008 11:05						
Sample ID: 08081251-01ALFM	Units : µg/L	Run ID: IC_3_080814A	Prep Date: 08/13/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	1890	100	1250	747.7	91	80	120			

### Sample Matrix Spike Duplicate

File ID: 21	Type LFMD	Test Code: EPA Method 314.0	Batch ID: 20433	Analysis Date: 08/14/2008 11:23						
Sample ID: 08081251-01ALFMD	Units : µg/L	Run ID: IC_3_080814A	Prep Date: 08/13/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	1920	100	1250	747.7	93	80	120	1889	1.4(15)	

### Comments:

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





# Alpha Analytical, Inc.

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Date:  
22-Aug-08

## OC Summary Report

Work Order:  
08081223

### Method Blank

Type **MBLK** Test Code: **EPA Method 120.1 / SM2510B / SW9050A**

File ID: Batch ID: **W0812CN** Analysis Date: **08/12/2008 00:00**  
Sample ID: **MBLK-W0812CN** Units : **µS/cm** Run ID: **WETLAB\_080812D** Prep Date: **08/12/2008**  
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual  
Specific Conductance (at 25°C) ND 10

### Laboratory Control Spike

Type **LCS** Test Code: **EPA Method 120.1 / SM2510B / SW9050A**

File ID: Batch ID: **W0812CN** Analysis Date: **08/12/2008 00:00**  
Sample ID: **LCS-W0812CN** Units : **µS/cm** Run ID: **WETLAB\_080812D** Prep Date: **08/12/2008**  
Analyte Result PQL SpkVal SpkRefVal %REC LCL(ME) UCL(ME) RPDRefVal %RPD(Limit) Qual  
Specific Conductance (at 25°C) 1410 10 1410 99.9 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.



# Alpha Analytical, Inc.

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Date:  
25-Aug-08

## OC Summary Report

Work Order:  
08081223

### Method Blank

File ID: 081408.B\B034SMPL.D

Sample ID: MB-20435

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

### Laboratory Control Spike

File ID: 081408.B\B035\_LCS.D

Sample ID: LCS-20435

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0505	0.005	0.05		101	80	120			

### Sample Matrix Spike

File ID: 081408.B\B038SMPL.D

Sample ID: 08081223-01AMS

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0509	0.005	0.05		0	102	80	120		

### Sample Matrix Spike Duplicate

File ID: 081408.B\B039SMPL.D

Sample ID: 08081223-01AMSD

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0504	0.005	0.05		0	101	80	120	0.05086	0.9(20)

### Comments:

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



# Alpha Analytical, Inc.

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Date:  
25-Aug-08

## OC Summary Report

Work Order:  
08081223

### Method Blank

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

File ID: **08081513.D**

Batch ID: **MS15W0815K5**

Analysis Date: **08/15/2008 18:02**

Sample ID: **MBLK MS15W0815K**

Units : **µg/L**

Run ID: **MSD\_15\_080815B**

Prep Date: **08/15/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	9.9		10		99	75	128			
Surr: Toluene-d8	9.92		10		99	80	120			



# Alpha Analytical, Inc.

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

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

Date:

25-Aug-08

## OC Summary Report

Work Order:

08081223

Surr: 4-Bromofluorobenzene 10.8 10 108 70 130

### Laboratory Control Spike

Type LCS

Test Code:

File ID: 08081511.D

Batch ID: MS15W0815K5

Analysis Date: 08/15/2008 17:18

Sample ID: LCS MS15W0815K

Units : µg/L

Run ID: MSD\_15\_080815B

Prep Date: 08/15/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	7.32	1	10		73	70	130			
Chloromethane	9.12	2	10		91	70	130			
Vinyl chloride	10.5	1	10		105	70	130			
Chloroethane	12.4	1	10		124	70	130			
Bromomethane	14.8	2	10		148	70	130			L51
Trichlorofluoromethane	15.1	1	10		151	70	130			L51
1,1-Dichloroethene	10.9	1	10		109	70	130			
Dichloromethane	10.5	2	10		105	70	130			
trans-1,2-Dichloroethene	11.3	1	10		113	70	130			
Methyl tert-butyl ether (MTBE)	12.6	0.5	10		126	70	130			
1,1-Dichloroethane	11.1	1	10		111	70	130			
cis-1,2-Dichloroethene	11.6	1	10		116	70	130			
Bromochloromethane	11.2	1	10		112	70	130			
Chloroform	11.2	1	10		112	70	130			
2,2-Dichloropropane	13.1	1	10		131	70	130			L51
1,2-Dichloroethane	12.5	1	10		125	70	130			
1,1,1-Trichloroethane	12.4	1	10		124	70	130			
1,1-Dichloropropene	12.3	1	10		123	70	130			
Carbon tetrachloride	12	1	10		120	70	130			
Benzene	10.9	0.5	10		109	70	130			
Dibromomethane	12.4	1	10		124	70	130			
1,2-Dichloropropane	10.9	1	10		109	70	130			
Trichloroethene	10.8	1	10		108	70	130			
Bromodichloromethane	12.4	1	10		124	70	130			
cis-1,3-Dichloropropene	10.7	1	10		107	70	130			
trans-1,3-Dichloropropene	11	1	10		110	70	130			
1,1,2-Trichloroethane	11.4	1	10		114	70	130			
Toluene	9.59	0.5	10		96	70	130			
1,3-Dichloropropane	10.2	1	10		102	70	130			
Dibromochloromethane	9.56	1	10		96	70	130			
1,2-Dibromoethane (EDB)	21.2	2	20		106	70	130			
Tetrachloroethene	9.43	1	10		94	70	130			
1,1,1,2-Tetrachloroethane	10.1	1	10		101	70	130			
Chlorobenzene	9.64	1	10		96	70	130			
Ethylbenzene	10.3	0.5	10		103	70	130			
m,p-Xylene	10.7	0.5	10		107	70	130			
Bromoform	9.32	1	10		93	70	130			
Styrene	9.88	1	10		99	70	130			
o-Xylene	9.83	0.5	10		98	70	130			
1,1,2,2-Tetrachloroethane	8.86	1	10		89	70	130			
1,2,3-Trichloropropane	18.8	2	20		94	70	130			
Isopropylbenzene	11.6	1	10		116	70	130			
Bromobenzene	10	1	10		100	70	130			
n-Propylbenzene	11.4	1	10		114	70	130			
4-Chlorotoluene	10.9	1	10		109	70	130			
2-Chlorotoluene	10.9	1	10		109	70	130			
1,3,5-Trimethylbenzene	11.8	1	10		118	70	130			
tert-Butylbenzene	12.1	1	10		121	70	130			
1,2,4-Trimethylbenzene	11.7	1	10		117	70	130			
sec-Butylbenzene	11.1	1	10		111	70	130			
1,3-Dichlorobenzene	10.1	1	10		101	70	130			
1,4-Dichlorobenzene	10	1	10		100	70	130			
4-Isopropyltoluene	11.5	1	10		115	70	130			
1,2-Dichlorobenzene	9.31	1	10		93	70	130			
n-Butylbenzene	12	1	10		120	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	53.2	3	50		106	57	133			
1,2,4-Trichlorobenzene	9.02	2	10		90	70	130			
Naphthalene	9.24	2	10		92	70	130			
Hexachlorobutadiene	19.5	2	20		98	70	130			
1,2,3-Trichlorobenzene	9.14	2	10		91	70	130			
Surr: 1,2-Dichloroethane-d4	8.75		10		88	75	128			
Surr: Toluene-d8	9.31		10		93	80	120			
Surr: 4-Bromofluorobenzene	11.1		10		111	70	130			



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Date:  
25-Aug-08

## OC Summary Report

Work Order:  
08081223

### Sample Matrix Spike

File ID: 08081514.D

Sample ID: 08081421-01AMS

Units: µg/L

Type MS

Test Code:

Batch ID: MS15W0815K5

Analysis Date: 08/15/2008 18:25

Run ID: MSD\_15\_080815B

Prep Date: 08/15/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	46.5	2.5	50	0	93	20	137			
Chloromethane	44.2	10	50	0	88	31	148			
Vinyl chloride	52.6	2.5	50	0	105	46	138			
Chloroethane	59.5	2.5	50	0	119	34	170			
Bromomethane	57.6	10	50	0	115	20	189			
Trichlorofluoromethane	70.6	2.5	50	0	141	51	156			
1,1-Dichloroethene	49.1	2.5	50	0	98	66	132			
Dichloromethane	48.6	10	50	0	97	48	145			
trans-1,2-Dichloroethene	51.6	2.5	50	0	103	68	132			
Methyl tert-butyl ether (MTBE)	66.6	1.3	50	5.25	123	62	139			
1,1-Dichloroethane	51.1	2.5	50	0	102	70	130			
cis-1,2-Dichloroethene	53.2	2.5	50	0	106	70	130			
Bromochloromethane	51.7	2.5	50	0	103	70	130			
Chloroform	52.3	2.5	50	0	105	70	130			
2,2-Dichloropropane	58.5	2.5	50	0	117	50	152			
1,2-Dichloroethane	116	2.5	50	55.24	122	65	136			
1,1,1-Trichloroethane	54.9	2.5	50	0	110	67	133			
1,1-Dichloropropene	54.5	2.5	50	0	109	70	130			
Carbon tetrachloride	53.1	2.5	50	0	106	61	142			
Benzene	49.4	1.3	50	0	99	70	130			
Dibromomethane	56.3	2.5	50	0	113	69	130			
1,2-Dichloropropane	51.6	2.5	50	0	103	70	132			
Trichloroethene	47.7	2.5	50	0	95	69	130			
Bromodichloromethane	58.6	2.5	50	0	117	70	130			
cis-1,3-Dichloropropene	49.3	2.5	50	0	99	66	130			
trans-1,3-Dichloropropene	50.3	2.5	50	0	101	65	134			
1,1,2-Trichloroethane	53.7	2.5	50	0	107	67	132			
Toluene	43.1	1.3	50	0	86	67	130			
1,3-Dichloropropane	48.1	2.5	50	0	96	70	130			
Dibromochloromethane	44.8	2.5	50	0	90	66	130			
1,2-Dibromoethane (EDB)	98.6	10	100	0	99	70	130			
Tetrachloroethene	40.6	2.5	50	0	81	59	135			
1,1,1,2-Tetrachloroethane	46.1	2.5	50	0	92	70	130			
Chlorobenzene	43.8	2.5	50	0	88	70	130			
Ethylbenzene	45.7	1.3	50	0	91	70	130			
m,p-Xylene	47.8	1.3	50	0	96	69	130			
Bromoform	45.2	2.5	50	0	90	57	132			
Styrene	45.2	2.5	50	0	90	58	135			
o-Xylene	44.8	1.3	50	0	90	70	130			
1,1,2,2-Tetrachloroethane	41.3	2.5	50	0	83	65	137			
1,2,3-Trichloropropane	87.9	10	100	0	88	67	132			
Isopropylbenzene	53	2.5	50	0	106	70	130			
Bromobenzene	47.7	2.5	50	0	95	70	130			
n-Propylbenzene	51.1	2.5	50	0	102	70	130			
4-Chlorotoluene	51.3	2.5	50	0	103	70	130			
2-Chlorotoluene	51.2	2.5	50	0	102	70	130			
1,3,5-Trimethylbenzene	54	2.5	50	0	108	68	141			
tert-Butylbenzene	55	2.5	50	0	110	70	130			
1,2,4-Trimethylbenzene	53.9	2.5	50	0	108	67	146			
sec-Butylbenzene	50.1	2.5	50	0	100	70	130			
1,3-Dichlorobenzene	48.1	2.5	50	0	96	70	130			
1,4-Dichlorobenzene	47.8	2.5	50	0	96	70	130			
4-Isopropyltoluene	52.9	2.5	50	0	106	70	133			
1,2-Dichlorobenzene	44.7	2.5	50	0	89	70	130			
n-Butylbenzene	54.6	2.5	50	0	109	66	145			
1,2-Dibromo-3-chloropropane (DBCP)	254	15	250	0	102	57	137			
1,2,4-Trichlorobenzene	43.8	10	50	0	88	39	157			
Naphthalene	44.4	10	50	0	89	26	163			
Hexachlorobutadiene	92.2	10	100	0	92	35	172			
1,2,3-Trichlorobenzene	42.7	10	50	0	85	30	170			
Surr: 1,2-Dichloroethane-d4	44.1		50		88	75	128			
Surr: Toluene-d8	46.3		50		93	80	120			
Surr: 4-Bromofluorobenzene	57.4		50		115	70	130			



# Alpha Analytical, Inc.

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Date:  
25-Aug-08

## OC Summary Report

Work Order:  
08081223

### Sample Matrix Spike Duplicate

File ID: 08081515.D

Type MSD

Test Code:

Batch ID: MS15W0815K5

Analysis Date: 08/15/2008 18:47

Sample ID: 08081421-01AMSD

Units: µg/L

Run ID: MSD\_15\_080815B

Prep Date: 08/15/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	45.9	2.5	50	0	92	20	137	46.54	1.3(20)	
Chloromethane	46.5	10	50	0	93	31	148	44.17	5.1(20)	
Vinyl chloride	50.9	2.5	50	0	102	46	138	52.55	3.3(20)	
Chloroethane	56.4	2.5	50	0	113	34	170	59.46	5.3(20)	
Bromomethane	67.8	10	50	0	136	20	189	57.63	16.3(20)	
Trichlorofluoromethane	65	2.5	50	0	130	51	156	70.64	8.3(20)	
1,1-Dichloroethene	47.1	2.5	50	0	94	66	132	49.1	4.1(20)	
Dichloromethane	48.1	10	50	0	96	48	145	48.56	0.9(20)	
trans-1,2-Dichloroethene	49.7	2.5	50	0	99	68	132	51.64	3.8(20)	
Methyl tert-butyl ether (MTBE)	66.9	1.3	50	5.25	123	62	139	66.55	0.5(20)	
1,1-Dichloroethane	49.3	2.5	50	0	99	70	130	51.09	3.5(20)	
cis-1,2-Dichloroethene	53.1	2.5	50	0	106	70	130	53.19	0.2(20)	
Bromochloromethane	52	2.5	50	0	104	70	130	51.67	0.7(20)	
Chloroform	50.9	2.5	50	0	102	70	130	52.27	2.7(20)	
2,2-Dichloropropane	57	2.5	50	0	114	50	152	58.48	2.6(20)	
1,2-Dichloroethane	117	2.5	50	55.24	123	65	136	116	0.6(20)	
1,1,1-Trichloroethane	52.5	2.5	50	0	105	67	133	54.93	4.5(20)	
1,1-Dichloropropene	52.2	2.5	50	0	104	70	130	54.51	4.4(20)	
Carbon tetrachloride	50.3	2.5	50	0	101	61	142	53.09	5.5(20)	
Benzene	48	1.3	50	0	96	70	130	49.35	2.8(20)	
Dibromomethane	55.4	2.5	50	0	111	69	130	56.25	1.5(20)	
1,2-Dichloropropane	51.1	2.5	50	0	102	70	132	51.6	1.0(20)	
Trichloroethene	46	2.5	50	0	92	69	130	47.67	3.7(20)	
Bromodichloromethane	58	2.5	50	0	116	70	130	58.6	1.0(20)	
cis-1,3-Dichloropropene	48.5	2.5	50	0	97	66	130	49.25	1.5(20)	
trans-1,3-Dichloropropene	50.1	2.5	50	0	100	65	134	50.33	0.5(20)	
1,1,2-Trichloroethane	53.4	2.5	50	0	107	67	132	53.69	0.5(20)	
Toluene	42.7	1.3	50	0	85	67	130	43.1	0.9(20)	
1,3-Dichloropropane	49.3	2.5	50	0	99	70	130	48.11	2.5(20)	
Dibromochloromethane	46.2	2.5	50	0	92	66	130	44.8	3.1(20)	
1,2-Dibromoethane (EDB)	102	10	100	0	102	70	130	98.59	3.0(20)	
Tetrachloroethene	40.3	2.5	50	0	81	59	135	40.61	0.8(20)	
1,1,1,2-Tetrachloroethane	46.8	2.5	50	0	94	70	130	46.1	1.4(20)	
Chlorobenzene	44.1	2.5	50	0	88	70	130	43.84	0.6(20)	
Ethylbenzene	45.2	1.3	50	0	90	70	130	45.74	1.1(20)	
m,p-Xylene	47	1.3	50	0	94	69	130	47.84	1.8(20)	
Bromoform	46.2	2.5	50	0	92	57	132	45.18	2.2(20)	
Styrene	45.8	2.5	50	0	92	58	135	45.15	1.3(20)	
o-Xylene	44.5	1.3	50	0	89	70	130	44.82	0.8(20)	
1,1,2,2-Tetrachloroethane	43.4	2.5	50	0	87	65	137	41.34	4.9(20)	
1,2,3-Trichloropropane	90.3	10	100	0	90	67	132	87.9	2.7(20)	
Isopropylbenzene	51.9	2.5	50	0	104	70	130	53	2.1(20)	
Bromobenzene	47.9	2.5	50	0	96	70	130	47.66	0.5(20)	
n-Propylbenzene	50.5	2.5	50	0	101	70	130	51.13	1.2(20)	
4-Chlorotoluene	51.3	2.5	50	0	103	70	130	51.26	0.2(20)	
2-Chlorotoluene	50.4	2.5	50	0	101	70	130	51.19	1.6(20)	
1,3,5-Trimethylbenzene	53.1	2.5	50	0	106	68	141	54	1.7(20)	
tert-Butylbenzene	54.1	2.5	50	0	108	70	130	55.01	1.7(20)	
1,2,4-Trimethylbenzene	53.8	2.5	50	0	108	67	146	53.85	0.0(20)	
sec-Butylbenzene	49.6	2.5	50	0	99	70	130	50.08	1.0(20)	
1,3-Dichlorobenzene	47.8	2.5	50	0	96	70	130	48.09	0.6(20)	
1,4-Dichlorobenzene	48.5	2.5	50	0	97	70	130	47.83	1.5(20)	
4-Isopropyltoluene	51.7	2.5	50	0	103	70	133	52.94	2.4(20)	
1,2-Dichlorobenzene	45.7	2.5	50	0	91	70	130	44.68	2.2(20)	
n-Butylbenzene	54.3	2.5	50	0	109	66	145	54.59	0.5(20)	
1,2-Dibromo-3-chloropropane (DBCP)	260	15	250	0	104	57	137	254.1	2.4(20)	
1,2,4-Trichlorobenzene	46.3	10	50	0	93	39	157	43.83	5.5(20)	
Naphthalene	46.7	10	50	0	93	26	163	44.41	5.1(20)	
Hexachlorobutadiene	96	10	100	0	96	35	172	92.23	4.0(20)	
1,2,3-Trichlorobenzene	46	10	50	0	92	30	170	42.73	7.4(20)	
Surr: 1,2-Dichloroethane-d4	44		50		88	75	128			
Surr: Toluene-d8	46.5		50		93	80	120			
Surr: 4-Bromofluorobenzene	56.2		50		112	70	130			



# *Alpha Analytical, Inc.*

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

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**Date:**

25-Aug-08

## OC Summary Report

**Work Order:**

08081223

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**Comments:**

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

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

**Billing Information :**

Battelle  
505 King Avenue  
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

**AMENDED** Page: 1 of 1

**Work Order : BMI08081223**

**Report Due By : 5:00 PM On : 26-Aug-08**

**Client:**  
Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

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

**EDD Required : Yes**

**Sampled by : Client**

**Cooler Temp**    **Samples Received**

4 °C    12-Aug-08

**Date Printed**

13-Aug-08

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

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles			Requested Tests		Sample Remarks			
			Alpha	Sub	TAT	314_W	CONDUCTI METALS_D		VOC_TIC_W	VOC_W	
BMI08081223-01A	MW-5	AQ 08/08/08 08:10	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI08081223-02A	MW-6	AQ 08/08/08 11:40	5	0	10	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI08081223-03A	TB-13-08/08/08	AQ 08/08/08 00:00	2	0	10			VOC by 524 Criteria	VOC by 524 Criteria		Reno Trip Blanks 6/24/08
BMI08081223-04A	MW-15	AQ 08/08/08 13:00	1	0	10		Cr				

**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 8/13/08 14:50 to add JPL Groundwater Monitoring to Job Name, due to login error. KM.

**Logged in by:** K Murray    **Signature**    K Murray    **Print Name**    Alpha Analytical, Inc.    **Company**    8/13/08 1450    **Date/Time**

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



Billing Information :

Battelle  
505 King Avenue

Columbus, OH 43201

Battelle Memorial Institute  
505 King Avenue

Columbus, OH 43201

PO : 218017

Client's COC # : 026271

QC Level : S4

= Final Rpt, MBLK, IniCal/ConCal data, LCS, MS/MSD With Surrogates

Job : G005862

# 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

# CA

WorkOrder : BMI08081223

Report Due By : 5:00 PM On : 26-Aug-08

EDD Required : Yes

Sampled by : Client

Cooler Temp

Samples Received

Date Printed

4 °C

12-Aug-08

12-Aug-08

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests				Sample Remarks		
						314_W	CONDUCTI WITY	METALS_D W	VOC_TIC_W		VOC_W	
BMI08081223-01A	MW-5	AQ 08/08/08 08:10	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI08081223-02A	MW-6	AQ 08/08/08 11:40	5	0	10	Perchlorate	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria		
BMI08081223-03A	TB-13-08/08/08	AQ 08/08/08 00:00	2	0	10				VOC by 524 Criteria	VOC by 524 Criteria		Reno Trip Blanks 6/24/08
BMI08081223-04A	MW-15	AQ 08/08/08 13:00	1	0	10			Cr				

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).

Signature

Print Name

K Murray

Company

Alpha Analytical, Inc.

Date/Time

8/12/08 1330

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

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

**Billing Information:**

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



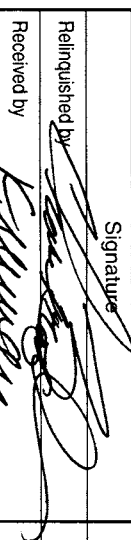
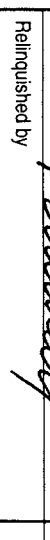
**Alpha Analytical, Inc.**  
 255 Glendale Avenue, Suite 21  
 Sparks, Nevada 89431-5778  
 Phone (775) 355-1044  
 Fax (775) 355-0406

**Samples Collected From Which State?** 026271  
 AZ  CA  NV  WA   
 ID  OR  OTHER   
 Page # 1 of 1

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

Time Sampled	Date	Matrix* See Key Below	Sampled by	Lab ID Number (Use Only)	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Analyses Required	Required QC Level? I II III IV	EDD / EDF? YES ___ NO ___	REMARKS
0810	8/8/08	AQ		BM108081223-01			MW-5			5	X	III		
1140							MW-6			5	X	III		
							TB-13-08/08/08			2	X	III		TYP BLANK
							MW-15			1	X	III		

**ADDITIONAL INSTRUCTIONS:**

Received by	Signature	Print Name	Company	Date	Time
Received by		CHASE BRADDON	INSIGHT ETCI	08/08/08	1300
Received by		K. Murray	AM	8/12/08	1315
Received by					
Received by					

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



# Alpha Analytical, Inc.

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

Date: 25-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: BMI08081251

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
08081251-01A	MW-13	Aqueous
08081251-02A	MW-8	Aqueous
08081251-03A	TB-14-08/11/08	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 L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer

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

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



# Alpha Analytical, Inc.

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(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: <b>MW-13</b> Lab ID: BMI08081251-01A	*** None Found ***	ND	2.0 µg/L	08/12/08	08/11/08	08/14/08
Client ID: <b>MW-8</b> Lab ID: BMI08081251-02A	*** None Found ***	ND	2.0 µg/L	08/12/08	08/11/08	08/14/08
Client ID: <b>TB-14-08/11/08</b> Lab ID: BMI08081251-03A	*** None Found ***	ND	2.0 µg/L	08/12/08	08/11/08	08/14/08

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

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8/25/08

Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862 / JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08081251-01A  
Client I.D. Number: MW-13

Sampled: 08/11/08  
Received: 08/12/08  
Analyzed: 08/14/08

### 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	2.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	2.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	2.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	2.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	1.7	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0 µg/L
25 Trichloroethene	1.8	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	98	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	100	(70-130) %REC
31 Toluene	1.1	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	110	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	2.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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8/25/08

Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862 / JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08081251-02A  
Client I.D. Number: MW-8

Sampled: 08/11/08  
Received: 08/12/08  
Analyzed: 08/14/08

### 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	2.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	2.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	1.1 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	2.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	2.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	97	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	99	(70-130) %REC
31 Toluene	1.1	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	111	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	2.0 µg/L			
35 Tetrachloroethene	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

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

8/25/08

Report Date

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# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862 / JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08081251-03A  
Client I.D. Number: TB-14-08/11/08

Sampled: 08/11/08  
Received: 08/12/08  
Analyzed: 08/14/08

### 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	2.0 µg/L	37 Chlorobenzene	ND	0.50 µg/L
3 Vinyl chloride	ND	0.50 µg/L	38 Ethylbenzene	ND	0.50 µg/L
4 Chloroethane	ND	0.50 µg/L	39 m,p-Xylene	ND	0.50 µg/L
5 Bromomethane	ND	2.0 µg/L	40 Bromoform	ND	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethene	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	2.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	2.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	ND	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	2.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	2.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	2.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	2.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	98	(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	111	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	2.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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

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8/25/08

Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

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## VOC Sample Preservation Report

**Work Order:** BMI08081251

**Project:** G005862 / JPL Groundwater Monitoring

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Alpha's Sample ID	Client's Sample ID	Matrix	pH
08081251-01A	MW-13	Aqueous	2
08081251-02A	MW-8	Aqueous	2
08081251-03A	TB-14-08/11/08	Aqueous	2

---

8/25/08  
**Report Date**





# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 08/12/08

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: <b>MW-13</b>				
Lab ID: BMI08081251-01A    Specific Conductance (at 25°C)	630	10 µS/cm	08/11/08	08/12/08
Client ID: <b>MW-8</b>				
Lab ID: BMI08081251-02A    Specific Conductance (at 25°C)	630	10 µS/cm	08/11/08	08/12/08

*Roger Scholl*

*Randy Gardner*

*Walter Hinchman*

*CH*

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer  
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8/25/08

Report Date



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Job#: G005862 / JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-13 Lab ID : BMI08081251-01A	Perchlorate 748	50.0 µg/L	08/11/08	08/14/08
Client ID : MW-8 Lab ID : BMI08081251-02A	Perchlorate 108	5.00 µg/L	08/11/08	08/14/08

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*gH*

8/25/08

Report Date



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Date Received : 08/12/08

Job#: G005862 / JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID: MW-13	Nitrite (NO2) - N	ND	0.25 mg/L	08/11/08 09:05	08/12/08 20:46
Lab ID: BMI08081251-01A	Nitrate (NO3) - N	7.1	0.25 mg/L	08/11/08 09:05	08/12/08 20:46
	Phosphate, ortho - P	ND	0.25 mg/L	08/11/08 09:05	08/13/08 10:56
Client ID: MW-8	Nitrite (NO2) - N	ND	0.25 mg/L	08/11/08 11:09	08/12/08 21:41
Lab ID: BMI08081251-02A	Nitrate (NO3) - N	3.3	0.25 mg/L	08/11/08 11:09	08/12/08 21:41
	Phosphate, ortho - P	ND	0.25 mg/L	08/11/08 11:09	08/13/08 11:15

ND = Not Detected

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

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Report Date



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Date Received : 08/12/08

Job#: G005862 / JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: <b>MW-13</b>				
Lab ID: BMI08081251-01A				
Chloride	36	0.50 mg/L	08/11/08	08/12/08
Sulfate (SO4)	61	0.50 mg/L	08/11/08	08/12/08
Client ID: <b>MW-8</b>				
Lab ID: BMI08081251-02A				
Chloride	43	0.50 mg/L	08/11/08	08/12/08
Sulfate (SO4)	83	0.50 mg/L	08/11/08	08/12/08

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Date Received : 08/12/08

Job#: G005862 / JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: MW-13 Lab ID: BMI08081251-01A Chromium (Cr)	0.051	0.0050 mg/L	08/11/08	08/15/08
Client ID: MW-8 Lab ID: BMI08081251-02A Chromium (Cr)	0.0075	0.0050 mg/L	08/11/08	08/15/08

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Date:  
25-Aug-08

## QC Summary Report

Work Order:  
08081251

### Method Blank

File ID: 18	Type MBLK	Test Code: EPA Method 314.0	Batch ID: 20433	Analysis Date: 08/14/2008 10:28						
Sample ID: MBLK-20433	Units : µg/L	Run ID: IC_3_080814A	Prep Date: 08/13/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND		1							

### Laboratory Fortified Blank

File ID: 16	Type LFB	Test Code: EPA Method 314.0	Batch ID: 20433	Analysis Date: 08/14/2008 09:51						
Sample ID: LFB-20433	Units : µg/L	Run ID: IC_3_080814A	Prep Date: 08/13/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	22.8	2	25	91	85	115				

### Sample Matrix Spike

File ID: 20	Type LFM	Test Code: EPA Method 314.0	Batch ID: 20433	Analysis Date: 08/14/2008 11:05						
Sample ID: 08081251-01ALFM	Units : µg/L	Run ID: IC_3_080814A	Prep Date: 08/13/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	1890	100	1250	747.7	91	80	120			

### Sample Matrix Spike Duplicate

File ID: 21	Type LFMD	Test Code: EPA Method 314.0	Batch ID: 20433	Analysis Date: 08/14/2008 11:23						
Sample ID: 08081251-01ALFMD	Units : µg/L	Run ID: IC_3_080814A	Prep Date: 08/13/2008							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	1920	100	1250	747.7	93	80	120	1889	1.4(15)	

### Comments:

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## QC Summary Report

Date:  
25-Aug-08

Work Order:  
08081251

### Method Blank

File ID:		Type <b>MBLK</b>	Test Code: <b>EPA Method 120.1 / SM2510B / SW9050A</b>								
Sample ID:	<b>MBLK-W0812CN</b>	Units : $\mu\text{S/cm}$	Run ID: <b>WETLAB_080812D</b>	Batch ID: <b>W0812CN</b>					Analysis Date: <b>08/12/2008 00:00</b>		
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Specific Conductance (at 25°C)		ND	10								

### Laboratory Control Spike

File ID:		Type <b>LCS</b>	Test Code: <b>EPA Method 120.1 / SM2510B / SW9050A</b>								
Sample ID:	<b>LCS-W0812CN</b>	Units : $\mu\text{S/cm}$	Run ID: <b>WETLAB_080812D</b>	Batch ID: <b>W0812CN</b>					Analysis Date: <b>08/12/2008 00:00</b>		
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Specific Conductance (at 25°C)		1410	10	1410		99.9	98	102			

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Date:  
25-Aug-08

## OC Summary Report

Work Order:  
08081251

### Method Blank

Method Blank		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 13		MBLK	Batch ID: 20430A				Analysis Date: 08/12/2008 19:50			
Sample ID: MB-20430	Units : mg/L		Run ID: IC_2_080812A				Prep Date: 08/12/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.25								

### Laboratory Fortified Blank

Laboratory Fortified Blank		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 14		LFB	Batch ID: 20430A				Analysis Date: 08/12/2008 20:09			
Sample ID: LFB-20430	Units : mg/L		Run ID: IC_2_080812A				Prep Date: 08/12/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.2	0.25	1.25		96	90	110			
Nitrate (NO3) - N	1.13	0.25	1.25		91	90	110			
Phosphate, ortho - P	1.19	0.25	1.25		95	90	110			

### Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 17		LFM	Batch ID: 20430A				Analysis Date: 08/12/2008 21:04			
Sample ID: 08081251-01ALFM	Units : mg/L		Run ID: IC_2_080812A				Prep Date: 08/12/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.22	0.25	1.25		0 97	80	120			
Nitrate (NO3) - N	8.2	0.25	1.25	7.057	91	80	120			
Phosphate, ortho - P	1.26	0.25	1.25		0 101	80	120			

### Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 18		LFMD	Batch ID: 20430A				Analysis Date: 08/12/2008 21:23			
Sample ID: 08081251-01ALFMD	Units : mg/L		Run ID: IC_2_080812A				Prep Date: 08/12/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.23	0.25	1.25		0 98	80	120	1.216	0.9(10)	
Nitrate (NO3) - N	8.25	0.25	1.25	7.057	96	80	120	8.199	0.7(10)	
Phosphate, ortho - P	1.28	0.25	1.25		0 103	80	120	1.26	1.7(10)	

### Comments:

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Date:  
25-Aug-08

## QC Summary Report

Work Order:  
08081251

### Method Blank

File ID: 13	Type MBLK	Test Code: EPA Method 300.0 / 9056									
Sample ID: MB-20430	Units : mg/L	Batch ID: 20430B					Analysis Date: 08/12/2008 19:50				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual	
Sulfate (SO4)	ND	0.5									

### Laboratory Fortified Blank

File ID: 14	Type LFB	Test Code: EPA Method 300.0 / 9056									
Sample ID: LFB-20430	Units : mg/L	Batch ID: 20430B					Analysis Date: 08/12/2008 20:09				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual	
Sulfate (SO4)	10.1	0.5	10		101	90	110				

### Sample Matrix Spike

File ID: 17	Type LFM	Test Code: EPA Method 300.0 / 9056									
Sample ID: 08081251-01ALFM	Units : mg/L	Batch ID: 20430B					Analysis Date: 08/12/2008 21:04				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual	
Sulfate (SO4)	72	0.5	10		60.65	113	80	120			

### Sample Matrix Spike Duplicate

File ID: 18	Type LFMD	Test Code: EPA Method 300.0 / 9056									
Sample ID: 08081251-01ALFMD	Units : mg/L	Batch ID: 20430B					Analysis Date: 08/12/2008 21:23				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual	
Sulfate (SO4)	71.6	0.5	10		60.65	109	80	120	71.98	0.6(10)	

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25-Aug-08

## OC Summary Report

Work Order:  
08081251

### Method Blank

File ID: 13	Type <b>MBLK</b>	Test Code: <b>EPA Method 300.0 / 9056</b>								
Sample ID: <b>MB-20430</b>	Units : <b>mg/L</b>	Batch ID: <b>20430C</b>				Analysis Date: <b>08/12/2008 19:50</b>				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								

### Laboratory Fortified Blank

File ID: 14	Type <b>LFB</b>	Test Code: <b>EPA Method 300.0 / 9056</b>								
Sample ID: <b>LFB-20430</b>	Units : <b>mg/L</b>	Batch ID: <b>20430C</b>				Analysis Date: <b>08/12/2008 20:09</b>				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	4.59	0.5	5		92	90	110			

### Sample Matrix Spike

File ID: 17	Type <b>LFM</b>	Test Code: <b>EPA Method 300.0 / 9056</b>								
Sample ID: <b>08081251-01ALFM</b>	Units : <b>mg/L</b>	Batch ID: <b>20430C</b>				Analysis Date: <b>08/12/2008 21:04</b>				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	41.5	0.5	5	35.62	117	80	120			

### Sample Matrix Spike Duplicate

File ID: 18	Type <b>LFMD</b>	Test Code: <b>EPA Method 300.0 / 9056</b>								
Sample ID: <b>08081251-01ALFMD</b>	Units : <b>mg/L</b>	Batch ID: <b>20430C</b>				Analysis Date: <b>08/12/2008 21:23</b>				
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	41.5	0.5	5	35.62	117	80	120	41.49	0.0(10)	

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Date:  
25-Aug-08

## QC Summary Report

Work Order:  
08081251

### Method Blank

File ID: 081408.B\B034SMPL.D	Type <b>MBLK</b>	Test Code: <b>EPA Method 200.8</b>	Batch ID: <b>20435K</b>	Analysis Date: <b>08/15/2008 12:56</b>						
Sample ID: <b>MB-20435</b>	Units : <b>mg/L</b>	Run ID: <b>ICP/MS_080815B</b>	Prep Date: <b>08/13/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

### Laboratory Control Spike

File ID: 081408.B\B035_LCS.D	Type <b>LCS</b>	Test Code: <b>EPA Method 200.8</b>	Batch ID: <b>20435K</b>	Analysis Date: <b>08/15/2008 13:02</b>						
Sample ID: <b>LCS-20435</b>	Units : <b>mg/L</b>	Run ID: <b>ICP/MS_080815B</b>	Prep Date: <b>08/13/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0505	0.005	0.05		101	80	120			

### Sample Matrix Spike

File ID: 081408.B\B038SMPL.D	Type <b>MS</b>	Test Code: <b>EPA Method 200.8</b>	Batch ID: <b>20435K</b>	Analysis Date: <b>08/15/2008 13:19</b>						
Sample ID: <b>08081223-01AMS</b>	Units : <b>mg/L</b>	Run ID: <b>ICP/MS_080815B</b>	Prep Date: <b>08/13/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0509	0.005	0.05		0	102	80	120		

### Sample Matrix Spike Duplicate

File ID: 081408.B\B039SMPL.D	Type <b>MSD</b>	Test Code: <b>EPA Method 200.8</b>	Batch ID: <b>20435K</b>	Analysis Date: <b>08/15/2008 13:25</b>						
Sample ID: <b>08081223-01AMSD</b>	Units : <b>mg/L</b>	Run ID: <b>ICP/MS_080815B</b>	Prep Date: <b>08/13/2008</b>							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0504	0.005	0.05		0	101	80	120	0.05086	0.9(20)

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Date:  
25-Aug-08

## OC Summary Report

Work Order:  
08081251

### Method Blank

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

File ID: **08081408.D**

Batch ID: **MS15W0814K5**

Analysis Date: **08/14/2008 12:02**

Sample ID: **MBLK MS15W0814K**

Units: **µg/L**

Run ID: **MSD\_15\_080814B**

Prep Date: **08/14/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	9.42		10		94	75	128			
Surr: Toluene-d8	10		10		100	80	120			



# Alpha Analytical, Inc.

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

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

Date:  
25-Aug-08

## OC Summary Report

Work Order:  
08081251

Surr: 4-Bromofluorobenzene 10.9 10 109 70 130

### Laboratory Control Spike

Type LCS

Test Code:

File ID: 08081405.D

Batch ID: MS15W0814K5

Analysis Date: 08/14/2008 10:41

Sample ID: LCS MS15W0814K

Units: µg/L

Run ID: MSD\_15\_080814B

Prep Date: 08/14/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	8.03	1	10		80	70	130			
Chloromethane	8.48	2	10		85	70	130			
Vinyl chloride	10.8	1	10		108	70	130			
Chloroethane	12.4	1	10		124	70	130			
Bromomethane	15	2	10		150	70	130			L51
Trichlorofluoromethane	13.4	1	10		134	70	130			L51
1,1-Dichloroethene	11	1	10		110	70	130			
Dichloromethane	10.4	2	10		104	70	130			
trans-1,2-Dichloroethene	11.6	1	10		116	70	130			
Methyl tert-butyl ether (MTBE)	11.8	0.5	10		118	70	130			
1,1-Dichloroethane	10.8	1	10		108	70	130			
cis-1,2-Dichloroethene	11.6	1	10		116	70	130			
Bromochloromethane	10.9	1	10		109	70	130			
Chloroform	11	1	10		110	70	130			
2,2-Dichloropropane	12.9	1	10		129	70	130			
1,2-Dichloroethane	11.7	1	10		117	70	130			
1,1,1-Trichloroethane	12.1	1	10		121	70	130			
1,1-Dichloropropene	12.3	1	10		123	70	130			
Carbon tetrachloride	11.5	1	10		115	70	130			
Benzene	10.7	0.5	10		107	70	130			
Dibromomethane	11.6	1	10		116	70	130			
1,2-Dichloropropane	10.6	1	10		106	70	130			
Trichloroethene	10.8	1	10		108	70	130			
Bromodichloromethane	12.2	1	10		122	70	130			
cis-1,3-Dichloropropene	10.4	1	10		104	70	130			
trans-1,3-Dichloropropene	10.2	1	10		102	70	130			
1,1,2-Trichloroethane	11	1	10		110	70	130			
Toluene	9.75	0.5	10		98	70	130			
1,3-Dichloropropane	10.2	1	10		102	70	130			
Dibromochloromethane	9.44	1	10		94	70	130			
1,2-Dibromoethane (EDB)	21	2	20		105	70	130			
Tetrachloroethene	9.71	1	10		97	70	130			
1,1,1,2-Tetrachloroethane	9.83	1	10		98	70	130			
Chlorobenzene	9.76	1	10		98	70	130			
Ethylbenzene	10.3	0.5	10		103	70	130			
m,p-Xylene	10.9	0.5	10		109	70	130			
Bromoform	9.17	1	10		92	70	130			
Styrene	9.95	1	10		100	70	130			
o-Xylene	10.1	0.5	10		101	70	130			
1,1,1,2,2-Tetrachloroethane	8.52	1	10		85	70	130			
1,2,3-Trichloropropane	18.2	2	20		91	70	130			
Isopropylbenzene	12.3	1	10		123	70	130			
Bromobenzene	10.3	1	10		103	70	130			
n-Propylbenzene	11.9	1	10		119	70	130			
4-Chlorotoluene	11.5	1	10		115	70	130			
2-Chlorotoluene	11.5	1	10		115	70	130			
1,3,5-Trimethylbenzene	12.3	1	10		123	70	130			
tert-Butylbenzene	12.5	1	10		125	70	130			
1,2,4-Trimethylbenzene	12.2	1	10		122	70	130			
sec-Butylbenzene	11.6	1	10		116	70	130			
1,3-Dichlorobenzene	10.5	1	10		105	70	130			
1,4-Dichlorobenzene	10.6	1	10		106	70	130			
4-Isopropyltoluene	12.1	1	10		121	70	130			
1,2-Dichlorobenzene	9.67	1	10		97	70	130			
n-Butylbenzene	12.5	1	10		125	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	50.7	3	50		101	57	133			
1,2,4-Trichlorobenzene	9.58	2	10		96	70	130			
Naphthalene	9.43	2	10		94	70	130			
Hexachlorobutadiene	21.5	2	20		107	70	130			
1,2,3-Trichlorobenzene	9.18	2	10		92	70	130			
Surr: 1,2-Dichloroethane-d4	8.52		10		85	75	128			
Surr: Toluene-d8	9.46		10		95	80	120			
Surr: 4-Bromofluorobenzene	11.4		10		114	70	130			



# Alpha Analytical, Inc.

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Date:  
25-Aug-08

## OC Summary Report

Work Order:  
08081251

### Sample Matrix Spike

File ID: 08081410.D

Type MS

Test Code:

Batch ID: MS15W0814K5

Analysis Date: 08/14/2008 12:46

Sample ID: 08081327-01AMS

Units: µg/L

Run ID: MSD\_15\_080814B

Prep Date: 08/14/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	55.8	2.5	50	0	112	20	137			
Chloromethane	43.7	10	50	0	87	31	148			
Vinyl chloride	56.6	2.5	50	0	113	46	138			
Chloroethane	62.7	2.5	50	0	125	34	170			
Bromomethane	56.5	10	50	0.75	111	20	189			
Trichlorofluoromethane	68	2.5	50	0	136	51	156			
1,1-Dichloroethene	53.6	2.5	50	0	107	66	132			
Dichloromethane	50.5	10	50	0	101	48	145			
trans-1,2-Dichloroethene	54.9	2.5	50	0	110	68	132			
Methyl tert-butyl ether (MTBE)	60.9	1.3	50	0	122	62	139			
1,1-Dichloroethane	51.9	2.5	50	0	104	70	130			
cis-1,2-Dichloroethene	56.2	2.5	50	0	112	70	130			
Bromochloromethane	53.2	2.5	50	0	106	70	130			
Chloroform	52.6	2.5	50	0	105	70	130			
2,2-Dichloropropane	60.4	2.5	50	0	121	50	152			
1,2-Dichloroethane	58.7	2.5	50	0	117	65	136			
1,1,1-Trichloroethane	57.1	2.5	50	0	114	67	133			
1,1-Dichloropropene	57	2.5	50	0	114	70	130			
Carbon tetrachloride	54.1	2.5	50	0	108	61	142			
Benzene	51.1	1.3	50	0	102	70	130			
Dibromomethane	55.9	2.5	50	0	112	69	130			
1,2-Dichloropropane	50.8	2.5	50	0	102	70	132			
Trichloroethene	50.4	2.5	50	0	101	69	130			
Bromodichloromethane	59.4	2.5	50	0	119	70	130			
cis-1,3-Dichloropropene	49.2	2.5	50	0	98	66	130			
trans-1,3-Dichloropropene	49.3	2.5	50	0	99	65	134			
1,1,2-Trichloroethane	53.7	2.5	50	0	107	67	132			
Toluene	45.6	1.3	50	0	91	67	130			
1,3-Dichloropropane	49.6	2.5	50	0	99	70	130			
Dibromochloromethane	46.4	2.5	50	0	93	66	130			
1,2-Dibromoethane (EDB)	104	10	100	0	104	70	130			
Tetrachloroethene	45.6	2.5	50	0	91	59	135			
1,1,1,2-Tetrachloroethane	48.8	2.5	50	0	98	70	130			
Chlorobenzene	45.8	2.5	50	0	92	70	130			
Ethylbenzene	48	1.3	50	0	96	70	130			
m,p-Xylene	49.9	1.3	50	0	99.9	69	130			
Bromoform	45.9	2.5	50	0	92	57	132			
Styrene	47.2	2.5	50	0	94	58	135			
o-Xylene	47.1	1.3	50	0	94	70	130			
1,1,2,2-Tetrachloroethane	42.3	2.5	50	0	85	65	137			
1,2,3-Trichloropropane	90.4	10	100	0	90	67	132			
Isopropylbenzene	54.6	2.5	50	0	109	70	130			
Bromobenzene	47.8	2.5	50	0	96	70	130			
n-Propylbenzene	52.6	2.5	50	0	105	70	130			
4-Chlorotoluene	51.4	2.5	50	0	103	70	130			
2-Chlorotoluene	52.3	2.5	50	0	105	70	130			
1,3,5-Trimethylbenzene	55.1	2.5	50	0	110	68	141			
tert-Butylbenzene	56.8	2.5	50	0	114	70	130			
1,2,4-Trimethylbenzene	54.5	2.5	50	0	109	67	146			
sec-Butylbenzene	52.4	2.5	50	0	105	70	130			
1,3-Dichlorobenzene	48.1	2.5	50	0	96	70	130			
1,4-Dichlorobenzene	48.2	2.5	50	0	96	70	130			
4-Isopropyltoluene	53.9	2.5	50	0	108	70	133			
1,2-Dichlorobenzene	45	2.5	50	0	90	70	130			
n-Butylbenzene	56.4	2.5	50	0	113	66	145			
1,2-Dibromo-3-chloropropane (DBCP)	250	15	250	0	100	57	137			
1,2,4-Trichlorobenzene	45.3	10	50	0	91	39	157			
Naphthalene	45.7	10	50	0	91	26	163			
Hexachlorobutadiene	98.1	10	100	0	98	35	172			
1,2,3-Trichlorobenzene	45.3	10	50	0	91	30	170			
Surr: 1,2-Dichloroethane-d4	44.5		50		89	75	128			
Surr: Toluene-d8	47.4		50		95	80	120			
Surr: 4-Bromofluorobenzene	56		50		112	70	130			



# Alpha Analytical, Inc.

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

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

Date:  
25-Aug-08

## OC Summary Report

Work Order:  
08081251

### Sample Matrix Spike Duplicate

Type MSD

Test Code:

File ID: 08081411.D

Batch ID: MS15W0814K5

Analysis Date: 08/14/2008 13:09

Sample ID: 08081327-01AMSD

Units: µg/L

Run ID: MSD\_15\_080814B

Prep Date: 08/14/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	52.9	2.5	50	0	106	20	137	55.82	5.3(20)	
Chloromethane	45.1	10	50	0	90	31	148	43.66	3.3(20)	
Vinyl chloride	55.5	2.5	50	0	111	46	138	56.59	2.0(20)	
Chloroethane	60.5	2.5	50	0	121	34	170	62.7	3.5(20)	
Bromomethane	63.1	10	50	0.75	125	20	189	56.46	11.1(20)	
Trichlorofluoromethane	63.7	2.5	50	0	127	51	156	68.04	6.6(20)	
1,1-Dichloroethene	51.2	2.5	50	0	102	66	132	53.62	4.6(20)	
Dichloromethane	50.3	10	50	0	101	48	145	50.47	0.4(20)	
trans-1,2-Dichloroethene	52.9	2.5	50	0	106	68	132	54.91	3.7(20)	
Methyl tert-butyl ether (MTBE)	61.7	1.3	50	0	123	62	139	60.87	1.3(20)	
1,1-Dichloroethane	51.8	2.5	50	0	104	70	130	51.92	0.2(20)	
cis-1,2-Dichloroethene	55.6	2.5	50	0	111	70	130	56.15	1.1(20)	
Bromochloromethane	53.7	2.5	50	0	107	70	130	53.17	0.9(20)	
Chloroform	52.1	2.5	50	0	104	70	130	52.63	1.1(20)	
2,2-Dichloropropane	57.4	2.5	50	0	115	50	152	60.37	5.0(20)	
1,2-Dichloroethane	58.5	2.5	50	0	117	65	136	58.74	0.5(20)	
1,1,1-Trichloroethane	55.3	2.5	50	0	111	67	133	57.08	3.2(20)	
1,1-Dichloropropene	54.9	2.5	50	0	110	70	130	57.04	3.8(20)	
Carbon tetrachloride	51.7	2.5	50	0	103	61	142	54.07	4.4(20)	
Benzene	50.4	1.3	50	0	101	70	130	51.11	1.4(20)	
Dibromomethane	56.8	2.5	50	0	114	69	130	55.94	1.5(20)	
1,2-Dichloropropane	51.2	2.5	50	0	102	70	132	50.8	0.9(20)	
Trichloroethene	49.5	2.5	50	0	99	69	130	50.4	1.9(20)	
Bromodichloromethane	58.7	2.5	50	0	117	70	130	59.37	1.1(20)	
cis-1,3-Dichloropropene	49.6	2.5	50	0	99	66	130	49.19	0.7(20)	
trans-1,3-Dichloropropene	51.2	2.5	50	0	102	65	134	49.25	3.9(20)	
1,1,2-Trichloroethane	55.1	2.5	50	0	110	67	132	53.74	2.5(20)	
Toluene	44	1.3	50	0	88	67	130	45.56	3.5(20)	
1,3-Dichloropropane	49.2	2.5	50	0	98	70	130	49.57	0.7(20)	
Dibromochloromethane	45.8	2.5	50	0	92	66	130	46.43	1.3(20)	
1,2-Dibromoethane (EDB)	102	10	100	0	102	70	130	103.7	1.8(20)	
Tetrachloroethene	43.3	2.5	50	0	87	59	135	45.6	5.1(20)	
1,1,1,2-Tetrachloroethane	46.7	2.5	50	0	93	70	130	48.76	4.4(20)	
Chlorobenzene	45.2	2.5	50	0	90	70	130	45.75	1.3(20)	
Ethylbenzene	46.4	1.3	50	0	93	70	130	48.01	3.5(20)	
m,p-Xylene	48.5	1.3	50	0	97	69	130	49.93	3.0(20)	
Bromoform	45.8	2.5	50	0	92	57	132	45.94	0.4(20)	
Styrene	46.5	2.5	50	0	93	58	135	47.23	1.6(20)	
o-Xylene	46.1	1.3	50	0	92	70	130	47.12	2.2(20)	
1,1,2,2-Tetrachloroethane	43.3	2.5	50	0	87	65	137	42.29	2.3(20)	
1,2,3-Trichloropropane	89.6	10	100	0	90	67	132	90.41	0.9(20)	
Isopropylbenzene	52.8	2.5	50	0	106	70	130	54.6	3.5(20)	
Bromobenzene	48.8	2.5	50	0	98	70	130	47.76	2.2(20)	
n-Propylbenzene	51.3	2.5	50	0	103	70	130	52.59	2.6(20)	
4-Chlorotoluene	50.9	2.5	50	0	102	70	130	51.36	0.9(20)	
2-Chlorotoluene	51.1	2.5	50	0	102	70	130	52.34	2.5(20)	
1,3,5-Trimethylbenzene	54.4	2.5	50	0	109	68	141	55.07	1.3(20)	
tert-Butylbenzene	55.2	2.5	50	0	110	70	130	56.8	2.9(20)	
1,2,4-Trimethylbenzene	54.7	2.5	50	0	109	67	146	54.51	0.4(20)	
sec-Butylbenzene	50	2.5	50	0	100	70	130	52.42	4.7(20)	
1,3-Dichlorobenzene	48.5	2.5	50	0	97	70	130	48.1	0.7(20)	
1,4-Dichlorobenzene	48.9	2.5	50	0	98	70	130	48.15	1.4(20)	
4-Isopropyltoluene	53.4	2.5	50	0	107	70	133	53.87	0.9(20)	
1,2-Dichlorobenzene	45.8	2.5	50	0	92	70	130	45.04	1.6(20)	
n-Butylbenzene	55.4	2.5	50	0	111	66	145	56.41	1.8(20)	
1,2-Dibromo-3-chloropropane (DBCP)	253	15	250	0	101	57	137	250	1.1(20)	
1,2,4-Trichlorobenzene	47.1	10	50	0	94	39	157	45.29	3.9(20)	
Naphthalene	48.9	10	50	0	98	26	163	45.66	6.8(20)	
Hexachlorobutadiene	98.5	10	100	0	99	35	172	98.14	0.4(20)	
1,2,3-Trichlorobenzene	48.5	10	50	0	97	30	170	45.26	6.9(20)	
Surr: 1,2-Dichloroethane-d4	43.1		50		86	75	128			
Surr: Toluene-d8	47.2		50		94	80	120			
Surr: 4-Bromofluorobenzene	56.3		50		113	70	130			



# *Alpha Analytical, Inc.*

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

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

**Date:**  
25-Aug-08

## OC Summary Report

**Work Order:**  
08081251

**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.

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



**Billing Information :**

Battelle  
505 King Avenue  
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

**CA**

WorkOrder : BMI08081251

Report Due By : 5:00 PM On : 26-Aug-08

**Client:**  
Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

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

EDD Required : Yes

Sampled by : Client

PO : 218017

Cooler Temp 4 °C

Samples Received 12-Aug-08

Date Printed 12-Aug-08

Client's COC # : 026270

Job : G005862/JPL Groundwater Monitoring

QC Level : S4 = Final Rpt MBLK, Initial/Concal data, LCS, MS/MSD with Surrogates

**Requested Tests**

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles	Alpha	Sub	TAT	314_W	ANIONS(A)_W	ANIONS(B)_W	ANIONS(C)_W	CONDUCTI_VITY	METALS_D_W	VOC_TIC_W	VOC_W	Sample Remarks
BMI08081251-01A	MW-13	AQ 08/11/08 09:05	5	0	10		Perchlorate	NO2, NO3, SDA, Cl, Ortho phos	NO2, NO3, SDA, Cl, Ortho phos	NO2, NO3, SDA, Cl, Ortho phos	Perchlorate	Cr	VOC by 324 Criteria	VOC by 324 Criteria	
BMI08081251-02A	MW-8	AQ 08/11/08 11:09	5	0	10		Perchlorate	NO2, NO3, SDA, Cl, Ortho phos	NO2, NO3, SDA, Cl, Ortho phos	NO2, NO3, SDA, Cl, Ortho phos	Perchlorate	Cr	VOC by 324 Criteria	VOC by 324 Criteria	
BMI08081251-03A	TB-14-08/11/08	AQ 08/11/08 00:00	1	0	10								VOC by 324 Criteria	VOC by 324 Criteria	Reno TB, 6/24/08

**Comments:** No security seals. Frozen ice. Client provided Temp Blanks rec'd @ 4° Level IV QC. Perchlorate RL of 1.0 ug/L. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by:

*Signature*

Signature

*Print Name*

Print Name

Company

Alpha Analytical, Inc.

Date/Time

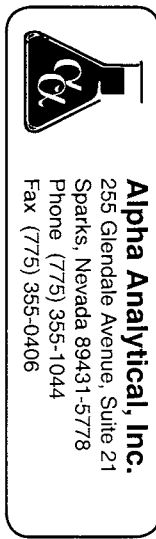
8/12/08 10:10

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

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

**Billing Information:**

Name GERALD TOMPKINS  
 Address 505 KINGS AVE  
 City, State, Zip COLUMBIAS, CA 93201  
 Phone Number \_\_\_\_\_ Fax \_\_\_\_\_



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

**Samples Collected From Which State?** 026270

AZ  CA  NV  WA   
 ID  OR  OTHER

Page # 1 of 1

Analyses Required

Required QC Level?  
 I  II  III  IV

EDD / EDF? YES  NO

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

REMARKS

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by	Lab ID Number (Use Only)	Office #	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	UOC	TOTAL C	CI, No. 3, 5, 6, NITRINE, P-HOSPHATE	Global ID #	REMARKS
0905	8/11/08	AA	BWID	08081251-01			MW-13			5	X	X	X		
1109							MW-8			5	X	X	X		
-							TRB-14-08/11/08			1	X				TRIP BLANK

**ADDITIONAL INSTRUCTIONS:**

Received by	Signature	Print Name	Company	Date	Time
Received by	<i>[Signature]</i>	CHASE BROGDON	INSIGHT ECCT	8/11/08	1300
Received by	<i>[Signature]</i>	TARA J. JOHNSON	ALPHA	8/12/08	1210
Received by					
Received by					

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



# Alpha Analytical, Inc.

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

Date: 26-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: BMI08081320

Cooler Temp: 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
08081320-01A	MW-16	Aqueous
08081320-02A	MW-10	Aqueous
08081320-03A	TB-15-8/12/08	Aqueous

### Manually Integrated Analytes

<u>Alpha's Sample ID</u>	<u>Test Reference</u>	<u>Analyte</u>
08081320-01A	EPA Method 300.0 / 9056	Nitrate (NO3) - N

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

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

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

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

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

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## ANALYTICAL REPORT

Battelle Memorial Institute  
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 : <b>MW-16</b>						
Lab ID : BMI08081320-01A	*** None Found ***	ND	2.0 µg/L	08/13/08	08/12/08	08/14/08
Client ID : <b>MW-10</b>						
Lab ID : BMI08081320-02A	*** None Found ***	ND	2.0 µg/L	08/13/08	08/12/08	08/14/08
Client ID : <b>TB-15-8/12/08</b>						
Lab ID : BMI08081320-03A	*** None Found ***	ND	2.0 µg/L	08/13/08	08/12/08	08/14/08

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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8/26/08

**Report Date**

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Page 1 of 1



# Alpha Analytical, Inc.

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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

Alpha Analytical Number: BMI08081320-01A  
Client I.D. Number: MW-16

Sampled: 08/12/08  
Received: 08/13/08  
Analyzed: 08/14/08

### Volatiles 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	3.0	0.50 µg/L
6 Trichlorofluoromethane	ND	0.50 µg/L	41 Styrene	ND	0.50 µg/L
7 1,1-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	5.1	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	ND	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	5.3	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	101	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	97	(70-130) %REC
31 Toluene	1.5	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	112	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	4.3	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	ND	0.50 µg/L			

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862 / JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08081320-02A  
Client I.D. Number: MW-10

Sampled: 08/12/08  
Received: 08/13/08  
Analyzed: 08/14/08

### 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-Dichloroethane	ND	0.50 µg/L	42 o-Xylene	ND	0.50 µg/L
8 Dichloromethane	ND	1.0 µg/L	43 1,1,2,2-Tetrachloroethane	ND	0.50 µg/L
9 Freon-113	ND	0.50 µg/L	44 1,2,3-Trichloropropane	ND	1.0 µg/L
10 trans-1,2-Dichloroethene	ND	0.50 µg/L	45 Isopropylbenzene	ND	0.50 µg/L
11 Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	46 Bromobenzene	ND	0.50 µg/L
12 1,1-Dichloroethane	ND	0.50 µg/L	47 n-Propylbenzene	ND	0.50 µg/L
13 2-Butanone (MEK)	ND	10 µg/L	48 4-Chlorotoluene	ND	0.50 µg/L
14 cis-1,2-Dichloroethene	ND	0.50 µg/L	49 2-Chlorotoluene	ND	0.50 µg/L
15 Bromochloromethane	ND	0.50 µg/L	50 1,3,5-Trimethylbenzene	ND	0.50 µg/L
16 Chloroform	0.69	0.50 µg/L	51 tert-Butylbenzene	ND	0.50 µg/L
17 2,2-Dichloropropane	ND	0.50 µg/L	52 1,2,4-Trimethylbenzene	ND	0.50 µg/L
18 1,2-Dichloroethane	ND	0.50 µg/L	53 sec-Butylbenzene	ND	0.50 µg/L
19 1,1,1-Trichloroethane	ND	0.50 µg/L	54 1,3-Dichlorobenzene	ND	0.50 µg/L
20 1,1-Dichloropropene	ND	0.50 µg/L	55 1,4-Dichlorobenzene	ND	0.50 µg/L
21 Carbon tetrachloride	ND	0.50 µg/L	56 4-Isopropyltoluene	ND	0.50 µg/L
22 Benzene	ND	0.50 µg/L	57 1,2-Dichlorobenzene	ND	0.50 µg/L
23 Dibromomethane	ND	0.50 µg/L	58 n-Butylbenzene	ND	0.50 µg/L
24 1,2-Dichloropropane	ND	0.50 µg/L	59 1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5 µg/L
25 Trichloroethene	3.6	0.50 µg/L	60 1,2,4-Trichlorobenzene	ND	1.0 µg/L
26 Bromodichloromethane	ND	0.50 µg/L	61 Naphthalene	ND	1.0 µg/L
27 4-Methyl-2-pentanone (MIBK)	ND	2.5 µg/L	62 Hexachlorobutadiene	ND	1.0 µg/L
28 cis-1,3-Dichloropropene	ND	0.50 µg/L	63 1,2,3-Trichlorobenzene	ND	1.0 µg/L
29 trans-1,3-Dichloropropene	ND	0.50 µg/L	64 Surr: 1,2-Dichloroethane-d4	103	(70-130) %REC
30 1,1,2-Trichloroethane	ND	0.50 µg/L	65 Surr: Toluene-d8	98	(70-130) %REC
31 Toluene	1.3	0.50 µg/L	66 Surr: 4-Bromofluorobenzene	111	(70-130) %REC
32 1,3-Dichloropropane	ND	0.50 µg/L			
33 Dibromochloromethane	ND	0.50 µg/L			
34 1,2-Dibromoethane (EDB)	ND	1.0 µg/L			
35 Tetrachloroethene	0.83	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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8/26/08

Report Date

Page 1 of 1



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201  
Job#: G005862 / JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI08081320-03A  
Client I.D. Number: TB-15-8/12/08

Sampled: 08/12/08  
Received: 08/13/08  
Analyzed: 08/14/08

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

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

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8/26/08

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# Alpha Analytical, Inc.

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

---

## VOC Sample Preservation Report

---

**Work Order:** BMI08081320

**Project:** G005862 / JPL Groundwater Monitoring

---

Alpha's Sample ID	Client's Sample ID	Matrix	pH
08081320-01A	MW-16	Aqueous	2
08081320-02A	MW-10	Aqueous	2
08081320-03A	TB-15-8/12/08	Aqueous	2

---

8/26/08  
Report Date





# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 08/13/08

Job#: G005862 / JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : MW-16	Nitrite (NO <sub>2</sub> ) - N	ND	0.25 mg/L	08/12/08 10:04	08/13/08 11:52
Lab ID : BMI08081320-01A	Nitrate (NO <sub>3</sub> ) - N	0.99	0.25 mg/L	08/12/08 10:04	08/13/08 11:52
	Phosphate, ortho - P	ND	0.25 mg/L	08/12/08 10:04	08/13/08 11:52

ND = Not Detected

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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 : 08/13/08

Job#: G005862 / JPL Groundwater Monitoring

Anions by IC  
EPA Method 300.0 / 9056

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Chloride	73	0.50 mg/L	08/12/08	08/13/08
Sulfate (SO4)	51	0.50 mg/L	08/12/08	08/13/08

Client ID : MW-16

Lab ID : BMI08081320-01A

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

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## ANALYTICAL REPORT

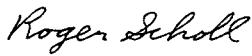

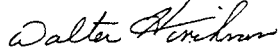
Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 08/13/08

Job#: G005862 / JPL Groundwater Monitoring

Metals by ICPMS  
EPA Method 200.8

	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : <b>MW-16</b>					
Lab ID : BMI08081320-01A	Chromium (Cr)	0.0081	0.0050 mg/L	08/12/08	08/15/08
Client ID : <b>MW-10</b>					
Lab ID : BMI08081320-02A	Chromium (Cr)	0.017	0.0050 mg/L	08/12/08	08/15/08



  
 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.

8/26/08

Report Date



# Alpha Analytical, Inc.

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

## ANALYTICAL REPORT

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 08/13/08

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 : <b>MW-16</b> Lab ID : BMI08081320-01A Specific Conductance (at 25°C)	620	10 µS/cm	08/12/08	08/13/08
Client ID : <b>MW-10</b> Lab ID : BMI08081320-02A Specific Conductance (at 25°C)	940	10 µS/cm	08/12/08	08/13/08

*Roger Scholl*      *Randy Gardner*      *Walter Hinchman*  
 Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer  
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**8/26/08**  
**Report Date**



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## ANALYTICAL REPORT

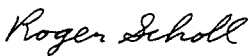

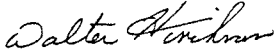
Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

Attn: David Conner  
Phone: (619) 574-4827  
Fax: (614) 458-6641  
Date Received : 08/13/08

Job#: G005862 / JPL Groundwater Monitoring

Perchlorate by Ion Chromatography  
EPA Method 314.0

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : MW-16				
Lab ID : BMI08081320-01A Perchlorate	19.3	1.00 µg/L	08/12/08	08/15/08
Client ID : MW-10				
Lab ID : BMI08081320-02A Perchlorate	4.63	1.00 µg/L	08/12/08	08/15/08



  
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8/26/08

Report Date



# Alpha Analytical, Inc.

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Date:  
26-Aug-08

## OC Summary Report

Work Order:  
08081320

### Method Blank

File ID: 08081408.D

Type MBLK

Test Code:

Batch ID: MS15W0814K5

Analysis Date: 08/14/2008 12:02

Sample ID: MBLK MS15W0814K

Units: µg/L

Run ID: MSD\_15\_080814B

Prep Date: 08/14/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	ND	0.5								
Chloromethane	ND	1								
Vinyl chloride	ND	0.5								
Chloroethane	ND	0.5								
Bromomethane	ND	1								
Trichlorofluoromethane	ND	0.5								
1,1-Dichloroethene	ND	0.5								
Dichloromethane	ND	1								
Freon-113	ND	0.5								
trans-1,2-Dichloroethene	ND	0.5								
Methyl tert-butyl ether (MTBE)	ND	0.5								
1,1-Dichloroethane	ND	0.5								
2-Butanone (MEK)	ND	10								
cis-1,2-Dichloroethene	ND	0.5								
Bromochloromethane	ND	0.5								
Chloroform	ND	0.5								
2,2-Dichloropropane	ND	0.5								
1,2-Dichloroethane	ND	0.5								
1,1,1-Trichloroethane	ND	0.5								
1,1-Dichloropropene	ND	0.5								
Carbon tetrachloride	ND	0.5								
Benzene	ND	0.5								
Dibromomethane	ND	0.5								
1,2-Dichloropropane	ND	0.5								
Trichloroethene	ND	0.5								
Bromodichloromethane	ND	0.5								
4-Methyl-2-pentanone (MIBK)	ND	2.5								
cis-1,3-Dichloropropene	ND	0.5								
trans-1,3-Dichloropropene	ND	0.5								
1,1,2-Trichloroethane	ND	0.5								
Toluene	ND	0.5								
1,3-Dichloropropane	ND	0.5								
Dibromochloromethane	ND	0.5								
1,2-Dibromoethane (EDB)	ND	1								
Tetrachloroethene	ND	0.5								
1,1,1,2-Tetrachloroethane	ND	0.5								
Chlorobenzene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
Bromoform	ND	0.5								
Styrene	ND	0.5								
o-Xylene	ND	0.5								
1,1,2,2-Tetrachloroethane	ND	0.5								
1,2,3-Trichloropropane	ND	1								
Isopropylbenzene	ND	0.5								
Bromobenzene	ND	0.5								
n-Propylbenzene	ND	0.5								
4-Chlorotoluene	ND	0.5								
2-Chlorotoluene	ND	0.5								
1,3,5-Trimethylbenzene	ND	0.5								
tert-Butylbenzene	ND	0.5								
1,2,4-Trimethylbenzene	ND	0.5								
sec-Butylbenzene	ND	0.5								
1,3-Dichlorobenzene	ND	0.5								
1,4-Dichlorobenzene	ND	0.5								
4-Isopropyltoluene	ND	0.5								
1,2-Dichlorobenzene	ND	0.5								
n-Butylbenzene	ND	0.5								
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlorobenzene	ND	1								
Naphthalene	ND	1								
Hexachlorobutadiene	ND	1								
1,2,3-Trichlorobenzene	ND	1								
Surr: 1,2-Dichloroethane-d4	9.42		10		94	75	128			
Surr: Toluene-d8	10		10		100	80	120			



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Date:

26-Aug-08

## OC Summary Report

Work Order:

08081320

Surr: 4-Bromofluorobenzene 10.9 10 109 70 130

### Laboratory Control Spike

Type LCS

Test Code:

File ID: 08081405.D

Batch ID: MS15W0814K5

Analysis Date: 08/14/2008 10:41

Sample ID: LCS MS15W0814K

Units: µg/L

Run ID: MSD\_15\_080814B

Prep Date: 08/14/2008

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	8.03	1	10		80	70	130			
Chloromethane	8.48	2	10		85	70	130			
Vinyl chloride	10.8	1	10		108	70	130			
Chloroethane	12.4	1	10		124	70	130			
Bromomethane	15	2	10		150	70	130			L51
Trichlorofluoromethane	13.4	1	10		134	70	130			L51
1,1-Dichloroethene	11	1	10		110	70	130			
Dichloromethane	10.4	2	10		104	70	130			
trans-1,2-Dichloroethene	11.6	1	10		116	70	130			
Methyl tert-butyl ether (MTBE)	11.8	0.5	10		118	70	130			
1,1-Dichloroethane	10.8	1	10		108	70	130			
cis-1,2-Dichloroethene	11.6	1	10		116	70	130			
Bromochloromethane	10.9	1	10		109	70	130			
Chloroform	11	1	10		110	70	130			
2,2-Dichloropropane	12.9	1	10		129	70	130			
1,2-Dichloroethane	11.7	1	10		117	70	130			
1,1,1-Trichloroethane	12.1	1	10		121	70	130			
1,1-Dichloropropene	12.3	1	10		123	70	130			
Carbon tetrachloride	11.5	1	10		115	70	130			
Benzene	10.7	0.5	10		107	70	130			
Dibromomethane	11.6	1	10		116	70	130			
1,2-Dichloropropane	10.6	1	10		106	70	130			
Trichloroethene	10.8	1	10		108	70	130			
Bromodichloromethane	12.2	1	10		122	70	130			
cis-1,3-Dichloropropene	10.4	1	10		104	70	130			
trans-1,3-Dichloropropene	10.2	1	10		102	70	130			
1,1,2-Trichloroethane	11	1	10		110	70	130			
Toluene	9.75	0.5	10		98	70	130			
1,3-Dichloropropane	10.2	1	10		102	70	130			
Dibromochloromethane	9.44	1	10		94	70	130			
1,2-Dibromoethane (EDB)	21	2	20		105	70	130			
Tetrachloroethene	9.71	1	10		97	70	130			
1,1,1,2-Tetrachloroethane	9.83	1	10		98	70	130			
Chlorobenzene	9.76	1	10		98	70	130			
Ethylbenzene	10.3	0.5	10		103	70	130			
m,p-Xylene	10.9	0.5	10		109	70	130			
Bromoform	9.17	1	10		92	70	130			
Styrene	9.95	1	10		100	70	130			
o-Xylene	10.1	0.5	10		101	70	130			
1,1,2,2-Tetrachloroethane	8.52	1	10		85	70	130			
1,2,3-Trichloropropane	18.2	2	20		91	70	130			
Isopropylbenzene	12.3	1	10		123	70	130			
Bromobenzene	10.3	1	10		103	70	130			
n-Propylbenzene	11.9	1	10		119	70	130			
4-Chlorotoluene	11.5	1	10		115	70	130			
2-Chlorotoluene	11.5	1	10		115	70	130			
1,3,5-Trimethylbenzene	12.3	1	10		123	70	130			
tert-Butylbenzene	12.5	1	10		125	70	130			
1,2,4-Trimethylbenzene	12.2	1	10		122	70	130			
sec-Butylbenzene	11.6	1	10		116	70	130			
1,3-Dichlorobenzene	10.5	1	10		105	70	130			
1,4-Dichlorobenzene	10.6	1	10		106	70	130			
4-Isopropyltoluene	12.1	1	10		121	70	130			
1,2-Dichlorobenzene	9.67	1	10		97	70	130			
n-Butylbenzene	12.5	1	10		125	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	50.7	3	50		101	57	133			
1,2,4-Trichlorobenzene	9.58	2	10		96	70	130			
Naphthalene	9.43	2	10		94	70	130			
Hexachlorobutadiene	21.5	2	20		107	70	130			
1,2,3-Trichlorobenzene	9.18	2	10		92	70	130			
Surr: 1,2-Dichloroethane-d4	8.52		10		85	75	128			
Surr: Toluene-d8	9.46		10		95	80	120			
Surr: 4-Bromofluorobenzene	11.4		10		114	70	130			



# Alpha Analytical, Inc.

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Date:  
26-Aug-08

## QC Summary Report

Work Order:  
08081320

### Sample Matrix Spike

Type **MS**

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

File ID: **08081410.D**

Batch ID: **MS15W0814K5**

Analysis Date: **08/14/2008 12:46**

Sample ID: **08081327-01AMS**

Units : **µg/L**

Run ID: **MSD\_15\_080814B**

Prep Date: **08/14/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	55.8	2.5	50	0	112	20	137			
Chloromethane	43.7	10	50	0	87	31	148			
Vinyl chloride	56.6	2.5	50	0	113	46	138			
Chloroethane	62.7	2.5	50	0	125	34	170			
Bromomethane	56.5	10	50	0.75	111	20	189			
Trichlorofluoromethane	68	2.5	50	0	136	51	156			
1,1-Dichloroethene	53.6	2.5	50	0	107	66	132			
Dichloromethane	50.5	10	50	0	101	48	145			
trans-1,2-Dichloroethene	54.9	2.5	50	0	110	68	132			
Methyl tert-butyl ether (MTBE)	60.9	1.3	50	0	122	62	139			
1,1-Dichloroethane	51.9	2.5	50	0	104	70	130			
cis-1,2-Dichloroethene	56.2	2.5	50	0	112	70	130			
Bromochloromethane	53.2	2.5	50	0	106	70	130			
Chloroform	52.6	2.5	50	0	105	70	130			
2,2-Dichloropropane	60.4	2.5	50	0	121	50	152			
1,2-Dichloroethane	58.7	2.5	50	0	117	65	136			
1,1,1-Trichloroethane	57.1	2.5	50	0	114	67	133			
1,1-Dichloropropene	57	2.5	50	0	114	70	130			
Carbon tetrachloride	54.1	2.5	50	0	108	61	142			
Benzene	51.1	1.3	50	0	102	70	130			
Dibromomethane	55.9	2.5	50	0	112	69	130			
1,2-Dichloropropane	50.8	2.5	50	0	102	70	132			
Trichloroethene	50.4	2.5	50	0	101	69	130			
Bromodichloromethane	59.4	2.5	50	0	119	70	130			
cis-1,3-Dichloropropene	49.2	2.5	50	0	98	66	130			
trans-1,3-Dichloropropene	49.3	2.5	50	0	99	65	134			
1,1,2-Trichloroethane	53.7	2.5	50	0	107	67	132			
Toluene	45.6	1.3	50	0	91	67	130			
1,3-Dichloropropane	49.6	2.5	50	0	99	70	130			
Dibromochloromethane	46.4	2.5	50	0	93	66	130			
1,2-Dibromoethane (EDB)	104	10	100	0	104	70	130			
Tetrachloroethene	45.6	2.5	50	0	91	59	135			
1,1,1,2-Tetrachloroethane	48.8	2.5	50	0	98	70	130			
Chlorobenzene	45.8	2.5	50	0	92	70	130			
Ethylbenzene	48	1.3	50	0	96	70	130			
m,p-Xylene	49.9	1.3	50	0	99.9	69	130			
Bromoform	45.9	2.5	50	0	92	57	132			
Styrene	47.2	2.5	50	0	94	58	135			
o-Xylene	47.1	1.3	50	0	94	70	130			
1,1,2,2-Tetrachloroethane	42.3	2.5	50	0	85	65	137			
1,2,3-Trichloropropane	90.4	10	100	0	90	67	132			
Isopropylbenzene	54.6	2.5	50	0	109	70	130			
Bromobenzene	47.8	2.5	50	0	96	70	130			
n-Propylbenzene	52.6	2.5	50	0	105	70	130			
4-Chlorotoluene	51.4	2.5	50	0	103	70	130			
2-Chlorotoluene	52.3	2.5	50	0	105	70	130			
1,3,5-Trimethylbenzene	55.1	2.5	50	0	110	68	141			
tert-Butylbenzene	56.8	2.5	50	0	114	70	130			
1,2,4-Trimethylbenzene	54.5	2.5	50	0	109	67	146			
sec-Butylbenzene	52.4	2.5	50	0	105	70	130			
1,3-Dichlorobenzene	48.1	2.5	50	0	96	70	130			
1,4-Dichlorobenzene	48.2	2.5	50	0	96	70	130			
4-Isopropyltoluene	53.9	2.5	50	0	108	70	133			
1,2-Dichlorobenzene	45	2.5	50	0	90	70	130			
n-Butylbenzene	56.4	2.5	50	0	113	66	145			
1,2-Dibromo-3-chloropropane (DBCP)	250	15	250	0	100	57	137			
1,2,4-Trichlorobenzene	45.3	10	50	0	91	39	157			
Naphthalene	45.7	10	50	0	91	26	163			
Hexachlorobutadiene	98.1	10	100	0	98	35	172			
1,2,3-Trichlorobenzene	45.3	10	50	0	91	30	170			
Surr: 1,2-Dichloroethane-d4	44.5		50		89	75	128			
Surr: Toluene-d8	47.4		50		95	80	120			
Surr: 4-Bromofluorobenzene	56		50		112	70	130			





# Alpha Analytical, Inc.

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Date:  
26-Aug-08

## QC Summary Report

Work Order:  
08081320

### Sample Matrix Spike Duplicate

Type **MSD**

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

File ID: **08081411.D**

Batch ID: **MS15W0814K5**

Analysis Date: **08/14/2008 13:09**

Sample ID: **08081327-01AMSD**

Units : **µg/L**

Run ID: **MSD\_15\_080814B**

Prep Date: **08/14/2008**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Dichlorodifluoromethane	52.9	2.5	50	0	106	20	137	55.82	5.3(20)	
Chloromethane	45.1	10	50	0	90	31	148	43.66	3.3(20)	
Vinyl chloride	55.5	2.5	50	0	111	46	138	56.59	2.0(20)	
Chloroethane	60.5	2.5	50	0	121	34	170	62.7	3.5(20)	
Bromomethane	63.1	10	50	0.75	125	20	189	56.46	11.1(20)	
Trichlorofluoromethane	63.7	2.5	50	0	127	51	156	68.04	6.6(20)	
1,1-Dichloroethene	51.2	2.5	50	0	102	66	132	53.62	4.6(20)	
Dichloromethane	50.3	10	50	0	101	48	145	50.47	0.4(20)	
trans-1,2-Dichloroethene	52.9	2.5	50	0	106	68	132	54.91	3.7(20)	
Methyl tert-butyl ether (MTBE)	61.7	1.3	50	0	123	62	139	60.87	1.3(20)	
1,1-Dichloroethane	51.8	2.5	50	0	104	70	130	51.92	0.2(20)	
cis-1,2-Dichloroethene	55.6	2.5	50	0	111	70	130	56.15	1.1(20)	
Bromochloromethane	53.7	2.5	50	0	107	70	130	53.17	0.9(20)	
Chloroform	52.1	2.5	50	0	104	70	130	52.63	1.1(20)	
2,2-Dichloropropane	57.4	2.5	50	0	115	50	152	60.37	5.0(20)	
1,2-Dichloroethane	58.5	2.5	50	0	117	65	136	58.74	0.5(20)	
1,1,1-Trichloroethane	55.3	2.5	50	0	111	67	133	57.08	3.2(20)	
1,1-Dichloropropene	54.9	2.5	50	0	110	70	130	57.04	3.8(20)	
Carbon tetrachloride	51.7	2.5	50	0	103	61	142	54.07	4.4(20)	
Benzene	50.4	1.3	50	0	101	70	130	51.11	1.4(20)	
Dibromomethane	56.8	2.5	50	0	114	69	130	55.94	1.5(20)	
1,2-Dichloropropane	51.2	2.5	50	0	102	70	132	50.8	0.9(20)	
Trichloroethene	49.5	2.5	50	0	99	69	130	50.4	1.9(20)	
Bromodichloromethane	58.7	2.5	50	0	117	70	130	59.37	1.1(20)	
cis-1,3-Dichloropropene	49.6	2.5	50	0	99	66	130	49.19	0.7(20)	
trans-1,3-Dichloropropene	51.2	2.5	50	0	102	65	134	49.25	3.9(20)	
1,1,2-Trichloroethane	55.1	2.5	50	0	110	67	132	53.74	2.5(20)	
Toluene	44	1.3	50	0	88	67	130	45.56	3.5(20)	
1,3-Dichloropropane	49.2	2.5	50	0	98	70	130	49.57	0.7(20)	
Dibromochloromethane	45.8	2.5	50	0	92	66	130	46.43	1.3(20)	
1,2-Dibromoethane (EDB)	102	10	100	0	102	70	130	103.7	1.8(20)	
Tetrachloroethene	43.3	2.5	50	0	87	59	135	45.6	5.1(20)	
1,1,1,2-Tetrachloroethane	46.7	2.5	50	0	93	70	130	48.76	4.4(20)	
Chlorobenzene	45.2	2.5	50	0	90	70	130	45.75	1.3(20)	
Ethylbenzene	46.4	1.3	50	0	93	70	130	48.01	3.5(20)	
m,p-Xylene	48.5	1.3	50	0	97	69	130	49.93	3.0(20)	
Bromoform	45.8	2.5	50	0	92	57	132	45.94	0.4(20)	
Styrene	46.5	2.5	50	0	93	58	135	47.23	1.6(20)	
o-Xylene	46.1	1.3	50	0	92	70	130	47.12	2.2(20)	
1,1,2,2-Tetrachloroethane	43.3	2.5	50	0	87	65	137	42.29	2.3(20)	
1,2,3-Trichloropropane	89.6	10	100	0	90	67	132	90.41	0.9(20)	
Isopropylbenzene	52.8	2.5	50	0	106	70	130	54.6	3.5(20)	
Bromobenzene	48.8	2.5	50	0	98	70	130	47.76	2.2(20)	
n-Propylbenzene	51.3	2.5	50	0	103	70	130	52.59	2.6(20)	
4-Chlorotoluene	50.9	2.5	50	0	102	70	130	51.36	0.9(20)	
2-Chlorotoluene	51.1	2.5	50	0	102	70	130	52.34	2.5(20)	
1,3,5-Trimethylbenzene	54.4	2.5	50	0	109	68	141	55.07	1.3(20)	
tert-Butylbenzene	55.2	2.5	50	0	110	70	130	56.8	2.9(20)	
1,2,4-Trimethylbenzene	54.7	2.5	50	0	109	67	146	54.51	0.4(20)	
sec-Butylbenzene	50	2.5	50	0	100	70	130	52.42	4.7(20)	
1,3-Dichlorobenzene	48.5	2.5	50	0	97	70	130	48.1	0.7(20)	
1,4-Dichlorobenzene	48.9	2.5	50	0	98	70	130	48.15	1.4(20)	
4-Isopropyltoluene	53.4	2.5	50	0	107	70	133	53.87	0.9(20)	
1,2-Dichlorobenzene	45.8	2.5	50	0	92	70	130	45.04	1.6(20)	
n-Butylbenzene	55.4	2.5	50	0	111	66	145	56.41	1.8(20)	
1,2-Dibromo-3-chloropropane (DBCP)	253	15	250	0	101	57	137	250	1.1(20)	
1,2,4-Trichlorobenzene	47.1	10	50	0	94	39	157	45.29	3.9(20)	
Naphthalene	48.9	10	50	0	98	26	163	45.66	6.8(20)	
Hexachlorobutadiene	98.5	10	100	0	99	35	172	98.14	0.4(20)	
1,2,3-Trichlorobenzene	48.5	10	50	0	97	30	170	45.26	6.9(20)	
Surr: 1,2-Dichloroethane-d4	43.1		50		86	75	128			
Surr: Toluene-d8	47.2		50		94	80	120			
Surr: 4-Bromofluorobenzene	56.3		50		113	70	130			



# Alpha Analytical, Inc.

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

**Date:**  
26-Aug-08

## QC Summary Report

**Work Order:**  
08081320

**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.

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



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Date:  
26-Aug-08

## QC Summary Report

Work Order:  
08081320

### Method Blank

Type **MBLK** Test Code: **EPA Method 300.0 / 9056**

File ID: 17			Batch ID: <b>20439A</b>		Analysis Date: <b>08/13/2008 12:10</b>					
Sample ID: <b>MB-20439</b>	Units : <b>mg/L</b>	Run ID: <b>IC_2_080813A</b>		Prep Date: <b>08/13/2008</b>						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	ND	0.25								
Nitrate (NO3) - N	ND	0.25								
Phosphate, ortho - P	ND	0.25								

### Laboratory Fortified Blank

Type **LFB** Test Code: **EPA Method 300.0 / 9056**

File ID: 18			Batch ID: <b>20439A</b>		Analysis Date: <b>08/13/2008 12:29</b>					
Sample ID: <b>LFB-20439</b>	Units : <b>mg/L</b>	Run ID: <b>IC_2_080813A</b>		Prep Date: <b>08/13/2008</b>						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.21	0.25	1.25		97	90	110			
Nitrate (NO3) - N	1.15	0.25	1.25		92	90	110			
Phosphate, ortho - P	1.17	0.25	1.25		94	90	110			

### Sample Matrix Spike

Type **LFM** Test Code: **EPA Method 300.0 / 9056**

File ID: 21			Batch ID: <b>20439A</b>		Analysis Date: <b>08/13/2008 13:25</b>					
Sample ID: <b>08081320-01ALFM</b>	Units : <b>mg/L</b>	Run ID: <b>IC_2_080813A</b>		Prep Date: <b>08/13/2008</b>						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.25	0.25	1.25	0	99.7	80	120			
Nitrate (NO3) - N	2.09	0.25	1.25	0.9927	88	80	120			
Phosphate, ortho - P	1.2	0.25	1.25	0	96	80	120			

### Sample Matrix Spike Duplicate

Type **LFMD** Test Code: **EPA Method 300.0 / 9056**

File ID: 22			Batch ID: <b>20439A</b>		Analysis Date: <b>08/13/2008 13:43</b>					
Sample ID: <b>08081320-01ALFMD</b>	Units : <b>mg/L</b>	Run ID: <b>IC_2_080813A</b>		Prep Date: <b>08/13/2008</b>						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Nitrite (NO2) - N	1.29	0.25	1.25	0	103	80	120	1.246	3.7(10)	
Nitrate (NO3) - N	2.1	0.25	1.25	0.9927	89	80	120	2.093	0.4(10)	
Phosphate, ortho - P	1.25	0.25	1.25	0	100	80	120	1.201	4.1(10)	

### 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:  
26-Aug-08

## QC Summary Report

Work Order:  
08081320

### Method Blank

Method Blank		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 17		MBLK	Batch ID: 20439B				Analysis Date: 08/13/2008 12:10			
Sample ID: MB-20439	Units : mg/L		Run ID: IC_2_080813A				Prep Date: 08/13/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	ND	0.5								

### Laboratory Fortified Blank

Laboratory Fortified Blank		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 18		LFB	Batch ID: 20439B				Analysis Date: 08/13/2008 12:29			
Sample ID: LFB-20439	Units : mg/L		Run ID: IC_2_080813A				Prep Date: 08/13/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	10.1	0.5	10		101	90	110			

### Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 21		LFM	Batch ID: 20439B				Analysis Date: 08/13/2008 13:25			
Sample ID: 08081320-01ALFM	Units : mg/L		Run ID: IC_2_080813A				Prep Date: 08/13/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	59	0.5	10	51.09	79	80	120			M2

### Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 22		LFMD	Batch ID: 20439B				Analysis Date: 08/13/2008 13:43			
Sample ID: 08081320-01ALFMD	Units : mg/L		Run ID: IC_2_080813A				Prep Date: 08/13/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Sulfate (SO4)	61.1	0.5	10	51.09	100	80	120	59.03	3.4(10)	

### Comments:

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



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Date:  
26-Aug-08

## QC Summary Report

Work Order:  
08081320

### Method Blank

Method Blank		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 17		MBLK	Batch ID: 20439C				Analysis Date: 08/13/2008 12:10			
Sample ID: MB-20439	Units : mg/L		Run ID: IC_2_080813A				Prep Date: 08/13/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	ND	0.5								

### Laboratory Fortified Blank

Laboratory Fortified Blank		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 18		LFB	Batch ID: 20439C				Analysis Date: 08/13/2008 12:29			
Sample ID: LFB-20439	Units : mg/L		Run ID: IC_2_080813A				Prep Date: 08/13/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	4.7	0.5	5		94	90	110			

### Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 21		LFM	Batch ID: 20439C				Analysis Date: 08/13/2008 13:25			
Sample ID: 08081320-01ALFM	Units : mg/L		Run ID: IC_2_080813A				Prep Date: 08/13/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	73.9	0.5	5	72.75	23	80	120			M2

### Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 300.0 / 9056							
File ID: 22		LFMD	Batch ID: 20439C				Analysis Date: 08/13/2008 13:43			
Sample ID: 08081320-01ALFMD	Units : mg/L		Run ID: IC_2_080813A				Prep Date: 08/13/2008			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chloride	77.1	0.5	5	72.75	86	80	120	73.91	4.2(10)	

### Comments:

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



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Date:  
26-Aug-08

## QC Summary Report

Work Order:  
08081320

### Method Blank

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	ND	0.005								

### Laboratory Control Spike

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0505	0.005	0.05		101	80	120			

### Sample Matrix Spike

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0509	0.005	0.05	0	102	80	120			

### Sample Matrix Spike Duplicate

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Chromium (Cr)	0.0504	0.005	0.05	0	101	80	120	0.05086	0.9(20)	

### Comments:

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# Alpha Analytical, Inc.

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Date:  
26-Aug-08

## QC Summary Report

Work Order:  
08081320

### Method Blank

File ID:	Type <b>MBLK</b>	Test Code: <b>EPA Method 120.1 / SM2510B / SW9050A</b>								
Sample ID: <b>MBLK-W0813CN</b>	Units : <b>µS/cm</b>	Batch ID: <b>W0813CN</b>	Run ID: <b>WETLAB_080813E</b>	Analysis Date: <b>08/13/2008 00:00</b>						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Specific Conductance (at 25°C)	ND		10							

### Laboratory Control Spike

File ID:	Type <b>LCS</b>	Test Code: <b>EPA Method 120.1 / SM2510B / SW9050A</b>								
Sample ID: <b>LCS-W0813CN</b>	Units : <b>µS/cm</b>	Batch ID: <b>W0813CN</b>	Run ID: <b>WETLAB_080813E</b>	Analysis Date: <b>08/13/2008 00:00</b>						
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Specific Conductance (at 25°C)	1410	10	1410		100	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.



# Alpha Analytical, Inc.

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Date:  
26-Aug-08

## OC Summary Report

Work Order:  
08081320

### Method Blank

Method Blank		Type	Test Code: EPA Method 314.0							
File ID: 13		MBLK	Batch ID: 20472					Analysis Date: 08/15/2008 15:15		
Sample ID: MBLK-20472	Units : µg/L		Run ID: IC_3_080815A					Prep Date: 08/15/2008		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	ND		1							

### Laboratory Fortified Blank

Laboratory Fortified Blank		Type	Test Code: EPA Method 314.0							
File ID: 14		LFB	Batch ID: 20472					Analysis Date: 08/15/2008 15:33		
Sample ID: LFB-20472	Units : µg/L		Run ID: IC_3_080815A					Prep Date: 08/15/2008		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	24.2	2	25		97	85	115			

### Sample Matrix Spike

Sample Matrix Spike		Type	Test Code: EPA Method 314.0							
File ID: 18		LFM	Batch ID: 20472					Analysis Date: 08/15/2008 16:47		
Sample ID: 08081320-02ALFM	Units : µg/L		Run ID: IC_3_080815A					Prep Date: 08/15/2008		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	27.1	2	25	4.626	90	80	120			

### Sample Matrix Spike Duplicate

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method 314.0							
File ID: 19		LFMD	Batch ID: 20472					Analysis Date: 08/15/2008 17:05		
Sample ID: 08081320-02ALFMD	Units : µg/L		Run ID: IC_3_080815A					Prep Date: 08/15/2008		
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Perchlorate	28.2	2	25	4.626	94	80	120	27.11	4.0(15)	

### Comments:

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**Billing Information :**

Battelle  
505 King Avenue  
Columbus, OH 43201

Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

**CHAIN-OF-CUSTODY RECORD**

**CA**

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

**WorkOrder : BMI08081320**  
**Report Due By : 5:00 PM On : 27-Aug-08**

**Client:** Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43201

EDD Required : Yes

PO : 218017

Sampled by : Client

Client's COC # : 026269

Cooler Temp 4 °C

Samples Received 13-Aug-08

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

Job : G005862/JPL Groundwater Monitoring

Date Printed 13-Aug-08

Alpha Sample ID	Client Sample ID	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests			Sample Remarks					
						314_W	ANIONS(A)_W	ANIONS(B)_W						
BMI08081320-01A	MW-16	AQ 08/12/08 10:04	5	0	10	Perchlorate	Cl <sup>-</sup> ,NO <sub>2</sub> <sup>-</sup> ,NO <sub>3</sub> <sup>-</sup> ,PO <sub>4</sub> ,SO <sub>4</sub>	Cl <sup>-</sup> ,NO <sub>2</sub> <sup>-</sup> ,NO <sub>3</sub> <sup>-</sup> ,PO <sub>4</sub> ,SO <sub>4</sub>	Cl <sup>-</sup> ,NO <sub>2</sub> <sup>-</sup> ,NO <sub>3</sub> <sup>-</sup> ,PO <sub>4</sub> ,SO <sub>4</sub>	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	VOC_W
BMI08081320-02A	MW-10	AQ 08/12/08 13:05	5	0	10	Perchlorate				Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	
BMI08081320-03A	TB-15-8/12/08	AQ 08/12/08 00:00	1	0	10							VOC by 524 Criteria	VOC by 524 Criteria	Client provided Trip Blank.

**Comments:** No security seals. Frozen ice. Temp Blank #7720 rec'd @ 4°. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).

Logged in by: Kellaway Signature Kellaway Print Name Kellaway Company Alpha Analytical, Inc. Date/Time 8/13/08 1035

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

**Billing Information:**

Name GERALD TOMPKINS  
 Address 505 KIVA AVE  
 City, State, Zip COLIMA BUS, OH 43201  
 Phone Number \_\_\_\_\_ Fax \_\_\_\_\_



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

**Samples Collected From Which State?** 026269  
 AZ  CA  NV  WA   
 ID  OR  OTHER   
 Page # 1 of 1

Analyses Required

Client Name DAVID CONNER P.O. # 28017 Job # 6005862  
 Address 3990 OLD TOWN AVE, C-205 Email Address \_\_\_\_\_  
 City, State, Zip San Diego, CA 92110 Phone # 619-726-7311 Fax # \_\_\_\_\_

Time Sampled \_\_\_\_\_ Date Sampled \_\_\_\_\_ Matrix\* See Key Below  
 Lab ID Number \_\_\_\_\_ Office (Use Only) \_\_\_\_\_  
 Report Attention \_\_\_\_\_ Sample Description \_\_\_\_\_  
 TAT \_\_\_\_\_ Field Filtered \_\_\_\_\_  
 Total and type of containers \*\* See below

Time Sampled	Date Sampled	Matrix* See Key Below	Lab ID Number	Office (Use Only)	Report Attention	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	Analyses Required	Global ID #	REMARKS
1004	8/12/08		BM1008081320-01			MW-16	Norm		5	X		
1305	8/12/08					MW-10			5	X		QC LEVEL IV
-	8/12/08					TR-15-8/12/08			21	X		TRIP BLANK

**ADDITIONAL INSTRUCTIONS:**

Signature \_\_\_\_\_ Print Name \_\_\_\_\_ Company \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Relinquished by \_\_\_\_\_  
 Received by Kellumay  
 Relinquished by \_\_\_\_\_  
 Received by \_\_\_\_\_  
 Relinquished by \_\_\_\_\_  
 Received by \_\_\_\_\_

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