

Date: 08-Mar-2011	QC	Summary Re	port			<b>Work Order:</b> 11030204
Surr: 4-Bromofluorobenzene	10.1	10	101	70	130	



Date: 08-Mar-2011		(	<u> 2C</u> St	immar	y Report				Work Ord 11030204	
Laboratory Con	trol Spike		Type L0	CS Te	est Code: EP	A Meti	hod SW82			
File ID: 11030403.				Ba	atch ID: MS15	5W030	4M	Analysis Date:	03/04/2011 09:31	
Sample ID: LCS	S MS15W0304M	Units : µg/L		Run ID: M	SD_15_11030	04B		Prep Date:	03/04/2011 09:31	
Analyte		Result	PQL	SpkVal	SokRefVal %	%REC	LCL(ME)	UCL(ME) RPDRef	Val %RPD(Limit)	Qu
Dichlorodifluoromet	hano	6.7	1	10		67	70(70)	130		L50
	lidite	9	2	10		90	70	130		
Chloromethane Vinyl chloride		9 9.16	2	10		90 92	70	130		
Chloroethane		9.57	1	10		96	70	130		
Bromomethane		7.02	2	10		70	70	130		
Trichlorofluorometh	ane	9.16	1	10		92	70	130		
1,1-Dichloroethene		10.3	1	10		103	70	130		
Dichloromethane		9.45	2	10		95	70	130		
Freon-113		10.1	1	10		101	70	137		
rans-1,2-Dichloroe		10.3	1	10		103	70	130		
Methyl tert-butyl eth	er (MTBE)	8.87	0.5	10		89	70	130		
1,1-Dichloroethane		10.4	1	10		104	70	130		
2-Butanone (MEK)		176	10	200		88	70	130 130		
cis-1,2-Dichloroethe		10.4	1	10		104 97	70 70	130		
Bromochlorometha	ne	9.74	1	10		97 94	70	130		
Chloroform 2,2-Dichloropropan	9	9.37 10.2	1	10 10		94 102	70 70	130		
1.2-Dichloroethane	8	9.03	1	10		90	70	130		
1,1,1-Trichloroethai	he	10.2	1	10		102	70	130		
1,1-Dichloropropen		10.2	1	10		106	70	130		
Carbon tetrachlorid		9.05	1	10		91	70	130		
Benzene	•	9.88	.0.5			99	70	130		
Dibromomethane		9.56	1			96	70	130		
1,2-Dichloropropan	e	10.6	1			106	70	130		
Trichloroethene		10.5	1	10		105	70	130		
Bromodichlorometh	ane	10.2	1			102	70	130		
4-Methyl-2-pentano		22.2	2.5			89	20	182		
cis-1,3-Dichloropro		9.61	1	10		96	70	130		
trans-1,3-Dichlorop		8.36	1			84	70	130		
1,1,2-Trichloroetha	ne	9.55	1			96	70	130		
Toluene	-	10.7	0.5			107	70	130 130		
1,3-Dichloropropan		10	1			100 98	70 70	130		
Dibromochlorometh		9.83 20.2	1			90 101	70	130		
1,2-Dibromoethane Tetrachloroethene	(EDD)	10.5	2 1			105	70	130		
1,1,1,2-Tetrachloro	ethane	10.5	1	10		107	70	130		
Chlorobenzene	culanc	10.7	1			105	70	130		
Ethylbenzene		10.6	0.5			106	70	130		
m,p-Xylene		10.8	0.5			108	70	130		
Bromoform		9.01	1			90	70	130		
Styrene		10.9	1	10		109	70	130		
o-Xylene		10.9	0.5	10		109	70	130		
1,1,2,2-Tetrachloro	ethane	9.58	1	10		96	70	130		
1,2,3-Trichloroprop	ane	18.4	2			92	70	130		
Isopropylbenzene		11	1			110	70	130		
Bromobenzene		10.3	1			103	70	130		
n-Propylbenzene		11.3	1			113	70	130		
4-Chlorotoluene		11.4	1			114	70	130 130		
2-Chlorotoluene		10.9	1			109	70 70	130		
1,3,5-Trimethylben	zene	11 10.7	1			110 107	70	130		
tert-Butylbenzene 1,2,4-Trimethylben	7000	10.7	1			111	70	130		
sec-Butylbenzene	26116	10.8	1			108	70	130		
1,3-Dichlorobenzer	he	10.9	1			109	70	130		
1,4-Dichlorobenzer		10.3	1			103	70	130		
4-Isopropyitoluene		10.9	1			109	70	130		
1,2-Dichlorobenzer	e	9.91	1			99	70	130		
n-Butylbenzene		11.5	1			115	70	130		
	propropane (DBCP)	43.3	3			87	67	130		
1,2,4-Trichlorobenz		10.7	2	! 10		107	70	130		
Naphthalene		9.22	2	2 10		92	70	130		
Hexachlorobutadie		18.7	2	20		93	70	130		
1,2,3-Trichlorobenz		10.5	2	2 10		105	70	130		
Surr: 1,2-Dichloroe	thane-d4	9.26		10		93	70	130		
Surr: Toluene-d8		10.1		10	)	101	70	130		



<b>Date:</b> 08-Mar-2011	QC	Summary Re	port			<b>Work Order:</b> 11030204
Surr: 4-Bromofluorobenzene	10.2	10	102	70	130	



<b>Date:</b> 08-Mar-2011	(	QC Su	mmary	Report				<b>Work Order:</b> 11030204
Sample Matrix Spike		Type MS		st Code: EP				
File ID: 11030409.D			Bat	tch ID: MS1	5W030	4M	•	Date: 03/04/2011 11:50
Sample ID: 11030203-01AMS	Units : µg/L	F	Run ID: MS	D_15_1103	04B		Prep Dat	
Analyte	Result	PQL	SpkVal 3	SpkRefVal S	%REC	LCL(ME)	UCL(ME) RF	DRefVal %RPD(Limit) Q
Dichlorodifluoromethane	40.6	2.5	50	0	81	21	138	
Chloromethane	50.9	10	50	0	102	23	144	
Vinyl chloride	51.5	2.5	50	0	103	49	136 159	
Chloroethane	52.4	2.5 10	50 50	0	105 67	21 10	159	
Bromomethane Trichlorofluoromethane	33.6 50.2	2.5	50 50	0	100	32	154	
1,1-Dichloroethene	53.1	2.5	50	ŏ	106	64	130	
Dichloromethane	48.5	10	50	0	97	69	130	
Freon-113	54	2.5	50	0	108	55	141	
trans-1,2-Dichloroethene	52.5	2.5	50 50	0	105 103	63 47	130 150	
Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane	51.5 52.7	1.3 2.5	50 50	0	105	66	130	
2-Butanone (MEK)	814	50	1000	ŏ	81	23	182	
cis-1,2-Dichloroethene	53.4	2.5	50	0	107	70	130	
Bromochloromethane	51.7	2.5	50	0	103	70	132	
Chloroform	58.6	2.5	50	10.36	96 105	70 38	130 154	
2,2-Dichloropropane	52.4 49	2.5 2.5	50 50	0	98	30 65	134	
1,2-Dichloroethane 1,1,1-Trichloroethane	49 51.3	2.5	50 50	0	103	65	136	
1,1-Dichloropropene	53.9	2.5	50	Ō	108	68	132	
Carbon tetrachloride	46.7	2.5	50	0	93	58	148	
Benzene	50.3	1.3	50	0	101	59	138	
Dibromomethane	53	2.5	50	0	106 112	70 70	130 131	
1,2-Dichloropropane Trichloroethene	55.8 52.4	2.5 2.5	50 50	0	105	65	144	
Bromodichloromethane	69	2.5	50	15.75	106	50	157	
4-Methyl-2-pentanone (MIBK)	124	13	125	0	99	20	182	
cis-1,3-Dichloropropene	47.7	2.5	50	0	95	63	131	
trans-1,3-Dichloropropene	42.6	2.5	50	0	85	65 70	136 131	
1,1,2-Trichloroethane	52.6 54.9	2.5 1.3	50 50	0	105 110	70 68	131	
Toluene 1,3-Dichloropropane	54.9	2.5	50	0	114	70	130	
Dibromochloromethane	69.2	2.5	50	16.65	105	42	155	
1,2-Dibromoethane (EDB)	112	5	100	0	112	70	130	
Tetrachloroethene	53.5	2.5	50	0	107	65	130	
1,1,1,2-Tetrachloroethane	54.3	2.5	50	0	109 105	70 70	130 130	
Chlorobenzene Ethylbenzene	52.6 52.3	2.5 1.3	50 50	0	105	68	130	
m,p-Xylene	52.6	1.3	50	õ	105	68	131	
Bromoform	51.6	2.5	50	5.01	93	65	143	
Styrene	48.2	2.5	50	0	96	59	153	
o-Xylene	52.9	1.3	50	0	106	70 67	130 130	
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	53.4 99	2.5 10	50 100	0	107 99	70	130	
Isopropylbenzene	52.7	2.5	50	0	105	55	138	
Bromobenzene	50.4	2.5	50	Ō	101	70	130	
n-Propylbenzene	53.5	2.5	50	0	107	67	133	
4-Chiorotoluene	54.1	2.5	50	0	108	70	130 130	
2-Chlorotoluene	53.1	2.5	50 50	0	106 106	70 67	130	
1,3,5-Trimethylbenzene tert-Butylbenzene	53.2 51.6	2.5 2.5	50	0	103	55	147	
1,2,4-Trimethylbenzene	53.5	2.5	50	Ő	107	65	135	
sec-Butylbenzene	53.2	2.5	50	0	106	68	135	
1,3-Dichlorobenzene	53.5	2.5		0	107	70	130	
1,4-Dichlorobenzene	51.3	2.5		0	103 107	70 68	130 132	
4-Isopropyltoluene 1,2-Dichlorobenzene	53.5 50.4	2.5 2.5		0	107	70	132	
n-Butylbenzene	56.6	2.5		0	113	62	134	
1,2-Dibromo-3-chloropropane (DBCP)	247	15		Ō	99	64	130	
1,2,4-Trichlorobenzene	58.8	10	50	0	118	62	133	
Naphthalene	50.2	10		0	100	32	166 130	
Hexachlorobutadiene	98.7	10		0 0	99 117	63 55	130	
1,2,3-Trichlorobenzene Surr: 1,2-Dichloroethane-d4	58.3 47.6	10	50 50	U	95	55 70	130	
Surr: Toluene-d8	51.9		50		104	70	130	



Date: 08-Mar-2011	QC	Summary Re	port			<b>Work Order:</b> 11030204
Surr: 4-Bromofluorobenzene	49.1	50	98	70	130	



<b>Date:</b> 08-Mar-2011	(	QC Su	immary	Report					Work Ord 11030204	
Sample Matrix Spike Duplicate		Type M	SD Tes	st Code: EP	A Meti	nod SW82				
File ID: 11030410.D			Bat	ch ID: <b>MS1</b>	5W030	4 <b>M</b>	Analy		03/04/2011 12:12	
Sample ID: 11030203-01AMSD	Units : µg/L	I	Run ID: MS	D_15_1103	04B		Prep I		03/04/2011 12:12	
Analyte	Result	PQL	SpkVal S	SpkRefVal <sup>v</sup>	%REC	LCL(ME)	UCL(ME)	RPDRefV	al %RPD(Limit)	Qual
Dichlorodifluoromethane	39.3	2.5	50	0	79	21	138	40.63		
Chloromethane	49	10	50	0	98	23	144	50.86		
Vinyl chloride	49.5	2.5	50	0	99	49	136	51.46		
Chloroethane	50.3	2.5	50	0 0	101 74	21 10	159 174	52.44 33.64		
Bromomethane Trichlorofluoromethane	37 48.9	10 2.5	50 50	0	98	32	154	50.18		
1,1-Dichloroethene	50.7	2.5	50	ŏ	101	64	130	53.11		
Dichloromethane	46.5	10	50	0	93	69	130	48.5	4.2(20)	
Freon-113	51.5	2.5	50	0	103	55	141	54.01		
trans-1,2-Dichloroethene	50.2	2.5	50	0	100 98	63 47	130 150	52.51 51.49		
Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane	49.2 51.3	1.3 2.5	50 50	0	90 103	66	130	52.73		
2-Butanone (MEK)	764	2.3 50	1000	0 0	76	23	182	814.1		
cis-1,2-Dichloroethene	51.8	2.5		0	104	70	130	53.42		
Bromochloromethane	49	2.5		0	98	70	132	51.73		
Chloroform	57.3	2.5		10.36	94	70	130	58.56		
2,2-Dichloropropane	52.1	2.5		0	104 93	38 65	154 134	52.39 49.02		
1,2-Dichloroethane 1,1,1-Trichloroethane	46.5 50.1	2.5 2.5		0	100	65	134	51.27		
1,1-Dichloropropene	52.1	2.5		ŏ	104	68	132	53.91	3.5(20)	
Carbon tetrachloride	46.9	2.5		0	94	58	148	46.65		
Benzene	48.7	1.3		0	97	59	138	50.26		
Dibromomethane	49.9	2.5		0	99.7 107	70 70	130 131	52.96 55.8		
1,2-Dichloropropane Trichloroethene	53.3 50	2.5 2.5		0	107	70 65	144	52.42		
Bromodichloromethane	67.7	2.5		15.75	104	50	157	68.95		
4-Methyl-2-pentanone (MIBK)	115	13		0	92	20	182	123.7		
cis-1,3-Dichloropropene	46.1	2.5		0	92	63	131	47.73		
trans-1,3-Dichloropropene	41.9	2.5		0	84	65 70	136	42.55 52.58		
1,1,2-Trichloroethane	48.8 53.7	2.5 1.3		0	.98 107	70 68	131 130	54.94		
Toluene 1,3-Dichloropropane	54.3	2.5		0	109	70	130	57.09		
Dibromochloromethane	68.1	2.5		16.65	103	42	155	69.21	1.6(20)	
1,2-Dibromoethane (EDB)	107	5		0	107	70	130	112.1		
Tetrachloroethene	51.9	2.5		0	104	65	130	53.5		
1,1,1,2-Tetrachloroethane	53.9	2.5		0	108 102	70 70	130 130	54.25 52.57		
Chlorobenzene Ethvlbenzene	51.2 50.7	2.5 1.3		0	102	68	130	52.27		
m,p-Xylene	51.8	1.3		Õ	104	68	131	52.63	3 1.5(20)	
Bromoform	51.6	2.5	50	5.01	93	65	143	51.56		
Styrene	48.7	2.5		0	97	59	153	48.24		
o-Xylene	51	1.3		0	102 98	70 67	130 130	52.94 53.42		
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	49.2 93.2	2.5 10		0 0	93	70	130	98.96		
Isopropylbenzene	52.6	2.5		ŏ	105	55	138	52.74	4 0.4(20)	
Bromobenzene	49.9	2.5		0	99.7	70	130	50.36		
n-Propylbenzene	54.2	2.5		0	108	67	133	53.48		
4-Chlorotoluene	53.9	2.5		0	108	70	130 130	54.05 53.11		
2-Chlorotoluene 1,3,5-Trimethylbenzene	51.4 52.9	2.5 2.5		0	103 106	70 67	130	53.1		
tert-Butylbenzene	51.9	2.5		0	104	55	147	51.5		
1,2,4-Trimethylbenzene	52.9	2.5		ō	106	65	135	53.48	3 1.2(25)	
sec-Butylbenzene	53.2	2.5	50	0	106	68	135	53.21		
1,3-Dichlorobenzene	54	2.5		0	108	70	130	53.5		
1,4-Dichlorobenzene 4-Isopropyltoluene	51.1 53.8	2.5 2.5		0	102 108	70 68	130 132	51.20 53.53		
4-isopropytoluene 1,2-Dichlorobenzene	53.8 50.4	2.5 2.5		0	100	70	132	50.3		
n-Butylbenzene	58.1	2.5		0	116	62	134	56.6	2.6(21)	
1,2-Dibromo-3-chloropropane (DBCP)	241	15	250	Ō	96	64	130	246.0	6 2.3(20)	
1,2,4-Trichlorobenzene	57.4	10		0	115	62	133	58.8		
Naphthalene	48.7	10		0	97 104	32	166 130	50.18 98.7		
Hexachlorobutadiene 1,2,3-Trichlorobenzene	104 56	10 10		0	104 112	63 55	130	98.7 58.20		
Surr: 1,2-Dichloroethane-d4	46.8	10	50 50	0	94	70	130	00.E		
	52.2		50		104	70	130			



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

<b>Date:</b> 08-Mar-2011	QC	Summary Re	port			<b>Work Order:</b> 11030204
Surr: 4-Bromofluorobenzene	50.2	50	100	70	130	

#### Comments:

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

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

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

3.2.11 11.3	Alpha Analytical, Inc.	L L L L L L L L L L L L X X	~ _	1:101 +							
Date/Time	Company	<u>.</u>	Print Name	Prin					Signature	<b>.</b>	
<u>)). :</u>	Temp Blank #7570 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). :	as the control	uld be used	. Samples sho	Level IV QC	d@_0°C.	70 receive	mp Blank #75		Security scals intact. Frozen ice.	Comments:
											- -
	eria	VOC by 524 VOC by 524 Criteria Criteria	Cr	NO2, NO3, Perchlorate SO4, Cl, PO4	NO2, NO3, SO4, CI, PO4	9	9	03/01/11 14:40	Â	MW-7	BMI11030204-08A
Reno Trip Blank 12/14/10	eria	VOC by 524 VOC by 524 Criteria Criteria	~			0	<b>د</b>	03/01/11 07:00	ğ	TB-06-03/01/11	BMI11030204-07A
	eria	VOC by 524 VOC by 524 Criteria Criteria	ې د	Perchlorate		0	თ 	03/01/11 10:03	ğ	EB-06-03/01/11	BMI11030204-06A E
	eria	VOC by 524 VOC by 524 Criteria Criteria	Ω 	Perchlorate		0	Сл 	03/01/11 10:23	ğ	MW-20-1	BMI11030204-05A
Level IV QC	ena	VOC by 524 VOC by 524 Criteria Criteria	C:	Perchlorate		0 9	U U	03/01/11 09:49	AQ	MW-20-2	BMI11030204-04A
	eria	VOC by 524 VOC by 524 Criteria Criteria	Cr V	Perchlorate		0 9	ບາ 	03/01/11 09:25	Ą	MW-20-3	BMI11030204-03A
	eria	VOC by 524 VOC by 524 Criteria Criteria	ې ۲	Perchlorate		0	С1 	03/01/11 09:00	ð	MW-20-4	BMI11030204-02A
	eria	VOC by 524 Criteria Criteria	Cr V	Perchlorate		0	сл —	03/01/11 08:29	ð	MW-20-5	BMI11030204-01A
Sample Remarks	₩	VOC_TIC_ VOC_W W	METALS_D V	314_W	300_0_W	3ottles Sub TAT	No. of Bottles Alpha Sub	ollection Date	C. Matrix	Client Sample ID	Alpha Sample ID
				With Surrog	S, MS/MSD	il data, LC	al/ConCa	, MBLK, InitC	inal Rpt	= DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates	QC Level: DS4
					oring	ater Monit	Groundwa	G005862/JPL Groundwater Monitoring	Job: G	33404, 53566 J	Client's COC # : 3340
ion/ David Loera Received Date Printed	Sampled by : Chase Brogdon/ David Loera		attelle.org	waltons@battelle.org	4117 x	(614) 424-4117		Shane Walton	10	101	ŭ
	EDD Kequired : Yes		elle.org	cutiee@batelle.org	-4899 x	(614) 424-4899		Betsy Cutie		y	Suite 1420
			attelle.org	connerd@battelle.org	-7311 x	(619) 726-7311		David Conner		nstitute	Battelle Memorial Institute
	-		dress	EMail Address	umber	Phone Number	ŝ	Report Attention	סכן		Client:
11030204 On: 15-Mar-2011	WorkOrder : BMIS11030204 Report Due By : 5:00 PM On : 15-Mar-2011		• 39431 <i>-</i> 5778 06	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778 TEL: (775) 355-1044 FAX: (775) 355-0406	Analyti Suite 21 Spa 1044 FAX:	<b></b>	A 5 Glendal TEL:	25			
Page: 1 of 1	CA	ORD	ECO	CHAIN-OF-CUSTODY RECO	USTC	OF-C	IN-C	CHA			Billing Information :

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

The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report. NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

*Key: AQ - Aqueous NOTE: Samples are of the above sample:	Relinquished by: (Signature/Affiliation) Relinquished by: (Signature/Affiliation) Relinquished by: (Signature/Affiliation)	I, (field sampler), grounds for legal			0700 3/1// A	1003	1023	6490	0%00	0629 3/1/1 1	Time Date See Key Sampled Sampled Below		Consultant / Client Name	Phone Number	016.7	Billing Information:
*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Bra: 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 clier 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.	parture/Affiliation) nature/Affiliation)	I, (field sampler), attest to the validity and authenticity of this sigrounds for legal action (NAC-415.0636 (c) (2)). Sampled By:		C	AQ					<u>B</u>		PO. # J	CINACI	1	ME BATICLLC	J
WA - Waste O ter results are reported those samples receive	Aph.	authenticity of this sam (2)). Sampled By:			·07 TB-0	. Of EB-06	02-MM CO.	· 03 MW - 20 -		204-01 MW-	(Use Only)	C-ZUJ Name:	Aor 4		$\frac{1}{100}$	۔ ٦
OT - Other AR - Air ad unless other arrangeme ved by the laboratory with	16-747 Receiv Anlystra Receiv	ple. I am aware that ta			06-03/01/	06 - 03 (01,	20-1	2		20	Sample Description	DOVIT (0	FOOS 862 Report Att			
r **: L-Liter v ents are made. Hazard n this coc. The liability o	Received by: (Signature/Affiliation) Received by: (Signature/Affiliation) Received by: (Signature/Affiliation)	mpering with or intention			//	///						ONNETLE BATTELLE	Peport Attention / Project Manager		255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778 Phone (775) 355-1044 Fax (775) 355-0406	Alpha Analytical, Inc.
V-Voa S-Soil Jar dous samples will be ret of the laboratory is limit	- Alph-	nally mislabeling the sa			lu	3v 2p	4			1	Field Filtered # Containers**	-0NG- 13/10-	6W. HON. 1911		e, Suite 21 31-5778 144	cal. Inc.
O-Orbo T-Tedlar urned to client or dispose ed to the amount paid fo	An. Street alpha	mple location, date or ti			×	× × ×	× :	× × × × × ×	< × ` < × < ×	X X X		the contraction of the contracti		Analy	AZ CA	Samples Collecte
ar B-Brass P- sed of at client expense for the report.	Date: 2.2.11 Date:	ime of collection is cons			7	6		0	····					Analyses Required		d From Whic
*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.	Time; 500 Time: 1103 Time:	I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action (NAC-475.0636 (c) (2)). Sampled By:			TRUP BLANK	EQUIP BLANK		CLOVEL THE			ne#	Global	Level. Dor IV	Data Validation	Page # / _ of /	

Billing Information: Company Name_Dattelle		Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21 Sparks Neurona 80431-5778	53 Samples Collected From Which State? AZ CA X WA ID OR OTHER P	53566 Which State? MA DOD Site ER Page # 1 of
Address SOS Kins Ave City, State, Zip Columbus OH 43201 Phone Number Fax		Phone (775) 355-1044 Fax (775) 355-0406	Analyses Required	
Consultant / Client Name David Conner	5005862/JPL	1181-101 - Mame Jak Mane	22 22 22	Level: III or IV
	id	tention / Project Manager	24. (24.)	
PO #	cornerd Q	battelle 105	6	Global
Date	Phone:	Mobile (01 1/12/0-1-1-1	Ks tal all	Giobai   1D #
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description	on <i>TAT Field</i> # Containers**	VOI Ia Ba	/ REMARKS
	7 - mW	10 64.34	XXXX	
ADDITIONAL INSTRUCTIONS: K///	hlorid, Nitrate, Niti	rite Orthow hospitate, Sult	ste	
	this sample. I am aware that	tampering with or intentionally mislabeling the	sample location, date or time of cc	llection is considered fraud and may b
Relinquished by: (Signature/Affiliation)	Battelle Rece	Received by: (Signature/Affiliation)	Jusilent Dates	12: 5/1/11 Time: 5/1/11 1/450
Relinquished by: (Signature(Armation)	Tutsilets Rece	Received by: (Signaturentitioned)	Mphy Aristina Dale:	(i) Time:
Relinquished by: (Signature/Afflication)	Ary trace Reco	Received by: (Signature/Affiliation)	by /alpha Date:	ate: Time: 3·2·11 1103
*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 core. The liability of the laboratory is limited to the amount naid for the report	OT - Other AR - Air reported unless other arrangements with a shorehow with the s	¥ Air <sup>★★</sup> : L-Liter V-Voa S-Soil Jar ments are made. Hazardous samples will be t	r O-Orbo T-Tedlar B returned to client or disposed of at imited to the amount naid for the re	B-Brass P-Plastic OT-Other at client expense. The report for the ana



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

Date: 09-Mar-11

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

**CASE NARRATIVE** 

3 °C

# Job: G005862/JPL Groundwater Monitoring Work Order: BMI11030301 Client's Sample ID Matrix

Suite 1420

	· · · · · · · · · · · · · · · · · · ·		
11030301-01A	MW-8	Aqueous	
11030301-02A	MW-15	Aqueous	
11030301-03A	MW-10	Aqueous	
11030301-04A	DUPE-7-1Q11	Aqueous	
11030301-05A	Trip Blank	Aqueous	
	Monually Internated Are		
	Manually Integrated Ana	livtes	

NONE

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

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

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

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 
 Attn:
 David Conner

 Phone:
 (619) 726-7311

 Fax:
 (614) 458-6641

 Date Received : 03/03/11

### Job: G005862/JPL Groundwater Monitoring

		Anions by IC EPA Method 300.0			
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-8					
Lab ID : BMI11030301-01A	Chloride	11	0.50 mg/L	03/03/11 11:48	03/03/11 12:49
Date Sampled 03/02/11 14:28	Nitrite (NO2) - N	ND	0.25 mg/L	03/03/11 11:48	03/03/11 12:49
<b>r</b>	Nitrate (NO3) - N	0.50	0.25 mg/L	03/03/11 11:48	03/03/11 12:49
	Phosphate, ortho - P	ND	0.50 mg/L	03/03/11 11:48	03/03/11 12:49
	Sulfate (SO4)	19	0.50 mg/L	03/03/11 11:48	03/03/11 12:49

ND = Not Detected

Roger Scholl

Kandy Santur

Walter Arihm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/16/11



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 
 Attn:
 David Conner

 Phone:
 (619) 726-7311

 Fax:
 (614) 458-6641

 Date Received : 03/03/11

### Job: G005862/JPL Groundwater Monitoring

		Perchlorate by Ion Chromatography EPA Method 314.0			
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: <b>MW-8</b> Lab ID : BMI11030301-01A Date Sampled 03/02/11 14:28	Perchlorate	ND	1.00 µg/L	03/02/11 12:21	03/03/11 13:35
Client ID: <b>MW-10</b> Lab ID : BMI11030301-03A Date Sampled 03/02/11 17:05	Perchlorate	1.07	1.00 µg/L	03/02/11 12:21	03/03/11 13:54
Client ID: <b>DUPE-7-1Q11</b> Lab ID : BMI11030301-04A Date Sampled 03/02/11 17:10	Perchlorate	ND	1.00 µg/L	03/02/11 12:21	03/03/11 14:12

ND = Not Detected

Kandy Santmer Roger Scholl

Dalter Arihm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/16/11 **Report Date** 



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 
 Attn:
 David Conner

 Phone:
 (619) 726-7311

 Fax:
 (614) 458-6641

 Date Received : 03/03/11

### Job: G005862/JPL Groundwater Monitoring

		Metals by ICPMS EPA Method 200.8	· · · · · · · · · · · · · · · · · · ·		
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-8 Lab ID : BMI11030301-01A Date Sampled 03/02/11 14:28	Chromium (Cr)	ND	0.0050 mg/L	03/04/11 12:38	03/07/11 10:53
Client ID: MW-15 Lab ID : BMI11030301-02A Date Sampled 03/02/11 15:30	Chromium (Cr)	ND	0.0050 mg/L	03/04/11 12:38	03/07/11 11:21
Client ID: <b>MW-10</b> Lab ID : BMI11030301-03A Date Sampled 03/02/11 17:05	Chromium (Cr)	ND	0.0050 mg/L	03/04/11 12:38	03/07/11 11:27
Client ID: DUPE-7-1Q11 Lab ID : BMI11030301-04A Date Sampled 03/02/11 17:10	Chromium (Cr)	ND	0.0050 mg/L	03/04/11 12:38	03/07/11 11:33

ND = Not Detected

Roger Scholl

Kandy Santur

Walter Arihm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/16/11



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Job: G005862/JPL Groundwater Monitoring Attn: David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

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

			Estimated		
	Parameter	Estimated	Reporting	Date	Date
		Concentration	Limit	Extracted	Analyzed
Client ID:     MW-8       Lab ID:     BMI11030301-01A       Date Received:     03/03/11       Date Sampled:     03/02/11 14:28	* * * None Found * * *	ND	2.0 µg/L	03/04/11 16:52	03/04/11 16:52
Client ID:     MW-10       Lab ID:     BMI11030301-03A       Date Received:     03/03/11       Date Sampled:     03/02/11 17:05	* * * None Found * * *	ND	2.0 µg/L	03/04/11 17:14	03/04/11 17:14
Client ID:     DUPE-7-1Q11       Lab ID:     BMI11030301-04A       Date Received:     03/03/11       Date Sampled:     03/02/11 17:10	*** None Found ***	ND	2.0 µg/L	03/04/11 17:35	03/04/11 17:35
Client ID :       Trip Blank         Lab ID :       BMI11030301-05A         Date Received :       03/03/11         Date Sampled :       03/02/11 00:00	* * * None Found * * *	ND	2.0 µg/L	03/04/11 14:00	03/04/11 14:00

Note: Analysis conducted using EPA Method 524.2 criteria. ND = Not Detected

Roger Scholl

Kandy Saulner

Walter Ainihum

3/16/11 Report Date

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise. Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.

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

Page 1 of 1



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

#### **ANALYTICAL REPORT**

Battelle Memorial Institute	Attn:
655 West Broadway	Phon
San Diego, CA 92101	Fax:
Job: G005862/JPL Groundwater Monitorin	g

Alpha Analytical Number: BMI11030301-01A Client I.D. Number: MW-8

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

#### Sampled: 03/02/11 14:28 Received: 03/03/11 Extracted: 03/04/11 16:52 Analyzed: 03/04/11 16:52

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10		ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	μg/L
12		ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13		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		ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25		ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26		ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	, , , , , , , , , , , , , , , , , , , ,	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)	%RE(
30		ND	0.50	µg/L	65	Surr: Toluene-d8	110	(70-130)	%RE(
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	97	(70-130)	%RE(
32	1,3-Dichloropropane	ND	0.50	μg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					
35	Tetrachloroethene	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Saulner

Walter Hin

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 

Page 1 of 1



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

#### ANALYTICAL REPORT

Battell	e Memorial Institute
655 W	est Broadway
San Di	iego, CA 92101
Job:	G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI11030301-03A Client I.D. Number: MW-10

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

#### Sampled: 03/02/11 17:05 Received: 03/03/11 Extracted: 03/04/11 17:14 Analyzed: 03/04/11 17:14

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoiuene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	.,.,.	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-chioropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	100	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	110	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	101	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L			·		
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Danlmer

lter Al



Report Date

Page 1 of 1

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



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	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-7311
San Diego, CA 92101	Fax:	(614) 458-6641
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030301-04A Client I.D. Number: DUPE-7-1Q11

υ.	(01) / 20-/311	
	(614) 458-6641	
	()	

#### Sampled: 03/02/11 17:10 Received: 03/03/11 Extracted: 03/04/11 17:35 Analyzed: 03/04/11 17:35

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xyiene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	99	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	112	(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	Tetrachioroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Rogen Scholl

Kandy Sandner

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

3/16/11

**Report Date** 

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com





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	Attn:	David Co
655 We	st Broadway	Phone:	(619) 726
San Die	go, CA 92101	Fax:	(614) 458
Job:	G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030301-05A Client I.D. Number: Trip Blank

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

#### Sampled: 03/02/11 00:00 Received: 03/03/11 Extracted: 03/04/11 14:00 Analyzed: 03/04/11 14:00

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	μg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoiuene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	μg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	97	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	106	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Santur

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



**Report Date** 

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

Page 1 of 1



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: BMI11030301

#### Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH	
11030301-01A	MW-8	Aqueous	2	
11030301-03A	MW-10	Aqueous	2	
11030301-04A	DUPE-7-1Q11	Aqueous	2	
11030301-05A	Trip Blank	Aqueous	2	



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

<b>Date:</b> 08-Mar-11	Ç	)C Si	ımmar	y Repor	t			<b>Work Ord</b> 11030301	
Method Blank		Туре М	BLK Te	est Code: EF	PA Met	hod 300.0			
File ID: 20			Ba	atch ID: 2609	8		Analysis Date	: 03/03/2011 11:53	
Sample ID: MB-26098	Units : mg/L		Run ID: IC	_2_110303A			Prep Date:	03/03/2011 11:48	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDRe	fVal %RPD(Limit)	Qual
Chloride	ND	0.5							
Nitrite (NO2) - N	ND	0.25							
Nitrate (NO3) - N	ND	0.25							
Phosphate, ortho - P	ND	0.5							
Sulfate (SO4)	ND	0.5							
Laboratory Fortified Blank		Type Ll	<b>-B</b> Te	est Code: EF	PA Met	hod 300.0			
File ID: <b>21</b>			Ba	atch ID: 2609	98		Analysis Date	: 03/03/2011 12:12	
Sample ID: LFB-26098	Units : mg/L		Run ID: IC	_2_110303A	۱		Prep Date:	03/03/2011 11:48	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDRe	fVal %RPD(Limit)	Qual
Chloride	53.8	0.5	50		108	90	110		
Nitrite (NO2) - N	4.86	0.25	5		97	90	110		
Nitrate (NO3) - N	5.52	0.25	5		110	90	110		
Phosphate, ortho - P	4.82	0.5	5		96	90	110		
Sulfate (SO4)	110	0.5	100		110	90	110		
Sample Matrix Spike		Type Ll	FM Te	est Code: EF	PA Met	hod 300.0			
File ID: <b>31</b>			Ba	atch ID: 2609	98		Analysis Date	: 03/04/2011 14:28	
Sample ID: 11030302-11ALFM	Units : mg/L		Run ID: IC	_2_110303A	1		Prep Date:	03/03/2011 11:48	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDRe	fVal %RPD(Limit)	Qual
Chloride	135	0.5	100	44.48	91	80	120		
Nitrite (NO2) - N	10.7	0.25		0	107	80	120		
Nitrate (NO3) - N	16.2	0.25	10	5.751	105	80	120		
Phosphate, ortho - P	10.2	0.5		0	102	80	120		
Sulfate (SO4)	252	0.5	200	80.54	86	80	120		
Sample Matrix Spike Duplicate		Type L	FMD Te	est Code: El	PA Met	hod 300.0			
File ID: <b>32</b>			Ba	atch ID: 260	98		Analysis Date	: 03/04/2011 14:46	
Sample ID: 11030302-11ALFMD	Units : mg/L		Run ID: IC	_2_1103034	•		Prep Date:	03/03/2011 11:48	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDRe	fVal %RPD(Limit)	Qual
Chloride	137	0.5	100	44.48	93	80	120 135	5.2 1.6(15)	
Nitrite (NO2) - N	11	0.25		0	110	80	120 10.		
Nitrate (NO3) - N	16.6	0.25		5.751	108	80	120 16.3	··· ( · )	
Phosphate, ortho - P	10.2	0.5	10	0	102	80	120 10.		
Sulfate (SO4)	257	0.5	200	80.54	88	80	120 252	2.4 1.8(15)	

**Comments:** 

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



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

<b>Date:</b> 07-Mar-11		QC Summary Report										er: 1
Method Bla File ID: 14	nk	· · · · ·	Туре	MBLK		est Code: El atch ID: 260		hod 314.0	Analy	vsis Date:	03/02/2011 11:39	
Sample ID:	MB-26092	Units : µg/L.				_3_1103024			Prep		03/02/2011 12:21	_
Analyte		Result	PQL	S	pkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua
Perchlorate		ND		1								
Laboratory File ID: 15	Fortified Blank		Туре	LFB		est Code: El atch ID: 260		hod 314.0	Analy	sis Date:	03/02/2011 11:57	
Sample ID:	LFB-26092	Units : µg/L		Run	ID: IC	3 110302	۱.		Prep	Date:	03/02/2011 12:21	
Analyte		Result	PQL	s	pkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua
Perchlorate		25.4		2	25		102	85	115		-	
Sample Mat	trix Spike		Туре	LFM		est Code: El atch ID: 260		hod 314.0	Analy	/sis Date:	03/02/2011 13:29	
Sample ID:	11030145-03ALFM	Units : µg/L		Run	ID: IC	_3_110302	4		Prep	Date:	03/02/2011 12:21	
Analyte		Result	PQL	S	pkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua
Perchlorate		50.3		2	25	24.07	105	80	120			
Sample Mat	trix Spike Duplicate		Туре	LFMC	) Te	est Code: El	PA Met	hod 314.0				
File ID: 21	• •				Ba	atch ID: 260	92		Analy	sis Date:	03/02/2011 13:48	
Sample ID:	11030145-03ALFMD	Units : µg/L		Run	ID: IC	_3_110302/	4		Prep	Date:	03/02/2011 12:21	
Analyte		Result	PQL	S	pkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua
Perchlorate	· · · · · · · · · · · · · · · · · · ·	52.1		2	25	24.07	112	80	120	50.2	8 3.6(15)	

**Comments:** 

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



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

<b>Date:</b> 10-Mar-11	(	<b>Work Orde</b> 11030301								
Method Blank File ID: 030711.B\086_M.D\ Sample ID: MB-26109	Units : mg/L	Type I	Ba	est Code: EP atch ID: 2610 P/MS_11030	9	thod 200.8	Analy Prep I		03/07/2011 21:17 03/04/2011 12:38	
Analyte	Result	PQL		_		LCL(ME)	•		/al %RPD(Limit)	Qual
Chromium (Cr)	ND	0.00				<u> </u>				
Laboratory Control Spike File ID: 030711.B\152_D.D\		Туре I	Ba	est Code: EP atch ID: 2610	9	ihod 200.8			03/08/2011 11:57	
Sample ID: LCS-26109 Analyte	Units : <b>mg/L</b> Result	PQL		P/MS_11030 SpkRefVal		LCL(ME)	Prep I UCL(ME)		03/04/2011 12:38 /al %RPD(Limit)	Qual
Chromium (Cr)	0.0536	0.00	5 0.05		107	85	115			
Sample Matrix Spike File ID: 030711.B\092_M.D\ Sample ID: 11030401-09AMS Analyte	Units : <b>mg/L</b> Result	Type I	Ba Run ID: IC	est Code: EF atch ID: 2610 P/MS_11030	9 )7B		Analy Prep I	Date:	03/07/2011 21:51 03/04/2011 12:38 √al %RPD(Limit)	Qual
Chromium (Cr)	0.0474	0.00		0	95	70	130			
Sample Matrix Spike Duplicate File ID: 030711.B\093_M.D\		Type I		est Code: EF		thod 200.8		sis Date:	03/07/2011 21:56	
Sample ID: 11030401-09AMSD	Units : mg/L		Run ID: IC	P/MS_11030	)7B		Prep	Date:	03/04/2011 12:38	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	val %RPD(Limit)	Qual
Chromium (Cr)	0.0482	0.00	5 0.05	0	96	70	130	0.0474	44 1.5(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.



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

Date: 09-Mar-11		<b>Work Order:</b> 11030301				
Method Blank		Type MBLK	Test Code: EPA Metho	d SW8260B		
File ID: 11030406.D			Batch ID: MS15W0304N	Analysis Date:	03/04/2011 10:46	
Sample ID: MBLK MS15W0304M	Units : µg/L	Run II	): MSD_15_110304B	Prep Date:	03/04/2011 10:46	
Analyte	Result			CL(ME) UCL(ME) RPDRef	/al %RPD(Limit)	Qua
Dichlorodifluoromethane	ND	0.5				
Chloromethane	ND	1				
Vinyl chloride	ND	0.5				
Chloroethane	ND	0.5				
Bromomethane Trichlorofluoromethane	ND	1		,		
1.1-Dichloroethene	ND ND	0.5 0.5				
Dichloromethane	ND	0.5				
Freon-113	ND	0.5				
trans-1,2-Dichloroethene	ND	0.5				
Methyl tert-butyl ether (MTBE)	ND	0.5				
1,1-Dichloroethane 2-Butanone (MEK)	ND	0.5				
cis-1,2-Dichloroethene	ND ND	10 0.5				
Bromochloromethane	ND	0.5				
Chloroform	ND	0.5				
2,2-Dichloropropane	ND	0.5				
1,2-Dichloroethane	ND	0.5				
1,1,1-Trichloroethane 1,1-Dichloropropene	ND	0.5				
Carbon tetrachloride	ND ND	0.5 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) cis-1,3-Dichloropropene	ND	2.5				
trans-1,3-Dichloropropene	ND ND	0.5 0.5				
1,1,2-Trichloroethane	ND	0.5				
Toluene	ND	0.5			r	
1,3-Dichloropropane	ND	0.5				
Dibromochloromethane	ND	0.5				
1,2-Dibromoethane (EDB)	ND	1				
Tetrachloroethene 1,1,1,2-Tetrachloroethane	ND	0.5				
Chlorobenzene	ND ND	0.5 0.5				
Ethylbenzene	ND	0.5				
m,p-Xylene	ND	0.5				
Bromoform	ND	0.5				
Styrene	ND	0.5				
o-Xylene	ND	0.5				
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	ND ND	0.5 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 tert-Butylbenzene	ND	0.5				
1,2,4-Trimethylbenzene	ND ND	0.5 0.5				
sec-Butylbenzene	ND	0.5 0.5				
1,3-Dichlorobenzene	ND	0.5				
1,4-Dichlorobenzene	ND	0.5				
4-Isopropyltoluene	ND	0.5				
1,2-Dichlorobenzene	ND	0.5				
n-Butylbenzene 1,2-Dibromo-3-chloropropane (DBCP)	ND	0.5				
1,2-Dibromo-3-chloropropane (DBCP)	ND ND	2.5 1				
Naphthalene	ND	1				
Hexachlorobutadiene	ND	1				
1,2,3-Trichlorobenzene	ND	1				
Surr: 1,2-Dichloroethane-d4	9.72		10 97	70 130		
Surr: Toluene-d8	10.6		10 106	70 130		

•



<b>Date:</b> 09-Mar-11	QC	Summary Re	eport			<b>Work Order:</b> 11030301
Surr: 4-Bromofluorobenzene	10.1	10	101	70	130	



<b>Date:</b> 09-Mar-11	1. <u>1</u>	(	Work Order: 11030301							
	Control Spike									
File ID: 11030	403.D			Ba	atch ID: MS15W030	)4M	Analysi	is Date:	03/04/2011 09:31	
Sample ID:	LCS MS15W0304M	Units : µg/L		Run ID: MS	SD_15_110304B		Prep D	ate:	03/04/2011 09:31	
Analyte		Result	PQL		SpkRefVal %REC	LCL(ME)	UCL(ME) F	RPDRef	Val %RPD(Limit)	Qual
Dichlorodifluor	romethane	6.7	1			70(70)	130		· · · · · · · · · · · · · · · · · · ·	L50
Chloromethan	e	9	2		90	70	130		x.	200
Vinyl chloride		9.16	1		92	70	130			
Chloroethane		9.57	1	10	96	70	130			
Bromomethan	-	7.02	2		70	70	130			
Trichlorofluoro 1,1-Dichloroetl		9.16	1		92	70	130			
Dichlorometha		10.3 9.45	1		103 95	70 70	130 130			
Freon-113		10.1	1		95 101	70	130			
trans-1,2-Dichl	loroethene	10.3	1		103	70	130			
	tyl ether (MTBE)	8.87	0.5	5 10	89	70	130			
1,1-Dichloroet		10.4	1		104	70	130			
2-Butanone (M cis-1,2-Dichlor	,	176	10		88	70	130			
Bromochlorom		10.4 9.74	1	-	104 97	70 70	130 130			
Chloroform		9.37	1		94	70	130			
2,2-Dichloropro	-	10.2	1		102	70	130			
1,2-Dichloroet		9.03	1		90	70	130			
1,1,1-Trichloro		10.2	1		102	70	130			
1,1-Dichloropro Carbon tetrach	•	10.6 9.05	1		106	70 70	130			
Benzene		9.05	1 0.5	• -	91 99	70 70	130 130			
Dibromometha	ane	9.56	0.0	-	96 96	70	130			
1,2-Dichloropro	opane	10.6	1		106	70	130			
Trichloroethen	-	10.5	1		105	70	130			
Bromodichloro		10.2	1		102	70	130			
cis-1,3-Dichlor	ntanone (MIBK)	22.2 9.61	2.5 1		89	20	182			
trans-1,3-Dichl		8.36	1	10 10	96 84	70 70	130 130			
1,1,2-Trichloro		9.55	1		96	70	130			
Toluene		10.7	0.5		107	70	130			
1,3-Dichloropro	•	10	1		100	70	130			
Dibromochloro 1,2-Dibromoet		9.83	1		98	70	130			
Tetrachloroeth		20.2 10.5	2		101 105	70 70	130 130			
1,1,1,2-Tetrack		10.5	1		103	70	130			
Chlorobenzene		10.5	1		105	70	130			
Ethylbenzene		10.6	0.5	10	106	70	130			
m,p-Xylene		10.8	0.5		108	70	130			
Bromoform Styrene		9.01	1		90	70	130			
o-Xylene		10.9 10.9	1 0.5	. +	109 109	70 70	130 130			
1,1,2,2-Tetrack	hloroethane	9.58	0.5		96	70 70	130			
1,2,3-Trichloro		18.4	2		92	70	130			
Isopropylbenze		11	1	10	110	70	130			
Bromobenzene	-	10.3	1		103	70	130			
n-Propylbenze 4-Chlorotoluen		11.3	1		113	70	130			
2-Chlorotoluen		11.4 10.9	1	10 10	114 109	70 70	130 130			
1,3,5-Trimethy		10.9	1	10	109	70 70	130			
tert-Butylbenze	ene	10.7	1	10	107	70	130			
1,2,4-Trimethy		11.1	1	10	111	70	130			
sec-Butylbenze		10.8	1	10	108	70	130			
1,3-Dichlorobe 1,4-Dichlorobe		10.9	1		109	70 70	130			
4-Isopropyltolu		10.3 10.9	1 1		103 109	70 70	130 130			
1,2-Dichlorobe		9.91	1		99	70	130			
n-Butylbenzen	e	11.5	1		115	70	130			
	-chloropropane (DBCP)	43.3	3	50	87	67	130			
1,2,4-Trichlorol	benzene	10.7	2		107	70	130			
Naphthalene Hexachlorobuta	adieno	9.22	2		92	70	130			
1,2,3-Trichlorol		18.7 10.5	2		93 105	70 70	130 130			
Surr: 1,2-Dichk		9.26	2	10	93	70 70	130			
Surr: Toluene-o		10.1		10	101	70	130			



<b>Date:</b> 09-Mar-11	QC	Summary Re	port			<b>Work Order:</b> 11030301
Surr: 4-Bromofluorobenzene	10.2	10	102	70	130	



Surr: Toluene-d8

# Alpha Analytical, Inc.

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

Date: 09-Mar-11	(	Work Ord 1103030							
Sample Matrix Spike									
File ID: 11030409.D			Bat	tch ID: MS1	15W03	04M	Analysis [	Date: 03/04/2011 11:50	
Sample ID: 11030203-01AMS	Units : µg/L	F	Run ID: MS	D 15 110	304B		Prep Date	e: 03/04/2011 11:50	
Analyte	Result	PQL				CL (ME)	UCL (ME) RPI	ORefVal %RPD(Limit)	Qu
Dichlorodifluoromethane Chloromethane	40.6 50.9	2.5	50	0	81 102	21	138 144		
Vinyl chloride	50.9 51.5	10 2.5	50 50	0	102	23 49	136		
Chloroethane	52.4	2.5	50 50	0	103	49 21	150		
Bromomethane	33.6	2.5 10	50	0	67	10	174		
Trichlorofluoromethane	50.2	2.5	50	0	100	32	154		
1,1-Dichloroethene	53.1	2.5	50	Ō	106	64	130		
Dichloromethane	48.5	10	50	0	97	69	130		
Freon-113	54	2.5	50	0	108	55	141		
trans-1,2-Dichloroethene	52.5	2.5	50	0	105	63	130		
Methyl tert-butyl ether (MTBE)	51.5	1.3	50	0	103	47	150		
1,1-Dichloroethane	52.7	2.5	50	0	105	66	130		
2-Butanone (MEK)	814	50	1000	0	81	23	182		
cis-1,2-Dichloroethene	53.4	2.5	50	0	107	70	130		
Bromochloromethane Chloroform	51.7	2.5	50	0	103	70	132		
	58.6	2.5	50	10.36	96	70	130		
2,2-Dichloropropane 1,2-Dichloroethane	52.4	2.5	50	0	105	38	154		
1,1,1-Trichloroethane	49	2.5	50	0	98 103	65 65	134 136		
1,1-Dichloropropene	51.3 53.9	2.5 2.5	50 50	0	103	65 68	130		
Carbon tetrachloride	46.7	2.5	50	0	93	58	148		
Benzene	50.3	1.3	50	0	101	59	138		
Dibromomethane	53	2.5	50	0	106	70	130		
1,2-Dichloropropane	55.8	2.5	50	ŏ	112	70	131		
Trichloroethene	52.4	2.5	50	õ	105	65	144		
Bromodichloromethane	69	2.5	50	15.75	106	50	157		
4-Methyl-2-pentanone (MIBK)	124	13	125	0	99	20	182		
cis-1,3-Dichloropropene	47.7	2.5	50	0	95	63	131		
trans-1,3-Dichloropropene	42.6	2.5	50	0	85	65	136		
1,1,2-Trichloroethane	52.6	2.5	50	0	105	70	131		
Toluene	54.9	1.3	50	0	110	68	130		
1,3-Dichloropropane	57.1	2.5	50	0	114	70	130		
Dibromochloromethane	69.2	2.5	50	16.65	105	42	155		
1,2-Dibromoethane (EDB)	112	5	100	0	112	70	130		
Tetrachloroethene 1,1,1,2-Tetrachloroethane	53.5	2.5	50	0	107	65 70	130		
Chlorobenzene	54.3 52.6	2.5	50	0	109 105	70 70	130 130		
Ethylbenzene		2.5	50 50	0	105	68	130		
m,p-Xylene	52.3 52.6	1.3 1.3	50 50	0	105	68	130		
Bromoform	51.6	2.5	50	5.01	93	65	143		
Styrene	48.2	2.5	50	0.01	96	59	153		
o-Xylene	52.9	1.3	50	Ő	106	70	130		
1,1,2,2-Tetrachloroethane	53.4	2.5	50	ŏ	107	67	130		
1,2,3-Trichloropropane	99	10	100	õ	99	70	130		
Isopropylbenzene	52.7	2.5	50	Ő	105	55	138		
Bromobenzene	50.4	2.5	50	0	101	70	130		
n-Propylbenzene	53.5	2.5	50	0	107	67	133		
4-Chlorotoluene	54.1	2.5	50	0	108	70	130		
2-Chlorotoluene	53.1	2.5	50	0	106	70	130		
1,3,5-Trimethylbenzene	53.2	2.5	50	0	106	67	134		
tert-Butylbenzene	51.6	2.5	50	0	103	55	147		
1,2,4-Trimethylbenzene	53.5	2.5	50	0	107	65	135		
	53.2	2.5	50	0	106	68	135		
1,3-Dichlorobenzene	53.5	2.5	50	0	107	70	130		
1,4-Dichlorobenzene	51.3	2.5	50	0	103	70	130	•	
4-Isopropyltoluene	53.5	2.5	50	0	107	68 70	132		
1,2-Dichlorobenzene 1-Butylbenzene	50.4	2.5	50	0	101	70	130		
1,2-Dibromo-3-chloropropane (DBCP)	56.6 247	2.5	50 250	0	113 99	62 64	134 130		
1,2,4-Trichlorobenzene	247 58.8	15 10	250 50	0	99 118	64 62	130		
Naphthalene	58.8 50.2	10	50 50	0	118	62 32	166		
Hexachlorobutadiene	50.2 98.7	10	50 100	0	99	32 63	130		
1,2,3-Trichlorobenzene	58.3	10	50	0	99 117	55	130		
Surr: 1,2-Dichloroethane-d4	47.6	10	50 50	U	95	70	130		
Surr: Toluene-d8	51.9		50		104	70	130		

50

104

70

130

51.9



<b>Date:</b> 09-Mar-11	QC	Summary Re	port			<b>Work Order:</b> 11030301
Surr: 4-Bromofluorobenzene	49.1	50	98	70	130	



<b>Date:</b> 09-Mar-11	(	QC S	ummary	y Repor	t				<b>Work Orde</b> 11030301	
Sample Matrix Spike Duplicate		Туре М	ISD Te	est Code: EF	PA Met	hod SW82	60B			
File ID: 11030410.D			Ba	tch ID: MS1	5W030	04M	Analys	sis Date:	03/04/2011 12:12	
Sample ID: 11030203-01AMSD	Units : µg/L			SD_15_1103			Prep [		03/04/2011 12:12	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefV	al %RPD(Limit)	Qual
Dichlorodifluoromethane	39.3	2.5		0	79	21	138	40.63		
Chloromethane Vinvl chloride	49	10		0	98	23	144	50.86		
Chloroethane	49.5 50.3	2.5 2.5		0	99 101	49 21	136 159	51.46 52.44		
Bromomethane	37	10		Ő	74	10	174	33.64		
Trichlorofluoromethane	48.9	2.5	50	0	98	32	154	50.18		
1,1-Dichloroethene Dichloromethane	50.7	2.5		0	101	64	130	53.11		
Freon-113	46.5 51.5	10 2.5		0	93 103	69 55	130 141	48.5 54.01	4.2(20) 4.7(40)	
trans-1,2-Dichloroethene	50.2	2.5		0	100	63	130	52.51	4.5(20)	
Methyl tert-butyl ether (MTBE)	49.2	1.3	50	Ó	98	47	150	51.49	4.5(40)	
1,1-Dichloroethane	51.3	2.5		0	103	66	130	52.73		
2-Butanone (MEK) cis-1,2-Dichloroethene	764 51.8	50 2.5		0	76 104	23 70	182 130	814.1 53.42	6.3(22) 3.1(20)	
Bromochloromethane	49	2.5		0	98	70	130	51.73		
Chloroform	57.3	2.5		10.36	94	70	130	58.56		
2,2-Dichloropropane	52.1	2.5	50	0	104	38	154	52.39		
1,2-Dichloroethane	46.5	2.5		0	93	65	134	49.02	• •	
1,1,1-Trichloroethane 1,1-Dichloropropene	50.1 52.1	2.5 2.5		0 0	100 104	65 68	136 132	51.27 53.91	2.4(20) 3.5(20)	
Carbon tetrachloride	46.9	2.5		0	94	58	132	46.65		
Benzene	48.7	1.3		Ő	97	59	138	50.26		
Dibromomethane	49.9	2.5		0	99.7	70	130	52.96	6.0(20)	
1,2-Dichloropropane	53.3	2.5		0	107	70	131	55.8	4.6(20)	
Trichloroethene Bromodichloromethane	50 67 7	2.5		0 15 75	100	65 50	144 157	52.42 68.95		
4-Methyl-2-pentanone (MIBK)	67.7 115	2.5 13		15.75 0	104 92	50 20	182	123.7		
cis-1,3-Dichloropropene	46.1	2.5		0	92	63	131	47.73		
trans-1,3-Dichloropropene	41.9	2.5		0	84	65	136	42.55	1.5(20)	
1,1,2-Trichloroethane	48.8	2.5		0	98	70	131	52.58		
Toluene 1,3-Dichloropropane	53.7 54.3	1.3		0	107 109	68 70	130 130	54.94 57.09		
Dibromochloromethane	68.1	2.5 2.5		0 16.65	109	70 42	150	69.21	1.6(20)	
1,2-Dibromoethane (EDB)	107	5		0.00	107	70	130	112.1	4.5(20)	
Tetrachloroethene	51.9	2.5		0	104	65	130	53.5	3.0(20)	
1,1,1,2-Tetrachloroethane	53.9	2.5		0	108	70	130	54.25		
Chlorobenzene Ethylbenzene	51.2 50.7	2.5 1.3		0	102 101	70 68	130 130	52.57 52.27		
m,p-Xylene	51.8	1.3		0	104	68	130	52.63		
Bromoform	51.6	2.5		5.01	93	65	143	51.56	0.1(20)	
Styrene	48.7	2.5		0	97	59	153	48.24		
o-Xylene 1,1,2,2-Tetrachloroethane	51	1.3		0	102	70	130	52.94		
1,2,3-Trichloropropane	49.2 93.2	2.5 10		0 0	98 93	67 70	130 130	53.42 98.96		
Isopropylbenzene	52.6	2.5		0	105	55	138	52.74		
Bromobenzene	49.9	2.5		0	99.7	70	130	50.36	1.0(20)	
n-Propylbenzene	54.2	2.5		0	108	67	133	53.48		
4-Chlorotoluene 2-Chlorotoluene	53.9	2.5		0	108	70	130	54.05		
1,3,5-Trimethylbenzene	51.4 52.9	2.5 2.5		0 0	103 106	70 67	130 134	53.11 53.17	3.2(20) 0.4(21)	
tert-Butylbenzene	51.9	2.5		ů 0	104	55	147	51.55		
1,2,4-Trimethylbenzene	52.9	2.5		Ō	106	65	135	53.48	1.2(25)	
sec-Butylbenzene	53.2	2.5		0	106	68	135	53.21	0.0(20)	
1,3-Dichlorobenzene 1,4-Dichlorobenzene	54 51.1	2.5		0 0	108 102	70 70	130 130	53.51 51.26		
4-Isopropyltoluene	53.8	2.5 2.5		0	102	68	130	53.53		
1,2-Dichlorobenzene	50.4	2.5		0	101	70	130	50.35		
n-Butylbenzene	58.1	2.5	50	0	116	62	134	56.6	2.6(21)	
1,2-Dibromo-3-chloropropane (DBCP)	241	15		0	96	64	130	246.6		
1,2,4-Trichlorobenzene Naphthalene	57.4 48.7	10		0	115 97	62 32	133	58.81 50.18		
Hexachlorobutadiene	48.7	10 10		0 0	97 104	32 63	166 130	50.18 98.71		
1,2,3-Trichlorobenzene	56	10		0	112	55	138	58.26		
Surr: 1,2-Dichloroethane-d4	46.8		50	-	94	70	130		. ,	
Surr: Toluene-d8	52.2		50		104	70	130			



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

<b>Date:</b> _09-Mar-11	QC	Summary Re	port			<b>Work Order:</b> 11030301
Surr: 4-Bromofluorobenzene	50.2	50	100	70	130	

#### Comments:

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

L50 = Analyte recovery was below acceptance limits for the LCS, but was acceptable in the MS/MSD. Alpha uses descriptive data qualifier flags, which could be replaced with either a DOD Q or J flag.

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

- 7	
Logged in by:	
Comports	Sig
(Idcox	nature
Elizabe	
th Adcox	Print Name
Alpha Analytical, Inc.	Company
3.3.1 9:43	Date/Time

No security seals. Frozen ice. Temp Blank #9009 received @ 3°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD).:

**Comments:** 

										Request	<b>Requested Tests</b>		
Alpha Sample ID	Client Sample ID	Matr	Collection No. of Bottles Matrix Date Alpha Sub	No. of Bottles Alpha Sub TAT	Bottles Sub	TAT	300_0_W	314_V	V METALS_D V	VOC_TIC_ VOC_W	voc_w		Sample Remarks
BMI11030301-01A	MW-8	AQ	03/02/11 14:28	9	0	10	NO2, NO3, SO4, CI, PO4	Perchlorate	Ω	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria		
BMI11030301-02A MW-15	MW-15	AQ	_	~	0	10			٩				
BMI11030301-03A	MW-10	Ą	03/02/11 17:05	7	0	10		Perchlorate	¢	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria		
BMI11030301-04A	DUPE-7-1Q11	AQ	03/02/11 17:10	7	0	10		Perchlorate	Ŷ	VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria		
BMI11030301-05A Trip Blank	Trip Blank	Ą		<u> </u>	0	10				VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	Ren	Reno Trip Blank 11/22/10

NNV DEFCIDEN ON Page: 1 of 1

CHAIN-OF-CUSTODY RECORD 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778 TEL: (775) 355-1044 FAX: (775) 355-0406 Alpha Analytical, Inc. Report Due By: 5:00 PM On: 17-Mar-2011 WorkOrder: BMIS11030301

**Billing Information :** 

QC Level: DS4

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

G005862/JPL Groundwater Monitoring

Client's COC #: 53569

Job :

PO: 218013

San Diego, CA 92101

Suite 1420

Client:

Report Attention

Phone Number

connerd@battelle.org cutice@batelle.org waltons@battelle.org

EDD Required : Yes

Sampled by : David Loera

Cooler Temp 3 °C

> Samples Received 03-Mar-2011

Date Printed 03-Mar-2011 EMail Address

David Conner

Betsy Cutie Shane Walton

(619) 726-7311 x (614) 424-4899 x (614) 424-4117 x

Battelle Memorial Institute

655 West Broadway

on:BoHelle Ind AVE Imbus, OH. 43201 Fo. # 218013	Job # GOD 5862/2 Email: COMMEND COM	Alpha 255 Glen Sparks, In Phone ( Fax (775 H2/1-c, c	<b>Cal, Inc</b> le, Suite 2 131-5778		300 rected	From Which Sta NV WA OTHER Is Required	
Date Matrix FLO.# 2 8 013 Sampled Below Lab ID Number (Use Only)	hone:Sample Description	Mobile:	Field Filtered	Voc.	Perel ¥30		REMARKS
153032 AQ 5mT 1103030101	4W-15		10 10 6V	$\frac{3\rho}{10} \times \times$	X X		
1705 3/2 AQ	14 W - 10		10 6V	NX A	XX		
	tip Blunk						
	TIMIC AUD						
ADDITIONAL INSTRUCTIONS: * しん)	loride, Nitra	rate, Nitrite	, Orthoph	phosphate,	Sulfate		
I, (field sampler), attest to the validity and authenticity of t grounds for legal action. Sampled By:	nis sample. I am awar	authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be	entionally mislabelin	g the sample locati	on, date or time of	collection is cons	sidered fraud and may be
Relinquished by: (Signature/Affiliation)	Sattelle	Received by: (Signature/Affiliation)	iation)		2	Date: ろ、ろ・()	Time:
Relinquished by: (Signature/Affiliation)		hature/Affi				Date:	Time:
*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.	OT - Other ported unless other ar eceived by the labora	AR - Air **: L-Liter rangements are made. Ha tory with this coc. The liab	V-Voa S-So zardous samples w ility of the laborator	S-Soil Jar O-Orbo es will be returned to cli ratory is limited to the a	T-Tedlar ent or disposed of . mount paid for the	B-Brass P- at client expense report.	P-Plastic OT-Other ise. The report for the analysis



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

Date: 15-Mar-11

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

Suite 1420

**CASE NARRATIVE** 

Job: G005862/JPL Groundwater Monitoring

<b>Order:</b> BMI11030302	(	Cooler Temp: 0 °C	
Alpha's Sample ID	Client's Sample ID	Matrix	
11030302-01A	MW-4-3	Aqueous	
11030302-02A	MW-4-2	Aqueous	
11030302-03A	MW-4-1	Aqueous	
11030302-04A	DUPE-04-1Q11	Aqueous	
11030302-05A	EB-07-03/02/11	Aqueous	
11030302-06A	TB-07-03/02/11	Aqueous	
11030302-07A	MW-3-4	Aqueous	
11030302-08A	MW-3-3	Aqueous	
11030302-09A	MW-3-2	Aqueous	
11030302-10A	MW-6	Aqueous	
11030302-11A	MW-13	Aqueous	
	Manually Integrated Ana	alytes	
Alpha's Sample ID	Test Reference	Analyte	
11030302-10A	EPA Method 314.0	Perchlorate	

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

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

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

Walter Aur Roger Scholl Kandy Saulman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 
 Attn:
 David Conner

 Phone:
 (619) 726-7311

 Fax:
 (614) 458-6641

 Date Received : 03/03/11

### Job: G005862/JPL Groundwater Monitoring

		Anions by IC EPA Method 300.0			
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-13					
Lab ID : BMI11030302-11A	Chloride	44	0.50 mg/L	03/03/11 11:48	03/03/11 13:01
Date Sampled 03/02/11 12:01	Nitrite (NO2) - N	ND	0.25 mg/L	03/03/11 11:48	03/03/11 13:07
-	Nitrate (NO3) - N	5.8	0.25 mg/L	03/03/11 11:48	03/03/11 13:07
	Phosphate, ortho - P	ND	0.50 mg/L	03/03/11 11:48	03/03/11 13:07
	Sulfate (SO4)	81	0.50 mg/L	03/03/11 11:48	03/03/11 13:07

ND = Not Detected

Roger Scholl

Kandy Danlmer.

Walter Aridman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/15/11 Report Date



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101

 Attn:
 David Conner

 Phone:
 (619) 726-7311

 Fax:
 (614) 458-6641

 Date Received : 03/03/11

### Job: G005862/JPL Groundwater Monitoring

	Perchlorate by Ion Chromatography EPA Method 314.0								
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed				
Client ID: <b>MW-4-3</b> Lab ID : BMI11030302-01A Date Sampled 03/02/11 08:46	Perchlorate	ND	1.00 μg/L	03/04/11 10:36	03/04/11 14:00				
Client ID: <b>MW-4-2</b> Lab ID : BMI11030302-02A Date Sampled 03/02/11 09:17	Perchlorate	23.0	1.00 μg/L	03/04/11 10:36	03/04/11 14:19				
Client ID: <b>MW-4-1</b> Lab ID : BMI11030302-03A Date Sampled 03/02/11 09:53	Perchlorate	ND	1.00 μg/L	03/04/11 10:36	03/04/11 14:37				
Client ID: DUPE-04-1Q11 Lab ID : BMI11030302-04A Date Sampled 03/02/11 00:00	Perchlorate	22.5	1.00 μg/L	03/04/11 10:36	03/04/11 14:55				
Client ID: EB-07-03/02/11 Lab ID : BMI11030302-05A Date Sampled 03/02/11 10:01	Perchlorate	ND	1.00 μg/L	03/04/11 10:36	03/04/11 15:14				
Client ID: <b>MW-3-4</b> Lab ID : BMI11030302-07A Date Sampled 03/02/11 11:20	Perchlorate	ND	1.00 μg/L	03/04/11 10:36	03/04/11 15:32				
Client ID: <b>MW-3-3</b> Lab ID : BMI11030302-08A Date Sampled 03/02/11 11:42	Perchlorate	ND	1.00 μ <b>g</b> /L	03/04/11 10:36	03/04/11 16:27				
Client ID: <b>MW-3-2</b> Lab ID : BMI11030302-09A Date Sampled 03/02/11 12:00	Perchlorate	45.8	1.00 μg/L	03/04/11 10:36	03/04/11 16:46				
Client ID: <b>MW-6</b> Lab ID : BMI11030302-10A Date Sampled 03/02/11 09:40	Perchlorate	3.14	1.00 μg/L	03/04/11 10:36	03/04/11 17:04				
Client ID: <b>MW-13</b> Lab ID : BMI11030302-11A Date Sampled 03/02/11 12:01	Perchlorate	167	10.0 μg/L	03/04/11 10:36	03/07/11 15:34				



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

ND = Not Detected

Kandy Santur Roger Scholl

Dalter Aridian

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

**e** 3/15/11

**Report Date** 



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 
 Attn:
 David Conner

 Phone:
 (619) 726-7311

 Fax:
 (614) 458-6641

 Date Received : 03/03/11

### Job: G005862/JPL Groundwater Monitoring

		Metals by ICPMS EPA Method 200.8			
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: <b>MW-4-3</b> Lab ID : BMI11030302-01A Date Sampled 03/02/11 08:46	Chromium (Cr)	ND	0.0050 mg/L	03/08/11 09:44	03/09/11 13:40
Client ID: MW-4-2 Lab ID : BMI11030302-02A Date Sampled 03/02/11 09:17	Chromium (Cr)	0.0067	0.0050 mg/L	03/08/11 09:44	03/09/11 13:45
Client ID: MW-4-1 Lab ID : BMI11030302-03A Date Sampled 03/02/11 09:53	Chromium (Cr)	ND	0.0050 mg/L	03/08/11 09:44	03/09/11 13:17
Client ID: DUPE-04-1Q11 Lab ID : BMI11030302-04A Date Sampled 03/02/11 00:00	Chromium (Cr)	ND	0.0050 mg/L	03/08/11 09:44	03/09/11 13:51
Client ID: <b>EB-07-03/02/11</b> Lab ID : BMI11030302-05A Date Sampled 03/02/11 10:01	Chromium (Cr)	ND	0.0050 mg/L	03/08/11 09:44	03/09/11 14:01
Client ID: MW-3-4 Lab ID : BMI11030302-07A Date Sampled 03/02/11 11:20	Chromium (Cr)	ND	0.0050 mg/L	03/08/11 09:44	03/09/11 14:07
Client ID: <b>MW-3-3</b> Lab ID : BMI11030302-08A Date Sampled 03/02/11 11:42	Chromium (Cr)	ND	0.0050 mg/L	03/08/11 09:44	03/09/11 14:12
Client ID: <b>MW-3-2</b> Lab ID : BMI11030302-09A Date Sampled 03/02/11 12:00	Chromium (Cr)	0.0056	0.0050 mg/L	03/08/11 09:44	03/09/11 14:18
Client ID: <b>MW-6</b> Lab ID : BM111030302-10A Date Sampled 03/02/11 09:40	Chromium (Cr)	ND	0.0050 mg/L	03/08/11 09:44	03/09/11 14:24
Client ID: MW-13 Lab ID : BMI11030302-11A Date Sampled 03/02/11 12:01	Chromium (Cr)	0.015	0.0050 mg/L	03/08/11 09:44	03/09/11 14:29



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

ND = Not Detected

Roger Scholl

Kandy Santmer

Walter Arihm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise. Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.

Report Date



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Job: G005862/JPL Groundwater Monitoring Attn: David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

Tentatively Identified Compounds - Volatile Organics by GC/MS

			Estimated		
	Parameter	Estimated	Reporting	Date	Date
		Concentration	Limit	Extracted	Analyzed
Client ID :       MW-4-3         Lab ID :       BMI11030302-01A         Date Received :       03/03/11         Date Sampled :       03/02/11 08:46	*** None Found ***	ND	2.0 µg/L	03/07/11 12:45	03/07/11 12:45
Client ID :       MW-4-2         Lab ID :       BMII1030302-02A         Date Received :       03/03/11         Date Sampled :       03/02/11 09:17	* * * None Found * * *	ND	2.0 µg/L	03/07/11 13:06	03/07/11 13:06
Client ID :       MW-4-1         Lab ID :       BMI11030302-03A         Date Received :       03/03/11         Date Sampled :       03/02/11 09:53	* * * None Found * * *	ND	2.0 µg/L	03/07/11 13:28	03/07/11 13:28
Client ID :       DUPE-04-1Q11         Lab ID :       BMI11030302-04A         Date Received :       03/03/11         Date Sampled :       03/02/11 00:00	*** None Found ***	ND	2.0 µg/L	03/07/11 13:49	03/07/11 13:49
Client ID :       EB-07-03/02/11         Lab ID :       BMI11030302-05A         Date Received :       03/03/11         Date Sampled :       03/02/11 10:01	*** None Found ***	ND	2.0 µg/L	03/07/11 12:23	03/07/11 12:23
Client ID :       TB-07-03/02/11         Lab ID :       BMI11030302-06A         Date Received :       03/03/11         Date Sampled :       03/02/11 07:00	*** None Found ***	ND	2.0 µg/L	03/07/11 12:02	03/07/11 12:02
Client ID :       MW-3-4         Lab ID :       BMI11030302-07A         Date Received :       03/03/11         Date Sampled :       03/02/11 11:20	* * * None Found * * *	ND	2.0 µg/L	03/07/11 14:11	03/07/11 14:11
Client ID :       MW-3-3         Lab ID :       BMI11030302-08A         Date Received :       03/03/11         Date Sampled :       03/02/11 11:42	*** None Found ***	ND	2.0 µg/L	03/07/11 14:32	03/07/11 14:32
Client ID :       MW-3-2         Lab ID :       BMI11030302-09A         Date Received :       03/03/11         Date Sampled :       03/02/11 12:00	*** None Found ***	ND	2.0 µg/L	03/07/11 14:54	03/07/11 14:54



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

Client ID :         MW-6           Lab ID :         BMII1030302-10A           Date Received :         03/03/11           Date Sampled :         03/02/11 09:40	*** None Found ***	ND	2.0 μg/L	03/07/11 15:15 03/07/11 15:15
Client ID :         MW-13           Lab ID :         BMI11030302-11A           Date Received :         03/03/11           Date Sampled :         03/02/11 12:01	*** None Found ***	ND	2.0 μg/L	03/07/11 15:37 03/07/11 15:37

Note: Analysis conducted using EPA Method 524.2 criteria. ND = Not Detected

Walter Aridmon Kandy Saulmen 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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise. Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.

3/15/11

Report Date Page 1 of 1



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

### ANALYTICAL REPORT

Battel	le Memorial Institute
655 W	/est Broadway
San D	iego, CA 92101
Job:	G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI11030302-01A Client I.D. Number: MW-4-3

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

### Sampled: 03/02/11 08:46 Received: 03/03/11 Extracted: 03/07/11 12:45 Analyzed: 03/07/11 12:45

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC		2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	99	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	110	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	105	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L.					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Kandy Danlmer

Walter Him

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/15/11

**Report Date** 



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

### ANALYTICAL REPORT

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

Alpha Analytical Number: BMI11030302-02A Client I.D. Number: MW-4-2

David Conner
(619) 726-7311
(614) 458-6641

Sampled:	03/02/11 09:17
Received:	03/03/11
Extracted:	03/07/11 13:06
Analyzed:	03/07/11 13:06

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	. F	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC		2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	100	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	109	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	105	(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	0.63		0.50	µg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Walter Alor

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

Kandy Daulun

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



Report Date



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

Attn:

### ANALYTICAL REPORT

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

Alpha Analytical Number: BMI11030302-03A Client I.D. Number: MW-4-1

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

David Conner

### Sampled: 03/02/11 09:53 Received: 03/03/11 Extracted: 03/07/11 13:28 Analyzed: 03/07/11 13:28

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	NÐ	0.50	µg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	- · · · · · · · · · · · · · · · · · · ·	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	110	(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					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

alter A.

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

Kandy Doulner

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



**Report Date** Page 1 of 1



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

### ANALYTICAL REPORT

Battel	le Memorial Institute	Attn
655 West Broadway		
San D	iego, CA 92101	Fax:
Job:	G005862/JPL Groundwater Monitoring	

Alpha Analytical Number: BMI11030302-04A Client I.D. Number: DUPE-04-1Q11

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

### Sampled: 03/02/11 00:00 Received: 03/03/11 Extracted: 03/07/11 13:49 Analyzed: 03/07/11 13:49

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	μg/L
3	Vinyl chloride	ND		0.50	μg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	109	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	103	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/15/11

**Report Date** 



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

Attn:

Fax:

### ANALYTICAL REPORT

Phone: (619) 726-7311

David Conner

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

Alpha Analytical Number: BMI11030302-05A Client I.D. Number: EB-07-03/02/11

(614) 458-6641	

### Sampled: 03/02/11 10:01 Received: 03/03/11 Extracted: 03/07/11 12:23 Analyzed: 03/07/11 12:23

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	μg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chiorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	100	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	103	(70-130)	%RE0
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	95	(70-130)	%RE0
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/15/11

**Report Date** Page 1 of 1



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

### ANALYTICAL REPORT

David Conner (619) 726-7311 (614) 458-6641

Battel	Attn:	
655 W	Phone:	
San D	iego, CA 92101	Fax:
Job:	G005862/JPL Groundwater Monitoring	

Alpha Analytical Number: BMI11030302-06A Client I.D. Number: TB-07-03/02/11

Sampled:	03/02/11 07:00
Received:	03/03/11
Extracted:	03/07/11 12:02

Analyzed: 03/07/11 12:02

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Compound Concentration		Reporting Limit			Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	101	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	103	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	98	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Kandy

lter A.

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



Report Date



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

### ANALYTICAL REPORT

Battelle M	lemorial Institute	Attn:	David Conner
655 West	Broadway	Phone:	(619) 726-7311
San Diego	, CA 92101	Fax:	(614) 458-6641
Job: G	6005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030302-07A Client I.D. Number: MW-3-4

Sampled:	03/02/11 11:20
Received:	03/03/11
Extracted:	03/07/11 14:11
Analyzed:	03/07/11 14:11

#### Volatile Organics by GC/MS EPA Method SW8260B

					1 WICHIC	u o n	0200D		,	
	Compound	Concentration	R	eporting l	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	197 1991 <b>- 1</b> 991 - 1995 - 1905 -	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	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chiorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	111	(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					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/15/11

Report Date



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

### ANALYTICAL REPORT

Battelle	Memorial Institute	A
655 We	st Broadway	Pł
San Die	go, CA 92101	Fa
Job:	G005862/JPL Groundwater Monitoring	

Alpha Analytical Number: BMI11030302-08A Client I.D. Number: MW-3-3

David Conner ttn: hone: (619) 726-7311 (614) 458-6641 ax:

### Sampled: 03/02/11 11:42 Received: 03/03/11 Extracted: 03/07/11 14:32 Analyzed: 03/07/11 14:32

### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND		2.0	µg/L	36	1,1,1,2-Tetrachloroethane	ND	2.0	µg/L
2	Chloromethane	ND		4.0	μg/L	37	Chlorobenzene	ND	2.0	µg/L
3	Vinyl chloride	ND		2.0	µg/L	38	Ethylbenzene	ND	2.0	µg/L
4	Chloroethane	ND		2.0	μg/L	39	m,p-Xylene	ND	2.0	µg/L
5	Bromomethane	ND	Q	4.0	μg/L	40	Bromoform	ND	2.0	µg/L
6	Trichlorofluoromethane	ND		2.0	µg/L	41	Styrene	ND	2.0	µg/L
7	1,1-Dichloroethene	ND		2.0	µg/L	42	o-Xylene	ND	2.0	µg/L
8	Dichloromethane	ND		4.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	2.0	µg/L
9	Freon-113	ND		2.0	μg/L	44	1,2,3-Trichloropropane	ND	4.0	µg/L
10	trans-1,2-Dichloroethene	ND		2.0	μg/L	45	Isopropylbenzene	ND	2.0	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		2.0	μg/L	46	Bromobenzene	ND	2.0	µg/L
12	1,1-Dichloroethane	ND		2.0	μg/L	47	n-Propylbenzene	ND	2.0	µg/L
13	2-Butanone (MEK)	ND		40	µg/L	48	4-Chlorotoluene	ND	2.0	µg/L
14	cis-1,2-Dichloroethene	ND		2.0	µg/L	49	2-Chlorotoluene	ND	2.0	µg/L
15	Bromochloromethane	ND		2.0	μg/L	50	1,3,5-Trimethylbenzene	ND	2.0	µg/L
16	Chloroform	ND		2.0	µg/L	51	tert-Butylbenzene	ND	2.0	μg/L
17	2,2-Dichloropropane	ND		2.0	µg/L	52	1,2,4-Trimethylbenzene	ND	2.0	µg/L
18	1,2-Dichloroethane	ND		2.0	µg/L	53	sec-Butylbenzene	ND	2.0	µg/L
19	1,1,1-Trichloroethane	ND		2.0	µg/L	54	1,3-Dichlorobenzene	ND	2.0	µg/L
20	1,1-Dichloropropene	ND		2.0	µg/L	55	1,4-Dichlorobenzene	ND	2.0	µg/L
21	Carbon tetrachloride	ND		2.0	µg/L	56	4-isopropyltoluene	ND	2.0	µg/L
22	Benzene	ND		2.0	µg/L	57	1,2-Dichlorobenzene	ND	2.0	µg/L
23	Dibromomethane	ND		2.0	µg/L	58	n-Butylbenzene	ND	2.0	µg/L
24	1,2-Dichloropropane	ND		2.0	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	10	µg/L
25	Trichloroethene	ND		2.0	µg/L	60	1,2,4-Trichlorobenzene	ND	4.0	µg/L
26	Bromodichloromethane	ND		2.0	µg/L	61	Naphthalene	ND	4.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		10	µg/L	62	Hexachlorobutadiene	ND	4.0	µg/L
28	cis-1,3-Dichloropropene	ND		2.0	µg/L	63	1.2.3-Trichlorobenzene	ND	4.0	µg/L
29	trans-1,3-Dichloropropene	ND		2.0	µg/L	64	Surr: 1,2-Dichloroethane-d4	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		2.0	µg/L	65	Surr: Toluene-d8	108	(70-130)	%REC
31	Toluene	ND		2.0	µg/L	66	Surr: 4-Bromofluorobenzene	104	(70-130)	%REC
32	1,3-Dichloropropane	ND		2.0	µg/L			1	, ,	
33	Dibromochloromethane	ND		2.0	µg/L					
34	1,2-Dibromoethane (EDB)	ND		4.0	µg/L					
35	Tetrachloroethene	ND		2.0	µg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

Reporting Limits were increased due to sample foaming.

ND = Not Detected

Roger Scholl

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

Walter Acrihm

3/15/11

**Report Date** 

Page 1 of 1

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

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

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com



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

Attn:

Fax:

Phone:

### ANALYTICAL REPORT

David Conner

(619) 726-7311

Battelle	Memorial Institute	
655 We	st Broadway	
San Die	go, CA 92101	
Job:	G005862/JPL Groundwater Monitoring	

Alpha Analytical Number: BMI11030302-09A Client I.D. Number: MW-3-2

(614) 458-6641		
	Sampled:	03/0
	Received:	03/0

Sampled: 03/02/11 12:00 Received: 03/03/11 Extracted: 03/07/11 14:54 Analyzed: 03/07/11 14:54

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	leporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC		2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	111	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	105	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/15/11

3/15/11 Report Date



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

Attn:

Fax:

### ANALYTICAL REPORT

David Conner Phone: (619) 726-7311

(614) 458-6641

Battelle	Memorial Institute
655 Wes	t Broadway
San Dieg	go, CA 92101
Job:	G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI11030302-10A Client I.D. Number: MW-6

Sampled:	03/02/11 09:40
Received:	03/03/11
Extracted:	03/07/11 15:15

Analyzed: 03/07/11 15:15

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	NÐ		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chioroform	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 (DBC	P) ND	2.5	µg/L
25	Trichloroethene	4.0		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	113	(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	1.2		0.50	μg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 



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

### ANALYTICAL REPORT

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-7311
San Diego, CA 92101	Fax:	(614) 458-6641
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030302-11A Client I.D. Number: MW-13

Sampled:	03/02/11	12:01
Received:	03/03/11	
Extracted:	03/07/11	15:37
Analyzed:	03/07/11	15:37

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	R	eporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	2.1		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butybenzene	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	0.64		0.50	µg/L	56	4-Isopropyltoiuene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC		2.5	µg/L
25	Trichloroethene	1.0		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	108	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	98	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Kandys

lter #

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/15/11

**Report Date** 



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

### **VOC Sample Preservation Report**

### Work Order: BMI11030302

### Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН
11030302-01A	MW-4-3	Aqueous	2
11030302-02A	MW-4-2	Aqueous	2
11030302-03A	MW-4-1	Aqueous	2
11030302-04A	DUPE-04-1Q11	Aqueous	2
11030302-05A	EB-07-03/02/11	Aqueous	2
11030302-06A	TB-07-03/02/11	Aqueous	2
11030302-07A	MW-3-4	Aqueous	2
11030302-08A	MW-3-3	Aqueous	2
11030302-09A	MW-3-2	Aqueous	2
11030302-10A	<b>MW-6</b>	Aqueous	2
11030302-11A	MW-13	Aqueous	2



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

<b>Date:</b> 08-Mar-11	Ç	)C Si	ummary	y Repor	t				<b>Work Orde</b> 11030302	
Method Blank File ID: 20 Sample ID: MB-26098 Analyte	Units : <b>mg/L</b> Result	Type M	Ba Run ID: <b>IC</b> _	est Code: EF atch ID: 2609 _2_1103034 SpkRefVal	98		Prep D	ate:	03/03/2011 11:53 03/03/2011 11:48 /al %RPD(Limit)	Qual
Chloride Nitrite (NO2) - N Nitrate (NO3) - N Phosphate, ortho - P Sulfate (SO4)	ND ND ND ND ND ND	0.5 0.25 0.25 0.5 0.5							· · · · · · · · · · · · · · · · · · ·	
Laboratory Fortified Blank File ID: 21 Sample ID: LFB-26098	Units : mg/L	Type L	Ba	est Code: El atch ID: 2609 2_1103034	98	hod 300.0	Analysi Prep D		03/03/2011 12:12 03/03/2011 11:48	
Analyte Chloride Nitrite (NO2) - N Nitrate (NO3) - N Phosphate, ortho - P Sulfate (SO4)	Result 53.8 4.86 5.52 4.82 110	PQL 0.5 0.25 0.25 0.5 0.5	SpkVal 50 5 5 5			90 90 90 90 90 90	UCL(ME) F 110 110 110 110 110 110	RPDRef∖	/al %RPD(Limit)	Qual
Sample Matrix Spike File ID: 31 Sample ID: 11030302-11ALFM Analyte	Units : <b>mg/L</b> Result	Type L	Ba Run ID: <b>IC</b>	est Code: El atch ID: 260 _2_1103034 SpkRefVal	98 \		Prep D	ate:	03/04/2011 14:28 03/03/2011 11:48 /al %RPD(Limit)	Qual
Chloride Nitrite (NO2) - N Nitrate (NO3) - N Phosphate, ortho - P Sulfate (SO4)	135 10.7 16.2 10.2 252	0.5 0.25 0.25 0.5 0.5	100 10 10 10	44.48 0 5.751 0 80.54	91 107 105 102 86	80 80 80 80 80 80	120 120 120 120 120 120			
Sample Matrix Spike Duplicate File ID: 32		Type L	Ba	est Code: El atch ID: 260	98	hod 300.0	•		03/04/2011 14:46	
Sample ID: 11030302-11ALFMD Analyte	Units : <b>mg/L</b> Result	PQL		_2_1103034 		I CL(ME)	Prep D		03/03/2011 11:48 /al %RPD(Limit)	Qual
Chloride Nitrite (NO2) - N Nitrate (NO3) - N Phosphate, ortho - P Sulfate (SO4)	137 11 16.6 10.2 257	0.5 0.25 0.25 0.5 0.5	100 10 10 10	44.48 0 5.751 0 80.54	93 110 108 102 88	80 80 80 80 80 80 80	120 120 120 120 120 120	135.2 10.67 16.23 10.16 252.4	2 1.6(15) 7 2.8(15) 3 2.1(15) 6 0.2(15)	

Comments:

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



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

<b>Date:</b> 08-Mar-11		QC Summary Report											
Method Blar File ID: 14	ık		Туре	MBL		st Code: El tch ID: 261		hod 314.0	Analy	vsis Date:	03/04/2011 11:33		
Sample ID:	MB-26107	Units : µg/L				3_1103044			•	Date:	03/04/2011 10:36	-	
Analyte		Result	PQL	5	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua	
Perchlorate		ND		1									
Laboratory File ID: 15	Fortified Blank		Туре	LFB		st Code: El tch ID: 261		thod 314.0	Analy	/sis Date:	03/04/2011 11:51		
Sample ID:	LFB-26107	Units : µg/L				3_110304			•	Date:	03/04/2011 10:36		
Analyte		Result	PQL	5	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua	
Perchlorate		26.3		2	25		105	85	115				
Sample Mat	rix Spike		Туре	LFM		st Code: El tch ID: 261		thod 314.0	Analy	/sis Date:	03/04/2011 17:23		
Sample ID:	11030302-10ALFM	Units : µg/L		Ru	n ID: <b>IC_</b>	3_110304/	4		Prep	Date:	03/04/2011 10:36		
Analyte		Result	PQL	5	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua	
Perchlorate		27.4		2	25	3.141	97	80	120				
Sample Mat	rix Spike Duplicate		Туре	LFM	D Te	st Code: El	PA Met	thod 314.0					
File ID: 34					Ва	tch ID: 261	07		Analy	sis Date:	03/04/2011 17:41		
Sample ID:	11030302-10ALFMD	Units : µg/L		Ru	n ID: <b>IC_</b>	_3_110304/	۹.		Prep	Date:	03/04/2011 10:36		
Analyte		Result	PQL	5	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	) RPDRef	Val %RPD(Limit)	Qua	
Perchlorate	······	27.1		2	25	3.141	96	80	120	27.3	8 1.1(15)		

**Comments:** 

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



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

<b>Date:</b> 14-Mar-11	QC Summary Report									
Method Blank File ID: 030911.B\020_M.D\		Type I		st Code: EP tch ID: 2612		hod 200.8	Analy	sis Date:	03/09/2011 12:49	
Sample ID: MB-26124	Units : mg/L		Run ID: ICF	/MS_11030	9B		Prep	Date:	03/08/2011 09:44	
Analyte	Result	PQL	SpkVal	SpkRefVal <sup>4</sup>	%REC	LCL(ME)	UCL(ME)	RPDRef	val %RPD(Limit)	Qua
Chromium (Cr)	ND	0.00	5							
Laboratory Control Spike File ID: 030911.B\021_M.D\		Туре І		st Code: EP tch ID: 2612		hod 200.8	Analy	sis Date:	03/09/2011 12:54	
Sample ID: LCS-26124	Units : mg/L		Run ID: ICF	P/MS_11030	9B		Prep	Date:	03/08/2011 09:44	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua
Chromium (Cr)	0.045	0.00	5 0.05		90	85	115			
Sample Matrix Spike File ID: 030911.B\026_M.D\		⊺ype I		st Code: EP tch ID: 2612		hod 200.8	Analy	sis Date:	03/09/2011 13:22	
Sample ID: 11030302-03AMS	Units : mg/L		Run ID: ICF	P/MS_11030	9B		Prep	Date:	03/08/2011 09:44	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua
Chromium (Cr)	0.0493	0.00	5 0.05	0	99	70	130			
Sample Matrix Spike Duplicate		Type I	<b>ISD</b> Te	st Code: EP	A Met	hod 200.8				
File ID: 030911.B\027_M.D\			Ba	tch ID: 2612	4		Analy	sis Date:	03/09/2011 13:28	
Sample ID: 11030302-03AMSD	Units : mg/L		Run ID: ICF	P/MS_11030	9B		Prep	Date:	03/08/2011 09:44	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua
Chromium (Cr)	0.0475	0.00	5 0.05	0	95	70	130	0.049	31 3.7(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.



<b>Date:</b> 08-Mar-2011		(	<b>Work Order:</b> 11030302						
Method Blar File ID: 110307			Туре М	BLK Test Code: Batch ID: M				03/07/2011 09:52	
Sample ID:	MBLK MS15W0307M	Units : µg/L		Run ID: MSD_15_11			Prep Date:	03/07/2011 09:52	
Analyte		Result	PQL	SpkVal SpkRefVa		CL(ME) L	ICL(ME) RPDRef\	/al %RPD(Limit)	Qu
Dichlorodifluor	omethane	ND	0.5						
Chloromethane	)	ND	1						
/inyl chloride		ND	0.5						
Chloroethane		ND	0.5						
Bromomethane		ND	1						
richlorofluoror .1-Dichloroeth		ND ND	0.5 0.5						
Dichlorometha		ND	0.5						
Freon-113		ND	0.5						
rans-1,2-Dichl	oroethene	ND	0.5						
vethyl tert-buty	yl ether (MTBE)	ND	0.5						
I,1-Dichloroeth		ND	0.5						
2-Butanone (M	•	ND	10						
sis-1,2-Dichlor		ND	0.5						
Bromochlorom	etnane	ND	0.5						
Chloroform 2.2-Dichloropro	nane	ND	0.5						
2,2-Dichloropro	•	ND ND	0.5 0.5						
1,1,1-Trichloro		ND	0.5						
1,1-Dichloropro		ND	0.5						
Carbon tetrach	•	ND	0.5						
Benzene		ND	0.5						
Dibromometha	ne	ND	0.5						
,2-Dichloropro		ND	0.5						
richloroethen		ND	0.5						
Bromodichloro		ND	0.5						
	itanone (MIBK)	ND	2.5						
cis-1,3-Dichlor rans-1,3-Dichl		ND ND	0.5 0.5						
1,1,2-Trichloro		ND	0.5						
Toluene	cularie	ND	0.5						
1.3-Dichloropro	opane	ND	0.5						
Dibromochloro	•	ND	0.5						
1,2-Dibromoet	hane (EDB)	ND	1	,					
Tetrachloroeth		ND	0.5						
1,1,1,2-Tetrach		ND	0.5						
Chlorobenzene	•	ND	0.5						
Ethylbenzene		ND	0.5						
n,p-Xylene Bromoform		ND	0.5						
Styrene		ND ND	0.5 0.5						
o-Xvlene		ND	0.5						
1,1,2,2-Tetrach	loroethane	ND	0.5						
1,2,3-Trichloro		ND	1						
sopropyibenze	ene	ND	0.5						
Bromobenzene		ND	0.5						
n-Propylbenzei		ND	0.5						
4-Chlorotoluen		ND	0.5						
2-Chiorotoluen		ND	0.5						
1,3,5-Trimethy		ND	0.5						
ert-Butylbenze 1,2,4-Trimethyl		ND ND	0.5 0.5						
sec-Butylbenze		ND	0.5						
1,3-Dichlorobe		ND	0.5						
,4-Dichlorobe		ND	0.5						
I-Isopropyltolu		ND	0.5						
1,2-Dichlorobe	nzene	ND	0.5						
n-Butylbenzen		ND	0.5						
	-chloropropane (DBCP)	ND	2.5						
1,2,4-Trichlorol	benzene	ND	1						
Naphthalene	a di an a	ND	1						
Hexachlorobuta		ND	1						
1,2,3-Trichlorol Surr: 1,2-Dichle		ND 9.95	1	10	100	70	130		
JUII. I.Z"UIGHI	d8	9.95 10.4		10	100	70 70	100		



<b>Date:</b> 08-Mar-2011									
Surr: 4-Bromofluorobenzene	9.86	10	99	70	130				



<b>Date:</b> 08-Mar-2011	QC Summary Report									
Laboratory Control Spike		Type LC	S Test Co	ode: EPA Meth	nod SW82	260B				
File ID: 11030703.D				D: <b>MS15W030</b>	7M	Analysis D	ate: 03/07/2011 08:38			
Sample ID: LCS MS15W0307M	Units : µg/L	F	Run ID: <b>MSD_1</b>	5 110307B		Prep Date:	03/07/2011 08:38			
Analyte	Result	PQL			LCL(ME)	UCL(ME) RPD	RefVal %RPD(Limit)	Qua		
Dichlorodifluoromethane	10.6	1	10	106	70	130				
Chloromethane	8.99	2	10	90	70	130				
Vinyl chloride	10.5	1	10	105	70	130				
Chloroethane	11	1	10	110	70	130				
Bromomethane	6.53	2	10	65	70(70)	130		L50		
Trichlorofluoromethane	10.8	1	10	108	70	130				
1,1-Dichloroethene Dichloromethane	10.9	1	10	109 96	70 70	130 130				
Freon-113	9.56 10.6	2 1	10 10	90 106	70	137				
trans-1,2-Dichloroethene	10.0	1	10	100	70	130				
Methyl tert-butyl ether (MTBE)	9.4	0.5	10	94	70	130				
1,1-Dichloroethane	10.5	1	10	105	70	130				
2-Butanone (MEK)	179	10	200	89	70	130				
cis-1,2-Dichloroethene	9.97	1	10	99.7	70	130				
Bromochloromethane Chloroform	9.93 9.93	1	10 10	99 99	70 70	130 130				
2.2-Dichloropropane	9.93 10.7	1	10	99 107	70	130				
1,2-Dichloroethane	9.92	1	10	99	70	130				
1,1,1-Trichloroethane	11	1	10	110	70	130				
1,1-Dichloropropene	11	1	10	110	70	130				
Carbon tetrachloride	9.78	1	10	98	70	130				
Benzene	9.93	0.5	10	99	70	130				
Dibromomethane 1,2-Dichloropropane	9.86 10.5	1 1	10 10	99 105	70 70	130 130				
Trichloroethene	10.5	1	10	103	70	130				
Bromodichloromethane	10.9	1	10	109	70	130				
4-Methyl-2-pentanone (MIBK)	21.8	2.5	25	87	20	182				
cis-1,3-Dichloropropene	9.73	1	10	97	70	130				
trans-1,3-Dichloropropene	8.91	1	10	89	70	130 130				
1,1,2-Trichloroethane Toluene	9.58 10.7	1 0.5	10 10	96 107	70 70	130				
1,3-Dichloropropane	10.7	0.5	10	107	70	130				
Dibromochloromethane	10.6	1	10	106	70	130				
1,2-Dibromoethane (EDB)	20.5	2	20	103	70	130				
Tetrachloroethene	10.5	1	10	105	70	130				
1,1,1,2-Tetrachloroethane	11.1	1	10	111	70	130				
Chlorobenzene Ethylbenzene	10.3 10.4	1 0.5	10 10	103 104	70 70	130 130				
m,p-Xylene	10.4	0.5	10	104	70	130				
Bromoform	10.2	1	10	102	70	130				
Styrene	10.8	1	10	108	70	130				
o-Xylene	10.6	0.5	10	106	70	130				
1,1,2,2-Tetrachloroethane	9.99	1	10	99.9	70	130				
1,2,3-Trichloropropane Isopropylbenzene	19.1 10.6	2 1	20 10	95 106	70 70	130 130				
Bromobenzene	10.6	1	10	106	70	130				
n-Propylbenzene	10.7	1	10	107	70	130				
4-Chlorotoluene	10.9	1	10	109	70	130				
2-Chlorotoluene	10.6	1	10	106	70	130				
1,3,5-Trimethylbenzene	10.7	1	10	107	70	130				
tert-Butylbenzene 1,2,4-Trimethylbenzene	10.4	1	10	104	70 70	130				
sec-Butylbenzene	10.9 10.6	1 1	10 10	109 106	70 70	130 130				
1,3-Dichlorobenzene	10.0	1	10	107	70	130				
1,4-Dichlorobenzene	10.1	1	10	101	70	130				
4-Isopropyltoluene	10.6	1	10	106	70	130				
1,2-Dichlorobenzene	9.99	1	10	99.9	70	130				
n-Butylbenzene	11.3	1	10	113	70	130				
1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene	47 11	3 2	50 10	94 110	67 70	130 130				
Naphthalene	9.57	2	10	96	70	130				
Hexachlorobutadiene	19.1	2	20	95	70	130				
1,2,3-Trichlorobenzene	10.9	2	10	109	70	130				
Surr: 1,2-Dichloroethane-d4	9.93		10	99	70	130				
Surr: Toluene-d8	10.2		10	102	70	130				



<b>Date:</b>	<b>Work Order:</b>					
08-Mar-2011	11030302					
Surr: 4-Bromofluorobenzene	9.79	10	98	70	130	



<b>Date:</b> 08-Mar-2011										
Sample Matr	rix Spike		Type M	IS T	est Code: El	PA Met	hod SW82	260B		
File ID: 110307	-			В	atch ID: MS1	15W030	07M	Analysis Date	e: 03/07/2011 10:13	1
Sample ID:	11030302-10AMS	Units : µg/L		Run ID: M	SD_15_110	307B		Prep Date:	03/07/2011 10:13	6
Analyte		Result	PQL				LCL(ME)	UCL(ME) RPDRe	fVal %RPD(Limit)	Qua
Dichlorodifluoro	mathana	43			0		21	138		
Chloromethane		43 43.9	2.5 10		0	88	23	138		
Vinvi chloride	•	46.2	2.5		0	92	49	136		
Chloroethane		48.5	2.5		õ	97	21	159		
Bromomethane	3	32.8	10		Ő	66	10	174		
Trichlorofluoron	nethane	47.3	2.5	50	0	95	32	154		
1,1-Dichloroeth	ene	49.3	2.5		0	99	64	130		
Dichloromethan	ne	45.8	10		0	92	69	130		
Freon-113		52.4	2.5		0	105	55	141		
trans-1,2-Dichlo		49	2.5		0	98	63	130		
Methyl tert-buty		47.7	1.3		0	95	47 66	150 130		
1,1-Dichloroeth 2-Butanone (MI		49.4 769	2.5 50		0	99 77	23	182		
cis-1,2-Dichloro	•	48.5	2.5		0	97	70	130		
Bromochlorome		49.1	2.5		Ő	-	70	132		
Chloroform		46	2.5		0.57	91	70	130		
2,2-Dichloropro	pane	49.8	2.5		0.01	99.7	38	154		
1,2-Dichloroeth		47.9	2.5		Ō	96	65	134		
1,1,1-Trichloroe	ethane	49.3	2.5		0	99	65	136		
1,1-Dichloropro		51.5	2.5		0		68	132		
Carbon tetrachl	loride	45.4	2.5		0		58	148		
Benzene		46.4	1.3		0		59	138		
Dibromomethar		48.8	2.5		0		70 70	130 131		
1,2-Dichloropro Trichloroethene	-	50.5 52.7	2.5 2.5		0 4.02		65	144		
Bromodichloror		50.9	2.5		4.02		50	157		
4-Methyl-2-pen		112	13		0		20	182		
cis-1,3-Dichloro		45.1	2.5		Ō		63	131		
trans-1,3-Dichlo		41.8	2.5		0		65	136		
1,1,2-Trichloroe		48.9	2.5		0	98	70	131		
Toluene		48.1	1.3		0	96	68	130		
1,3-Dichloropro	•	49	2.5		0		70	130		
Dibromochloror		49.1	2.5		0		42	155		
1,2-Dibromoeth		100	5		, 0		70	130		
Tetrachloroethe		48.3	2.5		1.15		65 70	130 130		
1,1,1,2-Tetrach Chlorobenzene		51.2 48.9	2.5 2.5		0 0		70	130		
Ethylbenzene	•	49.5	1.3		0		68	130		
m,p-Xylene		50.3	1.3		0		68	131		
Bromoform		47.9	2.5		õ		65	143		
Styrene		52.4	2.5		Ō		59	153		
o-Xylene		51.4	1.3		0	103	70	130		
1,1,2,2-Tetrach		51.4	2.5	5 50	0		67	130		
1,2,3-Trichlorop		98.5	10		0		70	130		
Isopropylbenze		49.3	2.5				55	138		
Bromobenzene		48	2.5		0		70	130		
n-Propylbenzer 4-Chlorotoluene		50.6	2.5				67 70	133 130		
2-Chlorotoluen	-	51.7 49.8	2.5 2.5		0		70	130		
1,3,5-Trimethyl		49.8 50.4	2.5		-		67	134		
tert-Butylbenze		49.3	2.5		0		55	147		
1,2,4-Trimethyl		51	2.5		-		65	135		
sec-Butylbenze	ene	49.8	2.5			100	68	135		
1,3-Dichlorober	nzene	51.9	2.5	5 50	0	104	70	130		
1,4-Dichlorober		49	2.5		0		70	130		
4-Isopropyltolu		50.8	2.5				68	132		
1,2-Dichlorober		48.3	2.5				70	130		
n-Butylbenzene		53.8	2.5				62	134		
	-chloropropane (DBCP)	227	15				64	130		
1,2,4-Trichlorot	benzene	52.8	1(				62	133		
Naphthalene Hexachlorobuta	adiene	46.5	1(				32 63	166 130		
1,2,3-Trichlorot		93 53.9	10 10				63 55	130		
	proethane-d4	53.9 49.9	i C	50	-	99.7	55 70	130		
	d8	49.9		50		97	70	130		



<b>Date:</b>	<b>Work Order:</b>					
08-Mar-2011	11030302					
Surr: 4-Bromofluorobenzene	49.3	50	99	70	130	



Date: 08-Mar-2011	QC Summary Report									<b>Work Order:</b> 11030302		
Sample Matrix Spike	······································	Туре М	S Te	st Code: EP	A Met	hod SW82						
File ID: 11030709.D			Ва	tch ID: MS1	5W030	07M	Analysi	s Date:	03/07/2011 10:57			
Sample ID: 11030302-11AMS	Units : µg/L			D_15_1103			Prep Da		03/07/2011 10:57			
Analyte	Result	PQL	SpkVal	SpkRefVal 9	%REC	LCL(ME)	UCL(ME) R	PDRef	Val %RPD(Limit)	Qua		
Dichlorodifluoromethane	41.9	2.5	50	0	84	21	138		· · · ·			
Chloromethane	41.3	10		0	83	23	144					
Vinyl chloride	44.3	2.5	50	0	89	49	136					
Chloroethane	46	2.5		0	92 72	21	159 174					
Bromomethane Trichlorofluoromethane	35.9 44.7	10 2.5	50 50	0 0	72 89	10 32	174					
1.1-Dichloroethene	44.7	2.5		0	95	64	130					
Dichloromethane	44.2	10	50	Õ	88	69	130					
Freon-113	49.9	2.5		0	99.8	55	141					
trans-1,2-Dichloroethene	47.1	2.5		0	94	63	130					
Methyl tert-butyl ether (MTBE)	47.7	1.3		0	95	47	150 130					
1,1-Dichloroethane 2-Butanone (MEK)	47.6 770	2.5 50		0 0	95 77	66 23	182					
cis-1,2-Dichloroethene	49.3	2.5		0	99	70	130					
Bromochloromethane	48.1	2.5		Ō	96	70	132					
Chloroform	45.8	2.5	50	2.14	87	70	130					
2,2-Dichloropropane	49.8	2.5		0	99.6	38	154					
1,2-Dichloroethane	46.4	2.5		0	93 98	65 65	134 136					
1,1,1-Trichloroethane 1,1-Dichloropropene	48.9 48.8	2.5 2.5		0 0	98 98	68	130					
Carbon tetrachloride	40.0	2.5		0.64	90	58	148					
Benzene	45.3	1.3		0	91	59	138					
Dibromomethane	48.4	2.5		0	97	70	130					
1,2-Dichloropropane	49.3	2.5		0	99	70	131					
Trichloroethene	48.8	2.5		1.01	96	65	144					
Bromodichloromethane 4-Methyl-2-pentanone (MIBK)	49.8 112	2.5 13		0	99.6 89	50 20	157 182					
cis-1,3-Dichloropropene	45	2.5		0	90	63	131					
trans-1,3-Dichloropropene	42	2.5		õ	84	65	136					
1,1,2-Trichloroethane	48.7	2.5	50	0	97	70	131					
Toluene	47.8	1.3		0	96	68	130					
1,3-Dichloropropane Dibromochloromethane	49.4	2.5		0	99	70	130 155					
1,2-Dibromoethane (EDB)	50 102	2.5 5		0 0	100 102	42 70	130					
Tetrachloroethene	47.8	2.5		0	96	65	130					
1,1,1,2-Tetrachloroethane	50.7	2.5		Õ	101	70	130					
Chlorobenzene	48.6	2.5		0	97	70	130					
Ethylbenzene	48.3	1.3		0	97	68	130					
m,p-Xylene Bromoform	49	1.3		0	98 06	68 65	131 143					
Styrene	. 48 51.3	2.5 2.5		0	96 103	59	143					
o-Xylene	49.5	1.3		0	99	70	130					
1,1,2,2-Tetrachloroethane	51	2.5		Ō	102	67	130					
1,2,3-Trichloropropane	96.6	10	100	0	97	70	130					
Isopropylbenzene	48.6	2.5		0	97	55	138					
Bromobenzene n-Propylbenzene	47.1	2.5		0	94 98	70 67	130 133					
4-Chlorotoluene	49.1 51.1	2.5 2.5		0	98 102	67 70	133					
2-Chlorotoluene	48.7	2.5		0	97	70	130					
1,3,5-Trimethylbenzene	49.4	2.5		õ	99	67	134					
tert-Butylbenzene	47.7	2.5		Ō	95	55	147					
1,2,4-Trimethylbenzene	49.9	2.5		0	99.7	65	135					
sec-Butylbenzene	48.6	2.5		0	97	68 70	135					
1,3-Dichlorobenzene 1,4-Dichlorobenzene	50.7	2.5		0	101	70 70	130					
4-Isopropyltoluene	47.9 49.4	2.5 2.5		0	96 99	70 68	130 132					
1,2-Dichlorobenzene	47.7	2.5		0	95	70	130					
n-Butylbenzene	52.4	2.5		ŏ	105	62	134					
1,2-Dibromo-3-chloropropane (DBCP)	234	15	250	0	94	64	130					
1,2,4-Trichlorobenzene	52.6	10		0	105	62	133					
Naphthalene Hexachlorobutadiene	49.2	10		0	98 05	32	166					
1,2,3-Trichlorobenzene	95.5 56.5	10 10		0	95 113	63 55	130 138					
Surr: 1,2-Dichloroethane-d4	48.2	10	50 50	U	96	55 70	130					
Surr: Toluene-d8	49.9		50		99.8	70	130					



<b>Date:</b>	<b>Work Order:</b>					
08-Mar-2011	11030302					
Surr: 4-Bromofluorobenzene	49.3	50	99	70	130	



<b>Date:</b> 08-Mar-2011	(	QC S	ummary	y Report					<b>Work Ord</b> 11030302	
Sample Matrix Spike Duplicate		Туре М	ISD Te	est Code: EP	A Met	hod SW82	260B			i
File ID: 11030708.D			Ba	tch ID: MS1	5W03	07M	Analy	sis Date: (	03/07/2011 10:35	
Sample ID: 11030302-10AMSD	Units : µg/L			SD_15_1103			Prep I		03/07/2011 10:35	
Analyte	Result	PQL	SpkVal	SpkRefVal 9	%REC	LCL(ME)	UCL(ME)	RPDRefVa	al %RPD(Limit)	Qual
Dichlorodifluoromethane	40	2.5	5 50	0	80	21	138	43.01	7.2(33)	
Chloromethane	41.9	10		0	84	23	144	43.89	4.7(27)	
Vinyl chloride	43.5	2.5		0	87	49	136	46.22	6.0(21)	
Chloroethane Bromomethane	44.4 33.9	2.5 10		0	89 68	21 10	159 174	48.46 32.77	8.8(40) 3.5(40)	
Trichlorofluoromethane	44.6	2.5		0	89	32	154	47.34	5.9(37)	
1,1-Dichloroethene	46.6	2.5		õ	93	64	130	49.31	5.7(21)	
Dichloromethane	43.2	10	) 50	0	86	69	130	45.8	5.8(20)	
Freon-113	47.7	2.5		0	95	55	141	52.41	9.5(40)	
trans-1,2-Dichloroethene	46	2.5		0	92 92	63 47	130 150	49.04 47.69	6.4(20) 4.0(40)	
Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane	45.8 46	1.3 2.5		0	92 92	66	130	47.05	7.0(20)	
2-Butanone (MEK)	725	50		ŏ	72	23	182	769.2	5.9(22)	
cis-1,2-Dichloroethene	45.4	2.5		0	91	70	130	48.49	6.6(20)	
Bromochloromethane	46.7	2.5		0	93	70	132	49.06	4.9(20)	
Chloroform	43.4	2.5		0.57	86 06	70	130 154	46.02 49.84	5.8(20) 3.6(22)	
2,2-Dichloropropane 1,2-Dichloroethane	48.1 44.5	2.8 2.8		0 0	96 89	38 65	154 134	49.84 47.85	3.6(22) 7.2(20)	
1,1,1-Trichloroethane	46.7	2.5		0	93	65	136	49.28	5.3(20)	
1,1-Dichloropropene	47.7	2.5		ŏ	95	68	132	51.47	7.6(20)	
Carbon tetrachloride	43.2	2.5	5 50	0	86	58	148	45.4	5.0(20)	
Benzene	43.8	1.3		0	88	59	138	46.39	5.9(21)	
Dibromomethane 1,2-Dichloropropane	46.4	2.5		0	93 95	70 70	130 131	48.76 50.45	5.1(20) 6.2(20)	
Trichloroethene	47.4 50.2	2.5 2.5		0 4.02	95 92	70 65	144	52.68	4.9(20)	
Bromodichloromethane	48.7	2.5		4.02	97	50	157	50.89	4.4(20)	
4-Methyl-2-pentanone (MIBK)	108	13		Ō	86	20	182	112.4	3.9(20)	
cis-1,3-Dichloropropene	43.3	2.5	5 50	0	87	63	131	45.11	4.0(20)	
trans-1,3-Dichloropropene	40.3	2.5		0	81	65	136	41.79	3.7(20)	
1,1,2-Trichloroethane Toluene	45.4 45.2	2.5 1.3		0 0	91 90	70 68	131 130	48.9 48.06	7.4(20) 6.2(20)	
1,3-Dichloropropane	46.2	2.5		0	90 92	70	130	48.99	5.9(20)	
Dibromochloromethane	46.4	2.5		õ	93	42	155	49.07	5.6(20)	
1,2-Dibromoethane (EDB)	94.4		5 100	0	94	70	130	100.1	5.8(20)	
Tetrachloroethene	46.2	2.5		1.15	90	65	130	48.34	4.5(20)	
1,1,1,2-Tetrachloroethane Chlorobenzene	47.7	2.5		0	95 02	70	130	51.19 48.9	7.1(20) 6.6(20)	
Ethylbenzene	45.8 45.8	2.5 1.3		0	92 92	70 68	130 130	40.9	7.7(20)	
m,p-Xylene	47.3	1.3		0	95	68	131	50.25	6.1(20)	
Bromoform	45.1	2.5		õ	90	65	143	47.86	6.0(20)	
Styrene	48.7	2.5	5 50	0	97	59	153	52.42		
o-Xylene	47.9	1.:		0	96	70	130	51.42	7.1(20)	
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	46.3 90.5	2.5		0	93 91	67 70	130 130	51.39 98.46		
Isopropylbenzene	90.5 46.4	1( 2.5		0	93	70 55	130	49.28	6.1(20)	
Bromobenzene	44.5	2.5		Ő	89	70	130	47.97	7.6(20)	
n-Propylbenzene	46.7	2.5		Ő	93	67	133	50.55	7.9(30)	
4-Chlorotoluene	48.1	2.5		0	96	70	130	51.72	7.2(20)	
2-Chlorotoluene 1,3,5-Trimethylbenzene	46	2.5		0	92	70	130	49.81	8.1(20)	
tert-Butylbenzene	46.9 45.4	2.5 2.5		0	94 91	67 55	134 147	50.44 49.25	7.3(21) 8.1(20)	
1.2.4-Trimethylbenzene	46.9	2.5		0	94	65	135	51.03	8.4(25)	
sec-Butylbenzene	46.8	2.5		Ő	94	68	135	49.75	6.1(20)	
1,3-Dichlorobenzene	47.6	2.5		0	95	70	130	51.93	8.7(20)	
1,4-Dichlorobenzene	45.4	2.5		0	91	70	130	48.98	7.6(20)	
4-lsopropyltoluene 1,2-Dichlorobenzene	47.4 45	2.5		0	95 90	68 70	132	50.76 48.29	6.8(20) 7.1(20)	
n-Butylbenzene	45 50.5	2.5 2.5		0	90 101	70 62	130 134	48.29 53.79	6.4(21)	
1,2-Dibromo-3-chloropropane (DBCP)	219	2.0 15		0	88	62 64	134	226.9	3.4(20)	
1,2,4-Trichlorobenzene	50.9	10		õ	102	62	133	52.83	3.8(29)	
Naphthalene	45.4	10	50	0	91	32	166	46.53	2.4(40)	
Hexachlorobutadiene 1,2,3-Trichlorobenzene	89.3	1(		0	89	63	130	93	4.0(21)	
Surr: 1,2-Dichloroethane-d4	52.8 49.9	1(	) 50 50	0	106 99.9	55 70	138 130	53.91	2.1(36)	
Surr: Toluene-d8	49.9		50 50		99.9 98	70 70	130			
			00		00		100			



<b>Date:</b> 08-Mar-2011	QC	Summary Re	port			<b>Work Order:</b> 11030302
Surr: 4-Bromofluorobenzene	48.6	50	97	70	130	



<b>Date:</b> 08-Mar-2011	(	QC Si	ummar	y Repor	t				<b>Work Ord</b> 11030302	
Sample Matrix Spike Duplicate		Туре М	ISD T	est Code: EF	PA Met	thod SW82	260B			
File ID: 11030710.D			В	atch ID: MS1	5W03	07M	Analy	sis Date:	03/07/2011 11:18	
Sample ID: 11030302-11AMSD	Units : µg/L		Run ID: M	SD_15_1103	07B		Prep	Date:	03/07/2011 11:18	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefV	/al %RPD(Limit)	Qua
Dichlorodifluoromethane	42.1	2.5		0	84	21	138	41.85		
Chloromethane	46.5	10		0	93	23	144	41.29	• •	
Vinyl chloride	48.7	2.5		0	97	49	136	44.29 46.02		
Chloroethane Bromomethane	49 42.1	2.5 10		0	98 84	21 10	159 174	46.02 35.93	• •	
Trichlorofluoromethane	47.4	2.5		0	95	32	154	44.69		
1,1-Dichloroethene	50.8	2.5		ŏ	102	64	130	47.56	• •	
Dichloromethane	46.9	10		0	94	69	130	44.15		
Freon-113	50.5	2.5		0	101	55	141	49.88	• •	
trans-1,2-Dichloroethene	49.9	2.5		0	99.8	63	130	47.09		
Methyl tert-butyl ether (MTBE) 1,1-Dichloroethane	48.8 50.5	1.3		0	98 101	47 66	150 130	47.65 47.61		
2-Butanone (MEK)	760	2.5 50		0	76	23	182	769.8		
cis-1,2-Dichloroethene	51.3	2.5		ů 0	103	70	130	49.32		
Bromochloromethane	50.4	2.5		0	101	70	132	48.09		
Chloroform	48	2.5	50	2.14	92	70	130	45.79		
2,2-Dichloropropane	51.9	2.5		0	104	38	154	49.82	• •	
1,2-Dichloroethane	47.1	2.5		0	94	65	134	46.41		
1,1,1-Trichloroethane 1,1-Dichloropropene	51	2.5		0	102	65 60	136	48.88		
Carbon tetrachloride	51.5 48.3	2.5 2.5		0 0.64	103 95	68 58	132 148	48.75 45.68		
Benzene	48.1	1.3		0.04	95 96	59	138	45.27		
Dibromomethane	49.9	2.5		Ő	99.9	70	130	48.44	• •	
1,2-Dichloropropane	51.8	2.5		Ō	104	70	131	49.33	• •	
Trichloroethene	51.9	2.5		1.01	102	65	144	48.77		
Bromodichloromethane	52.2	2.5		0	104	50	157	49.81		
4-Methyl-2-pentanone (MIBK)	113	13		0	91	20	182	111.7		
cis-1,3-Dichloropropene trans-1,3-Dichloropropene	47.5	2.5		0	95	63	131	44.95		
1,1,2-Trichloroethane	43.7 50	2.5 2.5		0	87 99.9	65 70	136 131	41.98 48.68	• •	
Toluene	49.9	1.3		0	99.9 99.9	68	130	47.78		
1,3-Dichloropropane	50.4	2.5		ŏ	101	70	130	49.43		
Dibromochloromethane	50.5	2.5		Ō	101	42	155	50	1.0(20)	
1,2-Dibromoethane (EDB)	102	5		0	102	70	130	102.4		
Tetrachloroethene	49.5	2.5		0	99	65	130	47.79		
1,1,1,2-Tetrachloroethane Chlorobenzene	52.8	2.5		0	106	70	130	50.73		
Ethylbenzene	50.4 50.6	2.5 1.3		0	101 101	70 68	130 130	48.55 48.34		
m,p-Xylene	52.3	1.3		0	105	68	130	49.04		
Bromoform	49.3	2.5		ŏ	99	65	143	48.01		
Styrene	53.6	2.5		Ō	107	59	153	51.32		
o-Xylene	52. <del>9</del>	1.3		0	106	70	130	49.54	6.6(20)	
1,1,2,2-Tetrachloroethane	51.7	2.5		0	103	67	130	50.96		
1,2,3-Trichloropropane	98.4	10		0	98	70	130	96.55		
Isopropylbenzene Bromobenzene	52	2.5		0	104	55	138	48.6	6.7(20)	
n-Propylbenzene	50.1 52.2	2.5 2.5		0	100 104	70 67	130 133	47.13 49.08		
4-Chlorotoluene	54.2	2.5		0	104	70	130	51.08		
2-Chlorotoluene	52.5	2.5		ŏ	105	70	130	48.72		
1,3,5-Trimethylbenzene	52.8	2.5		0	106	67	134	49.36		
tert-Butylbenzene	51.5	2.5		0	103	55	147	47.66		
1,2,4-Trimethylbenzene	52.9	2.5		0	106	65	135	49.86		
sec-Butylbenzene 1,3-Dichlorobenzene	52	2.5		0	104	68	135	48.58		
1,4-Dichlorobenzene	53.5	2.5		0	107	70	130	50.71		
4-Isopropyitoluene	50.8 52.7	2.5 2.5		0	102 105	70 68	130 132	47.9 49.41	5.8(20) 6.4(20)	
1,2-Dichlorobenzene	49.6	2.5		0	99	70	132	49.41	3.8(20)	
n-Butylbenzene	55.9	2.5		Ő	112	62	134	52.35		
1,2-Dibromo-3-chloropropane (DBCP)	234	15		. Õ	94	64	130	233.9		
1,2,4-Trichlorobenzene	55.2	10	50	0	110	62	133	52.61	4.8(29)	
Naphthalene	48.7	10		0	97	32	166	49.21	1.1(40)	
Hexachlorobutadiene 1,2,3-Trichlorobenzene	99.7	10		0	99.7	63	130	95.45		
Surr: 1,2-Dichloroethane-d4	55.8 47.3	10		0	112	55	138	56.49	1.2(36)	
Surr: Toluene-d8	47.3 49		50 50		95 98	70 70	130 130			
	40		50		30	70	130			



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

<b>Date:</b> 08-Mar-2011	QC	Summary Re	port			<b>Work Order:</b> 11030302
Surr: 4-Bromofluorobenzene	49.5	50	99	70	130	

#### **Comments:**

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

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

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

		2	55 Glen	Alp] dale Ave	ha An Enue, Suite	alytic	cal, Inc ks, Nevada	89431-57	78	WorkOrder	WorkOrder : BMIS11030302		
	-	Report Attent	-	Pho	ne Numb	4	EMail Ac	Idress					
Battelle Memorial Institute		David Conner		(619	) 726-731	1 x	connerd@	battelle.or	ũđ				
		Betsy Cutie		(614	1) 424-489	9 x	cutiee@ba	telle.org		EDD Required : Yes	Yes		
	î	Shane Walton		(614	1) 424-411	7 x	waltons@t	attelle.or	02	Sampled by :	Sampled by : Chase Brogdon, David Loera		
	F									Cooler Temp	Samples Received Date Printed		
33403, 53568 Jo		3005862/JPL	- Groun	Idwater	Monitoring	G				0°C	03-Mar-2011 03-Mar-2011		
OD QC Required : Fi	nal Rp	it, MBLK, Init(	Cal/Co	nCal dat	ta, LCS, N	/S/MSD	With Surro	gates					
									Request	ed Tests			
	Matrix	ollection Date /	No. of Alpha	Bottles Sub	TAT	300_0_W	314_W	METALS_D W	VOC_TIC_	voc_w	Sample Remarks		
		11/10/10	ח	5	<b>o</b>		Perchlorate	<u>م</u>	VOC by 524	VOC by 524			
		03/02/11	د	c	4			1	Criteria	Criteria			
MW-4-2	ð	03/02/11 09:17	თ	0	9		Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria			
MW-4-1	AQ	03/02/11 09:53	თ	0	9		Perchlorate	Ç	VOC by 524 Criteria	VOC by 524 Criteria	Level IV QC		
DUPE-04-1Q11	AQ	03/02/11 00:00	თ	0	Q		Perchlorate	ទ	VOC by 524 Criteria	VOC by 524 Criteria			
EB-07-03/02/11	Ą	03/02/11 10:01	СI	0	Ŷ		Perchlorate	ç	VOC by 524 Criteria	VOC by 524 Criteria			
TB-07-03/02/11	ð	03/02/11 07:00	N	0	9				VOC by 524 Criteria	VOC by 524 Criteria	2 Reno Trip Blanks: (1) 12/14/10 (1) 1/19/11		
MW-3-4	A Q	03/02/11 11:20	<b>С</b> Т	0	9		Perchlorate	Ċ,	VOC by 524 Criteria	VOC by 524 Criteria			
MW-3-3	Å Ø	03/02/11 11:42	σ	0	9		Perchlorate	Q	VOC by 524 Criteria	VOC by 524 Criteria	Level IV QC		
MW-3-2	ð	03/02/11 12:00	5	0	9		Perchlorate	ç	VOC by 524 Criteria	VOC by 524 Criteria			
ity seals intact. Frozen		èmp Blank #8	784 rec	eived @	0°C. Lev	el IV QC.	Samples sh	oul <u>d be u</u> s	ed as the co	atrol snike sample if possible			
	Institute ay 101 101 <b>E</b> DOD QC Required : Fi <b>Sample ID</b> MW-4-3 MW-4-2 MW-4-1 EB-07-03/02/11 EB-07-03/02/11 TB-07-03/02/11 MW-3-4 MW-3-3 MW-3-2 Security seals intact. Frozen :	38     Job :       38     Job :       D QC Required : Final F       03/02/11     AQ       03/02/11     AQ       10     Matt       AQ     AQ       11     AQ       12     AQ       13/02/11     AQ       14     AQ       15     AQ       16     AQ       17     AQ       18     AQ       19     AQ	38     Job :       D QC Required : Final F       D 3/02/11       AQ       D3/02/11       AQ       AQ	38     Job :       D QC Required : Final F       D 3/02/11       AQ       03/02/11       AQ       AQ	38     Job :       D QC Required : Final F       D 3/02/11       AQ       03/02/11       AQ       AQ	38     Job :       D QC Required : Final F       D 3/02/11       AQ       03/02/11       AQ       AQ	38     Job :       D QC Required : Final F       D 3/02/11       AQ       03/02/11       AQ       AQ	38     Job :       D QC Required : Final F       D 3/02/11       AQ       03/02/11       AQ       AQ	235 Citerdale Avenue, Suite 21 Sparks, Nevada 89431-57         TTEL: (775) 355-1044 FAX: (775) 355-0406         Report Attention       Phone Number       EMail Address         David Conner       (619) 726-7311 x       connerd@battell.org         Betsy Curic       (614) 424-4117 x       waltons@battell.org         Shane Walton       No. of Bottles       son_0.w       site Mail Address         D C Required : Final Rot. MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates       collection       No. of Bottles       son_0.w       site $AQ$ on_0.w       site $AQ$ No.0.W       site $AQ$ No.0.W       NITEL: (775) 355-0406         Betsy Curic       (614) 424-4117 x       waltons@battell.org         Shane Walton       No.0.W       site waltons@battell.org         Collection       No. of Bottles       son_0.W       site waltons@battell.org         Collection       No.of Bottles       son_0.W       NIT.W       METAL W         Collection       No.of Bottles       son_0.W <th <="" colspan="2" td=""><td>58 Job : 50 QC Required : Final F 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ</td><td>255 Clenctale Avenue, Suite 21 Sparts, Nevada 89431-5778 TTEL: (775) 355-104         FAX: (775) 355-046         Repo Evaluation         Repo (619) 726-7311 x         connerd@battelle.org         Repo           Besy Cutic         (614) 424-489 x         cutice@battelle.org         ED         Besy Cutic         (614) 424-489 x         cutice@battelle.org         ED           38         Job :         C005862/JPL Groundwater Monitoring         ED         Shane Walton         (614) 424-4817 x         waltons@battelle.org         ED           3002/11         Stane Walton         No of Bottles         Sou_0_W         314_W         WETALS V         Voc.br33         Voc.b</td></th>	<td>58 Job : 50 QC Required : Final F 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ</td> <td>255 Clenctale Avenue, Suite 21 Sparts, Nevada 89431-5778 TTEL: (775) 355-104         FAX: (775) 355-046         Repo Evaluation         Repo (619) 726-7311 x         connerd@battelle.org         Repo           Besy Cutic         (614) 424-489 x         cutice@battelle.org         ED         Besy Cutic         (614) 424-489 x         cutice@battelle.org         ED           38         Job :         C005862/JPL Groundwater Monitoring         ED         Shane Walton         (614) 424-4817 x         waltons@battelle.org         ED           3002/11         Stane Walton         No of Bottles         Sou_0_W         314_W         WETALS V         Voc.br33         Voc.b</td>		58 Job : 50 QC Required : Final F 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ 03/02/11 AQ	255 Clenctale Avenue, Suite 21 Sparts, Nevada 89431-5778 TTEL: (775) 355-104         FAX: (775) 355-046         Repo Evaluation         Repo (619) 726-7311 x         connerd@battelle.org         Repo           Besy Cutic         (614) 424-489 x         cutice@battelle.org         ED         Besy Cutic         (614) 424-489 x         cutice@battelle.org         ED           38         Job :         C005862/JPL Groundwater Monitoring         ED         Shane Walton         (614) 424-4817 x         waltons@battelle.org         ED           3002/11         Stane Walton         No of Bottles         Sou_0_W         314_W         WETALS V         Voc.br33         Voc.b

Logged in by: Š aputh Signature lCorx ١ izaborth **Print Name** HdCox Alpha Analytical, Inc. Company 33-11 1049 Date/Time

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

<u>SD).:</u> Date/Time	Temp Blank #8784 received @ 0°C. Level IV OC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). :         gnature       Print Name       Company	ad as the control	should be us	Samples sl	evel IV QC.	@ 0°C. I	received (	1k #8784	e. Temp Blar Signature		Security seals intact. Frozen ice.	Comments:
MS/MSD. Logged in per earliest sample time provided.	oria	VOC by 524 VOC by 524 Criteria	Ŷ	Perchlorate	NO2, NO3, SO4, CI, PO4	G	0	1 13	03/02/11 12:01	A	MW-13	BMI11030302-11A
MS/MSD. Logged in per earliest sample time provided.	y 524 aria	VOC by 524 VOC by 524 Criteria Criteria	Cr	Perchlorate		g	0	1 18	03/02/11 09:40	AQ	MW-6	BMI11030302-10A
Sample Remarks	×		METALS_D W	314_W	300_0_W	es TAT	No. of Bottles Alpha Sub		Collection Matrix Date	Mat	Client Sample ID	Alpha Sample ID
	sts	Requested Tests	ogates	With Surre	, MS/MSD	iata, LCS	ConCal o	, InitCal/	tpt, MBLK	ired : Final F	= DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates	QC Level: DS4
03-Mar-2011 03-Mar-2011	0 °C 03-M				ring	er Monito	oundwate	?/JPL Gr	G005862/JPL Groundwater Monitoring	Job :	33403, 53568	Client's COC # : 33
gdon, David Loera	Cha		waltons@battelle.org	waltons@	117 x	(614) 424-4117	(6	alton	Shane Walton		2101	ă
	EDD Kequired : res		atelle.org	cutiee@batelle.org	x 668	(614) 424-4899	(6	ıtie	Betsy Cutie		vay	Suite 1420
			connerd@battelle.org	connerd@	311 x	(619) 726-7311	(6	onner	David Conner		l Institute	Battelle Memorial Institute
	-		Inddress	EMail Address	nber	Phone Number	ס	ttention	Report Attention			Client:
S11030302 ⁄I On: 16-Mar-2011	WorkOrder : BMIS11030302 Report Due By : 5:00 PM On : 16-Mar-2011		<b>C.</b> 1 89431-577 0406	<b>cal, In</b> rks, Nevada (775) 355-(	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778 TEL: (775) 355-1044 FAX: (775) 355-0406	<b>pha</b> A Avenue, Su 75) 355-10	Alj Glendale A TEL: (7	255 (				
Page: 2 of 2	CA	ORD	REC	DY I	HAIN-OF-CUSTODY RECORI	F-CI	N-O	HAI	Ω			Billing Information :

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

Logged in by:

Imp buth

Ldcox

Elizabeth Hacox

Alpha Analytical, Inc.

3.3.11 1049

iion: BATTELLE LD TEMPKINS KING ANE: CLUMBUS, OH 4320 Fax DAIN Fax LLE / DAIND (ANNER)		Samples Collected From Which State? AZ CA NV WA DOD Site ID OR OTHER Page # 01 / Analyses Required Data Validation Level: (II) or IV
10 al rand aus and aus and and a second	Report Attention / Project Manager DAVID CONNET CONNERD OF SATTEZLE, ONG GUN NERD OF SATTEZLE, ONG GUN NERD OF SATTEZLE, ONG	
d Sampled See Key Lab ID Number	Sample Description TAT Filered # Containers**	
3/1 A@BMI103030201	-4-3	
- MW 20. July 21/60	MW-4-1 3v 20	XXX Remert
m The second sec	-04-1011	× × ×
-22-50- CV 1 + + 1001	3-07-03/02/11 3/20	XXX EQUIP. BLINNK
0/2/4 AQ	-07-05/02/11 IV	X TRUP BLANK
MM LO &M W /2/2 0211	1-3-4 J-2-1	
3/2/ AQ 001-0		X
MW 60- 001 14/1/ 6071	$-3-\lambda$ $3\sqrt{2\rho}$	
ADDITIONAL INSTRUCTIONS:		
I, (field sampler), attest to the validity and authenticity of this sample grounds for legal action (NAC 445.0636 (c) (2)). Sampled By:	and I	aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be
Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affilietter	1/2 Augtorn Date: 3/04/11 Time: 500
Relinquished by: (Signature/Ammanaet	Argenting Received by: (Signature/Affiliation)	Date: 3.3.1
Relinquished by: (Signature/Affiliation)	Received by: (Signature/Affiliation)	Date: Time:
*Key: AQ - Aqueous SO - Soil WA - Waste NOTE: Samples are discarded 60 days after results are report of the above samples is applicable only to those samples rece	*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Bras 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 clien of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.	*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S-Soil Jar 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.
-		

Rilling Information:		Samples Collected From Which State?	53568
Company Name Battelle	Sparks, Nevada 89431-5778		Page # _ of
Address SOS KING AVE	Fax (775) 355-1044		
Phone Number Fax		Analyses Required	
Consultant / Client Name DAVID CONNET	JOD # 6005862 / JPL-GWM JOD NAME JPL-G	w-1011	Level: III or IV
Address	Name: David Conner Attention / Project Manager	24.2	
City, State, Zip	de battelle	(52 Cr	EDD / EDF? YES NO
Matrix* P.O. # 216013	Phone:	rs (	Global ID #
Sampled Sampled Below Lab ID Number (Use Only)	Sample Description TAT	To per	REMARKS
0140 - 10	MW-6 10	6V IP XXX Provent	
	MW-6-M5/MSD 10	WIPXXX	
1201 Str/11 -11	MW-13 10	6V SHX XXX	
1205 3/2/11	MW-13-MS/MSU 10	W 3PXXXX	
Managament in the transmoster			
II S Acoust			
ADDITIONAL INSTRUCTIONS: Chloride	Nitrate, Nitrite, Or	thophosphate, Sulfate	
grounds for legal action. Sampled By: Daula	grounds for legal action. Sampled By: During to us sample, rain aware that tampening with or internomany misiabeling the sample location, care or time or collection is considered radia and ring be		is considered flaud and fillay be
Relinquished by: (Signature/Affiliation)	Battelle Received by: (SignatureAntilianton)	I INSILAT Dates / 02	2/11 Time: 13/5
Relinquished by: (Signature/Affiliatton)	Received by: (Signatures Attitation)	Mph, Aughten 03/02	// Time: // 1500
Relinquished by: (Signature/Affiliation	h. Ar John Received by: (Signature/Affiliation)	drow another 3:3.1	Time: 1049
*Key: AQ - Aqueous SO - Soil WA - Waste	OT - Other AR - Air **: L-Liter V-Voa	a S-Soil Jar O-Orbo T-Tedlar B-Brass	P-Plastic OT-Other
<b>NOTE:</b> Samples are discarded by days after results are of the above samples is applicable only to those sample	NOTE: Samples are discarded by days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.	samples will be returned to cilent or disposed of at cilent exp b laboratory is limited to the amount paid for the report.	pense. The report for the analysis



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

**Date** 09-Mar-11

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

Suite 1420

**CASE NARRATIVE** 

lob: Work Order:	G005862/JPL Grou BMI11030401	indwater Monitoring	Cooler Temp: 0 °C	
Alpha's	Sample ID	Client's Sample ID	Matrix	
11030	0401-01A	MW-22-3	Aqueous	
11030	)401-02A	MW-22-2	Aqueous	
11030	)401-03A	MW-22-1	Aqueous	
11030	)401-04A	EB-08-03/03/11	Aqueous	
11030	)401-05A	TB-08-03/03/11	Aqueous	
11030	)401-06A	MW-11-4	Aqueous	
11030	)401-07A	MW-11-3	Aqueous	
11030	0401-08A	MW-11-2	Aqueous	
11030	)401-09A	MW-11-1	Aqueous	
11030	0401-10A	MW-5	Aqueous	
	· · · · · · · · · · · · · · · · · · ·	Manually Integrat	ed Analytes	
Alpha's Sa	mple ID	Test Reference	Analyte	
NO				

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

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

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

Dalter Aring Roger Scholl Kandy Sandmer

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.



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

### ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 
 Attn:
 David Conner

 Phone:
 (619) 726-7311

 Fax:
 (614) 458-6641

 Date Received : 03/04/11

### Job: G005862/JPL Groundwater Monitoring

Anions by IC EPA Method 300.0								
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed			
Client ID: MW-11-1 Lab ID : BMI11030401-09A Date Sampled 03/03/11 12:17	Chloride Nitrite (NO2) - N Nitrate (NO3) - N Phosphate, ortho - P Sulfate (SO4)	24 ND 1.0 ND 54	0.50 mg/L 0.25 mg/L 0.50 mg/L 0.50 mg/L	03/04/11 11:20 03/04/11 11:20	03/04/11 12:00 03/04/11 12:00 03/04/11 12:00 03/04/11 12:00 03/04/11 12:00			

ND = Not Detected

Roger Scholl

Kandy Doulmen

Walter Arihm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/10/11 Report Date



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Attn:David ConnerPhone:(619) 726-7311Fax:(614) 458-6641Date Received : 03/04/11

### Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0								
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed			
Client ID: <b>MW-22-3</b> Lab ID : <b>BMI11030401-01A</b> Date Sampled 03/03/11 08:25	Perchlorate	1.91	1.00 µg/L	03/07/11 10:27	03/07/11 17:43			
Client ID: MW-22-2 Lab ID : BMI11030401-02A Date Sampled 03/03/11 09:09	Perchlorate	2.39	1.00 μg/L	03/07/11 10:27	03/07/11 18:01			
Client ID: <b>MW-22-1</b> Lab ID : BMI11030401-03A Date Sampled 03/03/11 09:39	Perchlorate	22.9	1.00 μg/L	03/07/11 10:27	03/07/11 18:19			
Client ID: EB-08-03/03/11 Lab ID: BMI11030401-04A Date Sampled 03/03/11 09:30	Perchlorate	ND	1.00 μg/L	03/07/11 10:27	03/07/11 18:38			
Client ID: MW-11-4 Lab ID : BMI11030401-06A Date Sampled 03/03/11 10:58	Perchlorate	ND	1.00 μg/L	03/07/11 10:27	03/07/11 18:56			
Client ID: MW-11-3 Lab ID : BMI11030401-07A Date Sampled 03/03/11 11:25	Perchlorate	ND	1.00 µg/L	03/07/11 10:27	03/07/11 19:15			
Client ID: MW-11-2 Lab ID : BMI11030401-08A Date Sampled 03/03/11 11:49	Perchlorate	ND	1.00 µg/L	03/07/11 10:27	03/07/11 19:33			
Client ID: MW-11-1 Lab ID : BMI11030401-09A Date Sampled 03/03/11 12:17	Perchlorate	ND	1.00 µg/L	03/07/11 10:27	03/07/11 19:51			
Client ID: <b>MW-5</b> Lab ID : BMI11030401-10A Date Sampled 03/03/11 10:26	Perchlorate	ND	1.00 µg/L	03/07/11 10:27	03/07/11 20:47			



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

ND = Not Detected

Dalter Hirihm Roger Scholl Kandy Dandmer

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

**Report Date** 



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 
 Attn:
 David Conner

 Phone:
 (619) 726-7311

 Fax:
 (614) 458-6641

 Date Received : 03/04/11

### Job: G005862/JPL Groundwater Monitoring

		Metals by ICPMS EPA Method 200.8			
t	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: MW-22-3 Lab ID : BMI11030401-01A Date Sampled 03/03/11 08:25	Chromium (Cr)	ND	0.0050 mg/L	03/04/11 12:38	03/07/11 22:08
Client ID: <b>MW-22-2</b> Lab ID : BMI11030401-02A Date Sampled 03/03/11 09:09	Chromium (Cr)	ND	0.0050 mg/L	03/04/11 12:38	03/07/11 22:13
Client ID: <b>MW-22-1</b> Lab ID : BMI11030401-03A Date Sampled 03/03/11 09:39	Chromium (Cr)	ND	0.0050 mg/L	03/04/11 12:38	03/07/11 22:19
Client ID: EB-08-03/03/11 Lab ID : BMI11030401-04A Date Sampled 03/03/11 09:30	Chromium (Cr)	ND	0.0050 mg/L	03/04/11 12:38	03/07/11 22:25
Client ID: <b>MW-11-3</b> Lab ID : BMI11030401-07A Date Sampled 03/03/11 11:25	Chromium (Cr)	ND	0.0050 mg/L	03/04/11 12:38	03/07/11 22:30
Client ID: <b>MW-11-2</b> Lab ID : BMI11030401-08A Date Sampled 03/03/11 11:49	Chromium (Cr)	ND	0.0050 mg/L	03/04/11 12:38	03/07/11 22:36
Client ID: MW-11-1 Lab ID : BMI11030401-09A Date Sampled 03/03/11 12:17	Chromium (Cr)	ND	0.0050 mg/L	03/04/11 12:38	03/07/11 21:45
Client ID: <b>MW-5</b> Lab ID : BMI11030401-10A Date Sampled 03/03/11 10:26	Chromium (Cr)	ND	0.0050 mg/L	03/04/11 12:38	03/07/11 22:42

ND = Not Detected

Roger Scholl

Kandy Saulmer

Walter A

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

3/16/11 **Report Date** 



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Job: G005862/JPL Groundwater Monitoring Attn: David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

Tentatively Identified Compounds - Volatile Organics by GC/MS

	· · · · · · · · · · · · · · · · · · ·	<u> </u>	Estimated		
	Parameter	Estimated	Reporting	Date	Date
		Concentration	Limit	Extracted	Analyzed
Client ID :       MW-22-3         Lab ID :       BMI11030401-01A         Date Received :       03/04/11         Date Sampled :       03/03/11 08:25	*** None Found ***	ND	2.0 μg/L	03/08/11 13:53	03/08/11 13:53
Client ID :         MW-22-2           Lab ID :         BMI11030401-02A           Date Received :         03/04/11           Date Sampled :         03/03/11 09:09	* * * None Found * * *	ND	2.0 µg/L	03/08/11 14:15	03/08/11 14:15
Client ID :       MW-22-1         Lab ID :       BMI11030401-03A         Date Received :       03/04/11         Date Sampled :       03/03/11 09:39	*** None Found ***	ND	2.0 µg/L	03/08/11 14:36	03/08/11 14:36
Client ID :       EB-08-03/03/11         Lab ID :       BMI11030401-04A         Date Received :       03/04/11         Date Sampled :       03/03/11 09:30	* * * None Found * * *	ND	2.0 µg/L	03/08/11 13:32	03/08/11 13:32
Client ID :       TB-08-03/03/11         Lab ID :       BMI11030401-05A         Date Received :       03/04/11         Date Sampled :       03/03/11 07:00	*** None Found ***	ND	2.0 µg/L	03/08/11 13:10	03/08/11 13:10
Client ID :       MW-11-4         Lab ID :       BMI11030401-06A         Date Received :       03/04/11         Date Sampled :       03/03/11 10:58	Sulfur dioxide	5.7	2.0 µg/L	03/08/11 14:58	03/08/11 14:58
Client ID :       MW-11-3         Lab ID :       BMI11030401-07A         Date Received :       03/04/11         Date Sampled :       03/03/11 11:25	Sulfur dioxide	10	2.0 µg/L	03/08/11 15:19	03/08/11 15:19
Client ID :       MW-11-2         Lab ID :       BMI11030401-08A         Date Received :       03/04/11         Date Sampled :       03/03/11 11:49	Sulfur dioxide	3.0	2.0 µg/L	03/08/11 15:41	03/08/11 15:41
Client ID :       MW-11-1         Lab ID :       BMI11030401-09A         Date Received :       03/04/11         Date Sampled :       03/03/11 12:17	Sulfur dioxide	3.4	2.0 µg/L	03/08/11 16:03	03/08/11 16:03



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

Client ID : **MW-5** Lab ID : BMI11030401-10A \* \* \* None Found \* \* \* Date Received : 03/04/11 Date Sampled : 03/03/11 10:26

ND

03/08/11 16:24 03/08/11 16:24

 $2.0 \ \mu g/L$ 

Note: Analysis conducted using EPA Method 524.2 criteria. ND = Not Detected

Roger Scholl

Kandy Danlmer

Walter Alon

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/16/11

**Report Date** 

Page 1 of 1



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

#### ANALYTICAL REPORT

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-7311
San Diego, CA 92101	Fax:	(614) 458-6641
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030401-01A Client I.D. Number: MW-22-3

Sampled:	03/03/11 08:25
Received:	03/04/11
Extracted:	03/08/11 13:53
Analyzed:	03/08/11 13:53

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chiorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chiorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	113	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Walter Arilm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

Kandy Sandmer

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



**Report Date** 

Page 1 of 1



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	Attn:	Da
655 West Broadway	Phone:	(6)
San Diego, CA 92101	Fax:	(6)
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030401-02A Client I.D. Number: MW-22-2

ttn:	David Conner
hone:	(619) 726-7311
ax:	(614) 458-6641

#### Sampled: 03/03/11 09:09 Received: 03/04/11 Extracted: 03/08/11 14:15 Analyzed: 03/08/11 14:15

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1.1.1.2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1.1-Dichloroethene	ND	0.50	µg/L	42	o-Xvlene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1.1.2.2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	μg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1.3.5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	μg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	112	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	100	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Santur

Dalter Hindman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.



Page 1 of 1



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-7311
San Diego, CA 92101	Fax:	(614) 458-6641
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030401-03A Client I.D. Number: MW-22-1

Sampled:	03/03/11 09:39
Received:	03/04/11
Extracted:	03/08/11 14:36
Analyzed:	03/08/11 14:36

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	0.81	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI		2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	112	(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	1.0	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Saulmer

Walter Acrim

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 

Page 1 of 1



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

#### **ANALYTICAL REPORT**

David Conner

(619) 726-7311

Battel	le Memorial Institute	Attn:
655 W	/est Broadway	Phone:
San D	iego, CA 92101	Fax:
Job:	G005862/JPL Groundwater Monitoring	

Alpha Analytical Number: BMI11030401-04A Client I.D. Number: EB-08-03/03/11

(614) 458-6641				
	Sa	mpl	ed:	0
	-	-,		~

#### Sampled: 03/03/11 09:30 Received: 03/04/11 Extracted: 03/08/11 13:32 Analyzed: 03/08/11 13:32

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	NÐ	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L.	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	107	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Santur

Walter Hiridm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 

Page 1 of 1



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

#### **ANALYTICAL REPORT**

Battelle	Memorial Institute	Attn:	David Conner
655 Wes	st Broadway	Phone:	(619) 726-7311
San Dieg	go, CA 92101	Fax:	(614) 458-6641
Job:	G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030401-05A Client I.D. Number: TB-08-03/03/11

a 1.1	00/00/11 07 00
Sampled:	03/03/11 07:00
Received:	03/04/11
Extracted:	03/08/11 13:10
Analyzed:	03/08/11 13:10

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	μg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14		ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyitoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	99	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	103	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Saulur

Walter Hirihum

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



Page 1 of 1



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

#### **ANALYTICAL REPORT**

Battelle Men	norial Institute	Attn:	David Conner
655 West Br	oadway	Phone:	(619) 726-7311
San Diego, C	CA 92101	Fax:	(614) 458-6641
Job: G00	05862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030401-06A Client I.D. Number: MW-11-4

Sampled:	03/03/11	10:58
Received:	03/04/11	
Extracted:	03/08/11	14:58
Analyzed:	03/08/11	14:58

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1.	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	NÐ	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	μg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xvlene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1.1.2.2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	μg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	μg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1.3.5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butvibenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	μg/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	112	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	102	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L					
33	Dibromochloromethane	ND	0.50	μg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	μg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Santur

Dalter Arihm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



•

Page 1 of 1



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

#### ANALYTICAL REPORT

Battel	le Memorial Institute	A
655 W	/est Broadway	Pł
San D	iego, CA 92101	Fa
Job:	G005862/JPL Groundwater Monitoring	

Alpha Analytical Number: BMI11030401-07A Client I.D. Number: MW-11-3

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

#### Sampled: 03/03/11 11:25 Received: 03/04/11 Extracted: 03/08/11 15:19 Analyzed: 03/08/11 15:19

#### Volatile Organics by GC/MS EPA Method SW8260B

				1 WICHN	JUBN	/0200B			
	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachioroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	104	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	111	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	100	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Saulmer

Walter Hindren

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 

Page 1 of 1



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

#### ANALYTICAL REPORT

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-7311
San Diego, CA 92101	Fax:	(614) 458-6641
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030401-08A Client I.D. Number: MW-11-2

Sampled:	03/03/11	11:49
Received:	03/04/11	
Extracted:	03/08/11	15:41

Analyzed: 03/08/11 15:41

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting			Compound	Concentration	Reporting Li	imit
4	Dichlorodifluoromethane		······································						
1 2	Chloromethane	ND ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND ND	0.50 0.50	µg/L
	Vinyl chloride		1.0	µg/L	37	Chlorobenzene		0.50	µg/L
3	Chloroethane	ND	0.50	µg/L	38	Ethylbenzene	ND		µg/L
4	Bromomethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5		ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1.2.3-Trichlorobenzene	ND	1.0	μg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	105	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	111	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	97	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L	~~			(	
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					
	·····		0.00	P9/C					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Walter Arinhm Kandy Saulmer

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.



**Report Date** 

Page 1 of 1



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

#### ANALYTICAL REPORT

726-7311 458-6641

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-731
San Diego, CA 92101	Fax:	(614) 458-664
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030401-09A Client I.D. Number: MW-11-1

Sampled:	03/03/11	12:17
Received:	03/04/11	
Extracted:	03/08/11	16:03

Analyzed: 03/08/11 16:03

#### Volatile Organics by GC/MS EPA Method SW8260B

			2.31 1		<b>.</b>				
	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting Li	mit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	104	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	112	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	101	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Santmer

Walter Hiridman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.



Page 1 of 1



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

### ANALYTICAL REPORT

Battel	Battelle Memorial Institute							
655 W	est Broadway							
San D	iego, CA 92101							
Job:	G005862/JPL Groundwater Monitoring							

Alpha Analytical Number: BMI11030401-10A Client I.D. Number: MW-5

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

Sampled: 03/03/11 10:26 Received: 03/04/11 Extracted: 03/08/11 16:24 Analyzed: 03/08/11 16:24

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	mit	
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L	
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L	
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L	
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L	
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	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	NÐ	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L	
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L	
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L	
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L	
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L	
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCF	P) ND	2.5	µg/L	
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L	
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L	
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L	
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L	
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	105	(70-130)	%REC	
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	111	(70-130)	%REC	
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	103	(70-130)	%REC	
32	1,3-Dichloropropane	ND	0.50	µg/L						
33	Dibromochloromethane.	ND	0.50	µg/L						
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L						
35	Tetrachloroethene	ND	0.50	µg/L						

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Saulmer

Walter Hiridman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 

Page 1 of 1



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

### **VOC Sample Preservation Report**

#### Work Order: BMI11030401 G005862/JPL Groundwater Monitoring Job: Alpha's Sample ID pН Client's Sample ID Matrix 11030401-01A 2 MW-22-3 Aqueous 11030401-02A 2 MW-22-2 Aqueous 11030401-03A MW-22-1 2 Aqueous 11030401-04A 2 EB-08-03/03/11 Aqueous 2 11030401-05A TB-08-03/03/11 Aqueous 11030401-06A 2 MW-11-4 Aqueous 2 11030401-07A MW-11-3 Aqueous 11030401-08A MW-11-2 Aqueous 2 11030401-09A 2 MW-11-1 Aqueous 11030401-10A 2 MW-5 Aqueous

### 3/16/11 Report Date

Page 1 of 1



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

<b>Date:</b> 15-Mar-11	QC Summary Report								<b>Work Order:</b> 11030401		
Method Blan File ID: 20 Sample ID:	nk MB-26108	Units : <b>mg/L</b>		Ba Run ID: IC	est Code: EF itch ID: 2610 _2_110304A	)8 \		Prep Date	e: (	03/04/2011 11:04 03/04/2011 11:20	0
Analyte	· • · · · · · · · · · · · · · · · · · ·	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RP	DRefVa	al %RPD(Limit)	Qual
Chloride Nitrite (NO2) - Nitrate (NO3) - Phosphate, ort Sulfate (SO4)	· N	ND ND ND ND ND	0.5 0.25 0.25 0.5 0.5								
Laboratory	Fortified Blank		Type: Ll	F <b>B</b> Te	est Code: Ef	PA Met	hod 300.0				
File ID: 33					tch ID: 2610			•		03/04/2011 15:05	
Sample ID:	LFB-26108	Units : mg/L			_2_110304A			Prep Date		03/04/2011 11:20	•
Analyte	······	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)		DRefVa	al %RPD(Limit)	Qual
Chloride Nitrite (NO2) - Nitrate (NO3) - Phosphate, ort Sulfate (SO4)	- N	53.2 5.34 5.34 4.96 109	0.5 0.25 0.25 0.5 0.5	5 5 5		106 107 107 99 109	90 90 90 90 90	110 110 110 110 110 110			
Sample Mat	rix Snike		Type: Li	FM Te	est Code: El	PA Met	hod 300.0				
File ID: 29			.,,		atch ID: 261			Analysis I	Date: (	03/04/2011 13:51	
Sample ID:	11030401-09ALFM	Units : mg/L		Run ID: IC	2_1103044	λ.		Prep Date	e: (	03/04/2011 11:20	
Analyte		Result	PQL				LCL(ME)	UCL(ME) RP	DRefVa	al %RPD(Limit)	Qual
Chloride Nitrite (NO2) - Nitrate (NO3) - Phosphate, ort Sulfate (SO4)	- N	120 10.7 11.5 10.2 233	0.5 0.25 0.25 0.5 0.5	10 10 10	24.46 0 1.008 0 53.73	96 107 105 102 90	80 80 80 80 80	120 120 120 120 120 120			
Sample Mat	rix Spike Duplicate		Type: L	FMD Te	est Code: El	PA Met	hod 300.0				
File ID: 30				Ba	atch ID: 261	08		Analysis I	Date: (	03/04/2011 14:09	
Sample ID:	11030401-09ALFMD	Units : <b>mg/L</b>			_2_1103044			Prep Date		03/04/2011 11:20	
Analyte		Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RP	DRefVa	al %RPD(Limit)	Qual
Chloride Nitrite (NO2) - Nitrate (NO3) - Phosphate, orf Sulfate (SO4)	- N	122 11.1 11.7 10.1 234	0.5 0.25 0.25 0.5 0.5	10 10 10	24.46 0 1.008 0 53.73	97 111 107 101 90	80 80 80 80 80	120 120 120 120 120	120.5 10.74 11.52 10.16 232.8	1.1(15) 3.1(15) 1.4(15) 1.1(15) 0.7(15)	

#### **Comments:**



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

<b>Date:</b> 08-Mar-11		(	QC S	umma	ry Repoi	t				<b>Work Orde</b> 11030401	er:
Method Blan File ID: 25 Sample ID:	nk MB-26115	Units : µg/L	Type I		Test Code: E Batch ID: 261 C_3_110307/	15	hod 314.0	Analys Prep D		03/07/2011 16:47 03/07/2011 10:27	
Analyte	MD-20113	Result	PQL				LCL(ME)			/al %RPD(Limit)	Qual
Perchlorate		ND		1							
Laboratory File ID: 26	Fortified Blank		Туре		Test Code: E Batch ID: 261		thod 314.0	Analys	is Date:	03/07/2011 17:06	
Sample ID: Analyte	LFB-26115	Units : <b>µg/L</b> Result	PQL		IC_3_110307. al_SpkRefVal		LCL(ME)	Prep D UCL(ME)		03/07/2011 10:27 Val %RPD(Limit)	Qual
Perchlorate		26.3		22	5	105	85	115			
Sample Mat File ID: 36	rix Spike		Туре		Test Code: E Batch ID: 261		thod 314.0	Analys	sis Date:	03/07/2011 20:10	
Sample ID: Analyte	11030401-09ALFM	Units : <b>µg/L</b> Result	PQL		IC_3_110307 al SpkRefVal		LCL(ME)	Prep E UCL(ME)		03/07/2011 10:27 Val %RPD(Limit)	Qual
Perchlorate		26.5		2 2	5 0	106	80	120			
Sample Mat	rix Spike Duplicate		Туре		Test Code: E Batch ID: 261		thod 314.0		sis Date:	03/07/2011 20:28	
Sample ID:	11030401-09ALFMD	Units : <b>µg/L</b>			IC_3_110307			Prep D		03/07/2011 10:27 Val %RPD(Limit)	Qual
Analyte Perchlorate		Result 26.8	PQL		5 C		80	120	26.4		

**Comments:** 



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

<b>Date:</b> 10-Mar-11	(	)C S	ummar	y Repor	t				<b>Work Ord</b> 1103040	
Method Blank File ID: 030711.B\086_M.D\		Туре I		est Code: EF atch ID: 261(		hod 200.8	Analys	sis Date:	03/07/2011 21:17	
Sample ID: MB-26109	Units : mg/L		Run ID: IC	P/MS_1103	)7B		Prep [	Date:	03/04/2011 12:38	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef\	Val %RPD(Limit)	Qual
Chromium (Cr)	ND	0.00	5							
Laboratory Control Spike File ID: 030711.B\152_D.D\		Туре I	Ba	est Code: El atch ID: 261	)9	thod 200.8	•		03/08/2011 11:57	
Sample ID: LCS-26109 Analyte	Units : <b>mg/L</b> Result	PQL		P/MS_1103 SpkRefVal		LCL(ME)	Prep [ UCL(ME)		03/04/2011 12:38 Val %RPD(Limit)	Qual
Chromium (Cr)	0.0536	0.00	5 0.05		107	85	115			
Sample Matrix Spike File ID: 030711.B\092_M.D\		Type I		est Code: El atch ID: 261		thod 200.8	Analy	sis Date:	03/07/2011 21:51	
Sample ID: 11030401-09AMS	Units : mg/L		Run ID: IC	P/MS_1103	07B		Prep I	Date:	03/04/2011 12:38	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	0.0474	0.00	5 0.05	0	95	70	130			
Sample Matrix Spike Duplicate		Type I	MSD T	est Code: El	PA Me	thod 200.8				
File ID: 030711.B\093_M.D\			В	atch ID: 261	09		Analy	sis Date:	03/07/2011 21:56	
Sample ID: 11030401-09AMSD	Units : mg/L		Run ID: IC	P/MS_1103	07B		Prep	Date:	03/04/2011 12:38	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	CLCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Chromium (Cr)	0.0482	0.00	5 0.05	0	96	70	130	0.047	44 1.5(20)	

#### Comments:



<b>Date:</b> 09-Mar-11		(	QC S	umm	ary Report				Work Orde 11030401	
Method Bla			Туре М	IBLK	Test Code: EP	A Method	d SW8260B			
File ID: 11030	)807.D				Batch ID: MS1	5W0308N	1 .	Analysis Date:	03/08/2011 10:17	
Sample ID:	MBLK MS15W0308M	Units : µg/L			: MSD_15_1103			Prep Date:	03/08/2011 10:17	
Analyte		Result	PQL	Spk	Val SpkRefVal %	%REC LC	CL(ME) UCL	(ME) RPDRef	Val %RPD(Limit)	Qua
Dichlorodifluor		ND	0.5	5						
Chloromethan	e	ND	1							
Vinyl chloride		ND	0.5							
Chloroethane Bromomethan		ND	0.5							
Trichlorofluoro		ND ND	1 0.5							
1.1-Dichloroet		ND	0.5							
Dichlorometha		ND	1							
Freon-113		ND	0.5	;						
trans-1,2-Dich		ND	0.5	;						
	tyl ether (MTBE)	ND	0.5							
1,1-Dichloroet		ND	0.5							
2-Butanone (M cis-1,2-Dichlor		ND ND	10 0.5							
Bromochlorom		ND	0.0							
Chloroform		ND	0.5							
2,2-Dichloropr		ND	0.5							
1,2-Dichloroet	hane	ND	0.5	i						
1,1,1-Trichloro		ND	0.5							
1,1-Dichloropr		ND	0.5							
Carbon tetrach Benzene	nioriae	ND	0.5							
Dibromometha	ane	ND ND	0.5 0.5							
1,2-Dichloropr		ND	0.5							
Trichloroethen		ND	0.5							
Bromodichloro		ND	0.5							
	ntanone (MIBK)	ND	2.5	i						
cis-1,3-Dichlor		ND	0.5							
trans-1,3-Dich		ND	0.5							
1,1,2-Trichloro Toluene	bemane	ND	0.5							
1,3-Dichloropro	ronane	ND ND	0.5 0.5							
Dibromochloro		ND	0.5							
1,2-Dibromoet		ND	1							
Tetrachloroeth	nene	ND	0.5							
1,1,1,2-Tetracl		ND	0.5	i.						
Chlorobenzen		ND	0.5							
Ethylbenzene		ND	0.5						•	
m,p-Xylene Bromoform		ND ND	0.5 0.5							
Styrene		ND ND	0.5							
o-Xylene		ND	0.5							
1,1,2,2-Tetracl	hloroethane	ND	0.5							
1,2,3-Trichloro	propane	ND	1							
Isopropylbenz		ND	0.5							
Bromobenzen		ND	0.5							
n-Propylbenze 4-Chlorotoluen		ND	0.5							
2-Chlorotoluen		ND ND	0.5 0.5							
1,3,5-Trimethy		ND	0.5							
tert-Butylbenze		ND	0.5							
1,2,4-Trimethy	/lbenzene	ND	0.5							
sec-Butylbenz		ND	0.5							
1,3-Dichlorobe		ND	0.5							
1,4-Dichlorobe		ND	0.5							
4-Isopropyltolu 1,2-Dichlorobe		ND ND	0.5 0.5							
n-Butylbenzen		ND	0.5							
	l-chloropropane (DBCP)	ND	2.5							
1,2,4-Trichloro		ND	2.5							
Naphthalene		ND	1							
Hexachlorobut		ND	1							
1,2,3-Trichloro		ND	1							
Surr: 1,2-Dichl		10.4			10	104 103		30 30		
Surr: Toluene-	10	10.3			10	1112	/m 11	411		



<b>Date:</b> 09-Mar-11	QC	Summary Re	eport			<b>Work Order:</b> 11030401
Surr: 4-Bromofluorobenzene	9.98	10	99.8	70	130	



<b>Date:</b> 09-Mar-11	(	QC S	ummar	y Report			<b>Work Ord</b> 1103040	
Laboratory Control Spike		Type L	.CS T	est Code: EPA Met	hod SW8	260B		
File ID: 11030803.D				atch ID: M\$15W030	08M	•	ate: 03/08/2011 08:42	
Sample ID: LCS MS15W0308M	Units : µg/L			SD_15_110308C		Prep Date:	03/08/2011 08:42	
Analyte	Result	PQL	SpkVal	SpkRefVal %REC	LCL(ME	) UCL(ME) RPDF	RefVal %RPD(Limit)	Qual
Dichlorodifluoromethane	11.1	1		111	70	130		
Chloromethane Vinyl chloride	10.3 11	2		103 110	70 70	130 130		
Chloroethane	11.3	1		110	70	130		
Bromomethane	8.65	2	10	87	70	130		
Trichlorofluoromethane	11.2	1		112	70	130		
1,1-Dichloroethene Dichloromethane	11 9.68	1		110 97	70 70	130 130		
Freon-113	11.4	1		57 114	70	137		
trans-1,2-Dichloroethene	10.7	1		107	70	130		
Methyl tert-butyl ether (MTBE)	9.47	0.5		95	70	130		
1,1-Dichloroethane 2-Butanone (MEK)	10.7 179	1 10		107 90	70 70	130 130		
cis-1,2-Dichloroethene	10.4	1		90 104	70	130		
Bromochloromethane	10.4	1		104	70	130		
Chloroform	10.2	1		102	70	130		
2,2-Dichloropropane 1,2-Dichloroethane	11.1	1		111	70	130		
1,1,1-Trichloroethane	10.4 11.3	1		104 113	70 70	130 130		
1,1-Dichloropropene	11.5	1		115	70	130		
Carbon tetrachloride	10.6	1		106	70	130		
Benzene	10.2	0.5		102	70	130		
Dibromomethane 1,2-Dichloropropane	10.3 10.5	1		103 105	70 70	130 130		
Trichloroethene	11.1	1		103	70	130		
Bromodichloromethane	11.4	1	10	114	70	130		
4-Methyl-2-pentanone (MIBK)	22.8	2.5		91	20	182		
cis-1,3-Dichloropropene trans-1,3-Dichloropropene	10.3 9.4	1		103 94	70 70	130 130		
1,1,2-Trichloroethane	10.2	1		102	70	130		
Toluene	10.5	0.5		105	70	130		
1,3-Dichloropropane	10.2	1		102	70	130		
Dibromochloromethane 1,2-Dibromoethane (EDB)	10.8	1		108	70	130		
Tetrachloroethene	20.8 10.5	2		104 105	70 70	130 130		
1,1,1,2-Tetrachloroethane	11.5	1		115	70	130		
Chlorobenzene	10.7	1		107	70	130		
Ethylbenzene m.p. Yylene	10.8	0.5		108	70 70	130		
m,p-Xylene Bromoform	10.9 10.3	0.5 1		109 103	70 70	130 130		
Styrene	11.1	1		111	70	130		
o-Xylene	11	0.5		110	70	130		
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	10.2 20	1		102	70	130		
Isopropylbenzene	10.8	2		99.8 108	70 70	130 130		
Bromobenzene	10.3	1		103	70	130		
n-Propylbenzene	10.9	1	10	109	70	130		
4-Chlorotoluene 2-Chlorotoluene	11.2	1	10	112	70	130		
1,3,5-Trimethylbenzene	10.7 11	1	10 10	107 110	70 70	130 130		
tert-Butylbenzene	10.7	1	10	107	70	130		
1,2,4-Trimethylbenzene	11.1	1	10	111	70	130		
sec-Butylbenzene	11	1		110	70	130		
1,3-Dichlorobenzene 1,4-Dichlorobenzene	11 10.5	1	10 10	110 105	70 70	130 130		
4-Isopropyltoluene	10.9	1	10	105	70	130		
1,2-Dichlorobenzene	10	1	10	100	70	130		
n-Butylbenzene	11.5	1	10	115	70	130		
1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene	47.5 11.4	3 2		95 114	67 70	130 130		
Naphthalene	9.96	2		114 99.6	70 70	130		
Hexachlorobutadiene	19.9	2		99	70	130		
1,2,3-Trichlorobenzene	12	2	10	120	70	130		
Surr: 1,2-Dichloroethane-d4 Surr: Toluene-d8	10.3 9 79		10	103	70 70	130		
	9.79		10	98	70	130		



<b>Date:</b> 09-Mar-11	QC	Summary Re	port			<b>Work Order:</b> 11030401
Surr: 4-Bromofluorobenzene	9.79	10	98	70	130	



<b>Date:</b> 09-Mar-11	(	QC Su	immary	y Report				<b>Work Ord</b> 1103040	
Sample Matrix Spike		Type M	S Te	est Code: EPA	Met	hod SW82	260B		
File ID: 11030808.D			Ва	atch ID: MS15	W030	M80	Analysis Dat	e: 03/08/2011 10:39	
Sample ID: 11030401-09AMS	Units : µg/L	I	Run ID: MS	SD_15_11030	8C		Prep Date:	03/08/2011 10:39	
Analyte	Result	PQL	SpkVal	SpkRefVal %	REC	LCL(ME)	UCL(ME) RPDR	efVal %RPD(Limit)	Qual
Dichlorodifluoromethane	43.2	2.5	50		86	21	138		
Chloromethane Vinyl chloride	43.9 48.2	10 2.5	50 50		88 96	23 49	144 136		
Chloroethane	48.2	2.5	50 50	-	90 98	49 21	159		
Bromomethane	34.9	10	50		70	10	174		
Trichlorofluoromethane	50	2.5	50	-	100	32	154		
1,1-Dichloroethene	48.8	2.5	50	-	98	64	130		
Dichloromethane Freon-113	44.5 51.6	10 2.5	50 50		89 103	69 55	130 141		
trans-1,2-Dichloroethene	46.9	2.5	50		94	63	130		
Methyl tert-butyl ether (MTBE)	49.4	1.3	50		99	47	150		
1,1-Dichloroethane	48.7	2.5	50	-	97	66	130		
2-Butanone (MEK) cis-1,2-Dichloroethene	776 49.1	50 2.5	1000 50		78 98	23 70	182 130		
Bromochloromethane	49.1	2.5	50		95 95	70	132		
Chloroform	45.6	2.5	50		91	70	130		
2,2-Dichloropropane	50	2.5	50		100	38	154		
1,2-Dichloroethane 1,1,1-Trichloroethane	48.5	2.5	50		97	65 65	134		
1,1,1-1 richloropene	49.8 50.9	2.5 2.5	50 50		100 102	65 68	136 132		
Carbon tetrachloride	45.2	2.5	50	-	90	58	148		
Benzene	45.9	1.3	50	-	92	59	138		
Dibromomethane	49.5	2.5	50		99	70	130		
1,2-Dichloropropane	49.2	2.5	50	-	98	70	131		
Trichloroethene Bromodichloromethane	48.4 49.3	2.5 2.5	50 50	-	97 99	65 50	144 157		
4-Methyl-2-pentanone (MIBK)	110	2.5	125		99 88	20	182		
cis-1,3-Dichloropropene	45.2	2.5	50		90	63	131		
trans-1,3-Dichloropropene	42.3	2.5	50		85	65	136		
1,1,2-Trichloroethane	47.8	2.5	50	-	96	70	131		
Toluene 1,3-Dichloropropane	48.3 51.1	1.3 2.5	50 50	-	97 102	68 70	130 130		
Dibromochloromethane	49.8	2.5	50		99.7	42	155		
1,2-Dibromoethane (EDB)	102	5	100		102	70	130		
Tetrachloroethene	47.7	2.5	50		95	65	130		
1,1,1,2-Tetrachloroethane Chlorobenzene	50.7	2.5	50	-	101	70	130		
Ethylbenzene	48.3 48.2	2.5 1.3	50 50		97 96	70 68	130 130		
m,p-Xylene	48.7	1.3	50		97	68	131		
Bromoform	46.8	2.5	50		94	65	143		
Styrene	50.7	2.5	50		101	59	153		
o-Xylene 1,1,2,2-Tetrachloroethane	49.7 49.8	1.3	50		99	70	130		
1,2,3-Trichloropropane	49.8 97.6	2.5 10	50 100		99.5 98	67 70	130 130		
Isopropylbenzene	48	2.5	50		96	55	138		
Bromobenzene	46.6	2.5	50		93	70	130		
n-Propylbenzene	49.7	2.5	50	=	99	67	133		
4-Chlorotoluene 2-Chlorotoluene	50.4	2.5	50	-	101	70 70	130		
1,3,5-Trimethylbenzene	48.5 49.4	2.5 2.5	50 50		97 99	70 67	130 134		
tert-Butylbenzene	48.1	2.5	50		96	55	147		
1,2,4-Trimethylbenzene	50	2.5	50		9.9	65	135		
sec-Butylbenzene	49.1	2.5	50		98	68	135		
1,3-Dichlorobenzene 1,4-Dichlorobenzene	50 47.9	2.5	50		99.9	70 70	130		
4-Isopropyltoluene	47.9 50.1	2.5 2.5	50 50		96 100	70 68	130 132		
1,2-Dichlorobenzene	47.1	2.5	50		94	70	130		
n-Butylbenzene	52.8	2.5	50	0 1	106	62	134		
1,2-Dibromo-3-chloropropane (DBCP)	233	15	250		93	64	130		
1,2,4-Trichlorobenzene Naphthalene	53.1 47.2	10	50 50		106 94	62 32	133 166		
Hexachlorobutadiene	47.2 91.3	10 10	50 100	-	94 91	32 63	166 130		
1,2,3-Trichlorobenzene	54.8	10	50		110	55	138		
Surr: 1,2-Dichloroethane-d4	50.6		50	1	101	70	130		
Surr: Toluene-d8	50		50	9	9.9	70	130		



<b>Date:</b> 09-Mar-11	QC	Summary Re	port			<b>Work Order:</b> 11030401
Surr: 4-Bromofluorobenzene	48.7	50	97	70	130	



<b>Date:</b> 09-Mar-11	(	QC Su	ımmar	y Repor	t				<b>Work Ord</b> 1103040	
Sample Matrix Spike Duplicate		Type M	SD Te	est Code: EF	PA Met	hod SW82	260B			
File ID: <b>11030809.D</b>				atch ID: MS1		08M	-		03/08/2011 11:01	
Sample ID: 11030401-09AMSD	Units : µg/L			SD_15_1103			Prep		03/08/2011 11:01	<b>.</b> .
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)			al %RPD(Limit)	Qual
Dichlorodifluoromethane	40.3	2.5	50	0	81	21	138	43.24		
Chloromethane Vinyl chloride	41.2 46	10 2.5	50 50	0 0	82 92	23 49	144 136	43.93 48.19	· · ·	
Chloroethane	45.5	2.5	50	0	92 91	21	159	49.13		
Bromomethane	36.4	10	50	Ō	73	10	174	34.87	4.3(40)	
Trichlorofluoromethane	46.1	2.5	50	0	92	32	154	50.02		
1,1-Dichloroethene Dichloromethane	45.2	2.5	50	0	90	64 60	130	48.76		
Freon-113	43 47.6	10 2.5	50 50	0	86 95	69 55	130 141	44.51 51.55		
trans-1,2-Dichloroethene	45.3	2.5	50	Ő	91	63	130	46.91		
Methyl tert-butyl ether (MTBE)	48.8	1.3	50	0	98	47	150	49.39	1.3(40)	
1,1-Dichloroethane	46.4	2.5	50	0	93	66	130	48.72	( )	
2-Butanone (MEK) cis-1,2-Dichloroethene	789 46.4	50 2.5	1000 50	0	79 93	23 70	182 130	775.7 49.06		
Bromochloromethane	46.6	2.5	50 50	0	93 93	70	132	49.00		
Chloroform	43.1	2.5	50	Ő	86	70	130	45.62		
2,2-Dichloropropane	48.9	2.5	50	0	98	38	154	50.01	2.2(22)	
1,2-Dichloroethane	47.4	2.5	50	0	95	65	134	48.54		
1,1,1-Trichloroethane 1,1-Dichloropropene	47 47.1	2.5 2.5	50 50	0	94 94	65 68	136 132	49.75 50.93	· · ·	
Carbon tetrachloride	44.1	2.5 2.5	50 50	0	94 88	58	132	45.17		
Benzene	43.7	1.3	50	Ő	87	59	138	45.86		
Dibromomethane	48.3	2.5	50	0	97	70	130	49.46		
1,2-Dichloropropane	47.7	2.5	50	0	95	70	131	49.18		
Trichloroethene Bromodichloromethane	45.4	2.5	50	0	91	65 50	144	48.35 49.34		
4-Methyl-2-pentanone (MIBK)	49.6 113	2.5 13	50 125	0	99 91	50 20	157 182	49.34	( )	
cis-1,3-Dichloropropene	44.7	2.5	50	0	89	63	131	45.24		
trans-1,3-Dichloropropene	42.4	2.5	50	Ō	85	65	136	42.28		
1,1,2-Trichloroethane	47.5	2.5	50	0	95	70	131	47.76		
Toluene 1,3-Dichloropropane	47.6	1.3	50	0	95	68	130 130	48.32 51.09	( )	
Dibromochloromethane	52 51.1	2.5 2.5	50 50	0	104 102	70 42	155	49.83		
1,2-Dibromoethane (EDB)	105	2.0	100	0	105	70	130	102	3.1(20)	
Tetrachloroethene	46.8	2.5	50	0	94	65	130	47.72	2.0(20)	
1,1,1,2-Tetrachloroethane	50.2	2.5	50	0	100	70	130	50.7	0.9(20)	
Chlorobenzene Ethylbenzene	47.7	2.5 1.3	50	0	95 93	70 68	130 130	48.31 48.19		
m,p-Xylene	46.3 46.4	1.3	50 50	0 0	93 93	68	130	48.65		
Bromoform	47.5	2.5	50	Ő	95	65	143	46.76		
Styrene	49.7	2.5	50	0	99	59	153	50.7	2.1(37)	
o-Xylene	47.6	1.3	50	0	95	70	130	49.74		
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	50.4 97	2.5 10	50 100	0	101 97	67 70	130 130	49.76 97.56		
Isopropylbenzene	46.3	2.5	50	0	97 93	55	130	47.97		
Bromobenzene	46	2.5	50	0	92	70	130	46.64		
n-Propylbenzene	47.8	2.5	50	0	96	67	133	49.69	4.0(30)	
4-Chlorotoluene	49.9	2.5	50	0	99.8	70	130	50.39		
2-Chlorotoluene 1.3.5-Trimethylbenzene	47.4 48.1	2.5 2.5	50 50	0 0	95 96	70 67	130 134	48.51 49.39	2.4(20) 2.7(21)	
tert-Butylbenzene	46.4	2.5	50 50	0	90 93	55	134	49.39		
1,2,4-Trimethylbenzene	48.7	2.5	50	Ő	97	65	135	49.95		
sec-Butylbenzene	47.4	2.5	50	0	95	68	135	49.08	3.5(20)	
1,3-Dichlorobenzene	49.2	2.5	50	0	98	70	130	49.95		
1,4-Dichlorobenzene 4-Isopropyltoluene	47.8	2.5	50	0	96 96	70	130	47.87		
1,2-Dichlorobenzene	48.2 46.9	2.5 2.5	50 50	0 0	96 94	68 70	132 130	50.05 47.1	3.8(20) 0.5(20)	
n-Butylbenzene	52	2.5	50	Ő	104	62	134	52.76		
1,2-Dibromo-3-chloropropane (DBCP)	243	15	250	Ő	97	64	130	233.5	4.1(20)	
1,2,4-Trichlorobenzene	54.8	10	50	0	110	62	133	53.09		
Naphthalene Hexachlorobutadiene	50.2 95.9	10 10	50 100	0	100 96	32 63	166 130	47.21 91.29		
1,2,3-Trichlorobenzene	95.9 56.8	10	50	0	96 114	63 55	130	91.29 54.75		
Surr: 1,2-Dichloroethane-d4	49.8		50	5	99.5	70	130	01.70	0.1 (00)	
Surr: Toluene-d8	50.9		50		102	70	130			



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

<b>Date:</b> 09-Mar-11	QC	Summary Re	port			<b>Work Order:</b> 11030401
Surr: 4-Bromofluorobenzene	48.4	50	97	70	130	

#### **Comments:**

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

Logged in by:	
Impheth Udcox	Signature
Elizabeth	Print Name
Hdcox	
Alpha Analytical, Inc.	Company
3.4.11 1044	Date/Time

				255 Gle	255 Glendale Avenue, Suite 21	nue, Sui		Sparks, Nevada 89431-57	39431-57	78		
7				T	TEL: (775) 355-1044	355-10-		FAX: (775) 355-0406	96		<b>Report Due By</b>	Report Due By: 5:00 PM On: 17-Mar-2011
Client:			Report Attention	tion	Phon	Phone Number	ber	EMail Address	dress			
Battelle Memorial Institute			David Conner		(619)	(619) 726-7311	×	connerd@battelle.org	attelle.or	0rci		
655 West Broadway			Betsy Cutie		(614)	(614) 424-4899	x	cutiee@batelle.org	elle.org		EDD Required : Yes	: Yes
San Diego, CA 92101			Shane Walton	-	(614)	(614) 424-4117	х	waltons@battelle.org	attelle.or	00	Sampled by :	Sampled by : Chase Brogdon, David Loera
PO: 218013		ſ									Cooler Temp	<u>o</u> <u>Samples Received</u> <u>Date Printed</u>
Client's COC #: 33402, 53570	-	Job :	G005862/JPL Groundwater Monitoring	- Grour	ndwater N	lonitori	рŋ				0°C	04-Mar-2011 04-Mar-2011
QC Level : DS4 = DOI	DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates	inal Rp	ot, MBLK, Init	Cal/Co	nCal data	LCS	MS/MSD V	Vith Surrog	jates			
										Request	Requested Tests	
Alpha Client			Collection	No. of	No. of Bottles		300_0_W	314_W	METALS_D		VOC_W	
Sample ID Sample ID	0	Matrix	Date	Alpha	Sub	TAT			٤			Sample Remarks
BMI11030401-01A MW-22-3	Ċ	ð	03/03/11 08:25	5	0	9		Perchlorate	Ω	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11030401-02A MW-22-2	Ż	Ą	03/03/11 09:09	თ	0	9		Perchlorate	ĉ	VOC by 524 VOC by 524 Criteria Criteria	VOC by 524 Criteria	
BMI11030401-03A MW-22-1	<u>ح</u>	Å	03/03/11 09:39	თ	0	Q		Perchlorate	۲	VOC by 524 Criteria	Criteria Criteria	
BMI11030401-04A EB-08-03/03/11	)3/03/11	AQ	03/03/11 09:30	თ	0	9		Perchlorate	۵	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11030401-05A TB-08-03/03/11	)3/03/11	AQ	03/03/11 07:00	_	0	9				VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 12/14/10
BMI11030401-06A MW-11-4	-4	AQ	03/03/11 10:58	4	0	9		Perchlorate		VOC by 524 Criteria	VOC by 524 VOC by 524 Criteria Criteria	·
BMI11030401-07A MW-11-3	ώ	ð	03/03/11 11:25	Сл	0	9		Perchlorate	Ω	VOC by 524 Criteria	VOC by 524 Criteria Criteria	
BMI11030401-08A MW-11-2	Ż	Ş	03/03/11 11:49	თ	0	9		Perchlorate	٩	VOC by 524 Criteria	VOC by 524 Criteria	
BMI11030401-09A MW-11-1	Ļ	Q	03/03/11 12:17	10	0	9	NO2, NO3, SO4, Cl, PO4	Perchlorate	۲	VOC by 524 Criteria	VOC by 524 Criteria	MS/MSD
BM111030401-104 MW-5		ð	03/03/11	7	0	9		Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	

Billing Information :

CHAIN-OF-CUSTODY RECORD

Alpha Analytical, Inc.

Page: 1 of 1

WorkOrder : BMIS11030401

C A

*Key: AQ - Aqueous NOTE: Samples are of the above sample	Relinquished by: (Signature/Affiliation) Relinquished by: (Signature/Affiliation)	I, (Tield sampler), attest to the v grounds for legal action (NAC 2 Relinquished by: (Signature/Athletion			 12173/3/1	1/49		2	1/5/2 2040	0930	9139	-///	Sampled	Time Date s	City State Zip	Consultant / Client Name	Phone Number _	Attn: GCA	Company Name	
eous are dise nples is	Signature/ Signature/	), attest al action Signature/			AQ	4	- <u>A</u> Q	• 	AQ	<b>-</b>			Below	Matrix* P: See Kev	3 6	LE			nation	
SO - Soil carded 60 days aft applicable only to	Affiliation) Affiliation)	r, (field sampler), artiest to the variative and addression of this sampler, grounds for legal action (NAC 445.0636 (c) (2)) Sampled By:		TDUCTIONS		C			>				Lab ID Number	P.O.#2180/3	ICA 92110	DAVID CON	_ +	ALD TOMPKINS	the l	
WA - Waste er results are re those samples	Aph	Authenticity of		-	· 01	ý Ø			-105/7	1					C-205	Conner "		105 105 105 105 105 105 105 105 105 105		
*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 <b>NOTE:</b> 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.	Malsterd				Mw-11-1	MW-11-2	MW-11-3	11	13-08-03/	40-80-33	MW-22-1	MW-22-2	2	54-419 XAT	CONN	198500 # gor				
AR - Air arrangements a aratory with this	Received by: (	Received by:							03 / 11	103 [1]			Sample Description	8	D CONNEN	Bonort Attention		Fa Sp		
**: L-Liter V-Voa are made. Hazardous sa coc. The liability of the	Received by: (Signature/Affiliation) Received by: (Signature/Affiliation)	THE and the function of the second of the se											TAT	Mobile: 6/9 - 7	CONNEM	Job Name		Sparks, Nevada 89431-5778 Phone (775) 355-1044 Fax (775) 355-0406	Alpha Analytical, Inc. 255 Glendale Avenue, Suite 21	
L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Bras ade. Hazardous samples will be returned to client or disposed of at clien The liability of the laboratory is limited to the amount paid for the report.	A				6v 4p	3v2p	5v 1p 3v 2p		[ <	3v 2p	4	d7 10	Filtered # Containers**	26 - 73/1		J. Mon. 15		-5778	I, Inc. Suite 21	
O- returned mited to	Jox -				×	×		<	x	X	۴	X>		10				5	Sam AZ	
O-Orbo ned to clien to the amc	6	Alp			 X X	× ×	X V			X	X	$\times$	(Z	TRI	20	( <u>z</u> ) 4			iples (	۱.
T-Tedlar t or disposed ¢ ount paid for th	toha	h. Angres			×		× >				×		VIO X	2 4 Sac 14	3/203	0	Analyses		CA K	' <b>i</b>
B-Brass of at client expe le report.	Date: Date:	Dates/3/															Analyses Required		hic	, 1 1
P-Plastic Inse. The r					MS				trip	Eaulp			$\uparrow$	Global ID #				3	h State? WA	1
ic OT-Other e report for the ana	Time: 1044 Time:		the second max be		MSD				BLUNHA	のあると			REMARKS		EDD EDF? YES NO-	Level: Wor IV	Data Validation	Page # _/ of _/	_ DOD_Site	33402
alysis			δ																	. ~



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

Date: 16-Mar-11

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

Suite 1420

### **CASE NARRATIVE**

Job: G005862/JPL Groundwater Monitoring

Drder: BMI11030801		Cooler Temp: 0 °C
Alpha's Sample ID	Client's Sample ID	Matrix
11030801-01A	MW-23-4	Aqueous
11030801-02A	MW-23-3	Aqueous
11030801-03A	MW-23-2	Aqueous
11030801-04A	MW-23-1	Aqueous
11030801-05A	EB-09-03/04/11	Aqueous
11030801-06A	TB-09-03/04/11	Aqueous
11030801-07A	DUPE-05-1Q11	Aqueous
11030801-08A	MW-12-5	Aqueous
11030801-09A	MW-12-4	Aqueous
11030801-10A	MW-12-3	Aqueous
11030801-11A	MW-12-2	Aqueous
11030801-12A	MW-12-1	Aqueous
11030801-13A	DUPE-06-1Q11	Aqueous
11030801-14A	EB-10-03/07/11	Aqueous
11030801-15A	TB-10-03/07/11	Aqueous
	Manually Integrated A	nalytes
Ipha's Sample ID	Test Reference	Analyte
Alpha's Sample ID	<u>Test Reference</u>	Analyte
NONE		

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

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

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

Walter Hiridm Roger Scholl Kandy Sandmer

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 
 Attn:
 David Conner

 Phone:
 (619) 726-7311

 Fax:
 (614) 458-6641

 Date Received : 03/08/11

### Job: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography EPA Method 314.0									
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed				
Client ID: MW-23-3 Lab ID : BMI11030801-02A Date Sampled 03/04/11 08:39	Perchlorate	1.18	1.00 µg/L	03/08/11 15:58	03/08/11 18:04				
Client ID: <b>MW-23-2</b> Lab ID : BMI11030801-03A Date Sampled 03/04/11 09:05	Perchlorate	3.42	1.00 µg/L	03/08/11 15:58	03/08/11 18:22				
Client ID: <b>MW-23-1</b> Lab ID : BMI11030801-04A Date Sampled 03/04/11 09:38	Perchlorate	302	10.0 µg/L	03/08/11 15:58	03/09/11 13:48				
Client ID: <b>EB-09-03/04/11</b> Lab ID : BMI11030801-05A Date Sampled 03/04/11 09:26	Perchlorate	ND	1.00 μg/L	03/08/11 15:58	03/08/11 18:59				
Client ID: MW-12-5 Lab ID : BMI11030801-08A Date Sampled 03/07/11 08:42	Perchlorate	2.29	1.00 µg/L	03/08/11 15:58	03/08/11 19:17				
Client ID: MW-12-4 Lab ID : BMI11030801-09A Date Sampled 03/07/11 09:14	Perchlorate	3.53	1.00 µg/L	03/08/11 15:58	03/08/11 19:36				
Client ID: MW-12-3 Lab ID : BMI11030801-10A Date Sampled 03/07/11 09:49	Perchlorate	4.85	1.00 µg/L	03/08/11 15:58	03/08/11 19:54				
Client ID: <b>MW-12-2</b> Lab ID : <b>BMI11030801-11A</b> Date Sampled 03/07/11 10:17	Perchlorate	5.71	1.00 μg/L	03/08/11 15:58	03/08/11 20:49				
Client ID: MW-12-1 Lab ID : BMI11030801-12A Date Sampled 03/07/11 10:42	Perchlorate	ND	1.00 µg/L	03/08/11 15:58	03/08/11 21:08				
Client ID: <b>DUPE-06-1Q11</b> Lab ID : BMI11030801-13A Date Sampled 03/07/11 00:00	Perchlorate	3.36	1.00 µg/L	03/08/11 15:58	03/08/11 21:26				
Client ID: <b>EB-10-03/07/11</b> Lab ID : BMI11030801-14A Date Sampled 03/07/11 10:31	Perchlorate	ND	1.00 µg/L	03/08/11 15:58	03/08/11 22:21				



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

ND = Not Detected

Roger Scholl

Dalter Hindman

Rogen Scholl Kandy Saulaen Dalter Arichner Roger L. Scholl, Ph. D., Laboratory Director · · Randy Gardner, Laboratory Manager · · Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

3/18/1

**Report Date** 



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 
 Attn:
 David Conner

 Phone:
 (619) 726-7311

 Fax:
 (614) 458-6641

 Date Received : 03/08/11

### Job: G005862/JPL Groundwater Monitoring

Metals by ICPMS EPA Method 200.8									
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed				
Client ID: <b>MW-23-4</b> Lab ID : BMI11030801-01A Date Sampled 03/04/11 08:13	Chromium (Cr)	ND	0.0050 mg/L	03/09/11 13:35	03/09/11 16:34				
Client ID: MW-23-3 Lab ID : BMI11030801-02A Date Sampled 03/04/11 08:39	Chromium (Cr)	ND	0.0050 mg/L	03/09/11 13:35	03/09/11 16:40				
Client ID: MW-23-2 Lab ID : BM111030801-03A Date Sampled 03/04/11 09:05	Chromium (Cr)	ND	0.0050 mg/L	03/09/11 13:35	03/09/11 16:11				
Client ID: <b>MW-23-1</b> Lab ID : BMI11030801-04A Date Sampled 03/04/11 09:38	Chromium (Cr)	0.0072	0.0050 mg/L	03/09/11 13:35	03/09/11 17:12				
Client ID: EB-09-03/04/11 Lab ID : BMI11030801-05A Date Sampled 03/04/11 09:26	Chromium (Cr)	ND	0.0050 mg/L	03/09/11 13:35	03/09/11 17:18				
Client ID: DUPE-05-1Q11 Lab ID : BMI11030801-07A Date Sampled 03/04/11 00:00	Chromium (Cr)	ND	0.0050 mg/L	03/09/11 13:35	03/09/11 17:23				
Client ID: <b>MW-12-3</b> Lab ID : <b>B</b> MI11030801-10A Date Sampled 03/07/11 09:49	Chromium (Cr)	ND	0.0050 mg/L	03/09/11 13:35	03/09/11 17:29				
Client ID: <b>MW-12-2</b> Lab ID : BMI11030801-11A Date Sampled 03/07/11 10:17	Chromium (Cr)	ND	0.0050 mg/L	03/09/11 13:35	03/09/11 17:35				
Client ID: MW-12-1 Lab ID : BMI11030801-12A Date Sampled 03/07/11 10:42	Chromium (Cr)	ND	0.0050 mg/L	03/09/11 13:35	03/09/11 17:40				
Client ID: EB-10-03/07/11 Lab ID : BMI11030801-14A Date Sampled 03/07/11 10:31	Chromium (Cr)	ND	0.0050 mg/L	03/09/11 13:35	03/09/11 17:46				



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

ND = Not Detected

Roger Scholl Kandy Saulman

Dalter Hirihm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise. Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.

3/18/11 Report Date



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Job: G005862/JPL Groundwater Monitoring Attn: David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

Tentatively Identified Compounds - Volatile Organics by GC/MS

			Estimated		
	Parameter	Estimated	Reporting	Date	Date
		Concentration	Limit	Extracted	Analyzed
Client ID :       MW-23-3         Lab ID :       BMI11030801-02A         Date Received :       03/08/11         Date Sampled :       03/04/11 08:39	* * * None Found * * *	ND	2.0 µg/L	03/09/11 13:44	03/09/11 13:44
Client ID :       MW-23-2         Lab ID :       BMI11030801-03A         Date Received :       03/08/11         Date Sampled :       03/04/11 09:05	* * * None Found * * *	ND	2.0 µg/L	03/09/11 14:06	03/09/11 14:06
Client ID :       MW-23-1         Lab ID :       BMI11030801-04A         Date Received :       03/08/11         Date Sampled :       03/04/11 09:38	* * * None Found * * *	ND	2.0 μg/L	03/09/11 14:27	03/09/11 14:27
Client ID :       EB-09-03/04/11         Lab ID :       BMI11030801-05A         Date Received :       03/08/11         Date Sampled :       03/04/11 09:26	* * * None Found * * *	ND	2.0 µg/L	03/09/11 12:39	03/09/11 12:39
Client ID :       TB-09-03/04/11         Lab ID :       BMI11030801-06A         Date Received :       03/08/11         Date Sampled :       03/04/11 07:00	* * * None Found * * *	ND	2.0 µg/L	03/09/11 12:17	03/09/11 12:17
Client ID :       MW-12-5         Lab ID :       BMI11030801-08A         Date Received :       03/08/11         Date Sampled :       03/07/11 08:42	* * * None Found * * *	ND	2.0 µg/L	03/09/11 14:48	03/09/11 14:48
Client ID :       MW-12-4         Lab ID :       BMI11030801-09A         Date Received :       03/08/11         Date Sampled :       03/07/11 09:14	Sulfur dioxide	4.5	2.0 μg/L	03/09/11 15:09	03/09/11 15:09
Client ID :       MW-12-3         Lab ID :       BMI11030801-10A         Date Received :       03/08/11         Date Sampled :       03/07/11 09:49	Sulfur dioxide	5.4	2.0 µg/L	03/09/11 15:31	03/09/11 15:31
Client ID :       MW-12-2         Lab ID :       BMI11030801-11A         Date Received :       03/08/11         Date Sampled :       03/07/11 10:17	* * * None Found * * *	ND	2.0 μg/L	03/09/11 15:53	03/09/11 15:53

### G005862/JPL Groundwater Monitoring



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

Client ID :       MW-12-1         Lab ID :       BMI11030801-12A         Date Received :       03/08/11         Date Sampled :       03/07/11 10:42	* * * None Found * * *	ND	2.0 μg/L	03/09/11 16:14 03/09/11 16:14
Client ID :       DUPE-06-1Q11         Lab ID :       BMI11030801-13A         Date Received :       03/08/11         Date Sampled :       03/07/11 00:00	Sulfur dioxide	4.3	2.0 μg/L	03/09/11 16:36 03/09/11 16:36
Client ID :       EB-10-03/07/11         Lab ID :       BMI11030801-14A         Date Received :       03/08/11         Date Sampled :       03/07/11 10:31	* * * None Found * * *	ND	2.0 μg/L	03/09/11 13:21 03/09/11 13:21
Client ID :       TB-10-03/07/11         Lab ID :       BMI11030801-15A         Date Received :       03/08/11         Date Sampled :       03/04/11 07:00	* * * None Found * * *	ND	2.0 μg/L	03/09/11 13:00 03/09/11 13:00

Note: Analysis conducted using EPA Method 524.2 criteria. This replaces the report signed 3/18/11. Sample -15A has been reported. ND = Not Detected

Roger Scholl Kandy Santur

Walter Hinthen

4/19/11

Report Date

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise. Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.



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	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-7311
San Diego, CA 92101	Fax:	(614) 458-6641
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030801-02A Client I.D. Number: MW-23-3

## 458-6641

### Sampled: 03/04/11 08:39 Received: 03/08/11 Extracted: 03/09/11 13:44 Analyzed: 03/09/11 13:44

### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinył 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	.,	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		ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	100	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	113	(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		ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Sandner

Walter Almihum

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 

Page 1 of 1



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

### ANALYTICAL REPORT

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-731
San Diego, CA 92101	Fax:	(614) 458-664
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030801-03A Client I.D. Number: MW-23-2

726-7311 458-6641

### Sampled: 03/04/11 09:05 Received: 03/08/11 Extracted: 03/09/11 14:06 Analyzed: 03/09/11 14:06

### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	l imit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50				ND	0.50	
2	Chloromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	37	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	38	5	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L ∪a/l	39 40	m,p-Xylene Bromoform	ND	0.50	µg/L µg/L
6	Trichlorofluoromethane	ND	0.50	μg/L μg/L		Styrene	ND	0.50	µg/L
7	1.1-Dichloroethene	ND	0.50	µg/L µg/L	41 42	o-Xvlene	ND	0.50	µg/L µg/L
8	Dichloromethane	ND	1.0	µg/L µg/L	42	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L µg/L	43 44	1,2,3-Trichloropropane	ND	1.0	µg/∟ 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	40	Bromobenzene	ND	0.50	μg/L
12		ND	0.50	μg/L	40	n-Propylbenzene	ND	0.50	µg/L
13	,	ND	0.30 10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14		ND	0.50	µg/∟ µg/L	40	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/∟ µg/L	49 50	1,3,5-Trimethylbenzene	ND	0.50	μg/L
16	Chloroform	0.56	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		ND	0.50	µg/L	52	sec-Butylbenzene	ND	0.50	µg/L
19	1.1.1-Trichloroethane	ND	0.50	µg/∟ µg/L	53 54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/∟ µg/L	55	1.4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachioride	ND	0.50	µg/∟ µg/L	56	4-isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1.2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI		2.5	µg/L
25	Trichloroethene	1.5	0.50	µg/L	60	1.2.4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	μg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1.2.3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1.2-Dichloroethane-d4	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	112	(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	00	Same Bromondorobonizono		(	
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	0.63	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Santur

Dalter Acrilm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-731
San Diego, CA 92101	Fax:	(614) 458-664
Job: G005862/JPL Groundwater Monitoring		. ,

Alpha Analytical Number: BMI11030801-04A Client I.D. Number: MW-23-1

26-7311 58-6641

### Sampled: 03/04/11 09:38 Received: 03/08/11 Extracted: 03/09/11 14:27 Analyzed: 03/09/11 14:27

### Volatile Organics by GC/MS EPA Method SW8260B

			211	1 1010011	<b>Ju D</b> I	02000			
	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachioroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	1.3	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	0.87	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	106	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	113	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	100	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

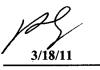
Roger Scholl

Kandy Dandmer

Dalter Almihron

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 

Page 1 of 1



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

### **ANALYTICAL REPORT**

David Conner

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-7311
San Diego, CA 92101	Fax:	(614) 458-6641
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030801-05A Client I.D. Number: EB-09-03/04/11

### Sampled: 03/04/11 09:26 Received: 03/08/11

### Extracted: 03/09/11 12:39 Analyzed: 03/09/11 12:39

### Volatile Organics by GC/MS EPA Method SW8260B

Compound		Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	μg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xviene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	μg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	μg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L.	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	μg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	. 1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	99	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	103	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	101	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Saulmer

Walter Arro

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-7311
San Diego, CA 92101	Fax:	(614) 458-6641
Job: G005862/JPL Groundwater Monitoring		. ,

Alpha Analytical Number: BMI11030801-06A Client I.D. Number: TB-09-03/04/11 Sampled: 03/04/11 07:00 Received: 03/08/11

Extracted: 03/09/11 12:17 Analyzed: 03/09/11 12:17

### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	orting Limit Compound		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	μg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND ·	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	99	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	ug/L	65	Surr: Toluene-d8	104	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	98	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Soulmer

Dalter Arridmon

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



Report Date

Page 1 of 1



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

### ANALYTICAL REPORT

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-7311
San Diego, CA 92101	Fax:	(614) 458-6641
Job: G005862/JPL Groundwater Monitoring		<b>`</b> ,

Alpha Analytical Number: BMI11030801-08A Client I.D. Number: MW-12-5 4) 458-6641 Sampled: 03/07/11 08:42

### Received: 03/08/11 Extracted: 03/09/11 14:48 Analyzed: 03/09/11 14:48

### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	μg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14		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	0.56	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichioroethane-d4	106	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	112	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	98	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Sandmer

Dalter Horidmon

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 



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

### ANALYTICAL REPORT

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-7311
San Diego, CA 92101	Fax:	(614) 458-6641
Job: G005862/JPL Groundwater Monitoring		. ,

Alpha Analytical Number: BMI11030801-09A Client I.D. Number: MW-12-4

(614) 458-6641

### Sampled: 03/07/11 09:14 Received: 03/08/11 Extracted: 03/09/11 15:09 Analyzed: 03/09/11 15:09

### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	μg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13		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		ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16		0.65	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	1.0	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	······································	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	106	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	113	(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		ND	0.50	µg/L					
34	·,= = ·································	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Sandner

Dalter Arihm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-731
San Diego, CA 92101	Fax:	(614) 458-664
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030801-10A Client I.D. Number: MW-12-3

458-6641

726-7311

### Sampled: 03/07/11 09:49 Received: 03/08/11 Extracted: 03/09/11 15:31 Analyzed: 03/09/11 15:31

### Volatile Organics by GC/MS EPA Method SW8260B

	ET A WORKED SWEETOD								
	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	0.54	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	0.79	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	105	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	114	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Santur

Walter Acrihm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-7311
San Diego, CA 92101	Fax:	(614) 458-6641
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030801-11A Client I.D. Number: MW-12-2

## 614) 458-6641

### Sampled: 03/07/11 10:17 Received: 03/08/11 Extracted: 03/09/11 15:53 Analyzed: 03/09/11 15:53

### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	106	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	112	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Daulmer

Dalter Aridmon

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute	Attn:	Dav
655 West Broadway	Phone:	(619
San Diego, CA 92101	Fax:	(614
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030801-12A Client I.D. Number: MW-12-1

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

### Sampled: 03/07/11 10:42 Received: 03/08/11 Extracted: 03/09/11 16:14 Analyzed: 03/09/11 16:14

### Volatile Organics by GC/MS EPA Method SW8260B

and an ended	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	μg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	104	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	110	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Sandmer

Dalter Acrilmon

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 

Page 1 of 1



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

### ANALYTICAL REPORT

Battel	le Memorial Institute	Attn:
655 W	est Broadway	Phon
San D	iego, CA 92101	Fax:
Job:	G005862/JPL Groundwater Monitoring	

Alpha Analytical Number: BMI11030801-13A Client I.D. Number: DUPE-06-1Q11

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

### Sampled: 03/07/11 00:00 Received: 03/08/11 Extracted: 03/09/11 16:36 Analyzed: 03/09/11 16:36

### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	0.66	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	., ,	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	1.0	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	104	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	111	(70-130)	%REC
31	Toluene	ND	0.50	μg/L	66	Surr: 4-Bromofluorobenzene	101	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	μg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	μg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Saulmer

Walter Acrim

3/18/11

Report Date

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



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	Attn:	David
655 We	st Broadway	Phone:	(619)
San Die	go, CA 92101	Fax:	(614)
Job:	G005862/JPL Groundwater Monitoring		. /

Alpha Analytical Number: BMI11030801-14A Client I.D. Number: EB-10-03/07/11

### Conner 726-7311

458-6641

### Sampled: 03/07/11 10:31 Received: 03/08/11 Extracted: 03/09/11 13:21 Analyzed: 03/09/11 13:21

### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	μg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	μg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13		ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	100	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	103	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	95	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	. 1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Danlmer

Dalter Arilm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 



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

### ANALYTICAL REPORT

Battell	e Memorial Institute	A
655 W	est Broadway	Pł
San Di	ego, CA 92101	Fa
Job:	G005862/JPL Groundwater Monitoring	

Alpha Analytical Number: BMI11030801-15A Client I.D. Number: TB-10-03/07/11

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

### Sampled: 03/04/11 07:00 Received: 03/08/11 Extracted: 03/09/11 13:00 Analyzed: 03/09/11 13:00

### Volatile Organics by GC/MS EPA Method SW8260B

				I WICHN		02000			
	Compound	Concentration	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	μg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	μg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	μg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14		ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	100	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	101	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl

Kandy Dantmer

Dalter Aridmon

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 

Page 1 of 1



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

### **VOC Sample Preservation Report**

### Work Order: BMI11030801

### Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH	
11030801-02A	MW-23-3	Aqueous	2	
11030801-03A	MW-23-2	Aqueous	2	
11030801-04A	MW-23-1	Aqueous	2	
11030801-05A	EB-09-03/04/11	Aqueous	2	
11030801-06A	TB-09-03/04/11	Aqueous	2	
11030801-08A	MW-12-5	Aqueous	2	
11030801-09A	MW-12-4	Aqueous	2	
11030801-10A	MW-12-3	Aqueous	2	
11030801-11A	MW-12-2	Aqueous	2	
11030801-12A	MW-12-1	Aqueous	2	
11030801-13A	DUPE-06-1Q11	Aqueous	2	
11030801-14A	EB-10-03/07/11	Aqueous	2	
11030801-15A	TB-10-03/07/11	Aqueous	2	



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

<b>Date:</b> 10-Mar-11		<b>Work Order:</b> 11030801										
Method Blan File ID: 14	ık		Туре	MBLK		st Code: EF		hod 314.0	Analy	sis Date:	03/08/2011 17:09	
Sample ID:	MB-26132	Units : µg/L			_	3_110308A			Prep		03/08/2011 15:58	
Analyte		Result	PQL	Sp	kVal S	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		ND		1								
Laboratory I File ID: 15	Fortified Blank		Туре	LFB		st Code: EF		hod 314.0	Analy	sis Date:	03/08/2011 17:27	
Sample ID:	LFB-26132	Units : µg/L		Run	ID: IC_	3_110308A			Prep	Date:	03/08/2011 15:58	
Analyte		Result	PQL	Sp	kVal 3	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		25.5		2	25		102	85	115			
Sample Matu File ID: 24	rix Spike		Туре	LFM		st Code: <b>El</b> tch ID: <b>261</b> :		thod 314.0	Analy	sis Date:	03/08/2011 20:13	
Sample ID:	11030801-10ALFM	Units : µg/L		Run	ID: <b>IC</b>	3_110308A	ι		Prep	Date:	03/08/2011 15:58	
Analyte		Result	PQL	Sp	kVal 🤅	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		31.4		2	25	4.846	106	80	120			
Sample Mat	rix Spike Duplicate		Туре	LFMD	Te	st Code: El	PA Met	thod 314.0				
File ID: 25	• •				Bat	tch ID: 261	32		Analy	sis Date:	03/08/2011 20:31	
Sample ID:	11030801-10ALFMD	Units : µg/L		Run	ID: IC_	3_110308A	ι		Prep	Date:	03/08/2011 15:58	
Analyte		Result	PQL					LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qual
Perchlorate		31.8		2	25	4.846	108	80	120	31.3	9 1.3(15)	

### Comments:

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



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

<b>Date:</b> 15-Mar-11	QC Summary Report									er:
Method Blank File ID: 030911.B\050_M.D\		Type I		Test Code: EPA Meth Batch ID: 26136		hod 200.8	Analy	sis Date:	03/09/2011 15:43	
Sample ID: MB-26136	Units : mg/L		Run ID: IC	P/MS_11030	9C		Prep I	Date:	03/09/2011 13:35	
Analyte	Result	PQL	SpkVal	SpkRefVal 9	%REC	LCL(ME)	UCL(ME)	RPDRef\	Val %RPD(Limit)	Qual
Chromium (Cr)	ND	0.00	5							
Laboratory Control Spike File ID: 030911.B\051_M.D\		Type I		est Code: EP atch ID: 2613		hod 200.8	Analy	sis Date:	03/09/2011 15:48	
Sample ID: LCS-26136	Units : mg/L		Run ID: IC	P/MS_11030	90		Prep	Date:	03/09/2011 13:35	
Analyte	Result	PQL				LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua
Chromium (Cr)	0.0446	0.00	5 0.05		89	85	115			
Sample Matrix Spike File ID: 030911.B\056_M.D\		Туре І		est Code: EP atch ID: 2613		hod 200.8		sis Date:	03/09/2011 16:16	
Sample ID: 11030801-03AMS	Units : mg/L		Run ID: IC	P/MS_11030	9C		Prep	Date:	03/09/2011 13:35	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua
Chromium (Cr)	0.051	0.00	5 0.05	0	102	70	130			
Sample Matrix Spike Duplicate		Type I		est Code: EP atch ID: 2613		hod 200.8		cia Doto:	03/09/2011 16:22	
File ID: 030911.B\057_M.D\	1 Instan				-					
Sample ID: 11030801-03AMSD	Units : mg/L			P/MS_11030					03/09/2011 13:35	0
Analyte	Result	PQL	-	SpkRetVal					Val %RPD(Limit)	Qua
Chromium (Cr)	0.0509	0.00	5 0.05	0	102	70	130	0.050	95 0.2(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.



<b>Date:</b> 16-Mar-11	(	QC Summ	ary Report			<b>Work Ord</b> 11030801	
Method Blank		Type MBLK	Test Code: EPA Me	thod SW8260	)B		_
File ID: <b>11030906.D</b>			Batch ID: MS15W03	09M	Analysis Date:	03/09/2011 10:51	
Sample ID: MBLK MS15W0309M	Units : µg/L	Run II	): MSD_15_110309A		Prep Date:	03/09/2011 10:51	
Analyte	Result	PQL Spk	Val SpkRefVal %REC	CLCL(ME) U	CL(ME) RPDRef	/al %RPD(Limit)	Qua
Dichlorodifluoromethane	ND	0.5					
Chloromethane	ND	1					
Vinyl chloride Chloroethane	ND ND	0.5 0.5					
Bromomethane	ND	0.5					
Trichlorofluoromethane	ND	0.5					
1,1-Dichloroethene Dichloromethane	ND	0.5					
Freon-113	ND ND	1 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) cis-1,2-Dichloroethene	ND ND	10 0.5					
Bromochloromethane	ND	0.5					
Chloroform	ND	0.5					
2,2-Dichloropropane	ND	0.5					
1,2-Dichloroethane 1,1,1-Trichloroethane	ND ND	0.5					
1,1-Dichloropropene	ND	0.5 0.5					
Carbon tetrachloride	ND	0.5					
Benzene	ND	0.5					
Dibromomethane 1,2-Dichloropropane	ND ND	0.5					
Trichloroethene	ND	0.5 0.5					
Bromodichloromethane	ND	0.5					
4-Methyl-2-pentanone (MIBK)	ND	2.5					
cis-1,3-Dichloropropene trans-1,3-Dichloropropene	ND	0.5					
1,1,2-Trichloroethane	ND ND	0.5 0.5					
Toluene	ND	0.5					
1,3-Dichloropropane	ND	0.5					
Dibromochloromethane 1,2-Dibromoethane (EDB)	ND	0.5					
Tetrachloroethene	ND ND	1 0.5					
1,1,1,2-Tetrachloroethane	ND	0.5					
Chlorobenzene	ND	0.5					
Ethylbenzene m,p-Xylene	ND	0.5					
Bromoform	ND ND	0.5 0.5					
Styrene	ND	0.5					
o-Xylene	ND	0.5					
1,1,2,2-Tetrachloroethane	ND	0.5					
1,2,3-Trichloropropane Isopropylbenzene	ND ND	1 0.5					
Bromobenzene	ND	0.5					
n-Propylbenzene	ND	0.5					
4-Chlorotoluene	ND	0.5					
2-Chlorotoluene 1,3,5-Trimethylbenzene	ND ND	0.5 0.5					
tert-Butylbenzene	ND	0.5 0.5					
1,2,4-Trimethylbenzene	ND	0.5					
sec-Butylbenzene	ND	0.5					
1,3-Dichlorobenzene 1,4-Dichlorobenzene	ND ND	0.5 0.5					
4-Isopropyltoluene	ND	0.5					
1,2-Dichlorobenzene	ND	0.5					
n-Butylbenzene	ND	0.5					
1,2-Dibromo-3-chloropropane (DBCP) 1,2,4-Trichlorobenzene	ND ND	2.5 1					
Naphthalene	ND	1					
Hexachlorobutadiene	ND	1					
1,2,3-Trichlorobenzene	ND	1					
Surr: 1,2-Dichloroethane-d4 Surr: Toluene-d8	9.55		10 96	70 70	130		
Sun. I Uluene-uo	10.6		10 106	70	130		



<b>Date:</b> 16-Mar-11	QC	Summary Re	<b>Work Order:</b> 11030801			
Surr: 4-Bromofluorobenzene	9.77	10	98	70	130	



<b>Date:</b> 16-Mar-11	QC Summary Report								
Laboratory Control Spike File ID: 11030903.D		Type LCS       Test Code: EPA Method SW8260B         Batch ID: MS15W0309M       Analysis Date:							
Sample ID: LCS MS15W0309M	Units : µg/L			SD_15_110309A		Prep Date:	03/09/2011 09:38		
Analyte	Result	PQL	SpkVal	SpkRefVal %REC	LCL(ME)	UCL(ME) RPDR	efVal %RPD(Limit)	Qua	
Dichlorodifluoromethane	10.5	1	10	105	70	130			
Chloromethane	10.6	2	10	106	70	130			
Vinyl chloride	10.6	1		106	70	130			
Chloroethane Bromomethane	10.7	1		107	70	130			
Trichlorofluoromethane	7.36	2		74	70	130			
1.1-Dichloroethene	11 10.6	1		110 106	70 70	130 130			
Dichloromethane	9.49	2		95	70	130			
Freon-113	11	1		110	70	137			
trans-1,2-Dichloroethene	10.4	1		104	70	130			
Methyl tert-butyl ether (MTBE)	8.86	0.5	10	89	70	130			
1,1-Dichloroethane	10.4	1		104	70	130			
2-Butanone (MEK)	172	10		86	70	130			
cis-1,2-Dichloroethene	10.2	1		102	70	130			
Bromochloromethane	9.72	1	10	97	70	130			
Chloroform 2,2-Dichloropropane	9.71	1	10	97	70 70	130			
1,2-Dichloroethane	10.4 9.46	1	10 10	104 95	70 70	130 130			
1,1,1-Trichloroethane	9.46 10.6	1		95 106	70	130			
1,1-Dichloropropene	10.0	1		100	70	130			
Carbon tetrachloride	9.93	1		99	70	130			
Benzene	9.99	0.5		99.9	70	130			
Dibromomethane	9.75	1		98	70	130			
1,2-Dichloropropane	10.4	1		104	70	130			
Trichloroethene	10.6	1		106	70	130			
Bromodichloromethane	10.6	1	-	106	70	130			
4-Methyl-2-pentanone (MIBK) cis-1,3-Dichloropropene	21.3	2.5		85	20	182			
trans-1,3-Dichloropropene	9.89 8.72	1		99 87	70 70	130			
1,1,2-Trichloroethane	9.71	1		97	70 70	130 130			
Toluene	10.7	0.5		107	70	130			
1,3-Dichloropropane	10.1	1		101	70	130			
Dibromochloromethane	10.3	1		103	70	130			
1,2-Dibromoethane (EDB)	20.6	2		103	70	130			
Tetrachloroethene	10.5	1	10	105	70	130			
1,1,1,2-Tetrachloroethane	11	1	• +	110	70	130			
Chlorobenzene	10.6	1		106	70	130			
Ethylbenzene m.p-Xylene	10.6	0.5		106	70	130			
Bromoform	10.9 9.81	0.5		109 98	70	130 130			
Styrene	11.1	1 1		90 111	70 70	130			
o-Xylene	11	0.5		110	70	130			
1,1,2,2-Tetrachloroethane	9.5	1		95	70	130			
1,2,3-Trichloropropane	18.5	2		92	70	130			
Isopropylbenzene	11.2	1		112	70	130			
Bromobenzene	10.6	1	10	106	70	130			
n-Propylbenzene	11.3	1	10	113	70	130			
4-Chlorotoluene	11.6	. 1	10	116	70	130			
2-Chlorotoluene	11.2	1	10	112	70	130			
1,3,5-Trimethylbenzene tert-Butylbenzene	11.4 10. <del>9</del>	1	10	114	70 70	130			
1,2,4-Trimethylbenzene	10.9	1	10 10	109 112	70 70	130 130			
sec-Butylbenzene	11.2	1	10	112	70	130			
1,3-Dichlorobenzene	11.2	1	10	112	70	130			
1,4-Dichlorobenzene	10.6	1	10	106	70	130			
4-Isopropyltoluene	11.2	1	10	112	70	130			
1,2-Dichlorobenzene	10.2	1	10	102	70	130			
n-Butylbenzene	11.8	1	10	118	70	130			
1,2-Dibromo-3-chloropropane (DBCP)	43.4	3		87	67	130			
1,2,4-Trichlorobenzene Naphthalene	10.8	2		108	70 70	130			
Hexachlorobutadiene	9.03 18.9	2		90	70 70	130 130			
1,2,3-Trichlorobenzene	10.4	2 2		94 104	70 70	130			
Surr: 1,2-Dichloroethane-d4	9.5	2	10	95	70	130			
Surr: Toluene-d8	10.1		10	101	70	130			



<b>Date:</b> 16-Mar-11	QC	Summary Re	eport			Work Order: 11030801
Surr: 4-Bromofluorobenzene	10.2	10	102	70	130	



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

<b>Date:</b> <u>16-Mar-11</u>	(	QC Si	immary	y Repor	t			Work Ord 1103080	
Sample Matrix Spike		Туре М	S Te	est Code: El	PA Met	hod SW82	:60B		
File ID: 11030907.D			Ва	tch ID: MS1	15W030	09M	Analysis Date	e: 03/09/2011 11:12	
Sample ID: 11030801-10AMS	Units : µg/L		Run ID: MS	SD_15_1103	309A		Prep Date:	03/09/2011 11:12	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) RPDR	efVal %RPD(Limit)	Qual
Dichlorodifluoromethane	38.8	2.5	50	0	78	21	138		
Chloromethane	44.3	10	50	0	89	23	144		
Vinyl chloride	45.3	2.5	50	0	91	49	136		
Chloroethane Bromomethane	44.9 30.1	2.5 10	50 50	0	90 60	21 10	159 174		
Trichlorofluoromethane	44.9	2.5	50 50	0	90	32	154		
1,1-Dichloroethene	45	2.5	50	õ	90	64	130		
Dichloromethane	42.3	10	50	0	85	69	130		
Freon-113 trans-1,2-Dichloroethene	46.9	2.5	50	0	94	55	141		
Methyl tert-butyl ether (MTBE)	44.4 45.7	2.5 1.3	50 50	0 0	89 91	63 47	130 150		
1.1-Dichloroethane	43.7	2.5	50	0	92	66	130		
2-Butanone (MEK)	720	50	1000	ŏ	72	23	182		
cis-1,2-Dichloroethene	46.2	2.5	50	Ő	92	70	130		
Bromochloromethane	45.9	2.5	50	0	92	70	132		
Chloroform 2,2-Dichloropropane	42.5	2.5	50	0.54	84	70	130		
1,2-Dichloroethane	45.7 44.8	2.5 2.5	50 50	0 0	91 90	38 65	154 134		
1,1,1-Trichloroethane	44.6	2.5	50 50	0	90 89	65	134		
1,1-Dichloropropene	46.8	2.5	50	Õ	94	68	132		
Carbon tetrachloride	42.7	2.5	50	0.79	84	58	148		
Benzene	43.1	1.3	50	0	86	59	138		
Dibromomethane 1,2-Dichloropropane	46.3 45.9	2.5 2.5	50 50	0	93 92	70 70	130 131		
Trichloroethene	45.9 44.7	2.5	50 50	0	92 89	70 65	144		
Bromodichloromethane	45.3	2.5	50	ŏ	91	50	157		
4-Methyl-2-pentanone (MIBK)	105	13	125	Ō	84	20	182		
cis-1,3-Dichloropropene	42.3	2.5	50	0	85	63	131		
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	38.4	2.5	50	0	77	65	136		
Toluene	45 47	2.5 1.3	50 50	0 0	90 94	70 68	131 130		
1,3-Dichloropropane	48.8	2.5	50 50	0	98	70	130		
Dibromochloromethane	46.5	2.5	50	Ō	93	42	155		
1,2-Dibromoethane (EDB)	97.3	5	100	0	97	70	130		
Tetrachloroethene	46.2	2.5	50	0	92	65	130		
1,1,1,2-Tetrachloroethane Chlorobenzene	47.1 45.1	2.5 2.5	50 50	0	94 90	70 70	130 130		
Ethylbenzene	45	1.3	50 50	0	90	68	130		
m,p-Xylene	45.4	1.3	50	Ō	91	68	131		
Bromoform	43.4	2.5	50	0	87	65	143		
Styrene	46.2	2.5	50	0	92	59	153		
o-Xylene 1,1,2,2-Tetrachloroethane	45.3 45.6	1.3	50	0	91 91	70 67	130 130		
1,2,3-Trichloropropane	45.6 85.9	2.5 10	50 100	0	86	70	130		
Isopropylbenzene	44.8	2.5	50	0	90	55	138		
Bromobenzene	43.4	2.5	50	0	87	70	130		
n-Propylbenzene	45.9	2.5	50	0	92	67	133		
4-Chlorotoluene 2-Chlorotoluene	46.9 44.7	2.5	50 50	0	94 89	70 70	130 130		
1,3,5-Trimethylbenzene	44.7 45.6	2.5 2.5	50 50	0	89 91	70 67	130		
tert-Butylbenzene	44.3	2.5	50 50	0	89	55	147		
1,2,4-Trimethylbenzene	46.1	2.5	50	0	92	65	135		
sec-Butylbenzene	45.7	2.5	50	0	91	68	135		
1,3-Dichlorobenzene 1,4-Dichlorobenzene	46.1 44	2.5 2.5	50 50	0 0	92 88	70 70	130 130		
4-Isopropyltoluene	44 46.1	2.5 2.5	50 50	0	88 92	70 68	130		
1,2-Dichlorobenzene	43.1	2.5	50	· 0	86	70	130		
n-Butylbenzene	49.2	2.5	50	õ	98	62	134		
1,2-Dibromo-3-chloropropane (DBCP)	207	15	250	0	83	64	130		
1,2,4-Trichlorobenzene	49.2	10	50	0	98	62	133		
Naphthalene Hexachlorobutadiene	44.3 84.8	10 10	50 100	0 0	89 85	32 63	166 130		
1,2,3-Trichlorobenzene	64.6 49.9	10	50	0	ор 99.8	55	138		
Surr: 1,2-Dichloroethane-d4	49.9		50	5	99.9	70	130		
Surr: Toluene-d8	51.2		50		102	70	130		



<b>Date:</b> 16-Mar-11	QC	Summary Re	port			<b>Work Order:</b> 11030801
Surr: 4-Bromofluorobenzene	47.7	50	95	70	130	



<b>Date:</b> 16-Mar-11	(	QC S	ummar	y Repor	t				Work Orde 11030801	
Sample Matrix Spike Duplicate		Туре М	ISD Te	est Code: EF	A Met	thod SW82	260B			
File ID: <b>11030908.D</b>			Ba	atch ID: MS1	5W03	09M	Analysi	is Date:	03/09/2011 11:34	
Sample ID: 11030801-10AMSD	Units : µg/L			SD_15_1103			Prep D		03/09/2011 11:34	
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME) F	RPDRefV	al %RPD(Limit)	Qual
Dichlorodifluoromethane	40.4	2.5		0	81	21	138	38.75		
Chloromethane Vinyl chloride	45 48.2	10		0	90	23	144	44.29	• •	
Chloroethane	40.2 49.1	2.5 2.5		0	96 98	49 21	136 159	45.32 44.93	• •	
Bromomethane	34.9	10		Ő	70	10	174	30.05		
Trichlorofluoromethane	47.7	2.5		0	95	32	154	44.93	5.9(37)	
1,1-Dichloroethene Dichloromethane	47	2.5		0	94	64	130	45.04		
Freon-113	45.2 49.3	10 2.5		0	90 99	69 55	130 141	42.32 46.89	• •	
trans-1,2-Dichloroethene	47	2.5		0	94	63	130	44.43		
Methyl tert-butyl ether (MTBE)	49.4	1.3		0	99	47	150	45.7	7.8(40)	
1,1-Dichloroethane	48.5	2.5		0	97	66	130	45.95	5.5(20)	
2-Butanone (MEK) cis-1,2-Dichloroethene	789 49.3	50		0	79 00	23	182	719.5		
Bromochloromethane	49.3 49.1	2.5 2.5		0	99 98	70 70	130 132	46.2 45.9	6.5(20) 6.7(20)	
Chloroform	45	2.5		0.54	89	70	130	42.48	5.7(20)	
2,2-Dichloropropane	50	2.5	50	0	100	38	154	45.67	9.1(22)	
1,2-Dichloroethane	46.8	2.5		0	94	65	134	44.83		
1,1,1-Trichloroethane 1,1-Dichloropropene	47.7 49.5	2.5 2.5		0	95 99	65 68	136 132	44.62 46.82	6.6(20)	
Carbon tetrachloride	49.5 46.4	2.5		0.79	99 91	68 58	132	40.82	5.5(20) 8.2(20)	
Benzene	45.8	1.3		0.75	92	59	138	43.1	6.0(21)	
Dibromomethane	49	2.5		0	98	70	130	46.26	5.7(20)	
1,2-Dichloropropane	49.5	2.5		0	99	70	131	45.94	7.5(20)	
Trichloroethene Bromodichloromethane	47.9	2.5		0	96	65	144	44.74	6.7(20)	
4-Methyl-2-pentanone (MIBK)	49.7 113	2.5 13		0 0	99 90	50 20	157 182	45.34 104.9	9.1(20) 7.3(20)	
cis-1,3-Dichloropropene	46	2.5		0	92	63	131	42.26	8.4(20)	
trans-1,3-Dichloropropene	41.6	2.5		Õ	83	65	136	38.39	8.1(20)	
1,1,2-Trichloroethane	47.2	2.5		0	94	70	131	44.96	5.0(20)	
Toluene 1,3-Dichloropropane	49.4	1.3		0	99	68	130	46.99	5.1(20)	
Dibromochloromethane	52.6 50.9	2.5 2.5		0 0	105 102	70 42	130 155	48.78 46.54	7.6(20) 9.0(20)	
1,2-Dibromoethane (EDB)	105	2.0		0	102	70	130	97.28	7.7(20)	
Tetrachloroethene	48	2.5		0	96	65	130	46.15	3.8(20)	
1,1,1,2-Tetrachloroethane	50.6	2.5		0	101	70	130	47.14	7.1(20)	
Chlorobenzene Ethylbenzene	48.1 47.7	2.5 1.3		0	96 95	70 68	130	45.12	6.4(20) 5.7(20)	
m,p-Xylene	47.7	1.3		0	95 97	68	130 131	45 45.43	5.7(20) 6.4(20)	
Bromoform	47.4	2.5		Ő	95	65	143	43.36	9.0(20)	
Styrene	49.8	2.5		0	99.7	59	153	46.19	7.6(37)	
o-Xylene	49.3	1.3		0	99	70	130	45.29	8.4(20)	
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	48.8 95.6	2.5 10		0	98 96	67 70	130 130	45.55 85.87	6.9(20)	
Isopropylbenzene	46.2	2.5		0	90 92	70 55	130	44.75	10.7(20) 3.2(20)	
Bromobenzene	45.5	2.5		õ	91	70	130	43.41	4.8(20)	
n-Propylbenzene	47.4	2.5		0	95	67	133	45.87	3.3(30)	
4-Chlorotoluene 2-Chlorotoluene	49.1	2.5		0	98	70	130	46.93	4.5(20)	
1,3,5-Trimethylbenzene	46.5 47.5	2.5 2.5		0 0	93 95	70 67	130 134	44.71 45.58	4.0(20) 4.1(21)	
tert-Butylbenzene	46.3	2.5		0	93	55	134	44.33	4.4(20)	
1,2,4-Trimethylbenzene	48	2.5		Õ	96	65	135	46.09	4.0(25)	
sec-Butylbenzene	47.7	2.5		0	95	68	135	45.69	4.4(20)	
1,3-Dichlorobenzene 1,4-Dichlorobenzene	48.1	2.5		0	96	70	130	46.13	4.2(20)	
4-isopropyltoluene .	46.5 48.1	2.5 2.5		0 0	93 96	70 68	130 132	44.01 46.05	5.6(20)	
1,2-Dichlorobenzene	45.7	2.5		0	90 91	70	132	48.05	4.4(20) 5.8(20)	
n-Butylbenzene	51.8	2.5		Ő	104	62	134	49.22	5.1(21)	
1,2-Dibromo-3-chloropropane (DBCP)	227	15	250	0	91	64	130	207.4	9.0(20)	
1,2,4-Trichlorobenzene	53.8	10	50	0	108	62	133	49.2	8.8(29)	
Naphthalene Hexachlorobutadiene	48.4 95.1	10	50 100	0	97 95	32	166	44.34	8.8(40)	
1,2,3-Trichlorobenzene	95.1 54	10 10	100 50	0	95 108	63 55	130 138	84.79 49.91	11.5(21) 7.9(36)	
Surr: 1,2-Dichloroethane-d4	49.4		50	Ŭ	99	70	130			
Surr: Toluene-d8	51.9		50		104	70	130			



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

<b>Date:</b> 16-Mar-11	QC	Summary Re	port			<b>Work Order:</b> 11030801
Surr: 4-Bromofluorobenzene	47.6	50	95	70	130	

### **Comments:**

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

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

Logged in by:	
Cenpabeth address	Signature
Elizabuth Adcox	Print Name
Alpha Analytical, Inc.	Company
3.8.11 1030	Date/Time

Client:	Re	Report Attention	9	Phone	Phone Number	¥	EMail Address	ddress				
Battelle Memorial Institute	ם	David Conner		(619) 7	(619) 726-7311	x	connerd@	connerd@battelle.org				
655 West Broadway	æ	Betsy Cutie		(614) 4	(614) 424-4899	×	cutice@batelle.org	utelle.org		EDD Required : Yes		
San Diego, CA 92101	SI	Shane Walton		(614) 4	(614) 424-4117	x	waltons@	waltons@battelle.org		Sampled by : Chase Brogdon	se Brogdon	
PO: 218013										Cooler Temp	Samples Received	Date Printed
Client's COC #: 33401, 33400	Job : GC	G005862/JPL Groundwater Monitoring	Ground	vater Mc	onitoring					0°C	08-Mar-2011	08-Mar-2011
QC Level : DS4 = DOD QC Requ	DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates	MBLK, InitC	ConC	àl data,	LCS, M	S/MSD W	/ith Surro	gates				
								dar an	<b>Requested Tests</b>	Tests		
Alpha Client	ç	Collection I	No. of Bottles	ottles		314_W M	IETALS_D	METALS_D VOC_TIC_	VOC_W			
Sample ID Sample ID	Matrix Date		Alpha 1	Sub T	TAT		٤	٤			Sampl	Sample Remarks
BMI11030801-01A MW-23-4	AQ 0	03/04/11 08:13	<b>د</b>	0	9		ç					
BMI11030801-02A MW-23-3	AQ	03/04/11 08:39	G	0	9 P	Perchlorate	ç	VOC by 524 Criteria	VOC by 524 Criteria			
BMI11030801-03A MW-23-2	AQ 0	03/04/11 09:05	5	0	9 P	Perchlorate	Ç	VOC by 524 Criteria	VOC by 524 Criteria		Lev	Level IV QC
BMI11030801-04A MW-23-1	AQ 0	03/04/11 09:38	σ	0	۹ ۹	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria	·		
BMI11030801-05A EB-09-03/04/11	AQ 0	03/04/11 09:26	51	0	ч 6	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria			
BMI11030801-06A TB-09-03/04/11	AQ 0	03/04/11 07:00	<b>د</b>	0	9			VOC by 524 Criteria	VOC by 524 Criteria		Reno Trip	Reno Trip Blank 12/14/10
BMI11030801-07A DUPE-05-1Q11	AQ 0	03/04/11 00:00	<b>د</b>	0	9		Ç					
BMI11030801-08A MW-12-5	AQ 0	03/07/11 08:42	4	0	9 P	Perchlorate		VOC by 524 Criteria	VOC by 524 Criteria			
BMI11030801-09A MW-12-4	AQ 0	03/07/11 09:14	4	0	9 P	Perchlorate		VOC by 524 Criteria	VOC by 524 Criteria			
BMI11030801-10A MW-12-3	AQ 0	03/07/11 09:49	10	0	ч 9 Р	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria			MS/MSD
Comments: <u>Security seals intact</u> . Frozen ice.		Temp Blank #8746 received @, 0°C.	146 receiv	/ed @, 0°		IV OC. S	amples sh	ould be use	ed as the cont	Level IV OC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). :	: <u>MS/MSD).</u> :	

Page: 1 of 2

Billing Information :

CHAIN-OF-CUSTODY RECORD

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

Report Due By: 5:00 PM On: 21-Mar-2011

WorkOrder: BMIS11030801

CA

Alpha Analytical, Inc.

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

Logged in by:		
XAC A CAR		Signature
21/april	) "H-1-1]	Print Name
- Xann)_	1	
	Alnha Analytical. Inc.	Company
	2.0.1 1727	Date/Time

**Comments:** Security seals intact. Frozen ice. Temp Blank #8746 received @ 0°C. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). :

Client's COC #: 33401, 33400	3401, 33400	: dof	Job : G005862/JPL Groundwater Monitoring	L Grour	Idwater	Monitori	ng					00 1100 10	TTA7-1214-00
QC Level: DS4	= DOD QC Required : Final Rpt, MBLK, InitCal/ConCal data, LCS, MS/MSD With Surrogates	: Final R	pt, MBLK, In	itCal/Co	nCal dat	ta, LCS,	MS/MSD	With Suri	ogates				
										<b>Requested Tests</b>	sts		
Alpha Sample ID	Client Sample ID	Matr	Collection Matrix Date	No. of Bottle Alpha Sub	6	TAT	314_W	METALS_E	METALS_D VOC_TIC_	voc_w		S	Sample Remarks
BMI11030801-11A MW-12-2	MW-12-2	AQ	03/07/11 10:17	თ	0	9	Perchlorate	ç	VOC by 524 Criteria	VOC by 524 Criteria			
BMI11030801-12A MW-12-1	MW-12-1	AQ	03/07/11 10:42	сл	0	9	Perchlorate	Ŷ	VOC by 524 Criteria	VOC by 524 Criteria			
BMI11030801-13A DUPE-06-1Q11	DUPE-06-1Q11	A	03/07/11 00:00	4	0	Q	Perchlorate		VOC by 524 Criteria	VOC by 524 Criteria			
BMI11030801-14A	EB-10-03/07/11	AQ	03/07/11 10:31	თ	0	9	Perchlorate	Cr	VOC by 524 Criteria	VOC by 524 Criteria			
BMI11030801-15A TB-10-03/07/11	TB-10-03/07/11	AQ	03/04/11 07:00		0	9			VOC by 524 Criteria	VOC by 524 Criteria		Reno	Reno Trip Blank 12/14/10

Battelle Memorial Institute Report Attention Betsy Cutie David Conner CHAIN-OF-CUSTODY RECORD 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778 TEL: (775) 355-1044 FAX: (775) 355-0406 Alpha Analytical, Inc. Phone Number (619) 726-7311 x (614) 424-4899 x cutice@batelle.org connerd@battelle.org EMail Address Report Due By : 5:00 PM On : 21-Mar-2011 WorkOrder : BMIS11030801 EDD Required : Yes Sampled by : Chase Brogdon  $\supset$ 

Billing Information :

Р0 .:

218013

San Diego, CA 92101

Shane Walton

(614) 424-4117 x

waltons@battelle.org

Cooler Temp

Samples Received 08-Mar-2011

08-Mar-2011 Date Printed

၀ိုင်

655 West Broadway

Suite 1420

Client

Page: 2 of 2

			33401
		Alpha Analytical, Inc.     Samples collected From which state?       255 Glendale Avenue Suite 21     AZ CA NV WA	NV WA DOD Site
March 27 M	S Sparks	-5778 ID OR	OTHER Page # / of /
Address SOS KING PUZ		Fax (775) 355-0406	
Phone Number Fax		/ Analyse	Analyses Required
nt Name	Jun Job # Goos862	N 10 (N // C/ Way in the state	Data Validation
12 Marsh			
City, State, Zip	CONNEL DO	Lo. only	(EDD) EDF? YESX NO
Matrix* P.O. # 2/2	1329-555-419	Mobile: 6/12-726-73/1 / N R H	Giobal ID#
Lab ID Number	(Use Only) Sample Description	TAT Filered # Containers** J Y A C	REMARKS
0813 July AGBMIIID308	0-01 mw-23-4		
	·02 Mw - 23 - 3	$3\sqrt{2p} \times X \times X$	
0905	·03 MW - 23 - 2	SV 2P X X X	SC LEVEL IV
8560	·04 MW-23-1	3v 2p X X X	
CI V . A 4 9260	11/ 40/ 50 - 00-23 QU	3,2p X X X	EQLIP. ISLANK
man & most of 1/4/6 acto	11/ 40/20- 60-ELIDO.		TTZIP BLANK
++ 3/4/1 AQ	· 5] Dupe -05 - 10/1		DUPLICATE
ADDITIONAL INSTRUCTIONS:			
I, (field sampler), attest to the validity and authenticity of this sample. I app-ware grounds for legal action (NAC 4450626 (c) (2)). Sampled By:	(2)). Sampled By: (2)). Sampled By:	that tampering with or intentionally mistabeling the sample location, date or time of collection is considered fraud and may be	of collection is considered fraud and may be
Relinquished by: (Signature/Attifiation)	Trus/bay Beceived by: Laidentechtman	Alph Arvin	Date 3/07/11 Time:
Relinquished by: (Signature) Attiliation	hhs Acitical Received by: (Signature/Affiliation)	ature/Affiliation)	Date: Time: 7.8 · 11 /0.30
Relinquished by: (Signature/Affiliation)	gna	ature/Affiliation)	Tin
*Key: AQ - Aqueous SO - Soil W NOTE: Samples are discarded 60 days after re	WA - Waste OT - Other AR - Air **: results are reported unless other arrangements are m	*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	B-Brass P-Plastic OT-Other of at client expense. The report for the analysis
of the aldesi anning is anning to the solution to the	earning is analyzed with the second solution is a second by the laboratory with this second	The liability of the laboratory is limited to the amount paid for the	F

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.

nation:	Alpha Analytical, Inc. Samples Collected From Which State?	rom Which State?
R	75) 355-0406 75) 355-1044	l g
City, State, Zip         City and a city         City and city         City and a city         City and ci	Analyses	Analyses Required
Consultant / Client Name Job # Job # Crop 5862	Spl and Man. 18/1/ (N) 8	Data Validation
TO as tour and crus name		
19 92110 Email Conthent C.	atteres and May May	(EDF? YES X NO
Matrix <sup>*</sup> PO. # See Kev P. 218013 Extreme 6/9 - 458 - 669/	Mobile: 6/9- +26- 73/1 X & X	Global ID #
	TAT Fild # Containers** 7 4 K V /	PEMARKS
08/12/11 10 .08 MW-12-5		
69/4 1 0 0 0 MW -12-9	3, 1, × ×	
0949 10 mm - 12 - 3	Bu 4p X X X	MS/MSD
2-21-mm 11.		
1092 12 NW-12-1	JUZP XXX	
+- 13 Jupe 06 - 1211	3v) x X	Duplicate
103/ 4 4 - 4 68-10 - 03/04/11	July X X X	EQUID 8LANK
11/ \$0/ 80- 01 21- 3- 21 AA 1/ \$ 000		TRIP BLANK
err Øb		
ADDITIONAL INSTRUCTIONS:		
I, (field sampler), attest to the validity and authenticity of this sample. I appeare that tampering with or intertionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action (NAC) 45.0636 (c)(2)). Sampled By:	with or intertionally mislabeling the sample location, date or time o	of collection is considered fraud and may be
Relinquished by: (Signature/Infliation)	5 Mah. Ac set red	Date: 3/07/11 Time: 1/30
Relinquished by: (Signature/Affiliation) Received by: (Signature/Affiliation)	A al a la l	Date: Time:
Relinquished by: (Signature/Affiliation) Received by: (Signature/Affiliation)	- Contraction	
*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	**: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar e made. Hazardous samples will be returned to client or disposed or	B-Brass P-Plastic OT-Other 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.



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

### Date: 16-Mar-2011

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

Suite 1420

### **CASE NARRATIVE**

ob:	G005862/JPL Grou	ndwater Monitoring		
Vork Order:	BMI11030901		Cooler Temp:	0 °C
Alpha's	Sample ID	Client's Sample ID	Matrix	
11030	0901-01A	MW-19-5	Aqueous	
11030	)901-02A	MW-19-4	Aqueous	
11030	0901-03A	MW-19-3	Aqueous	
11030	0901-04A	MW-19-2	Aqueous	
11030	0901-05A	MW-19-1	Aqueous	
11030	0901-06A	EB-11-03/08/11	Aqueous	
11030	0901-07A	TB-11-03/08/11	Aqueous	
	···· · · · · · · · · · · · · · · · · ·	Manually Integrated	Analytes	
Alpha's Sa	mple ID	Test Reference		Analyte

NONE

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

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

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

Dalter Hinkow Roger Scholl Kandy Sandmer

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.



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

### ANALYTICAL REPORT

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Attn:David ConnerPhone:(619) 726-7311Fax:(614) 458-6641Date Received : 03/09/11

### Job: G005862/JPL Groundwater Monitoring

		Perchlorate by Ion Chromatography EPA Method 314.0			
	Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID: <b>MW-19-5</b> Lab ID : BMI11030901-01A Date Sampled 03/08/11 08:45	Perchlorate	2.87	1.00 μg/L	03/09/11 11:01	03/09/11 14:06
Client ID: <b>MW-19-4</b> Lab ID : BMI11030901-02A Date Sampled 03/08/11 09:12	Perchlorate	3.16	1.00 μg/L	03/09/11 11:01	03/09/11 14:24
Client ID: <b>MW-19-3</b> Lab ID : BMI11030901-03A Date Sampled 03/08/11 09:38	Perchlorate	3.91	1.00 μg/L	03/09/11 11:01	03/09/11 15:20
Client ID: MW-19-2 Lab ID : BMI11030901-04A Date Sampled 03/08/11 09:51	Perchlorate	5.96	1.00 μg/L	03/09/11 11:01	03/09/11 15:38
Client ID: <b>MW-19-1</b> Lab ID : BMI11030901-05A Date Sampled 03/08/11 10:15	Perchlorate	7.40	1.00 μg/L	03/09/11 11:01	03/09/11 15:57
Client ID: <b>EB-11-03/08/11</b> Lab ID : BMI11030901-06A Date Sampled 03/08/11 10:07	Perchlorate	ND	1.00 μg/L	03/09/11 11:01	03/09/11 16:15

ND = Not Detected

Roger Scholl

Kandy Sandmer

lter Ain

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/21/11

**Report Date** 



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

### **ANALYTICAL REPORT**

Battelle Memorial Institute 655 West Broadway San Diego, CA 92101 Job: G005862/JPL Groundwater Monitoring Attn: David Conner Phone: (619) 726-7311 Fax: (614) 458-6641

Tentatively Identified Compounds - Volatile Organics by GC/MS

			Estimated		
	Parameter	Estimated	Reporting	Date	Date
		Concentration	Limit	Extracted	Analyzed
Client ID :       MW-19-5         Lab ID :       BMII1030901-01A         Date Received :       03/09/11         Date Sampled :       03/08/11 08:45	* * * None Found * * *	ND	2.0 µg/L	03/10/11 14:29	03/10/11 14:29
Client ID :       MW-19-4         Lab ID :       BMI11030901-02A         Date Received :       03/09/11         Date Sampled :       03/08/11 09:12	* * * None Found * * *	ND	2.0 μg/L	03/10/11 14:51	03/10/11 14:51
Client ID :       MW-19-3         Lab ID :       BMI11030901-03A         Date Received :       03/09/11         Date Sampled :       03/08/11 09:38	* * * None Found * * *	ND	2.0 μg/L	03/10/11 15:12	03/10/11 15:12
Client ID :       MW-19-2         Lab ID :       BMII1030901-04A         Date Received :       03/09/11         Date Sampled :       03/08/11 09:51	* * * None Found * * *	ND	2.0 µg/L	03/10/11 15:34	03/10/11 15:34
Client ID :       MW-19-1         Lab ID :       BMI11030901-05A         Date Received :       03/09/11         Date Sampled :       03/08/11	*** None Found ***	ND	2.0 µg/L	03/10/11 15:56	03/10/11 15:56
Client ID :       EB-11-03/08/11         Lab ID :       BMI11030901-06A         Date Received :       03/09/11         Date Sampled :       03/08/11 10:07	*** None Found ***	ND	2.0 µg/L	03/10/11 14:08	03/10/11 14:08
Client ID :       TB-11-03/08/11         Lab ID :       BMI11030901-07A         Date Received :       03/09/11         Date Sampled :       03/08/11 07:00	*** None Found ***	ND	2.0 µg/L	03/10/11 13:46	03/10/11 13:46



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

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Walter Aridman Roger Scholl Kandy Soular

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/21/1

**Report Date** 



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

### ANALYTICAL REPORT

Battelle	Memorial Institute
655 We	st Broadway
San Die	go, CA 92101
Job:	G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI11030901-01A Client I.D. Number: MW-19-5

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

### Sampled: 03/08/11 08:45 Received: 03/09/11 Extracted: 03/10/11 14:29 Analyzed: 03/10/11 14:29

### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	mpound 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/I
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	μg/l
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/l
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/i
3	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
3	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/l
3	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/i
5	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	μg/
6	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/l
8	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/l
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	μg/l
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/l
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyitoluene	ND	0.50	µg/l
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/l
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	μg/l
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/l
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	μg/l
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/l
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	μg/l
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/l
9	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	103	(70-130)	%RE
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	113	(70-130)	%RE
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	%RE
32	1,3-Dichloropropane	ND		0.50	µg/L			·		
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	1.1		0.50	µg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Iter Amelin Kandy Daulner

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/21/11

Report Date



## Alpha Analytical, Inc.

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

### ANALYTICAL REPORT

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

Alpha Analytical Number: BMI11030901-02A Client I.D. Number: MW-19-4

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

### Sampled: 03/08/11 09:12 Received: 03/09/11 Extracted: 03/10/11 14:51 Analyzed: 03/10/11 14:51

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration		Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	μg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	μg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	μg/L
23	Dibromomethane	ND		0.50	μg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	μg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	μg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	μg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	111	(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					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Kandy Saulmer

Walter Al

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/21/11

**Report Date** 

Page 1 of 1



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

### ANALYTICAL REPORT

Battelle	Memorial Institute	Attr		
655 We	st Broadway	Pho		
San Diego, CA 92101				
Job:	G005862/JPL Groundwater Monitoring			

Alpha Analytical Number: BMI11030901-03A Client I.D. Number: MW-19-3

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

### Sampled: 03/08/11 09:38 Received: 03/09/11 Extracted: 03/10/11 15:12 Analyzed: 03/10/11 15:12

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Compound Concentration		entration Reporting Limit			Compound	Concentration	Reporting L	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	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L	
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L	
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L	
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	μg/L	
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L	
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L	
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L	
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L	
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L	
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L	
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L	
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L	
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L	
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L	
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L	
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L	
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L	
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L	
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L	
24	1,2-Dichloropropane	NÐ		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L	
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L	
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L	
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L	
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	μg/L	
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	104	(70-130)	%REC	
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	113	(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	0.59		0.50	µg/L						

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/21/11

Report Date



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

### **ANALYTICAL REPORT**

Battelle	Memorial Institute
655 Wes	at Broadway
San Dieg	go, CA 92101
Job:	G005862/JPL Groundwater Monitoring

Alpha Analytical Number: BMI11030901-04A Client I.D. Number: MW-19-2

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

### Sampled: 03/08/11 09:51 Received: 03/09/11 Extracted: 03/10/11 15:34 Analyzed: 03/10/11 15:34

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	. ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	2.1		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	106	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	113	(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	0.78		0.50	µg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Walter A.

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

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

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

3/21/11

**Report Date** Page 1 of 1



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

## ANALYTICAL REPORT

Battelle Memorial Institute	Attn:	David Conner
655 West Broadway	Phone:	(619) 726-7311
San Diego, CA 92101	Fax:	(614) 458-6641
Job: G005862/JPL Groundwater Monitoring		

Alpha Analytical Number: BMI11030901-05A Client I.D. Number: MW-19-1

Sampled:	03/08/11	10:15
Received:	03/09/11	
Extracted:	03/10/11	15:56

Analyzed: 03/10/11 15:56

## Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting	Limit		Compound	Concentration	Reporting Li	imit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1.1.1.2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	μg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	μg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBC	P) ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	107	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	113	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	101	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	μg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Kogen Scholl

Dalter Alm

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



**Report Date** 



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

### ANALYTICAL REPORT

Battelle	Memorial Institute	
655 Wes	st Broadway	
San Die	go, CA 92101	
Job:	G005862/JPL Groundwater Monitoring	

Alpha Analytical Number: BMI11030901-06A Client I.D. Number: EB-11-03/08/11

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

### Sampled: 03/08/11 10:07 Received: 03/09/11 Extracted: 03/10/11 14:08 Analyzed: 03/10/11 14:08

#### Volatile Organics by GC/MS EPA Method SW8260B

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

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

Roger Scholl

Walter Al

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 736-7522 / Carson, CA • (714) 386-2901 / info@aipha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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

3/21/11

**Report Date** 



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

### ANALYTICAL REPORT

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

Alpha Analytical Number: BMI11030901-07A Client I.D. Number: TB-11-03/08/11

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

### Sampled: 03/08/11 07:00 Received: 03/09/11 Extracted: 03/10/11 13:46 Analyzed: 03/10/11 13:46

#### Volatile Organics by GC/MS EPA Method SW8260B

	Compound	Concentration	F	Reporting	Limit		Compound	Concentration	Reporting L	imit
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	Q	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCI	P) ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	103	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	99	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

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

Note: Analysis conducted using EPA Method 524.2 criteria.

Q = One or more quality control criteria failed.

ND = Not Detected

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 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com Alpha certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

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



Report Date

Page 1 of 1



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

## **VOC Sample Preservation Report**

### Work Order: BMI11030901

### Job: G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	рН
11030901-01A	MW-19-5	Aqueous	2
11030901-02A	MW-19-4	Aqueous	2
11030901-03A	MW-19-3	Aqueous	2
11030901-04A	MW-19-2	Aqueous	2
11030901-05A	MW-19-1	Aqueous	2
11030901-06A	EB-11-03/08/11	Aqueous	2
11030901-07A	TB-11-03/08/11	Aqueous	2



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

<b>Date:</b> 18-Mar-11		QC Summary Report										<b>er:</b> 1
Method Bla File ID: 14	ink		Туре:	MBLK		st Code: <b>E</b> ch ID: <b>261</b> :		thod 314.0	Analy	/sis Date:	03/09/2011 11:57	
Sample ID:	MB-26134	Units : µg/L		Run	ID: <b>IC_</b> :	3_110309A	1		Prep	Date:	03/09/2011 11:01	
Analyte		Result	PQL	S	pkVal S		%REC	LCL(ME)	UCL(ME	RPDRef	Val %RPD(Limit)	Qua
Perchlorate		ND		1								
Laboratory File ID: 15	Fortified Blank		Туре:	LFB		st Code: El		thod 314.0	Analy	/sis Date:	03/09/2011 12:16	
Sample ID:	LFB-26134	Units : µg/L		Run	ID: IC	3 110309A			Prep	Date:	03/09/2011 11:01	
Analyte		Result	PQL	S		_ SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua
Perchlorate		24.8		2	25		99	85	115			
Sample Ma	trix Spike		Type:	LFM	Tes	st Code: EF	PA Met	thod 314.0				
File ID: 23					Bat	ch ID: 2613	34		Analy	sis Date:	03/09/2011 14:43	
Sample ID:	11030901-02ALFM	Units : µg/L		Run	ID: IC_3	3_110309A	•		Prep	Date:	03/09/2011 11:01	
Analyte		Result	PQL	S	pkVal S	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRef	Val %RPD(Limit)	Qua
Perchlorate		29.9		2	25	3.162	107	80	120			
Sample Ma	trix Spike Duplicate		Туре:	LFMD	Tes	st Code: EF	A Met	thod 314.0				
File ID: 24					Bat	ch ID: 2613	34		Analy	sis Date:	03/09/2011 15:01	
Sample ID:	11030901-02ALFMD	Units : µg/L		Run	ID: IC_:	3_110309A	ι		Prep	Date:	03/09/2011 11:01	
Analyte		Result	PQL					LCL(ME)	UCL(ME)	RPDRef	√al %RPD(Limit)	Qua
Perchlorate		29.7		2	25	3.162	106	80	120	29.9	0.5(15)	

#### **Comments:**

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



<b>Date:</b> <u>16-Mar-2011</u>		(		Work Order: 11030901							
Method Bla File ID: 11031			Туре М	BLK	Test Code: EP				s Date:	03/10/2011 10:32	
Sample ID:	MBLK MS15W0310M	Units : µg/L		Run ID:	MSD_15_1103			Prep Da		03/10/2011 10:32	
Analyte		Result	PQL				CL(ME)			/al %RPD(Limit)	Qua
Dichlorodifluo	romothana							001(((112)))			
Chloromethan		ND ND	0.5 1								
Vinyl chloride		ND	0.5								
Chloroethane		ND	0.5								
Bromomethar		ND	1								
Trichlorofluor		ND	0.5								
1,1-Dichloroel Dichlorometha		ND ND	0.5 1								
Freon-113		ND	0.5								
trans-1,2-Dich	loroethene	ND	0.5								
	tyl ether (MTBE)	ND	0.5								
1,1-Dichloroet		ND	0.5								
2-Butanone (M cis-1,2-Dichlo		ND	10								
Bromochloron		ND ND	0.5 0.5								
Chloroform		ND	0.5								
2,2-Dichlorop	ropane	ND	0.5								
1,2-Dichloroe		ND	0.5								
1,1,1-Trichlor		ND	0.5								
1,1-Dichlorop	-	ND	0.5								
Benzene	nonde	ND ND	0.5 0.5								
Dibromometh	ane	ND	0.5								
1,2-Dichlorop	ropane	ND	0.5								
Trichloroether		ND	0.5								
Bromodichlor		ND	0.5								
4-metnyi-2-pe cis-1,3-Dichlo	ntanone (MIBK)	ND ND	2.5 0.5								
trans-1,3-Dich		ND	0.5								
1,1,2-Trichlor		ND	0.5								
Toluene		ND	0.5								
1,3-Dichlorop	•	ND	0.5								
Dibromochlor		ND	0.5								
1,2-Dibromoe Tetrachloroet		ND	1								
1,1,1,2-Tetrac		ND ND	0.5 0.5								
Chlorobenzen		ND	0.5								
Ethylbenzene		ND	0.5								
m,p-Xylene		ND	0.5								
Bromoform		ND	0.5								
Styrene o-Xylene		ND	0.5								
1,1,2,2-Tetrac	chloroethane	ND ND	0.5 0.5								
1,2,3-Trichlor		ND	0.0								
Isopropylbenz	tene	ND	0.5								
Bromobenzer		ND	0.5								
n-Propylbenz		ND	0.5								
4-Chlorotolue 2-Chlorotolue		ND ND	0.5 0.5								
1,3,5-Trimeth		ND	0.5								
tert-Butylbenz		ND	0.5								
1,2,4-Trimeth	ylbenzene	ND	0.5								
sec-Butylbenz		ND	0.5								
1,3-Dichlorob		ND	0.5								
1,4-Dichlorob 4-Isopropyltol		ND ND	0.5 0.5								
1,2-Dichlorob		ND	0.5								
n-Butylbenzei		ND	0.5								
	3-chloropropane (DBCP)	ND	2.5								
1,2,4-Trichlor		ND	1								
Naphthalene	t - P	ND	1								
Hexachlorobu		ND	1								
1,2,3-Trichlor Surr: 1,2-Dich	obenzene Iloroethane-d4	ND 10.5	1		10	105	70	130			
	-d8	10.5			10	105	70	130			



<b>Date:</b> 16-Mar-2011	QC	Summary Re	Work Order: 11030901			
Surr: 4-Bromofluorobenzene	9.83	10	98	70	130	



<b>Date:</b> 16-Mar-2011	<u></u>	<b>Work Order:</b> 11030901						
Laboratory Control Spike		Type LC	260B					
File ID: 11031003.D			Ba	atch ID: MS15W031	OM	•	ate: 03/10/2011 08:56	
Sample ID: LCS MS15W0310M	Units : µg/L	F		SD_15_110310C		Prep Date:		
Analyte	Result	PQL	SpkVal	SpkRefVal %REC	LCL(ME)	UCL(ME) RPD	RefVal %RPD(Limit)	Qua
Dichlorodifluoromethane	10	1	10	100	70	130		
Chloromethane	8.99	2	10	90	70	130		
Vinyl chloride	10.4	1	10	104	70 70	130		
Chloroethane Bromomethane	10.8 6.8	1 2	10 10	108 68	70 70(70)	130 130		L50
Trichlorofluoromethane	11.7	2 1	10	117	70	130		
1.1-Dichloroethene	10.3	1	10	103	70	130		
Dichloromethane	8.99	2	10	90	70	130		
Freon-113	10.8	1	10	108	70	137		
trans-1,2-Dichloroethene	10.2	1	10	102	70	130		
Methyl tert-butyl ether (MTBE)	8.76	0.5	10	88	70	130		
1,1-Dichloroethane 2-Butanone (MEK)	10.3	1	10	103 83	70 70	130 130		
cis-1,2-Dichloroethene	166 9.84	10 1	200 10	98	70	130		
Bromochloromethane	9.82	1	10	98	70	130		
Chloroform	9.61	1	10	96	70	130		
2,2-Dichloropropane	10.8	1	10	108	70	130		
1,2-Dichloroethane	9.76	1	10	98	70	130		
1,1,1-Trichloroethane	10.8	1	10	108	70 70	130 130		
1,1-Dichloropropene Carbon tetrachloride	10.8 10.3	1	10 10	108 103	70 70	130		
Benzene	9.58	0.5	10	96	70	130		
Dibromomethane	9.58	1	10	96	70	130		
1,2-Dichloropropane	9.84	1	10	98	70	130		
Trichloroethene	10.3	1	10	103	70	130		
Bromodichloromethane	10.8	1	10	108	70	130		
4-Methyl-2-pentanone (MIBK)	20.2	2.5	25	81	20	182 130		
cis-1,3-Dichloropropene trans-1,3-Dichloropropene	9.7 8.8	1 1	10 10	97 88	70 70	130		
1,1,2-Trichloroethane	9.42	1	10	94	70	130		
Toluene	9.93	0.5	10	99	70	130		
1,3-Dichloropropane	9.27	1	10	93	70	130		
Dibromochloromethane	10.1	1	10	101	70	130		
1,2-Dibromoethane (EDB)	19.2	2	20	96	70	130		
Tetrachloroethene	9.96	1	10	99.6 107	70 70	130 130		
1,1,1,2-Tetrachloroethane Chlorobenzene	10.7 9.9	1	10 10	99	70	130		
Ethylbenzene	10.1	0.5	10	101	70	130		
m,p-Xylene	10.2	0.5	10	102	70	130		
Bromoform	9.53	1	10	95	70	130		
Styrene	10.3	1	10	103	70	130		
o-Xylene	10.4	0.5	10	104	70 70	130 130		
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	9.07 18.3	1	10 20	91 92	70 70	130		
Isopropylbenzene	10.3	2	20 10	92 104	70	130		
Bromobenzene	9.71	1	10	97	70	130		
n-Propylbenzene	10.6	1	10	106	70	130		
4-Chlorotoluene	10.7	1	10	107	70	130		
2-Chlorotoluene	10.4	1	10	104	70	130		
1,3,5-Trimethylbenzene tert-Butylbenzene	10.4 10.2	1	10	104 102	70 70	130 130		
1,2,4-Trimethylbenzene	10.2	1	10 10	102	70	130		
sec-Butylbenzene	10.0	1	10	100	70	130		
1,3-Dichlorobenzene	10.4	1	10	104	70	130		
1,4-Dichlorobenzene	9.9	1	10	99	70	130		
4-isopropyltoluene	10.4	1	10	104	70	130		
1,2-Dichlorobenzene	9.56	1	10	96	70 70	130		
n-Butylbenzene 1,2-Dibromo-3-chloropropane (DBCP)	11 42.8	1	10 50	110 86	70 67	130 130		
1,2,4-Trichlorobenzene	42.8	3 2	50 10	102	70	130		
Naphthalene	8.63	2	10	86	70	130		
Hexachlorobutadiene	17.9	2	20	90	70	130		
1,2,3-Trichlorobenzene	10.2	2	10	102	70	130		
Surr: 1,2-Dichloroethane-d4	10.3		10	103	70	130		
Surr: Toluene-d8	9.82		10	98	70	130		



<b>Date:</b>	<b>Work Order:</b>					
16-Mar-2011	11030901					
Surr: 4-Bromofluorobenzene	9.89	10	99	70	130	