Water & Soil - Chain of Custody Record & Analytical Service Request

Columbia Analytical Services INC
An Employee - Owned Company

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard

CAS Project No. R0901719

CAS Contact:

Company Name & Address (Reporting Information)	Project Name
BATTELLE 3990 OLD TOWN AVE, C-205 SAN DIEGO, CA 92110	JPL GW. MON. 2009
	Project Number: G4866090
Project Manager: DAVID CONNER	P.O. # / Billing Information: 214319/ BATTELLE ATTN: GERALD TOMPKINS 505 KING AVE.
Phone: 619-726-7311	Fax:
Email Address for Result Reporting	Sampler (Print & Sign)

Analysis Method and/or Analytes

Preservative Code

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Matrix	Number of Containers	Volatile Organics GC/MS 624 ☐ 8260B ☐ Oxygenates ☐ TPH Gas ☐	TPH Gas 8015B ☐ BTEX 8021B ☐ MTBE 8021B ☐	TPH Diesel 8015B ☐ (Subcontracted)	TPH Diesel Low Level 8015B ☐ (Subcontracted)	TPH FC ☐ 8015M (Subcontracted)	Semi-Volatile Organics GC/MS 625 ☐ 8270C ☐ (Subcontracted)	0 Cr III (7196)	0 DIOXANE (8270)	0 NDMA (1625.0)	Remarks
MW-13	1	5/20/09	833	W	4							X	X	X	
MW-8	2	"	1033	"	1							X			
EB-1-1-09		"	-	"	1							X			EQUIPMENT BLANK @

Preservative Key	
0	None
1	HCL
2	HNO3
3	H2SO4
4	NaOH
5	Zn Acetate
6	Asc Acid
7	Other

Report Tier Levels - please select

Tier I - (Results/Default if not specified) ____
Tier II - (Results + QC) ____
Tier III - (Data Validation Package) 10% Surcharge ____
Tier V - (client specified) ____

MRL required Yes / No
MDL / PQL / J required Yes / No

EDD required Yes / No
Type: ____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date: 05/20/09	Time: 1730	Received by: (Signature)	Date: 5/20/09	Time: 1730
Relinquished by: (Signature)	Date: 5/20/09	Time: 12:15	Received by: (Signature)	Date: 5/20/09	Time: 1245
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank / Ice / No Ice
Temperature 3°C °C

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Battelle
Project: JPL GW Mon 2Q09/G486090

Service Request: P0901719

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
P0901719-001.01					
		5/20/09	1315	SMO / MZAMORA	
		5/20/09	1316	SUBBED / MZAMORA	
		5/22/09	1052	K-Delilah-73 / BTOBIN	
		5/25/09	1237	In Lab / PMULHERIN	
		5/25/09	1238	K-Delilah-73 / PMULHERIN	
P0901719-001.02					
	521				
		5/20/09	1315	SMO / MZAMORA	
		5/20/09	1316	SUBBED / MZAMORA	
		5/22/09	1052	K-Delilah-73 / BTOBIN	
		5/25/09	1237	In Lab / PMULHERIN	
		5/25/09	1742	K-Delilah-73 / PMULHERIN	
P0901719-001.03					
	7196A				
		5/20/09	1315	SMO / MZAMORA	
		5/20/09	1317	P-37 / MZAMORA	
		5/20/09	1405	In Lab / SANDERSON	
		5/20/09	1631	P-37 / SANDERSON	
P0901719-001.04					
	8270C SIM				
		5/20/09	1315	SMO / MZAMORA	
		5/20/09	1316	P-16 / MZAMORA	
P0901719-002.01					
	7196A				
		5/20/09	1315	SMO / MZAMORA	
		5/20/09	1317	P-37 / MZAMORA	
		5/20/09	1405	In Lab / SANDERSON	
		5/20/09	1631	P-37 / SANDERSON	

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle Work order: P0901719

Project: JPL GW Mon 2Q09 / G486090

Sample(s) received on: 05/20/09 Date opened: 05/20/09 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☒	☐	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature _____ °C Blank Temperature 3 °C			
10	Was a **trip blank** received?	☒	☐	☐
	Trip blank supplied by CAS: _____			
11	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
12	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were VOA vials checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0901719-001.01	1000ml AG NP					
P0901719-001.02	1000ml AG NP					
P0901719-001.03	125mL Plastic NP					
P0901719-001.04	500mL AG NP					
P0901719-002.01	125mL Plastic NP					

Explain any discrepancies: (include lab sample ID numbers): _____

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12); RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

DIVIDER SHEET

ANALYTICAL DATA FOR

1,4-Dioxane

ANALYSIS

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Battelle**
Client Project ID: **JPL GW Mon 2Q09 / G486090** CAS Project ID: P0901719

1,4-Dioxane

Test Code:	EPA 8270C SIM Modified	Date(s) Collected:	5/20/09
Instrument ID:	HP5971A/HP5890 II/MS1	Date Received:	5/20/09
Analyst:	Hani Cherazaie	Date Extracted:	5/26/09
Matrix:	Water	Date Analyzed:	5/27/09
Test Notes:		Final Extract Volume:	1.0 ml(s)

Client Sample ID	CAS Sample ID	Dilution Factor	Sample Volume Liter(s)	Result µg/L	MRL µg/L	MDL µg/L	Data Qualifier
MW-13	P0901719-001	1.0	0.10	**2.2**	0.50	0.21	
Method Blank	P090526-MB	1.0	0.10	ND	0.50	0.21	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

DIVIDER SHEET

ANALYTICAL DATA FOR

Hexavalent Chromium

ANALYSIS

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle
Project Name : JPL GW Mon 2Q09
Project Number : G486090
Sample Matrix : WATER

Service Request : P0901719
Date Collected : 05/20/09
Date Received : 05/20/09

Chromium, Hexavalent

Prep Method : None
Analysis Method : 7196A
Test Notes :

Units : mg/L (ppm)
Basis : NA

Sample Name	Lab Code	PQL	MDL	Dilution Factor	Date Extracted	Date/Time Analyzed	Result	Result Notes
MW-13	P0901719-001	0.010	0.003	1	NA	05/20/09 15:35	0.028	
MW-8	P0901719-002	0.010	0.003	1	NA	05/20/09 15:35	ND	
Method Blank	P0901719-MB	0.010	0.003	1	NA	05/20/09 15:35	ND	

Approved By KUH Date : 05/26/09

Report By:SAnderson

DIVIDER SHEET

CAS-KELSO REPORT

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services
An Employee - Owned Company

June 8, 2009 Analytical Report for Service Request No: P0901719

Sue Anderson
Columbia Analytical Services
2655 Park Center Drive
Suite A
Simi Valley, CA 93065-6209

RE: JPL GW Mon 2Q09/G486090

Dear Sue:

Enclosed are the results of the samples submitted to our laboratory on May 20, 2009. For your reference, these analyses have been assigned our service request number P0901719.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3280. You may also contact me via Email at LKennedy@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Les Kennedy
Project Chemist

LK/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle	**Service Request No.:**	P0901719
Project:	JPL GW Mon 2Q09 / G486090	**Date Received:**	5/20/09
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One water sample received for analysis at Columbia Analytical Services, Simi Valley laboratory on 5/19/09 was forwarded and received in the Kelso laboratory on 5/21/09 in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Nitrosamines by EPA Method 521

No anomalies associated with the analysis of this batch were observed.

Approved by _____ Date 6/9/09

Intra-Network Chain of Custody

2655 Park Center Drive, Suite A • Simi Valley, CA 93065 • 805-526-7161 • FAX 805-526-7270

CAS Contact: Sue Anderson

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P0901719

Project Name: JPL GW Mon 2Q09
Project Number: G486090
Project Manager: David Conner
Company: Battelle

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	Nitrosamines 521
P0901719-001	MW-13	2	Water	5/20/09	0833	5/20/09	KELSO	III

Test Comments

Nitrosamines - 521 P0901719-001 NDMA

Folder Comments:

Note: EDF files for client's internal data base;LogCode is BAT, do not have Global ID. EDD & pdf of report sent to Betsy Cutie (cutiee@battelle.org) via file share site https://fx.battelle.org. For EDF unique spike ids (ex: P0701XXX01MS or SD).

Special Instructions/Comments	Turnaround Requirements	Report Requirements	Invoice Information
	____ **RUSH** (Surcharges Apply) **PLEASE CIRCLE WORK DAYS** 1 2 3 4 5 X **STANDARD** Requested FAX Date: _____ Requested Report Date: 06/07/09	____ I. Results Only ____ II. Results + QC Summaries ____ III. Results + QC and Calibration Summaries X IV. Data Validation Report with Raw Data FULL DATA PACKAGE PQL/MDL/J Y EDD Y	PO# P0901719 Bill to

Relinquished By: _____ 5/21/09 1300

Received By: _____ 5-21-09 945

Airbill Number: _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC Jes

Client / Project: Simi Valley Service Request K09- D0901719

Received: 5/22/09 Opened: 5/22/09 By: A.J

1. Samples were received via? *US Mail* *Fed Ex* (UPS) *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (Cooler) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: 1Z789A5X1342634360 NA Y N

5. **Temperature of cooler(s) upon receipt (°C):** -0.4
   Temperature Blank (°C): 1
   Thermometer ID: 236
6. If applicable, list Chain of Custody Numbers:
7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* (Gel Packs) (Wet Ice) *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* NA (Y) N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?** NA (Y) N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?** (NA) Y N
16. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

Additional Notes, Discrepancies, & Resolutions: _____

Organic Analysis:
Nitrosamines by EPA 521

Summary Package

Sample and QC Results

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle	**Service Request:**	P0901719
Project:	JPL GW Mon 2Q09/G486090		

Cover Page - Organic Analysis Data Package
Nitrosamines by EPA 521

Sample Name	Lab Code	Date Collected	Date Received
MW-13	P0901719-001	05/20/2009	05/20/2009

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Lorn E Parkwood Name: Loren Parkwood

Date: 6/5/09 Title: Supervisor

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Battelle	**Service Request:**	P0901719
Project:	JPL GW Mon 2Q09/G486090	**Date Collected:**	05/20/2009
Sample Matrix:	Water	**Date Received:**	05/20/2009

Nitrosamines by EPA 521

Sample Name:	MW-13	**Units:**	ng/L
Lab Code:	P0901719-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	521		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	0.54	1	05/25/09	05/26/09	KWG0904404	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	75	70-130	05/26/09	Acceptable

Comments:

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

CAS SR #P0901702

Table of Contents

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

LABORATORY REPORT

June 10, 2009

David Conner
Battelle
3990 Old Town Ave., Suite C-205
San Diego, CA 92110

RE: JPL GW Mon 2Q09 / G486090

Dear David:

Enclosed are the results of the samples submitted to our laboratory on May 19, 2009. One of the samples was sent out for partial analysis to our Kelso facility. Please find their report attached. For your reference, these analyses have been assigned our service request number P0901702.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 172 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-08-TX. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Sue Anderson
Project Manager

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Client: Battelle CAS Project No: P0901702
Project: JPL GW Mon 2Q09 / G486090

CASE NARRATIVE

The samples were received intact under chain of custody on May 19, 2009 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

1,4-Dioxane by EPA Method 8270C SIM Modified

No anomalies were encountered during this analysis.

Hexavalent Chromium by EPA Method 7196A

No anomalies were encountered during this analysis.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: Battelle
Project: JPL GW Mon 2Q09/G486090

Service Request: P0901702

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
P0901702-001	MW-7	5/19/09	09:41
P0901702-002	MW-16	5/19/09	11:47

Acronyms

CA LUFT	California DHS LUFT Method
ASTM	American Society for Testing and Materials
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CRDL	Contract Required Detection Limit
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOH or DHS	Department of Health Services
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified Method
MDL	Method Detection Limit
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl *tert*-Butyl Ether
NA	Not Applicable
NC	Not Calculated
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 19th Ed., 1995.
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)
VOC	Volatile Organic Compound(s)

Qualifiers

U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
J	The result is an estimated concentration that is less than the MRL (PQL), but greater than or equal to the MDL.
B	Analyte detected in the method blank above MRL (PQL).
E	Estimated; result based on response which exceeded the instrument calibration range.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
D	The reported result is from a dilution.
X	See case narrative.

Water & Soil - Chain of Custody Record & Analytical Service Request

Page 1 of 1

Columbia Analytical Services INC.
An Employee - Owned Company

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard

CAS Project No. R0901702

CAS Contact:

Company Name & Address (Reporting Information)	Project Name
BATTELLE 3990 OLD TOWN AVE, C-205 SAN DIEGO, CA 92110	SPL GW. MON. 2Q09
	Project Number: G486090
Project Manager: DAVID CONNER	P.O. # / Billing Information: 214319/ BATTELLE ATTN: GERALD TOMPKINS 505 OLD TOWN AVE. COLUMBUS, OH 43201
Phone: 619-726-7311 / Fax:	
Email Address for Result Reporting	Sampler (Print & Sign)

Analysis Method and/or Analytes

Preservative Code

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Matrix	Number of Containers	Volatile Organics GC/MS 624 ☐ 8260B ☐ Oxygenates ☐ TPH Gas ☐	TPH Gas 8015B ☐ BTEX 8021B ☐ MTBE 8021B ☐	TPH Diesel 8015B ☐ (Subcontracted) TPH Diesel Low Level 8015B ☐ (Subcontracted)	TPH FC ☐ 8015M (Subcontracted)	Semi-Volatile Organics GC/MS 625 ☐ 8270C ☐ (Subcontracted)	0 Cr VI (7196)	0 DIOX ANE (8270)	0 NDMA (1625.0)	Remarks
MW-7	(1)	5/19/09	0941	W	1						X			
MW-16	(2)	1	1147	1	4						X	X	X	
~~EB -1-09~~		1		1	1						X			~~EQUIPMENT BLANK~~

Preservative Key

0	None
1	HCL
2	HNO3
3	H2SO4
4	NaOH
5	Zn Acetate
6	Asc Acid
7	Other

Report Tier Levels - please select

Tier I - (Results/Default if not specified) ____
Tier II - (Results + QC) ____
Tier III - (Data Validation Package) 10% Surcharge ____
Tier V - (client specified) ____

MRL required Yes / No
MDL / PQL / J required Yes / No

EDD required Yes / No
Type: ____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)		Date: 05/19/09	Time: 1230	Received by: (Signature)		Date: 5/19/09	Time: 1230
Relinquished by: (Signature)		Date: 5/19/09	Time: 1315	Received by: (Signature)		Date: 5/19/09	Time: 1315
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Date:	Time:

Cooler / Blank / Ice / No Ice

Temperature 2°C °C

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Battelle
Project: JPL GW Mon 2Q09/G486090

Service Request: P0901702

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
P0901702-001.01					
	7196A				
		5/19/09	1400	SMO / MZAMORA	
		5/19/09	1401	P-37 / MZAMORA	
		5/19/09	1426	In Lab / SANDERSON	
		5/19/09	1713	P-37 / SANDERSON	
P0901702-002.01					
		5/19/09	1400	SMO / MZAMORA	
		5/19/09	1401	SUBBED / MZAMORA	
		5/20/09	1233	K-HERK-A3 / AJUELL	
		5/25/09	1238	In Lab / PMULHERIN	
		5/25/09	1743	K-HERK-A3 / PMULHERIN	
P0901702-002.02					
	521				
		5/19/09	1400	SMO / MZAMORA	
		5/19/09	1401	SUBBED / MZAMORA	
		5/20/09	1233	K-HERK-A3 / AJUELL	
		5/25/09	1237	In Lab / PMULHERIN	
		5/25/09	1743	K-HERK-A3 / PMULHERIN	
P0901702-002.03					
	7196A				
		5/19/09	1400	SMO / MZAMORA	
		5/19/09	1401	P-37 / MZAMORA	
		5/19/09	1426	In Lab / SANDERSON	
		5/19/09	1713	P-37 / SANDERSON	
P0901702-002.04					
	8270C SIM				
		5/19/09	1400	SMO / MZAMORA	
		5/19/09	1401	P-16 / MZAMORA	

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle Work order: P0901702

Project: JPL GW Mon 2Q09 / G486090

Sample(s) received on: 05/19/09 Date opened: 05/19/09 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☒	☐	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature _____ °C Blank Temperature 2 °C			
10	Was a **trip blank** received?	☐	☒	☐
	Trip blank supplied by CAS: _____			
11	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
12	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0901702-001.01	125mL Plastic NP					
P0901702-002.01	1000ml AG NP					
P0901702-002.02	1000ml AG NP					
P0901702-002.03	125mL Plastic NP					
P0901702-002.04	500mL AG NP					

Explain any discrepancies: (include lab sample ID numbers): _____

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12); RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

DIVIDER SHEET

ANALYTICAL DATA FOR

1,4 – Dioxane

ANALYSIS

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Battelle**
Client Project ID: **JPL GW Mon 2Q09 / G486090** CAS Project ID: P0901702

1,4-Dioxane

Test Code:	EPA 8270C SIM Modified	Date(s) Collected:	5/19/09
Instrument ID:	HP5971A/HP5890 II/MS1	Date Received:	5/19/09
Analyst:	Hani Cherazaie	Date Extracted:	5/20/09
Matrix:	Water	Date Analyzed:	5/21/09
Test Notes:		Final Extract Volume:	1.0 ml(s)

Client Sample ID	CAS Sample ID	Dilution Factor	Sample Volume Liter(s)	Result µg/L	MRL µg/L	MDL µg/L	Data Qualifier
MW-16	P0901702-002	1.0	0.10	**1.1**	0.50	0.21	
Method Blank	P090520-MB	1.0	0.10	ND	0.50	0.21	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

DIVIDER SHEET

ANALYTICAL DATA FOR

Hexavalent Chromium

ANALYSIS

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle
Project Name : JPL GW Mon 2Q09
Project Number : G486090
Sample Matrix : WATER

Service Request : P0901702
Date Collected : 05/19/09
Date Received : 05/19/09

Chromium, Hexavalent

Prep Method : None
Analysis Method : 7196A
Test Notes :

Units : mg/L (ppm)
Basis : NA

Sample Name	Lab Code	PQL	MDL	Dilution Factor	Date Extracted	Date/Time Analyzed	Result	Result Notes
MW-7	P0901702-001	0.010	0.003	1	NA	05/19/09 15:10	0.013	
MW-16	P0901702-002	0.010	0.003	1	NA	05/19/09 15:10	0.025	
Method Blank	P0901702-MB	0.010	0.003	1	NA	05/19/09 15:10	ND	

Approved By JCH Date : 05/26/09

Report By:SAnderson

DIVIDER SHEET

CAS-KELSO REPORT

1317 South 13th Avenue Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services, Inc.
An Employee - Owned Company

June 8, 2009 Analytical Report for Service Request No: P0901702

Sue Anderson
Columbia Analytical Services
2655 Park Center Drive
Suite A
Simi Valley, CA 93065-6209

RE: JPL GW Mon 2Q09/G486090

Dear Sue:

Enclosed are the results of the samples submitted to our laboratory on May 19, 2009. For your reference, these analyses have been assigned our service request number P0901702.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3280. You may also contact me via Email at LKennedy@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Les Kennedy
Project Chemist

LK/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Battelle	**Service Request No.:**	P0901702
Project:	JPL GW Mon 2Q09 / G486090	**Date Received:**	5/19/09
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One water sample received for analysis at Columbia Analytical Services, Simi Valley laboratory on 5/19/09 was forwarded and received in the Kelso laboratory on 5/20/09 in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Nitrosamines by EPA Method 521

No anomalies associated with the analysis of this batch were observed.

Approved by _____ **Date** 6/9/09

Intra-Network Chain of Custody

2655 Park Center Drive, Suite A • Simi Valley, CA 93065 • 805-526-7161 • FAX 805-526-7270

CAS Contact: Sue Anderson

85

Project Name: JPL GW Mon 2Q09
Project Number: G486090
Project Manager: David Conner
Company: Battelle

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	Nitrosamines 521
P0901702-002	MW-16	7	Water	5/19/09	1147	5/19/09	KELSO	III

Test Comments

Nitrosamines - 521 P0901702-002 NDMA

6

Folder Comments:

Note: EDF files for client's internal data base;LogCode is BAT, do not have Global ID. EDD & pdf of report sent to Betsy Cutie (cutiee@battelle.org) via file share site https://fx.battelle.org. For EDF unique spike ids (ex: P0701XXX01MS or SD).

Special Instructions/Comments

Turnaround Requirements

____ **RUSH** (Surcharges Apply)

PLEASE CIRCLE WORK DAYS

1 2 3 4 5

✓ **STANDARD**

Requested FAX Date: _____

Requested Report Date: 06/06/09

Report Requirements

____ I. Results Only

____ II. Results + QC Summaries

____ III. Results + QC and Calibration Summaries

X Full data BASIC

____ IV. Data Validation Report with Raw Data

PQL/MDL/J Y

EDD Y

Invoice Information

PO# P0901702

Bill to

Relinquished By: [signature] 5/19/09 15:15

Received By: [signature] 5/20/09 1000 CAS

Airbill Number: _____

Columbia Analytical Services, Inc. PC LK

Cooler Receipt and Preservation Form

Client / Project: CAS - Simi Valley Service Request K09 01702

Received: 5-20-09 Opened: 5-20-09 By: Brad

1. Samples were received via? *US Mail* *Fed Ex* *(UPS)* *DHL* *GH* *GS* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *(Cooler)* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Is shipper's air-bill filed? If not, record air-bill number: 127890545134027210 48 NA (Y) N

5. **Temperature of cooler(s) upon receipt (°C):**	-0.5			
Temperature Blank (°C):	N/A			
Thermometer ID:	061			
6. If applicable, list Chain of Custody Numbers:				

7. Packing material used. *Inserts* *Baggies* *(Bubble Wrap)* *(Gel Packs)* *Wet Ice* *Sleeves* *Other*_____

8. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y)	N
9. **Did all bottles arrive in good condition (unbroken)?** *Indicate in the table below.*	NA	(Y)	N
10. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below*	NA	(Y)	N
12. **Were appropriate bottles/containers and volumes received for the tests indicated?**	NA	(Y)	N
13. Were the pH-preserved bottles tested* received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
14. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
15. **Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	(NA)	Y	N
16. Was C12/Res negative?	(NA)	Y	N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Does not include all pH preserved sample aliquots received. See sample receiving SOP (SMO-GEN).

*Additional Notes, Discrepancies, & Resolutions:*_____

Organic Analysis:
Nitrosamines by EPA 521

Summary Package

Sample and QC Results

Client: Battelle
Project: JPL GW Mon 2Q09/G486090

Service Request: P0901702

Cover Page - Organic Analysis Data Package
Nitrosamines by EPA 521

Sample Name	Lab Code	Date Collected	Date Received
MW-16MS	KWG0904404-1	05/19/2009	05/19/2009
MW-16DMS	KWG0904404-2	05/19/2009	05/19/2009
MW-16	P0901702-002	05/19/2009	05/19/2009

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Lorre E Portwood Name: Lorre Portwood

Date: 6/5/09 Title: Supervisor

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Battelle	**Service Request:**	P0901702
Project:	JPL GW Mon 2Q09/G486090	**Date Collected:**	05/19/2009
Sample Matrix:	Water	**Date Received:**	05/19/2009

Nitrosamines by EPA 521

Sample Name:	MW-16	**Units:**	ng/L
Lab Code:	P0901702-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	521		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	**0.70**	J	2.0	0.54	1	05/25/09	05/26/09	KWG0904404	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	75	70-130	05/26/09	Acceptable

Comments:

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

CAS SR #P0901679

Table of Contents

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

LABORATORY REPORT

May 26, 2009

David Conner
Battelle
3990 Old Town Ave., Suite C-205
San Diego, CA 92110

RE: JPL GW Mon 2Q09 / G486090

Dear David:

Enclosed are the results of the samples submitted to our laboratory on May 18, 2009. For your reference, these analyses have been assigned our service request number P0901679.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 24 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-08-TX. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Sue Anderson
Project Manager

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

Client: Battelle CAS Project No: P0901679
Project: JPL GW Mon 2Q09 / G486090

CASE NARRATIVE

The samples were received intact under chain of custody on May 18, 2009 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Hexavalent Chromium by EPA Method 7196A

No anomalies were encountered during this analysis.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: Battelle
Project: JPL GW Mon 2Q09/G486090

Service Request: P0901679

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
P0901679-001	MW-26-2	5/18/09	08:55
P0901679-002	MW-26-1	5/18/09	09:32
P0901679-003	EB-15-05/18/09	5/18/09	09:18

Acronyms

CA LUFT	California DHS LUFT Method
ASTM	American Society for Testing and Materials
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CRDL	Contract Required Detection Limit
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOH or DHS	Department of Health Services
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified Method
MDL	Method Detection Limit
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl *tert*-Butyl Ether
NA	Not Applicable
NC	Not Calculated
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 19th Ed., 1995.
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)
VOC	Volatile Organic Compound(s)

Qualifiers

U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
J	The result is an estimated concentration that is less than the MRL (PQL), but greater than or equal to the MDL.
B	Analyte detected in the method blank above MRL (PQL).
E	Estimated; result based on response which exceeded the instrument calibration range.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
D	The reported result is from a dilution.
X	See case narrative.

Water & Soil - Chain of Custody Record & Analytical Service Request

Columbia Analytical Services INC.
An Employee - Owned Company

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard

CAS Project No. P0901679

CAS Contact:

Company Name & Address (Reporting Information)	BATTELLE 3990 OLD TOWN AVE. C-205 SAN DIEGO, CA 92110
Project Name	JPL GW. MON. 2Q09
Project Number	G486090
Project Manager	DAVID CONNER
P.O. # / Billing Information	214319/ BATTELLE ATTN: GERALD TOMPKINS 505 KING AVE. COLUMBUS, OH 43201
Phone	619-726-7311
Fax	
Email Address for Result Reporting	
Sampler (Print & Sign)	

Analysis Method and/or Analytes

Preservative Code

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Matrix	Number of Containers	Volatile Organics GC/MS 624 ☐ 8260B ☐ Oxygenates ☐ TPH Gas ☐	TPH Gas 8015B ☐ BTEX 8021B ☐ MTBE 8021B ☐	TPH Diesel 8015B ☐ (Subcontracted)	TPH Diesel Low Level 8015B ☐ (Subcontracted)	TPH FC ☐ 8015M (Subcontracted)	Semi-Volatile Organics GC/MS 625 ☐ 8270C ☐ (Subcontracted)	0 Cr TOT (7196)	0 DIOXANE (8270)	0 NDMA (1625.0)	Remarks
MW-26-2	(1)	5/18/09	0855	W	1							X			
MW-26-1	(2)	|	0937	|	~~2~~ 1 (EB)						X			~~MS/MSD~~ (EB)
EB-15-05/18/09	(3)	|	0918	|	1						X			EQUIPMENT BLANK

Preservative Key

0	None
1	HCL
2	HNO3
3	H2SO4
4	NaOH
5	Zn Acetate
6	Asc Acid
7	Other

Report Tier Levels - please select

Tier I - (Results/Default if not specified) ____
Tier II - (Results + QC) ____
Tier III - (Data Validation Package) 10% Surcharge ____
Tier V - (client specified) ____

MRL required Yes / No
MDL / PQL / J required Yes / No

EDD required Yes / No
Type: ____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date: 5/18/09	Time: 10:30	Received by: (Signature)		Date: 5/18/09	Time: 10:30	
Relinquished by: (Signature)	Date: 5/18/09	Time: 17:30	Received by: (Signature)		Date: 5/19/09	Time: 1130	Cooler / Blank / Ice / No Ice
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)		Date:	Time:	Temperature 3°C °C

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Battelle
Project: JPL GW Mon 2Q09/G486090

Service Request: P0901679

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
P0901679-001.01					
	7196A				
		5/18/09	1132	SMO / MZAMORA	
		5/18/09	1132	P-37 / MZAMORA	
		5/18/09	1138	In Lab / SANDERSON	
		5/18/09	1434	P-37 / SANDERSON	
P0901679-002.01					
	7196A				
		5/18/09	1132	SMO / MZAMORA	
		5/18/09	1132	P-37 / MZAMORA	
		5/18/09	1138	In Lab / SANDERSON	
		5/18/09	1434	P-37 / SANDERSON	
P0901679-003.01					
	7196A				
		5/18/09	1132	SMO / MZAMORA	
		5/18/09	1132	P-37 / MZAMORA	
		5/18/09	1138	In Lab / SANDERSON	
		5/18/09	1434	P-37 / SANDERSON	

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Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle Work order: P0901679

Project: JPL GW Mon 2Q09 / G486090

Sample(s) received on: 05/18/09 Date opened: 05/18/09 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☒	☐	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature _____ °C Blank Temperature 3 °C			
10	Was a **trip blank** received?	☐	☒	☐
	Trip blank supplied by CAS: _____			
11	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
12	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0901679-001.01	125mL Plastic NP					
P0901679-002.01	125mL Plastic NP					
P0901679-003.01	125mL Plastic NP					

Explain any discrepancies: (include lab sample ID numbers): _____

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12) RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

DIVIDER SHEET

ANALYTICAL DATA FOR

Hexavalent Chromium

ANALYSIS

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
3990 Old Town Ave
San Diego, CA 92110

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/07/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-17-5**					
Lab ID :	BMI09050740-01A	Sodium (Na)	62	0.50 mg/L	05/05/09	05/08/09
		Magnesium (Mg)	2.5	0.50 mg/L	05/05/09	05/08/09
		Potassium (K)	1.2	0.50 mg/L	05/05/09	05/08/09
		Calcium (Ca)	13	0.50 mg/L	05/05/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/05/09	05/08/09
		Iron (Fe)	1.6	0.10 mg/L	05/05/09	05/08/09
		Arsenic (As)	0.0073	0.0020 mg/L	05/05/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/05/09	05/08/09
Client ID :	**MW-17-4**					
Lab ID :	BMI09050740-02A	Sodium (Na)	53	0.50 mg/L	05/05/09	05/08/09
		Magnesium (Mg)	4.5	0.50 mg/L	05/05/09	05/08/09
		Potassium (K)	1.7	0.50 mg/L	05/05/09	05/08/09
		Calcium (Ca)	18	0.50 mg/L	05/05/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/05/09	05/08/09
		Iron (Fe)	ND	0.10 mg/L	05/05/09	05/08/09
		Arsenic (As)	ND	0.0020 mg/L	05/05/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/05/09	05/08/09
Client ID :	**MW-17-3**					
Lab ID :	BMI09050740-03A	Sodium (Na)	28	0.50 mg/L	05/05/09	05/08/09
		Magnesium (Mg)	33	0.50 mg/L	05/05/09	05/08/09
		Potassium (K)	2.9	0.50 mg/L	05/05/09	05/08/09
		Calcium (Ca)	84	0.50 mg/L	05/05/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/05/09	05/08/09
		Iron (Fe)	1.2	0.10 mg/L	05/05/09	05/08/09
		Arsenic (As)	ND	0.0020 mg/L	05/05/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/05/09	05/08/09
Client ID :	**MW-17-2**					
Lab ID :	BMI09050740-04A	Sodium (Na)	31	0.50 mg/L	05/05/09	05/08/09
		Magnesium (Mg)	41	0.50 mg/L	05/05/09	05/08/09
		Potassium (K)	4.5	0.50 mg/L	05/05/09	05/08/09
		Calcium (Ca)	120	0.50 mg/L	05/05/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/05/09	05/08/09
		Iron (Fe)	0.71	0.10 mg/L	05/05/09	05/08/09
		Arsenic (As)	ND	0.0020 mg/L	05/05/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/05/09	05/08/09

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Client ID :	**MW-17-1**					
Lab ID :	BMI09050740-05A	Sodium (Na)	18	0.50 mg/L	05/05/09	05/08/09
		Magnesium (Mg)	16	0.50 mg/L	05/05/09	05/08/09
		Potassium (K)	2.7	0.50 mg/L	05/05/09	05/08/09
		Calcium (Ca)	52	0.50 mg/L	05/05/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/05/09	05/08/09
		Iron (Fe)	0.48	0.10 mg/L	05/05/09	05/08/09
		Arsenic (As)	ND	0.0020 mg/L	05/05/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/05/09	05/08/09
Client ID :	**EB-08-5/05/09**					
Lab ID :	BMI09050740-06A	Sodium (Na)	ND	0.50 mg/L	05/05/09	05/08/09
		Magnesium (Mg)	ND	0.50 mg/L	05/05/09	05/08/09
		Potassium (K)	ND	0.50 mg/L	05/05/09	05/08/09
		Calcium (Ca)	ND	0.50 mg/L	05/05/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/05/09	05/08/09
		Iron (Fe)	ND	0.10 mg/L	05/05/09	05/08/09
		Arsenic (As)	ND	0.0020 mg/L	05/05/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/05/09	05/08/09

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

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

5/19/09

Report Date

Alpha Analytical, Inc.

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

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/07/09

Job#: G005862/JPL Groundwater Monitoring

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

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : **MW-17-5**	pH	8.5	1.7 pH Units	05/05/09 08:40	05/07/09 10:48
Lab ID : BMI09050740-01A	pH - Temperature	17	1.0 °C	05/05/09 08:40	05/07/09 10:48
Client ID : **MW-17-4**	pH	8.4	1.7 pH Units	05/05/09 09:18	05/07/09 10:52
Lab ID : BMI09050740-02A	pH - Temperature	17	1.0 °C	05/05/09 09:18	05/07/09 10:52
Client ID : **MW-17-3**	pH	7.8	1.7 pH Units	05/05/09 11:07	05/07/09 10:54
Lab ID : BMI09050740-03A	pH - Temperature	17	1.0 °C	05/05/09 11:07	05/07/09 10:54
Client ID : **MW-17-2**	pH	7.7	1.7 pH Units	05/05/09 11:41	05/07/09 10:55
Lab ID : BMI09050740-04A	pH - Temperature	17	1.0 °C	05/05/09 11:41	05/07/09 10:55
Client ID : **MW-17-1**	pH	7.6	1.7 pH Units	05/05/09 12:13	05/07/09 10:58
Lab ID : BMI09050740-05A	pH - Temperature	17	1.0 °C	05/05/09 12:13	05/07/09 10:58
Client ID : **EB-08-5/05/09**	pH	6.2	1.7 pH Units	05/05/09 11:30	05/07/09 11:00
Lab ID : BMI09050740-06A	pH - Temperature	17	1.0 °C	05/05/09 11:30	05/07/09 11:00

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

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

Roger Scholl Randy Gardner Walter Hinchman

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

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5/19/09
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
3990 Old Town Ave
San Diego, CA 92110

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/07/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)
SM2540C

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-17-5**					
Lab ID :	BMI09050740-01A	Solids, Total Dissolved (TDS)	160	10 mg/L	05/05/09	05/12/09
Client ID :	**MW-17-4**					
Lab ID :	BMI09050740-02A	Solids, Total Dissolved (TDS)	160	10 mg/L	05/05/09	05/12/09
Client ID :	**MW-17-3**					
Lab ID :	BMI09050740-03A	Solids, Total Dissolved (TDS)	400	10 mg/L	05/05/09	05/11/09
Client ID :	**MW-17-2**					
Lab ID :	BMI09050740-04A	Solids, Total Dissolved (TDS)	570	10 mg/L	05/05/09	05/11/09
Client ID :	**MW-17-1**					
Lab ID :	BMI09050740-05A	Solids, Total Dissolved (TDS)	220	10 mg/L	05/05/09	05/11/09
Client ID :	**EB-08-5/05/09**					
Lab ID :	BMI09050740-06A	Solids, Total Dissolved (TDS)	ND	10 mg/L	05/05/09	05/11/09

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

		Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID :	**MW-17-5**						
Lab ID :	BMI09050740-01A	* * * None Found * * *	ND	2.0 µg/L	05/07/09	05/05/09	05/11/09
Client ID :	**MW-17-4**						
Lab ID :	BMI09050740-02A	* * * None Found * * *	ND	2.0 µg/L	05/07/09	05/05/09	05/11/09
Client ID :	**MW-17-3**						
Lab ID :	BMI09050740-03A	* * * None Found * * *	ND	2.0 µg/L	05/07/09	05/05/09	05/11/09
Client ID :	**MW-17-2**						
Lab ID :	BMI09050740-04A	* * * None Found * * *	ND	2.0 µg/L	05/07/09	05/05/09	05/11/09
Client ID :	**MW-17-1**						
Lab ID :	BMI09050740-05A	Sulfur dioxide	15	2.0 µg/L	05/07/09	05/05/09	05/11/09
Client ID :	**EB-08-5/05/09**						
Lab ID :	BMI09050740-06A	Acetone	11	10 µg/L	05/07/09	05/05/09	05/11/09
		Tertiary Butyl Alcohol (TBA)	29	10 µg/L	05/07/09	05/05/09	05/11/09
		2-Methyl-1-propene	2.7	2.0 µg/L	05/07/09	05/05/09	05/11/09

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

Roger Scholl Randy Gardner Walter Hinchman

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5/19/09
Report Date

Page 1 of 1

Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050740-01A
Client I.D. Number: MW-17-5

Sampled: 05/05/09
Received: 05/07/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit		
1	Dichlorodifluoromethane	ND	0.50	µg/L	
2	Chloromethane	ND	1.0	µg/L	
3	Vinyl chloride	ND	0.50	µg/L	
4	Chloroethane	ND	0.50	µg/L	
5	Bromomethane	ND	1.0	µg/L	
6	Trichlorofluoromethane	ND	0.50	µg/L	
7	1,1-Dichloroethene	ND	0.50	µg/L	
8	Dichloromethane	ND	1.0	µg/L	
9	Freon-113	ND	0.50	µg/L	
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	
12	1,1-Dichloroethane	ND	0.50	µg/L	
13	2-Butanone (MEK)	ND	10	µg/L	
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	
15	Bromochloromethane	ND	0.50	µg/L	
16	Chloroform	ND	0.50	µg/L	
17	2,2-Dichloropropane	ND	0.50	µg/L	
18	1,2-Dichloroethane	ND	0.50	µg/L	
19	1,1,1-Trichloroethane	ND	0.50	µg/L	
20	1,1-Dichloropropene	ND	0.50	µg/L	
21	Carbon tetrachloride	ND	0.50	µg/L	
22	Benzene	ND	0.50	µg/L	
23	Dibromomethane	ND	0.50	µg/L	
24	1,2-Dichloropropane	ND	0.50	µg/L	
25	Trichloroethene	ND	0.50	µg/L	
26	Bromodichloromethane	ND	0.50	µg/L	
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	
30	1,1,2-Trichloroethane	ND	0.50	µg/L	
31	Toluene	ND	0.50	µg/L	
32	1,3-Dichloropropane	ND	0.50	µg/L	
33	Dibromochloromethane	ND	0.50	µg/L	
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L	
35	Tetrachloroethene	ND	0.50	µg/L	
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L	
37	Chlorobenzene	ND	0.50	µg/L	
38	Ethylbenzene	ND	0.50	µg/L	
39	m,p-Xylene	ND	0.50	µg/L	
40	Bromoform	ND	0.50	µg/L	
41	Styrene	ND	0.50	µg/L	
42	o-Xylene	ND	0.50	µg/L	
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	
44	1,2,3-Trichloropropane	ND	1.0	µg/L	
45	Isopropylbenzene	ND	0.50	µg/L	
46	Bromobenzene	ND	0.50	µg/L	
47	n-Propylbenzene	ND	0.50	µg/L	
48	4-Chlorotoluene	ND	0.50	µg/L	
49	2-Chlorotoluene	ND	0.50	µg/L	
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L	
51	tert-Butylbenzene	ND	0.50	µg/L	
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L	
53	sec-Butylbenzene	ND	0.50	µg/L	
54	1,3-Dichlorobenzene	ND	0.50	µg/L	
55	1,4-Dichlorobenzene	ND	0.50	µg/L	
56	4-Isopropyltoluene	ND	0.50	µg/L	
57	1,2-Dichlorobenzene	ND	0.50	µg/L	
58	n-Butylbenzene	ND	0.50	µg/L	
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L	
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L	
61	Naphthalene	ND	1.0	µg/L	
62	Hexachlorobutadiene	ND	1.0	µg/L	
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L	
64	Surr: 1,2-Dichloroethane-d4	112	(70-130)	%REC	
65	Surr: Toluene-d8	98	(70-130)	%REC	
66	Surr: 4-Bromofluorobenzene	98	(70-130)	%REC	

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

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

5/19/09

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
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050740-02A
Client I.D. Number: MW-17-4

Sampled: 05/05/09
Received: 05/07/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	0.58	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	116	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	97	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	97	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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5/19/09
Report Date

Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050740-03A
Client I.D. Number: MW-17-3

Sampled: 05/05/09
Received: 05/07/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	0.65	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	0.50	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	115	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	96	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	96	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

5/19/09
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
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050740-04A
Client I.D. Number: MW-17-2

Sampled: 05/05/09
Received: 05/07/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit		
1	Dichlorodifluoromethane	ND	0.50	µg/L	
2	Chloromethane	ND	1.0	µg/L	
3	Vinyl chloride	ND	0.50	µg/L	
4	Chloroethane	ND	0.50	µg/L	
5	Bromomethane	ND	1.0	µg/L	
6	Trichlorofluoromethane	ND	0.50	µg/L	
7	1,1-Dichloroethene	ND	0.50	µg/L	
8	Dichloromethane	ND	1.0	µg/L	
9	Freon-113	ND	0.50	µg/L	
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	
12	1,1-Dichloroethane	ND	0.50	µg/L	
13	2-Butanone (MEK)	ND	10	µg/L	
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	
15	Bromochloromethane	ND	0.50	µg/L	
16	Chloroform	ND	0.50	µg/L	
17	2,2-Dichloropropane	ND	0.50	µg/L	
18	1,2-Dichloroethane	ND	0.50	µg/L	
19	1,1,1-Trichloroethane	ND	0.50	µg/L	
20	1,1-Dichloropropene	ND	0.50	µg/L	
21	Carbon tetrachloride	ND	0.50	µg/L	
22	Benzene	ND	0.50	µg/L	
23	Dibromomethane	ND	0.50	µg/L	
24	1,2-Dichloropropane	ND	0.50	µg/L	
25	Trichloroethene	0.74	0.50	µg/L	
26	Bromodichloromethane	ND	0.50	µg/L	
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	
30	1,1,2-Trichloroethane	ND	0.50	µg/L	
31	Toluene	ND	0.50	µg/L	
32	1,3-Dichloropropane	ND	0.50	µg/L	
33	Dibromochloromethane	ND	0.50	µg/L	
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L	
35	Tetrachloroethene	ND	0.50	µg/L	
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L	
37	Chlorobenzene	ND	0.50	µg/L	
38	Ethylbenzene	ND	0.50	µg/L	
39	m,p-Xylene	ND	0.50	µg/L	
40	Bromoform	ND	0.50	µg/L	
41	Styrene	ND	0.50	µg/L	
42	o-Xylene	ND	0.50	µg/L	
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	
44	1,2,3-Trichloropropane	ND	1.0	µg/L	
45	Isopropylbenzene	ND	0.50	µg/L	
46	Bromobenzene	ND	0.50	µg/L	
47	n-Propylbenzene	ND	0.50	µg/L	
48	4-Chlorotoluene	ND	0.50	µg/L	
49	2-Chlorotoluene	ND	0.50	µg/L	
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L	
51	tert-Butylbenzene	ND	0.50	µg/L	
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L	
53	sec-Butylbenzene	ND	0.50	µg/L	
54	1,3-Dichlorobenzene	ND	0.50	µg/L	
55	1,4-Dichlorobenzene	ND	0.50	µg/L	
56	4-Isopropyltoluene	ND	0.50	µg/L	
57	1,2-Dichlorobenzene	ND	0.50	µg/L	
58	n-Butylbenzene	ND	0.50	µg/L	
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L	
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L	
61	Naphthalene	ND	1.0	µg/L	
62	Hexachlorobutadiene	ND	1.0	µg/L	
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L	
64	Surr: 1,2-Dichloroethane-d4	114	(70-130)	%REC	
65	Surr: Toluene-d8	99	(70-130)	%REC	
66	Surr: 4-Bromofluorobenzene	101	(70-130)	%REC	

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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5/19/09

Report Date

Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050740-05A
Client I.D. Number: MW-17-1

Sampled: 05/05/09
Received: 05/07/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	116	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	98	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	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 Randy Gardner Walter Hinchman

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

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

5/19/09

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
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050740-06A
Client I.D. Number: EB-08-5/05/09

Sampled: 05/05/09
Received: 05/07/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit		
1	Dichlorodifluoromethane	ND	0.50	µg/L	
2	Chloromethane	ND	1.0	µg/L	
3	Vinyl chloride	ND	0.50	µg/L	
4	Chloroethane	ND	0.50	µg/L	
5	Bromomethane	ND	1.0	µg/L	
6	Trichlorofluoromethane	ND	0.50	µg/L	
7	1,1-Dichloroethene	ND	0.50	µg/L	
8	Dichloromethane	ND	1.0	µg/L	
9	Freon-113	ND	0.50	µg/L	
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	
12	1,1-Dichloroethane	ND	0.50	µg/L	
13	2-Butanone (MEK)	ND	10	µg/L	
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	
15	Bromochloromethane	ND	0.50	µg/L	
16	Chloroform	ND	0.50	µg/L	
17	2,2-Dichloropropane	ND	0.50	µg/L	
18	1,2-Dichloroethane	ND	0.50	µg/L	
19	1,1,1-Trichloroethane	ND	0.50	µg/L	
20	1,1-Dichloropropene	ND	0.50	µg/L	
21	Carbon tetrachloride	ND	0.50	µg/L	
22	Benzene	ND	0.50	µg/L	
23	Dibromomethane	ND	0.50	µg/L	
24	1,2-Dichloropropane	ND	0.50	µg/L	
25	Trichloroethene	ND	0.50	µg/L	
26	Bromodichloromethane	ND	0.50	µg/L	
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	
30	1,1,2-Trichloroethane	ND	0.50	µg/L	
31	Toluene	ND	0.50	µg/L	
32	1,3-Dichloropropane	ND	0.50	µg/L	
33	Dibromochloromethane	ND	0.50	µg/L	
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L	
35	Tetrachloroethene	ND	0.50	µg/L	
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L	
37	Chlorobenzene	ND	0.50	µg/L	
38	Ethylbenzene	ND	0.50	µg/L	
39	m,p-Xylene	ND	0.50	µg/L	
40	Bromoform	ND	0.50	µg/L	
41	Styrene	ND	0.50	µg/L	
42	o-Xylene	ND	0.50	µg/L	
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	
44	1,2,3-Trichloropropane	ND	1.0	µg/L	
45	Isopropylbenzene	ND	0.50	µg/L	
46	Bromobenzene	ND	0.50	µg/L	
47	n-Propylbenzene	ND	0.50	µg/L	
48	4-Chlorotoluene	ND	0.50	µg/L	
49	2-Chlorotoluene	ND	0.50	µg/L	
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L	
51	tert-Butylbenzene	ND	0.50	µg/L	
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L	
53	sec-Butylbenzene	ND	0.50	µg/L	
54	1,3-Dichlorobenzene	ND	0.50	µg/L	
55	1,4-Dichlorobenzene	ND	0.50	µg/L	
56	4-Isopropyltoluene	ND	0.50	µg/L	
57	1,2-Dichlorobenzene	ND	0.50	µg/L	
58	n-Butylbenzene	ND	0.50	µg/L	
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L	
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L	
61	Naphthalene	ND	1.0	µg/L	
62	Hexachlorobutadiene	ND	1.0	µg/L	
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L	
64	Surr: 1,2-Dichloroethane-d4	102	(70-130)	%REC	
65	Surr: Toluene-d8	98	(70-130)	%REC	
66	Surr: 4-Bromofluorobenzene	99	(70-130)	%REC	

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

5/19/09

Report Date

Alpha Analytical, Inc.

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

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

VOC Sample Preservation Report

Work Order: BMI09050740 **Project:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09050740-01A	MW-17-5	Aqueous	2
09050740-02A	MW-17-4	Aqueous	2
09050740-03A	MW-17-3	Aqueous	2
09050740-04A	MW-17-2	Aqueous	2
09050740-05A	MW-17-1	Aqueous	2
09050740-06A	EB-08-5/05/09	Aqueous	2

5/19/09

Report Date

Billing Information :

CHAIN-OF-CUSTODY RECORD

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

CA

WorkOrder : BMIS09050740

Report Due By : 5:00 PM On : 20-May-09

Client:
Battelle Memorial Institute
3990 Old Town Ave
Suite C-205
San Diego, CA 92110

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

EDD Required : **Yes**

Sampled by : Client

PO : 218013

Client's COC # : 25547 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	07-May-09	07-May-09

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 300_0(A)_W	300_0(B)_W	300_0(C)_W	314_W	ALKALINITY_W	METALS_DW	PH_W	TDS	Sample Remarks
BMI09050740-01A	MW-17-5	AQ	05/05/09 08:40	5	0	9	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050740-02A	MW-17-4	AQ	05/05/09 09:18	10	0	9	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	MS/MSD
BMI09050740-03A	MW-17-3	AQ	05/05/09 11:07	5	0	9	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050740-04A	MW-17-2	AQ	05/05/09 11:41	5	0	9	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050740-05A	MW-17-1	AQ	05/05/09 12:13	5	0	9	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050740-06A	EB-08-5/05/09	AQ	05/05/09 11:30	5	0	9	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	NO2, NO3, SO4, CL	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050740-07A	TB-08-5/05/09	AQ	05/05/09 00:00	1	0	9									Reno Trip Blank 3/16/09

Comments: No security seals.Temp Blank # 7570 received @ 8 ° Celcius as cooler was delayed one day by Fedex, but Frozen ice remained in cooler. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). : Logged in as 9 day TAT due to delayed cooler. Samples -01A & -02A received outside of holding time for NO2 & NO3 on an unpres sample, left msg for client regarding analysis.

	Signature	Print Name	Company	Date/Time
Logged in by:	Patricia Ednosa	Latricia Ednosa	**Alpha Analytical, Inc.**	5/7/09 9:39

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

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

CA

WorkOrder : BMIS09050740

Report Due By : 5:00 PM On : 20-May-09

Client:
Battelle Memorial Institute
3990 Old Town Ave
Suite C-205
San Diego, CA 92110

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

EDD Required : **Yes**

Sampled by : Client

PO : 218013

Client's COC # : 25547 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	07-May-09	07-May-09

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests VOC_TIC_W	VOC_W						Sample Remarks
BMI09050740-01A	MW-17-5	AQ	05/05/09 08:40	5	0	9	VOC by 524 Criteria	VOC by 524 Criteria						
BMI09050740-02A	MW-17-4	AQ	05/05/09 09:18	10	0	9	VOC by 524 Criteria	VOC by 524 Criteria						MS/MSD
BMI09050740-03A	MW-17-3	AQ	05/05/09 11:07	5	0	9	VOC by 524 Criteria	VOC by 524 Criteria						
BMI09050740-04A	MW-17-2	AQ	05/05/09 11:41	5	0	9	VOC by 524 Criteria	VOC by 524 Criteria						
BMI09050740-05A	MW-17-1	AQ	05/05/09 12:13	5	0	9	VOC by 524 Criteria	VOC by 524 Criteria						
BMI09050740-06A	EB-08-5/05/09	AQ	05/05/09 11:30	5	0	9	VOC by 524 Criteria	VOC by 524 Criteria						
BMI09050740-07A	TB-08-5/05/09	AQ	05/05/09 00:00	1	0	9	VOC by 524 Criteria	VOC by 524 Criteria						Reno Trip Blank 3/16/09

Comments: No security seals.Temp Blank # 7570 received @ 8 ° Celcius as cooler was delayed one day by Fedex, but Frozen ice remained in cooler. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). : Logged in as 9 day TAT due to delayed cooler. Samples -01A & -02A received outside of holding time for NO2 & NO3 on an unpres sample, left msg for client regarding analysis.

	Signature	Print Name	Company	Date/Time
Logged in by:	Patricia Edrosa	Patricia Edrosa	Alpha Analytical, Inc.	5/7/09 9:39

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

Billing Information:
Name GERALD TOMPKINS
Address 505 KING AVE.
City, State, Zip COLUMBUS, OH 43201
Phone Number _____ Fax _____

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

Samples Collected From Which State? AZ ___ CA X NV ___ WA ___ ID ___ OR ___ OTHER ___

25547

Page # 1 of 1

Client Name: DAVID CONNER
Address: 3990 OLD TOWN AVE, C-205
City, State, Zip: SAN DIEGO, CA 92110
P.O. # 218013
Job # 600 5862
EMail Address
Phone # 619-726-7311
Fax #

Required QC Level? I II III IV

EDD / EDF? YES ___ NO ___
Global ID # _____

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by / Lab ID Number (Office Use Only)	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOC's (524.2)	TOTAL Cr (200.8)	Gen Chem: (Ca, Mg, Fe) (200.7)	Cl, SO_4 - (314.0)	Gen Chem: (300.0, 310.1, 160.1, 150.1)	o-PHOSPHATE (300.0)	REMARKS
0840	5/5/09	AQ	Bm1090507 40-01	MW-17-5			5	X	X	X	X	X		
0918			-02	MW-17-4			10	X	X	X	X	X		MS/MSD
1107			-03	MW-17-3			5	X	X	X	X	X		
1141			-04	MW-17-2			1	X	X	X	X	X		
1213			-05	MW-17-1			1	X	X	X	X	X		
1130			-06	EB-08-5/05/09			5	X	X	X	X	X		EQUIPMENT BLANK
—			-07	TB-08-5/05/09			1	X						TRIP BLANK

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished by		CHASE BROGDON	WSI/GAIT	05/05/09	1330
Received by	Patricia Edrosa	Patricia Edrosa	Alpha	5/7/09	9:39
Relinquished by					
Received by					
Relinquished by					
Received by					

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

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

Alpha Analytical, Inc.

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

Date: *18-May-09*

David Conner
Battelle Memorial Institute
3990 Old Town Ave Suite C-205
San Diego, CA 92110
(818) 393-2808

CASE NARRATIVE

Project: G005862/JPL Groundwater Monitoring
Work Order: BMI09050701 **Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09050701-01A	MW-20-5	Aqueous
09050701-02A	MW-20-4	Aqueous
09050701-03A	MW-20-3	Aqueous
09050701-04A	MW-20-2	Aqueous
09050701-05A	MW-20-1	Aqueous
09050701-06A	DUPE-05-2Q09	Aqueous
09050701-07A	DUPE-06-2Q09	Aqueous
09050701-08A	EB-09-05/06/09	Aqueous
09050701-09A	TB-09-05/06/09	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
NONE		

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

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

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

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
3990 Old Town Ave
San Diego, CA 92110

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/07/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : **MW-20-5**	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/09 08:25	05/07/09 13:24
Lab ID : BMI09050701-01A	Nitrate (NO3) - N	ND	0.25 mg/L	05/06/09 08:25	05/07/09 13:24
Client ID : **MW-20-4**	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/09 09:04	05/07/09 13:43
Lab ID : BMI09050701-02A	Nitrate (NO3) - N	ND	0.25 mg/L	05/06/09 09:04	05/07/09 13:43
Client ID : **MW-20-3**	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/09 10:05	05/07/09 14:01
Lab ID : BMI09050701-03A	Nitrate (NO3) - N	ND	0.25 mg/L	05/06/09 10:05	05/07/09 14:01
Client ID : **MW-20-2**	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/09 11:04	05/07/09 14:20
Lab ID : BMI09050701-04A	Nitrate (NO3) - N	3.4	0.25 mg/L	05/06/09 11:04	05/07/09 14:20
Client ID : **MW-20-1**	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/09 11:34	05/07/09 16:11
Lab ID : BMI09050701-05A	Nitrate (NO3) - N	2.0	0.25 mg/L	05/06/09 11:34	05/07/09 16:11
Client ID : **DUPE-05-2Q09**	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/09 00:00	05/07/09 16:29
Lab ID : BMI09050701-06A	Nitrate (NO3) - N	ND	0.25 mg/L	05/06/09 00:00	05/07/09 16:29
Client ID : **DUPE-06-2Q09**	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/09 00:00	05/07/09 16:48
Lab ID : BMI09050701-07A	Nitrate (NO3) - N	ND	0.25 mg/L	05/06/09 00:00	05/07/09 16:48
Client ID : **EB-09-05/06/09**	Nitrite (NO2) - N	ND	0.25 mg/L	05/06/09 11:20	05/07/09 17:06
Lab ID : BMI09050701-08A	Nitrate (NO3) - N	ND	0.25 mg/L	05/06/09 11:20	05/07/09 17:06

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

5/20/09
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
3990 Old Town Ave
San Diego, CA 92110

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/07/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0 / 9056

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-20-5**					
Lab ID :	BMI09050701-01A	Chloride	9.3	0.50 mg/L	05/06/09	05/07/09
		Sulfate (SO4)	4.2	0.50 mg/L	05/06/09	05/07/09
Client ID :	**MW-20-4**					
Lab ID :	BMI09050701-02A	Chloride	11	0.50 mg/L	05/06/09	05/07/09
		Sulfate (SO4)	16	0.50 mg/L	05/06/09	05/07/09
Client ID :	**MW-20-3**					
Lab ID :	BMI09050701-03A	Chloride	41	0.50 mg/L	05/06/09	05/07/09
		Sulfate (SO4)	11	0.50 mg/L	05/06/09	05/07/09
Client ID :	**MW-20-2**					
Lab ID :	BMI09050701-04A	Chloride	28	0.50 mg/L	05/06/09	05/07/09
		Sulfate (SO4)	42	0.50 mg/L	05/06/09	05/07/09
Client ID :	**MW-20-1**					
Lab ID :	BMI09050701-05A	Chloride	16	0.50 mg/L	05/06/09	05/07/09
		Sulfate (SO4)	56	0.50 mg/L	05/06/09	05/07/09
Client ID :	**DUPE-05-2Q09**					
Lab ID :	BMI09050701-06A	Chloride	11	0.50 mg/L	05/06/09	05/07/09
		Sulfate (SO4)	16	0.50 mg/L	05/06/09	05/07/09
Client ID :	**DUPE-06-2Q09**					
Lab ID :	BMI09050701-07A	Chloride	41	0.50 mg/L	05/06/09	05/07/09
		Sulfate (SO4)	12	0.50 mg/L	05/06/09	05/07/09
Client ID :	**EB-09-05/06/09**					
Lab ID :	BMI09050701-08A	Chloride	ND	0.50 mg/L	05/06/09	05/07/09
		Sulfate (SO4)	ND	0.50 mg/L	05/06/09	05/07/09

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

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5/20/09
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
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

		Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID :	**MW-20-5**						
Lab ID :	BMI09050701-01A	Sulfur dioxide	49	2.0 µg/L	05/07/09	05/06/09	05/12/09
Client ID :	**MW-20-4**						
Lab ID :	BMI09050701-02A	Sulfur dioxide	56	2.0 µg/L	05/07/09	05/06/09	05/12/09
Client ID :	**MW-20-3**						
Lab ID :	BMI09050701-03A	Sulfur dioxide	35	2.0 µg/L	05/07/09	05/06/09	05/12/09
Client ID :	**MW-20-2**						
Lab ID :	BMI09050701-04A	Sulfur dioxide	24	2.0 µg/L	05/07/09	05/06/09	05/12/09
Client ID :	**MW-20-1**						
Lab ID :	BMI09050701-05A	Sulfur dioxide	20	2.0 µg/L	05/07/09	05/06/09	05/12/09
Client ID :	**DUPE-05-2Q09**						
Lab ID :	BMI09050701-06A	Sulfur dioxide	44	2.0 µg/L	05/07/09	05/06/09	05/12/09
Client ID :	**DUPE-06-2Q09**						
Lab ID :	BMI09050701-07A	Sulfur dioxide	31	2.0 µg/L	05/07/09	05/06/09	05/12/09
Client ID :	**EB-09-05/06/09**						
Lab ID :	BMI09050701-08A	* * * None Found * * *	ND	2.0 µg/L	05/07/09	05/06/09	05/12/09
Client ID :	**TB-09-05/06/09**						
Lab ID :	BMI09050701-09A	* * * None Found * * *	ND	2.0 µg/L	05/07/09	05/06/09	05/12/09

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

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ANALYTICAL REPORT

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/07/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-20-5**					
Lab ID :	BMI09050701-01A	Perchlorate	ND	1.00 µg/L	05/06/09	05/07/09
Client ID :	**MW-20-4**					
Lab ID :	BMI09050701-02A	Perchlorate	ND	1.00 µg/L	05/06/09	05/07/09
Client ID :	**MW-20-3**					
Lab ID :	BMI09050701-03A	Perchlorate	ND	1.00 µg/L	05/06/09	05/07/09
Client ID :	**MW-20-2**					
Lab ID :	BMI09050701-04A	Perchlorate	ND	1.00 µg/L	05/06/09	05/07/09
Client ID :	**MW-20-1**					
Lab ID :	BMI09050701-05A	Perchlorate	ND	1.00 µg/L	05/06/09	05/07/09
Client ID :	**DUPE-05-2Q09**					
Lab ID :	BMI09050701-06A	Perchlorate	ND	1.00 µg/L	05/06/09	05/07/09
Client ID :	**DUPE-06-2Q09**					
Lab ID :	BMI09050701-07A	Perchlorate	ND	1.00 µg/L	05/06/09	05/07/09
Client ID :	**EB-09-05/06/09**					
Lab ID :	BMI09050701-08A	Perchlorate	ND	1.00 µg/L	05/06/09	05/07/09

ND = Not Detected

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3990 Old Town Ave
San Diego, CA 92110

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/07/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-20-5**					
Lab ID :	BMI09050701-01A	Alkalinity, Bicarbonate (As CaCO3)	70	10 mg/L	05/06/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	59	10 mg/L	05/06/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	130	10 mg/L	05/06/09	05/11/09
Client ID :	**MW-20-4**					
Lab ID :	BMI09050701-02A	Alkalinity, Bicarbonate (As CaCO3)	100	10 mg/L	05/06/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	45	10 mg/L	05/06/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	150	10 mg/L	05/06/09	05/11/09
Client ID :	**MW-20-3**					
Lab ID :	BMI09050701-03A	Alkalinity, Bicarbonate (As CaCO3)	110	10 mg/L	05/06/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	35	10 mg/L	05/06/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	140	10 mg/L	05/06/09	05/11/09
Client ID :	**MW-20-2**					
Lab ID :	BMI09050701-04A	Alkalinity, Bicarbonate (As CaCO3)	150	10 mg/L	05/06/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/06/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	150	10 mg/L	05/06/09	05/11/09
Client ID :	**MW-20-1**					
Lab ID :	BMI09050701-05A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	05/06/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/06/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	170	10 mg/L	05/06/09	05/11/09
Client ID :	**DUPE-05-2Q09**					
Lab ID :	BMI09050701-06A	Alkalinity, Bicarbonate (As CaCO3)	98	10 mg/L	05/06/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	36	10 mg/L	05/06/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	130	10 mg/L	05/06/09	05/11/09
Client ID :	**DUPE-06-2Q09**					
Lab ID :	BMI09050701-07A	Alkalinity, Bicarbonate (As CaCO3)	120	10 mg/L	05/06/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	23	10 mg/L	05/06/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	150	10 mg/L	05/06/09	05/11/09
Client ID :	**EB-09-05/06/09**					
Lab ID :	BMI09050701-08A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	05/06/09	05/11/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/06/09	05/11/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	05/06/09	05/11/09

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ANALYTICAL REPORT

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/07/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-20-5**					
Lab ID :	BMI09050701-01A	Sodium (Na)	60	0.50 mg/L	05/06/09	05/08/09
		Magnesium (Mg)	1.4	0.50 mg/L	05/06/09	05/08/09
		Potassium (K)	1.4	0.50 mg/L	05/06/09	05/08/09
		Calcium (Ca)	5.3	0.50 mg/L	05/06/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/06/09	05/08/09
		Iron (Fe)	ND	0.30 mg/L	05/06/09	05/08/09
		Arsenic (As)	ND	0.0050 mg/L	05/06/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/06/09	05/08/09
Client ID :	**MW-20-4**					
Lab ID :	BMI09050701-02A	Sodium (Na)	64	0.50 mg/L	05/06/09	05/08/09
		Magnesium (Mg)	3.9	0.50 mg/L	05/06/09	05/08/09
		Potassium (K)	0.91	0.50 mg/L	05/06/09	05/08/09
		Calcium (Ca)	11	0.50 mg/L	05/06/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/06/09	05/08/09
		Iron (Fe)	ND	0.30 mg/L	05/06/09	05/08/09
		Arsenic (As)	ND	0.0050 mg/L	05/06/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/06/09	05/08/09
Client ID :	**MW-20-3**					
Lab ID :	BMI09050701-03A	Sodium (Na)	61	0.50 mg/L	05/06/09	05/08/09
		Magnesium (Mg)	13	0.50 mg/L	05/06/09	05/08/09
		Potassium (K)	2.4	0.50 mg/L	05/06/09	05/08/09
		Calcium (Ca)	16	0.50 mg/L	05/06/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/06/09	05/08/09
		Iron (Fe)	ND	0.30 mg/L	05/06/09	05/08/09
		Arsenic (As)	ND	0.0050 mg/L	05/06/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/06/09	05/08/09
Client ID :	**MW-20-2**					
Lab ID :	BMI09050701-04A	Sodium (Na)	19	0.50 mg/L	05/06/09	05/08/09
		Magnesium (Mg)	22	0.50 mg/L	05/06/09	05/08/09
		Potassium (K)	2.8	0.50 mg/L	05/06/09	05/08/09
		Calcium (Ca)	54	0.50 mg/L	05/06/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/06/09	05/08/09
		Iron (Fe)	ND	0.30 mg/L	05/06/09	05/08/09
		Arsenic (As)	ND	0.0050 mg/L	05/06/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/06/09	05/08/09

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Client ID :	**MW-20-1**					
Lab ID :	BMI09050701-05A	Sodium (Na)	18	0.50 mg/L	05/06/09	05/08/09
		Magnesium (Mg)	19	0.50 mg/L	05/06/09	05/08/09
		Potassium (K)	2.8	0.50 mg/L	05/06/09	05/08/09
		Calcium (Ca)	62	0.50 mg/L	05/06/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/06/09	05/08/09
		Iron (Fe)	0.34	0.30 mg/L	05/06/09	05/08/09
		Arsenic (As)	ND	0.0050 mg/L	05/06/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/06/09	05/08/09
Client ID :	**DUPE-05-2Q09**					
Lab ID :	BMI09050701-06A	Sodium (Na)	59	0.50 mg/L	05/06/09	05/08/09
		Magnesium (Mg)	3.6	0.50 mg/L	05/06/09	05/08/09
		Potassium (K)	0.89	0.50 mg/L	05/06/09	05/08/09
		Calcium (Ca)	10	0.50 mg/L	05/06/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/06/09	05/08/09
		Iron (Fe)	ND	0.30 mg/L	05/06/09	05/08/09
		Arsenic (As)	ND	0.0050 mg/L	05/06/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/06/09	05/08/09
Client ID :	**DUPE-06-2Q09**					
Lab ID :	BMI09050701-07A	Sodium (Na)	60	0.50 mg/L	05/06/09	05/08/09
		Magnesium (Mg)	12	0.50 mg/L	05/06/09	05/08/09
		Potassium (K)	2.4	0.50 mg/L	05/06/09	05/08/09
		Calcium (Ca)	15	0.50 mg/L	05/06/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/06/09	05/08/09
		Iron (Fe)	ND	0.30 mg/L	05/06/09	05/08/09
		Arsenic (As)	ND	0.0050 mg/L	05/06/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/06/09	05/08/09
Client ID :	**EB-09-05/06/09**					
Lab ID :	BMI09050701-08A	Sodium (Na)	ND	0.50 mg/L	05/06/09	05/08/09
		Magnesium (Mg)	ND	0.50 mg/L	05/06/09	05/08/09
		Potassium (K)	ND	0.50 mg/L	05/06/09	05/08/09
		Calcium (Ca)	ND	0.50 mg/L	05/06/09	05/08/09
		Chromium (Cr)	ND	0.0050 mg/L	05/06/09	05/08/09
		Iron (Fe)	ND	0.30 mg/L	05/06/09	05/08/09
		Arsenic (As)	ND	0.0050 mg/L	05/06/09	05/08/09
		Lead (Pb)	ND	0.0050 mg/L	05/06/09	05/08/09

ND = Not Detected

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5/28/09

Report Date

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ANALYTICAL REPORT

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/07/09

Job#: G005862/JPL Groundwater Monitoring

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

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : **MW-20-5**	pH	9.1	1.7 pH Units	05/06/09 08:25	05/07/09 11:33
Lab ID : BMI09050701-01A	pH - Temperature	19	1.0 °C	05/06/09 08:25	05/07/09 11:33
Client ID : **MW-20-4**	pH	9.0	1.7 pH Units	05/06/09 09:04	05/07/09 11:21
Lab ID : BMI09050701-02A	pH - Temperature	18	1.0 °C	05/06/09 09:04	05/07/09 11:21
Client ID : **MW-20-3**	pH	8.9	1.7 pH Units	05/06/09 10:05	05/07/09 11:24
Lab ID : BMI09050701-03A	pH - Temperature	18	1.0 °C	05/06/09 10:05	05/07/09 11:24
Client ID : **MW-20-2**	pH	8.1	1.7 pH Units	05/06/09 11:04	05/07/09 11:29
Lab ID : BMI09050701-04A	pH - Temperature	19	1.0 °C	05/06/09 11:04	05/07/09 11:29
Client ID : **MW-20-1**	pH	7.7	1.7 pH Units	05/06/09 11:34	05/07/09 11:38
Lab ID : BMI09050701-05A	pH - Temperature	17	1.0 °C	05/06/09 11:34	05/07/09 11:38
Client ID : **DUPE-05-2Q09**	pH	9.0	1.7 pH Units	05/06/09 00:00	05/07/09 11:41
Lab ID : BMI09050701-06A	pH - Temperature	17	1.0 °C	05/06/09 00:00	05/07/09 11:41
Client ID : **DUPE-06-2Q09**	pH	8.8	1.7 pH Units	05/06/09 00:00	05/07/09 11:45
Lab ID : BMI09050701-07A	pH - Temperature	17	1.0 °C	05/06/09 00:00	05/07/09 11:45
Client ID : **EB-09-05/06/09**	pH	6.2	1.7 pH Units	05/06/09 11:20	05/07/09 11:48
Lab ID : BMI09050701-08A	pH - Temperature	20	1.0 °C	05/06/09 11:20	05/07/09 11:48

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

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

Roger Scholl Randy Gardner Walter Hinchman

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Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/07/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)
SM2540C

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-20-5**					
Lab ID :	BMI09050701-01A	Solids, Total Dissolved (TDS)	170	10 mg/L	05/06/09	05/11/09
Client ID :	**MW-20-4**					
Lab ID :	BMI09050701-02A	Solids, Total Dissolved (TDS)	190	10 mg/L	05/06/09	05/11/09
Client ID :	**MW-20-3**					
Lab ID :	BMI09050701-03A	Solids, Total Dissolved (TDS)	220	10 mg/L	05/06/09	05/11/09
Client ID :	**MW-20-2**					
Lab ID :	BMI09050701-04A	Solids, Total Dissolved (TDS)	290	10 mg/L	05/06/09	05/11/09
Client ID :	**MW-20-1**					
Lab ID :	BMI09050701-05A	Solids, Total Dissolved (TDS)	280	10 mg/L	05/06/09	05/11/09
Client ID :	**DUPE-05-2Q09**					
Lab ID :	BMI09050701-06A	Solids, Total Dissolved (TDS)	210	10 mg/L	05/06/09	05/11/09
Client ID :	**DUPE-06-2Q09**					
Lab ID :	BMI09050701-07A	Solids, Total Dissolved (TDS)	210	10 mg/L	05/06/09	05/11/09
Client ID :	**EB-09-05/06/09**					
Lab ID :	BMI09050701-08A	Solids, Total Dissolved (TDS)	ND	10 mg/L	05/06/09	05/11/09

ND = Not Detected

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Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050701-01A
Client I.D. Number: MW-20-5

Sampled: 05/06/09
Received: 05/07/09
Analyzed: 05/12/09

Volatile Organics by GC/MS

	Compound	Concentration		Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	*	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	112	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	97	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	97	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Bromomethane failed the Method CV criteria of 70-130% @ 68% recovery.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

5/20/09
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
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050701-02A
Client I.D. Number: MW-20-4

Sampled: 05/06/09
Received: 05/07/09
Analyzed: 05/12/09

Volatile Organics by GC/MS

	Compound	Concentration		Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	*	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	115	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	97	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	93	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Bromomethane failed the Method CV criteria of 70-130% @ 68% recovery.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

5/20/09
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
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050701-03A
Client I.D. Number: MW-20-3

Sampled: 05/06/09
Received: 05/07/09
Analyzed: 05/12/09

Volatile Organics by GC/MS

	Compound	Concentration		Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	*	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	111	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	98	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	94	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Bromomethane failed the Method CV criteria of 70-130% @ 68% recovery.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

5/20/09
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
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050701-04A
Client I.D. Number: MW-20-2

Sampled: 05/06/09
Received: 05/07/09
Analyzed: 05/12/09

Volatile Organics by GC/MS

	Compound	Concentration		Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	*	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	113	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	97	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	93	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Bromomethane failed the Method CV criteria of 70-130% @ 68% recovery.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer
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Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.

5/20/09
Report Date

Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050701-05A
Client I.D. Number: MW-20-1

Sampled: 05/06/09
Received: 05/07/09
Analyzed: 05/12/09

Volatile Organics by GC/MS

	Compound	Concentration		Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	*	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	115	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	98	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	92	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Bromomethane failed the Method CV criteria of 70-130% @ 68% recovery.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

5/20/09
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
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050701-06A
Client I.D. Number: DUPE-05-2Q09

Sampled: 05/06/09
Received: 05/07/09
Analyzed: 05/12/09

Volatile Organics by GC/MS

	Compound	Concentration		Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	*	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	116	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	97	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	93	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Bromomethane failed the Method CV criteria of 70-130% @ 68% recovery.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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5/20/09
Report Date

Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050701-07A
Client I.D. Number: DUPE-06-2Q09

Sampled: 05/06/09
Received: 05/07/09
Analyzed: 05/12/09

Volatile Organics by GC/MS

	Compound	Concentration		Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	*	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	115	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	96	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	94	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND		1.0	µg/L					
35	Tetrachloroethene	ND		0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Bromomethane failed the Method CV criteria of 70-130% @ 68% recovery.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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5/20/09
Report Date

Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050701-08A
Client I.D. Number: EB-09-05/06/09

Sampled: 05/06/09
Received: 05/07/09
Analyzed: 05/12/09

Volatile Organics by GC/MS

	Compound	Concentration		Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	*	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND		0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND		0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND		0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND		0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND		10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND		0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND		0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND		0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND		0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND		0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND		0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	107	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	98	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	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.

*Note: Bromomethane failed the Method CV criteria of 70-130% @ 68% recovery.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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5/20/09
Report Date

Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050701-09A
Client I.D. Number: TB-09-05/06/09

Sampled: 05/06/09
Received: 05/07/09
Analyzed: 05/12/09

Volatile Organics by GC/MS

	Compound	Concentration		Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND		0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND		1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND		0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND		0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	*	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND		0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND		0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND		1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
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10	trans-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
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18	1,2-Dichloroethane	ND		0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND		0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
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22	Benzene	ND		0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND		0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND		0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	ND		0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND		0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND		2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND		0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND		0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	103	(70-130)	%REC
30	1,1,2-Trichloroethane	ND		0.50	µg/L	65	Surr: Toluene-d8	99	(70-130)	%REC
31	Toluene	ND		0.50	µg/L	66	Surr: 4-Bromofluorobenzene	97	(70-130)	%REC
32	1,3-Dichloropropane	ND		0.50	µg/L					
33	Dibromochloromethane	ND		0.50	µg/L					
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Note: Analysis conducted using EPA Method 524.2 criteria.

*Note: Bromomethane failed the Method CV criteria of 70-130% @ 68% recovery.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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5/20/09
Report Date

Alpha Analytical, Inc.

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

VOC Sample Preservation Report

Work Order: BMI09050701 **Project:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09050701-01A	MW-20-5	Aqueous	2
09050701-02A	MW-20-4	Aqueous	2
09050701-03A	MW-20-3	Aqueous	2
09050701-04A	MW-20-2	Aqueous	2
09050701-05A	MW-20-1	Aqueous	2
09050701-06A	DUPE-05-2Q09	Aqueous	2
09050701-07A	DUPE-06-2Q09	Aqueous	2
09050701-08A	EB-09-05/06/09	Aqueous	2
09050701-09A	TB-09-05/06/09	Aqueous	2

5/20/09

Report Date

Billing Information :

CHAIN-OF-CUSTODY RECORD

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

CA

WorkOrder : BMIS09050701

Report Due By : 5:00 PM On : 21-May-2009

Client:
Battelle Memorial Institute
3990 Old Town Ave
Suite C-205
San Diego, CA 92110

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

EDD Required : **Yes**

Sampled by : Client

PO : 218013

Client's COC # : 25544

Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	07-May-2009	**07-May-2009**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests: 300_0(A)_W	300_0(B)_W	300_0(C)_W	314_W	ALKALINITY_W	METALS_DW	PH_W	TDS	Sample Remarks
BMI09050701-01A	MW-20-5	AQ	05/06/09 08:25	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	Level IV QC.
BMI09050701-02A	MW-20-4	AQ	05/06/09 09:04	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050701-03A	MW-20-3	AQ	05/06/09 10:05	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050701-04A	MW-20-2	AQ	05/06/09 11:04	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050701-05A	MW-20-1	AQ	05/06/09 11:34	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050701-06A	DUPE-05-2Q09	AQ	05/06/09 00:00	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050701-07A	DUPE-06-2Q09	AQ	05/06/09 00:00	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050701-08A	EB-09-05/06/09	AQ	05/06/09 11:20	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050701-09A	TB-09-05/06/09	AQ	05/06/09 00:00	1	0	10									Reno Trip Blank 3/16/09

Comments: No security seals. Frozen ice. Temp Blank #7684 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). :

	Signature	Print Name	Company	Date/Time
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	**Alpha Analytical, Inc.**	5-7-09 10:01

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

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

WorkOrder : BMIS09050701

Report Due By : 5:00 PM On : 21-May-2009

Client:
Battelle Memorial Institute
3990 Old Town Ave
Suite C-205
San Diego, CA 92110

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

EDD Required : Yes

Sampled by : Client

PO : 218013

Client's COC # : 25544 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	07-May-2009	07-May-2009

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests VOC_TIC_W	VOC_W	Sample Remarks
BMI09050701-01A	MW-20-5	AQ	05/06/09 08:25	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	Level IV QC.
BMI09050701-02A	MW-20-4	AQ	05/06/09 09:04	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09050701-03A	MW-20-3	AQ	05/06/09 10:05	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09050701-04A	MW-20-2	AQ	05/06/09 11:04	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09050701-05A	MW-20-1	AQ	05/06/09 11:34	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09050701-06A	DUPE-05-2Q09	AQ	05/06/09 00:00	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09050701-07A	DUPE-06-2Q09	AQ	05/06/09 00:00	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09050701-08A	EB-09-05/06/09	AQ	05/06/09 11:20	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria	
BMI09050701-09A	TB-09-05/06/09	AQ	05/06/09 00:00	1	0	10	VOC by 524 Criteria	VOC by 524 Criteria	Reno Trip Blank 3/16/09

Comments: No security seals. Frozen ice. Temp Blank #7684 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). :

	Signature	Print Name	Company	Date/Time
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	Alpha Analytical, Inc.	5-7-09 10:01

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

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

Billing Information:

Name GERALD TOMPKINS
Address 505 KING AVE
City, State, Zip COLUMBUS, OH 43201
Phone Number ______ Fax ______

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

Samples Collected From Which State? AZ ___ CA X NV ___ WA ___ ID ___ OR ___ OTHER ___

Client Name: DAVID CONNER
Address: 3990 OLD TOWN AVE, C-205
City, State, Zip: SAN DIEGO, CA 92110
P.O. #: 218013
Job #: G005862
EMail Address:
Phone #: 619-726-7311
Fax #:
Sampled by:
Report Attention:

Required QC Level? I II (III) IV
EDD / EDF? YES ___ NO ___
Global ID # ___

Time Sampled	Date Sampled	Matrix* See Key Below	Lab ID Number (Office Use Only)	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOC's (524.2)	TOTAL Cr LEAD ARSENIC (200.8)	GEN CHEM (Na, K, Ca, Mg, Fe) (200.7)	ClO4 (314.0)	GEN CHEM. (300.0, 310.1, 160.1, 150.1) O-PHOSPHATE (300.0)			REMARKS
0825	5/6/09	AQ	BMI09050701-01	MW-20-5			5	X	X	X	X	X			QC LEVEL III
0904	↓	↓	-02	MW-20-4			↓	↓	↓	↓	↓	X			
1005	↓	↓	-03	MW-20-3			↓	↓	↓	↓	↓	X			
1104	↓	↓	-04	MW-20-2			↓	↓	↓	↓	↓	X			
1134	↓	↓	-05	MW-20-1			↓	↓	↓	↓	↓	X			
—	↓	↓	-06	DUPE-05-2Q09			↓	↓	↓	↓	↓	X			DUPLICATE
—	↓	↓	-07	DUPE-06-2Q09			↓	↓	↓	↓	↓	X			DUPLICATE
1120	↓	↓	-08	EB-09-05/06/09			5	X	X	X	X	X			EQUIPMENT BLANK
—	↓	↓	-09	TB-09-05/06/09			1	X							TRIP BLANK

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished by	[signature]	CHASE BROGDON	INSIGHT	5/06/09	1300
Received by	Elizabeth Adcox	Elizabeth Adcox	Alpha	5-7-09	10:01
Relinquished by					
Received by					
Relinquished by					
Received by					

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Alpha Analytical, Inc.

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

Date: *10-May-09*

David Conner
Battelle Memorial Institute
3990 Old Town Ave Suite C-205
San Diego, CA 92110
(818) 393-2808

CASE NARRATIVE

Project: G005862/JPL Groundwater Monitoring
Work Order: BMI09050102 **Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09050102-01A	MW-18-5	Aqueous
09050102-02A	MW-18-4	Aqueous
09050102-03A	MW-18-3	Aqueous
09050102-04A	MW-18-2	Aqueous
09050102-05A	MW-18-1	Aqueous
09050102-06A	EB-07-4/30/09	Aqueous
09050102-07A	TB-07-4/30/09	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
09050102-02A	EPA Method 314.0	Perchlorate
09050102-03A	EPA Method 314.0	Perchlorate
09050102-06A	EPA Method 300.0 / 9056	Nitrate (NO3) - N
09050102-06A	EPA Method 300.0 / 9056	Sulfate (SO4)

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

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

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

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
3990 Old Town Ave
San Diego, CA 92110

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/01/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : **MW-18-5**	Nitrite (NO2) - N	ND	0.25 mg/L	04/30/09 09:07	05/01/09 12:39
Lab ID : BMI09050102-01A	Nitrate (NO3) - N	ND	0.25 mg/L	04/30/09 09:07	05/01/09 12:39
Client ID : **MW-18-4**	Nitrite (NO2) - N	ND	0.25 mg/L	04/30/09 09:49	05/01/09 12:58
Lab ID : BMI09050102-02A	Nitrate (NO3) - N	1.6	0.25 mg/L	04/30/09 09:49	05/01/09 12:58
Client ID : **MW-18-3**	Nitrite (NO2) - N	ND	0.25 mg/L	04/30/09 10:13	05/01/09 13:16
Lab ID : BMI09050102-03A	Nitrate (NO3) - N	1.9	0.25 mg/L	04/30/09 10:13	05/01/09 13:16
Client ID : **MW-18-2**	Nitrite (NO2) - N	ND	0.25 mg/L	04/30/09 11:32	05/01/09 13:35
Lab ID : BMI09050102-04A	Nitrate (NO3) - N	1.5	0.25 mg/L	04/30/09 11:32	05/01/09 13:35
Client ID : **MW-18-1**	Nitrite (NO2) - N	ND	0.25 mg/L	04/30/09 12:25	05/01/09 13:53
Lab ID : BMI09050102-05A	Nitrate (NO3) - N	0.62	0.25 mg/L	04/30/09 12:25	05/01/09 13:53
Client ID : **EB-07-4/30/09**	Nitrite (NO2) - N	ND	0.25 mg/L	04/30/09 12:09	05/01/09 14:12
Lab ID : BMI09050102-06A	Nitrate (NO3) - N	ND	0.25 mg/L	04/30/09 12:09	05/01/09 14:12

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

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

5/14/09
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
3990 Old Town Ave
San Diego, CA 92110

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/01/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0 / 9056

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-18-5**					
Lab ID :	BMI09050102-01A	Chloride	12	0.50 mg/L	04/30/09	05/01/09
		Sulfate (SO4)	5.7	0.50 mg/L	04/30/09	05/01/09
Client ID :	**MW-18-4**					
Lab ID :	BMI09050102-02A	Chloride	16	0.50 mg/L	04/30/09	05/01/09
		Sulfate (SO4)	30	0.50 mg/L	04/30/09	05/01/09
Client ID :	**MW-18-3**					
Lab ID :	BMI09050102-03A	Chloride	20	0.50 mg/L	04/30/09	05/01/09
		Sulfate (SO4)	40	0.50 mg/L	04/30/09	05/01/09
Client ID :	**MW-18-2**					
Lab ID :	BMI09050102-04A	Chloride	15	0.50 mg/L	04/30/09	05/01/09
		Sulfate (SO4)	46	0.50 mg/L	04/30/09	05/01/09
Client ID :	**MW-18-1**					
Lab ID :	BMI09050102-05A	Chloride	9.4	0.50 mg/L	04/30/09	05/01/09
		Sulfate (SO4)	41	0.50 mg/L	04/30/09	05/01/09
Client ID :	**EB-07-4/30/09**					
Lab ID :	BMI09050102-06A	Chloride	ND	0.50 mg/L	04/30/09	05/01/09
		Sulfate (SO4)	ND	0.50 mg/L	04/30/09	05/01/09

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

5/14/09
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
3990 Old Town Ave
San Diego, CA 92110

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/01/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID : **MW-18-5**					
Lab ID : BMI09050102-01A	Perchlorate	ND	1.00 µg/L	04/30/09	05/05/09
Client ID : **MW-18-4**					
Lab ID : BMI09050102-02A	Perchlorate	45.7	1.00 µg/L	04/30/09	05/05/09
Client ID : **MW-18-3**					
Lab ID : BMI09050102-03A	Perchlorate	55.9	1.00 µg/L	04/30/09	05/05/09
Client ID : **MW-18-2**					
Lab ID : BMI09050102-04A	Perchlorate	ND	1.00 µg/L	04/30/09	05/05/09
Client ID : **MW-18-1**					
Lab ID : BMI09050102-05A	Perchlorate	ND	1.00 µg/L	04/30/09	05/05/09
Client ID : **EB-07-4/30/09**					
Lab ID : BMI09050102-06A	Perchlorate	ND	1.00 µg/L	04/30/09	05/05/09

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

5/14/09
Report Date

Alpha Analytical, Inc.

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

ANALYTICAL REPORT

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/01/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-18-5**					
Lab ID :	BMI09050102-01A	Alkalinity, Bicarbonate (As CaCO3)	120	10 mg/L	04/30/09	05/05/09
		Alkalinity, Carbonate (As CaCO3)	20	10 mg/L	04/30/09	05/05/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	150	10 mg/L	04/30/09	05/05/09
Client ID :	**MW-18-4**					
Lab ID :	BMI09050102-02A	Alkalinity, Bicarbonate (As CaCO3)	170	10 mg/L	04/30/09	05/05/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/30/09	05/05/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	170	10 mg/L	04/30/09	05/05/09
Client ID :	**MW-18-3**					
Lab ID :	BMI09050102-03A	Alkalinity, Bicarbonate (As CaCO3)	200	10 mg/L	04/30/09	05/05/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/30/09	05/05/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	200	10 mg/L	04/30/09	05/05/09
Client ID :	**MW-18-2**					
Lab ID :	BMI09050102-04A	Alkalinity, Bicarbonate (As CaCO3)	210	10 mg/L	04/30/09	05/05/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/30/09	05/05/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	210	10 mg/L	04/30/09	05/05/09
Client ID :	**MW-18-1**					
Lab ID :	BMI09050102-05A	Alkalinity, Bicarbonate (As CaCO3)	140	10 mg/L	04/30/09	05/05/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/30/09	05/05/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	140	10 mg/L	04/30/09	05/05/09
Client ID :	**EB-07-4/30/09**					
Lab ID :	BMI09050102-06A	Alkalinity, Bicarbonate (As CaCO3)	ND	10 mg/L	04/30/09	05/05/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	04/30/09	05/05/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	ND	10 mg/L	04/30/09	05/05/09

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

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

5/14/09
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
3990 Old Town Ave
San Diego, CA 92110

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/01/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-18-5**					
Lab ID :	BMI09050102-01A	Sodium (Na)	47	0.50 mg/L	04/30/09	05/06/09
		Magnesium (Mg)	4.1	0.50 mg/L	04/30/09	05/06/09
		Potassium (K)	1.3	0.50 mg/L	04/30/09	05/06/09
		Calcium (Ca)	12	0.50 mg/L	04/30/09	05/06/09
		Chromium (Cr)	ND	0.0050 mg/L	04/30/09	05/06/09
		Iron (Fe)	0.21	0.10 mg/L	04/30/09	05/06/09
		Arsenic (As)	ND	0.0020 mg/L	04/30/09	05/06/09
		Lead (Pb)	ND	0.0050 mg/L	04/30/09	05/06/09
Client ID :	**MW-18-4**					
Lab ID :	BMI09050102-02A	Sodium (Na)	31	0.50 mg/L	04/30/09	05/06/09
		Magnesium (Mg)	14	0.50 mg/L	04/30/09	05/06/09
		Potassium (K)	1.8	0.50 mg/L	04/30/09	05/06/09
		Calcium (Ca)	43	0.50 mg/L	04/30/09	05/06/09
		Chromium (Cr)	ND	0.0050 mg/L	04/30/09	05/06/09
		Iron (Fe)	0.51	0.10 mg/L	04/30/09	05/06/09
		Arsenic (As)	ND	0.0020 mg/L	04/30/09	05/06/09
		Lead (Pb)	ND	0.0050 mg/L	04/30/09	05/06/09
Client ID :	**MW-18-3**					
Lab ID :	BMI09050102-03A	Sodium (Na)	21	0.50 mg/L	04/30/09	05/06/09
		Magnesium (Mg)	17	0.50 mg/L	04/30/09	05/06/09
		Potassium (K)	2.7	0.50 mg/L	04/30/09	05/06/09
		Calcium (Ca)	65	0.50 mg/L	04/30/09	05/06/09
		Chromium (Cr)	ND	0.0050 mg/L	04/30/09	05/06/09
		Iron (Fe)	0.53	0.10 mg/L	04/30/09	05/06/09
		Arsenic (As)	ND	0.0020 mg/L	04/30/09	05/06/09
		Lead (Pb)	ND	0.0050 mg/L	04/30/09	05/06/09
Client ID :	**MW-18-2**					
Lab ID :	BMI09050102-04A	Sodium (Na)	19	0.50 mg/L	04/30/09	05/06/09
		Magnesium (Mg)	19	0.50 mg/L	04/30/09	05/06/09
		Potassium (K)	2.5	0.50 mg/L	04/30/09	05/06/09
		Calcium (Ca)	63	0.50 mg/L	04/30/09	05/06/09
		Chromium (Cr)	ND	0.0050 mg/L	04/30/09	05/06/09
		Iron (Fe)	0.40	0.10 mg/L	04/30/09	05/06/09
		Arsenic (As)	ND	0.0020 mg/L	04/30/09	05/06/09
		Lead (Pb)	ND	0.0050 mg/L	04/30/09	05/06/09

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Client ID :	**MW-18-1**					
Lab ID :	BMI09050102-05A	Sodium (Na)	16	0.50 mg/L	04/30/09	05/06/09
		Magnesium (Mg)	13	0.50 mg/L	04/30/09	05/06/09
		Potassium (K)	2.3	0.50 mg/L	04/30/09	05/06/09
		Calcium (Ca)	45	0.50 mg/L	04/30/09	05/06/09
		Chromium (Cr)	ND	0.0050 mg/L	04/30/09	05/06/09
		Iron (Fe)	0.62	0.10 mg/L	04/30/09	05/06/09
		Arsenic (As)	ND	0.0020 mg/L	04/30/09	05/06/09
		Lead (Pb)	ND	0.0050 mg/L	04/30/09	05/06/09
Client ID :	**EB-07-4/30/09**					
Lab ID :	BMI09050102-06A	Sodium (Na)	ND	0.50 mg/L	04/30/09	05/06/09
		Magnesium (Mg)	ND	0.50 mg/L	04/30/09	05/06/09
		Potassium (K)	ND	0.50 mg/L	04/30/09	05/06/09
		Calcium (Ca)	ND	0.50 mg/L	04/30/09	05/06/09
		Chromium (Cr)	ND	0.0050 mg/L	04/30/09	05/06/09
		Iron (Fe)	ND	0.10 mg/L	04/30/09	05/06/09
		Arsenic (As)	ND	0.0020 mg/L	04/30/09	05/06/09
		Lead (Pb)	ND	0.0050 mg/L	04/30/09	05/06/09

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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5/14/09

Report Date

Alpha Analytical, Inc.

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ANALYTICAL REPORT

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/01/09

Job#: G005862/JPL Groundwater Monitoring

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

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : **MW-18-5**	pH	8.7	1.7 pH Units	04/30/09 09:07	05/01/09 14:07
Lab ID : BMI09050102-01A	pH - Temperature	20	1.0 °C	04/30/09 09:07	05/01/09 14:07
Client ID : **MW-18-4**	pH	8.0	1.7 pH Units	04/30/09 09:49	05/01/09 14:13
Lab ID : BMI09050102-02A	pH - Temperature	19	1.0 °C	04/30/09 09:49	05/01/09 14:13
Client ID : **MW-18-3**	pH	7.8	1.7 pH Units	04/30/09 10:13	05/01/09 14:16
Lab ID : BMI09050102-03A	pH - Temperature	19	1.0 °C	04/30/09 10:13	05/01/09 14:16
Client ID : **MW-18-2**	pH	7.8	1.7 pH Units	04/30/09 11:32	05/01/09 14:18
Lab ID : BMI09050102-04A	pH - Temperature	19	1.0 °C	04/30/09 11:32	05/01/09 14:18
Client ID : **MW-18-1**	pH	7.1	1.7 pH Units	04/30/09 12:25	05/01/09 14:22
Lab ID : BMI09050102-05A	pH - Temperature	19	1.0 °C	04/30/09 12:25	05/01/09 14:22
Client ID : **EB-07-4/30/09**	pH	7.1	1.7 pH Units	04/30/09 12:09	05/01/09 14:25
Lab ID : BMI09050102-06A	pH - Temperature	20	1.0 °C	04/30/09 12:09	05/01/09 14:25

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

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

Roger Scholl Randy Gardner Walter Hinchman

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ANALYTICAL REPORT

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/01/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)
SM2540C

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-18-5**					
Lab ID :	BMI09050102-01A	Solids, Total Dissolved (TDS)	190	10 mg/L	04/30/09	05/07/09
Client ID :	**MW-18-4**					
Lab ID :	BMI09050102-02A	Solids, Total Dissolved (TDS)	250	10 mg/L	04/30/09	05/07/09
Client ID :	**MW-18-3**					
Lab ID :	BMI09050102-03A	Solids, Total Dissolved (TDS)	260	10 mg/L	04/30/09	05/07/09
Client ID :	**MW-18-2**					
Lab ID :	BMI09050102-04A	Solids, Total Dissolved (TDS)	300	10 mg/L	04/30/09	05/07/09
Client ID :	**MW-18-1**					
Lab ID :	BMI09050102-05A	Solids, Total Dissolved (TDS)	230	10 mg/L	04/30/09	05/07/09
Client ID :	**EB-07-4/30/09**					
Lab ID :	BMI09050102-06A	Solids, Total Dissolved (TDS)	ND	10 mg/L	04/30/09	05/07/09

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

		Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID :	**MW-18-5**						
Lab ID :	BMI09050102-01A	Sulfur dioxide	15	2.0 µg/L	05/01/09	04/30/09	05/11/09
Client ID :	**MW-18-4**						
Lab ID :	BMI09050102-02A	Sulfur dioxide	8.7	2.0 µg/L	05/01/09	04/30/09	05/11/09
Client ID :	**MW-18-3**						
Lab ID :	BMI09050102-03A	Sulfur dioxide	5.9	2.0 µg/L	05/01/09	04/30/09	05/11/09
Client ID :	**MW-18-2**						
Lab ID :	BMI09050102-04A	Sulfur dioxide	2.1	2.0 µg/L	05/01/09	04/30/09	05/11/09
Client ID :	**MW-18-1**						
Lab ID :	BMI09050102-05A	* * * None Found * * *	ND	2.0 µg/L	05/01/09	04/30/09	05/11/09
Client ID :	**EB-07-4/30/09**						
Lab ID :	BMI09050102-06A	* * * None Found * * *	ND	2.0 µg/L	05/01/09	04/30/09	05/11/09
Client ID :	**TB-07-4/30/09**						
Lab ID :	BMI09050102-07A	* * * None Found * * *	ND	2.0 µg/L	05/01/09	04/30/09	05/11/09

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

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5/14/09
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Page 1 of 1

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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050102-01A
Client I.D. Number: MW-18-5

Sampled: 04/30/09
Received: 05/01/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit		
1	Dichlorodifluoromethane	ND	0.50	µg/L	
2	Chloromethane	ND	1.0	µg/L	
3	Vinyl chloride	ND	0.50	µg/L	
4	Chloroethane	ND	0.50	µg/L	
5	Bromomethane	ND	1.0	µg/L	
6	Trichlorofluoromethane	ND	0.50	µg/L	
7	1,1-Dichloroethene	ND	0.50	µg/L	
8	Dichloromethane	ND	1.0	µg/L	
9	Freon-113	ND	0.50	µg/L	
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	
12	1,1-Dichloroethane	ND	0.50	µg/L	
13	2-Butanone (MEK)	ND	10	µg/L	
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	
15	Bromochloromethane	ND	0.50	µg/L	
16	Chloroform	ND	0.50	µg/L	
17	2,2-Dichloropropane	ND	0.50	µg/L	
18	1,2-Dichloroethane	ND	0.50	µg/L	
19	1,1,1-Trichloroethane	ND	0.50	µg/L	
20	1,1-Dichloropropene	ND	0.50	µg/L	
21	Carbon tetrachloride	ND	0.50	µg/L	
22	Benzene	ND	0.50	µg/L	
23	Dibromomethane	ND	0.50	µg/L	
24	1,2-Dichloropropane	ND	0.50	µg/L	
25	Trichloroethene	ND	0.50	µg/L	
26	Bromodichloromethane	ND	0.50	µg/L	
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	
30	1,1,2-Trichloroethane	ND	0.50	µg/L	
31	Toluene	ND	0.50	µg/L	
32	1,3-Dichloropropane	ND	0.50	µg/L	
33	Dibromochloromethane	ND	0.50	µg/L	
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L	
35	Tetrachloroethene	ND	0.50	µg/L	
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L	
37	Chlorobenzene	ND	0.50	µg/L	
38	Ethylbenzene	ND	0.50	µg/L	
39	m,p-Xylene	ND	0.50	µg/L	
40	Bromoform	ND	0.50	µg/L	
41	Styrene	ND	0.50	µg/L	
42	o-Xylene	ND	0.50	µg/L	
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	
44	1,2,3-Trichloropropane	ND	1.0	µg/L	
45	Isopropylbenzene	ND	0.50	µg/L	
46	Bromobenzene	ND	0.50	µg/L	
47	n-Propylbenzene	ND	0.50	µg/L	
48	4-Chlorotoluene	ND	0.50	µg/L	
49	2-Chlorotoluene	ND	0.50	µg/L	
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L	
51	tert-Butylbenzene	ND	0.50	µg/L	
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L	
53	sec-Butylbenzene	ND	0.50	µg/L	
54	1,3-Dichlorobenzene	ND	0.50	µg/L	
55	1,4-Dichlorobenzene	ND	0.50	µg/L	
56	4-Isopropyltoluene	ND	0.50	µg/L	
57	1,2-Dichlorobenzene	ND	0.50	µg/L	
58	n-Butylbenzene	ND	0.50	µg/L	
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L	
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L	
61	Naphthalene	ND	1.0	µg/L	
62	Hexachlorobutadiene	ND	1.0	µg/L	
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L	
64	Surr: 1,2-Dichloroethane-d4	105	(70-130)	%REC	
65	Surr: Toluene-d8	100	(70-130)	%REC	
66	Surr: 4-Bromofluorobenzene	95	(70-130)	%REC	

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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5/14/09
Report Date

Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050102-02A
Client I.D. Number: MW-18-4

Sampled: 04/30/09
Received: 05/01/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	2.4	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	10	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	1.1	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
32	1,3-Dichloropropane	ND	0.50	µg/L
33	Dibromochloromethane	ND	0.50	µg/L
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L
35	Tetrachloroethene	ND	0.50	µg/L
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	105	(70-130)	%REC
65	Surr: Toluene-d8	100	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	96	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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5/14/09
Report Date

Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050102-03A
Client I.D. Number: MW-18-3

Sampled: 04/30/09
Received: 05/01/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	2.4	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	15	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	1.3	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
32	1,3-Dichloropropane	ND	0.50	µg/L
33	Dibromochloromethane	ND	0.50	µg/L
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L
35	Tetrachloroethene	ND	0.50	µg/L
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	107	(70-130)	%REC
65	Surr: Toluene-d8	98	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	97	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

5/14/09
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
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050102-04A
Client I.D. Number: MW-18-2

Sampled: 04/30/09
Received: 05/01/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	ND	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
32	1,3-Dichloropropane	ND	0.50	µg/L
33	Dibromochloromethane	ND	0.50	µg/L
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L
35	Tetrachloroethene	ND	0.50	µg/L
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	110	(70-130)	%REC
65	Surr: Toluene-d8	100	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	97	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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5/14/09

Report Date

Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050102-05A
Client I.D. Number: MW-18-1

Sampled: 04/30/09
Received: 05/01/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	1.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	1.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	1.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	110	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	95	(70-130)	%REC
32	1,3-Dichloropropane	ND	0.50	µg/L					
33	Dibromochloromethane	ND	0.50	µg/L					
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

5/14/09
Report Date

Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050102-06A
Client I.D. Number: EB-07-4/30/09

Sampled: 04/30/09
Received: 05/01/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	1.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	1.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	1.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	ND	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
32	1,3-Dichloropropane	ND	0.50	µg/L
33	Dibromochloromethane	ND	0.50	µg/L
34	1,2-Dibromoethane (EDB)	ND	1.0	µg/L
35	Tetrachloroethene	ND	0.50	µg/L
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	1.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	2.5	µg/L
60	1,2,4-Trichlorobenzene	ND	1.0	µg/L
61	Naphthalene	ND	1.0	µg/L
62	Hexachlorobutadiene	ND	1.0	µg/L
63	1,2,3-Trichlorobenzene	ND	1.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	98	(70-130)	%REC
65	Surr: Toluene-d8	100	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	97	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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5/14/09
Report Date

Alpha Analytical, Inc.

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

ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09050102-07A
Client I.D. Number: TB-07-4/30/09

Sampled: 04/30/09
Received: 05/01/09
Analyzed: 05/11/09

Volatile Organics by GC/MS

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

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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5/14/09
Report Date

Alpha Analytical, Inc.

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

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

VOC Sample Preservation Report

Work Order: BMI09050102 **Project:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09050102-01A	MW-18-5	Aqueous	2
09050102-02A	MW-18-4	Aqueous	2
09050102-03A	MW-18-3	Aqueous	2
09050102-04A	MW-18-2	Aqueous	2
09050102-05A	MW-18-1	Aqueous	2
09050102-06A	EB-07-4/30/09	Aqueous	2
09050102-07A	TB-07-4/30/09	Aqueous	2

5/14/09

Report Date

Billing Information :

CHAIN-OF-CUSTODY RECORD

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

CA

WorkOrder : BMIS09050102

Report Due By : 5:00 PM On : 15-May-2009

Client:
Battelle Memorial Institute
3990 Old Town Ave
Suite C-205
San Diego, CA 92110

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

EDD Required : **No**

Sampled by : Client

PO : 218013

Client's COC # : 25546 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	01-May-2009	**01-May-2009**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 300_0(A)_W	300_0(B)_W	300_0(C)_W	314_W	ALKALINITY_W	METALS_DW	PH_W	TDS	Sample Remarks
BMI09050102-01A	MW-18-5	AQ	04/30/09 09:07	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050102-02A	MW-18-4	AQ	04/30/09 09:49	10	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	MS/MSD
BMI09050102-03A	MW-18-3	AQ	04/30/09 10:13	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050102-04A	MW-18-2	AQ	04/30/09 11:32	10	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	MS/MSD
BMI09050102-05A	MW-18-1	AQ	04/30/09 12:25	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050102-06A	EB-07-4/30/09	AQ	04/30/09 12:09	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09050102-07A	TB-07-4/30/09	AQ	04/30/09 00:00	1	0	10									Reno Trip Blank 3/16/09

Comments: No security seals. Frozen ice. Temp Blank #7606 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). :

	Signature	Print Name	Company	Date/Time
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	**Alpha Analytical, Inc.**	5-1-09 9:49

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

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

WorkOrder : BMIS09050102

Report Due By : 5:00 PM On : 15-May-2009

Client:
Battelle Memorial Institute
3990 Old Town Ave
Suite C-205
San Diego, CA 92110

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

EDD Required : **No**

Sampled by : Client

PO : 218013

Client's COC # : 25546 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	01-May-2009	**01-May-2009**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests VOC_TIC_W	VOC_W						Sample Remarks
BMI09050102-01A	MW-18-5	AQ	04/30/09 09:07	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria						
BMI09050102-02A	MW-18-4	AQ	04/30/09 09:49	10	0	10	VOC by 524 Criteria	VOC by 524 Criteria						MS/MSD
BMI09050102-03A	MW-18-3	AQ	04/30/09 10:13	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria						
BMI09050102-04A	MW-18-2	AQ	04/30/09 11:32	10	0	10	VOC by 524 Criteria	VOC by 524 Criteria						MS/MSD
BMI09050102-05A	MW-18-1	AQ	04/30/09 12:25	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria						
BMI09050102-06A	EB-07-4/30/09	AQ	04/30/09 12:09	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria						
BMI09050102-07A	TB-07-4/30/09	AQ	04/30/09 00:00	1	0	10	VOC by 524 Criteria	VOC by 524 Criteria						Reno Trip Blank 3/16/09

Comments: No security seals. Frozen ice. Temp Blank #7606 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). :

	Signature	Print Name	Company	Date/Time
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	Alpha Analytical, Inc.	5-1-09 9:49

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

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

Billing Information:
Name GERALD TOMPKINS
Address 505 KING AVE
City, State, Zip COLUMBUS, OH 43201
Phone Number ________ Fax ________

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

Samples Collected From Which State?
AZ ___ CA X NV ___ WA ___
ID ___ OR ___ OTHER ___

25546

Page # 1 of 1

Client Name DAVID CONNER
Address 3990 OLD TOWN AVE, C-205
City, State, Zip SAN DIEGO, CA 92110
P.O. # 218013
Job # G005862
EMail Address
Phone # 619-726-7311
Fax #
Report Attention
Sampled by

Required QC Level? I II (III) IV
EDD / EDF? YES ___ NO ___
Global ID # ___

Time Sampled	Date Sampled	Matrix* See Key Below	Lab ID Number (Office Use Only)	Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOC's (524.2)	TOTAL or LEAD ARSENIC (200.8)	GEN CHEM: (Na, K, Ca, Mg, Fe) (200.7)	ClO4- (314.0)	GEN CHEM: (300.0, 310.1, 160.1, 150.1)	O-PHOSPHATE (300.0)		REMARKS
0907	4/30/09	AQ	BMI09050102-01	MW-18-5			5	X	X	X	X	X			
0949			-02	MW-18-4			10	X	X	X	X	X			MS/MSD
1013			-03	MW-18-3			5	X	X	X	X	X			
1132			-04	MW-18-2			10	X	X	X	X	X			MS/MSD
1225			-05	MW-18-1			5	X	X	X	X	X			
1209			-06	EB-07-4/30/09			5	X	X	X	X	X			EQUIPMENT BLANK
~~X~~			-07	TB-07-4/30/09			1	X							TRIP BLANK

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished by	[signature]	CHASE BRIGTON	INSIGHT	4/30/09	1330
Received by	Elizabeth Adcox	Elizabeth Adcox	Alpha	5/1/09	9:49
Relinquished by					
Received by					
Relinquished by					
Received by					

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

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

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-Jun-09*

David Conner
Battelle Memorial Institute
3990 Old Town Ave Suite C-205
San Diego, CA 92110
(818) 393-2808

CASE NARRATIVE

Project: G005862/JPL Groundwater Monitoring
Work Order: BMI09052802 **Cooler Temp:** 4 °C

Alpha's Sample ID	Client's Sample ID	Matrix
09052802-01A	MW-1	Aqueous
09052802-02A	MW-9	Aqueous
09052802-03A	TB-20-05/27/09	Aqueous

Manually Integrated Analytes

Alpha's Sample ID	Test Reference	Analyte
NONE		

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

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

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

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

Alpha Analytical, Inc.

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

ANALYTICAL REPORT

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/28/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0 / 9056

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : **MW-1**	Nitrite (NO2) - N	ND	0.25 mg/L	05/27/09 08:45	05/28/09 23:15
Lab ID : BMI09052802-01A	Nitrate (NO3) - N	0.79	0.25 mg/L	05/27/09 08:45	05/28/09 23:15
Client ID : **MW-9**	Nitrite (NO2) - N	ND	0.25 mg/L	05/27/09 10:13	05/28/09 17:04
Lab ID : BMI09052802-02A	Nitrate (NO3) - N	1.2	0.25 mg/L	05/27/09 10:13	05/28/09 17:04

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

6/10/09
Report Date

Alpha Analytical, Inc.

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

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/28/09

Job#: G005862/JPL Groundwater Monitoring

Anions by IC
EPA Method 300.0 / 9056

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-1**					
Lab ID :	BMI09052802-01A	Chloride	26	0.50 mg/L	05/27/09	05/28/09
		Sulfate (SO4)	55	0.50 mg/L	05/27/09	05/28/09
Client ID :	**MW-9**					
Lab ID :	BMI09052802-02A	Chloride	28	0.50 mg/L	05/27/09	05/28/09
		Sulfate (SO4)	66	0.50 mg/L	05/27/09	05/28/09

Roger Scholl Randy Gardner Walter Hinchman

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ANALYTICAL REPORT

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/28/09

Job#: G005862/JPL Groundwater Monitoring

Perchlorate by Ion Chromatography
EPA Method 314.0

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-1**					
Lab ID :	BMI09052802-01A	Perchlorate	ND	1.00 µg/L	05/27/09	06/01/09
Client ID :	**MW-9**					
Lab ID :	BMI09052802-02A	Perchlorate	ND	1.00 µg/L	05/27/09	06/01/09

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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ANALYTICAL REPORT

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/28/09

Job#: G005862/JPL Groundwater Monitoring

Alkalinity
SM2320B

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-1**					
Lab ID :	BMI09052802-01A	Alkalinity, Bicarbonate (As CaCO3)	190	10 mg/L	05/27/09	06/05/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/27/09	06/05/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	190	10 mg/L	05/27/09	06/05/09
Client ID :	**MW-9**					
Lab ID :	BMI09052802-02A	Alkalinity, Bicarbonate (As CaCO3)	180	10 mg/L	05/27/09	06/05/09
		Alkalinity, Carbonate (As CaCO3)	ND	10 mg/L	05/27/09	06/05/09
		Alkalinity, Total (As CaCO3 at pH 4.5)	180	10 mg/L	05/27/09	06/05/09

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/28/09

Job#: G005862/JPL Groundwater Monitoring

Metals by ICPMS
EPA Method 200.8

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-1**					
Lab ID :	BMI09052802-01A	Sodium (Na)	32	0.50 mg/L	05/27/09	05/29/09
		Magnesium (Mg)	19	0.50 mg/L	05/27/09	05/29/09
		Potassium (K)	3.6	0.50 mg/L	05/27/09	05/29/09
		Calcium (Ca)	69	0.50 mg/L	05/27/09	05/29/09
		Chromium (Cr)	ND	0.0050 mg/L	05/27/09	05/29/09
		Iron (Fe)	0.51	0.10 mg/L	05/27/09	05/29/09
		Arsenic (As)	ND	0.0020 mg/L	05/27/09	05/29/09
		Lead (Pb)	ND	0.0050 mg/L	05/27/09	05/29/09
Client ID :	**MW-9**					
Lab ID :	BMI09052802-02A	Sodium (Na)	31	0.50 mg/L	05/27/09	05/29/09
		Magnesium (Mg)	18	0.50 mg/L	05/27/09	05/29/09
		Potassium (K)	3.1	0.50 mg/L	05/27/09	05/29/09
		Calcium (Ca)	64	0.50 mg/L	05/27/09	05/29/09
		Chromium (Cr)	ND	0.0050 mg/L	05/27/09	05/29/09
		Iron (Fe)	0.44	0.10 mg/L	05/27/09	06/01/09
		Arsenic (As)	ND	0.0020 mg/L	05/27/09	05/29/09
		Lead (Pb)	ND	0.0050 mg/L	05/27/09	05/29/09

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

6/10/09
Report Date

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ANALYTICAL REPORT

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/28/09

Job#: G005862/JPL Groundwater Monitoring

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

	Parameter	Concentration	Reporting Limit	Date / Time Sampled	Date / Time Analyzed
Client ID : **MW-1**	pH	7.6	1.7 pH Units	05/27/09 08:45	05/28/09 16:03
Lab ID : BMI09052802-01A	pH - Temperature	22	1.0 °C	05/27/09 08:45	05/28/09 16:03
Client ID : **MW-9**	pH	7.2	1.7 pH Units	05/27/09 10:13	05/28/09 16:14
Lab ID : BMI09052802-02A	pH - Temperature	22	1.0 °C	05/27/09 10:13	05/28/09 16:14

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

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

Roger Scholl Randy Gardner Walter Hinchman

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

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

6/10/09
Report Date

Alpha Analytical, Inc.

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ANALYTICAL REPORT

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

Attn: David Conner
Phone: (818) 393-2808
Fax: (614) 458-6641
Date Received : 05/28/09

Job#: G005862/JPL Groundwater Monitoring

Total Dissolved Solids (TDS)
SM2540C

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	**MW-1**					
Lab ID :	BMI09052802-01A	Solids, Total Dissolved (TDS)	290	10 mg/L	05/27/09	06/01/09
Client ID :	**MW-9**					
Lab ID :	BMI09052802-02A	Solids, Total Dissolved (TDS)	340	10 mg/L	05/27/09	06/01/09

Roger Scholl Randy Gardner Walter Hinchman

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

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

6/10/09
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
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Tentatively Identified Compounds - Volatile Organics by GC/MS

		Parameter	Estimated Concentration	Estimated Reporting Limit	Date Received	Date Sampled	Date Analyzed
Client ID :	**MW-1**						
Lab ID :	BMI09052802-01A	* * * None Found * * *	ND	2.0 µg/L	05/28/09	05/27/09	06/03/09
Client ID :	**MW-9**						
Lab ID :	BMI09052802-02A	* * * None Found * * *	ND	2.0 µg/L	05/28/09	05/27/09	06/03/09
Client ID :	**TB-20-05/27/09**						
Lab ID :	BMI09052802-03A	* * * None Found * * *	ND	2.0 µg/L	05/28/09	05/27/09	06/03/09

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

Roger Scholl Randy Gardner Walter Hinchman

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

6/10/09
Report Date

Page 1 of 1

Alpha Analytical, Inc.

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ANALYTICAL REPORT

Battelle Memorial Institute
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09052802-01A
Client I.D. Number: MW-1

Sampled: 05/27/09
Received: 05/28/09
Analyzed: 06/03/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	2.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	2.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	2.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	2.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	2.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	2.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	2.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	2.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	104	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	102	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	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	2.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

6/10/09
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
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09052802-02A
Client I.D. Number: MW-9

Sampled: 05/27/09
Received: 05/28/09
Analyzed: 06/03/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L
2	Chloromethane	ND	2.0	µg/L
3	Vinyl chloride	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L
5	Bromomethane	ND	2.0	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L
8	Dichloromethane	ND	2.0	µg/L
9	Freon-113	ND	0.50	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L
25	Trichloroethene	ND	0.50	µg/L
26	Bromodichloromethane	ND	0.50	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L
30	1,1,2-Trichloroethane	ND	0.50	µg/L
31	Toluene	ND	0.50	µg/L
32	1,3-Dichloropropane	ND	0.50	µg/L
33	Dibromochloromethane	ND	0.50	µg/L
34	1,2-Dibromoethane (EDB)	ND	2.0	µg/L
35	Tetrachloroethene	ND	0.50	µg/L
36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
37	Chlorobenzene	ND	0.50	µg/L
38	Ethylbenzene	ND	0.50	µg/L
39	m,p-Xylene	ND	0.50	µg/L
40	Bromoform	ND	0.50	µg/L
41	Styrene	ND	0.50	µg/L
42	o-Xylene	ND	0.50	µg/L
43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
44	1,2,3-Trichloropropane	ND	2.0	µg/L
45	Isopropylbenzene	ND	0.50	µg/L
46	Bromobenzene	ND	0.50	µg/L
47	n-Propylbenzene	ND	0.50	µg/L
48	4-Chlorotoluene	ND	0.50	µg/L
49	2-Chlorotoluene	ND	0.50	µg/L
50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
51	tert-Butylbenzene	ND	0.50	µg/L
52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
53	sec-Butylbenzene	ND	0.50	µg/L
54	1,3-Dichlorobenzene	ND	0.50	µg/L
55	1,4-Dichlorobenzene	ND	0.50	µg/L
56	4-Isopropyltoluene	ND	0.50	µg/L
57	1,2-Dichlorobenzene	ND	0.50	µg/L
58	n-Butylbenzene	ND	0.50	µg/L
59	1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0	µg/L
60	1,2,4-Trichlorobenzene	ND	2.0	µg/L
61	Naphthalene	ND	2.0	µg/L
62	Hexachlorobutadiene	ND	2.0	µg/L
63	1,2,3-Trichlorobenzene	ND	2.0	µg/L
64	Surr: 1,2-Dichloroethane-d4	111	(70-130)	%REC
65	Surr: Toluene-d8	101	(70-130)	%REC
66	Surr: 4-Bromofluorobenzene	98	(70-130)	%REC

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

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

6/10/09
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
3990 Old Town Ave
San Diego, CA 92110
Job#: G005862/JPL Groundwater Monitoring

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

Alpha Analytical Number: BMI09052802-03A
Client I.D. Number: TB-20-05/27/09

Sampled: 05/27/09
Received: 05/28/09
Analyzed: 06/03/09

Volatile Organics by GC/MS

	Compound	Concentration	Reporting Limit			Compound	Concentration	Reporting Limit	
1	Dichlorodifluoromethane	ND	0.50	µg/L	36	1,1,1,2-Tetrachloroethane	ND	0.50	µg/L
2	Chloromethane	ND	2.0	µg/L	37	Chlorobenzene	ND	0.50	µg/L
3	Vinyl chloride	ND	0.50	µg/L	38	Ethylbenzene	ND	0.50	µg/L
4	Chloroethane	ND	0.50	µg/L	39	m,p-Xylene	ND	0.50	µg/L
5	Bromomethane	ND	2.0	µg/L	40	Bromoform	ND	0.50	µg/L
6	Trichlorofluoromethane	ND	0.50	µg/L	41	Styrene	ND	0.50	µg/L
7	1,1-Dichloroethene	ND	0.50	µg/L	42	o-Xylene	ND	0.50	µg/L
8	Dichloromethane	ND	2.0	µg/L	43	1,1,2,2-Tetrachloroethane	ND	0.50	µg/L
9	Freon-113	ND	0.50	µg/L	44	1,2,3-Trichloropropane	ND	2.0	µg/L
10	trans-1,2-Dichloroethene	ND	0.50	µg/L	45	Isopropylbenzene	ND	0.50	µg/L
11	Methyl tert-butyl ether (MTBE)	ND	0.50	µg/L	46	Bromobenzene	ND	0.50	µg/L
12	1,1-Dichloroethane	ND	0.50	µg/L	47	n-Propylbenzene	ND	0.50	µg/L
13	2-Butanone (MEK)	ND	10	µg/L	48	4-Chlorotoluene	ND	0.50	µg/L
14	cis-1,2-Dichloroethene	ND	0.50	µg/L	49	2-Chlorotoluene	ND	0.50	µg/L
15	Bromochloromethane	ND	0.50	µg/L	50	1,3,5-Trimethylbenzene	ND	0.50	µg/L
16	Chloroform	ND	0.50	µg/L	51	tert-Butylbenzene	ND	0.50	µg/L
17	2,2-Dichloropropane	ND	0.50	µg/L	52	1,2,4-Trimethylbenzene	ND	0.50	µg/L
18	1,2-Dichloroethane	ND	0.50	µg/L	53	sec-Butylbenzene	ND	0.50	µg/L
19	1,1,1-Trichloroethane	ND	0.50	µg/L	54	1,3-Dichlorobenzene	ND	0.50	µg/L
20	1,1-Dichloropropene	ND	0.50	µg/L	55	1,4-Dichlorobenzene	ND	0.50	µg/L
21	Carbon tetrachloride	ND	0.50	µg/L	56	4-Isopropyltoluene	ND	0.50	µg/L
22	Benzene	ND	0.50	µg/L	57	1,2-Dichlorobenzene	ND	0.50	µg/L
23	Dibromomethane	ND	0.50	µg/L	58	n-Butylbenzene	ND	0.50	µg/L
24	1,2-Dichloropropane	ND	0.50	µg/L	59	1,2-Dibromo-3-chloropropane (DBCP)	ND	3.0	µg/L
25	Trichloroethene	ND	0.50	µg/L	60	1,2,4-Trichlorobenzene	ND	2.0	µg/L
26	Bromodichloromethane	ND	0.50	µg/L	61	Naphthalene	ND	2.0	µg/L
27	4-Methyl-2-pentanone (MIBK)	ND	2.5	µg/L	62	Hexachlorobutadiene	ND	2.0	µg/L
28	cis-1,3-Dichloropropene	ND	0.50	µg/L	63	1,2,3-Trichlorobenzene	ND	2.0	µg/L
29	trans-1,3-Dichloropropene	ND	0.50	µg/L	64	Surr: 1,2-Dichloroethane-d4	104	(70-130)	%REC
30	1,1,2-Trichloroethane	ND	0.50	µg/L	65	Surr: Toluene-d8	100	(70-130)	%REC
31	Toluene	ND	0.50	µg/L	66	Surr: 4-Bromofluorobenzene	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	2.0	µg/L					
35	Tetrachloroethene	ND	0.50	µg/L					

Note: Analysis conducted using EPA Method 524.2 criteria.

ND = Not Detected

Roger Scholl Randy Gardner Walter Hinchman

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

6/10/09
Report Date

Alpha Analytical, Inc.

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

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

VOC Sample Preservation Report

Work Order: BMI09052802 **Project:** G005862/JPL Groundwater Monitoring

Alpha's Sample ID	Client's Sample ID	Matrix	pH
09052802-01A	MW-1	Aqueous	2
09052802-02A	MW-9	Aqueous	2
09052802-03A	TB-20-05/27/09	Aqueous	2

6/10/09

Report Date

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

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

WorkOrder : BMIS09052802

Report Due By : 5:00 PM On : 11-Jun-2009

Client:
Battelle Memorial Institute
3990 Old Town Ave
Suite C-205
San Diego, CA 92110

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

EDD Required : **Yes**

Sampled by : Client

PO : 218013

Client's COC # : 25531 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	28-May-2009	**28-May-2009**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests 300_0(A)_W	300_0(B)_W	300_0(C)_W	314_W	ALKALINITY_W	METALS_DW	PH_W	TDS	Sample Remarks
BMI09052802-01A	MW-1	AQ	05/27/09 08:45	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	
BMI09052802-02A	MW-9	AQ	05/27/09 10:13	5	0	10	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	NO2, NO3, SO4, Cl	Perchlorate	Alk (Bicarb, Carb, Total)	Cr, Pb, As, Na, K, Ca, Mg, Fe	pH	TDS	Level IV QC
BMI09052802-03A	TB-20-05/27/09	AQ	05/27/09 00:00	1	0	10									Reno Trip Blank 3/16/09

Comments: No security seals. Frozen ice. Temp Blank #7833 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Sample date taken from sample containers. :

	Signature	Print Name	Company	Date/Time
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	**Alpha Analytical, Inc.**	5.28.09 10:01

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

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

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

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

WorkOrder : BMIS09052802

Report Due By : 5:00 PM On : 11-Jun-2009

Client:
Battelle Memorial Institute
3990 Old Town Ave
Suite C-205
San Diego, CA 92110

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

EDD Required : **Yes**

Sampled by : Client

PO : 218013

Client's COC # : 25531 Job : G005862/JPL Groundwater Monitoring

Cooler Temp	Samples Received	Date Printed
4 °C	28-May-2009	**28-May-2009**

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

Alpha Sample ID	Client Sample ID	Matrix	Collection Date	No. of Bottles Alpha	Sub	TAT	Requested Tests VOC_TIC_W	VOC_W						Sample Remarks
BMI09052802-01A	MW-1	AQ	05/27/09 08:45	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria						
BMI09052802-02A	MW-9	AQ	05/27/09 10:13	5	0	10	VOC by 524 Criteria	VOC by 524 Criteria						Level IV QC
BMI09052802-03A	TB-20-05/27/09	AQ	05/27/09 00:00	1	0	10	VOC by 524 Criteria	VOC by 524 Criteria						Reno Trip Blank 3/16/09

Comments: No security seals. Frozen ice. Temp Blank #7833 received @ 4°C. Perchlorate RL of 1.0 ug/L. Level IV QC. Samples should be used as the control spike sample if possible (I.E.: MS/MSD). Sample date taken from sample containers. :

	Signature	Print Name	Company	Date/Time
Logged in by:	Elizabeth Adcox	Elizabeth Adcox	**Alpha Analytical, Inc.**	5-28-09 10:01

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

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

Billing Information:

Name GERALD TOMPKINS
Address 505 KING AVE
City, State, Zip COLUMBUS, OH 43201
Phone Number ______ Fax ______

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

Samples Collected From Which State? 25531
AZ ___ **CA** X **NV** ___ **WA** ___
ID ___ **OR** ___ **OTHER** ___
Page # 1 *of* 1

Client Name DAVID CONNER	P.O. # 218013	Job # 6005862
Address 3990 OLD TOWN AVE. C-205	EMail Address	
City, State, Zip SAN DIEGO, CA 92110	Phone # 619-726-7311	Fax #

Required QC Level? I II (III) IV
EDD / EDF? YES ___ NO ___
Global ID # ______

Analyses Required

Time Sampled	Date Sampled	Matrix* See Key Below	Sampled by / Lab ID Number (Office Use Only)	Report Attention / Sample Description	TAT	Field Filtered	Total and type of containers ** See below	VOC's (524.2)	TOTAL Cr, LEAD, ARSENIC (200.8)	GEN CHEM Na, K, Ca, Mg, Fe (200.7)	ClO4- (314.0)	GENCHEM (300.0, 310.1, 160.1, 150.1)	O-PHOSPHATE (300.0)		REMARKS
0645	/ 09	AQ	BMI0905282-01	MW-1			5	X	X	X	X	X			
1013	|	|	-02	MW-9			5	X	X	X	X	X			QC LEVEL IV
~~ ~~	~~|~~	~~|~~		~~EB- / /09~~			~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~			~~EQUIPMENT BLANK~~
—	|	|	-03	TB-20- 05/27/09			1	X							TRIP BLANK

ADDITIONAL INSTRUCTIONS:

	Signature	Print Name	Company	Date	Time
Relinquished by	[signature]	CHASE BROGDON	INSIGHT EECI	05/27/09	1300
Received by	Elizabeth Adcox	Elizabeth Adcox	Alpha	5-28-09	10:01
Relinquished by					
Received by					
Relinquished by					
Received by					

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other AR - Air **: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

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

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

CAS SR #P0901761

Table of Contents

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

LABORATORY REPORT

June 1, 2009

David Conner
Battelle
3990 Old Town Ave., Suite C-205
San Diego, CA 92110

RE: JPL GW Mon 2Q09 / G486090

Dear David:

Enclosed are the results of the samples submitted to our laboratory on May 26, 2009. For your reference, these analyses have been assigned our service request number P0901761.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 25 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-08-TX. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Sue Anderson
Project Manager

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

Client: Battelle CAS Project No: P0901761
Project: JPL GW Mon 2Q09 / G486090

CASE NARRATIVE

The samples were received intact under chain of custody on May 26, 2009 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Hexavalent Chromium by EPA Method 7196A

No anomalies were encountered during this analysis.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: Battelle
Project: JPL GW Mon 2Q09/G486090

Service Request: P0901761

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
P0901761-001	MW-5	5/26/09	08:13
P0901761-002	MW-6	5/26/09	09:58

Acronyms

CA LUFT	California DHS LUFT Method
ASTM	American Society for Testing and Materials
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CRDL	Contract Required Detection Limit
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOH or DHS	Department of Health Services
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified Method
MDL	Method Detection Limit
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl *tert*-Butyl Ether
NA	Not Applicable
NC	Not Calculated
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 19th Ed., 1995.
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)
VOC	Volatile Organic Compound(s)

Qualifiers

U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
J	The result is an estimated concentration that is less than the MRL (PQL), but greater than or equal to the MDL.
B	Analyte detected in the method blank above MRL (PQL).
E	Estimated; result based on response which exceeded the instrument calibration range.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
D	The reported result is from a dilution.
X	See case narrative.

Water & Soil - Chain of Custody Record & Analytical Service Request

Columbia Analytical Services INC.
An Employee - Owned Company

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard

CAS Project No. P090176l

CAS Contact:

Company Name & Address (Reporting Information)
BATTELLE
3990 OLD TOWN AVE, C-205
SAN DIEGO, CA 92110

Project Name
SPL GW MON 2009

Project Number
G486090

Project Manager
DAVID CONNER

P.O. # / Billing Information
214319/ BATTELLE
ATTN: GERALD TOMPKINS
505 KING AVE.
COLUMBUS, OH 43201

Phone
619-726-7311

Fax

Email Address for Result Reporting

Sampler (Print & Sign)

Analysis Method and/or Analytes

Preservative Code

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Matrix	Number of Containers	Volatile Organics GC/MS 624 ☐ 8260B ☐ Oxygenates ☐ TPH Gas ☐	TPH Gas 8015B ☐ BTEX 8021B ☐ MTBE 8021B ☐	TPH Diesel 8015B ☐ (Subcontracted) TPH Diesel Low Level 8015B ☐ (Subcontracted)	TPH FC ☐ 8015M (Subcontracted)	Semi-Volatile Organics GC/MS 625 ☐ 8270C ☐ (Subcontracted)	0 Cr VI (7196)	0 Dioxane (8270)	0 NDMA (1625.0)	Remarks
MW-5	1	5/26/09	0813	GW	1						X			
MW-6	2	"	0958	"	1						X			
~~EB~~	~~-~~	~~-~~ 1 09	~~-~~	"	1						X			EQUIPMENT BLANK (EB)

Preservative Key

0	None
1	HCL
2	HNO3
3	H2SO4
4	NaOH
5	Zn Acetate
6	Asc Acid
7	Other

Report Tier Levels - please select

Tier I - (Results/Default if not specified) ____
Tier II - (Results + QC) ____
Tier III - (Data Validation Package) 10% Surcharge ____
Tier V - (client specified) ____

MRL required Yes / No
MDL / PQL / J required Yes / No

EDD required Yes / No
Type: ____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date: 5/28/09	Time:	Received by: (Signature)		Date: 5/28/09	Time: 1000
Relinquished by: (Signature)	Date: 5/28/09	Time: 1145	Received by: (Signature)		Date: 5/28/09	Time: 1145
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)		Date:	Time:

Cooler / Blank / Ice / No Ice

Temperature 3.0 °C

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Battelle
Project: JPL GW Mon 2Q09/G486090

Service Request: P0901761

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
P0901761-001.01					
	7196A				
		5/26/09	1150	SMO / MZAMORA	
		5/26/09	1151	P-37 / MZAMORA	
		5/26/09	1237	In Lab / SANDERSON	
		5/26/09	1630	P-37 / SANDERSON	
P0901761-002.01					
	7196A				
		5/26/09	1150	SMO / MZAMORA	
		5/26/09	1151	P-37 / MZAMORA	
		5/26/09	1237	In Lab / SANDERSON	
		5/26/09	1630	P-37 / SANDERSON	

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Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle Work order: P0901761

Project: JPL GW Mon 2Q09 / G486090

Sample(s) received on: 05/26/09 Date opened: 05/26/09 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☒	☐	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature _____ °C Blank Temperature 3 °C			
10	Was a **trip blank** received?	☐	☒	☐
	Trip blank supplied by CAS: _____			
11	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
12	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0901761-001.01	125mL Plastic NP					
P0901761-002.01	125mL Plastic NP					

Explain any discrepancies: (include lab sample ID numbers): _____

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12) RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

DIVIDER SHEET

ANALYTICAL DATA FOR

Hexavalent Chromium

ANALYSIS

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle
Project Name : JPL GW Mon 2Q09
Project Number : G486090
Sample Matrix : WATER

Service Request : P0901761
Date Collected : 05/26/09
Date Received : 05/26/09

Chromium, Hexavalent

Prep Method : None
Analysis Method : 7196A
Test Notes :

Units : mg/L (ppm)
Basis : NA

Sample Name	Lab Code	PQL	MDL	Dilution Factor	Date Extracted	Date/Time Analyzed	Result	Result Notes
MW-5	P0901761-001	0.010	0.003	1	NA	05/26/09 13:20	ND	
MW-6	P0901761-002	0.010	0.003	1	NA	05/26/09 13:20	ND	
Method Blank	P0901761-MB	0.010	0.003	1	NA	05/26/09 13:20	ND	

Approved By kun Date : 05/28/09

Report By: SAnderson

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

CAS SR #P0901734

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2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

LABORATORY REPORT

May 26, 2009

David Conner
Battelle
3990 Old Town Ave., Suite C-205
San Diego, CA 92110

RE: JPL GW Mon 2Q09 / G486090

Dear David:

Enclosed are the results of the samples submitted to our laboratory on May 21, 2009. For your reference, these analyses have been assigned our service request number P0901734.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 25 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-08-TX. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Sue Anderson
Project Manager

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

Client: Battelle CAS Project No: P0901734
Project: JPL GW Mon 2Q09 / G486090

CASE NARRATIVE

The samples were received intact under chain of custody on May 21, 2009 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Hexavalent Chromium by EPA Method 7196A

No anomalies were encountered during this analysis.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: Battelle
Project: JPL GW Mon 2Q09/G486090

Service Request: P0901734

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
P0901734-001	MW-10	5/21/09	07:38
P0901734-002	MW-15	5/21/09	08:58

Columbia Analytical Services, Inc.

Acronyms

CA LUFT	California DHS LUFT Method
ASTM	American Society for Testing and Materials
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CRDL	Contract Required Detection Limit
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOH or DHS	Department of Health Services
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified Method
MDL	Method Detection Limit
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl *tert*-Butyl Ether
NA	Not Applicable
NC	Not Calculated
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 19th Ed., 1995.
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)
VOC	Volatile Organic Compound(s)

Qualifiers

U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
J	The result is an estimated concentration that is less than the MRL (PQL), but greater than or equal to the MDL.
B	Analyte detected in the method blank above MRL (PQL).
E	Estimated; result based on response which exceeded the instrument calibration range.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
D	The reported result is from a dilution.
X	See case narrative.

Water & Soil - Chain of Custody Record & Analytical Service Request

Columbia Analytical Services INC.
An Employee - Owned Company

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day - Standard

CAS Project No. 9090733

CAS Contact:

Company Name & Address (Reporting Information)	Project Name
BATTELLE 3990 OLD TOWN AVE, C-205 SAN DIEGO, CA 92110	JPL GW MON 2009
	Project Number: 64486090
Project Manager: DAVID CONNER	P.O. # / Billing Information: 214319/BATTELLE ATTN: GERALD TOMPKINS 505 KING AVE COLUMBUS, OH 43201
Phone: 619-726-7311	Fax:
Email Address for Result Reporting	Sampler (Print & Sign)

Analysis Method and/or Analytes

Preservative Code

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Matrix	Number of Containers	Volatile Organics GC/MS 624 ☐ 8260B ☐ Oxygenates ☐ TPH Gas ☐	TPH Gas 8015B ☐ BTEX 8021B ☐ MTBE 8021B ☐	TPH Diesel 8015B ☐ (Subcontracted) TPH Diesel Low Level 8015B ☐ (Subcontracted)	TPH FC ☐ 8015M (Subcontracted)	Semi-Volatile Organics GC/MS 625 ☐ 8270C ☐ (Subcontracted)	0 Cr III (7196)	0 DIOXANE (8270)	0 NDMA (1625.0)	Remarks
MW-10	1	5/21/09	738	W	1						X			
MW-15	2	"	858	"	1						X			
~~EB~~	~~3~~	~~" 09~~		"	1						X			~~EQUIPMENT BLANK~~ 2

Preservative Key

0	None
1	HCL
2	HNO3
3	H2SO4
4	NaOH
5	Zn Acetate
6	Asc Acid
7	Other

Report Tier Levels - please select

Tier I - (Results/Default if not specified) ____ Tier III - (Data Validation Package) 10% Surcharge ____ MRL required Yes / No EDD required Yes / No

Tier II - (Results + QC) ____ Tier V - (client specified) ____ MDL / PQL / J required Yes / No Type: ____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	5/21/09	1031		5/21/09	10:31
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	5/21/09	1755		5/21/09	1755
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank / Ice / No Ice

Temperature 3 °C

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Battelle
Project: JPL GW Mon 2Q09/G486090

Service Request: P0901734

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
P0901734-001.01					
	7196A				
		5/21/09	1203	SMO / MZAMORA	
		5/21/09	1203	P-37 / MZAMORA	
		5/21/09	1207	In Lab / SANDERSON	
		5/21/09	1525	P-37 / SANDERSON	
P0901734-002.01					
	7196A				
		5/21/09	1203	SMO / MZAMORA	
		5/21/09	1203	P-37 / MZAMORA	
		5/21/09	1207	In Lab / SANDERSON	
		5/21/09	1525	P-37 / SANDERSON	

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Battelle Work order: P0901734

Project: JPL GW Mon 2Q09 / G486090

Sample(s) received on: 05/21/09 Date opened: 05/21/09 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☒	☐	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature _____ °C Blank Temperature 3 °C			
10	Was a **trip blank** received?	☐	☒	☐
	Trip blank supplied by CAS: _____			
11	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
12	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☒	☐	☐
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0901734-001.01	125mL Plastic NP					
P0901734-002.01	125mL Plastic NP					

Explain any discrepancies: (include lab sample ID numbers): _____

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12) RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

DIVIDER SHEET

ANALYTICAL DATA FOR

Hexavalent Chromium

ANALYSIS

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Battelle
Project Name : JPL GW Mon 2Q09
Project Number : G486090
Sample Matrix : WATER

Service Request : P0901734
Date Collected : 05/21/09
Date Received : 05/21/09

Chromium, Hexavalent

Prep Method : None
Analysis Method : 7196A
Test Notes :

Units : mg/L (ppm)
Basis : NA

Sample Name	Lab Code	PQL	MDL	Dilution Factor	Date Extracted	Date/Time Analyzed	Result	Result Notes
MW-10	P0901734-001	0.010	0.003	1	NA	05/21/09 15:00	ND	
MW-15	P0901734-002	0.010	0.003	1	NA	05/21/09 15:00	ND	
Method Blank	P0901734-MB	0.010	0.003	1	NA	05/21/09 15:00	ND	

Approved By KWH Date : 05/26/09

Report By:SAnderson

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

CAS SR #P0901719

Table of Contents

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

LABORATORY REPORT

June 10, 2009

David Conner
Battelle
3990 Old Town Ave., Suite C-205
San Diego, CA 92110

RE: JPL GW Mon 2Q09 / G486090

Dear David:

Enclosed are the results of the samples submitted to our laboratory on May 20, 2009. One of the samples was sent out for partial analysis to our Kelso facility. Please find their report attached. For your reference, these analyses have been assigned our service request number P0901719.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 175 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-08-TX. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Sue Anderson
Project Manager

2655 Park Center Drive, Suite A Simi Valley, California 93065 (805) 526-7161 (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

Client: Battelle
Project: JPL GW Mon 2Q09 / G486090

CAS Project No: P0901719

CASE NARRATIVE

The samples were received intact under chain of custody on May 20, 2009 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

1,4-Dioxane by EPA Method 8270C SIM Modified

No anomalies were encountered during this analysis.

Hexavalent Chromium by EPA Method 7196A

No anomalies were encountered during this analysis.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: Battelle
Project: JPL GW Mon 2Q09/G486090

Service Request: P0901719

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
P0901719-001	MW-13	5/20/09	08:33
P0901719-002	MW-8	5/20/09	10:33

Columbia Analytical Services, Inc.

Acronyms

CA LUFT	California DHS LUFT Method
ASTM	American Society for Testing and Materials
BTEX	Benzene/Toluene/Ethylbenzene/Xylenes
CAS Number	Chemical Abstract Service Registry Number
CFC	Chlorofluorocarbon
CRDL	Contract Required Detection Limit
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOH or DHS	Department of Health Services
EPA	U.S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified Method
MDL	Method Detection Limit
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl *tert*-Butyl Ether
NA	Not Applicable
NC	Not Calculated
ND	None Detected at or above the Method Reporting/Detection Limit (MRL/MDL)
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	*Standard Methods for the Examination of Water and Wastewater*, 19th Ed., 1995.
SW	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, 1986 and as amended by Updates I, II, IIA, and IIB.
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)
VOC	Volatile Organic Compound(s)

Qualifiers

U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
J	The result is an estimated concentration that is less than the MRL (PQL), but greater than or equal to the MDL.
B	Analyte detected in the method blank above MRL (PQL).
E	Estimated; result based on response which exceeded the instrument calibration range.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
D	The reported result is from a dilution.
X	See case narrative.