

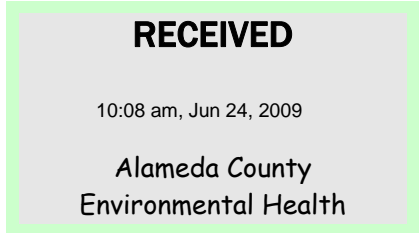


**CONESTOGA-ROVERS  
& ASSOCIATES**

5900 Hollis Street, Suite A  
Emeryville, California 94608  
Telephone: (510) 420-0700 Fax: (510) 420-9170  
www.CRAworld.com

**TRANSMITTAL**

DATE: June 22, 2009 REFERENCE NO.: 060204  
PROJECT NAME: 2301-2307 Lincoln Avenue, Alameda  
TO: Jerry Wickham  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California  
94502-6577



Please find enclosed:  Draft  Final  
 Originals  Other  
 Prints

Sent via:  Mail  Same Day Courier  
 Overnight Courier  Other GeoTracker and Alameda County FTP

QUANTITY	DESCRIPTION
1	Groundwater Monitoring Report - First Quarter 2009

As Requested  For Review and Comment  
 For Your Use

**COMMENTS:**  
If you have any questions regarding the contents of this document, please call Peter Schaefer at (510) 420-3319.

Copy to: Denis Brown, Shell Oil Products US, 20945 S. Wilmington Avenue, Carson, CA 90810  
Alan A. and Beverly M. Sebanc, Trustees, 2805 Ralston Avenue, Hillsborough, CA 94010  
Jake Torrens, AMEC Geomatrix, Inc., 2101 Webster Street, 12<sup>th</sup> Floor, Oakland, CA 94612

Completed by: Peter Schaefer Signed:

Filing: Correspondence File



Mr. Jerry Wickham  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

**Denis L. Brown**  
**Shell Oil Products US**  
HSE - Environmental Services  
20945 S. Wilmington Ave.  
Carson, CA 90810-1039  
**Tel** (707) 865 0251  
**Fax** (707) 865 2542  
**Email** [denis.l.brown@shell.com](mailto:denis.l.brown@shell.com)

Subject: 2301-2307 Lincoln Avenue  
Alameda, California  
SAP Code 165255  
Incident No. 97767044  
Agency No. RO0002971

Dear Mr. Wickham,

The attached document is provided for your review and comment. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

As always, please feel free to contact me directly at (707) 865-0251 with any questions or concerns.

Sincerely,

A handwritten signature in black ink that reads "Denis L. Brown". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Denis L. Brown  
Project Manager



# GROUNDWATER MONITORING REPORT - FIRST QUARTER 2009

FORMER SHELL SERVICE STATION  
2301-2307 LINCOLN AVENUE  
ALAMEDA, CALIFORNIA

SAP CODE           165255  
INCIDENT NO.     97767044  
AGENCY NO.       RO0002971

**JUNE 22, 2009**  
**REF. NO. 060204 (4)**  
This report is printed on recycled paper.

**Prepared by:**  
**Conestoga-Rovers**  
**& Associates**

5900 Hollis Street, Suite A  
Emeryville, California  
U.S.A. 94608

Office: (510) 420-0700  
Fax: (510) 420-9170

web: <http://www.CRAworld.com>

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REPORT

## 1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) in accordance with the quarterly reporting requirements of 23 CCR 2652d.

### 1.1 SITE INFORMATION

Site Address	2301-2307 Lincoln Avenue, Alameda
Site Use	Strip Mall
Shell Project Manager	Denis Brown
CRA Project Manager	Peter Schaefer
Lead Agency and Contact	ACHCSA, Jerry Wickham
Agency Case No.	RO0002971
Shell SAP Code	165255
Shell Incident No.	97767044

Date of most recent agency correspondence was November 7, 2008.

## 2.0 SITE ACTIVITIES, FINDINGS, AND DISCUSSION

### 2.1 CURRENT QUARTER'S ACTIVITIES

Blaine Tech Services, Inc. (Blaine) gauged and sampled the wells according to the monitoring program proposed in CRA's September 4, 2008 *Site Investigation Work Plan* which was approved in Alameda County Health Care Services November 7, 2008 letter to Shell.

CRA prepared a vicinity map (Figure 1) and a groundwater contour and chemical concentration map (Figure 2). Blaine's report, presenting the analytical data, is included in Appendix A.


### 2.2 CURRENT QUARTER'S FINDINGS

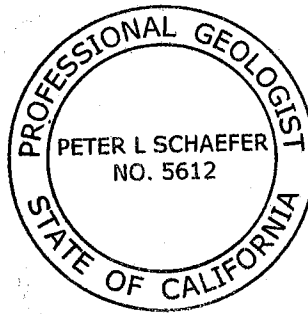
Groundwater Flow Direction	Variable
Hydraulic Gradient	Variable
Depth to Water	6.06 to 8.54 feet below top of well casing

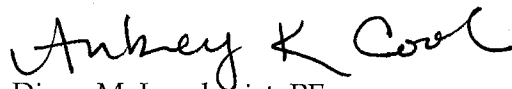
### 2.3 PROPOSED ACTIVITIES FOR NEXT QUARTER

Blaine will gauge and sample wells according to the established monitoring program for this site.

All of Which is Respectfully Submitted,  
CONESTOGA-ROVERS & ASSOCIATES

  
Peter Schaefer, CEG, CHG



for:   
Diane M. Lundquist, PE



## FIGURES

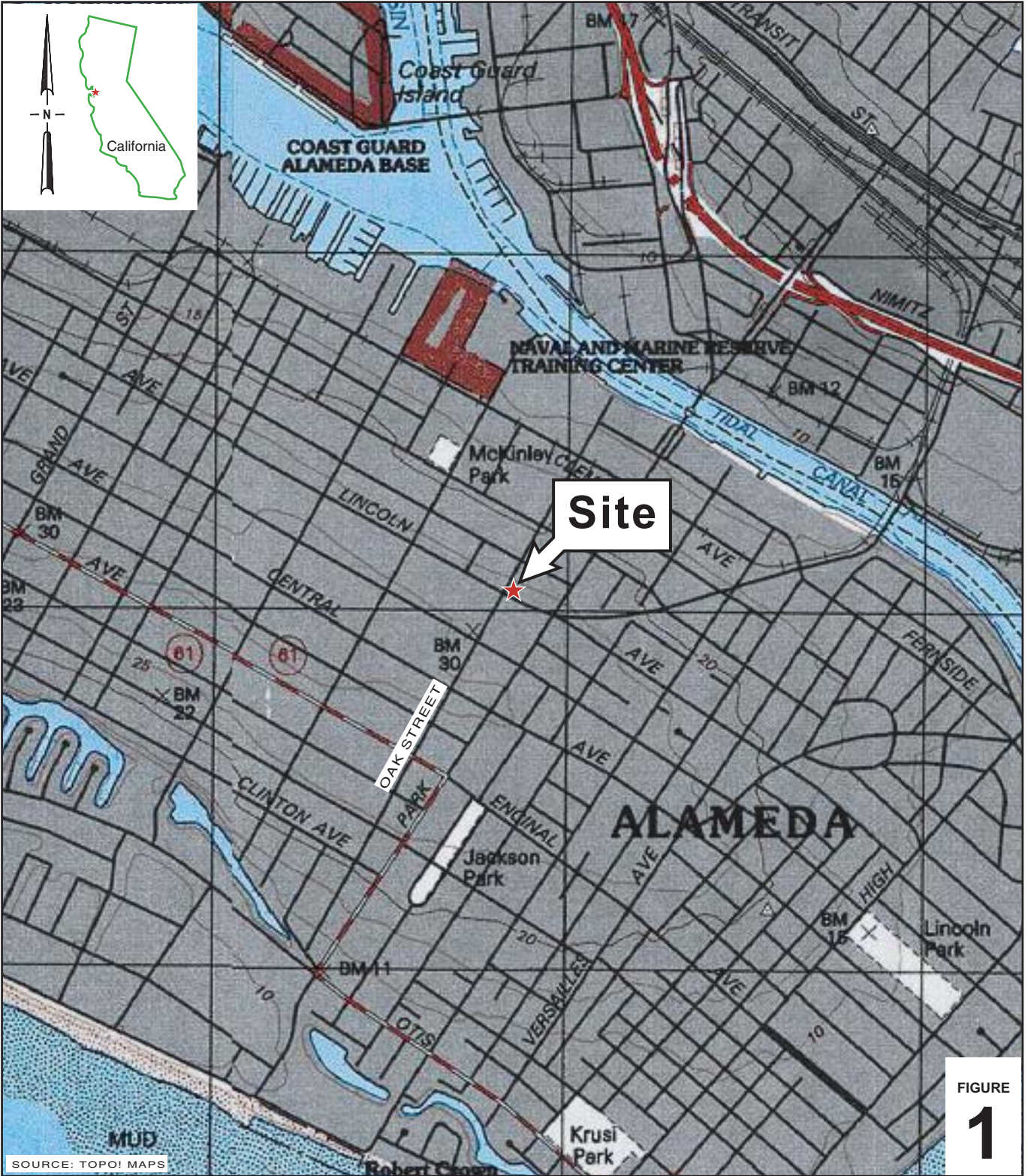


FIGURE 1

0 1/8 1/4 1/2 1  
SCALE : 1" = 1/4 MILE

### Former Shell Service Station

2301-2307 Lincoln Avenue  
Alameda, California

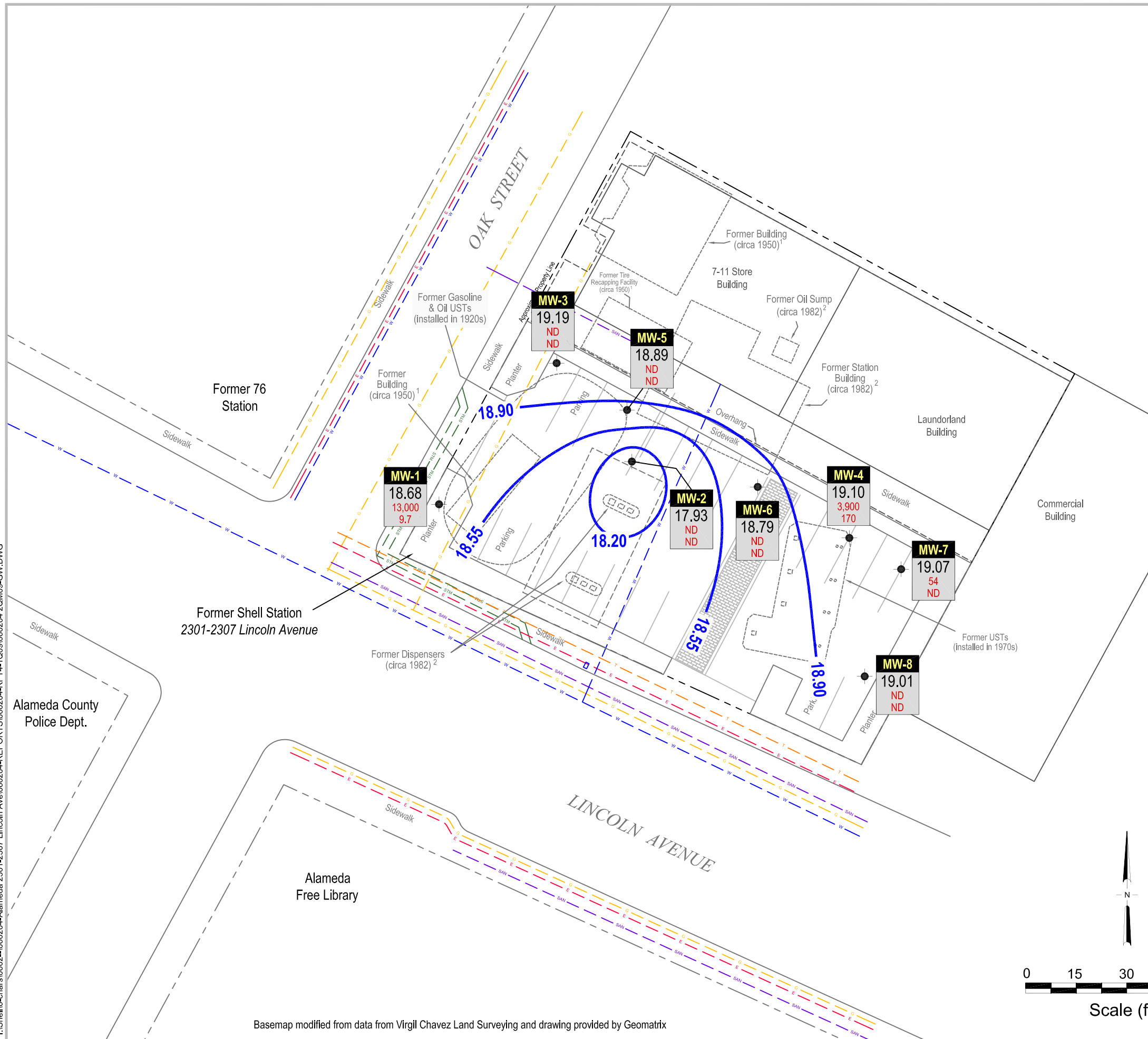


**CONESTOGA-ROVERS  
& ASSOCIATES**

### Vicinity Map



I:\Shell6-chars\0602--\060204-Alameda 2301-2307 Lincoln Ave\060204-REPORTS\060204-RPT4-1009\060204 20M09-GW.DWG



### EXPLANATION

- MW-1** ● Monitoring well location
- Electrical & Telecommunications line (E)
- Telecommunications & Cable TV line (T)
- Gas line (G)
- Storm drain line (STM)
- Sanitary sewer line (SAN)
- Water line (W)

**Sources:**

1. Sanborn Fire Insurance Map, 1950
2. Majors Civil Engineering, 1982

--- Groundwater elevation contour, in feet above mean sea level (msl)

<b>Well</b>	Well designation
<b>ELEV</b>	Groundwater elevation, in feet above msl
<b>TPHg</b>	TPHg and benzene concentrations are in micrograms per liter
<b>Benzene</b>	

**Notes:**  
ND = Not detected

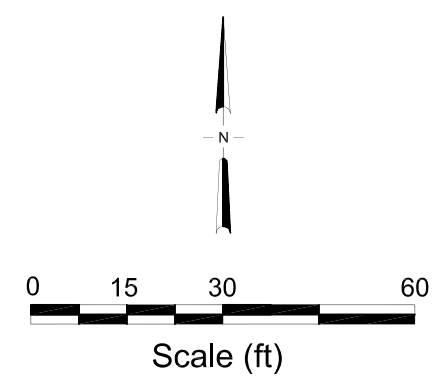


FIGURE  
**2**

Basemap modified from data from Virgil Chavez Land Surveying and drawing provided by Geomatrix

APPENDIX A

BLAINE TECH SERVICES, INC. -  
GROUNDWATER MONITORING REPORT

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# BLAINE

TECH SERVICES INC.

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GROUNDWATER SAMPLING SPECIALISTS  
SINCE 1985

April 29, 2009

Denis Brown  
Shell Oil Products US  
20945 South Wilmington Avenue  
Carson, CA 90810

First Quarter 2009 Groundwater Monitoring at  
Former Shell Service Station  
2301-2307 Lincoln Avenue  
Alameda, CA

Monitoring performed on March 16 and 27, 2009

---

## Groundwater Monitoring Report **090327-WW-1**

This report covers the routine monitoring of groundwater wells at this former Shell service station. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purge water (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty-hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight-hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. Our activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrological conditions or formulation of recommendations was performed.

Please call if you have any questions.

Yours truly,

A handwritten signature in black ink, appearing to read "Mike Ninokata", with a long horizontal flourish extending to the right.

Mike Ninokata  
Project Manager

MN/tm

attachments: Cumulative Table of WELL CONCENTRATIONS  
Certified Analytical Report  
Field Data Sheets

cc: Anni Kreml  
Conestoga-Rovers & Associates  
5900 Hollis St., Suite A  
Emeryville, CA 94608

**WELL CONCENTRATIONS**  
**2301-2307 Lincoln Avenue**  
**Alameda, CA**

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-1	03/16/2009	NA	NA	NA	NA	NA	25.77	8.24	17.53
MW-1	03/27/2009	13,000	9.7	<10	<10	<10	25.77	7.09	18.68
MW-2	03/16/2009	NA	NA	NA	NA	NA	26.09	8.54	17.55
MW-2	03/27/2009	<50	<0.50	<1.0	<1.0	<1.0	26.09	8.16	17.93
MW-3	03/16/2009	NA	NA	NA	NA	NA	25.56	6.06	19.50
MW-3	03/27/2009	<50	<0.50	<1.0	<1.0	<1.0	25.56	6.37	19.19
MW-4	03/16/2009	NA	NA	NA	NA	NA	26.60	7.43	19.17
MW-4	03/27/2009	3,900	170	25	190	360	26.60	7.50	19.10
MW-5	03/16/2009	NA	NA	NA	NA	NA	26.63	7.21	19.42
MW-5	03/27/2009	<50	<0.50	<1.0	<1.0	<1.0	26.63	7.74	18.89
MW-6	03/16/2009	NA	NA	NA	NA	NA	26.61	7.31	19.30
MW-6	03/27/2009	<50	<0.50	<1.0	<1.0	<1.0	26.61	7.82	18.79
MW-7	03/16/2009	NA	NA	NA	NA	NA	26.69	7.35	19.34
MW-7	03/27/2009	54	<0.50	<1.0	<1.0	<1.0	26.69	7.62	19.07
MW-8	03/16/2009	NA	NA	NA	NA	NA	26.05	6.81	19.24
MW-8	03/27/2009	<50	<0.50	<1.0	<1.0	<1.0	26.05	7.04	19.01

**WELL CONCENTRATIONS**  
**2301-2307 Lincoln Avenue**  
**Alameda, CA**

<b>Well ID</b>	<b>Date</b>	<b>TPPH</b> (ug/L)	<b>B</b> (ug/L)	<b>T</b> (ug/L)	<b>E</b> (ug/L)	<b>X</b> (ug/L)	<b>TOC</b> (MSL)	<b>Depth to Water</b> (ft.)	<b>GW Elevation</b> (MSL)
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Abbreviations:

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B

TOC = Top of Casing Elevation

GW = Groundwater

DO = Dissolved Oxygen

ug/L = Parts per billion

ppm = Parts per million

MSL = Mean sea level

ft. = Feet

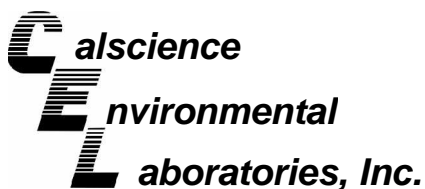
<n = Below detection limit

NA = Not applicable

ND = Not detected

Notes:





April 13, 2009

Michael Ninokata  
Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

Subject: **Calscience Work Order No.: 09-04-0110**  
**Client Reference: 2301 - 2307 Lincoln Ave., Alameda, CA**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 4/2/2009 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "Jessie Kim".

Calscience Environmental  
Laboratories, Inc.  
Jessie Kim  
Project Manager

**Analytical Report**



Blaine Tech Services, Inc.  
 1680 Rogers Avenue  
 San Jose, CA 95112-1105

Date Received: 04/02/09  
 Work Order No: 09-04-0110  
 Preparation: EPA 5030B  
 Method: LUFT GC/MS / EPA 8260B  
 Units: ug/L

Project: 2301 - 2307 Lincoln Ave., Alameda, CA

Page 1 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	09-04-0110-1-A	03/27/09 10:10	Aqueous	GC/MS W	04/04/09	04/04/09 16:11	090404L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	9.7	5.0	10		Xylenes (total)	ND	10	10	
Ethylbenzene	ND	10	10		TPPH	13000	500	10	
Toluene	ND	10	10						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Dibromofluoromethane	100	74-140			1,2-Dichloroethane-d4	110	74-146		
Toluene-d8	113	88-112		2	Toluene-d8-TPPH	114	88-112		2
1,4-Bromofluorobenzene	103	74-110							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-2	09-04-0110-2-A	03/27/09 09:20	Aqueous	GC/MS W	04/04/09	04/04/09 16:42	090404L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Xylenes (total)	ND	1.0	1	
Ethylbenzene	ND	1.0	1		TPPH	ND	50	1	
Toluene	ND	1.0	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Dibromofluoromethane	107	74-140			1,2-Dichloroethane-d4	116	74-146		
Toluene-d8	103	88-112			Toluene-d8-TPPH	104	88-112		
1,4-Bromofluorobenzene	98	74-110							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3	09-04-0110-3-A	03/27/09 09:50	Aqueous	GC/MS W	04/04/09	04/04/09 17:13	090404L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Xylenes (total)	ND	1.0	1	
Ethylbenzene	ND	1.0	1		TPPH	ND	50	1	
Toluene	ND	1.0	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Dibromofluoromethane	105	74-140			1,2-Dichloroethane-d4	115	74-146		
Toluene-d8	105	88-112			Toluene-d8-TPPH	106	88-112		
1,4-Bromofluorobenzene	97	74-110							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

**Analytical Report**



Blaine Tech Services, Inc.  
 1680 Rogers Avenue  
 San Jose, CA 95112-1105

Date Received: 04/02/09  
 Work Order No: 09-04-0110  
 Preparation: EPA 5030B  
 Method: LUFT GC/MS / EPA 8260B  
 Units: ug/L

Project: 2301 - 2307 Lincoln Ave., Alameda, CA

Page 2 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-4</b>	<b>09-04-0110-4-A</b>	<b>03/27/09 11:05</b>	<b>Aqueous</b>	<b>GC/MS W</b>	<b>04/04/09</b>	<b>04/04/09 17:43</b>	<b>090404L01</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	170	0.50	1		Xylenes (total)	360	1.0	1	
Ethylbenzene	190	2.0	2		TPPH	3900	50	1	
Toluene	25	1.0	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Dibromofluoromethane	102	74-140			1,2-Dichloroethane-d4	111	74-146		
Toluene-d8	105	88-112			Toluene-d8-TPPH	106	88-112		
1,4-Bromofluorobenzene	107	74-110							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-5</b>	<b>09-04-0110-5-A</b>	<b>03/27/09 11:25</b>	<b>Aqueous</b>	<b>GC/MS W</b>	<b>04/04/09</b>	<b>04/04/09 18:14</b>	<b>090404L01</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Xylenes (total)	ND	1.0	1	
Ethylbenzene	ND	1.0	1		TPPH	ND	50	1	
Toluene	ND	1.0	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Dibromofluoromethane	103	74-140			1,2-Dichloroethane-d4	110	74-146		
Toluene-d8	105	88-112			Toluene-d8-TPPH	105	88-112		
1,4-Bromofluorobenzene	96	74-110							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-6</b>	<b>09-04-0110-6-A</b>	<b>03/27/09 10:55</b>	<b>Aqueous</b>	<b>GC/MS W</b>	<b>04/04/09</b>	<b>04/04/09 18:44</b>	<b>090404L01</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Xylenes (total)	ND	1.0	1	
Ethylbenzene	ND	1.0	1		TPPH	ND	50	1	
Toluene	ND	1.0	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Dibromofluoromethane	106	74-140			1,2-Dichloroethane-d4	116	74-146		
Toluene-d8	105	88-112			Toluene-d8-TPPH	106	88-112		
1,4-Bromofluorobenzene	98	74-110							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

**Analytical Report**



Blaine Tech Services, Inc.  
 1680 Rogers Avenue  
 San Jose, CA 95112-1105

Date Received: 04/02/09  
 Work Order No: 09-04-0110  
 Preparation: EPA 5030B  
 Method: LUFT GC/MS / EPA 8260B  
 Units: ug/L

Project: 2301 - 2307 Lincoln Ave., Alameda, CA

Page 3 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-7	09-04-0110-7-A	03/27/09 10:45	Aqueous	GC/MS W	04/04/09	04/04/09 19:15	090404L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Xylenes (total)	ND	1.0	1	
Ethylbenzene	ND	1.0	1		TPPH	54	50	1	
Toluene	ND	1.0	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Dibromofluoromethane	106	74-140			1,2-Dichloroethane-d4	114	74-146		
Toluene-d8	103	88-112			Toluene-d8-TPPH	104	88-112		
1,4-Bromofluorobenzene	96	74-110							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-8	09-04-0110-8-A	03/27/09 10:30	Aqueous	GC/MS W	04/04/09	04/04/09 19:46	090404L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Xylenes (total)	ND	1.0	1	
Ethylbenzene	ND	1.0	1		TPPH	ND	50	1	
Toluene	ND	1.0	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Dibromofluoromethane	104	74-140			1,2-Dichloroethane-d4	115	74-146		
Toluene-d8	106	88-112			Toluene-d8-TPPH	106	88-112		
1,4-Bromofluorobenzene	96	74-110							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-767-1,496	N/A	Aqueous	GC/MS W	04/04/09	04/04/09 13:38	090404L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Xylenes (total)	ND	1.0	1	
Ethylbenzene	ND	1.0	1		TPPH	ND	50	1	
Toluene	ND	1.0	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Dibromofluoromethane	103	74-140			1,2-Dichloroethane-d4	109	74-146		
Toluene-d8	104	88-112			Toluene-d8-TPPH	105	88-112		
1,4-Bromofluorobenzene	100	74-110							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

**Analytical Report**



Blaine Tech Services, Inc.  
 1680 Rogers Avenue  
 San Jose, CA 95112-1105

Date Received: 04/02/09  
 Work Order No: 09-04-0110  
 Preparation: EPA 5030B  
 Method: LUFT GC/MS / EPA 8260B  
 Units: ug/L

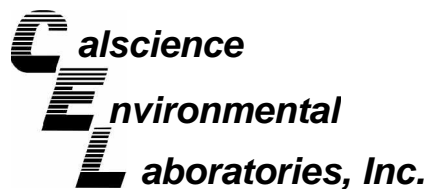
Project: 2301 - 2307 Lincoln Ave., Alameda, CA

Page 4 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-767-1,524	N/A	Aqueous	GC/MS RR	04/08/09	04/08/09 15:13	090408L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Xylenes (total)	ND	1.0	1	
Ethylbenzene	ND	1.0	1		TPPH	ND	50	1	
Toluene	ND	1.0	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Dibromofluoromethane	100	74-140			1,2-Dichloroethane-d4	94	74-146		
Toluene-d8	101	88-112			Toluene-d8-TPPH	103	88-112		
1,4-Bromofluorobenzene	94	74-110							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



## Quality Control - Spike/Spike Duplicate



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

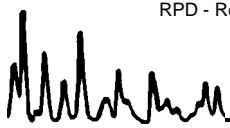
Date Received: 04/02/09  
Work Order No: 09-04-0110  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA  
8260B

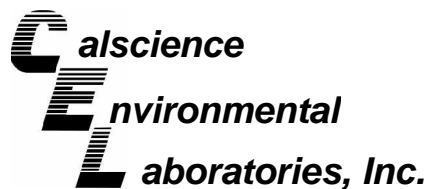
Project 2301 - 2307 Lincoln Ave., Alameda, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-04-0129-1	Aqueous	GC/MS W	04/04/09	04/04/09	090404S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	94	90	88-118	4	0-7	
Carbon Tetrachloride	79	77	67-145	3	0-11	
Chlorobenzene	90	92	88-118	2	0-7	
1,2-Dibromoethane	92	90	70-130	2	0-30	
1,2-Dichlorobenzene	89	88	86-116	1	0-8	
1,1-Dichloroethene	93	88	70-130	6	0-25	
Ethylbenzene	96	96	70-130	0	0-30	
Toluene	95	95	87-123	0	0-8	
Trichloroethene	94	89	79-127	6	0-10	
Vinyl Chloride	110	109	69-129	1	0-13	
Methyl-t-Butyl Ether (MTBE)	86	82	71-131	4	0-13	
Tert-Butyl Alcohol (TBA)	83	81	36-168	2	0-45	
Diisopropyl Ether (DIPE)	87	84	81-123	3	0-9	
Ethyl-t-Butyl Ether (ETBE)	82	79	72-126	3	0-12	
Tert-Amyl-Methyl Ether (TAME)	93	89	72-126	5	0-12	
Ethanol	96	94	53-149	3	0-31	

RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - Spike/Spike Duplicate



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

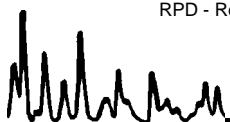
Date Received: 04/02/09  
Work Order No: 09-04-0110  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA  
8260B

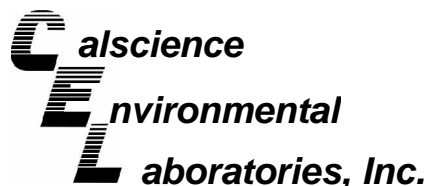
Project 2301 - 2307 Lincoln Ave., Alameda, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-04-0152-3	Aqueous	GC/MS RR	04/08/09	04/08/09	090408S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	108	108	88-118	0	0-7	
Carbon Tetrachloride	93	96	67-145	3	0-11	
Chlorobenzene	99	102	88-118	3	0-7	
1,2-Dibromoethane	99	100	70-130	1	0-30	
1,2-Dichlorobenzene	93	94	86-116	1	0-8	
1,1-Dichloroethene	103	106	70-130	3	0-25	
Ethylbenzene	98	101	70-130	3	0-30	
Toluene	105	106	87-123	1	0-8	
Trichloroethene	102	101	79-127	1	0-10	
Vinyl Chloride	118	120	69-129	2	0-13	
Methyl-t-Butyl Ether (MTBE)	100	100	71-131	0	0-13	
Tert-Butyl Alcohol (TBA)	92	102	36-168	9	0-45	
Diisopropyl Ether (DIPE)	113	113	81-123	0	0-9	
Ethyl-t-Butyl Ether (ETBE)	103	103	72-126	0	0-12	
Tert-Amyl-Methyl Ether (TAME)	97	98	72-126	0	0-12	
Ethanol	104	115	53-149	10	0-31	

RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - LCS/LCS Duplicate



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

Date Received: N/A  
Work Order No: 09-04-0110  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project: 2301 - 2307 Lincoln Ave., Alameda, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-767-1,496	Aqueous	GC/MS W	04/04/09	04/04/09	090404L01		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	94	93	84-120	78-126	1	0-8	
Carbon Tetrachloride	81	80	63-147	49-161	0	0-10	
Chlorobenzene	91	90	89-119	84-124	1	0-7	
1,2-Dibromoethane	92	92	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	90	89	89-119	84-124	2	0-9	
1,1-Dichloroethene	94	91	77-125	69-133	3	0-16	
Ethylbenzene	98	97	80-120	73-127	1	0-20	
Toluene	96	95	83-125	76-132	1	0-9	
Trichloroethene	96	99	89-119	84-124	3	0-8	
Vinyl Chloride	114	105	63-135	51-147	8	0-13	
Methyl-t-Butyl Ether (MTBE)	82	84	82-118	76-124	2	0-13	
Tert-Butyl Alcohol (TBA)	81	80	46-154	28-172	1	0-32	
Diisopropyl Ether (DIPE)	86	85	81-123	74-130	1	0-11	
Ethyl-t-Butyl Ether (ETBE)	80	81	74-122	66-130	1	0-12	
Tert-Amyl-Methyl Ether (TAME)	90	92	76-124	68-132	2	0-10	
Ethanol	91	86	60-138	47-151	5	0-32	
TPPH	113	118	65-135	53-147	4	0-30	

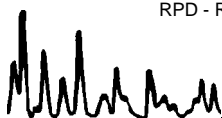
Total number of LCS compounds : 17

Total number of ME compounds : 0

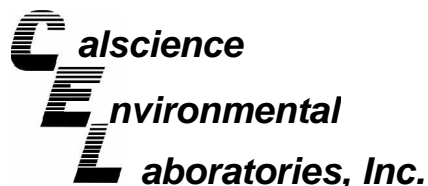
Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit







## Quality Control - LCS/LCS Duplicate



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

Date Received: N/A  
Work Order No: 09-04-0110  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project: 2301 - 2307 Lincoln Ave., Alameda, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-767-1,524	Aqueous	GC/MS RR	04/08/09	04/08/09	090408L01		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	112	114	84-120	78-126	2	0-8	
Carbon Tetrachloride	98	104	63-147	49-161	6	0-10	
Chlorobenzene	104	106	89-119	84-124	2	0-7	
1,2-Dibromoethane	106	109	80-120	73-127	3	0-20	
1,2-Dichlorobenzene	98	99	89-119	84-124	2	0-9	
1,1-Dichloroethene	113	115	77-125	69-133	2	0-16	
Ethylbenzene	105	107	80-120	73-127	2	0-20	
Toluene	110	112	83-125	76-132	2	0-9	
Trichloroethene	109	112	89-119	84-124	3	0-8	
Vinyl Chloride	131	132	63-135	51-147	1	0-13	
Methyl-t-Butyl Ether (MTBE)	101	104	82-118	76-124	3	0-13	
Tert-Butyl Alcohol (TBA)	92	97	46-154	28-172	5	0-32	
Diisopropyl Ether (DIPE)	109	112	81-123	74-130	3	0-11	
Ethyl-t-Butyl Ether (ETBE)	100	102	74-122	66-130	2	0-12	
Tert-Amyl-Methyl Ether (TAME)	96	97	76-124	68-132	2	0-10	
Ethanol	113	105	60-138	47-151	7	0-32	
TPPH	97	96	65-135	53-147	1	0-30	

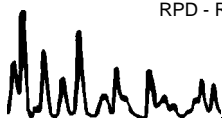
Total number of LCS compounds : 17

Total number of ME compounds : 0

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit



Work Order Number: 09-04-0110

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.



LAB (LOCATION)

- CALSCIENCE ( )
- SPL ( )
- XENCO ( )
- TEST AMERICA ( )
- OTHER ( )



# Shell Oil Products Chain Of Custody Record

Please Check Appropriate Box:			Print Bill To Contact Name:			INCIDENT # (ENV SERVICES)			<input type="checkbox"/> CHECK IF NO INCIDENT # APPLIES					
<input checked="" type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL	Denis Brown			9	7	7	6	7	0	4	4	DATE: 3/27/09
<input type="checkbox"/> MOTIVA SD&CM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES	PO #			SAP #			PAGE: 1 of 1					
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER													

SAMPLING COMPANY: <b>Blaine Tech Services</b>		LOG CODE: <b>BTSS</b>	SITE ADDRESS: Street and City <b>2301 - 2307 Lincoln Ave., Alameda</b>		State <b>CA</b>	GLOBAL ID NO.: <b>T06179714590</b>	
ADDRESS: <b>1680 Rogers Ave, San Jose, CA 95112</b>		EDF DELIVERABLE TO (Name, Company, Office Location): <b>Anni Kremi, CRA, Emeryville Office</b>		PHONE NO.: <b>(510) 420-3335</b>	E-MAIL: <b>shelledf@craworld.com</b>	CONSULTANT PROJECT NO.: <b>090327-ww1</b>	
PROJECT CONTACT (Hardcopy or PDF Report to): <b>Michael Ninokata</b>		SAMPLER NAME(S) (Print): <b>WILLIAM WONG</b>		LAB USE ONLY: <b>04-0110</b>		BTS #	
TELEPHONE: <b>(408)573-0555</b>	FAX: <b>(408)573-7771</b>	E-MAIL: <b>mninokata@blainetech.com</b>					

TURNAROUND TIME (CALENDAR DAYS): <input checked="" type="checkbox"/> STANDARD (14 DAY) <input type="checkbox"/> 5 DAYS <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 24 HOURS <input type="checkbox"/> RESULTS NEEDED ON WEEKEND				REQUESTED ANALYSIS			
<input type="checkbox"/> LA - RWQCB REPORT FORMAT <input type="checkbox"/> UST AGENCY:							
SPECIAL INSTRUCTIONS OR NOTES :				<input type="checkbox"/> SHELL CONTRACT RATE APPLIES <input type="checkbox"/> STATE REIMBURSEMENT RATE APPLIES <input type="checkbox"/> EDD NOT NEEDED <input checked="" type="checkbox"/> RECEIPT VERIFICATION REQUESTED			

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE						NO. OF CONT.	REQUESTED ANALYSIS											TEMPERATURE ON RECEIPT °C	Container PID Readings or Laboratory Notes						
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER	TPH - Purgeable (8260B)		TPH - Extractable (8015M)	BTEX (8260B)	5 Oxygenates (8260B)	MTBE (8260B)	TBA (8260B)	DIPE (8260B)	TAME (8260B)	ETBE (8260B)	1,2 DCA (8260B)	EDB (8260B)	Ethanol (8260B)			Methanol (8015M)					
1	MW-1	3/27/09	1010	W	3																									
2	MW-2	↓	0920	↓	↓																									
3	MW-3	↓	0950	↓	↓																									
4	MW-4	↓	1105	↓	↓																									
5	MW-5	↓	1125	↓	↓																									
6	MW-6	↓	1055	↓	↓																									
7	MW-7	↓	1045	↓	↓																									
8	MW-8	↓	1030	↓	↓																									

Relinquished by (Signature) 	Received by (Signature) SAMPLE CUSTODIAN	Date: 3/27/09	Time: 1505
Relinquished by (Signature) (Sample Custodian)	Received by (Signature) CEL	Date: 4-1-09	Time: 1030
Relinquished by (Signature) GSD	Received by (Signature) Precy A. Co	Date: 4/2/09	Time: 10:00

GSD # 511575616

**SAMPLE RECEIPT FORM**

Cooler 1 of 1

CLIENT: BLAINE TECH

DATE: 04/02/09

**TEMPERATURE:** (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 3.0 °C - 0.2 °C (CF) = 2.8 °C     Blank     Sample

Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_).

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature:     Air     Filter     Metals Only     PCBs Only    Initial: PS

**CUSTODY SEALS INTACT:**

Cooler     \_\_\_\_\_     No (Not Intact)     Not Present     N/A    Initial: PS

Sample     \_\_\_\_\_     No (Not Intact)     Not Present    Initial: T.N

**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> COC not relinquished. <input type="checkbox"/> No date relinquished. <input type="checkbox"/> No time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct containers and volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTAINER TYPE:**

**Solid:**  4ozCGJ     8ozCGJ     16ozCGJ     Sleeve     EnCores®     TerraCores®     \_\_\_\_\_

**Water:**  VOA     VOAh     VOAna<sub>2</sub>     125AGB     125AGBh     125AGBp     1AGB     1AGBna<sub>2</sub>     1AGBs

500AGB     500AGJ     500AGJs     250AGB     250CGB     250CGBs     1PB     500PB     500PBna

250PB     250PBn     125PB     125PBzna     100PBsterile     100PBna<sub>2</sub>     \_\_\_\_\_     \_\_\_\_\_     \_\_\_\_\_

**Air:**  Tedlar®     Summa®     \_\_\_\_\_    **Sludge/Other:**  \_\_\_\_\_    Checked/Labeled by: T.N

Container: C: Clear    A: Amber    P: Plastic    G: Glass    J: Jar (Wide-mouth)    B: Bottle (Narrow-mouth)    Reviewed by: R.N

Preservative: h: HCL    n: HNO<sub>3</sub>    na<sub>2</sub>: Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>    Na: NaOH    p: H<sub>3</sub>PO<sub>4</sub>    s: H<sub>2</sub>SO<sub>4</sub>    zna: ZnAc<sub>2</sub>+NaOH    Scanned by: T.N

## WELL GAUGING DATA

Project # 090316-PM1 Date 3/16/09 Client SHELL

Site 2301-2307 Lincoln Ave Alameda

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
Mw-1	0804	1					8.24	11.98	↓	
Mw-2	0810	1				8.54	12.46			
Mw-3	0807	1				6.06	11.62			
Mw-4	0754	4				7.43	17.76			
Mw-5	0759	4				7.21	17.51			
Mw-6	0756	4				7.31	17.64			
Mw-7	0750	4				7.35	17.70			
Mw-8	0747	4				6.81	16.39			

# WELL DEVELOPMENT DATA SHEET

Project #: 090316-RM1	Client: SHELL
Developer: R. McCarthy / C. Morash	Date Developed: 3/16/09
Well I.D. 4" - 4	Well Diameter: (circle one) 2 3 <b>4</b> 6
Total Well Depth: Before 17.76 After 17.81	Depth to Water: Before 7.43 After 13.22
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF):  
 $\{12 \times (d^2/4) \times \pi\} / 231$   
 where  
 12 = in / foot  
 d = diameter (in.)  
 $\pi = 3.1416$   
 231 = in<sup>3</sup>/gal

Well dia.	=	VCF
2"	=	0.16
3"	=	0.37
4"	=	0.65
6"	=	1.47
10"	=	4.08
12"	=	6.87

<u>6.7</u>	X	<u>10</u>	=	<u>67.0</u>	gallons
1 Case Volume		Specified Volumes			

- Purging Device:
- |                                       |   |
|---------------------------------------|---|
| <input type="checkbox"/> Bailer       | <input checked="" type="checkbox"/> Electric Submersible      |
| <input type="checkbox"/> Suction Pump | <input checked="" type="checkbox"/> Positive Air Displacement |

Type of Installed Pump \_\_\_\_\_  
 Other equipment used \_\_\_\_\_

Well Surged for 15 minutes prior to purging

TIME	TEMP (F)	pH	Cond. (mS or $\mu$ S)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1148	65.9	7.46	1673	>1000	6.7	Sediment
1157	66.1	7.37	1643	>1000	13.4	" " DTW - 10.69
1205	66.8	7.21	1499	>1000	20.1	light silt color
1211	67.1	7.48	1386	>1000	26.8	DTW - 11.05 no silt
1213	67.4	7.17	1490	>1000	33.5	
1214	67.7	7.18	1245	>1000	40.2	
1215	68.2	7.12	1292	>1000	46.9	
1216	68.4	7.01	1248	>1000	53.6	
1217	68.7	6.96	1174	>1000	60.3	
1218	68.9	6.95	1140	>1000	67.0	

Did Well Dewater? <b>N6</b>	If yes, note above.	Gallons Actually Evacuated:	<b>67.0</b>
-----------------------------	---------------------	-----------------------------	-------------

Achieved hard bottom, switched to E.S. pump.

# WELL DEVELOPMENT DATA SHEET

Project #: 090816-RM1	Client: SHELL
Developer: R. McCarthy / C. Marsh	Date Developed: 3/16/09
Well I.D. 4" - 5	Well Diameter: (circle one) 2 3 <b>4</b> 6
Total Well Depth: Before 17.51 After 17.79	Depth to Water: Before 7.21 After 14.11
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF):

$$(12 \times (d^2/4) \times \pi) / 231$$

where

12 = in / foot

d = diameter (in.)

$\pi = 3.1416$

231 = in<sup>3</sup>/gal

Well dia.      VCF

2"      =      0.16

3"      =      0.37

4"      =      0.65

6"      =      1.47

10"     =      4.08

12"     =      6.87

<u>6.7</u>	X	<u>10</u>	=	<u>67.0</u>
- 1 Case Volume		Specified Volumes		gallons

Purging Device:

Bailer

Electric Submersible

Suction Pump

Positive Air Displacement

Type of Installed Pump \_\_\_\_\_

Other equipment used \_\_\_\_\_

Surged well for 15 minutes prior to purging

TIME	TEMP (F)	pH	Cond. (mS or $\mu$ S)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
0906	63.9	8.41	1419	>1000	6.7	Sediment
0916	64.8	7.98	1391	>1000	13.4	" "
0922	64.5	7.77	1249	>1000	20.1	light Sediment
0930	64.3	7.51	1176	>1000	26.8	" "
0937	65.3	7.71	1000	>1000	33.5	No Sediment
0943	65.3	7.70	872	>1000	40.2	" "
0944	Well Dewatered @		42 gals. Waited for	recharge		
1008	66.0	7.32	876.4	>1000	46.9	
1009	66.9	7.18	729.1	>1000	53.6	
1010	67.4	7.17	807.3	>1000	60.3	
1011	66.8	7.17	794.2	>1000	67.0	
Did Well Dewater? Yes		If yes, note above.		Gallons Actually Evacuated:		67.0

Ⓢ Achieved hard bottom, switch from PAD pump to E.S.

# WELL DEVELOPMENT DATA SHEET

Project #: 090816-RM1	Client: SHELL
Developer: R. McCarthy / C. Moosh	Date Developed: 3/16/09
Well I.D. 4" - 6	Well Diameter: (circle one) 2 3 (4) 6
Total Well Depth: Before 17.64 After 17.77	Depth to Water: Before 7.31 After 10.16
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF): $(12 \times (d^2/4) \times \pi) / 231$	Well dia.	VCF
where	2"	= 0.16
12 = in / foot	3"	= 0.37
d = diameter (in.)	4"	= 0.65
$\pi = 3.1416$	6"	= 1.47
231 = in <sup>3</sup> /gal	10"	= 4.08
	12"	= 6.87

<u>6.7</u>	X	<u>10</u>	=	<u>67.0</u>	gallons
1 Case Volume		Specified Volumes			

- Purging Device:
- |                                       |   |
|---------------------------------------|---|
| <input type="checkbox"/> Bailer       | <input checked="" type="checkbox"/> Electric Submersible      |
| <input type="checkbox"/> Suction Pump | <input checked="" type="checkbox"/> Positive Air Displacement |

Type of Installed Pump \_\_\_\_\_

Other equipment used \_\_\_\_\_ Well Surged for 15 minutes prior to purging

TIME	TEMP (F)	pH	Cond. (mS or $\mu$ S)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1043	64.5	7.65	1293	71000	6.7	Sediment
1052	65.1	7.52	1292	71000	13.4	" " DTW-9.88
1059	65.2	7.53	1207	71000	20.1	light silt
1104	64.8	7.71	1167	71000	26.8	no silt DTW-10.41
* 1108	64.6	7.51	1033	71000	33.5	
1109	66.4	7.24	1279	71000 ✓	40.2	
1110	66.9	7.22	1155	71000	46.9	
1111	67.5	7.19	1089	71000	53.6	
1112	67.8	7.14	1059	71000	60.3	
1113	67.6	7.06	1066	71000	67.0	
Did Well Dewater? No	If yes, note above.		Gallons Actually Evacuated:		67.0	

\* Achieved hard bottom sustained to E.S.



# WELL DEVELOPMENT DATA SHEET

Project #: <u>090316-RM1</u>	Client: <u>SHELL</u>
Developer: <u>R. McCarthy / C. Marsh</u>	Date Developed: <u>3/16/09</u>
Well I.D. <u>Mw - 7</u>	Well Diameter: (circle one) 2 3 <b>(4)</b> 6
Total Well Depth: Before <u>17.70</u> After <u>17.80</u>	Depth to Water: Before <u>7.35</u> After <u>11.45</u>
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF): $\{12 \times (d^2/4) \times \pi\} / 231$	Well dia.	VCF
where	2" =	0.16
12 = in / foot	3" =	0.37
d = diameter (in.)	4" =	0.65
$\pi = 3.1416$	6" =	1.47
231 = in <sup>3</sup> /gal	10" =	4.08
	12" =	6.87

<u>6.7</u>	X	<u>10</u>	=	<u>67.0</u>
1 Case Volume		Specified Volumes		gallons

- Purging Device:       Bailer       Electric Submersible
- Suction Pump       Positive Air Displacement

Type of Installed Pump \_\_\_\_\_

Other equipment used \_\_\_\_\_ *Surged well for 15 mins prior to purging*

TIME	TEMP (F)	pH	Cond. (mS or $\mu$ S)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1323	65.4	7.94	1696	>1000	6.7	High Sediment
1331	65.7	7.64	1602	>1000	13.4	" " DTW 11.02
1339	64.9	7.63	1430	>1000	20.1	Sediment <sup>in</sup>
1345	64.8	7.60	1185	>1000	26.8	" " DTW 12.72
1354	65.2	7.58	1007	>1000	33.5	light silt
1402	64.7	7.49	937.8	>1000	40.2	" "
1410	65.1	7.42	856.1	>1000	46.9	No silt
1415	65.8	7.35	784.8	>1000	53.6	
1416	Dewatered	@ 55	gals. Waited for recharge		60.3	
1430	65.0	7.49	802.2	>1000	<del>67.0</del> 60.3	
1431	65.7	7.44	822.3	>1000	67.0	
Did Well Dewater? <u>Yes</u>	If yes, note above.			Gallons Actually Evacuated:	<u>67.0</u>	

*Achieved hard bottom. then switched to E.S. pump*

# WELL DEVELOPMENT DATA SHEET

Project #: 090316-RM1	Client: SHELL
Developer: R. McCarthy / C. Moosh	Date Developed: 3/16/09
Well I.D. 8" - 8	Well Diameter: (circle one) 2 3 (4) 6
Total Well Depth: Before 16.39 After 17.41	Depth to Water: Before 6.81 After 11.54
Reason not developed:	If Free Product, thickness:
Additional Notations:	

Volume Conversion Factor (VCF):  
 $(12 \times (d^2/4) \times \pi) / 231$   
 where  
 12 = in / foot  
 d = diameter (in.)  
 $\pi = 3.1416$   
 231 = in<sup>3</sup>/gal

Well dia.	VCF
2" =	0.16
3" =	0.37
4" =	0.65
6" =	1.47
10" =	4.08
12" =	6.87

6.2	X	10	=	62.0	gallons
1 Case Volume		Specified Volumes			

- Purging Device:
- Bailer
  - Suction Pump
  - Electric Submersible
  - Positive Air Displacement

Type of Installed Pump \_\_\_\_\_  
 Other equipment used \_\_\_\_\_

Surged well for 15 mins prior to purging

TIME	TEMP (F)	pH	Cond. (mS or $\mu$ S)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
1423	64.1	7.46	1051	71000	6.2	High levels of sediment
1430	64.2	7.46	919	71000	12.4	"
1435	<del>64.7</del> 64.7	7.45	804.9	71000	18.6	"
1442	64.7	7.43	660.8	71000	24.8	"
1448	65.0	7.55	604.7	71000	31.0	Sediment DTW-12.07
1454	64.8	7.60	577.0	71000	37.2	" "
1503	64.4	7.61	525.8	71000	43.4	light silt DTW-12.09
1510	64.4	7.81	522.3	71000	49.6	light silt
1517	64.1	7.86	502.3	71000	55.8	light silt DTW-23
1523	64.2	7.53	493.0	71000	62	no silt
Did Well Dewater? <input checked="" type="checkbox"/>	If yes, note above.		Gallons Actually Evacuated:		62	

# WELL GAUGING DATA

Project # 090327-WWI Date 3/27/09 Client SHECC

Site 2301-2307 LINCOLN AVE, ALAMEDA, CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or <u>FOC</u>	Notes
MW-1	0749	1					7.09	11.92	↓	
MW-2	0742	4 <sup>(in)</sup>					8.16	12.49		
MW-3	0747	1					6.37	11.60		
MW-4	0733	4					7.50	19.82		
MW-5	0745	4					7.74	17.78		
MW-6	0739	4					7.82	17.74		
MW-7	0730	4					7.62	17.73		
MW-8	0729	4					7.04	17.53		↓

## SHELL WELL MONITORING DATA SHEET

BTS #: <u>090327-WM</u>	Site: <u>2301-2307 LINCOLN AVE, ALAMEDA, CA</u>
Sampler: <u>WM</u>	Date: <u>3/27/09</u>
Well I.D.: <u>MW-1</u>	Well Diameter: 2 3 4 6 8 <u>1</u>
Total Well Depth (TD): <u>11.92</u>	Depth to Water (DTW): <u>7.09</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>8.06</u>	

Purge Method: Bailer      Waterra      Sampling Method: Bailer  
 Disposable Bailer      Peristaltic      Disposable Bailer  
 Positive Air Displacement      Extraction Pump      Extraction Port  
~~Electric Submersible~~      Other 5/8 tubing w/ check valve      Dedicated Tubing

0.2 (Gals.) X 3 = 0.6 Gals.  
 1 Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or <del>µS</del> )	Turbidity (NTUs)	Gals. Removed	Observations
0958	63.7	7.14	497	980	0.2	cloudy green, odor
0959	63.5	7.00	524	>1000	0.4	" "
1000	62.7	6.81	497	>1000	0.6	" "

Did well dewater? Yes  No  Gallons actually evacuated: 0.6

Sampling Date: 03/27/09 Sampling Time: 1010 Depth to Water: 8.05

Sample I.D.: MW-1 Laboratory: CalScience Columbia Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: see loc

EB I.D. (if applicable): @ \_\_\_\_\_ Time Duplicate I.D. (if applicable): \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

## SHELL WELL MONITORING DATA SHEET

BTS #: <u>090327-WW1</u>	Site: <u>2301-2307 LINCOLN AVE, ALAMEDA, CA</u>
Sampler: <u>WW</u>	Date: <u>3/27/09</u>
Well I.D.: <u>MW-2</u>	Well Diameter: 2 3 4 6 8 <u>1</u>
Total Well Depth (TD): <u>12.49</u>	Depth to Water (DTW): <u>8.16</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>9.03</u>	

Purge Method: Bailer Disposable Bailer Positive Air Displacement Electric Submersible	Waters: Peristaltic Extraction Pump Other: <u>5/8 tubing w/ chk. valve</u>	Sampling Method: Bailer Disposable Bailer Extraction Port Dedicated Tubing Other: <u>tubing w/ chk. valve</u>
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<u>0.2</u> (Gals.) X	<u>3</u> Specified Volumes =	<u>0.6</u> Gals. Calculated Volume
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Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	Observations
0908	64.3	6.99	792	645	0.2	
0909	64.6	6.88	797	886	0.4	
0910	64.5	6.88	817	51000	0.6	

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Gallons actually evacuated: <u>0-6</u>
Sampling Date: <u>3/27/09</u> Sampling Time: <u>0920</u> Depth to Water: <u>9.03</u>	
Sample I.D.: <u>MW-2</u> Laboratory: <u>CalScience</u> Columbia Other _____	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>see WC</u>	
EB I.D. (if applicable): @ _____ Time Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: _____	
D.O. (if req'd): Pre-purge: _____ mg/L Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV	

## SHELL WELL MONITORING DATA SHEET

BTS #: <u>090327-WW1</u>	Site: <u>2701-2307 LINCOLN AVE, ALAMEDA, CA</u>
Sampler: <u>ww</u>	Date: <u>3/27/09</u>
Well I.D.: <u>MW-3</u>	Well Diameter: 2 3 4 6 8 <u>1</u>
Total Well Depth (TD): <u>11.60</u>	Depth to Water (DTW): <u>6.37</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>7.42</u>	

Purge Method:  Bailer       Waterra      Sampling Method:  Bailer  
 Disposable Bailer       Peristaltic       Disposable Bailer  
 Positive Air Displacement       Extraction Pump       Extraction Port  
 ~~Electric Submersible~~      Other: chk w/ valve tubing 5/8"       Dedicated Tubing 5/8"  
 Other: chk valve w/ tubing

$$0.2 \text{ (Gals.)} \times 3 = 0.6 \text{ Gals.}$$
 I Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or <del>µS</del> )	Turbidity (NTUs)	Gals. Removed	Observations
0942	65.1	7.17	700	>1000	0.2	
0943	65.2	7.01	696	>1000	0.4	
0944	65.3	7.00	691	>1000	0.6	

Did well dewater? Yes  No  Gallons actually evacuated: 0.6

Sampling Date: 3/27/09 Sampling Time: 0950 Depth to Water: 6-42

Sample I.D.: MW-3 Laboratory: CatScience Columbia Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: see loc

EB I.D. (if applicable): @ \_\_\_\_\_ Time Duplicate I.D. (if applicable): \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

# SHELL WELL MONITORING DATA SHEET

BTS #: 090327-WW1	Site: 2301-2307 LINCOLN AVE, ALAMEDA, CA
Sampler: WW	Date: 3/27/09
Well I.D.: MW-4	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 17.82	Depth to Water (DTW): 7.50
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.56	

Purge Method: Bailer Disposable Bailer Positive Air Displacement <input checked="" type="checkbox"/> Electric Submersible	Waterra Peristaltic Extraction Pump Other _____	Sampling Method: <input checked="" type="checkbox"/> Bailer Disposable Bailer Extraction Port Dedicated Tubing Other: _____
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6.7 (Gals.) X 3 = 20.1 Gals.  
 I Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
0838	64.8	6.18	1290	231	6.7	
0839	65.5	6.36	1367	407	13.4	
0840	65.8	6.43	1345	493	20.1	

Did well dewater? Yes  No  Gallons actually evacuated: 20.1  
 Sampling Date: 3/27/09      Sampling Time: <sup>1105</sup> 1055 <sup>AM</sup>      Depth to Water: <sup>(new)</sup> 7.61 - 7.54

Sample I.D.: MW-4      Laboratory: CalScience Columbia Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: Sll wc

EB I.D. (if applicable): \_\_\_\_\_ @ \_\_\_\_\_ Time      Duplicate I.D. (if applicable): \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

## SHELL WELL MONITORING DATA SHEET

BTS #: 090327-WW1	Site: 2301-2307 LINCOLN AVE, ALAMEDA, CA
Sampler: <del>W/W</del>	Date: 3/27/09
Well I.D.: MW-5	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 17.78	Depth to Water (DTW): 7.74
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.75	

Purge Method: Bailer Disposable Bailer Positive Air Displacement <input checked="" type="checkbox"/> Electric Submersible	Waterra Peristaltic Extraction Pump Other _____	Sampling Method: <input checked="" type="checkbox"/> Bailer Disposable Bailer Extraction Port Dedicated Tubing Other: _____
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$6.5 \text{ (Gals.)} \times 3 = 19.5 \text{ Gals.}$ I Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F)	pH	Cond. (mS or <del>µS</del> )	Turbidity (NTUs)	Gals. Removed	Observations
0928	67.2	7.28	960	328	6.5	
0929	67.2	7.16	1014	796	13	
0930	67.8	7.23	992	800	19.5	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 19.5	
Sampling Date: 3/27/09	Sampling Time: 1125	Depth to Water: 7.74
Sample I.D.: MW-5	Laboratory: <u>CalScience</u> Columbia Other _____	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>see WC</u>		
EB I.D. (if applicable): @ _____ Time	Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:		
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	



## SHELL WELL MONITORING DATA SHEET

BTS #: <b>090327-WW1</b>	Site: <b>2301-2307 LINCOLN AVE, ALAMEDA, CA</b>
Sampler: <b>WW</b>	Date: <b>3/27/09</b>
Well I.D.: <b>MW-6</b>	Well Diameter: 2 3 <b>(4)</b> 6 8 _____
Total Well Depth (TD): <b>17.74</b>	Depth to Water (DTW): <b>7.82</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>(PVC)</b> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <b>9.80</b>	

Purge Method: Bailer Waterara Sampling Method: **(Bailer)**  
 Disposable Bailer Peristaltic Disposable Bailer  
 Positive Air Displacement Extraction Pump Extraction Port  
 Electric Submersible Other \_\_\_\_\_ Dedicated Tubing  
 Other: \_\_\_\_\_

<b>6.5</b> (Gals.) X <b>3</b>	<b>= 19.5</b> Gals.	
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or <b>(µS)</b> )	Turbidity (NTUs)	Gals. Removed	Observations
<b>0853</b>	<b>66.5</b>	<b>7.01</b>	<b>7074</b>	<b>160</b>	<b>6.5</b>	
<b>0854</b>	<b>67.1</b>	<b>7.95</b>	<b>1074</b>	<b>254</b>	<b>13</b>	
<b>0855</b>	<b>67.3</b>	<b>6.92</b>	<b>1092</b>	<b>2.96</b>	<b>19.5</b>	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <b>19.5</b>
Sampling Date: <b>3/27/09</b>	Sampling Time: <b>1055</b> Depth to Water: <b>7.61</b>
Sample I.D.: <b>MW-6</b>	Laboratory: <b>(CalScience)</b> Columbia Other _____
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <b>See loc</b>	
EB I.D. (if applicable): @ _____ Time	Duplicate I.D. (if applicable):
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV

## SHELL WELL MONITORING DATA SHEET

BTS #: 090327-WW1	Site: 2301 LINCOLN AVE, ALAMEDA, CA
Sampler: WW	Date: 3/27/09
Well I.D.: MW-7	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 17.73	Depth to Water (DTW): 7.62
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.64	

Purge Method: Bailer      Waterra      Sampling Method:  Bailer  
 Disposable Bailer      Peristaltic      Disposable Bailer  
 Positive Air Displacement      Extraction Pump      Extraction Port  
 Electric Submersible      Other \_\_\_\_\_      Dedicated Tubing

Other: \_\_\_\_\_

$6.6 \text{ (Gals.)} \times 3 = 19.8 \text{ Gals.}$ I Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
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1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	Observations
0825	64.0	5.62	954	>1000	6.6	
0826	64.3	5.84	1001	708	13.2	
0827	64.7	5.99	1032	543	19.8	

Did well dewater? Yes  No  Gallons actually evacuated: 19.8

Sampling Date: 3/27/09      Sampling Time: 1045      Depth to Water: 7.63

Sample I.D.: MW-7      Laboratory: CalScience Columbia Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: sel woc

EB I.D. (if applicable): @ \_\_\_\_\_ Time Duplicate I.D. (if applicable): \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: \_\_\_\_\_

D.O. (if req'd): Pre-purge: \_\_\_\_\_ mg/L      Post-purge: \_\_\_\_\_ mg/L

O.R.P. (if req'd): Pre-purge: \_\_\_\_\_ mV      Post-purge: \_\_\_\_\_ mV

## SHELL WELL MONITORING DATA SHEET

BTS #: 090327-WW1	Site: 2301-2307 LINCOLN AVE, ALAMEDA, CA
Sampler: WW	Date: 3/27/09
Well I.D.: MW-8	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 17.53	Depth to Water (DTW): 7.04
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 9.14	

Purge Method: Bailer      Waterra      Sampling Method:  Bailer  
 Disposable Bailer      Peristaltic      Disposable Bailer  
 Positive Air Displacement      Extraction Pump      Extraction Port  
 Electric Submersible      Other \_\_\_\_\_      Dedicated Tubing

Other: \_\_\_\_\_

$6.8 \text{ (Gals.)} \times 3 = 20.4 \text{ Gals.}$ 1 Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	Observations
0810	62.7	4.94	624	353	6.8	
0811	63.2	5.19	617	>1000	13.6	cloudy, brown
0812	63.5	5.36	673	>1000	20.4	" "

Did well dewater? Yes  No  Gallons actually evacuated: 20.4

Sampling Date: 3/27/09      Sampling Time: 1030      Depth to Water: ~~12.88~~ 7.08

Sample I.D.: MW-8      Laboratory: CalScience Columbia Other \_\_\_\_\_

Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Oxygenates (5)    Other: see lab

EB I.D. (if applicable): @ \_\_\_\_\_ Time      Duplicate I.D. (if applicable): \_\_\_\_\_

Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Oxygenates (5)    Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

# SHELL WELLHEAD INSPECTION FORM

## (FOR SAMPLE TECHNICIAN)

Site Address 2301-2307 Alameda Lincoln Ave Alameda Date 3/16/09

Job Number 090316-RM1 Technician P. McCarthy Page      of     

Well ID	Well Inspected - No Corrective Action Required	Well Box Meets Compliance Requirements *See Below	Water Bailed From Wellbox	Cap Replaced	Lock Replaced	Well Not Inspected (explain in notes)	New Deficiency Identified	Previously Identified Deficiency Persists	Notes
Mw-1	X								Paper tag
Mw-2	X								Paper tag
Mw-3	X								Paper tag
Mw-4	X								missing tag
Mw-5	X								missing tag
Mw-6	X								missing tag
Mw-7	X		X						missing tag
Mw-8	X								missing tag

\*Well box must meet all three criteria to be compliant: 1) WELL IS SECURABLE BY DESIGN (12" or less) 2) WELL IS MARKED WITH THE WORDS "MONITORING WELL" (12" or less) 3) WELL TAG IS PRESENT, SECURE, AND CORRECT

Notes: \_\_\_\_\_

# SHELL WELLHEAD INSPECTION FORM

(FOR SAMPLE TECHNICIAN)

Site Address 2301-2307 LINCOLN AVE, ALAMEDA, CA Date 3/27/09

Job Number 090327-WW1 Technician WW Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Well Box Meets Compliance Requirements *See Below	Water Bailed From Wellbox	Cap Replaced	Lock Replaced	Well Not Inspected (explain in notes)	New Deficiency Identified	Previously Identified Deficiency Persists	Notes
MW-1	X								NO TAG
MW-2	O								NO TAG
MW-3	X								NO TAG
MW-4	X								NO TAG
MW-5	X								NO TAG
MW-6	X								NO TAG
MW-7	O								NO TAG
MW-8	X	<del>X</del>							NO TAG

\*Well box must meet all three criteria to be compliant: 1) WELL IS SECURABLE BY DESIGN (12" or less) 2) WELL IS MARKED WITH THE WORDS "MONITORING WELL" (12" or less) 3) WELL TAG IS PRESENT, SECURE, AND CORRECT

Notes: \_\_\_\_\_