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Alameda County  
Environmental Health

November 13, 2009

Re: **Quarterly Monitoring Report – Third Quarter 2009**  
**Shell-branded Service Station**  
**8999 San Ramon Road**  
**Dublin, California**

Dear Mr. Wickham:

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Sincerely,  
Shell Oil Products US



Denis L. Brown  
Project Manager

November 13, 2009  
DELTA Project No. SCA8999S1A  
SAP No. 135244

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

**Re: THIRD QUARTER 2009 GROUNDWATER MONITORING  
REPORT**  
**Shell-Branded Service Station**  
**8999 San Ramon Road**  
**Dublin, California**



Dear Mr. Wickham:

On behalf of Shell Oil Products US (Shell), Delta Consultants (Delta) has prepared this *Third Quarter 2009 Groundwater Monitoring Report* for the above referenced site. The sampling activities at the site were performed by Blaine Tech Services, Inc. (Blaine Tech) under contract to Shell and included the collection of groundwater samples and static water level measurements. Delta did not provide any oversight of Blaine Tech's work or protocol. A Delta staff member, under the supervision of a California Registered Civil Engineer or a California Professional Geologist, performed an evaluation of the data provided to us.

This document represents Delta's professional opinions based upon currently available information and is arrived at in accordance with currently acceptable professional standards. This document is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this document were performed. This document is intended only for the use of Delta's Client and anyone else specifically listed on this document. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this document.

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Third Quarter 2009 Groundwater Monitoring Report  
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If you have any questions regarding this site, please contact Ms. Regina Bussard (Delta Site Manager) at (408) 826-1876 or Mr. Denis Brown (Shell Project Manager) at (707) 865-0251.

Sincerely,  
**Delta Consultants**



Regina Bussard, P.G.  
Project Manager



Attachment: Third Quarter 2009 Groundwater Monitoring Report

cc: Denis Brown, Shell Oil Products US, Carson  
Carl Cox, C and J Cox Corporation, Pleasanton  
Colleen Winey, Zone 7 Water Agency, Livermore

## SHELL QUARTERLY STATUS REPORT

Station Address:	8999 San Ramon Road, Dublin, California
DELTA Project No.:	SCA8999S1A
SHELL Project Manager / Phone No.:	Denis Brown / (707) 865-0251
DELTA Site Manager / Phone No.:	Regina Bussard / (408) 826-1876
Primary Agency / Regulatory ID:	Alameda County Health Care Services Agency (ACHCSA) / Jerry Wickham
Other Agencies to Receive Copies:	Zone 7 Water Agency

### WORK PERFORMED THIS QUARTER (THIRD– 2009):

1. Quarterly groundwater monitoring and sampling on **August 20, 2009**. Submitted quarterly report.

### WORK PROPOSED FOR NEXT QUARTER (FOURTH– 2009):

1. Quarterly groundwater monitoring and sampling. Submit quarterly report.

Current Phase of Project:	Site Assessment, Groundwater monitoring
Frequency of Sampling:	Quarterly
Frequency of Monitoring:	Quarterly
Is Separate Phase Hydrocarbon Present On-site (Well #'s):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Cumulative SPH Recovered to Date:	NA
SPH Recovered This Quarter:	NA
Groundwater Recovered This Quarter:	201.6 gallons were recovered during sampling on August 20, 2009.
Sensitive Receptor(s) and Respective Direction(s):	No municipal water supply wells were identified within a one-mile radius. A domestic drinking water well (25/1W-35L001) is located ~2,300 ft. southwest of the site.
Site Lithology:	Predominately clay with sand and sandy lean clays to a total depth of approximately 30 feet bgs plus CPT data to 80 feet.
Current Remediation Techniques:	None
Permits for Discharge:	None
Approximate Depth to Groundwater:	28.31 feet to 38.82 feet below top of well casing
Groundwater Gradient:	Indeterminable. Insufficient data points.
Current Agency Correspondence:	ACHCSA letter dated July 14, 2009
Date of Most Recent Work Plan Approval:	NA

## SHELL QUARTERLY STATUS REPORT (CONT.)

### Site History:

Case opening	August 2004
On-Site Assessment	July 2005
Off-Site Assessment	July 2006 -Present
Passive Remediation	Monitor Natural Attenuation
Active Remediation	150 cubic yards of soil removed in 2004
Summary of Unusual Activity:	Wells MW-5, MW-7, MW-9, and MW-11 were dry. Well MW-8 contained insufficient water for sampling.

### Discussion:

On May 21 and 22, 2008, monitoring wells MW-1, MW-2, MW-3, MW-4, MW-6, and MW-10 were destroyed for Station remodel and renovation. A work plan to install new wells was submitted on October 5, 2009.

## ATTACHMENTS:

### Table

Table 1 – Well Concentrations

### Figures

Figure 1 – Site Location Map

Figure 2 – Groundwater Elevation Map

Figure 3 – Hydrocarbon Distribution in Groundwater Map

### Appendices

Appendix A – Blaine Tech Services, Inc. Field Data Sheets

Appendix B – Blaine Tech Services, Inc. Field Procedures

Appendix C – Laboratory Report and Chain-of-Custody Documentation

## TABLE

**TABLE 1**  
**HISTORIC WELL CONCENTRATIONS**  
**Shell Service Station**  
**8999 San Ramon Road**  
**Dublin, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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MW-1	5/9/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.93	NA
MW-1	5/19/2005	<5,000	160 a	<50	<50	<50	<100	1,400	<200	<200	<200	57,000	420.06	20.70	399.36
MW-1	8/15/2005	<5,000	<50	<50	<50	<50	<100	360	<200	<200	<200	56,000	420.06	23.98	396.08
MW-1	11/8/2005	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420.06	NA	NA
MW-1	1/30/2006	585	438	<0.500	<0.500	<0.500	<0.500	15.6	<0.500	<0.500	<0.500	115,000	420.06	26.39	393.67
MW-1	5/19/2006	2,940	279 c	<0.500	<0.500	<0.500	<0.500	150	<0.500	0.940	<0.500	49,500	420.06	23.10	396.96
MW-1	8/24/2006	812	85.6 c	<0.500	<0.500	<0.500	<0.500	33.0	<0.500	0.890	<0.500	30,700	420.06	23.94	396.12
MW-1	11/2/2006	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420.06	NA	NA
MW-1	1/29/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420.06	NA	NA
MW-1	6/5/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420.06	NA	NA
MW-1	8/27/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420.06	NA	NA
MW-1	11/30/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420.06	NA	NA
MW-1	2/15/2008	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	420.06	26.45	393.61
MW-1	5/15/2008	Well destroyed		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

MW-2	5/9/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.72	NA
MW-2	5/19/2005	<500	<50	<5.0	<5.0	<5.0	<10	11	<20	<20	<20	4,200	418.88	21.26	397.62
MW-2	8/15/2005	<1,000	<50	<10	<10	<10	<20	<10	<40	<40	<40	7,500	418.88	25.33	393.55
MW-2	11/8/2005	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	418.88	NA	NA
MW-2	1/30/2006	<50.0	401	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	1,310	418.88	25.87	393.01
MW-2	5/19/2006	398	134 c	<0.500	<0.500	<0.500	<0.500	7.65	<0.500	<0.500	<0.500	4,910	418.88	21.75	397.13
MW-2	8/24/2006	<50.0	<46.9 c	<0.500	<0.500	<0.500	<0.500	2.82	<0.500	<0.500	<0.500	4,070	418.88	24.60	394.28
MW-2	11/2/2006	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	418.88	NA	NA
MW-2	1/29/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	418.88	NA	NA
MW-2	6/5/2007	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	418.88	26.54	392.34
MW-2	8/27/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	418.88	NA	NA
MW-2	11/30/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	418.88	NA	NA

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Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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MW-2	2/15/2008	Insufficient water	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	418.88	26.15	392.73
MW-2	5/15/2008	Well destroyed	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

MW-3	5/9/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.08	NA
MW-3	5/19/2005	<50	120 a	<0.50	<0.50	<0.50	<1.0	40	<2.0	<2.0	<2.0	6.5	417.24	19.08	398.16
MW-3	8/15/2005	<50	73	<0.50	<0.50	<0.50	<1.0	34	<2.0	<2.0	<2.0	<5.0	417.24	22.20	395.04
MW-3	11/8/2005	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	417.24	NA	NA
MW-3	1/30/2006	<50.0	412	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	417.24	23.64	393.60
MW-3	5/19/2006	<50.0	183 c	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<10.0	417.24	19.00	398.24
MW-3	8/24/2006	<50.0	214 c	<0.500	<0.500	<0.500	<0.500	3.11	<0.500	<0.500	<0.500	661	417.24	21.84	395.40
MW-3	11/2/2006	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	417.24	NA	NA
MW-3	1/29/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	417.24	NA	NA
MW-3	6/5/2007	<50 f	230 c	<0.50	<1.0	<1.0	<1.0	0.38 g	<2.0	<2.0	<2.0	<10	417.24	23.80	393.44
MW-3	8/27/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	417.24	NA	NA
MW-3	11/30/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	417.24	NA	NA
MW-3	2/15/2008	Insufficient water	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	417.24	23.60	393.64
MW-3	5/15/2008	Well destroyed	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

MW-4	5/9/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.77	NA
MW-4	5/19/2005	97	59 a	0.66	<0.50	<0.50	<1.0	4.8	<2.0	<2.0	<2.0	8.2	420.52	19.85	400.67
MW-4	8/15/2005	67	<50	<0.50	<0.50	<0.50	<1.0	0.86	<2.0	<2.0	<2.0	<5.0	420.52	23.34	397.18
MW-4	11/8/2005	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420.52	NA	NA
MW-4	1/30/2006	<50.0	112	<0.500	<0.500	<0.500	<0.500	1.63	<0.500	<0.500	<0.500	<10.0	420.52	24.13	396.39
MW-4	5/19/2006	<50.0	<46.9 c	<0.500	<0.500	<0.500	<0.500	1.08	<0.500	<0.500	<0.500	<10.0	420.52	19.79	400.73
MW-4	8/24/2006	<50.0	<47.2 c	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	78.3	420.52	22.50	398.02
MW-4	11/2/2006	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420.52	NA	NA
MW-4	1/29/2007	<50	<50 c	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	420.52	25.82	394.70
MW-4	6/5/2007	62 f	120 c	<0.50	<1.0	<1.0	<1.0	1.4	<2.0	<2.0	<2.0	<10	420.52	24.32	396.20



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MW-4	8/27/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420.52	NA	NA
MW-4	11/30/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420.52	NA	NA
MW-4	2/15/2008	56 f	<50 c	<0.50	<1.0	<1.0	<1.0	2.9	<2.0	<2.0	<2.0	<10	420.52	24.34	396.18
MW-4	5/15/2008	Well destroyed		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

MW-5	8/21/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	416.88	25.25	391.63
MW-5	8/24/2006	<50.0	108 c	<0.500	<0.500	<0.500	<0.500	3.33	<0.500	<0.500	<0.500	21.0	416.88	25.70	391.18
MW-5	11/2/2006	<50	NA	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	416.88	28.00	388.88
MW-5	1/29/2007	<50	66 c	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	416.88	27.80	389.08
MW-5	6/5/2007	<50 f	2,200 c,e	<0.50	<1.0	<1.0	<1.0	0.56 g	<2.0	<2.0	<2.0	<10	416.88	27.72	389.16
MW-5	8/27/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	416.88	NA	NA
MW-5	11/30/2007	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	416.88	28.39	388.49
MW-5	2/15/2008	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	416.88	27.55	389.33
MW-5	5/27/2008	<50	83 c	<0.50	<1.0	<1.0	<1.0	4.3	<2.0	<2.0	<2.0	<10	416.88	26.68	390.20
MW-5	8/5/2008	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	416.88	NA	NA
MW-5	11/17/2008	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	416.88	28.48	388.40
MW-5	2/5/2009	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	416.88	NA	NA
MW-5	5/7/2009	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	416.88	27.78	389.10
<b>MW-5</b>	<b>8/20/2009</b>	<b>Well dry</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>416.88</b>	<b>NA</b>	<b>NA</b>

MW-5B	2/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	417.66	29.74	387.92
MW-5B	2/15/2008	110 e,f	<50 c	<0.50	<1.0	<1.0	<1.0	1,700	<2.0	<2.0	<2.0	250	417.66	28.85	388.81
MW-5B	5/27/2008	620	<50 c	<2.5	<5.0	<5.0	<5.0	590	<10	<10	<10	<50	417.66	27.89	389.77
MW-5B	8/5/2008	470	140 c,h	<2.5	<5.0	<5.0	<5.0	430	<10	<10	<10	<50	417.66	32.21	385.45
MW-5B	11/17/2008	1,100	<50 c	<2.5	<5.0	<5.0	<5.0	830	<10	<10	<10	<50	417.66	35.25	382.41
MW-5B	2/5/2009	1,100	<50 c	<2.5	<5.0	<5.0	<5.0	1,000	<10	<10	<10	<50	417.66	34.94	382.72
MW-5B	5/7/2009	680	<50 c	<2.5	<5.0	<5.0	<5.0	780	<10	<10	<10	<50	417.66	28.58	389.08
<b>MW-5B</b>	<b>8/20/2009</b>	<b>800</b>	<b>&lt;50 c</b>	<b>&lt;2.5</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>840</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;50</b>	<b>417.66</b>	<b>32.66</b>	<b>385.00</b>

**TABLE 1**  
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MW-5C	2/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	417.10	33.97	383.13
MW-5C	2/15/2008	<50 f	<50 c	<0.50	<1.0	<1.0	<1.0	360	<2.0	<2.0	<2.0	97	417.10	34.25	382.85
MW-5C	5/27/2008	350	<50 c	<2.5	<5.0	<5.0	<5.0	290	<10	<10	<10	<50	417.10	33.97	383.13
MW-5C	8/5/2008	210	<50 c,h	<1.0	<2.0	<2.0	<2.0	180	<4.0	<4.0	<4.0	<20	417.10	37.30	379.80
MW-5C	11/17/2008	180	<50 c	<1.0	<2.0	<2.0	<2.0	120	<4.0	<4.0	<4.0	<20	417.10	40.23	376.87
MW-5C	2/5/2009	180	<50 c	<1.0	<2.0	<2.0	<2.0	150	<4.0	<4.0	<4.0	<20	417.10	39.70	377.40
MW-5C	5/7/2009	150	<50 c	<1.0	<2.0	<2.0	<2.0	160	<4.0	<4.0	<4.0	<20	417.10	33.91	383.19
<b>MW-5C</b>	<b>8/20/2009</b>	<b>150</b>	<b>&lt;50 c</b>	<b>&lt;1.0</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>130</b>	<b>&lt;4.0</b>	<b>&lt;4.0</b>	<b>&lt;4.0</b>	<b>&lt;20</b>	<b>417.10</b>	<b>38.82</b>	<b>378.28</b>

MW-6	2/28/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	422.50	23.55	398.95
MW-6	3/3/2006	<50.0	104	<0.500	<0.500	<0.500	<0.500	4.93	<0.500	<0.500	<0.500	<10.0	422.50	23.30	399.20
MW-6	5/19/2006	<50.0	<46.9	<0.500	<0.500	<0.500	<0.500	5.76	<0.500	<0.500	<0.500	<10.0	422.50	20.31	402.19
MW-6	8/24/2006	<50.0	<47.2 c	<0.500	<0.500	<0.500	<0.500	0.870	<0.500	<0.500	<0.500	<10.0	422.50	23.69	398.81
MW-6	11/2/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	422.50	28.51	393.99
MW-6	1/29/2007	<50	<50 c	<0.50	<0.50	<0.50	<1.0	1.7	<2.0	<2.0	<2.0	<5.0	422.50	27.08	395.42
MW-6	6/5/2007	<50 f	97 c	<0.50	<1.0	<1.0	<1.0	1.1	<2.0	<2.0	<2.0	<10	422.50	25.77	396.73
MW-6	8/27/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	422.50	NA	NA
MW-6	11/30/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	422.50	NA	NA
MW-6	2/15/2008	<50 f	<50 c	<0.50	<1.0	<1.0	<1.0	9.0	<2.0	<2.0	<2.0	<10	422.50	25.56	396.94
MW-6	5/15/2008	Well destroyed		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

MW-7	8/21/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.35	25.84	388.51
MW-7	8/24/2006	<50.0	<47.2 c	<0.500	<0.500	<0.500	<0.500	2.63	<0.500	<0.500	<0.500	751	414.35	26.21	388.14
MW-7	11/2/2006	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.35	NA	NA
MW-7	1/29/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.35	NA	NA
MW-7	6/5/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.35	NA	NA
MW-7	8/27/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.35	NA	NA

**TABLE 1**  
**HISTORIC WELL CONCENTRATIONS**  
**Shell Service Station**  
**8999 San Ramon Road**  
**Dublin, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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MW-7	11/30/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.35	NA	NA
MW-7	2/15/2008	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	414.35	27.95	386.40
MW-7	5/27/2008	<50	<50 c	<0.50	<1.0	<1.0	<1.0	2.0	<2.0	<2.0	<2.0	<10	414.35	26.93	387.42
MW-7	8/5/2008	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.35	NA	NA
MW-7	11/17/2008	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.35	NA	NA
MW-7	2/5/2009	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.35	NA	NA
MW-7	5/7/2009	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	414.35	27.96	386.39
<b>MW-7</b>	<b>8/20/2009</b>	<b>Well dry</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>414.35</b>	<b>NA</b>	<b>NA</b>

MW-8	8/21/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.54	23.02	391.52
MW-8	8/24/2006	110	74.5 c	<0.500	<0.500	<0.500	<0.500	4.62	<0.500	<0.500	<0.500	6,610	414.54	23.17	391.37
MW-8	11/2/2006	92	96 c	<0.50	<0.50	<0.50	<1.0	1.4	<2.0	<2.0	<2.0	2,300	414.54	27.69	386.85
MW-8	1/29/2007	<50	<50 c	<0.50	<0.50	<0.50	<1.0	0.51	<2.0	<2.0	<2.0	350	414.54	26.40	388.14
MW-8	6/5/2007	<50 f	120 c	<0.50	<1.0	<1.0	<1.0	0.48 g	<2.0	<2.0	<2.0	290	414.54	25.17	389.37
MW-8	8/27/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.54	NA	NA
MW-8	11/30/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.54	NA	NA
MW-8	2/15/2008	<50 f	<50 c	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	414.54	24.66	389.88
MW-8	5/27/2008	58	<50 c	<0.50	<1.0	<1.0	<1.0	1.4	<2.0	<2.0	<2.0	520	414.54	25.98	388.56
MW-8	8/5/2008	<50	<50 c,h	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	34	414.54	26.62	387.92
MW-8	11/17/2008	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.54	NA	NA
MW-8	2/5/2009	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	414.54	28.62	385.92
MW-8	5/7/2009	<50	<50 c	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	414.54	24.20	390.34
<b>MW-8</b>	<b>8/20/2009</b>	<b>Insufficient water</b>		<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>414.54</b>	<b>28.31</b>	<b>386.23</b>

MW-8B	2/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414.81	26.81	388.00
MW-8B	2/15/2008	<50 f	<50 c	<0.50	<1.0	<1.0	<1.0	17	<2.0	<2.0	<2.0	65	414.81	26.23	388.58
MW-8B	5/27/2008	<50	<50 c	<0.50	<1.0	<1.0	<1.0	23	<2.0	<2.0	<2.0	33	414.81	25.51	389.30
MW-8B	8/5/2008	<50	<50 c,h	<0.50	<1.0	<1.0	<1.0	11	<2.0	<2.0	<2.0	<10	414.81	28.72	386.09

**TABLE 1**  
**HISTORIC WELL CONCENTRATIONS**  
**Shell Service Station**  
**8999 San Ramon Road**  
**Dublin, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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MW-8B	11/17/2008	<50	<50 c	<0.50	<1.0	<1.0	<1.0	6.3	<2.0	<2.0	<2.0	<10	414.81	31.66	383.15
MW-8B	2/5/2009	<50	<50 c	<0.50	<1.0	<1.0	<1.0	5.4	<2.0	<2.0	<2.0	<10	414.81	30.97	383.84
MW-8B	5/7/2009	<50	<50 c	<0.50	<1.0	<1.0	<1.0	6.4	<2.0	<2.0	<2.0	<10	414.81	25.92	388.89
<b>MW-8B</b>	<b>8/20/2009</b>	<b>&lt;50</b>	<b>&lt;50 c</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>3.8</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>&lt;10</b>	<b>414.81</b>	<b>30.13</b>	<b>384.68</b>

MW-9	8/21/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	412.69	27.75	384.94
MW-9	8/24/2006	<50.0	69.9 c,d	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	86.8	412.69	28.35	384.34
MW-9	11/2/2006	<50	NA	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	412.69	28.43	384.26
MW-9	1/29/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	412.69	NA	NA
MW-9	6/5/2007	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	412.69	28.72	383.97
MW-9	8/27/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	412.69	NA	NA
MW-9	11/30/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	412.69	NA	NA
MW-9	2/15/2008	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	412.69	28.00	384.69
MW-9	5/27/2008	<50	NA	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	412.69	27.93	384.76
MW-9	8/5/2008	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	412.69	28.40	384.29
MW-9	11/17/2008	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	412.69	NA	NA
MW-9	2/5/2009	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	412.69	28.54	384.15
MW-9	5/7/2009	Insufficient water		NA	NA	NA	NA	NA	NA	NA	NA	NA	412.69	28.41	384.28
<b>MW-9</b>	<b>8/20/2009</b>	<b>Well dry</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>412.69</b>	<b>NA</b>	<b>NA</b>

MW-10	8/21/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	419.48	23.90	395.58
MW-10	8/24/2006	626	100 c	1.04	<0.500	1.22	<0.500	12.4	<0.500	<0.500	<0.500	5,740	419.48	24.02	395.46
MW-10	11/2/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	419.48	28.50	390.98
MW-10	1/29/2007	91	<50 c	<0.50	<0.50	<0.50	<1.0	4.9	<2.0	<2.0	<2.0	1,900	419.48	27.30	392.18
MW-10	6/5/2007	82 f	150 c	<0.50	<1.0	<1.0	<1.0	1.3	<2.0	<2.0	<2.0	540	419.48	26.09	393.39
MW-10	8/27/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	419.48	NA	NA
MW-10	11/30/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	419.48	NA	NA
MW-10	2/15/2008	<50 f	<50 c	<0.50	<1.0	<1.0	<1.0	1.6	<2.0	<2.0	<2.0	500	419.48	25.58	393.90

**TABLE 1**  
**HISTORIC WELL CONCENTRATIONS**  
**Shell Service Station**  
**8999 San Ramon Road**  
**Dublin, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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MW-11	8/21/2006	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
MW-11	8/24/2006	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
MW-11	11/2/2006	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
MW-11	1/29/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
MW-11	6/5/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
MW-11	8/27/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
MW-11	11/30/2007	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
MW-11	2/15/2008	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
MW-11	5/27/2008	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
MW-11	8/5/2008	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
MW-11	11/17/2008	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
MW-11	2/5/2009	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
MW-11	5/7/2009	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.69	NA	NA
<b>MW-11</b>	<b>8/20/2009</b>	<b>Well dry</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>409.69</b>	<b>NA</b>	<b>NA</b>

MW-11B	2/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	409.03	31.47	377.56
MW-11B	2/15/2008	<50 f	<50 c	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	409.03	31.53	377.50
MW-11B	5/27/2008	<50	<50 c	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	409.03	30.83	378.20
MW-11B	8/5/2008	<50	<50 c,h	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	409.03	33.51	375.52
MW-11B	11/17/2008	<50	<50 c	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	409.03	35.80	373.23
MW-11B	2/5/2009	<50	<50 c	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	409.03	36.11	372.92
MW-11B	5/7/2009	<50	<50 c	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	409.03	31.21	377.82
<b>MW-11B</b>	<b>8/20/2009</b>	<b>&lt;50</b>	<b>&lt;50 c</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>&lt;10</b>	<b>409.03</b>	<b>34.68</b>	<b>374.35</b>

MW-12	2/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	411.18	31.10	380.08
MW-12	2/15/2008	<50 f	<50 c	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	411.18	31.22	379.96
MW-12	5/27/2008	<50	<50 c	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	411.18	30.53	380.65

**TABLE 1  
HISTORIC WELL CONCENTRATIONS  
Shell Service Station  
8999 San Ramon Road  
Dublin, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-12	8/5/2008	<50	<50 c,h	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	411.18	33.29	377.89
MW-12	11/17/2008	<50	<50 c	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	411.18	35.20	375.98
MW-12	2/5/2009	<50	<50 c	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	411.18	35.12	376.06
MW-12	5/7/2009	<50	<50 c	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<10	411.18	30.81	380.37
<b>MW-12</b>	<b>8/20/2009</b>	<b>&lt;50</b>	<b>&lt;50 c</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>&lt;10</b>	<b>411.18</b>	<b>34.21</b>	<b>376.97</b>

Abbreviations:

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

TEPH = Total petroleum hydrocarbons as diesel by modified EPA Method 8015.

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

MTBE = Methyl tertiary butyl ether

DIPE = Di-isopropyl ether, analyzed by EPA Method 8260B

ETBE = Ethyl tertiary butyl ether, analyzed by EPA Method 8260B

TAME = Tertiary amyl methyl ether, analyzed by EPA Method 8260B

TBA = Tertiary butyl alcohol or tertiary butanol, analyzed by EPA Method 8260B

TOC = Top of Casing Elevation

GW = Groundwater

ug/L = Parts per billion

MSL = Mean sea level

ft. = Feet

<n = Below detection limit

NA = Not applicable

**TABLE 1  
HISTORIC WELL CONCENTRATIONS  
Shell Service Station  
8999 San Ramon Road  
Dublin, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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Notes:

a = Hydrocarbon reported does not match the pattern of the laboratory's Diesel standard.

b = Quantity of unknown hydrocarbon(s) in sample based on gasoline.

c = Diesel with silica gel clean-up.

d = Insufficient sample available for reanalysis.

e = The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

f = Analyzed by EPA Method 8015B (M).

g = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

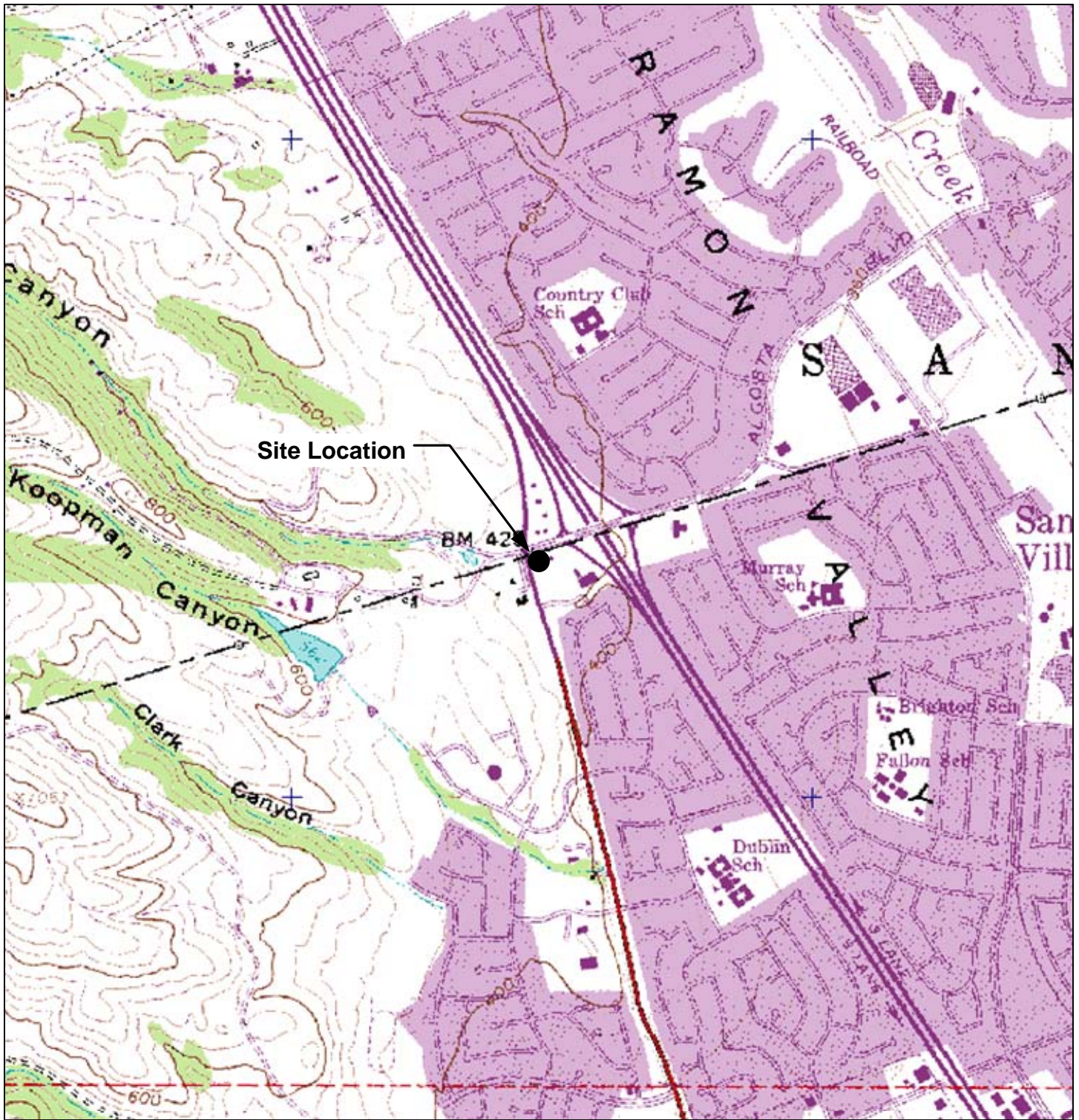
h= TPH as Diesel is quantified in the carbon range C10-C28

Site surveyed May 10, 2005 by Mid Coast Engineers.

Well MW-6 surveyed March 3, 2006 by Mid Coast Engineers.

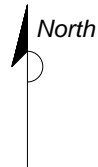
## FIGURES



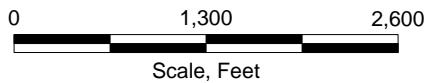


**GENERAL NOTES:**

Base Map from: 3-D TopoQuads DeLorme  
 Yarmouth, ME 04096 Source Data: USGS



QUADRANGLE LOCATION



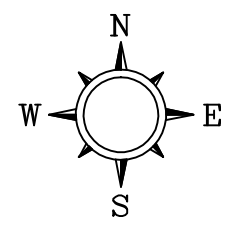
**FIGURE 1**  
**SITE LOCATION MAP**

**SHELL-BRANDED SERVICE STATION**  
 8999 San Ramon Road  
 Dublin, California

PROJECT NO. SCA8999S1A	DRAWN BY V. F. 12/9/04
FILE NO.	PREPARED BY VF
REVISION NO.	REVIEWED BY



PROJECT NUMBER SCA8999S1A  
 APPROVED BY  
 CHECKED BY  
 DRAWN BY J.F.F. 9/15/2009

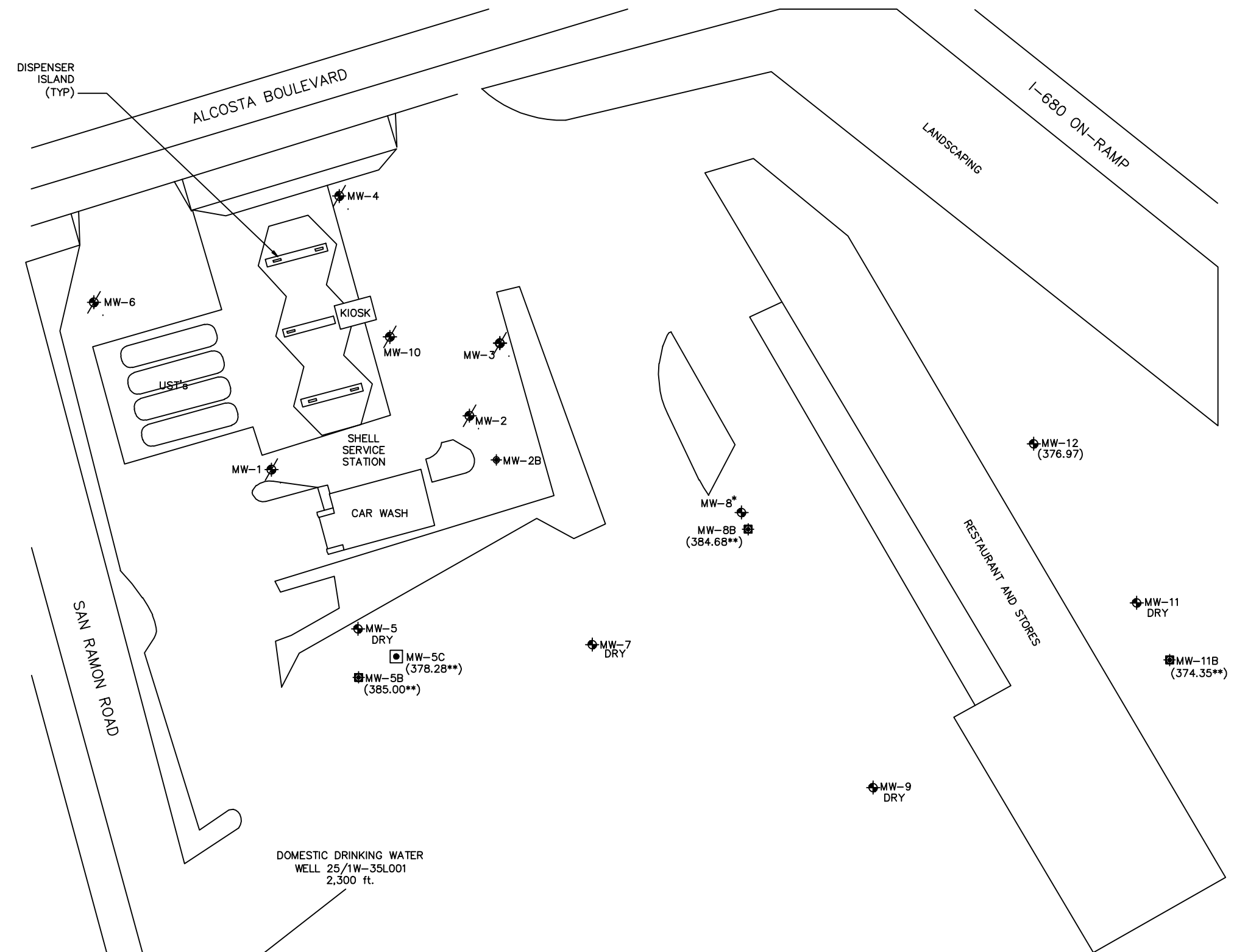


- LEGEND**
- MW-5 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
  - MW-1 DESTROYED GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
  - MW-8B GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
  - MW-5C GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
  - MW-2B PROPOSED GROUNDWATER MONITORING WELL LOCATION
- (396.94) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (Ft./MSL)
- \*\* B AND C LEVEL WELLS NOT USED IN CONTOURING
- \* INSUFFICIENT WATER FOR SAMPLING DATA NOT USED IN CONTOURING
- DRY WELL DRY, NOT SAMPLED

**NOTE**

GROUNDWATER FLOW AND DIRECTION UNDETERMINABLE. INSUFFICIENT DATA POINTS.

0 20 40  
 SCALE IN FEET



**HISTORIC GROUNDWATER FLOW DIRECTIONS**

DATE	FLOW DIRECTION
8/15/2005	SE
1/30/2006	SSE
5/19/2006	SSE
8/24/2006	SSE
11/2/2006	SE
1/28/2007	SE
6/5/2007	SSE
2/15/2008	SE
5/27/2008	ESE
8/5/2008	Undetermined
11/17/2008	Undetermined
2/5/2009	Undetermined
5/7/2009	Undetermined
8/20/2009	Undetermined

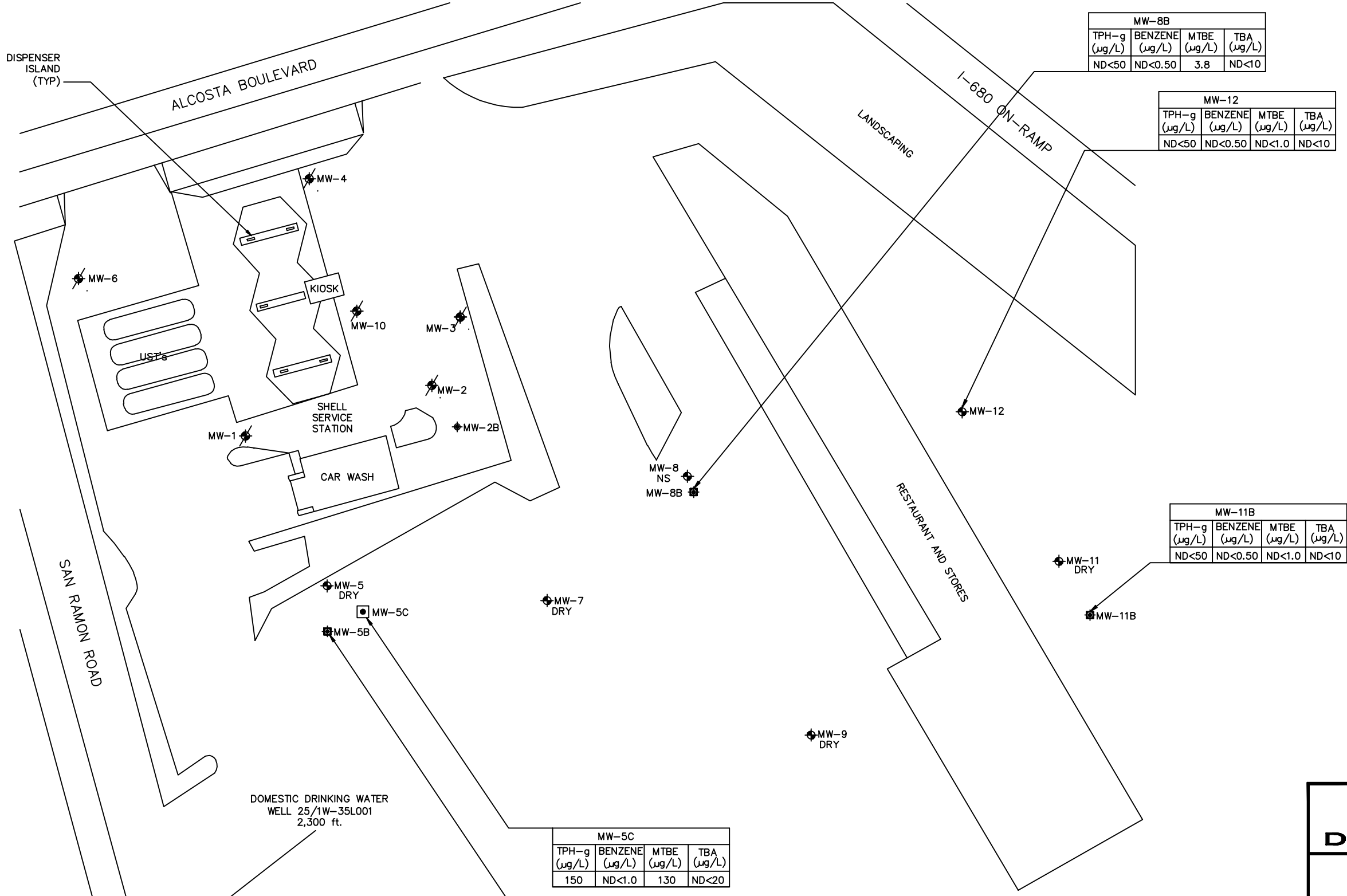
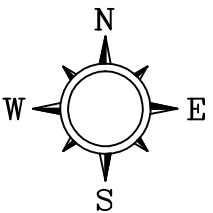
**DELTA CONSULTANTS**

SHELL OIL PRODUCTS U.S.  
 SHELL-BRANDED SERVICE STATION  
 DUBLIN, CALIFORNIA

**FIGURE 2  
 GROUNDWATER ELEVATION  
 MAP  
 8/20/2009**

8999 SAN RAMON ROAD  
 DUBLIN, CALIFORNIA

PROJECT NUMBER SCA8999S1A  
 APPROVED BY  
 CHECKED BY  
 DRAWN BY J.F.F. 9/15/2009



- LEGEND**
- MW-5 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
  - MW-1 DESTROYED GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
  - MW-8B GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
  - MW-5C GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
  - MW-2B PROPOSED GROUNDWATER MONITORING WELL LOCATION
  - TPH-g TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
  - MTBE METHYL TERT-BUTYL ETHER
  - TBA TERT-BUTYL ALCOHOL
  - ND< NOT DETECTED ABOVE LIMIT NOTED
  - µg/L MICROGRAMS PER LITER
  - NA NOT ANALYZED
  - DRY WELL DRY, NOT SAMPLED
  - NS NOT SAMPLED



SHELL OIL PRODUCTS U.S.  
 SHELL-BRANDED SERVICE STATION  
 DUBLIN, CALIFORNIA

**FIGURE 3**  
**HYDROCARBON DISTRIBUTION IN**  
**GROUNDWATER MAP**  
**8/20/2009**

8999 SAN RAMON ROAD  
 DUBLIN, CALIFORNIA

**APPENDIX A**  
**BLAINE TECH SERVICES, INC.**  
**FIELD DATA SHEETS**

# SHELL WELLHEAD INSPECTION FORM

## (FOR SAMPLE TECHNICIAN)

Site Address 8999 San Ramon Rd. Dublin Date 8/20/09  
 Job Number 090820-RMI Technician R.M. 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-5									NO TAG
MW-5B									
MW-5C									
MW-7									
MW-8									
MW-8B									
MW-9									
MW-11									
MW-11B								NO TAG	
MW-12								↓	

\*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: \_\_\_\_\_

## WELL GAUGING DATA

Project # 090810-RM1 Date 8/20/09 Client SHELL

Site 8999 San Ramon Rd. Dublin

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-5	0836	4					DRY	28.34	↓	*	
MW-5R	0841	4					32.66	66.63			
MW-5C	0831	4					38.82	98.83			
MW-7	0823	4					DRY	28.43		*	
MW-8	0812	4					28.31	28.71		*	
MW-8B	0809	4					30.13	68.39			
MW-9	0819	4					DRY	28.65		*	
MW-11	0800	2					DRY	28.29		*	
MW-11R	0756	4					34.68	38.16			
MW-12	0804	4					34.21	38.62			

## SHELL WELL MONITORING DATA SHEET

BTS #: 090820-RM	Site: 8999 San Ramon Rd. Dublin
Sampler: RM	Date: 8/20/09
Well I.D.: MW-5	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 28.34	Depth to Water (DTW): DRY
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]:	

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

(Gals.) X \_\_\_\_\_ = \_\_\_\_\_ 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 µS)	Turbidity (NTUs)	Gals. Removed	Observations
	WELL DRY					

Did well dewater? Yes No	Gallons actually evacuated:
Sampling Date:	Sampling Time:      Depth to Water:
Sample I.D.:	Laboratory: CalScience Columbia Other _____
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
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 #: 090820-RM1	Site: 8999 San Ramon Rd Dublin
Sampler: R.M	Date: 8/20/09
Well I.D.: MW-5B	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth (TD): 66.63	Depth to Water (DTW): 32.66
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]: 39.45	

Purge Method: Bailer	Watterra	Sampling Method: <del>Bailer</del>
Disposable Bailer	Peristaltic	Disposable Bailer
Positive Air Displacement	Extraction Pump	Extraction Port
<del>Electric Submersible</del>	Other _____	Dedicated Tubing
		Other: _____

$\frac{22.0 \text{ (Gals.)} \times 3}{1 \text{ Case Volume Specified Volumes}} = \frac{66}{\text{Calculated Volume}} \text{ Gals.}$	<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
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 <u>µS</u> )	Turbidity (NTUs)	Gals. Removed	Observations
1039	72.0	7.27	1153	200	22.0	
1044	71.7	6.89	1175	625	44.0	
1049	72.0	6.91	1173	237	66.0	

Did well dewater? Yes No Gallons actually evacuated: 66.0

Sampling Date: 8/20/09 Sampling Time: 1125 Depth to Water: 39.18

Sample I.D.: MW-5B Laboratory: CalScience Columbia Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

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





## SHEL WELL MONITORING DATA SHEET

BTS #: <u>090820-EM1</u>	Site: <u>8999 San Ramon Rd. Dublin</u>
Sampler: <u>P.M</u>	Date: <u>8/20/09</u>
Well I.D.: <u>MW-7</u>	Well Diameter: 2 3 <u>4</u> 6 8 <u>    </u>
Total Well Depth (TD): <u>28.43</u>	Depth to Water (DTW): <u>DRY</u>
Depth to Free Product: <u>    </u>	Thickness of Free Product (feet): <u>    </u>
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]:	

Purge Method: Bailer Disposable Bailer Positive Air Displacement Electric Submersible	Waterra Peristaltic Extraction Pump Other <u>    </u>	Sampling Method: Bailer Disposable Bailer Extraction Port Dedicated Tubing Other: <u>    </u>
--	--	---

(Gals.) X <u>    </u> = <u>    </u> Gals. I Case Volume      Specified Volumes      Calculated Volume	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Well Diameter</th> <th style="text-align: left;">Multiplier</th> <th style="text-align: left;">Well Diameter</th> <th style="text-align: left;">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 µS)	Turbidity (NTUs)	Gals. Removed	Observations
						<b>WELL DRY</b>

Did well dewater?    Yes    No	Gallons actually evacuated: <u>    </u>
Sampling Date: <u>    </u>	Sampling Time: <u>    </u>
Sample I.D.: <u>    </u>	Depth to Water: <u>    </u>
Laboratory: CalScience    Columbia    Other <u>    </u>	
Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Oxygenates (5)    Other: <u>    </u>	
EB I.D. (if applicable): <u>    </u> @ <u>    </u> Time	Duplicate I.D. (if applicable): <u>    </u>
Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Oxygenates (5)    Other: <u>    </u>	
D.O. (if req'd): Pre-purge: <u>    </u> mg/L	Post-purge: <u>    </u> mg/L
O.R.P. (if req'd): Pre-purge: <u>    </u> mV	Post-purge: <u>    </u> mV

## SHELL WELL MONITORING DATA SHEET

BTS #: <u>090820-RM</u>	Site: <u>8999 San Ramon Rd Dublin</u>
Sampler: <u>RM</u>	Date: <u>8/20/09</u>
Well I.D.: <u>MW-8</u>	Well Diameter: 2 3 <u>4</u> 6 8 _____
Total Well Depth (TD): <u>28.71</u>	Depth to Water (DTW): <u>28.31</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]:	

Purge Method: Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Electric Submersible	Waterra <input type="checkbox"/> Peristaltic <input type="checkbox"/> Extraction Pump Other _____	Sampling Method: Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port <input type="checkbox"/> Dedicated Tubing Other: _____
---	--	--

\_\_\_\_\_ (Gals.) X \_\_\_\_\_ = \_\_\_\_\_ 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 µS)	Turbidity (NTUs)	Gals. Removed	Observations
						<u>Incubated H<sub>2</sub>O to Purge &amp; Sample</u>

Did well dewater?    Yes    No                      Gallons actually evacuated:

Sampling Date: \_\_\_\_\_      Sampling Time: \_\_\_\_\_      Depth to Water: \_\_\_\_\_

Sample I.D.: \_\_\_\_\_      Laboratory: CalScience    Columbia    Other \_\_\_\_\_

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

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 #: 090820-RM	Site: 8999 San Ramon Rd. Dublin
Sampler: R.M.	Date: 8/20/09
Well I.D.: MW-8B	Well Diameter: 2 3 (4) 6 8
Total Well Depth (TD): 68.89	Depth to Water (DTW): 30.13 <span style="float: right;">38.2</span>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 37.78	

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

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

$25.0 \text{ (Gals.)} \times 3 = 75.0 \text{ Gals.}$	<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
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														
I Case Volume	Specified Volumes	Calculated Volume															

Time	Temp (°F)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	Observations
1003	68.3	6.94	926.9	154	25.0	
1008	69.1	6.75	955.8	247	50.0	
1013	69.4	6.74	953.2	69	75.0	

Did well dewater? Yes  No  Gallons actually evacuated: 75.0

Sampling Date: 8/20/09      Sampling Time: 1100      Depth to Water: 36.89

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

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

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 #: 090820-RM	Site: 8999 San Ramon Rd. Dublin
Sampler: RM	Date: 8/20/09
Well I.D.: MW-9	Well Diameter: 2 3 ④ 6 8
Total Well Depth (TD): 28.65	Depth to Water (DTW): DRY
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer Disposable Bailer Positive Air Displacement Electric Submersible	Water: Peristaltic Extraction Pump Other:	Sampling Method: Bailer Disposable Bailer Extraction Port Dedicated Tubing Other:
--	---	---

\_\_\_\_\_ (Gals.) X \_\_\_\_\_ = \_\_\_\_\_ 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 µS)	Turbidity (NTUs)	Gals. Removed	Observations
	WELL DRY					

Did well dewater?    Yes    No    Gallons actually evacuated: \_\_\_\_\_

Sampling Date: \_\_\_\_\_    Sampling Time: \_\_\_\_\_    Depth to Water: \_\_\_\_\_

Sample I.D.: \_\_\_\_\_    Laboratory: CalScience    Columbia    Other: \_\_\_\_\_

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

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

## SHEL WELL MONITORING DATA SHEET

BTS #: <u>090820-RM</u>	Site: <u>8999 San Ramon Rd. Dublin</u>
Sampler: <u>RM</u>	Date: <u>8/20/09</u>
Well I.D.: <u>MW-11</u>	Well Diameter: <u>(2)</u> 3 4 6 8 _____
Total Well Depth (TD): <u>28.29</u>	Depth to Water (DTW): <u>DRY</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]:	

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

_____ (Gals.) X _____	= _____ 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 µS)	Turbidity (NTUs)	Gals. Removed	Observations
	<u>WELL DRY</u>					

Did well dewater? Yes No	Gallons actually evacuated:
Sampling Date: _____	Sampling Time: _____
Sample I.D.: _____	Depth to Water: _____
Laboratory: CalScience Columbia Other _____	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
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 #: 090820-RM1	Site: 8999 San Ramon Rd. Dublin
Sampler: RM	Date: 8/20/09
Well I.D.: MW-118	Well Diameter: 2 3 ④ 6 8 _____
Total Well Depth (TD): 38.16	Depth to Water (DTW): 34.68
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]: 35.37	

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: \_\_\_\_\_

$2.3 \text{ (Gals.)} \times 3 = 6.9 \text{ Gals.}$ <p style="font-size: small; margin: 0;">I Case Volume      Specified Volumes      Calculated Volume</p>	<table border="1" style="width: 100%; border-collapse: collapse; font-size: x-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
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
0902	67.0	6.27	758.7	293	2.3	
0905	66.9	6.29	683.7	628	4.4	
0908	67.1	6.31	684.5	71000	6.9	cloudy

Did well dewater?    Yes    No      Gallons actually evacuated: 6.9

Sampling Date: 8/20/09      Sampling Time: 0915      Depth to Water: 34.72

Sample I.D.: MW-118      Laboratory: CalScience Columbia Other \_\_\_\_\_

Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Oxygenates (5)    Other: SEE COC

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>090820-RM1</u>	Site: <u>8999 San Ramon Rd. Dublin</u>
Sampler: <u>R.M</u>	Date: <u>8/20/09</u>
Well I.D.: <u>MW-12</u>	Well Diameter: 2 3 <u>4</u> 6 8 _____
Total Well Depth (TD): <u>38.62</u>	Depth to Water (DTW): <u>34.21</u> <span style="float: right;">4!</span>
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>35.09</u>	

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: \_\_\_\_\_

$\underline{2.9} \text{ (Gals.)} \times \underline{3} = \underline{8.7} \text{ Gals.}$ 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
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
<u>0932</u>	<u>68.2</u>	<u>6.82</u>	<u>907.9</u>	<u>597</u>	<u>2.9</u>	
<u>0933</u>	<u>67.7</u>	<u>6.63</u>	<u>769.7</u>	<u>247</u>	<u>5.8</u>	<u>clear</u>
<u>0934</u>	<u>67.7</u>	<u>6.56</u>	<u>770.2</u>	<u>284</u>	<u>8.7</u>	<u>" "</u>

Did well dewater?    Yes     No                      Gallons actually evacuated: 8.7

Sampling Date: 8/20/09    Sampling Time: 0940    Depth to Water: 34.61

Sample I.D.: MW-12                      Laboratory: CalScience Columbia Other \_\_\_\_\_

Analyzed for:    TPH-G    BTEX    MTBE    TPH-D    Oxygenates (5)    Other: SEE CWC

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



**APPENDIX B**  
**BLAINE TECH SERVICES, INC.**  
**FIELD PROCEDURES**

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# BLAINE

TECH SERVICES INC.

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GROUNDWATER SAMPLING SPECIALISTS  
SINCE 1985

September 9, 2009

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

Second Quarter 2009 Groundwater Monitoring at  
Shell-branded Service Station  
8999 San Ramon Road  
Dublin, CA

Monitoring performed on May 7, 2009

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## Groundwater Monitoring Report **090507-RM-2**

This report covers the routine monitoring of groundwater wells at this Shell-branded facility. 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. Purgewater (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

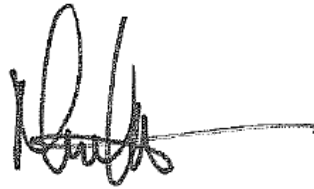
Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

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/np

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

cc: Regina Bussard  
Delta Environmental  
175 Bernal Road, Suite 200  
San Jose, CA 95119

# BLAINE TECH SERVICES, INC. METHODS AND PROCEDURES FOR THE ROUTINE MONITORING OF GROUNDWATER WELLS AT SHELL SITES

Blaine Tech Services, Inc. performs environmental sampling and documentation as an independent third party. We specialize in groundwater monitoring assignments and intentionally limit the scope of our services to those centered on the generation of objective information.

To avoid conflicts of interest, Blaine Tech Services, Inc. personnel do not evaluate or interpret the information we collect. As a state licensed contractor (C-57 well drilling –water – 746684 ) performing strictly technical services, we do not make any professional recommendations and perform no consulting of any kind.

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## SAMPLING PROCEDURES OVERVIEW

### SAFETY

All groundwater monitoring assignments performed for Shell comply with Shell's safety guidelines, 29 CFR 1910.120 and SB-198 Injury and Illness Prevention Program (IIPP). All Field Technicians receive the full 40-hour 29CFR 1910.120 OSHA SARA HAZWOPER course, medical clearance and on-the-job training prior to commencing any work on any Shell site.

### INSPECTION AND GAUGING

Wells are inspected prior to evacuation and sampling. The condition of the wellhead is checked and noted according to a wellhead inspection checklist.

Standard measurements include the depth to water (DTW) and the total well depth (TD) obtained with industry standard electronic water level indicators that are graduated in increments of hundredths of a foot.

The water in each well is inspected for the presence of immiscibles. When free product is suspected, its presence is confirmed using an electronic interface probe (e.g. MMC). No samples are collected from a well containing over two-hundredths of a foot (0.02') of product.

### EVACUATION

Depth to water measurements are collected by our personnel prior to purging and minimum purge volumes are calculated anew for each well based on the height of the water column and the diameter of the well. Expected purge volumes are never less than three case volumes and are set at no less than four case volumes in some jurisdictions.

Well purging devices are selected on the basis of the well diameter and the total volume to be evacuated. In most cases the well will be purged using an electric submersible pump (i.e. Grundfos) suspended near (but not touching) the bottom of the well.

## PARAMETER STABILIZATION

Well purging completion standards include minimum purge volumes, but additionally require stabilization of specific groundwater parameters prior to sample collection. Typical groundwater parameters used to measure stability are electrical conductivity, pH, and temperature. Instrument readings are obtained at regular intervals during the evacuation process (no less than once per case volume).

Stabilization standards for routine quarterly monitoring of fuel sites include the following: Temperature is considered to have stabilized when successive readings do not fluctuate more than +/- 1 degree Celsius. Electrical conductivity is considered stable when successive readings are within 10%. pH is considered to be stable when successive readings remain constant or vary no more than 0.2 of a pH unit.

## DEWATERED WELLS

Normal evacuation removes no less than three case volumes of water from the well. However, less water may be removed in cases where the well dewateres and does not immediately recharge.

## MEASURING RECHARGE

Upon completion of well purging, a depth to water measurement is collected and notated to ensure that the well has recharged to within 80% of its static, pre-purge level prior to sampling.

Wells that do not immediately show 80% recharge or dewatered wells will be allowed a minimum of 2 hours to recharge prior to sampling. The water level at time of sampling will be noted.

## PURGEWATER CONTAINMENT

All non-hazardous purgewater evacuated from each groundwater monitoring well is captured and contained in on-board storage tanks on the Sampling Vehicle and/or special water hauling trailers. Effluent from the decontamination of reusable apparatus (sounders, electric pumps and hoses etc.), consisting of groundwater combined with deionized water and non-phosphate soap, is also captured and pumped into effluent tanks.

Non-hazardous purgewater is transported under standard Bill of Lading documentation to a Blaine Tech Services, Inc. facility before being transported to a Shell approved disposal facility.

## SAMPLE COLLECTION DEVICES

All samples are collected using a stainless steel, Teflon or disposable bailers.

## SAMPLE CONTAINERS

Sample material is decanted directly from the sampling bailer into sample containers provided by the laboratory that will analyze the samples. The transfer of sample material from the bailer to the sample container conforms to specifications contained in the USEPA T.E.G.D. The type of sample container, material of construction, method of closure and filling requirements are specific to the intended analysis. Chemicals needed to preserve the sample material are commonly placed inside the sample containers by the laboratory or glassware vendor prior to delivery of the bottle to our personnel. The laboratory sets the number of replicate containers.

## TRIP BLANKS

Trip Blanks, if requested, are taken to the site and kept inside the sample cooler for the duration of the event. They are turned over to the laboratory for analysis with the samples from that site.

## DUPLICATES

Duplicates, if requested, may be collected at a site. The Field Technician uses their discretion in choosing the well at which the Duplicate is collected, typically one suspected of containing measurable contaminants. The Duplicate sample is labeled "DUP" and the time of collection is omitted from the COC, thus rendering the sample blind.

## SAMPLE STORAGE

All sample containers are promptly placed in food grade ice chests for storage in the field and transport (direct or via our facility) to the designated analytical laboratory. These ice chests contain quantities of restaurant grade ice as a refrigerant material. The samples are maintained in either an ice chest or a refrigerator until relinquished into the custody of the laboratory or laboratory courier.

## DOCUMENTATION CONVENTIONS

A label must be affixed to all sample containers. In most cases these labels are generated by our office personnel and are partially preprinted. Labels can also be hand written by our field personnel. The site is identified with the store number and site address, as is the particular groundwater well from which the sample is drawn (e.g. MW-1, MW-2, S-1 etc.). The time and date of sample collection along with the initials of the person who collects the sample are handwritten onto the label.

Chain of Custody records are created using client specific preprinted forms following USEPA specifications.

Bill of Lading records are contemporaneous records created in the field at the site where the non-hazardous purgewater is generated. Field Technicians use preprinted Bill of Lading forms.

## DECONTAMINATION

All equipment is brought to the site in clean and serviceable condition and is cleaned after use in each well and before subsequent use in any other well. Equipment is decontaminated before leaving the site.

The primary decontamination device is a commercial steam cleaner. The steam cleaner is de-tuned to function as a hot pressure washer that is then operated with high quality deionized water that is produced at our facility and stored onboard our sampling vehicle. Cleaning is facilitated by the use of proprietary fixtures and devices included in the patented workstation (U.S. Patent 5,535,775) that is incorporated in each sampling vehicle. The steam cleaner is used to decon reels, pumps and bailers.

Any sensitive equipment or parts (i.e. Dissolved Oxygen sensor membrane, water level indicator, etc.) that cannot be washed using the high pressure water, will be sprayed with a non-phosphate soap and deionized water solution and rinsed with deionized water.

## DISSOLVED OXYGEN READINGS

Dissolved Oxygen readings are taken pre- and/or post-purge using YSI meters (e.g. YSI Model 54, 58 or 95) or HACH field test kits.

The YSI meters are equipped with a stirring device that enables them to collect accurate in-situ readings. The probe/stirring devices are modified to allow downhole measurements to be taken from wells with diameters as small as two inches. The probe and reel is decontaminated between wells as described above. The meter is calibrated between wells as per the instructions in the operating manual. The probe and stirrer is lowered into the water column. The reading is allowed to stabilize prior to collection.

## OXYIDATON REDUCTION POTENTIAL READINGS

All readings are obtained with either Corning or Myron-L meters (e.g. Corning ORP-65 or a Myron-L Ultrameter GP). The meter is cleaned between wells as described above. The meter is calibrated at the start of each day according to the instruction manual.

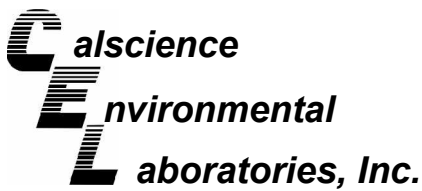
## FERROUS IRON MEASUREMENTS

All field measurements are collected at time of sampling with a HACH test kit.

## **APPENDIX C**

### **LABORATORY REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION**





September 03, 2009

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

Subject: **CalScience Work Order No.: 09-08-1930**  
**Client Reference: 8999 San Ramon Road, Dublin, CA**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 8/22/2009 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 cursive script that reads "Jessie Lee".

CalScience Environmental  
Laboratories, Inc.  
Jessie Lee  
Project Manager

## Analytical Report



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

Date Received: 08/22/09  
Work Order No: 09-08-1930  
Preparation: EPA 3510C  
Method: EPA 8015B

Project: 8999 San Ramon Road, Dublin, CA

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-5C</b>	<b>09-08-1930-1-D</b>	<b>08/20/09 12:10</b>	<b>Aqueous</b>	<b>GC 27</b>	<b>08/24/09</b>	<b>08/26/09 10:28</b>	<b>080924B11</b>

Comment(s): -The sample extract was subjected to Silica Gel treatment prior to analysis.

Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	86	68-140			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-5B</b>	<b>09-08-1930-2-D</b>	<b>08/20/09 11:25</b>	<b>Aqueous</b>	<b>GC 27</b>	<b>08/24/09</b>	<b>08/26/09 10:47</b>	<b>080924B11</b>

Comment(s): -The sample extract was subjected to Silica Gel treatment prior to analysis.

Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	93	68-140			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-8B</b>	<b>09-08-1930-3-D</b>	<b>08/20/09 11:00</b>	<b>Aqueous</b>	<b>GC 27</b>	<b>08/24/09</b>	<b>08/26/09 11:05</b>	<b>080924B11</b>

Comment(s): -The sample extract was subjected to Silica Gel treatment prior to analysis.

Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	87	68-140			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-11B</b>	<b>09-08-1930-4-D</b>	<b>08/20/09 09:15</b>	<b>Aqueous</b>	<b>GC 27</b>	<b>08/24/09</b>	<b>08/26/09 11:23</b>	<b>080924B11</b>

Comment(s): -The sample extract was subjected to Silica Gel treatment prior to analysis.

Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	95	68-140			

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

## Analytical Report



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

Date Received: 08/22/09  
Work Order No: 09-08-1930  
Preparation: EPA 3510C  
Method: EPA 8015B

Project: 8999 San Ramon Road, Dublin, CA

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-12	09-08-1930-5-D	08/20/09 09:40	Aqueous	GC 27	08/24/09	08/26/09 11:41	080924B11

Comment(s): -The sample extract was subjected to Silica Gel treatment prior to analysis.

Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	82	68-140			

Method Blank	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-211-1,325	N/A	Aqueous	GC 27	08/24/09	08/26/09 09:34	080924B11

Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	87	68-140			

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

## Analytical Report



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

Date Received: 08/22/09  
Work Order No: 09-08-1930  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B  
Units: ug/L

Project: 8999 San Ramon Road, Dublin, CA

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-5C</b>	<b>09-08-1930-1-A</b>	<b>08/20/09 12:10</b>	<b>Aqueous</b>	<b>GC/MS T</b>	<b>08/27/09</b>	<b>08/28/09 10:11</b>	<b>090827L02</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.0	2		Tert-Butyl Alcohol (TBA)	ND	20	2	
Ethylbenzene	ND	2.0	2		Diisopropyl Ether (DIPE)	ND	4.0	2	
Toluene	ND	2.0	2		Ethyl-t-Butyl Ether (ETBE)	ND	4.0	2	
Xylenes (total)	ND	2.0	2		Tert-Amyl-Methyl Ether (TAME)	ND	4.0	2	
Methyl-t-Butyl Ether (MTBE)	130	2.0	2		TPPH	150	100	2	
<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	80-132			1,2-Dichloroethane-d4	110	80-141		
Toluene-d8	100	80-120			Toluene-d8-TPPH	101	88-112		
1,4-Bromofluorobenzene	97	76-120							


Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-5B</b>	<b>09-08-1930-2-A</b>	<b>08/20/09 11:25</b>	<b>Aqueous</b>	<b>GC/MS T</b>	<b>08/27/09</b>	<b>08/28/09 10:40</b>	<b>090827L02</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	2.5	5		Tert-Butyl Alcohol (TBA)	ND	50	5	
Ethylbenzene	ND	5.0	5		Diisopropyl Ether (DIPE)	ND	10	5	
Toluene	ND	5.0	5		Ethyl-t-Butyl Ether (ETBE)	ND	10	5	
Xylenes (total)	ND	5.0	5		Tert-Amyl-Methyl Ether (TAME)	ND	10	5	
Methyl-t-Butyl Ether (MTBE)	840	5.0	5		TPPH	800	250	5	
<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	80-132			1,2-Dichloroethane-d4	112	80-141		
Toluene-d8	101	80-120			Toluene-d8-TPPH	102	88-112		
1,4-Bromofluorobenzene	99	76-120							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-8B</b>	<b>09-08-1930-3-A</b>	<b>08/20/09 11:00</b>	<b>Aqueous</b>	<b>GC/MS T</b>	<b>08/27/09</b>	<b>08/28/09 11:10</b>	<b>090827L02</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
Xylenes (total)	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
Methyl-t-Butyl Ether (MTBE)	3.8	1.0	1		TPPH	ND	50	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	80-132			1,2-Dichloroethane-d4	112	80-141		
Toluene-d8	102	80-120			Toluene-d8-TPPH	102	88-112		
1,4-Bromofluorobenzene	99	76-120							

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



## Analytical Report



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

Date Received: 08/22/09  
Work Order No: 09-08-1930  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B  
Units: ug/L

Project: 8999 San Ramon Road, Dublin, CA

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-11B</b>	<b>09-08-1930-4-A</b>	<b>08/20/09 09:15</b>	<b>Aqueous</b>	<b>GC/MS T</b>	<b>08/27/09</b>	<b>08/28/09 11:39</b>	<b>090827L02</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
Xylenes (total)	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1		TPPH	ND	50	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	80-132			1,2-Dichloroethane-d4	110	80-141		
Toluene-d8	100	80-120			Toluene-d8-TPPH	101	88-112		
1,4-Bromofluorobenzene	98	76-120							

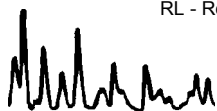
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>MW-12</b>	<b>09-08-1930-5-A</b>	<b>08/20/09 09:40</b>	<b>Aqueous</b>	<b>GC/MS T</b>	<b>08/27/09</b>	<b>08/28/09 12:09</b>	<b>090827L02</b>

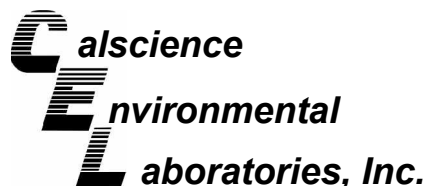
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
Xylenes (total)	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1		TPPH	ND	50	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	80-132			1,2-Dichloroethane-d4	110	80-141		
Toluene-d8	102	80-120			Toluene-d8-TPPH	102	88-112		
1,4-Bromofluorobenzene	99	76-120							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>Method Blank</b>	<b>099-12-767-2,456</b>	<b>N/A</b>	<b>Aqueous</b>	<b>GC/MS T</b>	<b>08/27/09</b>	<b>08/28/09 04:17</b>	<b>090827L02</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
Xylenes (total)	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1		TPPH	ND	50	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	80-132			1,2-Dichloroethane-d4	115	80-141		
Toluene-d8	99	80-120			Toluene-d8-TPPH	100	88-112		
1,4-Bromofluorobenzene	99	76-120							

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

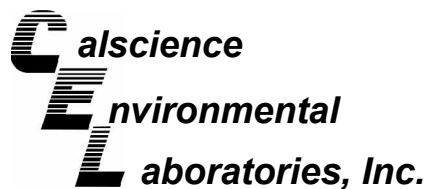
Date Received: 08/22/09  
Work Order No: 09-08-1930  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA  
8260B

Project 8999 San Ramon Road, Dublin, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-08-1934-1	Aqueous	GC/MS T	08/27/09	08/28/09	090827S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	105	104	72-120	1	0-20	
Carbon Tetrachloride	100	98	63-135	1	0-20	
Chlorobenzene	100	98	80-120	2	0-20	
1,2-Dibromoethane	102	102	80-120	0	0-20	
1,2-Dichlorobenzene	99	97	80-120	2	0-20	
1,1-Dichloroethene	113	111	60-132	2	0-24	
Ethylbenzene	102	100	78-120	1	0-20	
Toluene	100	98	74-122	2	0-20	
Trichloroethene	97	96	69-120	1	0-20	
Vinyl Chloride	105	102	58-130	3	0-20	
Methyl-t-Butyl Ether (MTBE)	104	102	72-126	2	0-21	
Tert-Butyl Alcohol (TBA)	109	107	72-126	1	0-20	
Diisopropyl Ether (DIPE)	103	101	71-137	3	0-23	
Ethyl-t-Butyl Ether (ETBE)	106	105	74-128	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	99	98	76-124	1	0-20	
Ethanol	130	119	35-167	9	0-48	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - LCS/LCS Duplicate



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

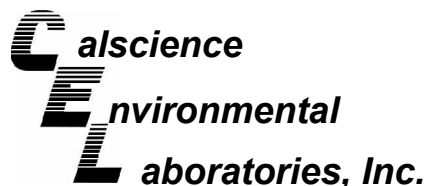
Date Received: N/A  
Work Order No: 09-08-1930  
Preparation: EPA 3510C  
Method: EPA 8015B

Project: 8999 San Ramon Road, Dublin, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-211-1,325	Aqueous	GC 27	08/24/09	08/26/09	080924B11

<u>Parameter</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Diesel Range Organics	95	100	75-117	5	0-13	

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: 09-08-1930  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project: 8999 San Ramon Road, Dublin, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-12-767-2,456	Aqueous	GC/MS T	08/27/09	08/28/09	090827L02		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	109	109	80-122	73-129	0	0-20	
Carbon Tetrachloride	108	111	68-140	56-152	3	0-20	
Chlorobenzene	104	103	80-120	73-127	1	0-20	
1,2-Dibromoethane	105	104	80-121	73-128	0	0-20	
1,2-Dichlorobenzene	101	101	80-120	73-127	0	0-20	
1,1-Dichloroethene	119	123	72-132	62-142	3	0-25	
Ethylbenzene	108	108	80-126	72-134	1	0-20	
Toluene	104	105	80-121	73-128	1	0-20	
Trichloroethene	112	106	80-123	73-130	6	0-20	
Vinyl Chloride	113	121	67-133	56-144	7	0-20	
Methyl-t-Butyl Ether (MTBE)	106	105	75-123	67-131	1	0-20	
Tert-Butyl Alcohol (TBA)	106	105	75-123	67-131	1	0-20	
Diisopropyl Ether (DIPE)	105	103	71-131	61-141	2	0-20	
Ethyl-t-Butyl Ether (ETBE)	108	106	76-124	68-132	2	0-20	
Tert-Amyl-Methyl Ether (TAME)	100	99	80-123	73-130	2	0-20	
Ethanol	134	134	61-139	48-152	0	0-27	
TPPH	128	126	65-135	53-147	2	0-30	

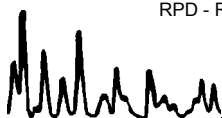
Total number of LCS compounds : 17

Total number of ME compounds : 0

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

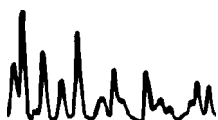
RPD - Relative Percent Difference , CL - Control Limit





Work Order Number: 09-08-1930

<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.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.



LAB (LOCATION)

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



# Shell Oil Products Chain Of Custody Record

**Please Check Appropriate Box:**

<input checked="" type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SD&CM	<input checked="" type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER _____	

**Print Bill To Contact Name:** Denis Brown

**INCIDENT # (ENV SERVICES):** 9 7 5 6 5 9 9 5

**PO #** \_\_\_\_\_ **SAP #** \_\_\_\_\_

DATE: 8/20/09  
PAGE: 1 of 1

**SAMPLING COMPANY:** Blaine Tech Services

**LOG CODE:** BTSS

**ADDRESS:** 1680 Rogers Ave, San Jose, CA 95112

**PROJECT CONTACT (Hardcopy or PDF Report to):** Michael Ninokata

TELEPHONE: (408)573-0555 FAX: (408)573-7771 E-MAIL: mninokata@blainetech.com

**SITE ADDRESS: Street and City:** 8999 San Ramon Road, Dublin

**State:** CA **GLOBAL ID NO:** T0600159797

**EDF DELIVERABLE TO (Name, Company, Office Location):** Angela Pico, Delta, San Jose Office

**PHONE NO:** 408.826.1862 **E-MAIL:** apico@deltaenv.com

**CONSULTANT PROJECT NO:** 090820-RM1

**BTS #** \_\_\_\_\_

**SAMPLER NAME(S) (Print):** R. McCarthy

**LAB USE ONLY:** 09-08-130

**TURNAROUND TIME (CALENDAR DAYS):**

STANDARD (14 DAY)  5 DAYS  3 DAYS  2 DAYS  24 HOURS

RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT  UST AGENCY:

**REQUESTED ANALYSIS**

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)	TEMPERATURE ON RECEIPT °C
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**SPECIAL INSTRUCTIONS OR NOTES :**

CC Reglna Bussard w/final report rbussard@deltaenv.com

Run TPH-d w/Silica Gel Clean Up

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

EDD NOT NEEDED

RECEIPT VERIFICATION REQUESTED

LAB USE ONLY	Field Sample Identification		SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	REQUESTED ANALYSIS												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-SC	8/20/09	1210	W	3		2	5	X	X	X	X													Run TPH-d w/Silica gel clean up
2	MW-SB		1125						X	X	X	X													
3	MW-8B		1100						X	X	X	X													
4	MW-11B		0915						X	X	X	X													
5	MW-12		0940						X	X	X	X													

Relinquished by: (Signature) <i>R. McCarthy</i>	Received by: (Signature) <i>R. McCarthy (Sample Custodian)</i>	Date: 8/20/09	Time: 1605
Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: 8-21-09	Time: 1025
Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: 8/22/09	Time: 1000

8-21-09  
1730  
(408) 512494411

**SAMPLE RECEIPT FORM**

Cooler 1 of 1

CLIENT: BTS

DATE: 08/22/09

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

Temperature 3.8 °C - 0.2°C (CF) = 3.6 °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: AT

**CUSTODY SEALS INTACT:**

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

Sample  \_\_\_\_\_  No (Not Intact)  Not Present Initial: AT

**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  VOA<sup>2</sup>h  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  125PBz<sub>2</sub>na  100PJ  100PJna<sub>2</sub>  \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_

**Air:**  Tedlar®  Summa®  \_\_\_\_\_ **Other:**  \_\_\_\_\_ **Checked/Labeled by:** AT

**Container:** C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelop **Reviewed by:** AT

**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> z<sub>2</sub>na: ZnAc<sub>2</sub>+NaOH f: Field-filtered **Scanned by:** AT