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Alameda County  
Environmental Health

**SUSTAINABLE STRATEGIES FOR GLOBAL LEADERS**

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September 23, 2008  
DELTA Project No. SCA119891  
SAP No. 135243

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

**Re: THIRD QUARTER 2008 GROUNDWATER MONITORING  
REPORT**

**Shell-Branded Service Station  
11989 Dublin Boulevard  
Dublin, California**



Dear Mr. Wickham:

On behalf of Shell Oil Products (SHELL), Delta Consultants (DELTA) has prepared this *Third Quarter 2008 Groundwater Monitoring Report* for the above referenced site. The sampling activities at the site were performed by Blaine Tech Services, Inc. under contract to SHELL and included the collection of groundwater samples and static water level measurements. A DELTA staff member, under the supervision of a California Registered Civil Engineer or a California Professional Geologist, performed the data evaluation.

This quarterly report represents DELTA's professional opinions based upon the currently available information and is arrived at in accordance with currently acceptable professional standards. This report 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 report were performed. This report is intended only for the use of DELTA's Client and anyone else specifically listed on this report. 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 report.

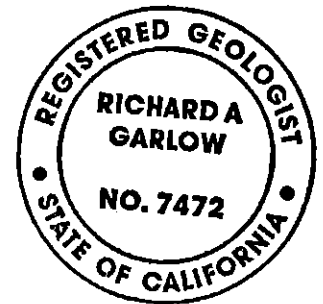
Mr. Jerry Wickham  
Alameda County Health Care Services Agency  
September 23, 2008  
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If you have any questions regarding this site, please contact Ms. Elisabeth Silver (DELTA Site Manager) at (425) 498-7736 or Mr. Denis Brown (SHELL Project Manager) at (707) 865-0251.

Sincerely,  
Delta Consultants

*Angela Pico*  
Angela Pico for:  
Elisabeth Silver  
Project Manager

*Richard A. Garlow*  
Richard A. Garlow, M.S., P.G.  
Senior Project Geologist



Attachment: Third Quarter 2008 Groundwater Monitoring Report

cc: Denis Brown, Shell Oil Products US, Carson  
Matt Katen, Zone 7 Water District, Livermore

**SHELL QUARTERLY STATUS REPORT**

Station Address:	11989 Dublin Boulevard, Dublin, CA
DELTA Project No.:	SCA119891
SHELL Project Manager / Phone No.:	Denis Brown / (707) 865-0251
DELTA Site Manager / Phone No.:	Elisabeth Silver / (425) 498-7736
Primary Agency / Regulatory ID No.:	Alameda County Health Care Services Agency / Mr. Jerry Wickham, P.G., CHG
Other Agencies to Receive Copies:	Zone 7 Water District / Matt Katen

**WORK PERFORMED THIS QUARTER (THIRD – 2008):**

- Quarterly groundwater monitoring and sampling. Submitted quarterly report.

**WORK PROPOSED FOR NEXT QUARTER (FOURTH – 2008):**

- Quarterly groundwater monitoring and sampling. Submit quarterly report.

Current Phase of Project:	Groundwater monitoring.
Site Use:	Shell-branded Service Station
Frequency of Sampling:	Quarterly (Wells MW-2 through MW-7)
Frequency of Monitoring:	Quarterly (Wells MW-2 through MW-7)
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 :	None
Groundwater Removed This Quarter:	69.6 gallons were removed on July 31, 2008
Sensitive Receptor(s) and Respective Direction(s):	Dublin Creek is located approximately 538 feet south of the site.
Site Lithology:	Site is generally underlain by approximately 60 feet of clay and silt with some discontinuous beds of clayey sand, silty sand and silty gravel between approximately 20 to 40 feet below the surface. Beneath this is approximately 15 feet of sand and gravel which over lies clay and silt to 80 feet, the depth explored.
Current Remediation Techniques:	None
Permits for Discharge:	None
Approximate Depth to Groundwater:	21.25 to 32.14 feet below top of well casing
Groundwater Gradient:	East-northeast at a gradient of 0.02 ft/ft, consistent with previous data
Current Agency Correspondence:	ACHCSA letter dated August 30, 2006
Date of Most Recent Work Plan Approval:	August 30, 2006

September 23, 2008

## SHELL QUARTERLY STATUS REPORT (CONT.)

### Site History:

Case Opening	1999
Onsite Assessment	8/98 – 6/99
Offsite Assessment	2001 - 2005
Passive Remediation	Quarterly monitoring
Active Remediation	None
Closure	None

### Summary of Activity:

Plume remains stable and well defined.  
Long term trend indicates general reduction in detected concentrations of TPH-g, MTBE and TBA.

## **ATTACHMENTS:**

### **Table:**

Table 1 – Well Concentrations

### **Figures:**

Figure 1 – Site Location Map

Figure 2 – Groundwater Elevation Contour Map

Figure 3 – Groundwater Hydrocarbon Distribution Map

### **Appendices:**

Appendix A – Field Data Sheets

Appendix B – Field Procedures

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

**TABLE**

**TABLE 1**  
**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**11989 Dublin Boulevard**  
**Dublin, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-1	7/20/1999	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	NA	NA	NA	NA	NA	367.99	6.24	361.75	NA
MW-1	10/25/1999	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	NA	NA	NA	NA	NA	367.99	6.36	361.63	NA
MW-1	1/27/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	367.99	5.65	362.34	NA
MW-1	4/3/2000	<50.0	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	367.99	5.68	362.31	1.2/1.6
MW-1	7/27/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	367.99	5.69	362.30	1.0/1.1
MW-1	10/16/2000	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	367.99	5.74	362.25	1.2/0.8
MW-1	1/16/2001	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	367.99	5.71	362.28	0.59/2.8
MW-1	4/19/2001	<50.0	NA	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	367.99	5.63	362.36	1.4/1.5
MW-1	7/13/2001	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	367.99	5.70	362.29	2.3/3.1
MW-1	8/13/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	367.99	5.72	362.27	NA
MW-1	10/26/2001	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	367.99	5.73	362.26	0.4/0.0
MW-1	1/11/2002	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	367.99	5.55	362.44	5.4/2.0
MW-1	5/22/2002	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	367.99	5.55	362.44	NA
MW-1	7/15/2002	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	367.99	5.70	362.29	NA
MW-1	10/11/2002	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	367.99	5.87	362.12	NA
MW-1	1/17/2003	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	367.99	5.79	362.20	NA
MW-1	5/1/2003	52	NA	<0.50	<0.50	<0.50	<1.0	NA	<5.0	NA	NA	NA	NA	NA	367.99	5.61	362.38	NA
MW-1	8/27/2003	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	367.99	5.84	362.15	NA
MW-1	10/3/2003	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	367.99	5.95	362.04	NA
MW-1	1/5/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	367.99	5.66	362.33	NA
MW-1	4/9/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	367.99	5.55	362.44	NA
MW-1	7/22/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	367.99	5.73	362.26	NA
MW-1	11/1/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	367.99	5.73	362.26	NA
MW-1	1/26/2005	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	367.99	5.50	362.49	NA
MW-1	4/14/2005	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	367.99	5.60	362.39	NA
MW-1	7/21/2005	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	367.99	6.14	361.85	NA
MW-1	11/8/2005	<50.0	NA	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<10.0	NA	367.99	6.33	361.66	NA
MW-2	7/20/1999	2,600	699	55.0	<2.50	59.5	<2.50	9,370	NA	NA	NA	NA	NA	NA	365.43	20.31	345.12	NA

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**11989 Dublin Boulevard**  
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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 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-2	10/25/1999	4,710	761	61.1	<10.0	74.6	<10.0	22,800	NA	NA	NA	NA	NA	NA	365.43	22.80	342.63	NA
MW-2	1/27/2000	3,820	1490	60.8	<10.0	156	<10.0	13,400	15,000 a	NA	NA	NA	NA	NA	365.43	19.17	346.26	NA
MW-2	4/3/2000	7,130	NA	184	14.9	238	18.8	34,200	28,000	NA	NA	NA	NA	NA	365.43	19.03	346.40	1.6/1.7
MW-2	7/27/2000	311	NA	10.0	<0.500	<0.500	<0.500	280	NA	NA	NA	NA	NA	NA	365.43	19.09	346.34	1.9/1.7
MW-2	10/16/2000	3,970	NA	123	<5.00	68.5	<5.00	14,000	15,600	NA	NA	NA	NA	NA	365.43	23.98	341.45	0.5/0.5
MW-2	1/16/2001	5,780	NA	125	9.71	139	6.93	7,660	7,810	NA	NA	NA	NA	NA	365.43	22.12	343.31	0.90/2.61
MW-2	4/19/2001	4,460	NA	114	7.61	115	4.87	15,200	18,400	NA	NA	NA	NA	NA	365.43	20.95	344.48	1.6/1.5
MW-2	7/13/2001	<5,000	NA	<25	<25	110	<25	NA	15,000	NA	NA	NA	NA	NA	365.43	22.62	342.81	2.7/1.8
MW-2	8/13/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	365.43	22.33	343.10	NA
MW-2	10/26/2001	3,700	NA	<20	<20	66	<20	NA	9,200	<20	<20	<20	1,800	<500	365.43	22.32	343.11	0.7/0.8
MW-2	1/11/2002	<5,000	NA	<50	<50	54	<50	NA	15,000	NA	NA	NA	NA	NA	365.43	18.72	346.71	5.1/c
MW-2	5/22/2002	<5,000	NA	53	<50	57	<50	NA	20,000	<50	<50	<50	6,300	NA	365.43	20.59	344.84	NA
MW-2	7/15/2002	<5,000	NA	<50	<50	<50	<50	NA	16,000	<50	<50	<50	3,100	NA	365.43	21.90	343.53	NA
MW-2	10/11/2002	3,600	NA	<20	<20	48	<20	NA	8,200	<20	<20	<20	1,600	NA	365.43	22.45	342.98	NA
MW-2	1/17/2003	4,700	NA	<25	<25	87	<25	NA	13,000	<25	<25	<25	7,700	NA	365.43	19.27	346.16	NA
MW-2	5/1/2003	6,000	NA	<50	<50	110	<100	NA	12,000	<200	<200	<200	6,700	NA	365.43	19.09	346.34	NA
MW-2	8/27/2003	2,500	NA	32	<25	100	<50	NA	4,800	<100	<100	<100	9,100	NA	365.43	22.53	342.90	NA
MW-2	10/3/2003	5,500 d	NA	32	<13	86	<25	NA	2,200	<50	<50	<50	9,900	NA	365.43	23.02	342.41	NA
MW-2	1/5/2004	6,500	NA	22	<13	58	<25	NA	1,200	<50	<50	<50	7,400	NA	365.43	19.08	346.35	NA
MW-2	4/9/2004	6,500	NA	72	<13	30	<25	NA	1,600	<50	<50	<50	11,000	NA	365.43	20.22	345.21	NA
MW-2	7/22/2004	4,900	NA	32	<13	19	<25	NA	180	<50	<50	<50	7,100	NA	365.43	22.14	343.29	NA
MW-2	11/1/2004	5,700	NA	42	<13	13	<25	NA	190	<50	<50	<50	6,100	NA	365.43	20.72	344.71	NA
MW-2	1/26/2005	6,600	NA	94	<13	13	<25	NA	1,700	<50	<50	<50	16,000	NA	365.43	17.95	347.48	NA
MW-2	4/14/2005	8,200	NA	170	<10	92	<20	NA	1,300	<40	<40	<40	15,000	NA	365.43	18.10	347.33	NA
MW-2	7/21/2005	4,100	NA	23	<10	13	<20	NA	96	<40	<40	<40	4,600	NA	365.43	22.72	342.71	NA
MW-2	11/8/2005	1,290	NA	1.66	0.990	2.56	1.25	NA	11.9	<0.500	<0.500	<0.500	428	NA	365.43	21.77	343.66	NA
MW-2	1/6/2006	6,650	NA	<0.500	<0.500	2.69	<0.500	NA	9.23 g	<0.500	<0.500	<0.500	1,300 g	NA	365.43	18.94	346.49	NA
MW-2	4/19/2006	5,490	NA	3.58	0.890	4.32	<0.500	NA	19.0	<0.500	<0.500	<0.500	1,040	NA	365.43	18.34	347.09	NA
MW-2	7/26/2006	4,990	NA	<0.500	<0.500	<0.500	<0.500	NA	4.66	NA	NA	NA	353	NA	365.43	22.53	342.90	NA



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MW-2	10/27/2006	2,900	NA	<0.50	<0.50	<0.50	1.2	NA	<0.50	<2.0	<2.0	<2.0	270	NA	365.43	23.08	342.35	NA
MW-2	1/19/2007	1,700	NA	<0.50	0.72	<0.50	<0.50	NA	<0.50	NA	NA	NA	280	NA	365.43	18.91	346.52	NA
MW-2	4/3/2007	2,100 h,i	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	120	NA	365.43	19.37	346.06	NA
MW-2	7/6/2007	2,000 h,i	NA	<0.50	<1.0	0.90 j	7.72 j	NA	<1.0	NA	NA	NA	29	NA	365.43	21.24	344.19	NA
MW-2	10/30/2007	2,100 h	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	<2.0	<2.0	<2.0	30	NA	365.43	21.38	344.05	NA
MW-2	1/10/2008	2,200 h,j	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	72	NA	365.43	17.95	347.48	NA
MW-2	4/24/2008	2,700	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	22	NA	365.43	20.72	344.71	NA
MW-2	7/31/2008	2,700	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	28	NA	365.43	21.25	344.18	NA
MW-3	7/20/1999	208	177	4.69	<0.500	<0.500	<0.500	664	NA	NA	NA	NA	NA	NA	364.97	24.23	340.74	NA
MW-3	10/25/1999	378	182	9.49	<0.500	<0.500	<0.500	1,410	NA	NA	NA	NA	NA	NA	364.97	23.26	341.71	NA
MW-3	1/27/2000	428	100	29.4	<0.500	<0.500	<0.500	941	NA	NA	NA	NA	NA	NA	364.97	19.53	345.44	NA
MW-3	4/3/2000	<125	NA	11.4	<1.25	<1.25	<1.25	639	NA	NA	NA	NA	NA	NA	364.97	19.13	345.84	1.4/1.9
MW-3	7/27/2000	4,360	NA	78.4	6.95	85.8	2.61	26,600	25,200 b	NA	NA	NA	NA	NA	364.97	19.10	345.87	1.9/2.0
MW-3	10/16/2000	586	NA	21.3	<0.500	<0.500	<0.500	3,310	NA	NA	NA	NA	NA	NA	364.97	24.11	340.86	1.1/0.8
MW-3	1/16/2001	558	NA	14.7	<0.500	<0.500	<0.500	2,210	NA	NA	NA	NA	NA	NA	364.97	22.19	342.78	0.87/3.5
MW-3	4/19/2001	376	NA	9.08	<0.500	<0.500	<0.500	667	NA	NA	NA	NA	NA	NA	364.97	20.96	344.01	1.7/1.4
MW-3	7/13/2001	370	NA	<2.0	<2.0	<2.0	<2.0	NA	670	NA	NA	NA	NA	NA	364.97	22.77	342.20	3.1/4.8
MW-3	8/13/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	364.97	22.59	342.38	NA
MW-3	10/26/2001	<200	NA	<2.0	<2.0	<2.0	<2.0	NA	680	<2.0	<2.0	<2.0	79	<500	364.97	22.81	342.16	1.0/3.2
MW-3	1/11/2002	480	NA	<2.0	<2.0	<2.0	<2.0	NA	830	NA	NA	NA	NA	NA	364.97	18.88	346.09	1.1/3.2
MW-3	5/22/2002	570	NA	<1.0	<1.0	<1.0	<1.0	NA	680	<2.0	<2.0	<2.0	58	NA	364.97	20.75	344.22	NA
MW-3	7/15/2002	420	NA	1.1	<1.0	<1.0	1.1	NA	520	<2.0	<2.0	<2.0	53	NA	364.97	22.09	342.88	NA
MW-3	10/11/2002	730	NA	<0.50	<0.50	<0.50	<0.50	NA	320	<2.0	<2.0	<2.0	330	NA	364.97	22.68	342.29	NA
MW-3	1/17/2003	740	NA	<0.50	<0.50	<0.50	<0.50	NA	150	<2.0	<2.0	<2.0	440	NA	364.97	19.34	345.63	NA
MW-3	5/1/2003	890	NA	<0.50	<0.50	<0.50	<1.0	NA	78	<2.0	<2.0	<2.0	300	NA	364.97	19.27	345.70	NA
MW-3	8/27/2003	920 d	NA	<0.50	<0.50	<0.50	<1.0	NA	52	<2.0	<2.0	<2.0	330	NA	364.97	22.73	342.24	NA
MW-3	10/3/2003	870 d	NA	<0.50	<0.50	<0.50	<1.0	NA	65	<2.0	<2.0	<2.0	520	NA	364.97	23.15	341.82	NA
MW-3	1/5/2004	860 d	NA	<0.50	<0.50	<0.50	<1.0	NA	40	<2.0	<2.0	<2.0	750	NA	364.97	19.60	345.37	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 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-3	4/9/2004	420 d	NA	<0.50	<0.50	<0.50	<1.0	NA	58	<2.0	<2.0	<2.0	280	NA	364.97	20.30	344.67	NA
MW-3	7/22/2004	570 e	NA	<0.50	<0.50	<0.50	<1.0	NA	20	<2.0	<2.0	<2.0	360	NA	364.97	22.42	342.55	NA
MW-3	11/1/2004	430	NA	<0.50	<0.50	<0.50	<1.0	NA	28	<2.0	<2.0	<2.0	680	NA	364.97	21.00	343.97	NA
MW-3	1/26/2005	1000	NA	0.53	<0.50	<0.50	<1.0	NA	20	<2.0	<2.0	<2.0	820	NA	364.97	17.92	347.05	NA
MW-3	4/14/2005	1,100	NA	1.3	<0.50	<0.50	<1.0	NA	16	<2.0	<2.0	<2.0	580	NA	364.97	18.11	346.86	NA
MW-3	7/21/2005	490	NA	<0.50	<0.50	<0.50	<1.0	NA	4.2	<2.0	<2.0	<2.0	400	NA	364.97	22.95	342.02	NA
MW-3	11/8/2005	349	NA	<0.500	<0.500	<0.500	<0.500	NA	10.1	<0.500	<0.500	<0.500	418	NA	364.97	22.18	342.79	NA
MW-3	1/6/2006	<50.0	NA	<0.500	<0.500	<0.500	<0.500	NA	13.7	<0.500	<0.500	<0.500	1,060	NA	364.97	19.40	345.57	NA
MW-3	4/19/2006	376	NA	0.580	<0.500	<0.500	<0.500	NA	4.44	<0.500	<0.500	<0.500	452	NA	364.97	18.62	346.35	NA
MW-3	7/26/2006	<50.0	NA	<0.500	<0.500	<0.500	<0.500	NA	5.98	NA	NA	NA	72.1	NA	364.97	22.79	342.18	NA
MW-3	10/27/2006	550	NA	<0.50	<0.50	<0.50	<1.0	NA	3.8	<2.0	<2.0	<2.0	270	NA	364.97	23.41	341.56	NA
MW-3	1/19/2007	390	NA	<0.50	<0.50	<0.50	<0.50	NA	6.0	NA	NA	NA	770	NA	364.97	19.88	345.09	NA
MW-3	4/3/2007	310 h,i	NA	<0.50	<1.0	<1.0	<1.0	NA	4.1	NA	NA	NA	480	NA	364.97	20.23	344.74	NA
MW-3	7/6/2007	330 h,i	NA	<0.50	<1.0	0.24 j	2.09 j	NA	1.3	NA	NA	NA	210	NA	364.97	21.85	343.12	NA
MW-3	10/30/2007	310 h	NA	<0.50	<1.0	<1.0	<1.0	NA	2.2	<2.0	<2.0	<2.0	90	NA	364.97	22.00	342.97	NA
MW-3	1/10/2008	320 h,i	NA	<0.50	<1.0	<1.0	<1.0	NA	2.3	NA	NA	NA	160	NA	364.97	18.81	346.16	NA
MW-3	4/24/2008	610	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	160	NA	364.97	21.15	343.82	NA
MW-3	7/31/2008	560	NA	<0.50	<1.0	<1.0	<1.0	NA	1.9	NA	NA	NA	72	NA	364.97	21.90	343.07	NA
MW-4	8/10/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	364.01	25.63	338.38	NA
MW-4	8/13/2001	2,400	NA	<10	<10	<10	<10	NA	8,300	NA	NA	NA	NA	NA	364.01	26.32	337.69	4.2/2.7
MW-4	10/26/2001	<2,000	NA	<20	<20	<20	<20	NA	8,600	NA	NA	NA	NA	NA	364.01	26.02	337.99	3.1/2.8
MW-4	1/11/2002	<2,000	NA	<20	<20	<20	<20	NA	5,100	NA	NA	NA	NA	NA	364.01	22.25	341.76	7.9/3.0
MW-4	5/22/2002	<500	NA	<5.0	<5.0	<5.0	<5.0	NA	3,200	<5.0	<5.0	<5.0	2,500	NA	364.01	23.96	340.05	NA
MW-4	7/15/2002	<2,500	NA	<20	<20	<20	<20	NA	7,000	<20	<20	<20	2,000	NA	363.97	25.18	338.79	NA
MW-4	10/11/2002	1,900	NA	<5.0	<5.0	<5.0	<5.0	NA	2,900	<5.0	<5.0	<5.0	5,100	NA	363.97	25.91	338.06	NA
MW-4	1/17/2003	580	NA	<2.5	<2.5	<2.5	<2.5	NA	59	<2.5	<2.5	<2.5	7,000	NA	363.97	22.38	341.59	NA
MW-4	5/1/2003	770	NA	<5.0	<5.0	<5.0	<10	NA	73	<20	<20	<20	4,300	NA	363.97	21.92	342.05	NA
MW-4	8/27/2003	<1,000	NA	<10	<10	<10	<20	NA	370	<40	<40	<40	11,000	NA	363.97	25.31	338.66	NA

**TABLE 1**  
**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**11989 Dublin Boulevard**  
**Dublin, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-4	10/3/2003	<1,000	NA	<10	<10	<10	<20	NA	190	<40	<40	<40	11,000	NA	363.97	26.00	337.97	NA
MW-4	1/5/2004	<1,000	NA	<10	<10	<10	<20	NA	<10	<40	<40	<40	7,400	NA	363.97	23.48	340.49	NA
MW-4	4/9/2004	<1,000	NA	<10	<10	<10	<20	NA	<10	<40	<40	<40	5,700	NA	363.97	23.45	340.52	NA
MW-4	7/22/2004	Well inaccessible	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	363.97	NA	NA	NA
MW-4	11/1/2004	Well inaccessible	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	363.97	NA	NA	NA
MW-4	1/26/2005	1200 f	NA	<10	<10	<10	<20	NA	<10	<40	<40	<40	3700	NA	363.97	21.44	342.53	NA
MW-4	4/14/2005	1,000 f	NA	<0.50	<0.50	<0.50	<1.0	NA	6.2	<2.0	<2.0	<2.0	5,800	NA	363.97	20.69	343.28	NA
MW-4	7/21/2005	390	NA	<2.5	<2.5	<2.5	<5.0	NA	<2.5	<10	<10	<10	2,400	NA	363.97	25.55	338.42	NA
MW-4	11/8/2005	489	NA	<0.500	<0.500	<0.500	<0.500	NA	3.23	<0.500	<0.500	<0.500	1,710	NA	363.97	25.46	338.51	NA
MW-4	1/6/2006	<50.0	NA	<0.500	<0.500	<0.500	<0.500	NA	2.75 g	<0.500	<0.500	<0.500	302	NA	363.97	22.55	341.42	NA
MW-4	4/19/2006	<50.0	NA	<0.500	<0.500	<0.500	<0.500	NA	0.630	<0.500	<0.500	<0.500	301	NA	363.97	21.59	342.38	NA
MW-4	7/26/2006	785	NA	<0.500	<0.500	<0.500	<0.500	NA	1.47	NA	NA	NA	1,810	NA	363.97	25.67	338.30	NA
MW-4	10/27/2006	270	NA	<0.50	<0.50	<0.50	<1.0	NA	0.98	<2.0	<2.0	<2.0	3,000	NA	363.97	26.41	337.56	NA
MW-4	1/19/2007	79	NA	<0.50	<0.50	<0.50	<0.50	NA	<0.50	NA	NA	NA	550	NA	363.97	23.79	340.18	NA
MW-4	4/3/2007	63 h,i	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	13	NA	363.97	23.36	340.61	NA
MW-4	7/6/2007	130 h,i	NA	<0.50	<1.0	<1.0	1.0	NA	<1.0	NA	NA	NA	750	NA	363.97	24.47	339.50	NA
MW-4	10/30/2007	150 h,i	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	<2.0	<2.0	<2.0	530	NA	363.97	24.66	339.31	NA
MW-4	1/10/2008	Well inaccessible	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	363.97	NA	NA	NA
MW-4	4/24/2008	230	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	170	NA	363.97	23.49	340.48	NA
MW-4	7/31/2008	67	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	29	NA	363.97	24.63	339.34	NA
MW-5	1/3/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	361.00	22.95	338.05	NA
MW-5	1/6/2006	<50.0	280	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<10.0	NA	361.00	22.77	338.23	NA
MW-5	4/19/2006	<50.0	NA	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	32.1	NA	361.00	21.06	339.94	NA
MW-5	7/26/2006	<50.0	NA	<0.500	<0.500	<0.500	<0.500	NA	<0.500	NA	NA	NA	<10.0	NA	361.00	24.68	336.32	NA
MW-5	10/27/2006	170	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	361.00	25.57	335.43	NA
MW-5	1/19/2007	230	NA	<0.50	<0.50	<0.50	<0.50	NA	<0.50	NA	NA	NA	<20	NA	361.00	24.24	336.76	NA
MW-5	4/3/2007	76 h	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	<10	NA	361.00	23.64	337.36	NA
MW-5	7/6/2007	<50 h	NA	<0.50	<1.0	<1.0	0.84 j	NA	<1.0	NA	NA	NA	<10	NA	361.00	24.74	336.26	NA

**TABLE 1**  
**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**11989 Dublin Boulevard**  
**Dublin, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
MW-5	10/30/2007	<50 h	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	<2.0	<2.0	<2.0	<10	NA	361.00	24.84	336.16	NA
MW-5	1/10/2008	<50 h	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	<10	NA	361.00	22.95	338.05	NA
MW-5	4/24/2008	<50	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	<10	NA	361.00	23.58	337.42	NA
MW-5	7/31/2008	<50	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	<10	NA	361.00	24.88	336.12	NA
MW-6	7/21/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	361.15	25.33	335.82	NA
MW-6	7/26/2006	<50.0	NA	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<10.0	NA	361.15	25.45	335.70	NA
MW-6	10/27/2006	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	0.63	<2.0	<2.0	<2.0	<5.0	NA	361.15	26.41	334.74	NA
MW-6	1/19/2007	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	1.1	NA	NA	NA	<20	NA	361.15	25.50	335.65	NA
MW-6	4/3/2007	<50 h	NA	<0.50	<1.0	<1.0	<1.0	NA	0.70 j	NA	NA	NA	<10	NA	361.15	25.00	336.15	NA
MW-6	7/6/2007	<50 h	NA	<0.50	<1.0	<1.0	<1.0	NA	0.34 j	NA	NA	NA	<10	NA	361.15	25.93	335.22	NA
MW-6	10/30/2007	<50 h	NA	<0.50	<1.0	<1.0	<1.0	NA	0.30 j	<2.0	<2.0	<2.0	<10	NA	361.15	26.10	335.05	NA
MW-6	1/10/2008	<50 h	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	<10	NA	361.15	24.43	336.72	NA
MW-6	4/24/2008	<50	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	<10	NA	361.15	24.76	336.39	NA
MW-6	7/31/2008	<50	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	<10	NA	361.15	26.00	335.15	NA
MW-7	7/21/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	365.21	25.93	339.28	NA
MW-7	7/26/2006	<50.0	NA	<0.500	<0.500	<0.500	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<10.0	NA	365.21	30.53	334.68	NA
MW-7	10/27/2006	<50	NA	<0.50	<0.50	<0.50	<1.0	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	365.21	31.97	333.24	NA
MW-7	1/19/2007	<50	NA	<0.50	<0.50	<0.50	<0.50	NA	<0.50	NA	NA	NA	<20	NA	365.21	31.61	333.60	NA
MW-7	4/3/2007	<50 h	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	<10	NA	365.21	30.80	334.41	NA
MW-7	7/6/2007	<50 h	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	<10	NA	365.21	31.86	333.35	NA
MW-7	10/30/2007	<50 h	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	<2.0	<2.0	<2.0	<10	NA	365.21	32.32	332.89	NA
MW-7	1/10/2008	<50 h	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	<10	NA	365.21	31.40	333.81	NA
MW-7	4/24/2008	<50	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	<10	NA	365.21	30.60	334.61	NA
MW-7	7/31/2008	<50	NA	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	<10	NA	365.21	32.14	333.07	NA

**TABLE 1  
WELL CONCENTRATIONS  
Shell-branded Service Station  
11989 Dublin Boulevard  
Dublin, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
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Abbreviations:

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to July 13, 2001, analyzed by EPA Method 8015.

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

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to July 13, 2001, analyzed by EPA Method 8020.

MTBE = Methyl tertiary butyl ether

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

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

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

TBA = Tertiary butyl alcohol, analyzed by EPA Method 8260

TOC = Top of Casing Elevation

GW = Groundwater

DO = Dissolved Oxygen

n/n = Pre-purge/Post-purge DO Readings

ug/L = Parts per billion

ppm = Parts per million

MSL = Mean sea level

ft. = Feet

<n = Below detection limit

NA = Not applicable

**TABLE 1  
WELL CONCENTRATIONS  
Shell-branded Service Station  
11989 Dublin Boulevard  
Dublin, CA**

Well ID	Date	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	DO Reading (ppm)
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Notes:

a = Sample was analyzed outside the EPA recommended holding time.

b = Concentration is an estimate.

c = DO meter malfunctioning.

d = Hydrocarbon does not match pattern of laboratory's standard.

e = Sample contains discrete peak in addition to gasoline.

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

g = Secondary ion abundances were outside method requirements. Identification based on analytical judgement.

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

i = 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.

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

Ethanol analyzed by EPA Method 8260B.

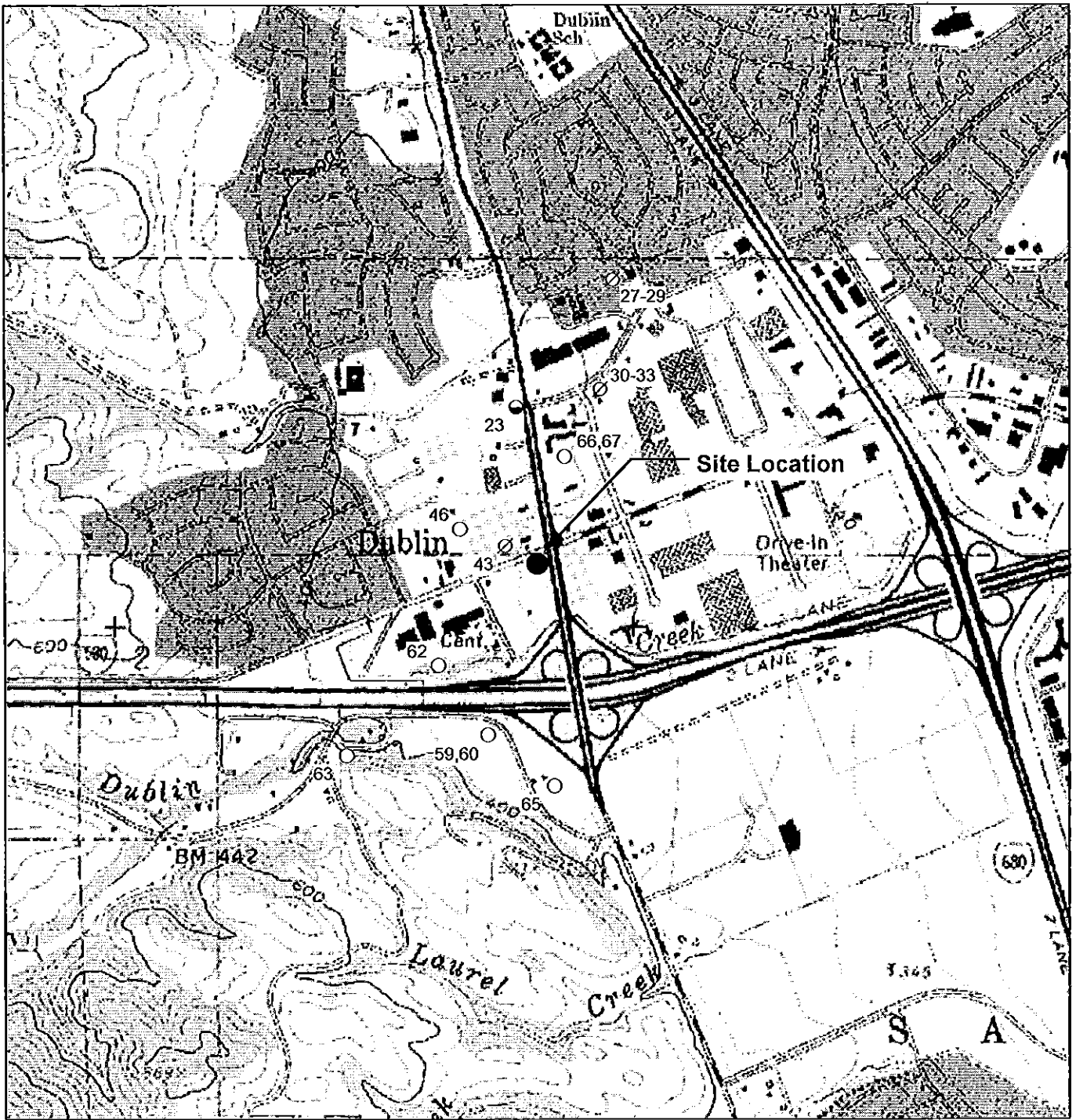
Wells surveyed June 21, 1999 by Virgil Chavez Land Surveying of Vallejo, CA.

Wells surveyed August 23, 2001 and February 18, 2002 by Virgil Chavez Land Surveying of Vallejo, CA.

Well MW-5 surveyed on March 3, 2006 by Mid Coast Engineers.

Well MW-6 and MW-7 surveyed data provided by Delta Environmental Consultants, Inc, CA. on August 15, 2006.

## FIGURES



**GENERAL NOTES:**

Base Map from: DeLorme Yarmouth, ME 04096

Source Data: USGS

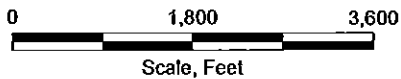


Legend

- Domestic Well
- Irrigation Well
- ⊘ Destroyed/Abandoned Well



QUADRANGLE LOCATION



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

**SHELL-BRANDED SERVICE STATION**  
11989 Dublin Blvd.  
Dublin, California

PROJECT NO. SCA119891	DRAWN BY VF 10/22/03
FILE NO.	PREPARED BY VF
REVISION NO.	REVIEWED BY





PROJECT NUMBER SCA119891

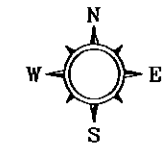
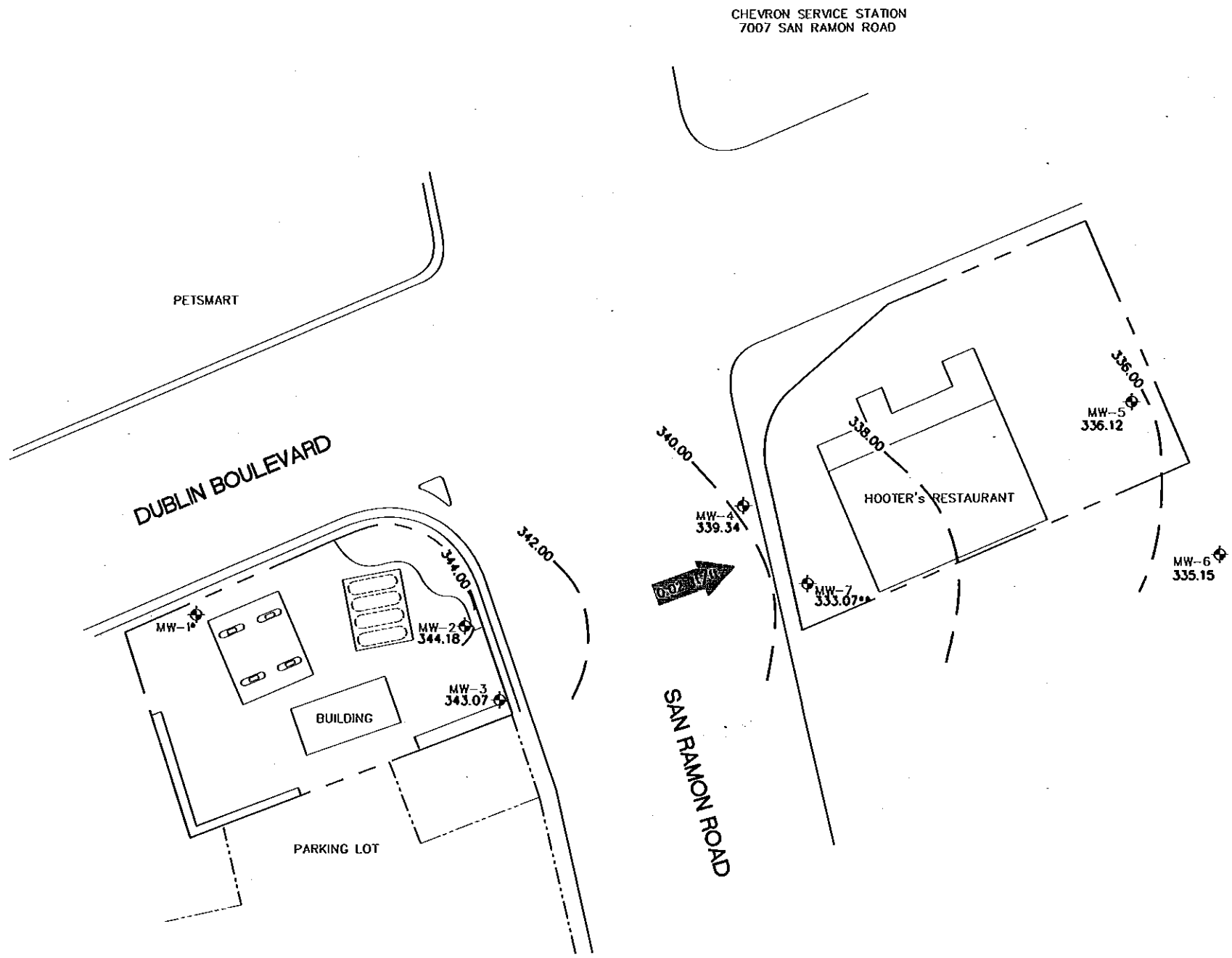
APPROVED BY

CHECKED BY

DRAWN BY 8/28/2008

J.F.F.

SCALE IN FEET 0 40 80



**LEGEND**

- MW-1 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- 344.71 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (FT/MSL)
- 340.00 - - - GROUNDWATER CONTOUR IN FEET ABOVE MEAN SEA LEVEL (FT/MSL)
- CONTOUR INTERVAL=2.00 FEET
- APPROXIMATE GROUNDWATER GRADIENT DIRECTION (ft/ft)
- REMOVED FROM SAMPLING PROGRAM
- DEEP WELL - NOT USED FOR CONTOURING



SHELL OIL PRODUCTS US  
SHELL-BRANDED SERVICE STATION  
DUBLIN, CALIFORNIA

FIGURE 2  
GROUNDWATER ELEVATION CONTOUR MAP  
7/31/2008  
11989 DUBLIN BOULEVARD  
DUBLIN, CALIFORNIA

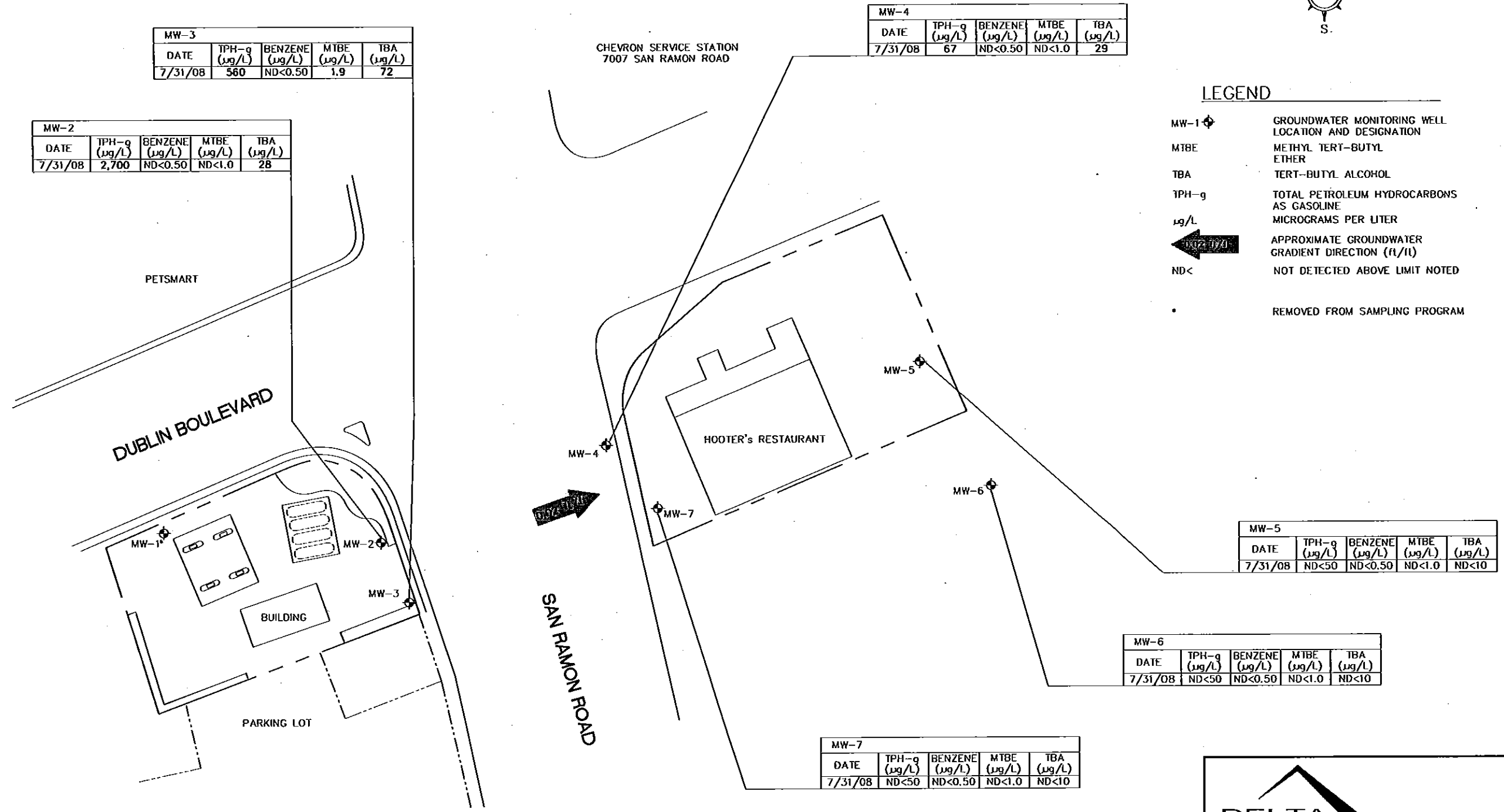
PROJECT NUMBER SCA119891

APPROVED BY

CHECKED BY

DRAWN BY J.F.F. 8/28/2008

SCALE IN FEET 0 40 80



MW-3				
DATE	TPH-g (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
7/31/08	560	ND<0.50	1.9	72

MW-2				
DATE	TPH-g (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
7/31/08	2,700	ND<0.50	ND<1.0	28

MW-4				
DATE	TPH-g (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
7/31/08	67	ND<0.50	ND<1.0	29

MW-5				
DATE	TPH-g (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
7/31/08	ND<50	ND<0.50	ND<1.0	ND<10

MW-6				
DATE	TPH-g (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
7/31/08	ND<50	ND<0.50	ND<1.0	ND<10

MW-7				
DATE	TPH-g (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
7/31/08	ND<50	ND<0.50	ND<1.0	ND<10



SHELL OIL PRODUCTS US  
SHELL-BRANDED SERVICE STATION  
DUBLIN, CALIFORNIA

FIGURE 3  
GROUNDWATER HYDROCARBON  
DISTRIBUTION MAP  
7/31/2008  
11989 DUBLIN BOULEVARD  
DUBLIN, CALIFORNIA

**APPENDIX A**

**FIELD DATA SHEETS**



## WELL GAUGING DATA

Project # 080731-BDI Date 7/31/08 Client Shell

Site 11989 Dublin Blvd Dublin 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 TOC	Notes
MW-2	0905	4					21.25	32.50	↓	
MW-3	0855	4				21.90	32.60			
MW-4	0930	2				24.63	34.95	TRAFFIC		
MW-5	0830	2				24.88	31.77			
MW-6	0840	2				26.00	29.62			
MW-7	0848	2				32.14	69.00			



### SHELL WELL MONITORING DATA SHEET

BTS #: <u>080731-73D1</u>	Site: <u>98995528</u>
Sampler: <u>BD</u>	Date: <u>7/31/08</u>
Well I.D.: <u>MW-3</u>	Well Diameter: 2 3 <u>4</u> 6 8 <u>    </u>
Total Well Depth (TD): <u>32.60</u>	Depth to Water (DTW): <u>21.90</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVO</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>10.70 + 21.90 = 24.04</u>	

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

$\frac{6.9 \text{ (Gals.)} \times 3}{1 \text{ Case Volume}} = 20.7 \text{ Gals. (Specified Volumes)} = 20.7 \text{ Gals. (Calculated Volume)}$	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> <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> </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>1156</u>	<u>75.7</u>	<u>6.85</u>	<u>1026</u>	<u>431</u>	<u>6.9</u>	<u>Brown</u>
<u>1157</u>	<u>74.4</u>	<u>6.48</u>	<u>1044</u>	<u>73</u>	<u>13.8</u>	<u>clear</u>
<u>1158</u>	<u>75.1</u>	<u>6.45</u>	<u>1047</u>	<u>57</u>	<u>20.7</u>	<u>clear</u>

Did well dewater? Yes  No  Gallons actually evacuated: 20.7

Sampling Date: 7/31/08 Sampling Time: 1218 Depth to Water: 24.04

Sample I.D.: MW-3 Laboratory: STL Other CAL SCI

Analyzed for: TPH-G BTEX MTBE TPH-D Other: SEE COC

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

Analyzed for: TPH-G BTEX MTBE TPH-D 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>080731-13D1</u>	Site: <u>98995328</u>
Sampler: <u>BD</u>	Date: <u>7/31/08</u>
Well I.D.: <u>MW-4</u>	Well Diameter: <u>3</u> 3 4 6 8
Total Well Depth (TD): <u>34.95</u>	Depth to Water (DTW): <u>24.63</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVD</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>TRAFFIC</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

$\underline{1.6} \text{ (Gals.)} \times \underline{3} = \underline{4.8} \text{ Gals.}$ <p>1 Case Volume      Specified Volumes      Calculated Volume</p>	<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
<u>0940</u>	<u>68.1</u>	<u>7.02</u>	<u>1121</u>	<u>150</u>	<u>1.6</u>	<u>yellow tint / odor</u>
<u>0943</u>	<u>67.5</u>	<u>6.89</u>	<u>1141</u>	<u>230</u>	<u>3.2</u>	↓
<u>0946</u>	<u>67.2</u>	<u>6.81</u>	<u>1142</u>	<u>380</u>	<u>4.8</u>	↓

Did well dewater? Yes       Gallons actually evacuated: 4.8

Sampling Date: 7/31/08      Sampling Time: 0950      Depth to Water: 26.35 TRAFFIC

Sample I.D.: MW-4      Laboratory: STL      Other: CAL SCI

Analyzed for: TPH-G BTEX MTBE TPH-D      Other: SEE COC

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

Analyzed for: TPH-G BTEX MTBE TPH-D      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>080731-BD1</u>	Site: <u>9899 5328</u>
Sampler: <u>BD</u>	Date: <u>7/31/08</u>
Well I.D.: <u>MW-5</u>	Well Diameter: <u>3</u> 4 6 8
Total Well Depth (TD): <u>31.77</u>	Depth to Water (DTW): <u>24.88</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>VOC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <sup>6.89</sup> <u>26.25</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: \_\_\_\_\_

$\frac{1.1 \text{ (Gals.)} \times 3}{1 \text{ Case Volume}} = 3.3 \text{ Gals.}$	<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
1020	65.9	7.01	1174	>1000	1.1	Dark Grey / 1000
1022	66.5	<del>7.00</del> 6.92	1176	>1000	2.2	↓
1024	66.5	6.95	1175	>1000	3.3	

Did well dewater? Yes  No  Gallons actually evacuated: 3.3

Sampling Date: 7/31/08 Sampling Time: 1030 Depth to Water: 24.95

Sample I.D.: MW-5 Laboratory: STL Other CALSCI

Analyzed for: TPH-G BTEX MTBE TPH-D Other: see COC

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

Analyzed for: TPH-G BTEX MTBE TPH-D 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**

**FIELD PROCEDURES**

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**BLAINE**  
TECH SERVICES INC.

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GROUNDWATER SAMPLING SPECIALISTS  
SINCE 1985

August 20, 2008

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

Third Quarter 2008 Groundwater Monitoring at  
Shell-branded Service Station  
11989 Dublin Boulevard  
Dublin, CA

Monitoring performed on July 31, 2008

---

Groundwater Monitoring Report **080731-BD-1**

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.

SAN JOSE

SACRAMENTO

LOS ANGELES

SAN DIEGO

SEATTLE

1680 ROGERS AVENUE SAN JOSE, CA (408) 573-0555 FAX (408) 573-7771 LIC. 746684 [www.blainetech.com](http://www.blainetech.com)

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,

Mike Ninokata  
Project Manager

MN/tm

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

cc: Rich Garlow  
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.

---

## 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  $\pm 1$  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

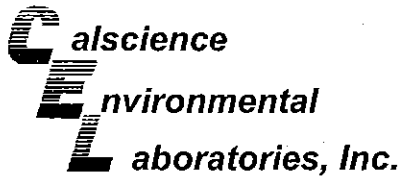
All readings are obtained with either Corning or Myron-L meters (e.g. Corning ORP-65 or a Myron-L Ultrameter GP). The meter is cleaned between wells as described above. The meter is calibrated at the start of each day according to the instruction manual.

## 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**



August 14, 2008

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

Subject: Calscience Work Order No.: 08-08-0126  
Client Reference: 11989 Dublin Blvd., Dublin, CA

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 8/2/2008 and analyzed in accordance with the attached chain-of-custody.

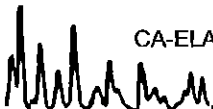
Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows 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: 08/02/08  
Work Order No: 08-08-0126  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B  
Units: ug/L

Project: 11989 Dublin Blvd., 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
MW-2	08-08-0126-1-A	07/31/08 12:57	Aqueous	GC/MS R	08/04/08	08/05/08 02:27	080804L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	2700	50	1		p/m-Xylene	ND	1.0	1	
Benzene	ND	0.50	1		o-Xylene	ND	1.0	1	
Ethylbenzene	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Toluene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	28	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	99	70-130			1,4-Bromofluorobenzene-TPPH	87	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3	08-08-0126-2-A	07/31/08 12:18	Aqueous	GC/MS R	08/04/08	08/05/08 03:57	080804L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	560	50	1		p/m-Xylene	ND	1.0	1	
Benzene	ND	0.50	1		o-Xylene	ND	1.0	1	
Ethylbenzene	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	1.9	1.0	1	
Toluene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	72	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	99	70-130			1,4-Bromofluorobenzene-TPPH	88	70-130		


Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	08-08-0126-3-A	07/31/08 09:50	Aqueous	GC/MS R	08/04/08	08/05/08 04:27	080804L02

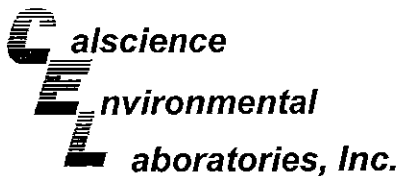
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	67	50	1		p/m-Xylene	ND	1.0	1	
Benzene	ND	0.50	1		o-Xylene	ND	1.0	1	
Ethylbenzene	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Toluene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	29	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	97	70-130			1,4-Bromofluorobenzene-TPPH	87	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-5	08-08-0126-4-A	07/31/08 10:30	Aqueous	GC/MS R	08/04/08	08/05/08 04:58	080804L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	50	1		p/m-Xylene	ND	1.0	1	
Benzene	ND	0.50	1		o-Xylene	ND	1.0	1	
Ethylbenzene	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Toluene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	96	70-130			1,4-Bromofluorobenzene-TPPH	85	70-130		

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





Analytical Report



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

Date Received: 08/02/08  
Work Order No: 08-08-0126  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B  
Units: ug/L

Project: 11989 Dublin Blvd., 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-6	08-08-0126-5-A	07/31/08 10:58	Aqueous	GC/MS R	08/04/08	08/05/08 05:28	080804L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	50	1		p/m-Xylene	ND	1.0	1	
Benzene	ND	0.50	1		o-Xylene	ND	1.0	1	
Ethylbenzene	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Toluene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	96	70-130			1,4-Bromofluorobenzene-TPPH	85	70-130		

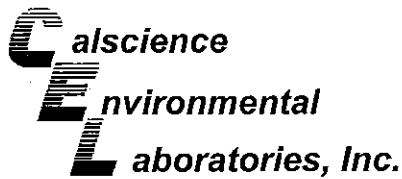
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-7	08-08-0126-6-A	07/31/08 11:30	Aqueous	GC/MS R	08/04/08	08/05/08 05:58	080804L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	50	1		p/m-Xylene	ND	1.0	1	
Benzene	ND	0.50	1		o-Xylene	ND	1.0	1	
Ethylbenzene	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Toluene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	94	70-130			1,4-Bromofluorobenzene-TPPH	84	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-715-711	N/A	Aqueous	GC/MS R	08/04/08	08/05/08 01:57	080804L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	50	1		p/m-Xylene	ND	1.0	1	
Benzene	ND	0.50	1		o-Xylene	ND	1.0	1	
Ethylbenzene	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Toluene	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	94	70-130			1,4-Bromofluorobenzene-TPPH	83	70-130		

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

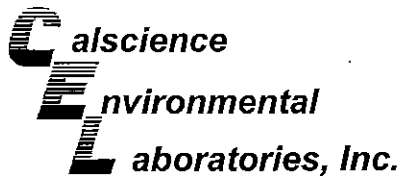
Date Received: 08/02/08  
Work Order No: 08-08-0126  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project 11989 Dublin Blvd., Dublin, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-2	Aqueous	GC/MS R	08/04/08	08/05/08	080804S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	101	100	70-130	2	0-30	
Ethylbenzene	104	101	70-130	4	0-30	
Toluene	104	102	70-130	2	0-30	
p/m-Xylene	104	101	70-130	4	0-30	
o-Xylene	105	101	70-130	4	0-30	
Methyl-t-Butyl Ether (MTBE)	105	102	70-130	3	0-30	
Tert-Butyl Alcohol (TBA)	105	103	70-130	1	0-30	
Diisopropyl Ether (DIPE)	101	98	70-130	3	0-30	
Ethyl-t-Butyl Ether (ETBE)	115	114	70-130	1	0-30	
Tert-Amyl-Methyl Ether (TAME)	100	99	70-130	1	0-30	
Ethanol	99	96	70-130	4	0-30	

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: 08-08-0126  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

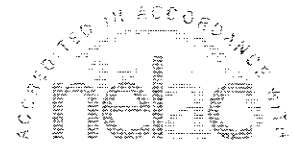
Project: 11989 Dublin Blvd., Dublin, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-715-711	Aqueous	GC/MS R	08/04/08	08/05/08	080804L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPPH	114	110	65-135	3	0-30	
Benzene	104	99	70-130	5	0-30	
Ethylbenzene	103	104	70-130	2	0-30	
Toluene	104	103	70-130	1	0-30	
p/m-Xylene	103	104	70-130	1	0-30	
o-Xylene	103	104	70-130	1	0-30	
Methyl-t-Butyl Ether (MTBE)	103	104	70-130	2	0-30	
Tert-Butyl Alcohol (TBA)	100	103	70-130	3	0-30	
Diisopropyl Ether (DIPE)	101	105	70-130	4	0-30	
Ethyl-t-Butyl Ether (ETBE)	98	111	70-130	12	0-30	
Tert-Amyl-Methyl Ether (TAME)	107	103	70-130	4	0-30	
Ethanol	95	92	70-130	4	0-30	

RPD - Relative Percent Difference, CL - Control Limit





Work Order Number: 08-08-0126

<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	A Marginal Exceedance (ME) is defined as a LCS percent recovery beyond the normal 3 standard deviation Control Limits but still within the marginal exceedance limits (set at 4 standard deviations from the mean)
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.

A handwritten signature in black ink, appearing to be a stylized name.

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&M	<input 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 8 9 9 5 3 2 8**

DATE: **7/31/08**

PAGE: **1** of **1**

SAMPLING COMPANY: **Blaine Tech Services**

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

PROJECT CONTACT (Makecopy of PDF Report): **Michael Ninokata**

TELEPHONE: **(408)573-0555** FAX: **(408)573-7771** EMAIL: **mninokata@blainetech.com**

SHIP ADDRESS: Street and City: **11989 Dublin Blvd., Dublin** State: **CA** GLOBAL ID NO: **T0600102083**

EDP DELIVERABLE TO (Name, Company, Office Location): **Jon Suing, Delta, Monrovia Office** PHONE NO: **626.256.6662** EMAIL: **jsuing@deltaenv.com** CONSULTANT PROJECT NO: **BTS 080231-001**

SAMPLER NAME(S) (P-ING): **B. Doshier** LAB USE ONLY: **08-0126**

TURNAROUND TIME (CALENDAR DAYS):

STANDARD (14 DAY)  5 DAYS  3 DAYS  2 DAYS  24 HOURS  RESULTS NEEDED ON WEEKEND

LA - RWQCS REPORT FORMAT  UST AGENCY:

REQUESTED ANALYSIS

TEMPERATURE ON RECEIPT: \_\_\_\_\_ °C

SPECIAL INSTRUCTIONS OR NOTES :

**CC Rich Garlow rgarlow@deltaenv.com with final report.**

**Run TPH-d w/Silica Gel Clean Up**

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

EDD NOT NEEDED

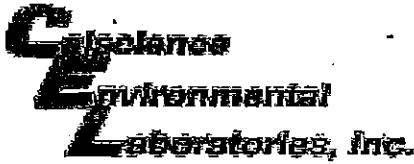
RECEIPT VERIFICATION REQUESTED

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	REQUESTED ANALYSIS										TEMPERATURE ON RECEIPT °C	Container PID Readings or Laboratory Notes					
		DATE	TIME		HCL	HN03	P2504	NONE	OTHER		TPH - Purgeable (8260B)	TPH - Extractable (8015M)	BTX (8260B)	6 Oxygenates (8260B)	MTBE (8260B)	TBA (8260B)	DIPE (8260B)	TAME (8260B)	ETBE (8260B)	1,2 DCA (8260B)			EDB (8260B)	Ethanol (8260B)	Methanol (8015M)		
1	MW-2	7/31/08	1257	W	X					3	X	X	X	X													
2	MW-3		1218	W	X					3	X	X	X	X													
3	MW-4		0950	W	X					3	X	X	X	X													
4	MW-5		1020	W	X					3	X	X	X	X													
5	MW-6		1058	W	X					3	X	X	X	X													
6	MW-7		1130	W	X					3	X	X	X	X													

Relinquished by: (Signature)	Received by: (Signature)	Date: <b>7/31/08</b>	Time: <b>1417</b>
Relinquished by: (Signature)	Received by: (Signature)	Date: <b>8/1/08</b>	Time: <b>1255</b>
Relinquished by: (Signature) <b>Tom O'Malley TO GSO 08/01/08</b>	Received by: (Signature)	Date: <b>08-02-08</b>	Time: <b>9:00</b>

# 510103167

05/2008 Revision



WORK ORDER #: 08 - 08 - 0126

Cooler 1 of 1

### SAMPLE RECEIPT FORM

CLIENT: BLAKE TECH

DATE: 08-02-08

#### TEMPERATURE - SAMPLES RECEIVED BY:

##### CALSCIENCE COURIER:

- Chilled, cooler with temperature blank provided.
- Chilled, cooler without temperature blank.
- Chilled and placed in cooler with wet ice.
- Ambient and placed in cooler with wet ice.
- Ambient temperature (For Air & Filter only).

##### LABORATORY (Other than Calscience Courier):

- °C Temperature blank.
- 3.4 °C IR thermometer.
- Ambient temperature (For Air & Filter only).

°C Temperature blank.

Initial: TD

#### CUSTODY SEAL INTACT:

Sample(s): \_\_\_\_\_ Cooler: \_\_\_\_\_ No (Not Intact) : \_\_\_\_\_ Not Present:

Initial: TD

#### SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with custody papers.....	<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"/>
Proper preservation noted on sample label(s).....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VOA vial(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"/>

Initial: TD

#### COMMENTS:

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