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Environmental Health

**SUSTAINABLE STRATEGIES FOR GLOBAL LEADERS**

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January 25, 2008  
DELTA Project: SJ312351X  
SAP: 135356

Mr. Tom Berkins  
Groundwater Resources Engineer  
Alameda County Water District  
43885 South Grimmer Blvd.  
Fremont, California 94538

**Re: FOURTH QUARTER 2007 GROUNDWATER MONITORING  
REPORT**

**Shell-Branded Service Station  
31235 Mission Blvd.  
Hayward, California**



Dear Mr. Berkins:

On behalf of Shell Oil Products (SHELL), Delta Consultants (DELTA) has prepared this *Fourth Quarter 2007 Groundwater Monitoring Report* for the above referenced site. The sampling activities at the site were conducted 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.

a member of:



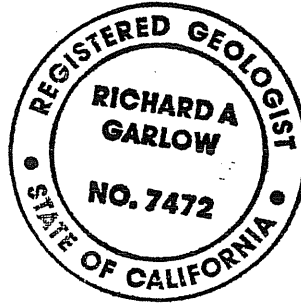
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Mr. Tom Berkins  
Alameda County Water District  
January 25, 2008  
Page 2

If you have any questions regarding this site, please contact Mr. Richard Garlow (DELTA) at (408) 826-1880 or Mr. Dave Kremer (SHELL) at (916) 853-8906.

Sincerely,  
**Delta Consultants**



Richard A. Garlow, M.S., P.G.  
Project Manager

Attachment: Fourth Quarter 2007 Groundwater Monitoring Report

cc: Dave Kremer, Shell Oil Products US, Carson  
Chuck Headlee, RWQCB San Francisco Region  
Danilo Galang, City of Hayward Fire Department, Hayward  
Allen and Nelson Hutchison, Property Owner, Hayward  
Patti Harrison, Fowler Property Acquisitions, San Francisco

**SHELL QUARTERLY STATUS REPORT**

Station Address:	31235 Mission Blvd., Hayward, California
DELTA Project No.:	SJ312351X
SHELL Project Manager/Phone No.:	David Kremer / (916) 853-8906
DELTA Site Manager/Phone No.:	Richard Garlow / (408) 826-1880
Primary Agency/Regulatory ID No.:	ACWD/ Tom Berkins
Other Agencies to Receive Copies:	RWQCB San Francisco Region City of Hayward Fire Department

**WORK PERFORMED THIS QUARTER (FOURTH - 2007):**

1. Quarterly groundwater monitoring and sampling. Submitted quarterly report.
2. Work Plan approved, site access approval from owner, work plan sent to site manager.

**WORK PROPOSED FOR NEXT QUARTER (FIRST - 2008):**

1. Quarterly groundwater monitoring and sampling. Submit quarterly report.
2. Install of onsite well MW-11 and offsite wells MW-9 and MW-10.

Current Phase of Project:	Groundwater monitoring and off-site investigation.
Frequency of Sampling:	Quarterly
Frequency of Monitoring:	Quarterly
Is Separate Phase Hydrocarbon Present On-site <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Well #'s):	
Cumulative SPH Recovered to Date:	NA
SPH Recovered This Quarter:	None
Sensitive Receptor(s) and Respective Direction(s):	Public drinking water well (Whipple Well) is located approximately 4,650 ft southwest of the site.
Site Lithology:	The site was found to be underlain primarily by clay interspersed with thin layers of silt, silty sand, clayey sand, and clayey gravel. The maximum depth explored was 33 feet below grade (bg).
Current Remediation Techniques:	None
Permits for Discharge:	None
Approximate Depth to Groundwater:	19.47 feet to 22.13 feet below top of well casing.
Groundwater Gradient:	West at approximately 0.001 ft/ft.
Current Agency Correspondence:	Facsimile correspondence dated March 27, 2007 stating the ownership change confirmation to <i>FPA Hayward Associates, L.P.</i>

January 25, 2008

## SHELL QUARTERLY STATUS REPORT (CONT.)

### Site History:

Case Opening	<u>11/13/02 (Leak Detected)</u>
Onsite Assessment	<u>October 2002 Installation of MW-1 through MW-4, December 2003 Soil Boring SB-1</u>
Offsite Assessment	<u>December 2003 Soil Boring SB-2 through 8, November 2004 Installation of MW-5 through MW-8</u>
Passive Remediation	<u>Natural Attenuation</u>
Active Remediation	<u>Temporary Groundwater Extraction March 30, 2004 to June 8, 2004 (61,285 gallons).</u>
Closure	<u>NA</u>
Summary of Unusual Activity:	<u>None</u>

**ATTACHED:**

- Table 1 – Well Concentrations
- Figure 1 – Site Location and Well Survey Map
- Figure 2 – Groundwater Elevation Contour Map
- Figure 3 – Hydrocarbon Distribution in Groundwater Map
- Appendix A – Field Data Sheets
- Appendix B – Field Procedures
- Appendix C – Laboratory Report and Chain-of-Custody Documentation

## TABLE

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**31235 Mission Boulevard**  
**Hayward, 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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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MW-1	12/02/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.82	NA
MW-1	12/23/2002	<2,000	<100	<20	<20	<20	<20	9,600	<20	<20	<20	1,200	NA	NA	18.77	NA
MW-1	03/20/2003	<13,000	<50	<130	<130	<130	<250	14,000	<250	<130	<130	1,400	NA	42.19	20.58	21.61
MW-1	06/16/2003	<10,000	75 a	<100	<100	<100	<200	14,000	<400	<400	<400	2,100	NA	42.19	19.99	22.20
MW-1	09/18/2003	<10,000	<50	<100	<100	<100	<200	19,000	<400	<400	<400	3,000	NA	42.19	21.66	20.53
MW-1	12/02/2003	<13,000	69 a	<130	<130	<130	<250	22,000	<500	<500	<500	1,500	NA	42.19	22.08	20.11
MW-1	03/01/2004	<10,000	90 a	<100	<100	<100	<200	13,000	<400	<400	<400	1,200	NA	42.19	18.76	23.43
MW-1	06/08/2004	<5,000	84 a	<50	<50	<50	<100	7,200	<200	<200	<200	3,500	NA	42.19	21.71	20.48
MW-1	09/24/2004	<1,000	<50	<10	<10	<10	<20	420	<40	<40	<40	8,200	NA	42.19	22.85	19.34
MW-1	12/23/2004	<1,000	79 b	<10	<10	<10	<20	130	<40	<40	<40	11,000	NA	42.19	21.89	20.30
MW-1	03/02/2005	<1,000	84 b	<10	<10	<10	<20	79	<40	<40	<40	6,600	NA	42.19	16.84	25.35
MW-1	06/17/2005	<1,000	67 b	<10	<10	<10	<20	110	<40	<40	<40	7,400	NA	42.19	17.75	24.44
MW-1	09/01/2005	<1,000	<50	<10	<10	<10	<20	120	<40	<40	<40	1,800	NA	42.19	19.68	22.51
MW-1	12/08/2005	<250	<47	<2.5	<2.5	<2.5	<2.5	170	NA	NA	NA	5,000	NA	42.19	20.95	21.24
MW-1	03/16/2006	<500	i	<0.500	<0.500	<0.500	<0.500	770	NA	NA	NA	2,550	NA	42.19	15.15	27.04
MW-1	06/01/2006	<50.0	86.8 h	<0.500	<0.500	<0.500	<0.500	99.6	NA	NA	NA	2,400	NA	42.19	15.91	26.28
MW-1	09/26/2006	290	80.1 h	<5.0	<5.0	<5.0	<10	490	<10	<10	<10	4,800	<1,500	42.19	19.40	22.79
MW-1	12/08/2006	470	55 h	<0.50	<0.50	<0.50	<1.0	230	NA	NA	NA	3,500	NA	42.19	20.13	22.06
MW-1	03/12/2007	170	<50 h	<1.0	<1.0	<1.0	<2.0	66	NA	NA	NA	3,000	NA	42.19	18.28	23.91
MW-1	06/07/2007	440 o,p	53 h	<0.50	<1.0	<1.0	<1.0	190	NA	NA	NA	3,600	NA	42.19	20.44	21.75
MW-1	09/10/2007	<50 o	51 h	<2.5	<5.0	<5.0	<5.0	840	<10	<10	<10	3,400	<500	42.19	21.94	20.25
<b>MW-1</b>	<b>12/10/2007</b>	<b>&lt;50 o</b>	<b>&lt;50 h</b>	<b>&lt;5.0</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>260</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>2,300</b>	<b>NA</b>	<b>42.19</b>	<b>22.13</b>	<b>20.06</b>

MW-2	12/02/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.71	NA
MW-2	12/23/2002	<1,000	<100	<10	<10	<10	<10	4,200	<10	<10	<10	130	NA	NA	18.51	NA
MW-2	03/20/2003	<13,000	<60	<130	<130	<130	<250	8,800	<250	<130	<130	<1300	NA	42.18	20.70	21.48

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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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-2	06/16/2003	<10,000	70 a	<100	<100	<100	<200	6,200	<400	<400	<400	<1000	NA	42.18	20.00	22.18
MW-2	09/18/2003	<2,500	630 a	<25	<25	<25	<50	8,700	<100	<100	<100	330	NA	42.18	21.68	20.50
MW-2	12/02/2003	<5,000	59 a	<50	<50	<50	<100	5,000	<200	<200	<200	940	NA	42.18	22.08	20.10
MW-2	03/01/2004	<2,000	67 a	<20	<20	<20	<40	1,900	<80	<80	<80	2,000	NA	42.18	18.65	23.53
MW-2	06/08/2004	<500	<50	<5.0	<5.0	<5.0	<10	79	<20	<20	<20	3,100	NA	42.18	21.63	20.55
MW-2	09/24/2004	<500	<50	<5.0	<5.0	<5.0	<10	10	<20	<20	<20	4,100	NA	42.18	22.84	19.34
MW-2	12/23/2004	<500	93 a	<5.0	<5.0	<5.0	<10	20	<20	<20	<20	2,300	NA	42.18	21.94	20.24
MW-2	03/02/2005	<100 d	50 a	<1.0	<1.0	<1.0	<2.0	3.8	<4.0	<4.0	<4.0	770	NA	42.18	16.54	25.64
MW-2	06/17/2005	<50	<50	<0.50	<0.50	<0.50	<1.0	6.2	<2.0	<2.0	<2.0	540	NA	42.18	17.64	24.54
MW-2	09/01/2005	<50	<50	<0.50	<0.50	<0.50	<1.0	10	<2.0	<2.0	<2.0	280	NA	42.18	19.63	22.55
MW-2	12/08/2005	<250	<48	<2.5	<2.5	<2.5	<2.5	12	NA	NA	NA	200	NA	42.18	20.89	21.29
MW-2	03/16/2006	<50.0	159 h	<0.500	<0.500	<0.500	<0.500	1.97	NA	NA	NA	52.8	NA	42.18	14.80	27.38
MW-2	06/01/2006	<50.0	58.0 h	<0.500	<0.500	<0.500	<0.500	9.02	NA	NA	NA	432	NA	42.18	15.83	26.35
MW-2	09/26/2006	<50	<47.6 h	<0.50	<0.50	<0.50	<1.0	3.0	<1.0	<1.0	<1.0	28	<150 k,l,m	42.18	19.34	22.84
MW-2	12/08/2006	<50	<56 h,n	<0.50	<0.50	<0.50	<1.0	2.1	NA	NA	NA	16	NA	42.18	20.02	22.16
MW-2	03/12/2007	<50	<50 h	<0.50	<0.50	<0.50	<1.0	3.4	NA	NA	NA	80	NA	42.18	17.63	24.55
MW-2	06/07/2007	50 o,p	59 h	<0.50	<1.0	<1.0	<1.0	1.1	NA	NA	NA	49	NA	42.18	20.48	21.70
MW-2	09/10/2007	<50 o	51 h	<0.50	<1.0	<1.0	<1.0	1.1	<2.0	<2.0	<2.0	22	<100	42.18	21.76	20.42
<b>MW-2</b>	<b>12/10/2007</b>	<b>&lt;50 o</b>	<b>&lt;50 h</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>0.62 q</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>28</b>	<b>NA</b>	<b>42.18</b>	<b>22.01</b>	<b>20.17</b>
MW-3	12/02/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.40	NA
MW-3	12/23/2002	4,000	<1,600	5.2	<5.0	170	160	3,000	<5.0	<5.0	6.4	610	NA	NA	18.06	NA
MW-3	03/20/2003	<10,000	1,900	<100	<100	100	<200	4,300	<200	<100	<100	1,100	NA	42.24	20.03	22.21
MW-3	06/16/2003	2,900	1,400 a	<25	<25	69	50	4,800	<100	<100	<100	1,500	NA	42.24	20.23	22.01
MW-3	09/18/2003	3,700	820 a	<10	<10	40	29	3,700	<40	<40	<40	460	NA	42.24	20.85	21.39
MW-3	12/02/2003	2,900 a	690 a	<10	<10	40	<20	1,400	<40	<40	<40	280	NA	42.24	21.21	21.03



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MW-3	03/01/2004	2,000	660 a	<10	<10	22	<20	1,400	<40	<40	<40	260	NA	42.24	19.00	23.24
MW-3	06/08/2004	2,200	650 a	<5.0	<5.0	26	24	1,400	<20	<20	<20	380	NA	42.24	21.63	20.61
MW-3	09/24/2004	3,300 a	1,100 b	<5.0	<5.0	52	13	1,500	<20	<20	<20	540	NA	42.24	22.57	19.67
MW-3	12/23/2004	3,300	810 a	15	<5.0	25	<10	700	<20	<20	<20	910	NA	42.24	22.03	20.21
MW-3	03/02/2005	3,600	670 b	56	16	33	21	550	<20	<20	<20	790	NA	42.24	16.48	25.76
MW-3	06/17/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	42.24	17.34	24.90
MW-3	06/29/2005	3,300	680 a	7.3	<5.0	26	11	290	<20	<20	<20	1,100	NA	42.24	17.89	24.35
MW-3	09/01/2005	1,900 e	470 b	<5.0	<5.0	10	<10	190	<20	<20	<20	1,300	NA	42.24	19.57	22.67
MW-3	12/08/2005	1,900	520 g	2.3	<0.50	17	3.5	84	NA	NA	NA	1,200	NA	42.24	20.67	21.57
MW-3	03/16/2006	4,490	1,530 h	0.910	<0.500	44.1	24.3	92.6	NA	NA	NA	484	NA	42.24	15.05	27.19
MW-3	06/01/2006	8,450	2,150 h	1.91	<0.500	178	116	53.9 j	NA	NA	NA	465 j	NA	42.24	15.36	26.88
MW-3	09/26/2006	2,600	593 h	<1.2	<1.2	43	10	26	<2.5	<2.5	<2.5	860	<380	42.24	18.43	23.81
MW-3	12/08/2006	2,800	720 h	0.86	<0.50	29	6.7	46	NA	NA	NA	1,200	NA	42.24	20.02	22.22
MW-3	03/12/2007	3,000	450 h	0.95	<0.50	28	3.7	44	NA	NA	NA	580	NA	42.24	18.55	23.69
MW-3	06/07/2007	2,600 o	1,400 h	0.44 q	<1.0	18	5.66 q	22	NA	NA	NA	750	NA	42.24	20.01	22.23
MW-3	09/10/2007	2,300 o	420 h,p	0.32 q	<1.0	12	1.4	13	<2.0	<2.0	<2.0	950	<100	42.24	21.82	20.42
<b>MW-3</b>	<b>12/10/2007</b>	<b>2,200 o,p</b>	<b>610 h,p</b>	<b>0.62</b>	<b>&lt;1.0</b>	<b>17</b>	<b>0.57 q</b>	<b>23</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>840</b>	<b>NA</b>	<b>42.24</b>	<b>21.95</b>	<b>20.29</b>
MW-4	12/02/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.00	NA
MW-4	12/23/2002	<1,000	300	<10	<10	<10	<10	3,200	<10	<10	<10	830	NA	NA	17.22	NA
MW-4	03/20/2003	<10,000	410	<100	<100	100	<200	9,700	<200	<100	<100	2300	NA	42.41	20.47	21.94
MW-4	06/16/2003	<5,000	370 a	<50	<50	<50	<100	7,300	<100	<100	<100	2100	NA	42.41	20.18	22.23
MW-4	09/18/2003	<2,500	250 a	<25	<25	<25	<50	3,700	<100	<100	<100	910	NA	42.41	21.13	21.28
MW-4	12/02/2003	<2,000	540 a	<20	<20	<20	<40	3,000	<80	<80	<80	420	NA	42.41	21.22	21.19
MW-4	03/01/2004	<2,500	320 a	<25	<25	<25	<50	3,700	<100	<100	<100	540	NA	42.41	18.35	24.06
MW-4	06/08/2004	<1,000	250 a	<10	<10	<10	<20	2,700	<40	<40	<40	180	NA	42.41	21.34	21.07

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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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-4	09/24/2004	<500	280 a	<5.0	<5.0	<5.0	<10	1,100	<20	<20	<20	930	NA	42.41	22.89	19.52
MW-4	12/23/2004	1,200	450 b	120	<5.0	<5.0	<10	710	<20	<20	<20	1,800	NA	42.41	21.44	20.97
MW-4	03/02/2005	990	190 a	110	39	<5.0	29	1,000	<20	<20	<20	1,000	NA	42.41	16.08	26.33
MW-4	06/17/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	42.41	17.76	24.65
MW-4	06/29/2005	670 e	390 a	<5.0	<5.0	<5.0	<10	290	<20	<20	<20	2,100	NA	42.41	17.80	24.61
MW-4	09/01/2005	<500	170 a	<5.0	<5.0	<5.0	<10	17	<20	<20	<20	1,900	NA	42.41	19.58	22.83
MW-4	12/08/2005	<500	200 g	<5.0	<5.0	<5.0	<5.0	410	NA	NA	NA	1,200	NA	42.41	20.79	21.62
MW-4	03/16/2006	744	523 h	<0.500	<0.500	<0.500	<0.500	190	NA	NA	NA	635	NA	42.41	15.85	26.56
MW-4	06/01/2006	<50.0	652 h	<0.500	<0.500	<0.500	<0.500	50.8	NA	NA	NA	588	NA	42.41	15.63	26.78
MW-4	09/26/2006	160	532 h	<0.50	<0.50	<0.50	<1.0	1.5	<1.0	<1.0	<1.0	480	<150 k,l	42.41	19.42	22.99
MW-4	12/08/2006	250	170 h	<0.50	<0.50	<0.50	<1.0	50	NA	NA	NA	600	NA	42.41	20.14	22.27
MW-4	03/12/2007	170	99 h	<0.50	<0.50	<0.50	<1.0	45	NA	NA	NA	520	NA	42.41	18.44	23.97
MW-4	06/07/2007	160 o	290 h	<0.50	<1.0	<1.0	<1.0	2.1	NA	NA	NA	370	NA	42.41	20.81	21.60
MW-4	09/10/2007	85 o	180 h,p	<0.50	<1.0	<1.0	<1.0	3.0	<2.0	<2.0	<2.0	270	<100	42.41	21.38	21.03
<b>MW-4</b>	<b>12/10/2007</b>	<b>150 o,p</b>	<b>64 h,p</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>11</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>540</b>	<b>NA</b>	<b>42.41</b>	<b>22.05</b>	<b>20.36</b>

MW-5	11/23/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.66	21.05	19.61
MW-5	12/23/2004	<50	<50	<0.50	<0.50	<0.50	<1.0	3.3	<2.0	<2.0	<2.0	<5.0	NA	40.66	20.65	20.01
MW-5	03/02/2005	<50	<50	<0.50	<0.50	<0.50	<1.0	1.3	<2.0	<2.0	<2.0	<5.0	NA	40.66	15.75	24.91
MW-5	06/17/2005	<50	<50	<0.50	<0.50	<0.50	<1.0	1.6	<2.0	<2.0	<2.0	<5.0	NA	40.66	16.35	24.31
MW-5	09/01/2005	<50	140 a,f	<0.50	<0.50	<0.50	<1.0	1.4	<2.0	<2.0	<2.0	<5.0	NA	40.66	18.41	22.25
MW-5	12/08/2005	<50	110 g	<0.50	<0.50	<0.50	<0.50	1.3	NA	NA	NA	<5.0	NA	40.66	19.66	21.00
MW-5	03/16/2006	<50.0	<100 h	<0.500	<0.500	<0.500	<0.500	1.37	NA	NA	NA	<10.0	NA	40.66	14.79	25.87
MW-5	06/01/2006	<50.0	<49.5 h	<0.500	<0.500	<0.500	<0.500	1.42	NA	NA	NA	51.8	NA	40.66	14.39	26.27
MW-5	09/26/2006	50	<47.6 h	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<150 k,l	40.66	18.12	22.54
MW-5	12/08/2006	<50	<56 h,n	<0.50	<0.50	<0.50	<1.0	0.88	NA	NA	NA	<5.0	NA	40.66	18.81	21.85

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**31235 Mission Boulevard**  
**Hayward, 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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-5	03/12/2007	<50	<50 h	<0.50	<0.50	<0.50	<1.0	0.78	NA	NA	NA	5.3	NA	40.66	16.39	24.27
MW-5	06/07/2007	<50 o	<50 h	<0.50	<1.0	<1.0	<1.0	0.86 q	NA	NA	NA	<10	NA	40.66	19.20	21.46
MW-5	09/10/2007	<50 o	<50 h	<0.50	<1.0	<1.0	<1.0	0.91 q	<2.0	<2.0	<2.0	<10	<100	40.66	20.63	20.03
<b>MW-5</b>	<b>12/10/2007</b>	<b>&lt;50 o</b>	<b>&lt;50 h</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>0.96 q</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>&lt;10</b>	<b>NA</b>	<b>40.66</b>	<b>20.71</b>	<b>19.95</b>

MW-6	11/23/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	39.43	20.15	19.28
MW-6	12/23/2004	<250	110 a	<2.5	<2.5	<2.5	<5.0	390	<10	<10	<10	<25	NA	39.43	19.50	19.93
MW-6	03/02/2005	<250	<50	<2.5	<2.5	<2.5	<5.0	400	<10	<10	<10	<25	NA	39.23 c	14.72	24.51
MW-6	06/17/2005	<50	<50	<0.50	<0.50	<0.50	<1.0	250	<2.0	<2.0	<2.0	28	NA	39.23	15.27	23.96
MW-6	09/01/2005	<250	<50	<2.5	<2.5	<2.5	<5.0	500	<10	<10	<10	<25	NA	39.23	17.22	22.01
MW-6	12/08/2005	<500	<47	<5.0	<5.0	<5.0	<5.0	240	NA	NA	NA	<50	NA	39.23	18.43	20.80
MW-6	03/16/2006	862	<100 h	<0.500	<0.500	<0.500	<0.500	221	NA	NA	NA	<10.0	NA	39.23	12.66	26.57
MW-6	06/01/2006	<50.0	<49.5 h	<0.500	<0.500	<0.500	<0.500	102	NA	NA	NA	<10.0	NA	39.23	13.58	25.65
MW-6	09/26/2006	170	<48.1 h	<1.0	<1.0	<1.0	<2.0	150	<2.0	<2.0	<2.0	<20	<300 k,l	39.23	16.96	22.27
MW-6	12/08/2006	260	<56 h,n	<0.50	<0.50	<0.50	<1.0	170	NA	NA	NA	<5.0	NA	39.23	17.78	21.45
MW-6	03/12/2007	150	<50 h	<0.50	<0.50	<0.50	<1.0	130	NA	NA	NA	16	NA	39.23	15.25	23.98
MW-6	06/07/2007	100 o,p	<50 h	<0.50	<1.0	<1.0	<1.0	130	NA	NA	NA	<10	NA	39.23	17.91	21.32
MW-6	09/10/2007	<50 o	<50 h	<0.50	<1.0	<1.0	<1.0	160.0	<2.0	<2.0	<2.0	<10	<100	39.23	19.42	19.81
<b>MW-6</b>	<b>12/10/2007</b>	<b>120 o,p</b>	<b>&lt;50 h</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>170</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>&lt;10</b>	<b>NA</b>	<b>39.23</b>	<b>19.47</b>	<b>19.76</b>

MW-7	11/23/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	39.50	19.98	19.52
MW-7	12/23/2004	<250	<50	<2.5	<2.5	<2.5	<5.0	690	<10	<10	<10	<25	NA	39.50	19.55	19.95
MW-7	03/02/2005	<250	<50	<2.5	<2.5	<2.5	<5.0	590	<10	<10	<10	<25	NA	39.50	15.35	24.15
MW-7	06/17/2005	<50	<50	<0.50	<0.50	<0.50	<1.0	330	<2.0	<2.0	<2.0	34	NA	39.50	15.16	24.34
MW-7	09/01/2005	<500	<50	<5.0	<5.0	<5.0	<10	430	<20	<20	<20	<50	NA	39.50	17.45	22.05
MW-7	12/08/2005	<500	<48	<5.0	<5.0	<5.0	<5.0	380	NA	NA	NA	<50	NA	39.50	18.66	20.84

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**31235 Mission Boulevard**  
**Hayward, 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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-7	03/16/2006	881	<100 h	<0.500	<0.500	<0.500	<0.500	396	NA	NA	NA	<10.0	NA	39.50	12.90	26.60
MW-7	06/01/2006	<50.0	<49.5 h	<0.500	<0.500	<0.500	<0.500	192	NA	NA	NA	<10.0	NA	39.50	13.91	25.59
MW-7	09/26/2006	270	<48.5 h	<1.0	<1.0	<1.0	<2.0	290	<2.0	<2.0	<2.0	35	<300 k,l	39.50	17.17	22.33
MW-7	12/08/2006	480	65 h	<0.50	<0.50	<0.50	<1.0	360	NA	NA	NA	<5.0	NA	39.50	17.88	21.62
MW-7	03/12/2007	<500	<50 h	<5.0	<5.0	<5.0	<10	370	NA	NA	NA	<50	NA	39.50	15.36	24.14
MW-7	06/07/2007	260 o,p	<50 h	<0.50	<1.0	<1.0	<1.0	370	NA	NA	NA	<10	NA	39.50	18.20	21.30
MW-7	09/10/2007	<50 o	<50 h	<2.5	<5.0	<5.0	<5.0	480	<10	<10	<10	<50	<500	39.50	19.65	19.85
<b>MW-7</b>	<b>12/10/2007</b>	<b>320 o,p</b>	<b>&lt;50 h</b>	<b>&lt;2.5</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>520</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>&lt;50</b>	<b>NA</b>	<b>39.50</b>	<b>19.93</b>	<b>19.57</b>

MW-8	11/23/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	39.92	20.42	19.50
MW-8	12/23/2004	<250	<50	<2.5	<2.5	<2.5	<5.0	530	<10	<10	<10	<25	NA	39.92	19.98	19.94
MW-8	03/02/2005	<50 d	<50	<0.50	<0.50	<0.50	<1.0	130	<2.0	<2.0	<2.0	<5.0	NA	39.92	14.43	25.49
MW-8	06/17/2005	<50	<50	<0.50	<0.50	<0.50	<1.0	50	<2.0	<2.0	<2.0	6.5	NA	39.92	15.92	24.00
MW-8	09/01/2005	<50	<50	<0.50	<0.50	<0.50	<1.0	34	<2.0	<2.0	<2.0	<5.0	NA	39.92	17.85	22.07
MW-8	12/08/2005	<50	97 g	<0.50	<0.50	<0.50	<0.50	63	NA	NA	NA	5.6	NA	39.92	19.08	20.84
MW-8	03/16/2006	<50.0	<100 h	<0.500	<0.500	<0.500	<0.500	15.0	NA	NA	NA	<10.0	NA	39.92	13.13	26.79
MW-8	06/01/2006	<50.0	<46.9 h	<0.500	<0.500	<0.500	<0.500	15.2	NA	NA	NA	<10.0	NA	39.92	14.20	25.72
MW-8	09/26/2006	<50	<48.5 h	<0.50	<0.50	<0.50	<1.0	20	<1.0	<1.0	<1.0	<10	<150 k,l	39.92	17.57	22.35
MW-8	12/08/2006	99	51 h	<0.50	<0.50	<0.50	<1.0	56	NA	NA	NA	<5.0	NA	39.92	18.31	21.61
MW-8	03/12/2007	<50	<50 h	<0.50	<0.50	<0.50	<1.0	40	NA	NA	NA	<5.0	NA	39.92	15.83	24.09
MW-8	06/07/2007	<50 o	<50 h	<0.50	<1.0	<1.0	<1.0	34	NA	NA	NA	<10	NA	39.92	18.56	21.36
MW-8	09/10/2007	<50 o	<50 h	<0.50	<1.0	<1.0	<1.0	77	<2.0	<2.0	<2.0	<10	<100	39.92	20.00	19.92
<b>MW-8</b>	<b>12/10/2007</b>	<b>96 o,p</b>	<b>&lt;50 h</b>	<b>&lt;0.50</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>140</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>&lt;10</b>	<b>NA</b>	<b>39.92</b>	<b>20.14</b>	<b>19.78</b>

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**31235 Mission Boulevard**  
**Hayward, 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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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Abbreviations:

- TPPH = Total petroleum hydrocarbons as gasoline by 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 Butanol or Tertiary butyl alcohol, 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

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**31235 Mission Boulevard**  
**Hayward, 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)	Ethanol (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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Notes:

a = Hydrocarbon reported does not match the laboratory standard.

b = Hydrocarbon reported is in the early Diesel range and does not match the laboratory Diesel standard.

c = TOC altered -0.20 ft. due to wellhead maintenance on February 16, 2005.

d = The concentration reported reflect(s) individual or discrete unidentified peaks not matching a typical fuel pattern.

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

f = Possible septum contamination in the sample. Sample was reanalyzed past hold time with surrogate recoveries within control limits and results of <50ppb.

g = Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.

h = Analyzed with silica gel clean-up.

i = Ambers were lost in transit to lab - no Diesel analysis was performed.

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

k = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.

l = Laboratory Control Sample recovery was above the method control limits. Analyte not detected, data not impacted.

m = The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).

n = Reporting limit raised due to insufficient sample volume.

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

p = 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.

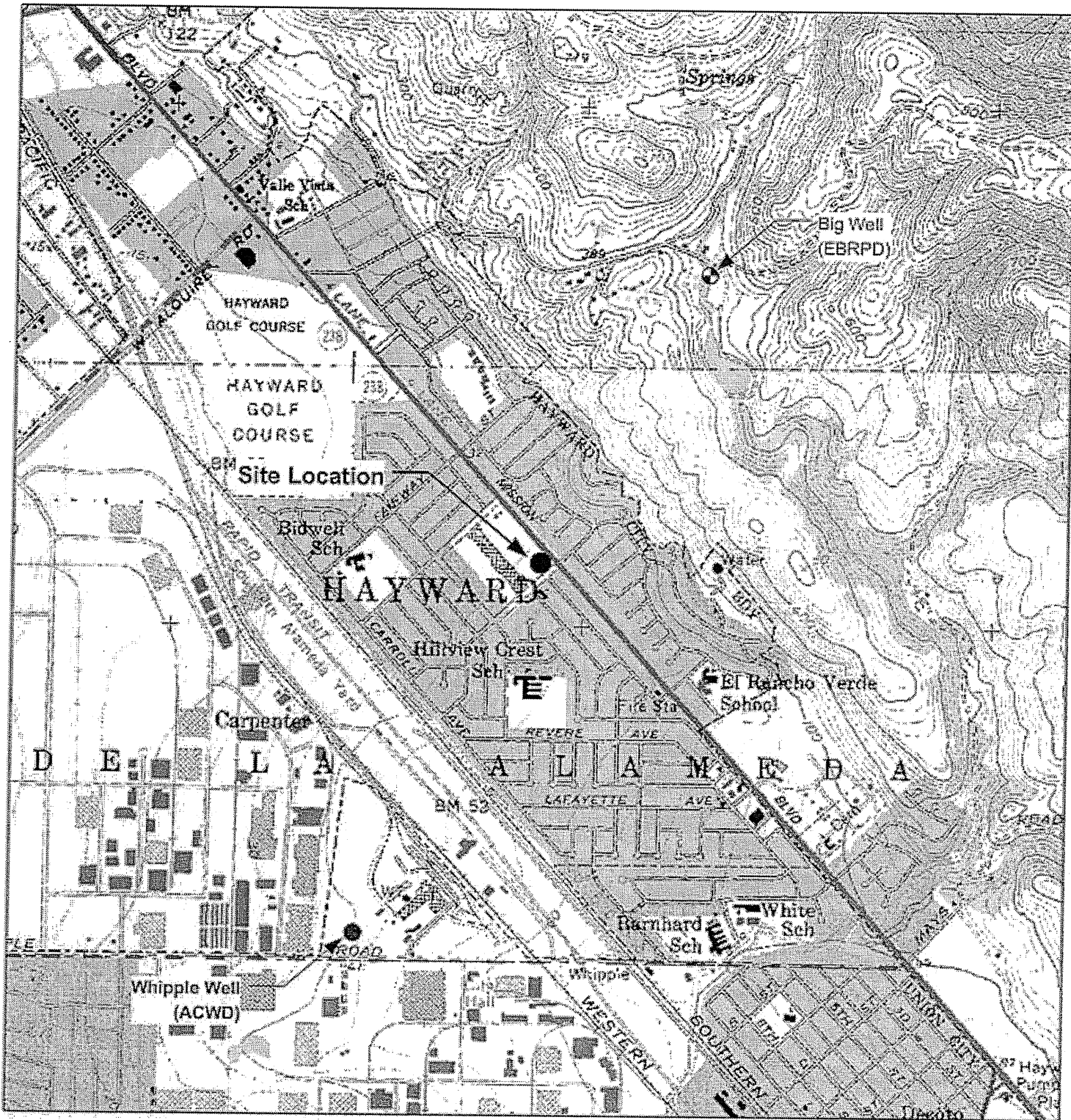
q = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

Ethanol analyzed by EPA 8260B.

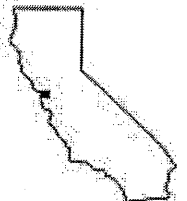
Site surveyed December 11, 2002 by Mid Coast Engineers.

Wells MW-5, MW-6, MW-7, and MW-8 surveyed on November 29, 2004. Survey data provided by Delta Environmental.

## FIGURES



GENERAL NOTES:  
 Base Map from: DeLorme Yarmouth, ME 04096  
 Source Data: USGS



QUADRANGLE LOCATION



**FIGURE 1**  
**SITE LOCATION AND WELL SURVEY MAP**  
**SHELL-BRANDED SERVICE STATION**  
**31235 Mission Blvd,**  
**Hayward, California**

PROJECT NO. SJS12351X	DRAWN BY VF 10/24/03
FILE NO.	PREPARED BY VF
REVISION NO.	REVIEWED BY



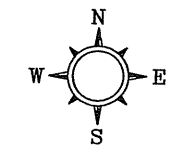
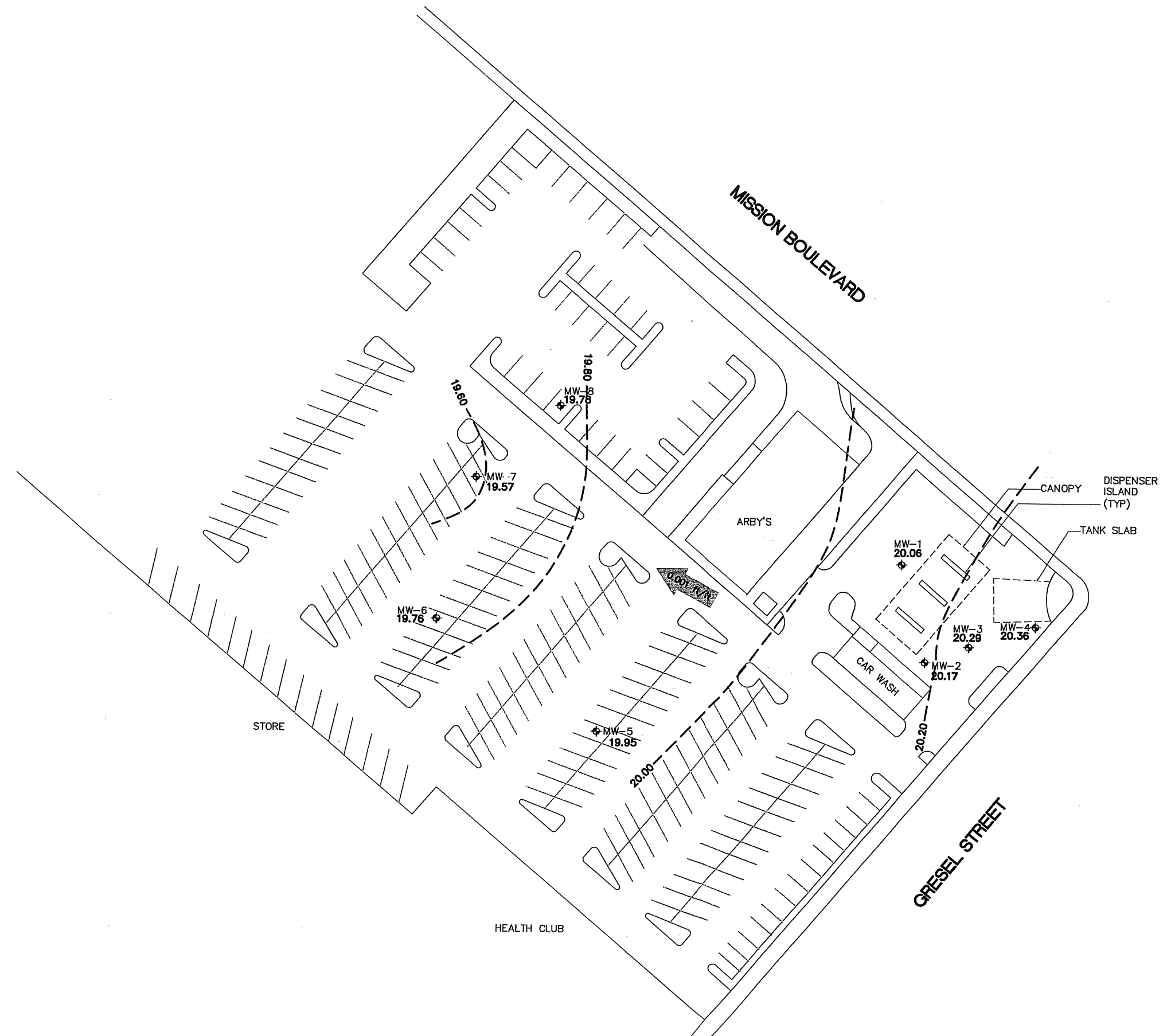
PROJECT NUMBER SJ312351X

APPROVED BY

CHECKED BY

DRAWN BY TCD 01/06/08

SCALE IN FEET  
0 40 80



- LEGEND**
- MW-1 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
  - 20.06 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (Ft/MSL)
  - 20.00 - - - GROUNDWATER CONTOUR IN FEET ABOVE MEAN SEA LEVEL (Ft/MSL) CONTOUR INTERVAL=0.20 FEET
  - 0.001 - ft/ft APPROXIMATE GROUNDWATER GRADIENT DIRECTION (ft/ft)



SHELL OIL PRODUCTS US  
SHELL BRANDED SERVICE STATION  
HAYWARD, CALIFORNIA

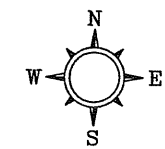
**FIGURE 2**  
**GROUNDWATER ELEVATION CONTOUR MAP**  
12/10/07  
31235 MISSION BOULEVARD  
HAYWARD, CALIFORNIA

PROJECT NUMBER SJ312351X

APPROVED BY

CHECKED BY

DRAWN BY icd 07/06/08



LEGEND

- MW-1 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- TPPH TOTAL PETROLEUM HYDROCARBONS IN GASOLINE
- MTBE METHYL TERT-BUTYL ETHER
- TBA TERT-BUTYL ALCOHOL
- µg/L MICROGRAMS PER LITER
- ND< NOT DETECTED ABOVE LIMIT NOTED
- APPROXIMATE GROUNDWATER GRADIENT DIRECTION (ft/ft)
- ANALYZED BY EPA METHOD 8015B (M)
- 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
- ANALYTE WAS DETECTED AT A CONCENTRATION BELOW THE REPORTING LIMIT AND ABOVE THE LABORATORY METHOD DETECTION LIMIT. REPORTED VALUE IS ESTIMATED

MW-8				
DATE	TPPH (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
12/10/07	96 o,p	ND<0.50	140	ND<10

MW-7				
DATE	TPPH (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
12/10/07	320 o,p	ND<2.5	520	ND<50

MW-1				
DATE	TPPH (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
12/10/07	ND<50 o	ND<5.0	260	2,300

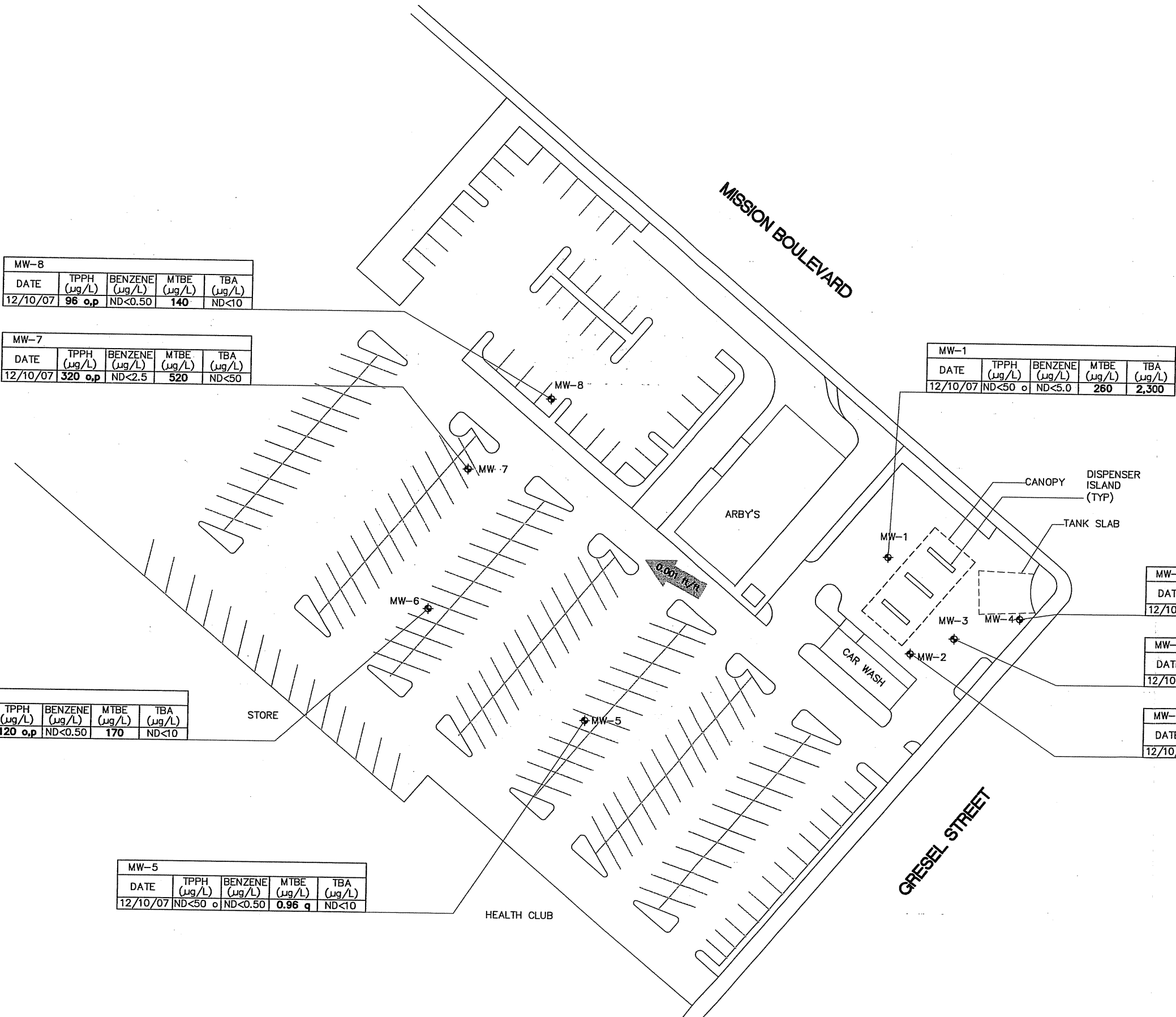
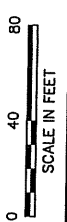
MW-4				
DATE	TPPH (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
12/10/07	150 o,p	ND<0.50	11	540

MW-3				
DATE	TPPH (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
12/10/07	2,200 o,p	0.62	23	840

MW-2				
DATE	TPPH (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
12/10/07	ND<50 o	ND<0.50	0.62 q	28

MW-6				
DATE	TPPH (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
12/10/07	120 o,p	ND<0.50	170	ND<10

MW-5				
DATE	TPPH (µg/L)	BENZENE (µg/L)	MTBE (µg/L)	TBA (µg/L)
12/10/07	ND<50 o	ND<0.50	0.96 q	ND<10



**DELTA CONSULTANTS**

SHELL OIL PRODUCTS US  
SHELL BRANDED SERVICE STATION  
HAYWARD, CALIFORNIA

**FIGURE 3**  
**GROUNDWATER HYDROCARBON**  
**DISTRIBUTION MAP**  
12/10/07  
31235 MISSION BOULEVARD  
HAYWARD, CALIFORNIA

**APPENDIX A**

**FIELD DATA SHEETS**

# SHELL WELLHEAD INSPECTION FORM

## (FOR SAMPLE TECHNICIAN)

Site Address 31235 Mission Hwy, Hayward, Ca Date 12/10/17  
 Job Number 071210-M01 Technician M. PIERCE Page 1 of 1

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

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

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

# SHELL SITE INSPECTION CHECKLIST

Client Shell Date 9-18-07

Site Address 31235 Mission / Hayward

Job Number 070918-17-3 Technician AV

Site Status Shell Branded Station \_\_\_\_\_ Vacant Lot \_\_\_\_\_ Other \_\_\_\_\_

- Inspected / Labeled / Cleaned - all wells on Scope Of Work
- Inspected / Cleaned Components - all other identifiable wells  N/A
- Inspected site for site investigation & site remediation related trip hazards
- Completed all outstanding *BLAINE Wellhead Repair Order(s)*  N/A
- Completed *Shell Wellhead Repair Form(s)*  N/A
- Inspected treatment / remediation system compound for security, cleanliness and appearance  N/A
- Inspected vacant lot for signs of habitation, hazardous materials or terrain, overgrown vegetation and security  N/A
- Visually inspected site drums for condition and proper labeling  N/A
- Unresolved deficiencies identified - "*Notice of Deficient Condition*" form(s) completed  N/A

Notes \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PROJECT MANAGER ONLY

Checklist Reviewed msw 9/27 Notes \_\_\_\_\_  
Initial/Date

# SHELL WELLHEAD REPAIR FORM

## (FOR REPAIR TECHNICIAN)

Site Address 3125 Mission, Hayward Date 9-18-07  
 Job Number 070978-JF-3 Technician JT Page 1 of 2

Inspection Point (Well ID or description of location)	Well Inspected, Cleaned, Labeled - No Further Corrective Action Required	Replaced Cap	Replaced Lock	Replaced Lid Seal	Check Indicates deficiency										All Repairs Completed	Remaining Deficiencies Logged onto BLAINE Repair Order	Remaining Deficiencies Logged onto Notice of Deficient Condition - BLAINE Unable to Repair		
					Casing	Annular Seal	Tabs / Bolts	Box Structure	Apron	Trip Hazard	Below Grade	Not Secure by Design (12" diameter or less)	Lid not marked with words "MONITORING WELL"	Other Deficiency				Not Secure by Design (greater than 12" diameter)	Well Not Inspected (explain in notes)
MW-1							X										X		
	Notes: Tapped zofz tabs																		
	Well box type / size: 12" Morrison Materials used:																		
MW-2																	1		
	Notes: Tapped zofz tabs																		
	Well box type / size: 6" Morrison Materials used:																		
MW-3							X										X		
	Notes: Tapped zofz tabs																		
	Well box type / size: 6" Morrison Materials used:																		
MW-4																	X		
	Notes: Tapped zofz tabs																		
	Well box type / size: 6" Morrison Materials used:																		
MW-5							X										X		X
	Notes: Tapped zofz tabs																		
	Well box type / size: 12" Emco Materials used:																		
MW-6							X										X		
	Notes: Tapped zofz tabs																		
	Well box type / size: 12" Emco Materials used:																		
MW-7							X	X									X		
	Notes: Tapped zofz tabs, Apron cracked Box Secure																		
	Well box type / size: 6" Emco Materials used:																		

# Repair Data Sheet

Job Number 070918-34-3

Inspection Point (Well ID or description of location)	Well Inspected, Cleaned, Labeled - No Further Corrective Action Required	Replaced Cap	Replaced Lock	Replaced Lid Seal	Check Indicates deficiency										Well Not Inspected (explain in notes)	Deficiency Logged on Repair Order	Deficiency Remains Uncorrected/Logged on Site Inspection Checklist	Partial Repair Completed/Outstanding Deficiency Logged on Repair Order	All Repairs Completed
					Casing	Annular Seal	Tabs / Bolts	Box Structure	Apron	Trip Hazard	Below Grade	Not Securable by Design (12" diameter or less)	Lid not marked with words "MONITORING WELL"	Other Deficiency					
MW-8								X											X
	Notes: <span style="font-size: 1.2em;">Tapped 20ft tabs</span>																		
	<span style="font-size: 1.2em;">12" Emco</span>																		
	Notes:																		
	Notes:																		
	Notes:																		
	Notes:																		
	Notes:																		

# WELL GAUGING DATA

Project # 071210-MD7      Date 12/10/07      Client Shell

Site 31235 Mission Blvd, Hayward, 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 POC	Notes
MW-1	0821	2					22.13	32.59		
MW-2	0815	2					22.01	32.68		
MW-3	0824	2					21.95	32.31		
MW-4	0818	2					22.05	32.79		
MW-5	0829	2					20.71	<del>29.82</del>		
MW-6	0838	2					19.47	29.57		
MW-7	0842	2					19.93	29.93		
MW-8	0833	2					20.14	29.43	↓	



## SHELL WELL MONITORING DATA SHEET

BTS #: 071210-MD1	Site: 31235 Mission Blvd Hayward Ca
Sampler: MD	Date: 12/10/07
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 32.59	Depth to Water (DTW): 22.13
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]: 24.22	

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: \_\_\_\_\_

1.6 (Gals.) X 3 = 4.8 Gals.  
 I Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
(2) 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
0935	16.7	6.61	461	71000	1.6	Brown, Cloudy
0937	18.2	6.49	4506	71000	3.2	" "
0940	18.1	6.56	591	71000	4.8	" "
0943	18.7	6.47	538	71000	6.0	

Did well dewater?  Yes  No      Gallons actually evacuated: 6.0

Sampling Date: 12/10/07      Sampling Time: 0951      Depth to Water: 22.82

Sample I.D.: MW-1      Laboratory: STL      Other: Cal Science

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

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558**

## SHELL WELL MONITORING DATA SHEET

BTS #: 071210-MD1	Site: 31235 Mission Blvd, Hayward Ca
Sampler: MD	Date: 12/10/07
Well I.D.: MW-2	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): 32.68	Depth to Water (DTW): 22.01
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]: 24.14	

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

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

1.7	(Gals.) X	3	=	5.1	Gals.
1 Case Volume		Specified Volumes		Calculated Volume	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
<u>2"</u>	<u>0.16</u>	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
0905	16.7	7.40	441.	71000	1.7	Brown, Cloudy
0908	17.6	7.02	438	71000	3.4	" "
0910	18.3	6.64	452	71000	5.1	" "
0913	18.5	6.59	499	71000	6.8	" "

Did well dewater? Yes  No  Gallons actually evacuated: 6.8

Sampling Date: 12/10/07      Sampling Time: 0921      Depth to Water: 23.83

Sample I.D.: MW-2      Laboratory: STL      Other: Carl Scam

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 #: 071210-MD1	Site: 31235 Mission Blvd, Hayward, Ca
Sampler: MD	Date: 12/10/07
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 32.51	Depth to Water (DTW): 21.95
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]: 24.06	

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: \_\_\_\_\_

1.6 (Gals.) X 3 = 4.8 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
1005	18.8	6.57	551	71000	1.6	grey, cloudy
1007	19.7	6.46	539	71000	3.2	ll "
1010	19.9	6.50	551	714	4.8	ll "
1014	20.0	6.47	524	999	6.4	ll "

Did well dewater? Yes  No  Gallons actually evacuated: 6.4

Sampling Date: 12/10/07      Sampling Time: 1027      Depth to Water: 22.39

Sample I.D.: MW-3      Laboratory: STL      Other: CalSine

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 #: 071210-MD1	Site: 31235 Mission Blvd, Hayward, Ca
Sampler: MD	Date: 12/10/07
Well I.D.: MW-4	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth (TD): 32.79	Depth to Water (DTW): 22.05
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVE)</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 24.20	

Purge Method: <input checked="" type="checkbox"/> 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: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port <input type="checkbox"/> Dedicated Tubing Other: _____
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1.7	(Gals.) X	3	=	5.1	Gals.
1 Case Volume		Specified Volumes		Calculated Volume	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
<u>2"</u>	<u>0.16</u>	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
1040	19.7	7.08	347	447	1.7	Brown, Cloudy
1043	19.7	6.62	340	589	3.4	" "
1046	19.4	6.69	348	7100	5.1	" "
1049	19.7	6.56	350	7100	6.8	" "

Did well dewater? Yes  No  Gallons actually evacuated: 6.8

Sampling Date: 12/10/07    Sampling Time: 1101    Depth to Water: 23.62

Sample I.D.: MW-4    Laboratory: STL    Other: Calson

Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Other: See Coe

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
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O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV
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## SHELL WELL MONITORING DATA SHEET

BTS #: 071210-MD1	Site: 31235 Mission Blvd Hayward, CA
Sampler: MD	Date: 12/10/07
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 29.82	Depth to Water (DTW): 20.71
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <del>RVC</del> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 22.53	

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

$1.5 \text{ (Gals.)} \times 3 = 4.5 \text{ Gals.}$ 1 Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <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><del>2"</del></td> <td><del>0.16</del></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	<del>2"</del>	<del>0.16</del>	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														
<del>2"</del>	<del>0.16</del>	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
1140	68.4	7.01	828	7/000	1.5	Brown, Cloudy
1142	68.8	6.70	831	7/000	3.0	" "
1145	67.9	6.91	827	7/000	9.5	" "
1148	68.2	6.73	822	7/000	6.0	" "

Did well dewater?    Yes     No      Gallons actually evacuated: 6.0

Sampling Date: 12/10/07    Sampling Time: 1157    Depth to Water: 21.27

Sample I.D.: MW-5      Laboratory: STL    Other: Cel Scan

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>D71210-M01</u>	Site: <u>31235 MISSION BLVD, RAYMOND CA</u>
Sampler: <u>MD</u>	Date: <u>12/10/07</u>
Well I.D.: <u>MW-6</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth (TD): <u>29.57</u>	Depth to Water (DTW): <u>19.47</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>21.47</u>	

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

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

$$1.6 \text{ (Gals.)} \times 3 = 4.8 \text{ Gals.}$$

1 Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
<u>2"</u>	<u>0.16</u>	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
1240	72.8	6.80	758	71000	1.6	Brown, Cloudy
1242	72.2	6.62	760	71000	3.2	" "
1244	71.8	6.75	756	71000	4.8	" "
1245	72.0	6.61	762	71000	6.4	" "

Did well dewater?    Yes     No      Gallons actually evacuated: 6.4

Sampling Date: 12/10/07    Sampling Time: 1259    Depth to Water: 20.82

Sample I.D.: MW-6      Laboratory: STL    Other: Carl Geisner

Analyzed for: TPH-G    BTEX    MTBE    TPH-D    Other: See CWC

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 #: 071210-MDI	Site: 31235 Mission Blvd, Hayward, CA
Sampler: MD	Date: 12/10/07
Well I.D.: MW-7	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): 29.93	Depth to Water (DTW): 19.93
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]: 21.93	

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: \_\_\_\_\_

1.6 (Gals.) X 3 = 4.8 Gals.  
 1 Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
<u>2"</u>	<u>0.16</u>	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
1318	69.3	6.92	636	71000	1.6	Brown, Cloudy
1321	69.9	6.75	633	71000	3.2	" "
1325	69.5	6.73	629	71000	4.8	" "
1328	70.0	6.65	637	71000	6.4	" "

Did well dewater? Yes  No      Gallons actually evacuated: 6.4

Sampling Date: 12/10/07      Sampling Time: 1341      Depth to Water: 20.56

Sample I.D.: MW-7      Laboratory: STL      Other: Cal Secura

Analyzed for: TPH-G BTEX MTBE TPH-D      Other: See Cert

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>071210-MD1</u>	Site: <u>31235 Mission Blvd, Hayward, Ca</u>
Sampler: <u>MD</u>	Date: <u>12/10/07</u>
Well I.D.: <u>MW-B</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth (TD): <u>29.43</u>	Depth to Water (DTW): <u>20.14</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVE</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>21.99</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

$1.5 \text{ (Gals.)} \times 3 = 4.5 \text{ Gals.}$ <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><u>2"</u></td> <td><u>0.16</u></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	<u>2"</u>	<u>0.16</u>	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														
<u>2"</u>	<u>0.16</u>	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
1212	65.7	7.01	681	71000	1.5	Born Cloudy
1214	66.7	6.77	675	71000	3.0	" "
1216	66.7	6.82	665	71000	4.5	" "
1219	67.1	6.69	668	71000	6.0	" "

Did well dewater?    Yes     No    Gallons actually evacuated: 6.0

Sampling Date: 12/00/07    Sampling Time: 1231    Depth to Water: 20.94

Sample I.D.: MW-B    Laboratory:    STL    Other Cal Service

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

December 20, 2007

Carol Campagna  
HSE – Environmental Services  
Shell Oil Products US  
20945 South Wilmington Avenue  
Carson, CA 90810

Fourth Quarter 2007 Groundwater Monitoring at  
Shell-branded Service Station  
31235 Mission Boulevard  
Hayward, CA

Monitoring performed on December 10, 2007

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Groundwater Monitoring Report **071210-MD-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.

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/ks

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.

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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 Coming or Myron-L meters (e.g. Coming 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.

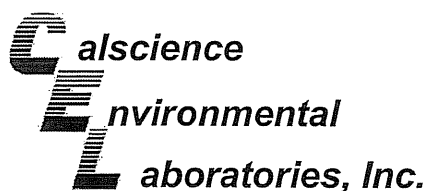
## FERROUS IRON MEASUREMENTS

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

**APPENDIX C**

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





December 19, 2007

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

Subject: **Calscience Work Order No.: 07-12-0982**  
Client Reference: **31235 Mission Blvd., Hayward, CA**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 12/12/2007 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 "Danielle Gonsman".

Calscience Environmental  
Laboratories, Inc.  
Danielle Gonsman  
Project Manager

## Analytical Report



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

Date Received: 12/12/07  
Work Order No: 07-12-0982  
Preparation: EPA 3510C  
Method: EPA 8015B

Project: 31235 Mission Blvd., Hayward, CA

Page 1 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-1	07-12-0982-1-F	12/10/07	Aqueous	GC 23	12/13/07	12/14/07	071213B08

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 Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-2	07-12-0982-2-F	12/10/07	Aqueous	GC 23	12/13/07	12/14/07	071213B08

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			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-3	07-12-0982-3-F	12/10/07	Aqueous	GC 23	12/13/07	12/14/07	071213B08

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

Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics	610	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	84	68-140			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-4	07-12-0982-4-F	12/10/07	Aqueous	GC 23	12/13/07	12/14/07	071213B08

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

Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics	64	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	75	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: 12/12/07  
Work Order No: 07-12-0982  
Preparation: EPA 3510C  
Method: EPA 8015B

Project: 31235 Mission Blvd., Hayward, CA

Page 2 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-5	07-12-0982-5-F	12/10/07	Aqueous	GC 23	12/13/07	12/14/07	071213B08

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	84	68-140			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-6	07-12-0982-6-F	12/10/07	Aqueous	GC 23	12/13/07	12/14/07	071213B08

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	83	68-140			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-7	07-12-0982-7-F	12/10/07	Aqueous	GC 23	12/13/07	12/14/07	071213B08

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

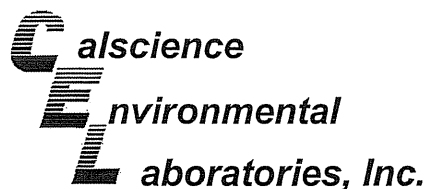
Parameter	Result	RL	DF	Qual	Units
Diesel Range Organics	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	80	68-140			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-8	07-12-0982-8-F	12/10/07	Aqueous	GC 23	12/13/07	12/15/07	071213B08

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	84	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: 12/12/07  
 Work Order No: 07-12-0982  
 Preparation: EPA 3510C  
 Method: EPA 8015B

Project: 31235 Mission Blvd., Hayward, CA

Page 3 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-12-211-142	N/A	Aqueous	GC 23	12/13/07	12/14/07	071213B08

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	100	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: 12/12/07  
Work Order No: 07-12-0982  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: 31235 Mission Blvd., Hayward, CA

Page 1 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-1	07-12-0982-1-A	12/10/07	Aqueous	GC 25	12/12/07	12/12/07	071212B01

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1		ug/L
Surrogates:	REC (%)	Control Limits		Qual	
1,4-Bromofluorobenzene	82	38-134			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-2	07-12-0982-2-A	12/10/07	Aqueous	GC 25	12/12/07	12/12/07	071212B01

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1		ug/L
Surrogates:	REC (%)	Control Limits		Qual	
1,4-Bromofluorobenzene	82	38-134			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-3	07-12-0982-3-A	12/10/07	Aqueous	GC 25	12/12/07	12/13/07	071212B01

Comment(s): -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.

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	2200	50	1		ug/L
Surrogates:	REC (%)	Control Limits		Qual	
1,4-Bromofluorobenzene	152	38-134		2	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-4	07-12-0982-4-A	12/10/07	Aqueous	GC 25	12/12/07	12/13/07	071212B01

Comment(s): -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.

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	150	50	1		ug/L
Surrogates:	REC (%)	Control Limits		Qual	
1,4-Bromofluorobenzene	80	38-134			

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

## Analytical Report



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

Date Received: 12/12/07  
Work Order No: 07-12-0982  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: 31235 Mission Blvd., Hayward, CA

Page 2 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-5	07-12-0982-5-A	12/10/07	Aqueous	GC 25	12/12/07	12/13/07	071212B01

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	84	38-134			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-6	07-12-0982-6-B	12/10/07	Aqueous	GC 1	12/13/07	12/14/07	071213B02

Comment(s): -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.

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	120	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	102	38-134			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-7	07-12-0982-7-B	12/10/07	Aqueous	GC 1	12/13/07	12/14/07	071213B02

Comment(s): -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.

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	320	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	103	38-134			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-8	07-12-0982-8-B	12/10/07	Aqueous	GC 1	12/13/07	12/14/07	071213B02

Comment(s): -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.

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	96	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	102	38-134			

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

## Analytical Report



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

Date Received: 12/12/07  
 Work Order No: 07-12-0982  
 Preparation: EPA 5030B  
 Method: EPA 8015B (M)

Project: 31235 Mission Blvd., Hayward, CA

Page 3 of 3

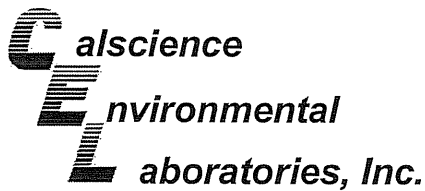
Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-12-436-1,252	N/A	Aqueous	GC 25	12/12/07	12/12/07	071212B01

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	66	38-134			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-12-436-1,254	N/A	Aqueous	GC 1	12/13/07	12/13/07	071213B02

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1		ug/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	102	38-134			

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



Analytical Report



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

Date Received: 12/12/07  
Work Order No: 07-12-0982  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

Project: 31235 Mission Blvd., Hayward, CA

Page 1 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-1	07-12-0982-1-C	12/10/07	Aqueous	GC/MS Q	12/15/07	12/16/07	071215L03

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	5.0	1.4	10		o-Xylene	ND	10	1.7	10	
Ethylbenzene	ND	10	2.3	10		Methyl-t-Butyl Ether (MTBE)	260	10	2.6	10	
Toluene	ND	10	2.7	10		Tert-Butyl Alcohol (TBA)	2300	100	54	10	
p/m-Xylene	ND	10	5.4	10							
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	123	74-140				1,2-Dichloroethane-d4	124	74-146			
Toluene-d8	94	88-112				1,4-Bromofluorobenzene	82	74-110			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-2	07-12-0982-2-C	12/10/07	Aqueous	GC/MS Q	12/15/07	12/16/07	071215L03

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.14	1		o-Xylene	ND	1.0	0.17	1	
Ethylbenzene	ND	1.0	0.23	1		Methyl-t-Butyl Ether (MTBE)	0.62	1.0	0.26	1	J
Toluene	ND	1.0	0.27	1		Tert-Butyl Alcohol (TBA)	28	10	5.4	1	
p/m-Xylene	ND	1.0	0.54	1							
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	116	74-140				1,2-Dichloroethane-d4	117	74-146			
Toluene-d8	95	88-112				1,4-Bromofluorobenzene	83	74-110			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-3	07-12-0982-3-C	12/10/07	Aqueous	GC/MS Q	12/15/07	12/16/07	071215L03

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	0.62	0.50	0.14	1		o-Xylene	ND	1.0	0.17	1	
Ethylbenzene	17	1.0	0.23	1		Methyl-t-Butyl Ether (MTBE)	23	1.0	0.26	1	
Toluene	ND	1.0	0.27	1		Tert-Butyl Alcohol (TBA)	840	10	5.4	1	
p/m-Xylene	0.57	1.0	0.54	1	J						
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	110	74-140				1,2-Dichloroethane-d4	110	74-146			
Toluene-d8	105	88-112				1,4-Bromofluorobenzene	94	74-110			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-4	07-12-0982-4-C	12/10/07	Aqueous	GC/MS Q	12/15/07	12/16/07	071215L03

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.14	1		o-Xylene	ND	1.0	0.17	1	
Ethylbenzene	ND	1.0	0.23	1		Methyl-t-Butyl Ether (MTBE)	11	1.0	0.26	1	
Toluene	ND	1.0	0.27	1		Tert-Butyl Alcohol (TBA)	540	10	5.4	1	
p/m-Xylene	ND	1.0	0.54	1							
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	118	74-140				1,2-Dichloroethane-d4	121	74-146			
Toluene-d8	96	88-112				1,4-Bromofluorobenzene	82	74-110			

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



## Analytical Report



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

Date Received: 12/12/07  
Work Order No: 07-12-0982  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

Project: 31235 Mission Blvd., Hayward, CA

Page 2 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-5	07-12-0982-5-C	12/10/07	Aqueous	GC/MS Q	12/15/07	12/16/07	071215L03

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.14	1		o-Xylene	ND	1.0	0.17	1	
Ethylbenzene	ND	1.0	0.23	1		Methyl-t-Butyl Ether (MTBE)	0.96	1.0	0.26	1	J
Toluene	ND	1.0	0.27	1		Tert-Butyl Alcohol (TBA)	ND	10	5.4	1	
p/m-Xylene	ND	1.0	0.54	1							
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	124	74-140				1,2-Dichloroethane-d4	124	74-146			
Toluene-d8	96	88-112				1,4-Bromofluorobenzene	81	74-110			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-6	07-12-0982-6-C	12/10/07	Aqueous	GC/MS Q	12/15/07	12/16/07	071215L03

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.14	1		o-Xylene	ND	1.0	0.17	1	
Ethylbenzene	ND	1.0	0.23	1		Methyl-t-Butyl Ether (MTBE)	170	1.0	0.26	1	
Toluene	ND	1.0	0.27	1		Tert-Butyl Alcohol (TBA)	ND	10	5.4	1	
p/m-Xylene	ND	1.0	0.54	1							
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	124	74-140				1,2-Dichloroethane-d4	126	74-146			
Toluene-d8	96	88-112				1,4-Bromofluorobenzene	82	74-110			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-7	07-12-0982-7-C	12/10/07	Aqueous	GC/MS Q	12/15/07	12/16/07	071215L03

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

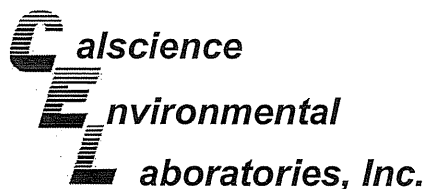
Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	2.5	0.70	5		o-Xylene	ND	5.0	0.84	5	
Ethylbenzene	ND	5.0	1.1	5		Methyl-t-Butyl Ether (MTBE)	520	5.0	1.3	5	
Toluene	ND	5.0	1.4	5		Tert-Butyl Alcohol (TBA)	ND	50	27	5	
p/m-Xylene	ND	5.0	2.7	5							
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	124	74-140				1,2-Dichloroethane-d4	128	74-146			
Toluene-d8	96	88-112				1,4-Bromofluorobenzene	82	74-110			

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
MW-8	07-12-0982-8-C	12/10/07	Aqueous	GC/MS Q	12/15/07	12/16/07	071215L03

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.14	1		o-Xylene	ND	1.0	0.17	1	
Ethylbenzene	ND	1.0	0.23	1		Methyl-t-Butyl Ether (MTBE)	140	1.0	0.26	1	
Toluene	ND	1.0	0.27	1		Tert-Butyl Alcohol (TBA)	ND	10	5.4	1	
p/m-Xylene	ND	1.0	0.54	1							
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	124	74-140				1,2-Dichloroethane-d4	130	74-146			
Toluene-d8	95	88-112				1,4-Bromofluorobenzene	79	74-110			

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



Analytical Report



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

Date Received: 12/12/07  
Work Order No: 07-12-0982  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/L

Project: 31235 Mission Blvd., Hayward, CA

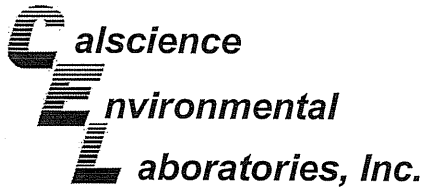
Page 3 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-006-23,815	N/A	Aqueous	GC/MS Q	12/15/07	12/16/07	071215L03

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.14	1		o-Xylene	ND	1.0	0.17	1	
Ethylbenzene	ND	1.0	0.23	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.26	1	
Toluene	ND	1.0	0.27	1		Tert-Butyl Alcohol (TBA)	ND	10	5.4	1	
p/m-Xylene	ND	1.0	0.54	1							
Surrogates:	REC (%)	Control Limits		Qual		Surrogates:	REC (%)	Control Limits		Qual	
Dibromofluoromethane	119	74-140				1,2-Dichloroethane-d4	118	74-146			
Toluene-d8	95	88-112				1,4-Bromofluorobenzene	83	74-110			

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



Quality Control - Spike/Spike Duplicate



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

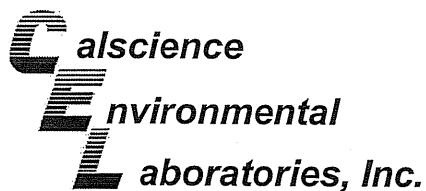
Date Received: 12/12/07  
 Work Order No: 07-12-0982  
 Preparation: EPA 5030B  
 Method: EPA 8015B (M)

Project 31235 Mission Blvd., Hayward, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
07-12-0845-6	Aqueous	GC 25	12/12/07	12/13/07	071212S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	111	111	68-122	0	0-18	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



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

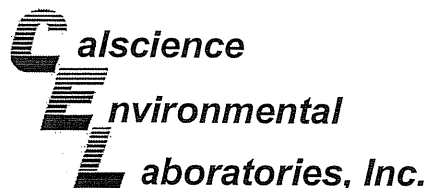
Date Received: 12/12/07  
 Work Order No: 07-12-0982  
 Preparation: EPA 5030B  
 Method: EPA 8015B (M)

Project 31235 Mission Blvd., Hayward, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
07-12-1118-1	Aqueous	GC 1	12/13/07	12/13/07	071213S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	80	79	68-122	2	0-18	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - Spike/Spike Duplicate



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

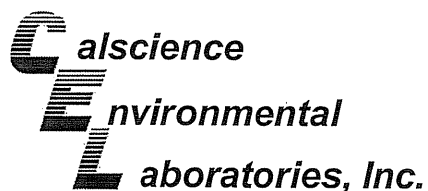
Date Received: 12/12/07  
Work Order No: 07-12-0982  
Preparation: EPA 5030B  
Method: EPA 8260B

Project 31235 Mission Blvd., Hayward, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-2	Aqueous	GC/MS Q	12/15/07	12/16/07	071215S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	97	94	88-118	3	0-7	
Carbon Tetrachloride	88	85	67-145	3	0-11	
Chlorobenzene	99	98	88-118	1	0-7	
1,2-Dibromoethane	106	104	70-130	2	0-30	
1,2-Dichlorobenzene	107	104	86-116	3	0-8	
1,1-Dichloroethene	83	80	70-130	3	0-25	
Ethylbenzene	107	106	70-130	2	0-30	
Toluene	99	96	87-123	2	0-8	
Trichloroethene	95	94	79-127	1	0-10	
Vinyl Chloride	74	72	69-129	2	0-13	
Methyl-t-Butyl Ether (MTBE)	101	99	71-131	2	0-13	
Tert-Butyl Alcohol (TBA)	89	92	36-168	3	0-45	
Diisopropyl Ether (DIPE)	102	98	81-123	3	0-9	
Ethyl-t-Butyl Ether (ETBE)	106	104	72-126	2	0-12	
Tert-Amyl-Methyl Ether (TAME)	108	107	72-126	1	0-12	
Ethanol	86	84	53-149	3	0-31	

RPD - Relative Percent Difference, CL - Control Limit



## Quality Control - LCS/LCS Duplicate



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

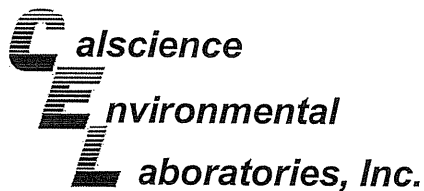
Date Received: N/A  
Work Order No: 07-12-0982  
Preparation: EPA 3510C  
Method: EPA 8015B

Project: 31235 Mission Blvd., Hayward, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-211-142	Aqueous	GC 23	12/13/07	12/14/07	071213B08

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Diesel Range Organics	92	99	75-117	7	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

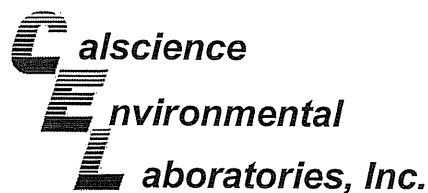
Date Received: N/A  
Work Order No: 07-12-0982  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

Project: 31235 Mission Blvd., Hayward, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-436-1,252	Aqueous	GC 25	12/12/07	12/12/07	071212B01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	93	95	78-120	2	0-10	

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: 07-12-0982  
Preparation: EPA 5030B  
Method: EPA 8015B (M)

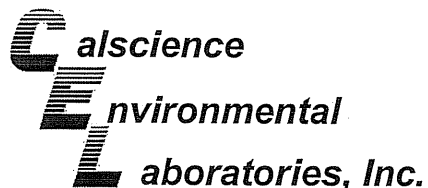
Project: 31235 Mission Blvd., Hayward, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-436-1,254	Aqueous	GC 1	12/13/07	12/13/07	071213B02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	81	81	78-120	0	0-10	

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: 07-12-0982  
Preparation: EPA 5030B  
Method: EPA 8260B

Project: 31235 Mission Blvd., Hayward, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-006-23,815	Aqueous	GC/MS Q	12/15/07	12/15/07	071215L03

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	95	94	84-120	1	0-8	
Carbon Tetrachloride	85	86	63-147	1	0-10	
Chlorobenzene	96	96	89-119	0	0-7	
1,2-Dibromoethane	103	99	80-120	3	0-20	
1,2-Dichlorobenzene	105	104	89-119	1	0-9	
1,1-Dichloroethene	82	85	77-125	3	0-16	
Ethylbenzene	105	105	80-120	1	0-20	
Toluene	96	95	83-125	0	0-9	
Trichloroethene	95	94	89-119	1	0-8	
Vinyl Chloride	74	75	63-135	2	0-13	
Methyl-t-Butyl Ether (MTBE)	101	100	82-118	2	0-13	
Tert-Butyl Alcohol (TBA)	90	86	46-154	5	0-32	
Diisopropyl Ether (DIPE)	105	101	81-123	3	0-11	
Ethyl-t-Butyl Ether (ETBE)	115	109	74-122	6	0-12	
Tert-Amyl-Methyl Ether (TAME)	115	109	76-124	6	0-10	
Ethanol	84	79	60-138	7	0-32	

RPD - Relative Percent Difference , CL - Control Limit



Work Order Number: 07-12-0982

<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.
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.

# SHELL Chain Of Custody Record

- TA - Irvine, California
- TA - Morgan Hill, California
- TA - Sacramento, California
- TA - Nashville, Tennessee
- Calscience
- Other \_\_\_\_\_

**NAME OF PERSON TO BILL: Carol Campagna**

ENVIRONMENTAL SERVICES

NETWORK DEV./FE  BILL CONSULTANT

COMPLIANCE  RMT/CRMT

CHECK BOX TO VERIFY IF NO INCIDENT # APPLIES

INCIDENT # (ES ONLY):

9	7	4	5	6	5	3	2
---	---	---	---	---	---	---	---

SAP or CRMT #

DATE: 12/10/07

PAGE: 1 of 1

SAMPLING COMPANY: **Blaine Tech Services**

LOG CODE: **BTSS**

ADDRESS: **1680 Rogers Avenue, 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**

TAT (STD IS 10 BUSINESS DAYS / RUSH IS CALENDAR DAYS):

STD  5 DAY  3 DAY  2 DAY  24 HOURS  RESULTS NEEDED ON WEEKEND

SITE ADDRESS: Street and City **31235 Mission Blvd., Hayward** State **CA** GLOBAL ID NO.: **T0600170016**

EDF DELIVERABLE TO (Name, Company, Office Location): **Jon Sulng, Delta, Monrovia Office** PHONE NO.: **626.256.6662** E-MAIL: **jsulng@deltaenv.com** CONSULTANT PROJECT NO.: **071210-MD1**

SAMPLER NAME(S) (Print): **M PIERCE** BTS #

LAB USE ONLY

12-0982

LA - RWQCB REPORT FORMAT  UST AGENCY: \_\_\_\_\_

SPECIAL INSTRUCTIONS OR NOTES:

EDD NOT NEEDED

SHELL CONTRACT RATE APPLIES

STATE REIMB RATE APPLIES

RECEIPT VERIFICATION REQUESTED

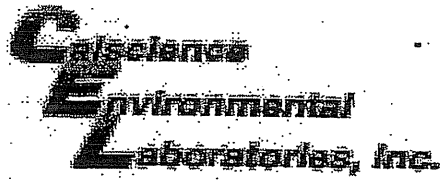
**RUN TPHd w/SILICA GEL CLEAN UP**

CC Tom Hargett [thargett@deltaenv.com](mailto:thargett@deltaenv.com) and Rich Garlow [rgarlow@deltaenv.com](mailto:rgarlow@deltaenv.com) with final report

## REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification				SAMPLING		MATRIX	NO. OF CONT.	TPH - Gas, Purgeable (8260B)	TPH - Diesel, Extractable (8015M)	BTEX (8260B)	5 Oxygenates (8260B) (MTBE, TBA, DIPE, TAME, ETBE)	MTBE (8260B)	TBA (8260B)	DIPE (8260B)	TAME (8260B)	ETBE (8260B)	1,2 DCA (8260B)	EDB (8260B)	Ethanol (8260B)	Methanol (8015M)	TEMPERATURE ON RECEIPT °C	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
					DATE	TIME																	
1	MW-1	12/10/07	0951	W	7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
2	MW-2		0921			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
3	MW-3		1027			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
4	MW-4		1101			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
5	MW-5		1157			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
6	MW-6		1259			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
7	MW-7		1341			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
8	MW-8		1231			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			

Relinquished by: (Signature)	Received by: (Signature)	Date: <u>12/10/07</u>	Time: <u>1540</u>
Relinquished by: (Signature) <u>Shirley VIA 620</u>	Received by: (Signature)	Date: <u>12/11/07</u>	Time: <u>1500</u>
Relinquished by: (Signature)	Received by: (Signature)	Date: <u>12/12/07</u>	Time: <u>1040</u>



WORK ORDER #: 07-12-0982

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Elaine Peck

DATE: 12/12/07

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.
C Temperature blank.

LABORATORY (Other than Calscience Courier):

- 3.6 C Temperature blank.
C IR thermometer.
Ambient temperature.

Initial: JP

CUSTODY SEAL INTACT:

Sample(s): Cooler: No (Not Intact): Not Present: [checked]

Initial: JP

SAMPLE CONDITION:

Table with 4 columns: Description, Yes, No, N/A. Rows include Chain-Of-Custody document(s), Sampler's name, Sample container label(s), Sample container(s) intact, Correct containers and volume, Proper preservation, VOA vial(s) free of headspace, Tedlar bag(s) free of condensation.

Initial: JP

COMMENTS:

Multiple horizontal lines for handwritten comments.