

5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: **510-450-6000**

\$4 DEC 20 EN 1: 13

December 15, 1994

Brian Oliva Alameda County Department of Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577

AP413

Re: Shell Service Station WIC #204-5508-2303 2800 Telegraph Avenue Oakland, California WA Job #81-0700-104

Dear Mr. Oliva:

This letter describes recently completed and anticipated activities at the Shell service station referenced above (Figure 1). This status report satisfies the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Chapter 3, Subchapter 16, Article 5, Section 2652.d. Included below are descriptions and results of activities performed in the fourth quarter 1994 and proposed work for the first quarter 1995.

Fourth Quarter 1994 Activities:

- In the fourth quarter, Blaine Tech Services, Inc. (BTS) of San Jose, California measured ground water depths in all wells and collected ground water samples from wells S-8 and S-11. Well SR-1 is a ground water extraction well and is not sampled. BTS' report describing these activities and the analytic report for the ground water samples are included as Attachment A.
- Weiss Associates (WA) calculated ground water elevations and compiled the analytic data (Tables 1 and 2) and prepared a ground water elevation contour map (Figure 2).



Anticipated First Quarter 1995 Activities:

 WA will submit a report presenting the results of the first quarter 1995 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results, ground water elevations and a ground water elevation contour map.

Please call if you have any questions.

Sincerely,
Weiss Associates

No. EG 1576
CERTIFIED
ENGINEERING
GEOLOGIST

James W. Carmody, C.E.G.
Senior Project Hydrogeologist

JMA/JWC:jma

Attachments:

A - Blaine Tech's Ground Water Monitoring Report

cc:

Lynn Walker, Shell Oil Company, P.O. Box 4023, Concord, California 94524 Richard Hiett, Regional Water Quality Control Board - San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, California 94612

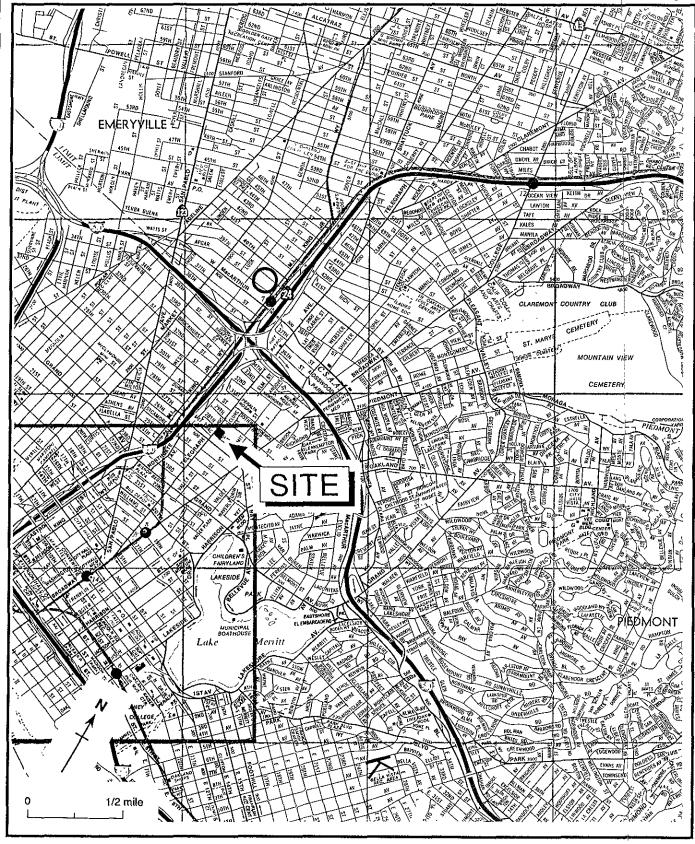


Figure 1. Site Location Map - Former Shell Service Station WIC #204-5508-2404, 2800 Telegraph Avenue, Oakland, California



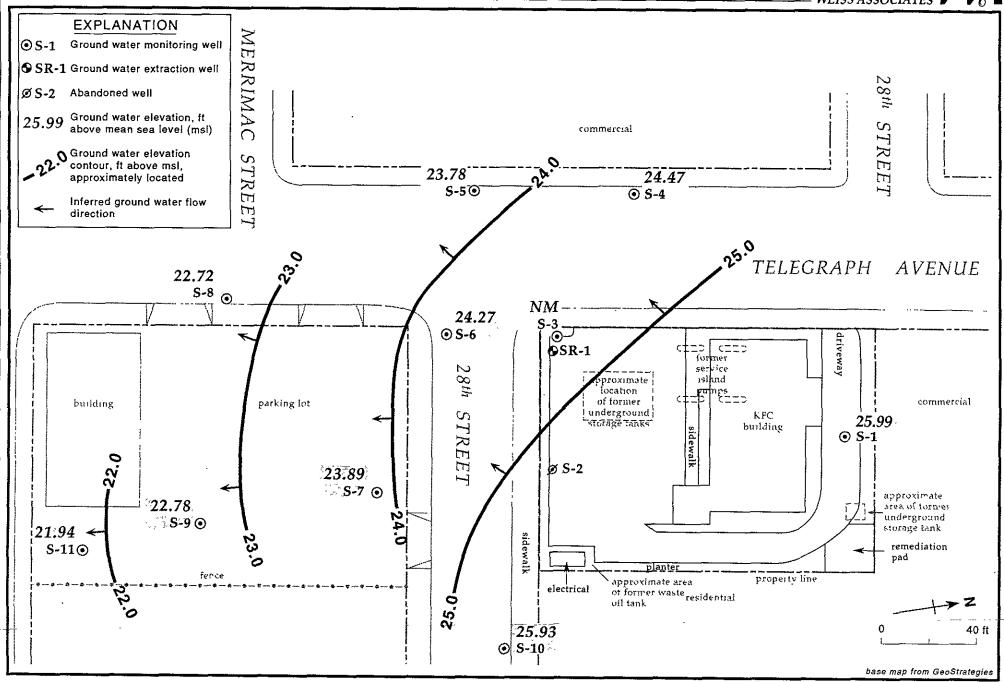


Figure 2. Monitoring Well Locations and Ground Water Elevations - November 8, 1994 - Former Shell Service Station WIC #204-5508-2303, 2800 Telegraph Avenue, Oakland, California

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-2303, 2800 Telegraph Avenue, Oakland, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
S-1	05/04/92	35.31	9.50	25.81
	08/10/92	JJ. J. J.	10.85	24.46
	11/09/92		10.34	24.97
	02/22/93		7.60	27.71
	06/07/93		8.63	26.68
	08/13/93		9.20	26.11
	11/18/93		10.58	24.73
	02/10/94		8.41	26.90
	05/03/94		9.09	26.22
	08/01/94		8.81	
				26.50
	11/08/94		9.32	25.99
S-2	05/04/92	33.91	9.44	24.47
	08/10/92		10.73	23.18
	11/09/92		10.29	23.62
	02/22/93ª		9.04	24.87
S-3	05/04/92	33.56	9.22	24,34
	08/10/92 ^b			
S-4	05/04/92	34.08	9.96	24.12
	08/10/92		11.32	22.76
	11/09/92		11.29	22.79
	02/22/93		9.82	24.26
	06/07/93		10.51	23.57
	08/13/93		11.05	23.03
	11/18/93		11.34	22.74
	02/10/94		9.93	24.15
	05/03/94		10.40	23.68
	08/01/94		10.68	23.40
	11/08/94		9.44	24.47
S-5	05/04/92	33.42	10.27	23.15
	08/10/92		10.68	22.74
	11/09/92		10.69	22.73
	02/22/93		9.45	23.97
	06/07/93		10.23	23.19
	08/13/93		10.58	22.84
	11/18/93		10.70	22.72
	02/10/94		9.75	23.67
	05/03/94		10.19	23.23
	08/01/94		10.30	23.12
	11/08/94		9.64	23.12 23.78
S-6	05/04/92	22.50	0.42	22.17
3-0		32.59	9.42	23.17
	08/10/92		10.40	22.19

⁻ Table 1 continues on next page -

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-2303, 2800 Telegraph Avenue, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl
	11/09/92		10.16	22.43
	02/22/93		7.60	24.99
	06/07/93		8.90	23.69
	08/13/93		9.39	23.20
	11/18/93		10.32	23.20 22.27
	02/10/94		8.68	
	05/03/94			23.91
			9.20	23.39
	08/01/94		8.90	23.69
	11/08/94		8.32	24.27
S-7	05/04/92	33,33	11.21	22.12
	08/10/92		12.28	21.05
	11/09/92		11.77	21.56
	02/22/93		8.86	24.47
	06/07/93		10.58	22.75
	08/13/93		11.34	21.99
	11/18/93		12.00	21.33
	02/10/94		9.88	23.45
	05/03/94		10.75	22.58
	08/01/94		11.05	22.28
	11/08/94		9.64	23.89
S-8	05/04/92	31.97	10.29	21.68
	08/10/92	22.5.	11.12	20.85
	11/09/92		10.71	21.26
	02/22/93		6.04	25.93
	06/07/93		10.06	21.91
	08/13/93		10.56	21.41
	11/18/93		10.90	21.07
	02/10/94		9.53	22.44
	05/03/94		10.06	21.91
	08/01/94		10.32	21.65
	11/08/94		9.25	22.72
	05104102	A		
S-9	05/04/92	31.86	10.45	21.41
	08/10/92		11.52	20.34
	11/09/92		11.02	20.84
	02/22/93		8.00	23.86
	06/07/93		10.07	21.79
	08/13/93		10.92	20.94
	11/18/93		11.19	20.67
	02/10/94		9.16	22.70
	05/03/94		10.03	21.83
	08/01/94		10.52	21.34
	11/08/94		9.08	22.78

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-2303, 2800 Telegraph Avenue, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
S-10	05/04/92	32.95	8.54	24.41
	08/10/92		10.43	22.52
	11/09/92		9.14	23.81
	02/22/93		6.72	26.23
	06/07/93		8.08	24.87
	08/13/93		8.83	24.12
	11/18/93		9.46	23.49
	02/10/94		7.41	25.54
	05/03/94		8.16	24.79
	08/01/94		8.29	24.66
	11/08/94		7.02	25.93
S-11	05/04/92	30.78	9.99	20.79
	08/10/92		10.92	19.86
	11/09/92		10.44	20.34
	02/22/93		7.30	23.48
	06/07/93		9.51	21.27
	08/13/93		10.39	20.39
	11/18/93		10.64	20.14
	02/10/94		8.50	22.28
	05/03/94	•	9.42	21.36
	08/01/94		10.12	20.66
	11/08/94		8.84	21.94
SR-1	05/04/92°		9.02	
	08/10/92		10.29	
	11/09/92		10.92	
	02/22/93		6.64	
	06/07/93		7.36	
	08/13/93		7.96	
	11/18/93		10.02	
	02/10/94			
	05/03/94		8.28	
	08/01/94		7.98	
	11/08/94		7.75	

Notes:

a = Destroyed on April 8, 1993 for onsite construction

b = Well inaccessible since August 1992

c = Top-of-Casing not surveyed

Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-5508-2303, 2800 Telegraph Avenue, Oakland, California

Well ID and		Depth to Water	TPH-G	В	E	T	X			
Sampling Frequency	Date	(ft)	parts per billion (μg/L)							
WELLS										
S-1	05/04/92	9.50	< 50	< 0.5	< 0.5	<0.5	< 0.5			
(Annually)	08/10/92	10.85	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
3rd Quarter)	11/09/92	10.34	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
	02/23/93	7.60	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
	06/07/93	8.63	< 50	2.8	0.7	1.3	3.0			
	08/13/93	9.20	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
	11/18/93	10.58	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
	02/10/94	8.41	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
	05/03/94	9.09	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
	08/01/94	8.81	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
S-2	05/04/92	9.44	1,600	190	240	6	54			
	08/10/92	10.73	< 50	4.1	< 0.5	< 0.5	< 0.5			
	09/11/92	10.29	84	19	2.2	0.7	4.3			
	02/23/93	9.04	16,000	1,600	850	480	1,800			
	06/07/93	Well destroyed	***							
S-3	05/04/92	9.22								
	08/10/92									
S-4	05/04/92	9,96	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
(Annually	08/10/92	11.32	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
3rd Quarter)	11/09/92	11.29	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
•	02/23/93	9.82	< 50	< 0.5	< 0. 5	< 0.5	< 0.5			
	06/07/93	10.51	50	9.2	3.3	5.5	14			

⁻ Table 2 continues on next page -



Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-5508-2303, 2800 Telegraph Ave., Oakland, California (continued)

Well ID and Sampling		Depth to Water	TPH-G	В	E	T	X			
Frequency	Date	(ft)		par	parts per billion (mg/L)					
	08/13/93	11.05	< 50	<0.5	<0.5	<0.5	<0.5			
	11/18/93	11.34	<50	< 0.5	< 0.5	<0.5	<0.5			
	02/10/94	9.93	<50	< 0.5	< 0.5	<0.5	<0.5			
	05/03/94	10.40	<50	< 0.5	< 0.5	<0.5	<0.5			
	08/01/94	10.68	< 50	< 0.5	<0.5	< 0.5	<0.5			
S-5	05/04/92	10.27	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
(Bi-Annually	08/10/92	10.68	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
1st & 3rd Qtrs)	11/09/92	10.69	< 50	< 0.5	< 0.5	<0.5	<0.5			
	02/23/93	9.45	<50	< 0.5	< 0.5	<0,5	<0.5			
	06/07/93	10.23	< 50	< 0.5	< 0.5	< 0.5	<0.5			
	08/13/93	10.58	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
	11/18/93	10.70	< 50	< 0.5	<0.5	<0.5	< 0.5			
	02/10/94	9.75	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
	05/03/94	10.19	< 50	< 0.5	< 0.5	< 0.5	< 0.5			
	08/01/94	10.30	< 50	< 0.5	<0.5	<0.5	< 0.5			
S-6	05/04/92	9.42	3,100	640	23	22	97			
(Annually	08/10/92	10.40	3,400	430	26	27	120			
3rd Quarter)	11/09/92	10.16	2,000	320	15	15	100			
	02/23/93	7.60	14,000	780	380	180	1,300			
	06/07/93	8.90	3,900	1,400	83	56	210			
	08/13/93	9.39	4,000 ^b	890	< 0.5	16	41			
	11/18/93	10.32	80	5.0	< 0.5	< 0.5	< 0.5			
	02/10/94	8.68	4,100	370	21	23	90			
	05/03/94	9.20	4,700	550	85	28	340			
	08/01/94	8.90	2 ,900	370	11	11	43			
	08/01/94 ^{dup}	8.90	2,600	340	7 .7	8.8	33			

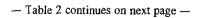




Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-5508-2303, 2800 Telegraph Ave., Oakland, California (continued)

Well ID and Sampling		Depth to Water	TPH-G	В	E	T	X				
Frequency	Date	(ft)		parts per billion (mg/L)							
S-7	05/04/92	11.21	180	1.6	1.5	< 0.5	3				
(Bi-Annually	08/10/92	12.28	190	8	4.7	1.4	8.5				
1st & 3rd Qtrs)	11/09/92	11.77	280	16	7.8	4	21				
	02/23/93	8.86	210	13	5.4	2.2	12				
	06/07/93	10.58	90	1.2	1.0	2.5	< 0.5				
	08/13/93	11.34	140	4.0	< 0.5	0.8	0.5				
	11/18/93	12.00	440	43	0.9	4.9	4.2				
	02/10/94	9.88	250 ^b	< 0.5	1.8	< 0.5	< 0.5				
	05/03/94	10.75	130	< 0.5	< 0.5	< 0.5	< 0.5				
	08/01/94	11.05	250	4.8	< 0.5	< 0.5	< 0.5				
S-8	05/05/92	10.29	1,600	20	96	420	330				
(Quarterly)	08/10/92	11.12	1,500	19	60	37	250				
	11/09/92	10.71	710	5.7	28	24	120				
	02/23/93	6.04	3,800	40	68	54	260				
	06/07/93	10.06	1,200	13	65	19	150				
	08/13/93	10.56	1,300	21	49	23	250				
	11/18/93	10.90	870	16	59	5.3	230				
	02/10/94	9.53	2,400	11	120	55	530				
	02/10/94 ^{dup}	9.53	2,400	11	100	46	440				
	05/03/94	10.06	3,100	12	130	27	370				
	05/03/94 ^{dup}	10.06	3,000	21	120	25	340				
	08/01/94	10.32	1,500	20	39	18	190				
	11/08/94	9.25	2,100	22	73	38	390				
	11/08/94 ^{dup}	9.25	2,100	20	75	31	390				
S-9	05/05/92	10.45	< 50	< 0.5	< 0.5	< 0.5	< 0.5				

⁻ Table 2 continues on next page -



Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-5508-2303, 2800 Telegraph Ave., Oakland, California (continued)

Well ID and Sampling		Depth to Water	TPH-G	В	E	Т	X					
Frequency	Date	(ft)		← parts per billion (mg/L)								
(Annually	08/10/92	11.52	<50	<0.5	< 0.5	< 0.5	<0.5					
3rd Quarter)	11/09/92	11.02	< 50	< 0.5	< 0.5	< 0.5	0.7					
	02/23/92	8.00	< 50	< 0.5	< 0.5	< 0.5	< 0.5					
	06/07/93	10.07	< 50	< 0.5	< 0.5	< 0.5	< 0.5					
	08/13/93	10.92	140°	< 0.5	< 0.5	< 0.5	< 0.5					
	11/18/93	11.19	170	< 0.5	< 0.5	< 0.5	< 0.5					
	02/10/94	9.16	140°	< 0.5	< 0.5	< 0.5	< 0.5					
	05/03/94	10.03	< 50	< 0.5	< 0.5	< 0.5	< 0.5					
	08/01/94	10.52	< 50	< 0.5	< 0.5	<0.5	< 0.5					
S-10	05/05/92	8.54	< 50	< 0.5	< 0.5	< 0.5	<0.5					
(Annually	08/10/92	10.43	< 50	< 0.5	< 0.5	< 0.5	< 0.5					
3rd Quarter)	11/09/92	9.14	< 50	< 0.5	< 0.5	< 0.5	< 0.5					
	02/22/93	6.72	< 50	< 0.5	< 0.5	< 0.5	< 0.5					
	06/07/93	8.08	< 50	< 0.5	< 0.5	< 0.5	< 0.5					
	08/13/93	8.83	< 50	< 0.5	< 0.5	< 0.5	< 0.5					
	11/18/93	9.46	< 50	< 0.5	< 0.5	< 0.5	< 0.5					
	02/10/94	7.41	< 50	< 0.5	< 0.5	< 0.5	< 0.5					
	05/03/94	8.16	< 50	< 0.5	< 0.5	< 0.5	< 0.5					
	08/01/94	8.29	< 50	< 0.5	<0.5	<0.5	< 0.5					
S-11	05/04/92	9.99	1,500	55	57	32	190					
(Quarterly)	08/10/92	10.92	750	29	43	13	120					
	11/09/92	10.44	4,100	32	120	62	1,100					
	02/23/93	7.30	760	15	37	13	140					
	06/07/93	9.51	1,700	40	100	16	360					
	06/07/93 ^{dup}	9.51	1,600	51	83	16	300					
	08/13/93	10.39	60	0.9	0.8	<0.5	1.2					

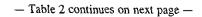




Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-5508-2303, 2800 Telegraph Ave., Oakland, California (continued)

Well ID and Sampling		Depth to Water	TPH-G	В	E	Τ	X
Frequency	Date	(ft)	← parts per billion (mg/L)		- · · · · · · · · · · · · · · · · · · ·		
	08/13/93 ^{dup}	10.39	70	2.1	0.9	<0.5	2.1
	11/18/93	10.64	150	7.8	9.0	1.0	12
	02/10/94	8.50	4,400	53	160	19	390
	05/03/94	9.42	65	1.5	0.53	< 0.5	0.59
	08/01/94	10.12	240	18	6.9	6.7	18
	11/08/94	8.84	490	14	15	5.2	47
SR-1	11/18/93	10.02	< 50	<0.5	< 0.5	< 0.5	< 0.5
	11/18/93 ^{dup}	10.02	< 50	< 0.5	< 0.5	< 0.5	< 0.5
Trip	06/04/93		< 50	< 0.5	< 0.5	< 0.5	< 0.5
Blank	08/13/93		< 50	< 0.5	< 0.5	< 0.5	< 0.5
	11/18/93		< 50	< 0.5	< 0.5	< 0.5	< 0.5
	02/10/94		< 50	< 0.5	< 0.5	< 0.5	< 0.5
	05/03/94		< 50	< 0.5	< 0.5	< 0.5	< 0.5
	08/01/94		< 50	< 0.5	< 0.5	< 0.5	< 0.5
	11/08/94		< 50	< 0.5	< 0.5	< 0.5	< 0.5
DTSC MCLs			NE	1.0	680	100°	1,750

Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-5508-2303, 2800 Telegraph Ave., Oakland, California (continued)

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015

B = Benzene by EPA Method 8020

E = Ethylbenzene by EPA Method 8020

T = Toluene by EPA Method 8020

X = Xylenes by EPA Method 8020

--- = Not analyzed

DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water

NE = Not established

< n = Not detected at detection limits of n ppb

dup = Duplicate sample

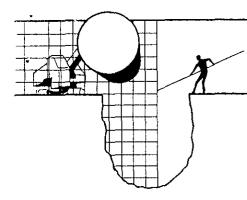
Notes:

- a = Well paved over, inaccessible since August, 1992.
- b = The concentration reported as gasoline is primarily due to the presence of a combination of gasoline and a discrete peak not indicative of gasoline.
- c = The concentration reported as gasoline is primarily due to the presence of a discrete peak not indicative of gasoline.
- d = DTSC recommended action level for drinking water; MCL not established



ATTACHMENT A

GROUND WATER MONITORING REPORT AND ANALYTIC REPORT



BLAINE TECH SERVICES INC.

985 TIMOTHY DRIVE SAN JOSE, CA 95133 (408) 995-5535 FAX (408) 293-8773

November 28, 1994

Shell Oil Company P.O. Box 4023 Concord, CA 94524

Attn: Lynn Walker

SITE: Shell WIC #204-5508-2303 2800 Telegraph Avenue Oakland, California

QUARTER: 4th quarter of 1994

QUARTERLY GROUNDWATER SAMPLING REPORT 941108-G-1

This report contains data collected during routine inspection, gauging and sampling of groundwater monitoring wells performed by Blaine Tech Services, Inc. in response to the request of the consultant who is overseeing work at this site on behalf of our mutual client, Shell Oil Company. Data collected in the course of our field work is presented in a TABLE OF WELL GAUGING DATA. The field information was collected during our preliminary gauging and inspection of the wells, the subsequent evacuation of each well prior to sampling, and at the time of sampling.

Measurements taken include the total depth of the well and the depth to water. The surface of water was further inspected for the presence of immiscibles which may be present as a thin film (a sheen on the surface of the water) or as a measurable free product zone (FPZ). At intervals during the evacuation phase, the purge water was monitored with instruments that measure electrical conductivity (EC), potential hydrogen (pH), temperature (degrees Fahrenheit), and turbidity (NTU). In the interest of simplicity, fundamental information is tabulated here, while the bulk of the information is turned over directly to the consultant who is making professional interpretations and evaluations of the conditions at the site.

STANDARD PROCEDURES

Evacuation

Groundwater wells are thoroughly purged before sampling to insure that the sample is collected from water that has been newly drawn into the well from the surrounding geologic formation. The selection of equipment to evacuate each well is based on the physical characteristics of the well and what is known about the performance of the formation in which the well has been installed. There are several suitable devices which can be used for evacuation. The most commonly employed devices are air or gas actuated pumps, electric submersible pumps, and hand or mechanically actuated bailers. Our personnel frequently employ USGS/Middleburg positive displacement pumps or similar air actuated pumps which do not agitate the water standing in the well.

Normal evacuation removes three case volumes of water from the well. More than three case volumes of water are removed in cases where more evacuation is needed to achieve stabilization of water parameters and when requested by the local implementing agency. Less water may be removed in cases where the well dewaters and does not recharge to 80% of its original volume within two hours and any additional time our personnel have reason to remain at the site. In such cases, our personnel return to the site within twenty four hours and collect sample material from the water which has recharged into the well case.

Decontamination

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site. Effluent water from purging and on-site equipment cleaning is collected and transported to Shell's Martinez Manufacturing Complex in Martinez, California.

Free Product Skimmer

The column headed, VOLUME OF IMMISCIBLES REMOVED (ml) is included in the TABLE OF WELL GAUGING DATA to cover situations where a free product skimming device must be removed from the well prior to gauging. Skimmers are installed in wells with a free product zone on the surface of the water. The skimmer is a free product recovery device which often prevents normal well gauging and free product zone measurements. The 2.0" and 3.0" PetroTraps fall into the category of devices that obstruct normal gauging. In cases where the consultant elects to have our personnel pull the skimmers out of the well and gauge the well, our personnel perform the additional task of draining the accumulated free product out of the PetroTrap before putting it back in the well. This

recovered free product is measured and logged in the VOLUME OF IMMISCIBLES REMOVED column. Gauging at such sites is performed in accordance with specific directions from the professional consulting firm overseeing work at the site on Shell's behalf.

Sample Containers

Sample material is collected in specially prepared containers which are provided by the laboratory that performs the analyses.

Sampling

Sample material is collected in stainless steel bailer type devices normally fitted with both a top and a bottom check valve. Water is promptly decanted into new sample containers in a manner which reduces the loss of volatile constituents and follows the applicable EPA standard for handling volatile organic and semi-volatile compounds.

Following collection, samples are promptly placed in an ice chest containing prefrozen blocks of an inert ice substitute such as Blue Ice or Super Ice. The samples are maintained in either an ice chest or a refrigerator until delivered into the custody of the laboratory.

Sample Designations

All sample containers are identified with a site designation and a discrete sample identification number specific to that particular groundwater well. Additional standard notations (e.g. time, date, sampler) are also made on the label.

Chain of Custody

Samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under a standard Shell Oil Company chain of custody. If the samples are taken charge of by a different party (such as another person from our office, a courier, etc.) prior to being delivered to the laboratory, appropriate release and acceptance records are made on the chain of custody (time, date, and signature of the person releasing the samples followed by the time, date and signature of the person accepting custody of the samples).

Hazardous Materials Testing Laboratory

The samples obtained at this site were delivered to National Environmental Testing, Inc. in Santa Rosa, California. NET is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #178.

Objective Information Collection

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. performs no consulting and does not become involved in the marketing or installation of remedial systems of any kind. Blaine Tech Services, Inc. is concerned only with the generation of objective information, not with the use of that information to support evaluations and recommendations concerning the environmental condition of the site. Even the straightforward interpretation of objective analytical data is better performed by interested regulatory agencies, and those engineers and geologists who are engaged in the work of providing professional opinions about the site and proposals to perform additional investigation or design remedial systems.

Reportage

Submission of this report and the attached laboratory report to interested regulatory agencies is handled by the consultant in charge of the project. Any professional evaluations or recommendations will be made by the consultant under separate cover.

Please call if we can be of any further assistance.

L-ances (Cll Le Les Richard C. Blaine

RCB/lp

attachments: table of well gauging data

chain of custody

certified analytical report

cc: Weiss Associates

5500 Shellmound Street

SEmeryville, CA 94608-2411

ATTN: Michael Asport

TABLE OF WELL GAUGING DATA

WELL I.D.	DATA COLLECTION DATE	MEASUREMENT REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLES LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLES LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
S-1	11/8/94	TOB	••	NONE	- -	-	9.32	27.82
S-4	11/8/94	ТОВ		NONE			9.44	30.36
S-5	11/8/94	TOB	_	NONE		-	9.64	30.56
S-6	11/8/94	TO8	_	NONE		<u></u>	8.32	22.14
S-7	11/8/94	TOB	_	NONE			9.64	30.84
S-8 *	11/8/94	TOB	ODOR	NONE			9.25	19.15
S-9	11/8/94	TOB		NONE		<u></u>	9.08	30.15
S-10	11/8/94	TOB		NONE			7.02	24.24
S-11	11/8/94	TOB	ODOR	NONE			8.84	19.15
SR-1	11/8/94	TOB		NONE			7.75	34.40

^{*} Sample DUP was a duplicate sample taken from well \$-8.

SHELL RETAIL EN	VIR	NMEN	NTAL	ENGI	NEERI	NG -	; WE	ST			CH	IAI Soi	0 V	F C	US 9	101 411)Υ <i>ὺ</i> ઇ	REC	ORD /	Date Page	9: 11-8-94 1 01
2800		graph A	ve.,	0akla	nd	•	_	· ·	, -	An	alys	is R	equ	irec	1				LAB: NE		
204-5	508-2	2303												•					CHECK OHE (1) FOX OHLY	C1/D1	TWIT OHUOSA HEUT
Shell Engineer: Lynn Consultant Name & A Blaine Tech Serv: 985 Timothy Drive Consultant Contact: Jim Keller Comments:	ddres		<u></u>	9517 Phone 9517 Phone 995–51 Fax #:	675 <u>-</u> 33	61.72	Gas)	d. Diesel)	02)	(EPA 8240)		8015 & BTEX 8020							Sile Invertigation Solt Charley/Okposal Water Charley/Okposal Soly/Ak Rem or Sys. O & M) m2) m2) m0) m1] m1	24 hours
Sampled by: GRA	NT	P-	10H	R			(EPA 8015 Mod.	(EPA 8015 Mod.	BTEX (EPA 8020/602)	Volaille Organics	Test for Disposal	Combination TPH			slos	Container Stze	Preparation Used	Composite Y/N	MATERIAL		SAMPLE .
Sample ID	Dale	Şludge	\$oll	Woler	Alt	No. of	TP.	K.	Ä	Volg	Test	Com			Asbestos	Confc	Prep	Comp	DESCRIPTION		COMMENTS
S&	1/6			X		3						X									_
SII				X		3						X								+-	<u> </u>
EB			,	X		3	-		_			K									
DUP			·	X		3					_	7								1	· /
TB	\bigvee	•		K		2						人						į	()1- ble	go.	<i>b</i> .
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Relinquished By (signature):		Printe	od Nam	e: RATORY			Dale Time	o; •:	_	Red	olyoc	(ដី១០	ature):				rinio	111 (17/6/1/ 2 Norma: 0.78 C	NCS	Time: 07:45 Date: Time:



Santa Rosa Division 435 Tesconi Circle Santa Rosa, CA 95401

Tel. (707) 526-7200 Fax: (707) 526-9623

Jim Keller Blaine Tech Services 985 Timothy Dr. San Jose, CA 95133 Date: 11/21/1994

NET Client Acct. No: 1821 NET Pacific Job No: 94.05413

Received: 11/10/1994

Client Reference Information

Shell, 2800 Telegraph Ave., Oakland/941108-G1

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Jim Hock

Operations Manager

Approved by:

project Coordinator

Enclosure(s)





Client Acct: 1821 NET Job No: 94.05413 Date: 11/21/1994

ELAP Cert: 1386 Page: 2

Ref: Shell, 2800 Telegraph Ave., Oakland/941108-G1

SAMPLE DESCRIPTION: S8

Date Taken: 11/08/1994

Time Taken:

NET Sample No: 222179							Run
		Reporting	ī		Date	Date	Batch
Parameter	Results Flags	Limit	Units	Method	Extracted	Analyzed	No.
TPH (Gas/BTXE, Liquid)		• .					
METHOD 5030/M8015						11/15/1994	2301
DILUTION FACTOR*	10					11/15/1994	2301
as Gasoline	2,100	500 `	ug/L	5030		11/15/1994	2301
Carbon Range:	C5-C12					11/15/1994	2301
METHOD 8020 (GC, Liquid)						11/15/1994	2301
Benzene	22	5	ug/L	8020		11/15/1994	2301
Toluene	38	5	ug/L	8020		11/15/1994	2301
Ethylbenzene	73	5	ug/L	8020		11/15/1994	2301
Xylenes (Total)	390	5	ug/L	8020		11/15/1994	2301
SURROGATE RESULTS						11/15/1994	2301
Bromofluorobenzene (SURR)	106		% Rec.	5030		11/15/1994	2301



Date: 11/21/1994 Client Acct: 1821 ELAP Cert: 1386 NET Job No: 94.05413 Page: 3

Ref: Shell, 2800 Telegraph Ave., Oakland/941108-G1

SAMPLE DESCRIPTION: S11

Date Taken: 11/08/1994

Time Taken: NET Sample No: 222180

NET Sample No: 222180							Run
		Reportin	ıg		Date	Date	Batch
Parameter	Results Flags	Limit	Units	Method	Extracted	Analyzed	No.
TPH (Gas/BTXE, Liquid)							
METHOD 5030/M8015						11/15/1994	2301
DILUTION FACTOR*	1					11/15/1994	2301
as Gasoline	490	50	ug/L	5030		11/15/1994	2301
Carbon Range:	CS-C12					11/15/1994	2301
METHOD 8020 (GC, Liquid)						11/15/1994	2301
Benzene	14	0.5	ug/L	8020		11/15/1994	2301
Toluene	5.2	0.5	ug/L	8020		11/15/1994	2301
Ethylbenzene	15	0.5	ug/L	8020		11/15/1994	2301
Xylenes (Total)	47	0.5	ug/L	8020		11/15/1994	2301
SURROGATE RESULTS						11/15/1994	2301
Bromofluorobenzene (SURR)	116		% Rec.	5030		11/15/1994	2301



Client Acct: 1821 NET Job No: 94.05413 Date: 11/21/1994

ELAP Cert: 1386 Page: 4

Ref: Shell, 2800 Telegraph Ave., Oakland/941108-G1

SAMPLE DESCRIPTION: EB

Date Taken: 11/08/1994

Time Taken:

NET Sample No: 222181							Run	
		Reporting			Date	Date	Batch	
Parameter	Results Flags	Limit	Units	Method	Extracted	Analyzed	No.	
TPH (Gas/BTXE, Liquid)								
METHOD 5030/M8015						11/15/1994	2301	
DILUTION FACTOR*	1					11/15/1994	2301	
as Gasoline	ND	50	ug/L	5030		11/15/1994	2301	
Carbon Range:						11/15/1994	2301	
METHOD 8020 (GC, Liquid)						11/15/1994	2301	
Benzene	ND	0.5	ug/L	8020		11/15/1994	2301	
Toluene	ND	0.5	ug/L	8020		11/15/1994	2301	
Ethylbenzene	ND	0,5	ug/L	8020		11/15/1994	2301	
Xylenes (Total)	ND	0.5 ·	ug/L	8020		11/15/1994	2301	
SURROGATE RESULTS						11/15/1994	2301	
Bromofluorobenzene (SURR)	90		% Rec.	5030		11/15/1994	2301	



Client Acct: 1821 NET Job No: 94.05413

Date: 11/21/1994 ELAP Cert: 1386

Page: 5

Ref: Shell, 2800 Telegraph Ave., Oakland/941108-G1

SAMPLE DESCRIPTION: DUP

Date Taken: 11/08/1994

Time Taken:

NET Sample No: 222182								Run
			Reporting			Date	Date	Batch
Parameter	Results	Flags_	Limit	Units	Method	Extracted	Analyzed	No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015							11/15/1994	2301
DILUTION FACTOR*	1						11/15/1994	2301
as Gasoline	2,100		50	ug/L	5030		11/15/1994	2301
Carbon Range:	CS-C12						11/15/1994	2301
METHOD 8020 (GC, Liquid)							11/15/1994	2301
Benzene	20		0.5	ug/L	8020		11/15/1994	2301
Toluene	31		0.5	ug/L	8020		11/15/1994	2301
Ethylbenzene	75		0.5	ug/L	8020		11/16/1994	2305
Xylenes (Total)	390		0.5	ug/L	8020		11/16/1994	2305
SURROGATE RESULTS							11/15/1994	2301
Bromofluorobenzene (SURR)	140	MI		% Rec.	5030		11/15/1994	2301



Date: 11/21/1994 Client Acct: 1821 ELAP Cert: 1386 NET Job No: 94.05413 Page: 6

Ref: Shell, 2800 Telegraph Ave., Oakland/941108-G1

SAMPLE DESCRIPTION: TB

Date Taken: 11/08/1994

Time Taken: NET Sample No: 222183

NET Sample No: 222183						
	Reportin	ıg		Date	Date	Batch
Results Flag	s Limit	Units	Method	Extracted	Analyzed	No.
					11/15/1994	2301
1					11/15/1994	2301
ND	50	ug/L	5030		11/15/1994	2301
					11/15/1994	2301
					11/15/1994	2301
ND	0.5	ug/L	8020		11/15/1994	2301
ND	0.5	ug/L	8020		11/15/1994	2301
ND	0.5	ug/L	8020		11/15/1994	2301
ND	0.5	ug/L	8020		11/15/1994	2301
					11/15/1994	2301
98		% Rec.	5030		11/15/1994	2301
	1 ND ND ND ND ND ND	Results Flags Limit	1 ND 50 ug/L ND 0.5 ug/L	Results Flags Limit Units Method	Results Flags Limit Units Method Extracted	Results Flags Limit Units Method Extracted Analyzed



Client Name: Blaine Tech Services
Client Acct: 1821

Date: 11/21/1994 ELAP Cert. 1386

Page: 7

Ref: Shell, 2800 Telegraph Ave., Oakland/941108-G1

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

		ccv	CCA			
	ccv	Standard	Standard			
	Standard	Amount	Amount		Date	Analyst
Parameter	<pre>% Recovery</pre>	Found	Expected	Units	Analyzed	Initials
TPH (Gas/BTXE, Liquid)						
as Gasoline	111.0	1.11	1.00	mg/L	11/15/1994	tts
Benzene	95.8	4.79	5.00	ug/L	11/15/1994	tts
Toluene	95.0	4.75	5.00	ug/L	11/15/1994	tts
Cthylbenzene	98.6	4.93	5.00	ug/Ľ	11/15/1994	tts
Xylenes (Total)	102.0	15.3	15.0	ug/L	11/15/1994	tts
Bromofluorobenzene (SURR)	115.0	115	100	% Rec.	11/15/1994	tts
TPH (Gas/BTXE, Liquid)						
as Gasoline	111,0	1.11	1.00	mg/L	11/16/1994	tts
Benzene	96.4	4.82	5.00	ug/L	11/16/1994	tts
Toluene	95.4	4.77	5.00	ug/L	11/16/1994	tts
Ethylbenzene	96.6	4.83	5.00	ug/L	11/16/1994	tts
Xylenes (Total)	100.0	15.0	15.0	ug/L	11/16/1994	tts
Bromofluorobenzene (SURR)	107.0	107	100	% Rec.	11/16/1994	tts



Client Acct: 1821 NET Job No: 94.05413 Date: 11/21/1994

ELAP Cert: 1386 Page: 8

Ref: Shell, 2800 Telegraph Ave., Oakland/941108-G1

METHOD BLANK REPORT

Method Blank

	Amount	Reporting		Date	Analyst	
Parameter	Found	Limit	Units	Analyzed	<u>Initials</u>	
TPH (Gas/BTXE, Liquid)					· · · · · · · · · · · · · · · · · · ·	
as Gasoline	ND	0.05	mg/L	11/15/1994	tts	
Benzene	ND	0.5	ug/L	11/15/1994	tts	
Toluene	ND	0.5	ug/L	11/15/1994	tts	
Ethylbenzene	ND	0.5	ug/L	11/15/1994	tts	
Xylenes (Total)	ND	0.5	ug/L	11/15/1994	tts	
Bromofluorobenzene (SURR)	92		% Rec.	11/15/1994	tts	
TPH (Gas/BTXE, Liquid)						
as Gasoline	ND	0.05	mg/L	11/16/1994	tts	
Benzene	ND	0.5	ug/L	11/16/1994	tts	
Toluene	ND	0.5	ug/L	11/16/1994	tts	
Ethylbenzene	ND	0.5	ug/L	11/16/1994	tts	
Xylenes (Total)	ND	0.5	ug/L	11/16/1994	tts	
Bromofluorobenzene (SURR)	98		% Rec.	11/16/1994	tts	



Client Acct: 1821 NET Job No: 94.05413 Date: 11/21/1994

ELAP Cert: 1386 Page: 9

Ref: Shell, 2800 Telegraph Ave., Oakland/941108-G1

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

		Matrix					Matrix			
	Matrix	Spike				Matrix	Spike			
	Spike	Dup		Spike	Sample	Spike	Dup.		Date	Analyst
Parameter	% Rec.	% Rec.	RPD	Amount	Conc.	Conc.	Conc.	Units	Analyzed	Initials
TPH (Gas/BTXE, Liquid)										
as Gasoline	104.0	108.0	3.8	1.00	ND	1.04	1.08	mg/L	11/15/1994	tts
Benzene	95.9	96.8	0.9	22.2	ND	21.3	21.5	ug/L	11/15/1994	tts
Toluene	89.5	97.2	8.2	83.5	ND	74.7	81.2	ug/L	11/15/1994	tts
TPH (Gas/BTXE, Liquid)										
as Gasoline	102.0	111.0	8.5	1.00	ND	1.02	1.11	mg/L	11/16/1994	tts
Benzene	91.1	99.6	8.9	22.4	ND	20.4	22.3	ug/L	11/16/1994	tts
Toluene	92.5	101.2	8.9	83.1	ND	76.9	84.1	ug/L	11/16/1994	tts



KEY TO ABBREVIATIONS and METHOD REFERENCES

: Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.

: Reporting Limits are a function of the dilution factor for any given sample. Actual reporting limits and results have been multiplied by the listed dilution factor. Do not multiply the reporting limits or reported values by the dilution factor.

dw : Result expressed as dry weight.

mean : Average; sum of measurements divided by number of measurements.

mg/Kg (ppm) : Concentration in units of milligrams of analyte per kilogram of

sample, wet-weight basis (parts per million).

mg/L : Concentration in units of milligrams of analyte per liter of sample.

mL/L/hr : Milliliters per liter per hour.

MPN/100 mL : Most probable number of bacteria per one hundred milliliters of sample.

N/A : Not applicable.

NA : Not analyzed.

ND : Not detected; the analyte concentration is less than the applicable

listed reporting limit.

NTU : Nephelometric turbidity units.

RPD : Relative percent difference, 100 [Value 1 - Value 2]/mean value.

SNA : Standard not available.

ug/Kg (ppb) : Concentration in units of micrograms of analyte per kilogram of sample,

wet-weight basis (parts per billion).

ug/L : Concentration in units of micrograms of analyte per liter of sample.

umhos/cm : Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, Rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, Rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986., Rev. 1, December 1987.

<u>SM</u>: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

Revised September, 1993 abb.93

COOLER RECEIPT FORM

Project: DA-5506-2303 Cooler received on: 110194 and	Log i checked on Aliolus Signature	No: <u>7,79</u>	5
Were custody papers present?	` ,		NO
Were custody papers properly fill		✓ 1	ΝΦ
Were the custody papers signed?		/ \	NO
Was sufficient ice used?		YES	NOTENDION
Did all bottles arrive in good co	ondition (unbroken)?	YES	NO
Did bottle labels match COC?		YES	NO .
Were proper bottles used for anal	lysis indicated?	YES	ОИ
Correct preservatives used?			NO
VOA vials checked for headspace be Note which voas (if any)	oubbles?		NO
Sample descriptor:	Number of vials:		
*All VOAs with headspace bubbles used for analysis		o they wi	ll not be NO
Client Job #	NET log #		,

(coolerrec)