Weiss Associates Environmental and Geologic Services

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

Received Aug 29 '94

August 25, 1994

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

Re: Workplan/Closure Request
Shell Service Station
2160 Otis Drive
Alameda, California
WIC #204-0072-0502
STID 590
WA Job #81-429-104

Dear Ms. Shin:

On behalf of Shell Oil Company (Shell), Weiss Associates has prepared this letter to respond to your May 17, 1994 letter to Shell Engineer Dan Kirk. In a June 13, 1994 letter, WA requested an August 30, 1994 submittal deadline to allow time to collect additional samples from the site wells. Your letter requested an offsite soil and ground water investigation to determine the source of the volatile organic compounds (VOCs) detected in ground water from monitoring well MW-2 at the site referenced above (Figures 1 and 2). The sampling analytic results and our recommendations for further work are presented below.

On July 26 and August 18, 1994, monitoring wells MW-1 and MW-2 were sampled for total petroleum hydrocarbons as gasoline (TPH-G), benzene, ethylbenzene, toluene, and xylenes (BETX), VOCs, total dissolved oxygen (TDO) and total dissolved solids (TDS) (Tables 2A, 2B and Attachment A). The results of these samplings indicate that:

- Petroleum hydrocarbon concentrations detected in monitoring well MW-2 remained within historical ranges and have remained stable since April 1990;

- No volatile organic compounds (VOCs) were detected in the sample collected from MW-1. All VOCs detected in monitoring well MW-2 were within historical ranges and near or below Department of Toxic Substances Control maximum contaminant levels for drinking water. Low VOC concentrations have remained stable since April 1990;

- Dissolved oxygen concentrations ranged from 1.8 to 4.1 ppm, which are concentrations that can sustain petroleum hydrocarbon and VOC utilizing bacteria; and

- Up to 6,330 ppm and 12,800 ppm total dissolved solids (TDSs) were detected in ground water samples collected from wells MW-1 and MW-2, respectively. These concentrations exceed by four times the State Water Quality Control Board's TDS threshold of 3,000 ppm.

Since the ground water in the vicinity of the Shell service station referenced above is naturally degraded with TDS concentrations, and since the low concentrations of VOCs detected in monitoring well MW-2 probably originate offsite, WA does not recommend that Shell conduct an offsite investigation to determine the source of VOCs detected in monitoring well MW-2.

However, WA does recommend:

- Sampling the wells for TDS for one additional quarter;

- Destroying the three site monitoring wells if the additional ground water samples contain TDS concentrations above the accepted drinking water threshold, and

- Requesting site closure from the San Francisco Bay Regional Water Quality Control Board after the TDS concentrations have been verified.

Weiss Associates appreciates your consideration in this matter. Please call David Elias at 450-6108 if you have any questions or comments.

Sincerely,
Weiss Associates

David Elias
Senior Staff Geologist

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

DCE:de
J:\HC_ENG\SHELL\ALAM-429\429L1AU4.WP
cc: Dan Kirk, Shell Oil Company
Kevin Graves, Regional Water Quality Control Board - San Francisco Bay Region

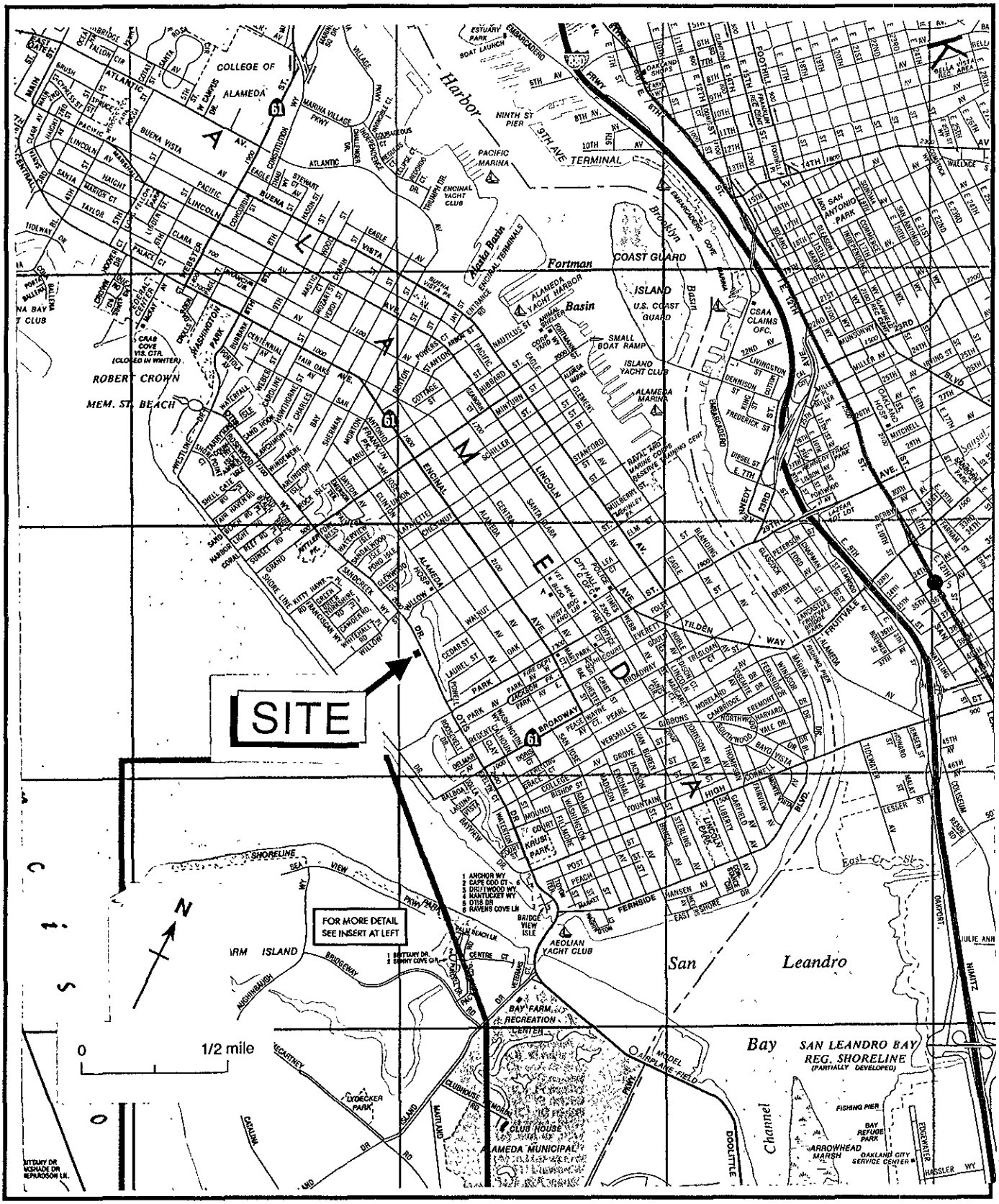

Figure 1. Site Location Map - Shell Service Station, WIC# 204-0072-0502, 2160 Otis Drive, Alameda, CA

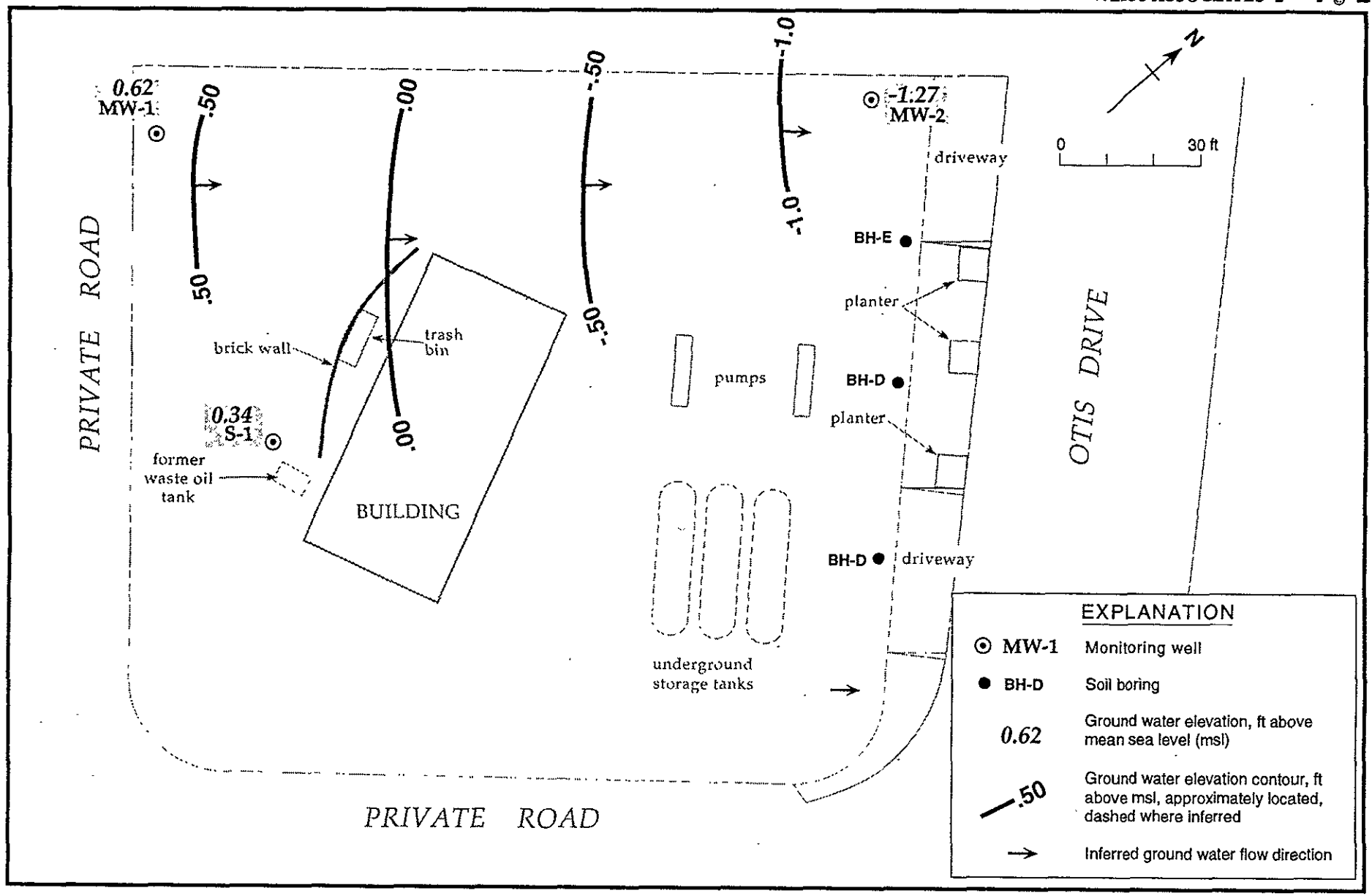

Figure 2. Monitoring Well Locations, Soil Boring Locations and Ground Water Elevation Contours - July 26, 1994 - Shell Service Station WIC #204-0072-2160, 2160 Otis Drive, Alameda, California

S429-008.ai

08/26/94

Table 1. Ground Water Elevations - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
MW-1	04/11/90	6.00	5.23	0.77
	07/10/90		5.40	0.60
	10/09/90		5.61	0.39
	01/17/91		5.66	0.34
	04/09/91		4.96	1.04
	07/10/91		5.52	0.48
	10/09/91		5.70	0.30
	01/24/92		5.51	0.49
	04/23/92		5.14	0.86
	07/01/92		4.48	1.52
	10/02/92		5.80	0.20
	01/05/93		5.34	0.66
	04/08/93		4.62	1.38
	07/20/93		5.20	0.80
	10/15/93		4.37	1.63
	01/07/94		5.26	0.74
	04/13/94		5.01	0.99
	07/26/94		**5.38**	**0.62**
	08/18/94		**5.40**	**0.60**
MW-2	04/11/90	3.29	4.51	-1.22
	07/10/90		4.61	-1.32
	10/09/90		4.74	-1.45
	01/17/91		4.73	-1.44

-- Table 1 continues on next page --

Table 1. Ground Water Elevations - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	04/09/91		4.09	-0.80
	07/10/91		4.66	-1.37
	10/09/91		4.81	-1.52
	01/24/92		4.66	-1.37
	04/23/92		4.51	-1.22
	07/01/92		4.57	-1.28
	10/02/92		4.80	-1.51
	01/05/93		4.39	-1.1
	04/08/93		4.15	-0.86
	07/20/93		4.40	-1.11
	10/15/93		5.41	-2.12
	01/07/94		4.34	-1.05
	04/13/94		4.29	-1.00
	07/26/94		**4.56**	**-1.27**
S-1	09/11/90	5.10	4.29	0.81
	04/11/90		4.00	1.10
	07/10/90		4.25	0.85
	10/09/90		4.46	0.64
	01/17/91		4.53	0.57
	04/09/91		4.20	0.90
	07/10/91		4.42	0.68
	10/09/91		4.87	0.23
	01/24/92		4.90	0.20
	04/23/92		4.66	0.44

-- Table 1 continues on next page --

Table 1. Ground Water Elevations - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	07/01/92		4.85	0.25
	10/02/92		4.80	0.30
	01/05/93		5.38	-0.28
	04/08/93		3.69	1.41
	07/20/93		4.20	0.90
	10/15/93		4.38	0.72
	01/07/94		4.19	0.91
	04/17/94		4.03	1.07
	07/26/94		**4.76**	**0.34**

Table 2A. Analytic Results for Ground Water - Petroleum Hydrocarbons - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	POG
			<----------parts per billion (µg/L)---------->						
S-1	09/04/87		---	---	<5	<5	<5	<5	---
(Annually	09/11/89[a]	4.29	<50	<100	<0.5	<1	<1	<3	<1,000
1st Qtr)	04/11/90	4.00	<50	<50	<0 5	<0.5	<0.5	<0 5	<10,000
	07/10/90	4.25	<90	---	<0.5	<0.5	<0.5	<0.5	<10,000
	10/09/90	4.46	<50	---	<0.5	<0.5	<0.5	<0.5	<5,000
	01/17/91	4.53	<50	---	<0.5	<0 5	<0.5	<0.5	---
	04/09/91	4.20	<50	---	<0 5	<0.5	<0.5	<0.5	---
	07/10/91	4.42	<50	---	<0.5	<0.5	<0.5	<0 5	---
	10/09/91	4 87	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/24/92	4.90	<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/23/92	4.66	<50	---	<0 5	<0 5	<0.5	<0.5	---
	07/01/92	4.85	<50	---	<0 5	<0 5	<0.5	<0 5	---
	10/02/92	5.80	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/05/93	5.38	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/07/94	4.19	<50	---	<0 5	<0 5	<0.5	<0.5	---
	01/07/94	4.19	<50	---	<0.5	<0.5	<0 5	<0.5	---
MW-1	04/11/90	5.23	<50	<50	<0.5	<0 5	<0.5	<0.5	<10,000
(Annually	07/10/90	5.40	100	---	<0.5	<0.5	<0 5	<0.5	<10,000
1st Qtr)	10/09/90	5.61	<50	---	<0.5	<0.5	<0.5	<0.5	<5,000
	01/17/91	5.66	<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/09/91	4.96	<50	---	<0.5	<0.5	<0 5	<0 5	---
	07/10/91	5.52	<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/09/91	5.70	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/24/92	5 51	<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/23/92	5.14	<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/01/92	4.48	<50	---	<0 5	<0.5	<0 5	<0 5	---
	10/02/92	4.80	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/05/93	5.34	<50	---	<0.5	<0 5	<0.5	<0.5	---

-- Table 2A continues on next page --

Table 2A. Analytic Results for Ground Water - Petroleum Hydrocarbons - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California (continued)

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	POG
			<----------parts per billion (µg/L)---------->						
	01/05/93[dup]	5.34	<50	---	<0.5	<0.5	<0.5	<0 5	---
	01/07/94	5.26	<50	---	<0.5	<0.5	<0.5	<0.5	---
	08/18/94[b]	**5.40**	**<50**	---	**<0.5**	**<0.5**	**<0.5**	**<0.5**	---
MW-2	04/11/90	4.51	200[c]	220	2.7	<0.5	0.5	2.4	<10,000
(Quarterly)	07/10/90	4.61	570[c]	450	150	<0.5	0.9	3.1	<10,000
	10/09/90	4 74	190[c]	51	55	<0.5	<0.5	<0.5	<5,000
	01/17/91	4.73	350[c]	<50	51	<0 5	<0.5	<0.5	---
	04/09/91	4.09	---	<50	21	<5	<5	<5	---
	07/10/91	4.66	50[c]	<50	8.4	<0.5	<0.5	<0.5	---
	10/09/91	4.81	150	---	22	<0.5	<0.5	<0.5	---
	01/24/92	4 66	<50	---	4 8	<0.5	<0.5	<0.5	---
	04/23/92	4.51	<50	---	2.3	1.5	<0.5	<0.5	---
	07/01/92	4.57	130[d]	---	19	<0.5	<0.5	<0 5	---
	10/02/92	4.80	120[d]	---	7.8	<0.5	<0.5	<0.8	---
	01/05/93	4 39	200[d]	---	9.0	<0 5	0.6	1.8	---
	04/08/93	4.15	170[d]	---	9.6	<0.5	<0.5	1.6	---
	07/20/93	4.40	80[e]	---	16	1.3	1.4	6.1	---
	10/15/93	4.38	400[d]	---	37	0.6	1.1	4.7	---
	01/07/94	4.34	86[e]	---	12	<0.5	<0 5	1.1	<500
	04/13/94	4.29	<50	---	14	<0.5	<0.5	<0.5	
	07/26/94[f]	**4.56**	**290**	---	**51**	**<0.5**	**<0.5**	**<0.5**	---
BH-C	12/17/92	5.0	<50	<0.5	<0.5	<0.5	<0.5	<0 5	---
BH-D	12/17/92	5.0	<50	<0.5	<0.5	<0 5	<0.5	<0.5	---
BH-E	12/17/92	5 5	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---

-- Table 2A continues on next page --

Table 2A. Analytic Results for Ground Water - Petroleum Hydrocarbons - Shell Service Station WIC #204-0072-0502. 2160 Otis Drive, Alameda, California (continued)

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	POG
			<----------parts per billion (µg/L)---------->						
Trip Blank	07/10/90		<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/09/90		<50	---	<0 5	<0.5	<0.5	<0.5	---
	01/17/91		<50	---	<0 5	<0.5	<0.5	<0.5	---
	04/09/91		<50	---	<0.5	<0.5	<0 5	<0.5	---
	07/10/91		<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/09/91		<50	---	<0 5	<0.5	<0.5	<0.5	---
	01/24/92		<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/23/92		<50	---	<0.5	<0.5	<0 5	<0.5	---
	07/01/92		<50	---	<0 5	<0.5	<0.5	<0.5	---
	10/02/92		<50	---	<0.5	<0 5	<0.5	<0 5	---
	01/05/93		<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/08/93		<50	---	<0.5	<0.5	<0 5	<0.5	---
	07/20/93		<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/15/93		<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/07/94		<50	---	<0.5	<0.5	<0 5	<0.5	---
	04/13/94		**<50**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**---**
DTSC MCLs			NE	---	1.0	680	100[9]	1,750	---

-- Table 2A continues on next page --

Table 2A. Analytic Results for Ground Water - Petroleum Hydrocarbons - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California (continued)

Abbreviations:

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

TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015

B = Benzene by EPA Method 8020, or 8240

E = Ethylbenzene by EPA Method 8020, or 8240

T = Toluene by EPA Method 8020, or 8240

X = Xylenes by EPA Method 8020, or 8240

POG = Petroleum oil and grease by American Public Health Association Standard Methods 503, or EPA method 5520BF

DTSC MCLs = Department of Toxic Substances Control maximum contaminant levels

<n = Not detected above detection limit of n ppb

NE = DTSC MCL not established

BH-C = Grab Ground Water Sample

Notes:

a = 0.090 ppm chromium, 0.090 ppm lead and 0.10 ppm Zn detected; no cadmium detected above detection limit of 0.010 ppm by EPA Method 6010. No semi-volatile organic compounds or PCBs detected by EPA Method 625. DTSC MCLs for Cr = 0.05 ppm; Pb = 0.05 ppm; secondary MCL for Zn = 5 ppm.

b = 1.8 ppm dissolved oxygen and 6,300 ppm total dissolved solids detected.

c = Chromatographic pattern not typical for gasoline; the concentration is due mostly to lighter hydrocarbon compounds.

d = The concentration reported as gasoline is *partially* due to the presence of discrete peaks not indicative of gasoline.

e = The concentration reported as gasoline is *primarily* due to the presence of discrete peaks not indicative of gasoline.

f = 2.85 to 4.08 ppm dissolved oxygen and 12,800 ppm total dissolved solids detected.

g = DTSC recommended action level for drinking water; MCL not established

Table 2B. Analytic Results for Ground Water - Volatile Organic Compounds - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California

Well ID	Date Sampled	Depth to Water (ft)	TCE	TCA	PCE	Cloroform	cis-1,2-DCE	trans-1,2-DCE	1,2-DCA	Carbon Disulfate	Vinyl Chloride
			<----------parts per billion (µg/l)---------->								
S-1	09/04/87[a]	---	---	---	---	---	---	---	---	---	---
	09/11/89	4.29	ND	ND	ND	ND	ND	ND	ND	ND	ND
	04/11/90	4 00	<0 4	<0 4	<0.4	1.7	<0.4	<0.4	<0.4	---	<0.4
	07/10/90	4.25	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	---	<2
	10/09/90	4.96	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<2
	01/07/94	4.19	<0.5	<0.5	<0.5	<0 5	<0.5	<0 5	<0.5	---	<0.5
	01/07/94[dup]	4.19	<0.5	<0.5	<0 5	<0.5	<0.5	<0.5	<0.5	---	<0.5
MW-1	04/11/90	5.23	<0.4	<0.4	<0.4	<0 4	<0.4	<0.4	<0.4	---	<0 4
	07/10/90	5.40	<0.4	<0.4	<0.4	<0 4	<0.4	<0.4	<0.4	---	<2
	10/09/90	5.61	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0 5	---	<2
	08/18/94	**5.40**	**<0.4**	**<0.4**	**<0.4**	**<0.4**	**<0.4**	**<0.4**	**<0.4**	**---**	**<0.4**
MW-2	04/11/90	4.51	1.2	<0.4	<0.4	4.5	<0.4	16	<0.4	---	<2
	07/10/90	4.61	0 93	<0.4	<0.4	1.7	<0.4	11	0.44	---	<2
	10/09/90	4.74	1.3	<0 5	1 6	15	46	6.7	<0.5	---	2 5
	01/17/91[b]	4 73	1.2	<0.5	0.6	2.6	74	12	0.5	---	3.0
	04/09/91	4.09	<5	<5	<5	<5	64	<5	<5	<0.5	<10
	07/10/91	4.66	<0.5	<0 5	6.9	43	<0.5	<0.5	<0.5	14	<10
	10/09/91	4 81	1.9	<1	28	7.4	54	16	<1	---	1 7
	01/24/92	4.66	2 5	<0.5	7.0	19	16	4.3	0 6	---	<0.5
	04/23/92	4.51	<3	<3	3.0	<3	84	18	<3	---	<3
	07/01/92	4.57	2.0	<1	2.0	<1	54	14	<1	---	1 0
	10/92/92	4.80	1.0	<1	<1	<1	61	12	<1	---	<1
	01/05/93	4 39	1.7	<0.5	2 2	<0.5	33	8.7	<0.5	---	.67
	04/08/93	4.15	1.3	<1	<1	<1	38	7.8	<1	---	<1
	07/20/93	4 40	2.4	<1	4.7	2.3	43	10	<0.5	---	<0.5
	10/15/93	4.38	<2 5	<2.5	<2.5	<2.5	110	25	<2.5	---	<2 5
	01/07/94	4.34	3.8	<0.5	14.0	8 9	29	5.4	<0.5	---	<0.5
	04/13/94	4.29	4.3	<1 3	5.7	2.9	76	14	<1.3	---	---
	07/26/94	**4.56**	**4.3**	**<0.4**	**3.5**	**<0.4**	**<0.4**	**5.7**	**<0.4**	**---**	**<0.4**

MCLs: 10ppb trans 1,2DCE, 6ppb cis 1,2DCE PCE = 5ppb TCE = 5ppb Vinyl Chloride = .5ppb

Weiss Associates

Table 2B. Analytic Results for Ground Water - Volatile Organic Compounds - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California (continued)

BH-C	12/17/93	5.0	<2	<2	<2	<2	<2	<2	<2	---	<2
BH-D	12/17/93	5.0	<2	<2	<2	<2	<2	<2	<2	---	<2
BH-E	12/17/93	5.5	<2	<2	<2	<2	<2	<2	<2	---	<2
DTSC MCLs			5	200	5	NE	6	10	0.5	NE	0.5

-- Table 2B continues on next page --

Table 2B. Analytic Results for Ground Water - Volatile Organic Compounds - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California (continued)

Abbreviations:

TCE = Trichloroethene by EPA Method 601/8010 or 8240
TCA = 1,1,1-Trichloroethane by EPA Method 601/8010 or 8240
PCE = Tetrachloroethene by EPA Method 601/8010 or 8240
cis-1,2-DCE = cis-1,2-Dichloroethene by EPA Method 601/8010 or 8240
trans-1,2-DCE = trans-1,2-Dichloroethene by EPA Method 601/8010 or 8240
--- = Not analyzed
<n = Not detected above detection limit of n ppb
1,2-DCA = 1,2 dichloroethane by EPA Method 601/8010 or 8240
DTCS MCLs = Department of Toxic Substance control maximum contaminant levels
NE = DTSC MCL not established
ND = Analyte not detected, detection limit not known

Notes:

a = 7.0 ppb unknown alcohol and 270 ppb acetone detected
b = 5.0 ppb chlorobenzene detected

ATTACHMENT A

BTS GROUND WATER MONITORING REPORT

BLAINE
TECH SERVICES INC.

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

August 15, 1994

Shell Oil Company
P.O. Box 5278
Concord, CA 94520-9998

Attn: Daniel T. Kirk

SITE:
Shell WIC #204-0072-0502
2160 Otis Drive
Alameda, California

QUARTER:
3rd quarter of 1994

QUARTERLY GROUNDWATER SAMPLING REPORT 940726-Y-2

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.

Richard C. Blaine

RCB/lp

attachments: table of well gauging data
chain of custody
certified analytical report

cc: Weiss Associates
5500 Shellmound Street
Emeryville, 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	7/26/94	TOC	--	NONE	--	--	4.76	18.77
MW-1	7/26/94	TOC	--	NONE	--	--	5.38	16.49
MW-2	7/26/94	TOC	--	NONE	--	--	4.56	17.06

1625

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 940726-Y2

Date: 7/26
Page 1 of 1

Site Address: 2160 Otis Drive, Alameda

WIC#: 204-0072-0502

Shell Engineer: Dan Kirk — Phone No.: (510) 675-6168 Fax #: 675-6160

Consultant Name & Address: Blaine Tech Services, Inc. 985 Timothy Drive San Jose, CA 95133

Consultant Contact: Jim Keller — Phone No.: (408) 995-5535 Fax #: 293-8773

Comments:

Sampled by: Joe Carrera

Printed Name: JOE CARRERA

LAB: NET

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	EPA 601	Total Dissolved Solids	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-2	7-26			X		7						X	X	X						
Equip. Blank	7-26			X		7						X	X	X						
Trip Blank	7-26			X		2						X								

CHECK ONE (1) BOX ONLY — CT/DI

Quarterly Monitoring	X	6461
Site Investigation		6461
Soil Cleanup/Disposal		6462
Water Cleanup/Disposal		6463
Soil/Air Rem. or Sys. O & M		6462
Water Rem. or Sys. O & M		6463
Other		

TURN AROUND TIME

- 24 hours ☐
- 48 hours ☐
- 15 days ☒ (Normal)
- Other ☐ ____

NOTE: Notify Lab as soon as Possible of 24/48 hr. TAT.

CUSTODY SEALED 7-27-94

Relinquished By (signature)	Printed Name	Date/Time	Received (signature)	Printed Name	Date/Time
Joe Carrera	JOE CARRERA	Date: 7/27 Time: 1040			
		Date: 7/27/94 Time: 18:00	Received (signature):	Printed Name:	Date: Time:
Relinquished By (signature): (VIA UCS)	Printed Name:	Date: Time:	Received (signature):	Printed Name: K Temple	Date: 7/28/94 Time: 0900

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

NATIONAL ENVIRONMENTAL TESTING, INC.

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: 08/11/1994
NET Client Acct. No: 1821
NET Pacific Job No: 94.03280
Received: 07/28/1994

Client Reference Information

SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

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.

Approved by:

Judy Ridley
Project Coordinator

Jim Hoch
Operations Manager

Enclosure(s)

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

SAMPLE DESCRIPTION: MW-2
Date Taken: 07/26/1994
Time Taken:
NET Sample No: 210391

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
Tot. Dissolved Solids (TFR)	12,800,000		10,000	ug/L	160.1		08/02/1994
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/03/1994
DILUTION FACTOR*	1						08/03/1994
as Gasoline	290		50	ug/L	5030		08/04/1994
Carbon Range:	C5-C12						08/04/1994
METHOD 8020 (GC,Liquid)	--						08/03/1994
Benzene	51		0.5	ug/L	8020		08/04/1994
Toluene	ND		0.5	ug/L	8020		08/03/1994
Ethylbenzene	ND		0.5	ug/L	8020		08/04/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/03/1994
SURROGATE RESULTS	--						08/03/1994
Bromofluorobenzene (SURR)	94			% Rec.	5030		08/03/1994

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

SAMPLE DESCRIPTION: MW-2
Date Taken: 07/26/1994
Time Taken:
NET Sample No: 210391

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
METHOD 601 (GC,Liquid)							
DILUTION FACTOR*	1						08/03/1994
Bromodichloromethane	ND		0.4	ug/L	601		08/03/1994
Bromoform	ND		0.4	ug/L	601		08/03/1994
Bromomethane	ND		0.4	ug/L	601		08/03/1994
Carbon tetrachloride	ND		0.4	ug/L	601		08/03/1994
Chlorobenzene	ND		0.4	ug/L	601		08/03/1994
Chloroethane	ND		0.4	ug/L	601		08/03/1994
2-Chloroethylvinyl ether	ND		1.0	ug/L	601		08/03/1994
Chloroform	ND		0.4	ug/L	601		08/03/1994
Chloromethane	ND		0.4	ug/L	601		08/03/1994
Dibromochloromethane	ND		0.4	ug/L	601		08/03/1994
1,2-Dichlorobenzene	ND		0.4	ug/L	601		08/03/1994
1,3-Dichlorobenzene	ND		0.4	ug/L	601		08/03/1994
1,4-Dichlorobenzene	ND		0.4	ug/L	601		08/03/1994
Dichlorodifluoromethane	ND		0.4	ug/L	601		08/03/1994
1,1-Dichloroethane	ND		0.4	ug/L	601		08/03/1994
1,2-Dichloroethane	ND		0.4	ug/L	601		08/03/1994
1,1-Dichloroethene	ND		0.4	ug/L	601		08/03/1994
trans-1,2-Dichloroethene	5.7		0.4	ug/L	601		08/03/1994
1,2-Dichloropropane	ND		0.4	ug/L	601		08/03/1994
cis-1,3-Dichloropropene	ND		0.4	ug/L	601		08/03/1994
trans-1,3-Dichloropropene	ND		0.4	ug/L	601		08/03/1994
Methylene chloride	ND		10	ug/L	601		08/03/1994
1,1,2,2-Tetrachloroethane	ND		0.4	ug/L	601		08/03/1994
Tetrachloroethene	3.5		0.4	ug/L	601		08/03/1994
1,1,1-Trichloroethane	ND		0.4	ug/L	601		08/03/1994
1,1,2-Trichloroethane	ND		0.4	ug/L	601		08/03/1994
Trichloroethene	4.3		0.4	ug/L	601		08/03/1994
Trichlorofluoromethane	ND		0.4	ug/L	601		08/03/1994
Vinyl chloride	ND		0.4	ug/L	601		08/03/1994
SURROGATE RESULTS	--						08/03/1994
1,4-Difluorobenzene (SURR)	104			% Rec.	601		08/03/1994
Bromochloromethane (SURR)	94			% Rec.	601		08/03/1994

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

SAMPLE DESCRIPTION: Equip. Blank
Date Taken: 07/26/1994
Time Taken:
NET Sample No: 210392

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
Tot. Dissolved Solids (TFR)	27,000		10,000	ug/L	160.1		07/29/1994
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/04/1994
DILUTION FACTOR*	1						08/04/1994
as Gasoline	ND		50	ug/L	5030		08/04/1994
Carbon Range:	--						08/04/1994
METHOD 8020 (GC,Liquid)	--						08/04/1994
Benzene	ND		0.5	ug/L	8020		08/04/1994
Toluene	ND		0.5	ug/L	8020		08/04/1994
Ethylbenzene	ND		0.5	ug/L	8020		08/04/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/04/1994
SURROGATE RESULTS	--						08/04/1994
Bromofluorobenzene (SURR)	94			% Rec.	5030		08/04/1994

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

SAMPLE DESCRIPTION: Equip. Blank
Date Taken: 07/26/1994
Time Taken:
NET Sample No: 210392

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
METHOD 601 (GC,Liquid)							
DILUTION FACTOR*	1						08/03/1994
Bromodichloromethane	ND		0.4	ug/L	601		08/03/1994
Bromoform	ND		0.4	ug/L	601		08/03/1994
Bromomethane	ND		0.4	ug/L	601		08/03/1994
Carbon tetrachloride	ND		0.4	ug/L	601		08/03/1994
Chlorobenzene	ND		0.4	ug/L	601		08/03/1994
Chloroethane	ND		0.4	ug/L	601		08/03/1994
2-Chloroethylvinyl ether	ND		1.0	ug/L	601		08/03/1994
Chloroform	ND		0.4	ug/L	601		08/03/1994
Chloromethane	ND		0.4	ug/L	601		08/03/1994
Dibromochloromethane	ND		0.4	ug/L	601		08/03/1994
1,2-Dichlorobenzene	ND		0.4	ug/L	601		08/03/1994
1,3-Dichlorobenzene	ND		0.4	ug/L	601		08/03/1994
1,4-Dichlorobenzene	ND		0.4	ug/L	601		08/03/1994
Dichlorodifluoromethane	ND		0.4	ug/L	601		08/03/1994
1,1-Dichloroethane	ND		0.4	ug/L	601		08/03/1994
1,2-Dichloroethane	ND		0.4	ug/L	601		08/03/1994
1,1-Dichloroethene	ND		0.4	ug/L	601		08/03/1994
trans-1,2-Dichloroethene	ND		0.4	ug/L	601		08/03/1994
1,2-Dichloropropane	ND		0.4	ug/L	601		08/03/1994
cis-1,3-Dichloropropene	ND		0.4	ug/L	601		08/03/1994
trans-1,3-Dichloropropene	ND		0.4	ug/L	601		08/03/1994
Methylene chloride	ND		10	ug/L	601		08/03/1994
1,1,2,2-Tetrachloroethane	ND		0.4	ug/L	601		08/03/1994
Tetrachloroethene	ND		0.4	ug/L	601		08/03/1994
1,1,1-Trichloroethane	ND		0.4	ug/L	601		08/03/1994
1,1,2-Trichloroethane	ND		0.4	ug/L	601		08/03/1994
Trichloroethene	ND		0.4	ug/L	601		08/03/1994
Trichlorofluoromethane	ND		0.4	ug/L	601		08/03/1994
Vinyl chloride	ND		0.4	ug/L	601		08/03/1994
SURROGATE RESULTS	--						08/03/1994
1,4-Difluorobenzene (SURR)	86			% Rec.	601		08/03/1994
Bromochloromethane (SURR)	87			% Rec.	601		08/03/1994

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

SAMPLE DESCRIPTION: Trip Blank
Date Taken: 07/26/1994
Time Taken:
NET Sample No: 210393

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/04/1994
DILUTION FACTOR*	1						08/04/1994
as Gasoline	ND		50	ug/L	5030		08/04/1994
Carbon Range:	--						08/04/1994
METHOD 8020 (GC,Liquid)	--						08/04/1994
Benzene	ND		0.5	ug/L	8020		08/04/1994
Toluene	ND		0.5	ug/L	8020		08/04/1994
Ethylbenzene	ND		0.5	ug/L	8020		08/04/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/04/1994
SURROGATE RESULTS	--						08/04/1994
Bromofluorobenzene (SURR)	93			% Rec.	5030		08/04/1994

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials
Tot. Dissolved Solids (TFR)	103.8	1038	1000	mg/L	07/29/1994	shr
Tot. Dissolved Solids (TFR)	105.6	1056	1000	mg/L	08/02/1994	shr
TPH (Gas/BTXE,Liquid)						
as Gasoline	101.0	1.01	1.00	mg/L	08/04/1994	aal
Benzene	98.6	4.93	5.00	ug/L	08/04/1994	aal
Toluene	100.0	5.00	5.00	ug/L	08/04/1994	aal
Ethylbenzene	99.2	4.96	5.00	ug/L	08/04/1994	aal
Xylenes (Total)	99.3	14.9	15.0	ug/L	08/04/1994	aal
Bromofluorobenzene (SURR)	102.0	102	100	% Rec.	08/04/1994	aal

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials
METHOD 601 (GC,Liquid)						
Bromodichloromethane	100.0	20.0	20.0	ug/L	08/03/1994	asm
Bromoform	104.0	20.8	20.0	ug/L	08/03/1994	asm
Bromomethane	95.5	19.1	20.0	ug/L	08/03/1994	asm
Carbon tetrachloride	101.0	20.2	20.0	ug/L	08/03/1994	asm
Chlorobenzene	104.0	20.8	20.0	ug/L	08/03/1994	asm
Chloroethane	102.5	20.5	20.0	ug/L	08/03/1994	asm
2-Chloroethylvinyl ether	102.5	20.5	20.0	ug/L	08/03/1994	asm
Chloroform	98.0	19.6	20.0	ug/L	08/03/1994	asm
Chloromethane	92.5	18.5	20.0	ug/L	08/03/1994	asm
Dibromochloromethane	105.5	21.1	20.0	ug/L	08/03/1994	asm
1,2-Dichlorobenzene	104.0	20.8	20.0	ug/L	08/03/1994	asm
1,3-Dichlorobenzene	102.0	20.4	20.0	ug/L	08/03/1994	asm
1,4-Dichlorobenzene	102.5	20.5	20.0	ug/L	08/03/1994	asm
Dichlorodifluoromethane	99.0	19.8	20.0	ug/L	08/03/1994	asm
1,1-Dichloroethane	102.5	20.5	20.0	ug/L	08/03/1994	asm
1,2-Dichloroethane	102.5	20.5	20.0	ug/L	08/03/1994	asm
1,1-Dichloroethene	100.0	20.0	20.0	ug/L	08/03/1994	asm
trans-1,2-Dichloroethene	99.5	19.9	20.0	ug/L	08/03/1994	asm
1,2-Dichloropropane	101.0	20.2	20.0	ug/L	08/03/1994	asm
cis-1,3-Dichloropropene	103.0	20.6	20.0	ug/L	08/03/1994	asm
trans-1,3-Dichloropropene	105.5	21.1	20.0	ug/L	08/03/1994	asm
Methylene chloride	120.5	24.1	20.0	ug/L	08/03/1994	asm
1,1,2,2-Tetrachloroethane	102.0	20.4	20.0	ug/L	08/03/1994	asm
Tetrachloroethene	102.0	20.4	20.0	ug/L	08/03/1994	asm
1,1,1-Trichloroethane	102.0	20.4	20.0	ug/L	08/03/1994	asm
1,1,2-Trichloroethane	105.5	21.1	20.0	ug/L	08/03/1994	asm
Trichloroethene	100.5	20.1	20.0	ug/L	08/03/1994	asm
Trichlorofluoromethane	102.0	20.4	20.0	ug/L	08/03/1994	asm
Vinyl chloride	99.0	19.8	20.0	ug/L	08/03/1994	asm
1,4-Difluorobenzene (SURR)	98.0	98	100	% Rec.	08/03/1994	asm
Bromochloromethane (SURR)	96.0	96	100	% Rec.	08/03/1994	asm

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials
Tot. Dissolved Solids (TFR)	ND	10	mg/L	08/02/1994	shr
TPH (Gas/BTXE,Liquid)					
as Gasoline	ND	0.05	mg/L	08/04/1994	aal
Benzene	ND	0.5	ug/L	08/04/1994	aal
Toluene	ND	0.5	ug/L	08/04/1994	aal
Ethylbenzene	ND	0.5	ug/L	08/04/1994	aal
Xylenes (Total)	ND	0.5	ug/L	08/04/1994	aal
Bromofluorobenzene (SURR)	99		% Rec.	08/04/1994	aal

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials
METHOD 601 (GC,Liquid)					
Bromodichloromethane	ND	0.4	ug/L	08/03/1994	asm
Bromoform	ND	0.4	ug/L	08/03/1994	asm
Bromomethane	ND	0.4	ug/L	08/03/1994	asm
Carbon tetrachloride	ND	0.4	ug/L	08/03/1994	asm
Chlorobenzene	ND	0.4	ug/L	08/03/1994	asm
Chloroethane	ND	0.4	ug/L	08/03/1994	asm
2-Chloroethylvinyl ether	ND	1.0	ug/L	08/03/1994	asm
Chloroform	ND	0.4	ug/L	08/03/1994	asm
Chloromethane	ND	0.4	ug/L	08/03/1994	asm
Dibromochloromethane	ND	0.4	ug/L	08/03/1994	asm
1,2-Dichlorobenzene	ND	0.4	ug/L	08/03/1994	asm
1,3-Dichlorobenzene	ND	0.4	ug/L	08/03/1994	asm
1,4-Dichlorobenzene	ND	0.4	ug/L	08/03/1994	asm
Dichlorodifluoromethane	ND	0.4	ug/L	08/03/1994	asm
1,1-Dichloroethane	ND	0.4	ug/L	08/03/1994	asm
1,2-Dichloroethane	ND	0.4	ug/L	08/03/1994	asm
1,1-Dichloroethene	ND	0.4	ug/L	08/03/1994	asm
trans-1,2-Dichloroethene	ND	0.4	ug/L	08/03/1994	asm
1,2-Dichloropropane	ND	0.4	ug/L	08/03/1994	asm
cis-1,3-Dichloropropene	ND	0.4	ug/L	08/03/1994	asm
trans-1,3-Dichloropropene	ND	0.4	ug/L	08/03/1994	asm
Methylene chloride	ND	10	ug/L	08/03/1994	asm
1,1,2,2-Tetrachloroethane	ND	0.4	ug/L	08/03/1994	asm
Tetrachloroethene	ND	0.4	ug/L	08/03/1994	asm
1,1,1-Trichloroethane	ND	0.4	ug/L	08/03/1994	asm
1,1,2-Trichloroethane	ND	0.4	ug/L	08/03/1994	asm
Trichloroethene	ND	0.4	ug/L	08/03/1994	asm
Trichlorofluoromethane	ND	0.4	ug/L	08/03/1994	asm
Vinyl chloride	ND	0.4	ug/L	08/03/1994	asm
1,4-Difluorobenzene (SURR)	90		% Rec.	08/03/1994	asm
Bromochloromethane (SURR)	82		% Rec.	08/03/1994	asm

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Analyst Initials
TPH (Gas/BTXE,Liquid)										
as Gasoline	101.0	104.0	2.9	1.00	ND	1.01	1.04	mg/L	08/04/1994	aal
Benzene	99.7	101.9	2.1	31.0	ND	30.9	31.6	ug/L	08/04/1994	aal
Toluene	99.6	101.0	1.3	97.2	ND	96.8	98.2	ug/L	08/04/1994	aal
TPH (Gas/BTXE,Liquid)										
as Gasoline	103.0	96.0	6.9	1.00	0.29	1.32	1.25	mg/L	08/04/1994	aal
Benzene	86.5	80.0	7.8	31.0	51	77.8	75.8	ug/L	08/04/1994	aal
Toluene	103.7	97.6	6.0	97.2	ND	100.8	94.9	ug/L	08/04/1994	aal

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Analyst Initials
METHOD 601 (GC,Liquid)										
Chlorobenzene	105.5	101.5	3.9	20.0	ND	21.1	20.3	ug/L	08/03/1994	asm
1,1-Dichloroethene	101.0	96.5	4.5	20.0	ND	20.2	19.3	ug/L	08/03/1994	asm
Trichloroethene	100.0	101.0	1.0	20.0	ND	20.0	20.2	ug/L	08/03/1994	asm

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940726-Y2

LABORATORY CONTROL SAMPLE REPORT

Parameter	LCS % Recovery	RPD	LCS Amount Found	LCS Amount Expected	Units	Date Analyzed	Analyst Initials
Tot. Dissolved Solids (TFR)	109.0		1090	1000	mg/L	08/02/1994	shr

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.

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

Revised September, 1993
abb.93

COOLER RECEIPT FORM

ject: Shell Alameda 940726-42 Log No: 1625
ler received on: 7/28/94 and checked on 7/28/94 by J Sorensen
J Sorensen
(signature)

e custody papers present? YES NO
e custody papers properly filled out? YES NO
e the custody papers signed? YES NO
sufficient ice used? YES NO 0.2 °C
all bottles arrive in good condition (unbroken)? YES NO
bottle labels match COC? YES NO
e proper bottles used for analysis indicated? YES NO
rect preservatives used? YES NO
vials checked for headspace bubbles? YES NO
Note which voas (if any) had bubbles:*

ple descriptor:	Number of vials:
Trip Blank	2 of 2

ll VOAs with headspace bubbles have been set aside so they will not be sed for analysis..... YES NO

st here all other jobs received in the same cooler:

ient Job #	NET log #

(coolerrec)

NATIONAL ENVIRONMENTAL TESTING, INC.

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: 08/24/1994
NET Client Acct. No: 1821
NET Pacific Job No: 94.03668
Received: 08/18/1994

Client Reference Information

SHELL, 2160 Otis Drive, Alameda, Job No. 940818F1

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.

Approved by:

Judy Ridley
Project Coordinator

Jim Hoch
Operations Manager

Enclosure(s)

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940818P1

SAMPLE DESCRIPTION: MW-1
Date Taken: 08/18/1994
Time Taken: 11:45
NET Sample No: 212205

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
METHOD 601 (GC,Liquid)							
DILUTION FACTOR*	1						08/19/1994
Bromodichloromethane	ND		0.4	ug/L	601		08/19/1994
Bromoform	ND		0.4	ug/L	601		08/19/1994
Bromomethane	ND		0.4	ug/L	601		08/19/1994
Carbon tetrachloride	ND		0.4	ug/L	601		08/19/1994
Chlorobenzene	ND		0.4	ug/L	601		08/19/1994
Chloroethane	ND		0.4	ug/L	601		08/19/1994
2-Chloroethylvinyl ether	ND		1.0	ug/L	601		08/19/1994
Chloroform	ND		0.4	ug/L	601		08/19/1994
Chloromethane	ND		0.4	ug/L	601		08/19/1994
Dibromochloromethane	ND		0.4	ug/L	601		08/19/1994
1,2-Dichlorobenzene	ND		0.4	ug/L	601		08/19/1994
1,3-Dichlorobenzene	ND		0.4	ug/L	601		08/19/1994
1,4-Dichlorobenzene	ND		0.4	ug/L	601		08/19/1994
Dichlorodifluoromethane	ND		0.4	ug/L	601		08/19/1994
1,1-Dichloroethane	ND		0.4	ug/L	601		08/19/1994
1,2-Dichloroethane	ND		0.4	ug/L	601		08/19/1994
1,1-Dichloroethene	ND		0.4	ug/L	601		08/19/1994
trans-1,2-Dichloroethene	ND		0.4	ug/L	601		08/19/1994
1,2-Dichloropropane	ND		0.4	ug/L	601		08/19/1994
cis-1,3-Dichloropropene	ND		0.4	ug/L	601		08/19/1994
trans-1,3-Dichloropropene	ND		0.4	ug/L	601		08/19/1994
Methylene chloride	ND		10	ug/L	601		08/19/1994
1,1,2,2-Tetrachloroethane	ND		0.4	ug/L	601		08/19/1994
Tetrachloroethene	ND		0.4	ug/L	601		08/19/1994
1,1,1-Trichloroethane	ND		0.4	ug/L	601		08/19/1994
1,1,2-Trichloroethane	ND		0.4	ug/L	601		08/19/1994
Trichloroethene	ND		0.4	ug/L	601		08/19/1994
Trichlorofluoromethane	ND		0.4	ug/L	601		08/19/1994
Vinyl chloride	ND		0.4	ug/L	601		08/19/1994
SURROGATE RESULTS	--						08/19/1994
1,4-Difluorobenzene (SURR)	76			% Rec.	601		08/19/1994
1,4-Dichlorobutane (SURR)	64			% Rec.	601		08/19/1994

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940816F1

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials
TPH (Gas/BTXE,Liquid)						
as Gasoline	100.0	1.00	1.00	mg/L	08/19/1994	lss
Benzene	98.2	4.91	5.00	ug/L	08/19/1994	lss
Toluene	106.6	5.33	5.00	ug/L	08/19/1994	lss
Ethylbenzene	100.2	5.01	5.00	ug/L	08/19/1994	lss
Xylenes (Total)	103.3	15.5	15.0	ug/L	08/19/1994	lss
Bromofluorobenzene (SURR)	108.0	108	100	% Rec.	08/19/1994	lss

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940818F1

SAMPLE DESCRIPTION: MW-1
Date Taken: 08/18/1994
Time Taken: 11:45
NET Sample No: 212205

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed
Tot. Dissolved Solids (TDS)	6,300,000		10,000	ug/L	160.1		08/20/1994
TPH (Gas/BTXE,Liquid)							
METHOD 5030/M8015	--						08/19/1994
DILUTION FACTOR*	1						08/19/1994
as Gasoline	ND		50	ug/L	5030		08/19/1994
Carbon Range:							08/19/1994
METHOD 8020 (GC,Liquid)	--						08/19/1994
Benzene	ND		0.5	ug/L	8020		08/19/1994
Toluene	ND		0.5	ug/L	8020		08/19/1994
Ethylbenzene	ND		0.5	ug/L	8020		08/19/1994
Xylenes (Total)	ND		0.5	ug/L	8020		08/19/1994
SURROGATE RESULTS	--						08/19/1994
Bromofluorobenzene (SURR)	95			% Rec.	5030		08/19/1994

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940818F1

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials
METHOD 601 (GC,Liquid)						
Bromodichloromethane	95.5	19.1	20.0	ug/L	08/18/1994	jmh
Bromoform	84.5	16.9	20.0	ug/L	08/18/1994	jmh
Bromomethane	83.0	16.6	20.0	ug/L	08/18/1994	jmh
Carbon tetrachloride	94.0	18.8	20.0	ug/L	08/18/1994	jmh
Chlorobenzene	98.0	19.6	20.0	ug/L	08/18/1994	jmh
Chloroethane	74.5	14.9	20.0	ug/L	08/18/1994	jmh
2-Chloroethylvinyl ether	114.0	22.8	20.0	ug/L	08/18/1994	jmh
Chloroform	94.5	18.9	20.0	ug/L	08/18/1994	jmh
Chloromethane	67.0	13.4	20.0	ug/L	08/18/1994	jmh
Dibromochloromethane	92.5	18.5	20.0	ug/L	08/18/1994	jmh
1,2-Dichlorobenzene	94.5	18.9	20.0	ug/L	08/18/1994	jmh
1,3-Dichlorobenzene	71.0	14.2	20.0	ug/L	08/18/1994	jmh
1,4-Dichlorobenzene	77.0	15.4	20.0	ug/L	08/18/1994	jmh
Dichlorodifluoromethane	80.0	16.0	20.0	ug/L	08/18/1994	jmh
1,1-Dichloroethane	107.5	21.5	20.0	ug/L	08/18/1994	jmh
1,2-Dichloroethane	92.0	18.4	20.0	ug/L	08/18/1994	jmh
1,1-Dichloroethene	82.0	16.4	20.0	ug/L	08/18/1994	jmh
trans-1,2-Dichloroethene	79.0	15.8	20.0	ug/L	08/18/1994	jmh
1,2-Dichloropropane	95.5	19.1	20.0	ug/L	08/18/1994	jmh
cis-1,3-Dichloropropene	94.5	18.9	20.0	ug/L	08/18/1994	jmh
trans-1,3-Dichloropropene	92.5	18.5	20.0	ug/L	08/18/1994	jmh
Methylene chloride	106.5	21.3	20.0	ug/L	08/18/1994	jmh
1,1,2,2-Tetrachloroethane	87.5	17.5	20.0	ug/L	08/18/1994	jmh
Tetrachloroethene	96.0	19.2	20.0	ug/L	08/18/1994	jmh
1,1,1-Trichloroethane	94.0	18.8	20.0	ug/L	08/18/1994	jmh
1,1,2-Trichloroethane	93.5	18.7	20.0	ug/L	08/18/1994	jmh
Trichloroethene	93.0	18.6	20.0	ug/L	08/18/1994	jmh
Trichlorofluoromethane	82.5	16.5	20.0	ug/L	08/18/1994	jmh
Vinyl chloride	76.5	15.3	20.0	ug/L	08/18/1994	jmh
1,4-Difluorobenzene (SURR)	97.0	97	100	% Rec.	08/18/1994	jmh
1,4-Dichlorobutane (SURR)	86.0	86	100	% Rec.	08/18/1994	jmh

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940810P1

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials
Tot. Dissolved Solids (TFR)	ND	10	mg/L	08/20/1994	shr
TPH (Gas/BTXE,Liquid)					
as Gasoline	ND	0.05	mg/L	08/19/1994	lss
Benzene	ND	0.5	ug/L	08/19/1994	lss
Toluene	ND	0.5	ug/L	08/19/1994	lss
Ethylbenzene	ND	0.5	ug/L	08/19/1994	lss
Xylenes (Total)	ND	0.5	ug/L	08/19/1994	lss
Bromofluorobenzene (SURR)	91		% Rec.	08/19/1994	lss

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940818F1

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials
METHOD 601 (GC,Liquid)					
Bromodichloromethane	ND		ug/L	08/18/1994	jmh
Bromoform	ND	0.4	ug/L	08/18/1994	jmh
Bromomethane	ND	0.4	ug/L	08/18/1994	jmh
Carbon tetrachloride	ND	0.4	ug/L	08/18/1994	jmh
Chlorobenzene	ND	0.4	ug/L	08/18/1994	jmh
Chloroethane	ND	0.4	ug/L	08/18/1994	jmh
2-Chloroethylvinyl ether	ND	0.4	ug/L	08/18/1994	jmh
Chloroform	ND	1.0	ug/L	08/18/1994	jmh
Chloromethane	ND	0.4	ug/L	08/18/1994	jmh
Dibromochloromethane	ND	0.4	ug/L	08/18/1994	jmh
1,2-Dichlorobenzene	ND	0.4	ug/L	08/18/1994	jmh
1,3-Dichlorobenzene	ND	0.4	ug/L	08/18/1994	jmh
1,4-Dichlorobenzene	ND	0.4	ug/L	08/18/1994	jmh
Dichlorodifluoromethane	2.1	0.4	ug/L	08/18/1994	jmh
1,1-Dichloroethane	ND	0.4	ug/L	08/18/1994	jmh
1,2-Dichloroethane	ND	0.4	ug/L	08/18/1994	jmh
1,1-Dichloroethene	ND	0.4	ug/L	08/18/1994	jmh
trans-1,2-Dichloroethene	ND	0.4	ug/L	08/18/1994	jmh
1,2-Dichloropropane	ND	0.4	ug/L	08/18/1994	jmh
cis-1,3-Dichloropropene	ND	0.4	ug/L	08/18/1994	jmh
trans-1,3-Dichloropropene	ND	0.4	ug/L	08/18/1994	jmh
Methylene chloride	ND	0.4	ug/L	08/18/1994	jmh
1,1,2,2-Tetrachloroethane	ND	10	ug/L	08/18/1994	jmh
Tetrachloroethene	ND	0.4	ug/L	08/18/1994	jmh
1,1,1-Trichloroethane	ND	0.4	ug/L	08/18/1994	jmh
1,1,2-Trichloroethane	ND	0.4	ug/L	08/18/1994	jmh
Trichloroethene	ND	0.4	ug/L	08/18/1994	jmh
Trichlorofluoromethane	ND	0.4	ug/L	08/18/1994	jmh
Vinyl chloride	ND	0.4	ug/L	08/18/1994	jmh
1,4-Difluorobenzene (SURR)	102		% Rec.	08/18/1994	jmh
1,4-Dichlorobutane (SURR)	82		% Rec.	08/18/1994	jmh

Client Name: Blaine Tech Services
Client Acct: 1821
NET Job No: 94.03668

Date: 08/24/1994
ELAP Cert: 1386
Page: 8

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940818F1

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Analyst Initials
TPH (Gas/BTXE,Liquid)										
as Gasoline	104.0	100.0	3.9	1.00	ND	1.04	1.00	mg/L	08/19/1994	lss
Benzene	98.5	99.5	1.0	39.3	ND	38.7	39.1	ug/L	08/19/1994	lss
Toluene	100.0	99.0	0.9	103	1.0	104	103	ug/L	08/19/1994	lss

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

Client Name: Blaine Tech Services
Client Acct: 1821
NET Job No: 94.03668
Date: 08/24/1994
ELAP Cert: 1386
Page: 9

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940818F1

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Analyst Initials
METHOD 601 (GC,Liquid)										
Chlorobenzene	88.5	98.0	10.2	20.0	ND	17.7	19.6	ug/L	08/18/1994	jmh
1,1-Dichloroethene	72.0	82.0	13.0	20.0	ND	14.4	16.4	ug/L	08/18/1994	jmh
Trichloroethene	85.5	93.0	8.4	20.0	ND	17.1	18.6	ug/L	08/18/1994	jmh

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

Client Name: Blaine Tech Services
Client Acct: 1821
NET Job No: 94.03668

Date: 08/24/1994
NELAP Cert: 1386
Page: 10

Ref: SHELL, 2160 Otis Drive, Alameda, Job No. 940818F1

LABORATORY CONTROL SAMPLE REPORT

Parameter	LCS % Recovery	RPD	LCS Amount Found	LCS Amount Expected	Units	Date Analyzed	Analyst Initials
Tot. Dissolved Solids (TFR)	100.9		1,009	1000	mg/L	08/20/1994	shr

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

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.

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

Revised September, 1993
abb.93

2015

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 940818F1

Date: 8/18/94
Page 1 of 1

Site Address: 2160 Otis Drive, Alameda

WIC#: 204-0072-0502

Shell Engineer: Dan Kirk
Phone No.: (510) 675-6168
Fax #: 675-6160

Consultant Name & Address: Blaine Tech Services, Inc.
985 Timothy Drive San Jose, CA 95133

Consultant Contact: Jim Keller
Phone No.: (408) 995-5535
Fax #: 293-8773

Comments:

Sampled by:

Printed Name: Tom Flory

LAB: NET

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	HVOC's BY EPA 601	TOTAL DISSOLVED SOLIDS	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-1 11:45	8/18			X		7						X	X	X						

CHECK ONE (1) BOX ONLY — CT/01

- Quarterly Monitoring ☒ 5421
- Site Investigation ☐ 5421
- Soil Cleanup/Disposal ☐ 5422
- Water Cleanup/Disposal ☐ 5423
- Soil/Air Rem. or Sys. O & M ☐ 5452
- Water Rem. or Sys. O & M ☐ 5453
- Other ☐

TURN AROUND TIME

- 24 hours ☐
- 48 hours ☐
- 10 days ☒ (Normal)
- Other ☐ ____

NOTE: Notify lab as soon as possible of 24/48 hr. TAT.

Relinquished By (signature)	Printed Name	Date	Time	Received (signature)	Printed Name	Date	Time
	Tom Flory	8-18-94	12:50		G Lumbre	8/18/94	12:50
	G Lumbre	8/18/94	13:30		M Dowling	8/18/94	1334
	M Dowling	8/18/94	1447		Anna Lopez	8/18/94	1447

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

COOLER RECEIPT FORM

Project: Shell Otis Dr. Alameda Log No: 2015
Cooler received on: 8/18/94 and checked on 8/18/94 by A. Lepe
(signature) A. Lepe

Were custody papers present?..... (YES) NO
Were custody papers properly filled out?..... (YES) NO
Were the custody papers signed?..... (YES) NO
Was sufficient ice used?..... (YES) NO 0.5°C
Did all bottles arrive in good condition (unbroken)?..... (YES) NO
Did bottle labels match COC?..... (YES) NO
Were proper bottles used for analysis indicated?..... (YES) NO
Correct preservatives used?..... (YES) NO
VOA vials checked for headspace bubbles?..... (YES) NO
Note which voas (if any) had bubbles:*

Sample descriptor:	Number of vials:
MW-1	2 of 6

*All VOAs with headspace bubbles have been set aside so they will not be used for analysis.....YES NO

List here all other jobs received in the same cooler:

Client Job #	NET log #

(coolerrec)

SHELL WELL MONITORING DATA SHEET

Project #: 940818 F1	Wic # 204 0022 0502
Samplex: Tom	Date Sampled: 8-18-94
Well I.D.: MW-1	Well Diameter: (circle one) 2 3 4 6 ___
Total Well Depth: Before 16.47 After	Depth to Water: Before 5.40 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: PVC	Grade Other --

Volume Conversion Factor (VCF):
(12 x (d²/4) x π)/231
where
231 = cu/in/gal
d = diameter (in.)
π = 3.1416
231 = cu/in/gal

Well dia.	VCF
2"	0.16
3"	0.37
4"	0.65
6"	1.47
10"	4.08
12"	5.87

2.4 (1 Case Volume) x 3 (Specified Volumes) = 21.9 gallons

Purging: Bailer ☐ Middleburg ☐ Electric Submersible ☑ Suction Pump ☐ Type of Installed Pump _____

Sampling: Bailer ☑ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1140	76.0	6.9	8400	42.6	7.5	DO = 1.8 mg/L
1142	75.8	6.7	11,200	14.4	14.5	
1143	75.8	6.7	11,100	29.3	22.0	

Did Well Dewater? no If yes, gals. Gallons Actually Evacuated: 22.0

Sampling Time: 1145

Sample I.D.: MW-1 Laboratory: NET

Analyzed for: TPH G - BTEX - 601 - TDS

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations: