enviros®

June 13, 1995

STID 413

Mr. Lynn Walker
Shell Oil Company
P.O. Box 4023
Concord, California 94524

RE: **Quarterly Monitoring Report - Second Quarter 1995**
Shell Service Station
2800 Telegraph Avenue
Oakland, California
WIC #204-5508-2303

Dear Mr. Walker:

This Quarterly Monitoring Report describes the recently completed activities associated with groundwater monitoring and sampling at the referenced site (Plate 1). This report was prepared to meet quarterly reporting guidelines issued by the Regional Water Quality Control Board and the Alameda County Health Service Agency.

This document presents the results of activities performed in the second quarter of 1995.

Quarterly Monitoring & Sampling Summary

- Blaine Tech Services, Inc (Blaine) of San Jose, California measured groundwater levels from Wells S-1, S-4 through S-11, and SR-1 on May 4, 1995.

- Groundwater samples collected from Wells S-8 and S-11 were transported to National Environmental Testing (NET) of Santa Rosa, California. A duplicate sample, trip blank, and a rinsate blank were prepared and analyzed for quality control purposes.

- Enviros, Inc. (Enviros) evaluated water-level measurement data and chemical analytical results and prepared this report, which includes the Blaine Quarterly Groundwater Monitoring Report, a site plan, a groundwater contour map, and a benzene concentration map.

- Groundwater flow is to the southwest a calculated hydraulic gradient of 0.02 ft./ft. A groundwater contour map is presented on Plate 3.

- Groundwater samples from Well S-8 contained concentrations of TPH-G and benzene at 2,600 and 31 ppb, respectively. Groundwater samples from Well S-11 contained concentrations of 110 ppb TPH-G and 1.3 ppb benzene. A benzene concentration map was prepared and is presented on Plate 4

- Separate-phase hydrocarbons were not detected in any of the wells this quarter.

Second Quarter Sampling

Monitoring Wells S-8 and S-11 were sampled and analyzed for Total Petroleum Hydrocarbons calculated as Gasoline (TPH-G) according to EPA Method 8015 (Modified) and Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) according to EPA Method 8020. Additionally, a duplicate sample (from S-8), a trip blank, and a rinsate blank were prepared and analyzed for quality control purposes.

Field monitoring data are summarized in Table 1. The second quarter 1995 chemical analytical data for TPH-G and BTEX have been included in the Historical Groundwater Quality Database (Table 2). The Blaine Quarterly Groundwater Sampling Report is presented in Appendix A.

Quarterly monitoring, sampling, and reporting will continue on the established schedule for the next quarter.

If you have any questions regarding the contents of this document, please call.

Sincerely,

Enviros, Inc.

Joe W. Neely
Project Geologist

Diane M. Lundquist, P.E.
Senior Engineer
C46725

Attachments

Table 1. Field Monitoring Data
Table 2. Historical Groundwater Quality Database

Plate 1. Vicinity Map
Plate 2. Site Plan
Plate 3. Groundwater Contour Map
Plate 4. Benzene Concentration Map

Appendix A

Blaine Quarterly Groundwater Sampling Data Report

cc: Mr. Brian Oliva, Alameda County Department of Environmental Health

TABLE 1

FIELD MONITORING DATA

SHELL SERVICE STATION
2800 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA
WIC 204-5508-2303

WELL NO.	MONT. DATE	CASING DIA. (IN.)	WELL ELEV. (FT.)	DEPTH TO WATER (FT.)	WATER ELEV. (FT.)
S-1	4-May-92	3	35.31	9.50	25.81
	10-Aug-92			10.85	24.46
	9-Nov-92			10.34	24.97
	22-Feb-93			7.60	27.71
	7-Jun-93			8.63	26.68
	13-Aug-93			9.20	26.11
	18-Nov-93			10.58	24.73
	10-Feb-94			8.41	26.90
	3-May-94			9.09	26.22
	1-Aug-94			8.81	26.50
	8-Nov-94			9.32	25.99
	3-Feb-95			6.98	28.33
	4-May-95			8.10	27.21
S-2	4-May-92	3	33.91	9.44	24.47
	10-Aug-92			10.73	23.18
	9-Nov-92			10.29	23.62
	22-Feb-93a			9.04	24.87
S-3	4-May-92	3	33.56	9.22	24.34
	10-Aug-92b			---	---
S-4	4-May-92	3	34.08	9.96	24.12
	10-Aug-92			11.32	22.76
	9-Nov-92			11.29	22.79
	22-Feb-93			9.82	24.26
	7-Jun-93			10.51	23.57
	13-Aug-93			11.05	23.03
	18-Nov-93			11.34	22.74
	10-Feb-94			9.93	24.15
	3-May-94			10.40	23.68
	1-Aug-94			10.68	23.40
	8-Nov-94			9.44	24.47
	3-Feb-95			9.18	24.90
	4-May-95			9.50	24.58
S-5	4-May-92	3	33.42	10.27	23.15
	10-Aug-92			10.68	22.74
	9-Nov-92			10.69	22.73
	22-Feb-93			9.45	23.97
	7-Jun-93			10.23	23.19
	13-Aug-93			10.58	22.84
	18-Nov-93			10.70	22.72

TABLE 1

FIELD MONITORING DATA

SHELL SERVICE STATION
2800 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA
WIC 204-5508-2303

WELL NO.	MONT. DATE	CASING DIA. (IN.)	WELL ELEV. (FT.)	DEPTH TO WATER (FT.)	WATER ELEV. (FT.)
S-5	10-Feb-94			9.75	23.67
	3-May-94			10.19	23.23
	1-Aug-94			10.30	23.12
	8-Nov-94			9.64	23.78
	3-Feb-95			9.59	23.83
	4-May-95			9.52	23.90
S-6	4-May-92	3	32.59	9.42	23.17
	10-Aug-92			10.40	22.19
	9-Nov-92			10.16	22.43
	22-Feb-93			7.60	24.99
	7-Jun-93			8.90	23.69
	13-Aug-93			9.39	23.20
	18-Nov-93			10.32	22.27
	10-Feb-94			8.68	23.91
	3-May-94			9.20	23.39
	1-Aug-94			8.90	23.69
	8-Nov-94			8.32	24.27
	3-Feb-95			8.04	24.55
	4-May-95			8.28	24.31
S-7	4-May-92	3	33.33	11.21	22.12
	10-Aug-92			12.28	21.05
	9-Nov-92			11.77	21.56
	22-Feb-93			8.86	24.47
	7-Jun-93			10.58	22.75
	13-Aug-93			11.34	21.99
	18-Nov-93			12.00	21.33
	10-Feb-94			9.88	23.45
	3-May-94			10.75	22.58
	1-Aug-94			11.05	22.28
	8-Nov-94			9.64	23.89
	3-Feb-95			8.53	24.80
	4-May-95			9.42	23.91
S-8	4-May-92	3	31.97	10.29	21.68
	10-Aug-92			11.12	20.85
	9-Nov-92			10.71	21.26
	22-Feb-93			6.04	25.93
	7-Jun-93			10.06	21.91
	13-Aug-93			10.56	21.41
	18-Nov-93			10.90	21.07

TABLE 1

FIELD MONITORING DATA

SHELL SERVICE STATION
2800 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA
WIC 204-5508-2303

WELL NO.	MONT. DATE	CASING DIA. (IN.)	WELL ELEV. (FT.)	DEPTH TO WATER (FT.)	WATER ELEV. (FT.)
S-8	10-Feb-94			9.53	22.44
	3-May-94			10.06	21.91
	1-Aug-94			10.32	21.65
	8-Nov-94			9.25	22.72
	3-Feb-95			8.99	22.98
	4-May-95			9.22	22.75
S-9	4-May-92	3	31.86	10.45	21.41
	10-Aug-92			11.52	20.34
	9-Nov-92			11.02	20.84
	22-Feb-93			8.00	23.86
	7-Jun-93			10.07	21.79
	13-Aug-93			10.92	20.94
	18-Nov-93			11.19	20.67
	10-Feb-94			9.16	22.70
	3-May-94			10.03	21.83
	1-Aug-94			10.52	21.34
	8-Nov-94			9.08	22.78
	3-Feb-95			8.37	23.49
	4-May-95			8.78	23.08
S-10	4-May-92	3	32.95	8.54	24.41
	10-Aug-92			10.43	22.52
	9-Nov-92			9.14	23.81
	22-Feb-93			6.72	26.23
	7-Jun-93			8.08	24.87
	13-Aug-93			8.83	24.12
	18-Nov-93			9.46	23.49
	10-Feb-94			7.41	25.54
	3-May-94			8.16	24.79
	1-Aug-94			8.29	24.66
	8-Nov-94			7.02	25.93
	3-Feb-95			6.79	26.16
	4-May-95			7.08	25.87
S-11	4-May-92	3	30.78	9.99	20.79
	10-Aug-92			10.92	19.86
	9-Nov-92			10.44	20.34
	22-Feb-93			7.30	23.48
	7-Jun-93			9.51	21.27
	13-Aug-93			10.39	20.39
	18-Nov-93			10.64	20.14

TABLE 1

FIELD MONITORING DATA

SHELL SERVICE STATION
2800 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA
WIC 204-5508-2303

WELL NO.	MONT. DATE	CASING DIA. (IN.)	WELL ELEV. (FT.)	DEPTH TO WATER (FT.)	WATER ELEV. (FT.)
S-11	10-Feb-94			8.50	22.28
	3-May-94			9.42	21.36
	1-Aug-94			10.12	20.66
	8-Nov-94			8.84	21.94
	3-Feb-95			7.12	23.66
	4-May-95			7.96	22.82
SR-1	4-May-92	6	c	9.02	---
	10-Aug-92			10.29	---
	9-Nov-92			10.92	---
	22-Feb-93			6.64	---
	7-Jun-93			7.36	---
	13-Aug-93			7.96	---
	18-Nov-93			10.02	---
	10-Feb-94			---	---
	3-May-94			8.28	---
	1-Aug-94			7.98	---
	8-Nov-94			7.75	---
	3-Feb-95			7.20	---
	4-May-95			4.10	---

Notes:

Depth to water measured from top of casing
Elevations referenced to Mean Sea Level

a = Destroyed on April 8, 1993 for onsite construction
b = Well inaccessible since August 1992
c = Top-of-Casing not surveyed
--- = Data not available

TABLE 2

HISTORICAL GROUNDWATER QUALITY DATABASE

SHELL SERVICE STATION
2800 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA
WIC 204-5508-2303

SAMPLE POINT	SAMPLE DATE	DEPTH TO WATER (FT.)	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
S-1	4-May-92	9.50	<50	<0.5	<0.5	<0.5	<0.5
(3rd Quarter)	10-Aug-92	10.85	<50	<0.5	<0.5	<0.5	<0.5
	9-Nov-92	10.34	<50	<0.5	<0.5	<0.5	<0.5
	23-Feb-93	7.60	<50	<0.5	<0.5	<0.5	<0.5
	7-Jun-93	8.63	<50	2.8	1.3	0.7	3
	13-Aug-93	9.20	<50	<0.5	<0.5	<0.5	<0.5
	18-Nov-93	10.58	<50	<0.5	<0.5	<0.5	<0.5
	10-Feb-94	8.41	<50	<0.5	<0.5	<0.5	<0.5
	3-May-94	9.09	<50	<0.5	<0.5	<0.5	<0.5
	1-Aug-94	8.81	<50	<0.5	<0.5	<0.5	<0.5
S-2	4-May-92	9.44	1,600	190	6	240	54
	10-Aug-92	10.73	<50	4.1	<0.5	<0.5	<0.5
	11-Sep-92	10.29	84	19	0.7	2.2	4.3
	23-Feb-93	9.04	16,000	1,600	480	850	1,800
	7-Jun-93	Well Destroyed					
S-3	4-May-92	9.22	---	---	---	---	---
	10-Aug-92	---	Well Paved Over - Inaccessible				
S-4	4-May-92	9.96	<50	<0.5	<0.5	<0.5	<0.5
(3rd Quarter)	10-Aug-92	11.32	<50	<0.5	<0.5	<0.5	<0.5
	9-Nov-92	11.29	<50	<0.5	<0.5	<0.5	<0.5
	23-Feb-93	9.82	<50	<0.5	<0.5	<0.5	<0.5
	7-Jun-93	10.51	50	9.2	5.5	3.3	14
	13-Aug-93	11.05	<50	<0.5	<0.5	<0.5	<0.5
	18-Nov-93	11.34	<50	<0.5	<0.5	<0.5	<0.5
	10-Feb-94	9.93	<50	<0.5	<0.5	<0.5	<0.5
	3-May-94	10.40	<50	<0.5	<0.5	<0.5	<0.5
	1-Aug-94	10.68	<50	<0.5	<0.5	<0.5	<0.5
S-5	4-May-92	10.27	<50	<0.5	<0.5	<0.5	<0.5
(1st & 3rd	10-Aug-92	10.68	<50	<0.5	<0.5	<0.5	<0.5
Quarter)	9-Nov-92	10.69	<50	<0.5	<0.5	<0.5	<0.5
	23-Feb-93	9.45	<50	<0.5	<0.5	<0.5	<0.5
	7-Jun-93	10.23	<50	<0.5	<0.5	<0.5	<0.5
	13-Aug-93	10.58	<50	<0.5	<0.5	<0.5	<0.5
	18-Nov-93	10.70	<50	<0.5	<0.5	<0.5	<0.5
	10-Feb-94	9.75	<50	<0.5	<0.5	<0.5	<0.5
	3-May-94	10.19	<50	<0.5	<0.5	<0.5	<0.5
	1-Aug-94	10.30	<50	<0.5	<0.5	<0.5	<0.5
	3-Feb-95	9.59	<50	<0.5	<0.5	<0.5	<0.5

TABLE 2

HISTORICAL GROUNDWATER QUALITY DATABASE

SHELL SERVICE STATION
2800 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA
WIC 204-5508-2303

SAMPLE POINT	SAMPLE DATE	DEPTH TO WATER (FT.)	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
S-6	4-May-92	9.42	3,100	640	22	23	97
(3rd Quarter)	10-Aug-92	10.40	3,400	430	27	26	120
	9-Nov-92	10.16	2,000	320	15	15	100
	23-Feb-93	7.60	14,000	780	180	380	1,300
	7-Jun-93	8.90	3,900	1,400	56	83	210
	13-Aug-93	9.39	4,000a	890	16	<0.5	41
	18-Nov-93	10.32	80	5	<0.5	<0.5	<0.5
	10-Feb-94	8.68	4,100	370	23	21	90
	3-May-94	9.20	4,700	550	28	85	340
	1-Aug-94	8.90	2,900	370	11	11	43
S-6 (DUP)	1-Aug-94	---	2,600	340	8.8	7.7	33
S-7	4-May-92	11.21	180	1.6	<0.5	1.5	3
(1st & 3rd	10-Aug-92	12.28	190	8	1.4	4.7	8.5
Quarter)	9-Nov-92	11.77	280	16	4	7.8	21
	23-Feb-93	8.86	210	13	2.2	5.4	12
	7-Jun-93	10.58	90	1.2	2.5	1	<0.5
	13-Aug-93	11.34	140	4	0.8	<0.5	0.5
	18-Nov-93	12.00	440	43	4.9	0.9	4.2
	10-Feb-94	9.88	250a	<0.5	<0.5	1.8	<0.5
	3-May-94	10.75	130	<0.5	<0.5	<0.5	<0.5
	1-Aug-94	11.05	250	4.8	<0.5	<0.5	<0.5
	3-Feb-95	8.53	<50	<0.5	<0.5	<0.5	<0.5
S-8	5-May-92	10.29	1,600	20	420	96	330
(Quarterly)	10-Aug-92	11.12	1,500	19	37	60	250
	9-Nov-92	10.71	710	5.7	24	28	120
	23-Feb-93	6.04	3,800	40	54	68	260
	7-Jun-93	10.06	1,200	13	19	65	150
	13-Aug-93	10.56	1,300	21	23	49	250
	18-Nov-93	10.90	870	16	5.3	59	230
	10-Feb-94	9.53	2,400	11	55	120	530
	3-May-94	10.06	3,100	12	27	130	370
	1-Aug-94	10.32	1,500	20	18	39	190
	8-Nov-94	9.25	2,100	22	38	73	390
	3-Feb-95	8.99	4,800	67	39	130	300
	4-May-95	9.22	2,600	31	23	71	310
S-8 (DUP)	10-Feb-94	---	2,400	11	46	100	440
	3-May-94	---	3,000	21	25	120	340
	8-Nov-94	---	2,100	20	31	75	390
	3-Feb-95	---	3,700	53	30	100	240
	4-May-95	---	3,300	38	26	89	390

TABLE 2

HISTORICAL GROUNDWATER QUALITY DATABASE

SHELL SERVICE STATION
2800 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA
WIC 204-5508-2303

SAMPLE POINT	SAMPLE DATE	DEPTH TO WATER (FT.)	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
S-9	5-May-92	10.45	<50	<0.5	<0.5	<0.5	<0.5
(3rd Quarter)	10-Aug-92	11.52	<50	<0.5	<0.5	<0.5	<0.5
	9-Nov-92	11.02	<50	<0.5	<0.5	<0.5	0.7
	23-Feb-92	8.00	<50	<0.5	<0.5	<0.5	<0.5
	7-Jun-93	10.07	<50	<0.5	<0.5	<0.5	<0.5
	13-Aug-93	10.92	140b	<0.5	<0.5	<0.5	<0.5
	18-Nov-93	11.19	170	<0.5	<0.5	<0.5	<0.5
	10-Feb-94	9.16	140b	<0.5	<0.5	<0.5	<0.5
	3-May-94	10.03	<50	<0.5	<0.5	<0.5	<0.5
	1-Aug-94	10.52	<50	<0.5	<0.5	<0.5	<0.5
S-10	5-May-92	8.54	<50	<0.5	<0.5	<0.5	<0.5
(3rd Quarter)	10-Aug-92	10.43	<50	<0.5	<0.5	<0.5	<0.5
	9-Nov-92	9.14	<50	<0.5	<0.5	<0.5	<0.5
	22-Feb-93	6.72	<50	<0.5	<0.5	<0.5	<0.5
	7-Jun-93	8.08	<50	<0.5	<0.5	<0.5	<0.5
	13-Aug-93	8.83	<50	<0.5	<0.5	<0.5	<0.5
	18-Nov-93	9.46	<50	<0.5	<0.5	<0.5	<0.5
	10-Feb-94	7.41	<50	<0.5	<0.5	<0.5	<0.5
	3-May-94	8.16	<50	<0.5	<0.5	<0.5	<0.5
	1-Aug-94	8.29	<50	<0.5	<0.5	<0.5	<0.5
S-11	4-May-92	9.99	1,500	55	32	57	190
(Quarterly)	10-Aug-92	10.92	750	29	13	43	120
	9-Nov-92	10.44	4,100	32	62	120	1,100
	23-Feb-93	7.30	760	15	13	37	140
	7-Jun-93	9.51	1,700	40	16	100	360
	13-Aug-93	10.39	60	0.9	<0.5	0.8	1.2
	18-Nov-93	10.64	150	7.8	1	9	12
	10-Feb-94	8.50	4,400	53	19	160	390
	3-May-94	9.42	65	1.5	<0.5	0.53	0.59
	1-Aug-94	10.12	240	18	6.7	6.9	18
	8-Nov-94	8.84	490	14	5.2	15	47
	3-Feb-95	7.12	380	4.1	0.9	1.4	5.1
	4-May-95	7.96	110	1.3	<0.5	1.1	1.8

TABLE 2

HISTORICAL GROUNDWATER QUALITY DATABASE

SHELL SERVICE STATION
2800 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA
WIC 204-5508-2303

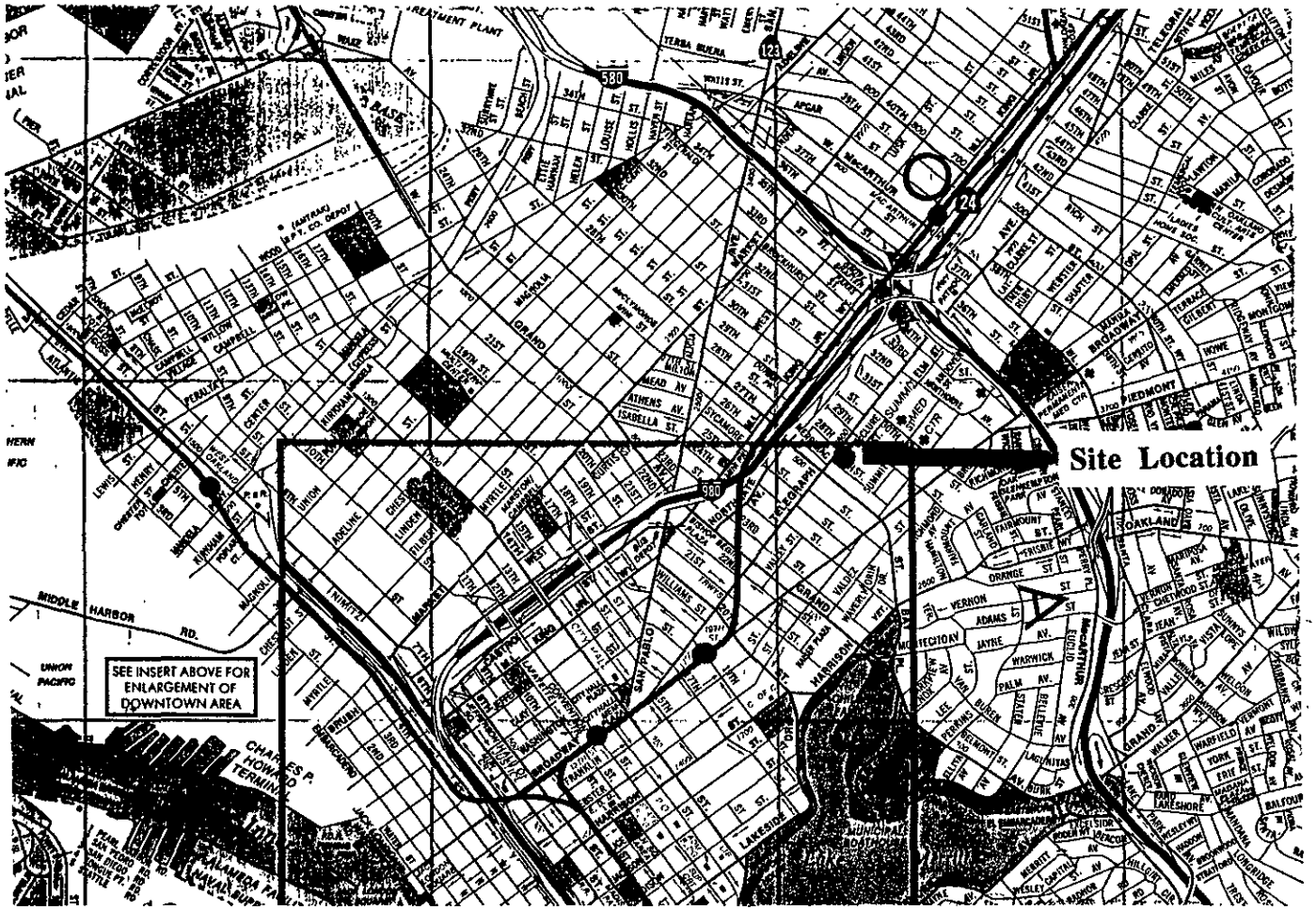
SAMPLE POINT	SAMPLE DATE	DEPTH TO WATER (FT.)	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
S-11 (DUP)	7-Jun-93	---	1,600	51	16	83	300
	13-Aug-93	---	70	2.1	<0.5	0.9	2.1
SR-1	18-Nov-93	10.02	<50	<0.5	<0.5	<0.5	<0.5
SR-1 (DUP)	18-Nov-93	---	<50	<0.5	<0.5	<0.5	<0.5

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
PPB = Parts per billion
<x = Not detected at detection limit of x
--- = Not analyzed
DUP = Duplicate sample

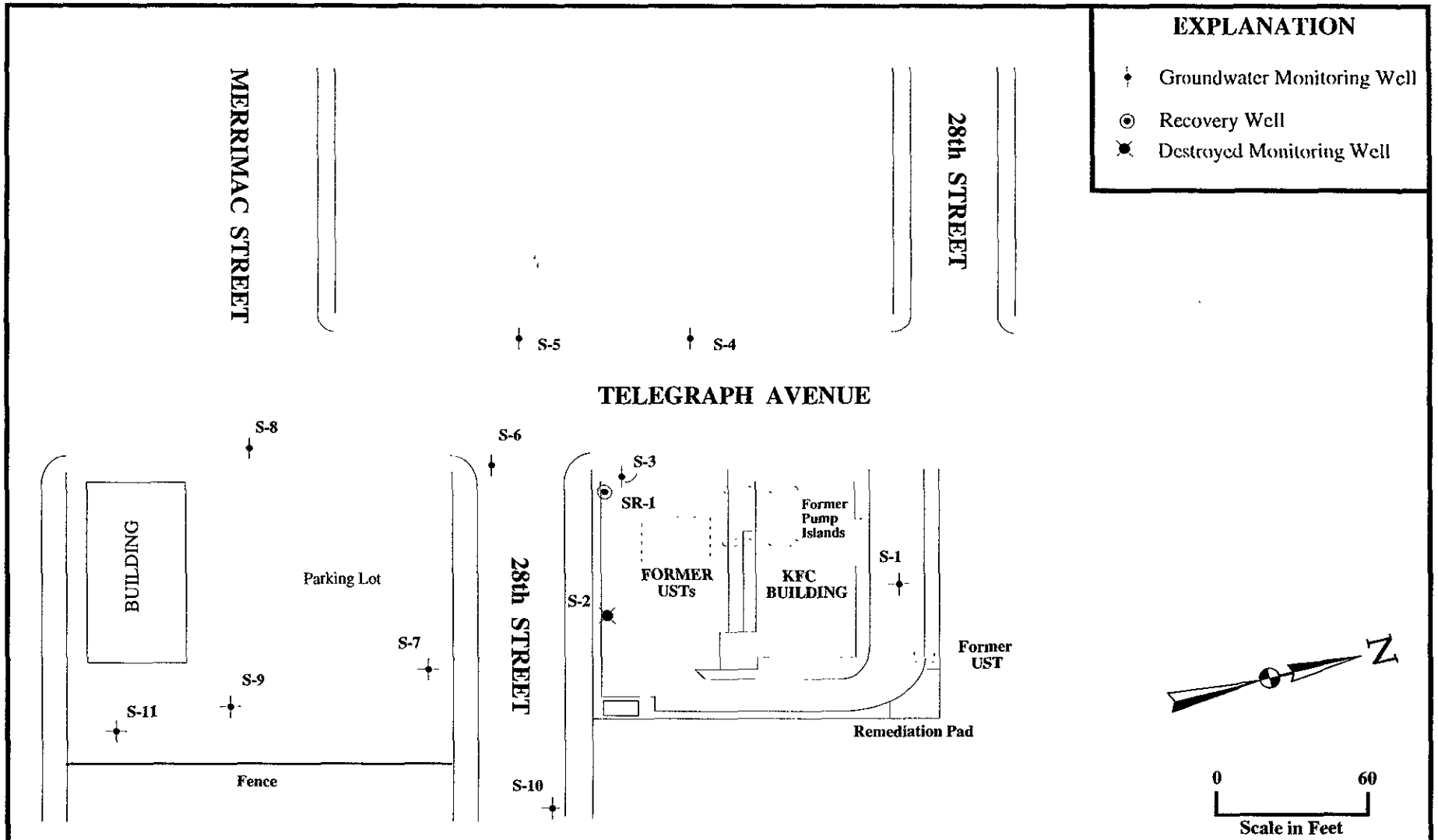
Notes:

Benzene, Toluene, Ethylbenzene, Xylenes analyzed by EPA Method 8020
a = 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.



Note: Vicinity Map taken from California State AAA map.

PLATE **1**	**SITE VICINITY MAP** Former Shell Service Station 2800 Telegraph Avenue Oakland, California	***enviros***® 95290
Drawn By: JLP	Date: 5-15-95	Approved By: Jm Date: 13-Jan-95



Base map taken from Weiss Associates Site Map

PLATE **2**

SITE PLAN
Former Shell Service Station
2800 Telegraph Avenue
Oakland, California

enviros ®
95290

Drawn By: JLP | Date: 5-15-95 | Approved By: Jm | Date: 13-Jun-95

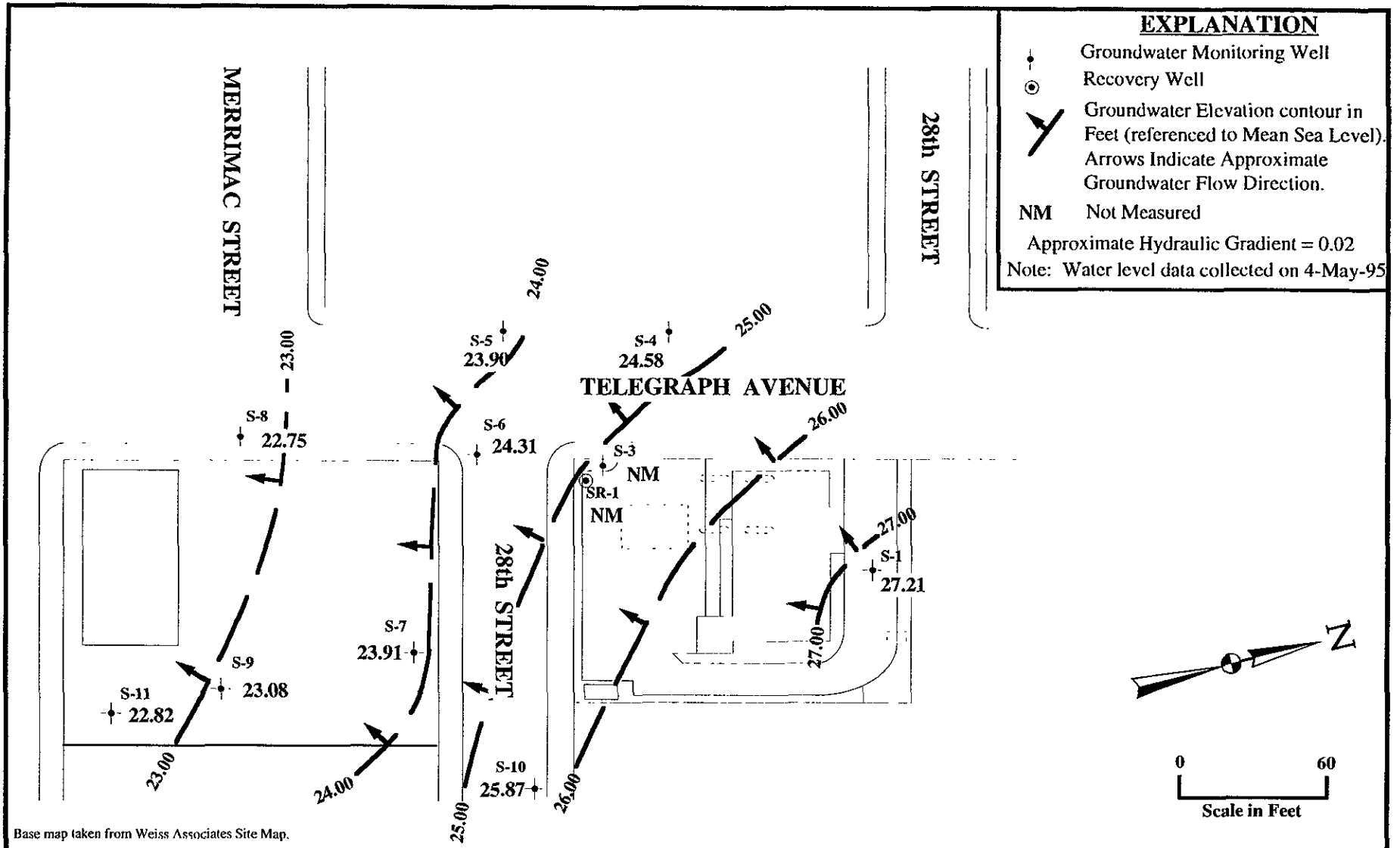
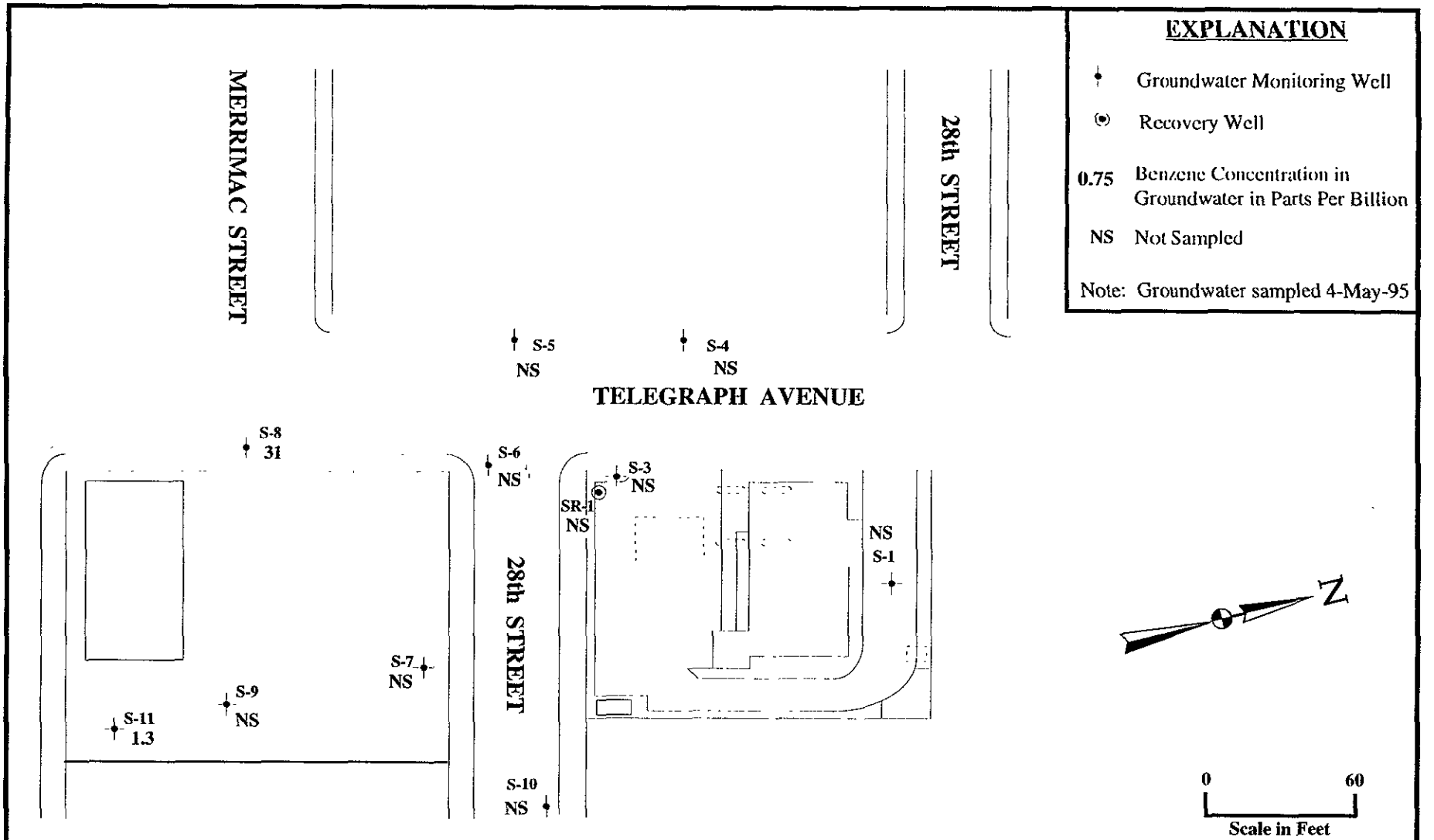


PLATE **3**

GROUNDWATER CONTOUR MAP
Former Shell Service Station
2800 Telegraph Avenue
Oakland, California

enviros ®
95290

Drawn By: JWN	Date: 6-6-95	Approved By:	Date: 13-JUN-95



EXPLANATION

- Groundwater Monitoring Well
- Recovery Well
- 0.75 Benzene Concentration in Groundwater in Parts Per Billion
- NS Not Sampled

Note: Groundwater sampled 4-May-95

Base map taken from Weiss Associates Site Map.

PLATE
4

BENZENE CONCENTRATION MAP
Former Shell Service Station
2800 Telegraph Avenue
Oakland, California

enviros ®
95290

Drawn By: JWN | Date: 6-6-95 | Approved By: JM | Date: 13-Jun-95

Appendix A

Blaine
Quarterly Groundwater Sampling Report

Chain-Of-Custody Record

NET Certified Analytical Report

BLAINE
TECH SERVICES INC.

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

May 24, 1995

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:
2nd quarter of 1995

QUARTERLY GROUNDWATER SAMPLING REPORT 950504-S-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 #1386.

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: Enviros, Inc.
19411 Riverside Drive
P.O. Box 259
Sonoma, CA 95476-0259
ATTN: Diane Lundquiat

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	5/4/95	TOB	--	NONE	--	--	8.10	27.86
S-4	5/4/95	TOB	--	NONE	--	--	9.50	30.42
S-5	5/4/95	TOB	--	NONE	--	--	9.52	30.55
S-6	5/4/95	TOB	--	NONE	--	--	8.28	22.20
S-7	5/4/95	TOB	--	NONE	--	--	9.42	30.82
S-8 *	5/4/95	TOB	ODOR	NONE	--	--	9.22	19.20
S-9	5/4/95	TOB	--	NONE	--	--	8.78	30.02
S-10	5/4/95	TOB	--	NONE	--	--	7.08	24.32
S-11	5/4/95	TOB	--	NONE	--	--	7.96	19.18
SR-1	5/4/95	TOB	--	NONE	--	--	4.10	34.45

* Sample DUP was a duplicate sample taken from well S-8.

#6669

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 95052452

Date:
Page 1 of 1

Site Address: 2800 Telegraph Ave., Oakland

WIC#: 204-5508-2303

Shell Engineer: Lynn Walker
Phone No.: (510) 675-6169
Fax #: 675-6172

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: SHAWN HOLLE

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			Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
S-8	5/4			W		3						X								
S-11						3						X								
DUP						3						X								
EB						3						X								
TB	↓			↓		2						X								

5/5/95 GB
Seal Intact
GB 5/6/95

CHECK ONE (1) BOX ONLY — CT/DT

Quarterly Monitoring	X	6441
Site Investigation		6443
Soil Closure/Disposal		6442
Water Closure/Disposal		6443
Soil/Air Rem. or Sys. O & M		6442
Water Rem. or Sys. O & M		6443
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: SHAWN HOLLE	Date: 5/5 Time: 17:45	Received (signature):	Printed Name: G LUMBRE	Date: 5/5 Time: 9:40
Relinquished By (signature): G LUMBRE	Printed Name: G LUMBRE	Date: 5/5 Time: 19:30	Received (signature):	Printed Name:	Date: Time:
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name: JILL PROSSER	Date: 5/6/95 Time: 0100

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

White Copy — Yellow Copy

NATIONAL ENVIRONMENTAL TESTING, INC.

Santa Rosa Division
3636 North Laughlin Road
Suite 110
Santa Rosa, CA 95403-8226
Tel: (707) 526-7200
Fax: (707) 541-2333

Jim Keller
Blaine Tech Services
985 Timothy Dr.
San Jose, CA 95133

Date: 05/16/1995
NET Client Acct. No: 1821
NET Job No: 95.01838
Received: 05/06/1995

Client Reference Information

Shell 2800 Telegraph Ave., Oakland, CA./950504-S2

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:

Ken Larson
Division Manager

Linda DeMartino
Project Coordinator

Enclosure(s)

Ref: Shell 2800 Telegraph Ave., Oakland, CA./950504-S2

SAMPLE DESCRIPTION: S-8
Date Taken: 05/04/1995
Time Taken:
NET Sample No: 241460

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	10						05/12/1995	2827
Purgeable TPH	2,600		500	ug/L	5030/M8015		05/12/1995	2827
Carbon Range: C6 to C12	--						05/12/1995	2827
METHOD 8020 (GC, Liquid)	--						05/12/1995	2827
Benzene	31		5	ug/L	8020		05/12/1995	2827
Toluene	23		5	ug/L	8020		05/12/1995	2827
Ethylbenzene	71		5	ug/L	8020		05/12/1995	2827
Xylenes (Total)	310		5	ug/L	8020		05/12/1995	2827
SURROGATE RESULTS	--						05/12/1995	2827
Bromofluorobenzene (SURR)	94			% Rec.	8020		05/12/1995	2827

Ref: Shell 2800 Telegraph Ave., Oakland, CA./950504-S2

SAMPLE DESCRIPTION: S-11
Date Taken: 05/04/1995
Time Taken:
NET Sample No: 241461

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						05/12/1995	2827
Purgeable TPH	110		50	ug/L	5030/M8015		05/12/1995	2827
Carbon Range: C6 to C12	--						05/12/1995	2827
METHOD 8020 (GC, Liquid)	--						05/12/1995	2827
Benzene	1.3		0.5	ug/L	8020		05/12/1995	2827
Toluene	ND		0.5	ug/L	8020		05/12/1995	2827
Ethylbenzene	1.1		0.5	ug/L	8020		05/12/1995	2827
Xylenes (Total)	1.8		0.5	ug/L	8020		05/12/1995	2827
SURROGATE RESULTS	--						05/12/1995	2827
Bromofluorobenzene (SURR)	92			% Rec.	8020		05/12/1995	2827

Ref: Shell 2800 Telegraph Ave., Oakland, CA./950504-S2

SAMPLE DESCRIPTION: DUP
Date Taken: 05/04/1995
Time Taken:
NET Sample No: 241462

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	10						05/12/1995	2828
Purgeable TPH	3,300		500	ug/L	5030/M8015		05/12/1995	2828
Carbon Range: C6 to C12	--						05/12/1995	2828
METHOD 8020 (GC, Liquid)	--						05/12/1995	2828
Benzene	38		5	ug/L	8020		05/12/1995	2828
Toluene	26		5	ug/L	8020		05/12/1995	2828
Ethylbenzene	89		5	ug/L	8020		05/12/1995	2828
Xylenes (Total)	390		5	ug/L	8020		05/12/1995	2828
SURROGATE RESULTS	--						05/12/1995	2828
Bromofluorobenzene (SURR)	112			% Rec.	8020		05/12/1995	2828

Ref: Shell 2800 Telegraph Ave., Oakland, CA./950504-S2

SAMPLE DESCRIPTION: EB
Date Taken: 05/04/1995
Time Taken:
NET Sample No: 241463

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						05/12/1995	2827
Purgeable TPH	ND		50	ug/L	5030/M8015		05/12/1995	2827
Carbon Range: C6 to C12	--						05/12/1995	2827
METHOD 8020 (GC, Liquid)	--						05/12/1995	2827
Benzene	ND		0.5	ug/L	8020		05/12/1995	2827
Toluene	ND		0.5	ug/L	8020		05/12/1995	2827
Ethylbenzene	ND		0.5	ug/L	8020		05/12/1995	2827
Xylenes (Total)	ND		0.5	ug/L	8020		05/12/1995	2827
SURROGATE RESULTS	--						05/12/1995	2827
Bromofluorobenzene (SURR)	83			% Rec.	8020		05/12/1995	2827

Ref: Shell 2800 Telegraph Ave., Oakland, CA./950504-S2

SAMPLE DESCRIPTION: TB
Date Taken: 05/04/1995
Time Taken:
NET Sample No: 241464

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
METHOD 5030/8015-M (Shell)								
DILUTION FACTOR*	1						05/12/1995	2827
Purgeable TPH	ND		50	ug/L	5030/M8015		05/12/1995	2827
Carbon Range: C6 to C12	--						05/12/1995	2827
METHOD 8020 (GC, Liquid)	--						05/12/1995	2827
Benzene	ND		0.5	ug/L	8020		05/12/1995	2827
Toluene	ND		0.5	ug/L	8020		05/12/1995	2827
Ethylbenzene	ND		0.5	ug/L	8020		05/12/1995	2827
Xylenes (Total)	ND		0.5	ug/L	8020		05/12/1995	2827
SURROGATE RESULTS	--						05/12/1995	2827
Bromofluorobenzene (SURR)	84			% Rec.	8020		05/12/1995	2827

Ref: Shell 2800 Telegraph Ave., Oakland, CA./950504-S2

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials	Run Batch Number
METHOD 5030/8015-M (Shell)							
Purgeable TPH	102.8	0.514	0.50	mg/L	05/12/1995	pbg	2827
Benzene	93.8	4.69	5.00	ug/L	05/12/1995	pbg	2827
Toluene	88.4	4.42	5.00	ug/L	05/12/1995	pbg	2827
Ethylbenzene	92.8	4.64	5.00	ug/L	05/12/1995	pbg	2827
Xylenes (Total)	92.5	13.87	15.0	ug/L	05/12/1995	pbg	2827
Bromofluorobenzene (SURR)	101.0	101	100	% Rec.	05/12/1995	pbg	2827
METHOD 5030/8015-M (Shell)							
Purgeable TPH	92.8	0.464	0.50	mg/L	05/12/1995	pbg	2828
Benzene	92.8	4.64	5.00	ug/L	05/12/1995	pbg	2828
Toluene	86.2	4.31	5.00	ug/L	05/12/1995	pbg	2828
Ethylbenzene	90.4	4.52	5.00	ug/L	05/12/1995	pbg	2828
Xylenes (Total)	89.3	13.39	15.0	ug/L	05/12/1995	pbg	2828
Bromofluorobenzene (SURR)	105.0	105	100	% Rec.	05/12/1995	pbg	2828

Ref: Shell 2800 Telegraph Ave., Oakland, CA./950504-S2

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials	Run Batch Number
METHOD 5030/8015-M (Shell)						
Purgeable TPH	ND	0.05	mg/L	05/12/1995	pbg	2827
Benzene	ND	0.5	ug/L	05/12/1995	pbg	2827
Toluene	ND	0.5	ug/L	05/12/1995	pbg	2827
Ethylbenzene	ND	0.5	ug/L	05/12/1995	pbg	2827
Xylenes (Total)	ND	0.5	ug/L	05/12/1995	pbg	2827
Bromofluorobenzene (SURR)	84		% Rec.	05/12/1995	pbg	2827
METHOD 5030/8015-M (Shell)						
Purgeable TPH	ND	0.05	mg/L	05/12/1995	pbg	2828
Benzene	ND	0.5	ug/L	05/12/1995	pbg	2828
Toluene	ND	0.5	ug/L	05/12/1995	pbg	2828
Ethylbenzene	ND	0.5	ug/L	05/12/1995	pbg	2828
Xylenes (Total)	ND	0.5	ug/L	05/12/1995	pbg	2828
Bromofluorobenzene (SURR)	99		% Rec.	05/12/1995	pbg	2828

Client Name: Blaine Tech Services
Client Acct: 1821
NET Job No: 95.01838

Date: 05/16/1995
ELAP Cert: 1386
Page: 9

Ref: Shell 2800 Telegraph Ave., Oakland, CA./950504-S2

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	Run Batch	Sample Spiked
METHOD 5030/8015-M (Shell)											241461
Purgeable TPH	88.0	86.0	2.3	0.50	0.11	0.55	0.54	mg/L	05/12/1995	2827	241461
Benzene	80.2	77.9	2.9	9.1	1.3	8.6	8.4	ug/L	05/12/1995	2827	241461
Toluene	92.3	92.3	0.0	29.7	ND	27.4	27.4	ug/L	05/12/1995	2827	241461
METHOD 5030/8015-M (Shell)											241542
Purgeable TPH	90.6	91.4	0.9	0.50	ND	0.453	0.457	mg/L	05/12/1995	2828	241542
Benzene	93.5	97.7	4.4	7.98	ND	7.46	7.80	ug/L	05/12/1995	2828	241542
Toluene	97.4	99.4	2.0	31.2	ND	30.4	31.0	ug/L	05/12/1995	2828	241542

NET®

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. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
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 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.

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

COOLER RECEIPT FORM

Project: 2800 TELEGRAPH AVE., OAKLAND 950504-S2 Log No: 6669
Cooler received on: 5/6/95 and checked on 5/6/95 by
(signature)

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 TEMP: 1.0°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:

*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)