enviros®

May 15, 1997

Mr. Alex Perez
Shell Oil Products Company
P.O. Box 4023
Concord, California 94524

RE: **Quarterly Monitoring Report - First Quarter 1997**
Former Shell Service Station
2101 Park Boulevard
Oakland, California
WIC #204-5508-1206

Dear Mr. Perez:

This Quarterly Monitoring Report describes the recently completed activities associated with ground water monitoring and sampling at the referenced site (Plates 1 and 2). This report was prepared to meet quarterly reporting guidelines issued by the Regional Water Quality Control Board, San Francisco Bay Region and the Alameda County Health Care Services Agency (ACHCSA).

Quarterly Monitoring & Sampling Summary

Ground water monitoring and sampling for the first quarter of 1997 are summarized below:

- Blaine Tech Services Inc. (Blaine), of San Jose, California measured ground water levels and collected ground water samples from Wells S-1, S-2, and S-3 on March 10, 1997. The samples were transported to Sequoia Analytical (Sequoia) of Redwood City, California for chemical analysis.

- Ground water level measurement data were evaluated and used to prepare a ground water contour map (Plate 2). Ground water flow direction appears to be southerly at an approximate hydraulic gradient of 0.05.

- The ground water samples from Well S-1 contained 200 ppb TEPH. Wells S-2 and S-3 contained TPPH concentrations of 61 ppb and 7,000 ppb and benzene concentrations of 1.6 ppb and 720 ppb, respectively.

Quarterly Sampling

Monitoring Wells S-1, S-2, and S-3 were sampled and analyzed for Total Purgeable Petroleum Hydrocarbons quantitated as gasoline (TPPH) according to EPA Method 8015 (Modified) and benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl-tertiary-butyl-ether (MTBE) according to EPA Method 8020. Monitoring Well S-1 was also analyzed for Total Extractable Petroleum Hydrocarbons quantitated as diesel (TEPH) according to EPA Method 8015 (Modified). Additionally, an equipment blank and a duplicate sample were prepared and analyzed for quality control purposes.

Field monitoring data and chemical analytical data have been included in Table 1. A ground water contour/benzene concentration map is presented as Plate 2. Blaine's quarterly ground water monitoring report is presented in Appendix A.

Installation of ORC was recommended in the previous quarterly monitoring report. This installation will be done during the second quarter of 1997.

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.

Matthew E. Donohue
Project Engineer

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

REGISTERED PROFESSIONAL ENGINEER
DIANE M. LUNDQUIST
NO. C46725
CIVIL
STATE OF CALIFORNIA

Attachments

Table 1. Well Concentrations

Plate 1. Vicinity Map
Plate 2. Ground Water Contour/Benzene Concentration Map

Appendix A

Blaine Tech Services Inc. - Quarterly Ground Water Monitoring Report

cc Mr. Barney Chan, Alameda County Health Care Services Agency
Mr. Frank J. Schlessinger, Schlessinger & Associates
Mr. Steve Makara, Goodyear Tire & Rubber Company

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
2101 Park Boulevard
Oakland, California
WIC #204-5508-1206

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	O & G by 5520 B (ug/L)	O & G by 5520 B/F (ug/L)	Comments
S-1	Top casing elevation (ft):		11.93										
20-Jun-95	4 67	7 26	0.00	160	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	
12-Sep-95	4 19	7 74	0.00	<50	250	3.0	<0.5	<0.5	<0.5	NA	<5000	<5000	
28-Dec-95	5 30	6.63	0.00	70	160	1.1	<0.5	<0.5	1.3	NA	<5000	<5000	
25-Mar-96	3.44	8 49	0.00	70	220	<0.5	<0.5	<0.5	<0.5	<2.0	NA	NA	
27-Jun-96	3.15	8.78	0.00	<50	140	0.59	<0.50	<0.50	<0.50	<2.5	NA	NA	
26-Sep-96	3.90	8.03	0.00	<50	190	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	
10-Dec-96	2.46	9.47	0.00	<50	84	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	
10-Mar-97	2.93	9.00	0.00	<50	200	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	
S-2	Top casing elevation (ft):		12.06										
20-Jun-95	5 80	6 26	0.00	180	NA	1.1	<0.5	<0.5	0.6	NA	NA	NA	
12-Sep-95	5 78	6 28	0.00	190	NA	18	<0.5	1.2	0.6	NA	NA	NA	
28-Dec-95	4 02	8 04	0.00	200	NA	11	1.0	1.0	4.0	NA	NA	NA	
25-Mar-96	5 56	6 50	0.00	180	NA	12	0.8	1.4	1.0	<2.0	NA	NA	
27-Jun-96	6 00	6 06	0.00	150	NA	7.7	0.79	0.93	0.5	<2.5	NA	NA	
26-Sep-96	5.73	6.33	0.00	83	NA	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	
10-Dec-96	4 57	7 49	0.00	78	NA	1.4	<0.50	0.57	<0.50	<2.5	NA	NA	
10-Mar-97	5.38	6.68	0.00	61	NA	1.6	<0.50	<0.50	<0.50	<2.5	NA	NA	
S-2 (DUP)													
10-Mar-97	NA	NA	NA	77	NA	2.0	<0.50	0.69	<0.50	<2.5	NA	NA	
S-3	Top casing elevation (ft):		13.54										
20-Jun-95	4 90	8.64	0.00	5500	NA	240	34	120	840	NA	NA	NA	

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
2101 Park Boulevard
Oakland, California
WIC #204-5508-1206

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	O & G by 5520 B (ug/L)	O & G by 5520 B/F (ug/L)	Comments
12-Sep-95	5.37	8.17	0.00	5200	NA	690	14	290	280	NA	NA	NA	
28-Dec-95	3.90	9.64	0.00	13000	NA	670	34	960	1400	NA	NA	NA	
25-Mar-96	4.30	9.24	0.00	7300	NA	560	65	540	820	<200	NA	NA	
27-Jun-96	5.00	8.54	0.00	17000	NA	1100	83	1200	2700	<250	NA	NA	
26-Sep-96	5.23	8.31	0.00	8900	NA	920	43	400	1100	<125	NA	NA	
10-Dec-96	3.88	9.66	0.00	6100	NA	470	25	290	640	<100	NA	NA	
10-Mar-97	4.10	9.44	0.00	7000	NA	720	29	340	620	110	NA	NA	
S-3 (DUP)													
20-Jun-95	NA	NA	NA	6300	NA	270	37	120	1100	NA	NA	NA	
12-Sep-95	NA	NA	NA	4700	NA	620	13	260	240	NA	NA	NA	
28-Dec-95	NA	NA	NA	13000	NA	800	34	1000	1600	NA	NA	NA	
25-Mar-96	NA	NA	NA	7400	NA	580	19	620	670	<20	NA	NA	
27-Jun-96	NA	NA	NA	1903	NA	13	1.0	14	34	7.2	NA	NA	
26-Sep-96	NA	NA	NA	9800	NA	960	41	450	1300	120	NA	NA	MTBE by 8260: <16 ppb (a)
10-Dec-96	NA	NA	NA	7700	NA	550	33	380	880	120	NA	NA	

Abbreviations

TPPH = Total Purgeable Petroleum Hydrocarbons carbon range C6 to C12 by EPA Method 8015 (Modified)
(previously reported as Total Petroleum Hydrocarbons as Gasoline)

TEPH = Total Extractable Petroleum Hydrocarbons carbon range C9 to C24 by EPA Method 8015 (Modified)
(previously reported as Total Petroleum Hydrocarbons as Diesel)

O&G = Oil and Grease

BTEX = benzene, toluene, ethylbenzene, xylene by EPA Method 8020

MTBE = methyl-tertiary-butyl ether by EPA Method 8020

NA – Not analyzed or not available

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
2101 Park Boulevard
Oakland, California
WIC #204-5508-1206

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	TEPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	O & G by 5520 B (ug/L)	O & G by 5520 B/F (ug/L)	Comments

<x = Not detected at detection limit of x
(DUP) = Duplicate sample

Note
(a) = The MTBE was analyzed by EPA method 8260 one day past hold time. The MTBE value did not confirm therefore, all MTBE results at this site should be considered estimated.
All wells surveyed to Mean Sea Level

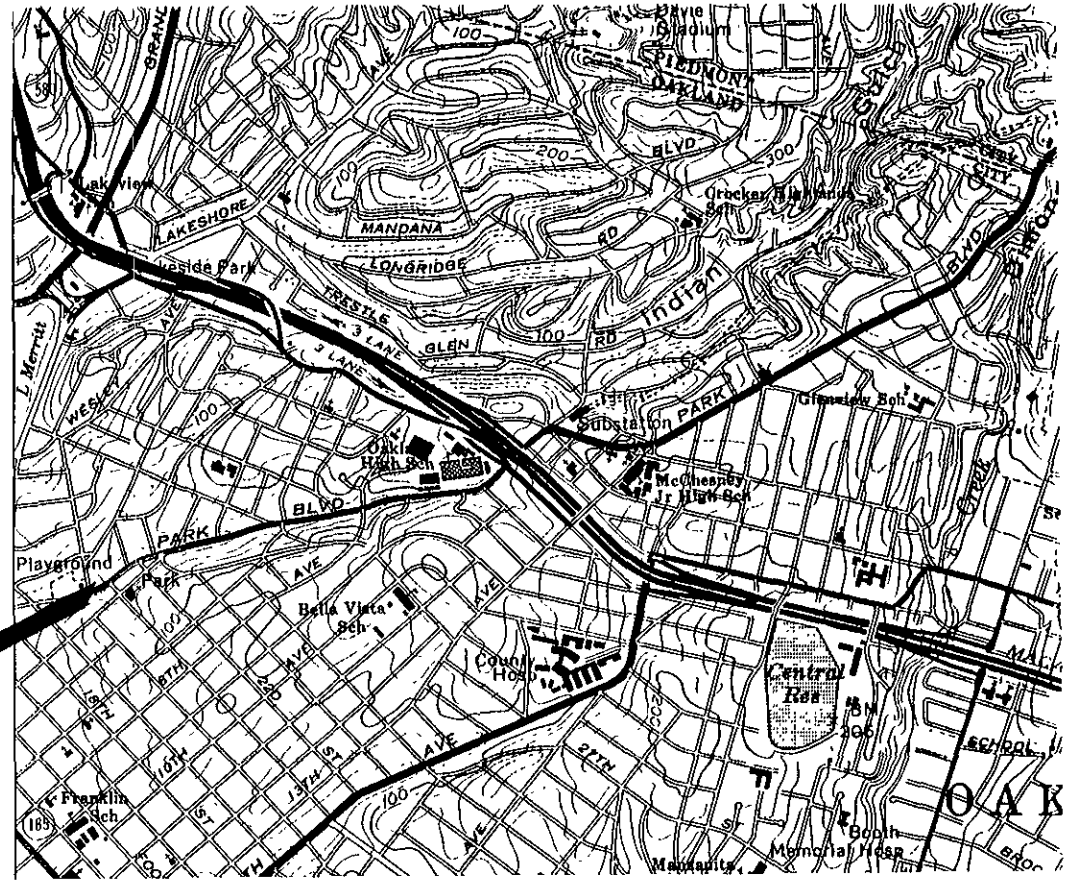


PLATE
1

VICINITY MAP
Former Shell Service Station
2101 Park Boulevard
Oakland, California

enviros®
E4/95267.01

Drawn By: GLV

Date: 2-24-95

Approved By: [signature] Date: 5.6.97

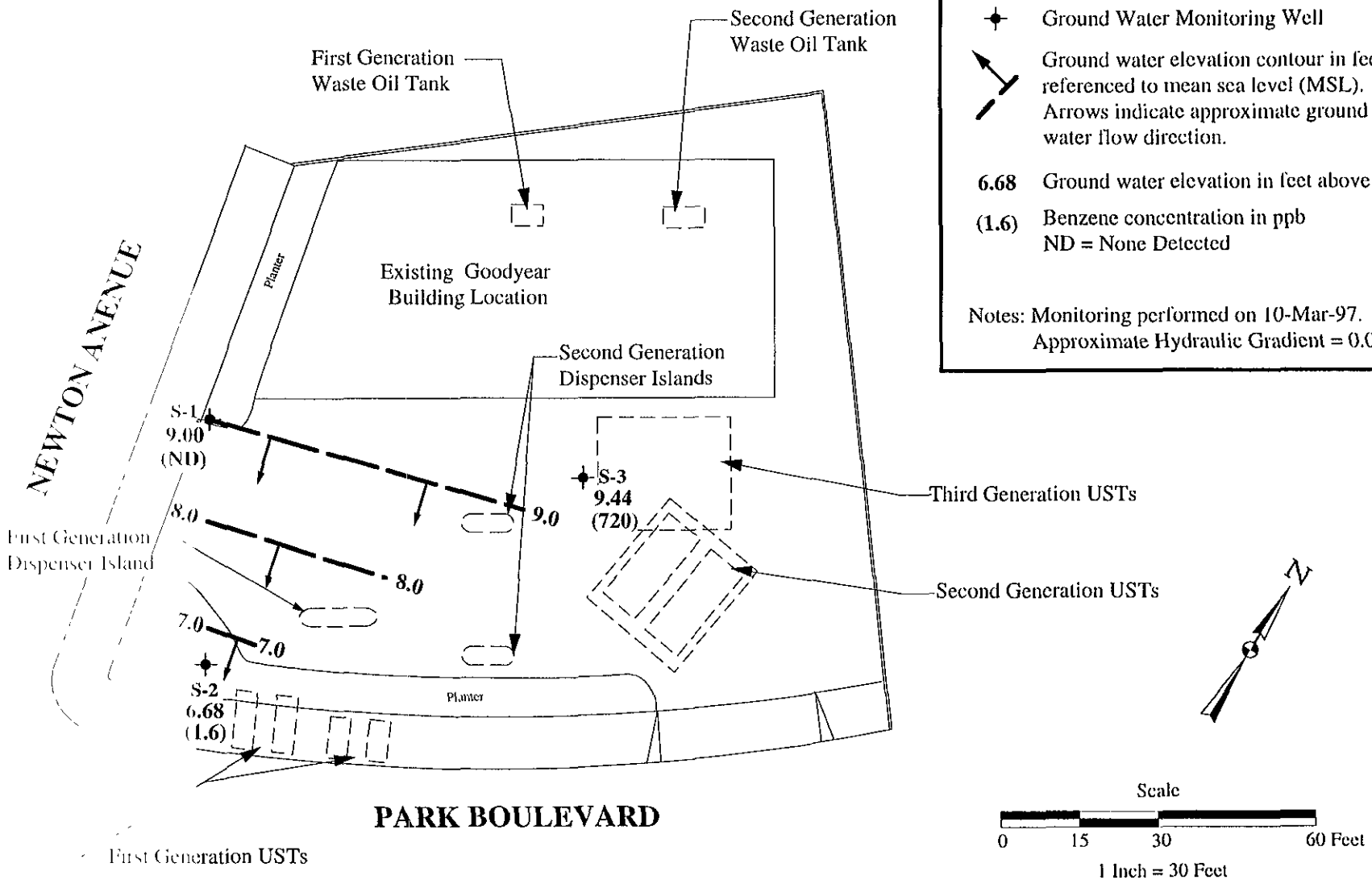
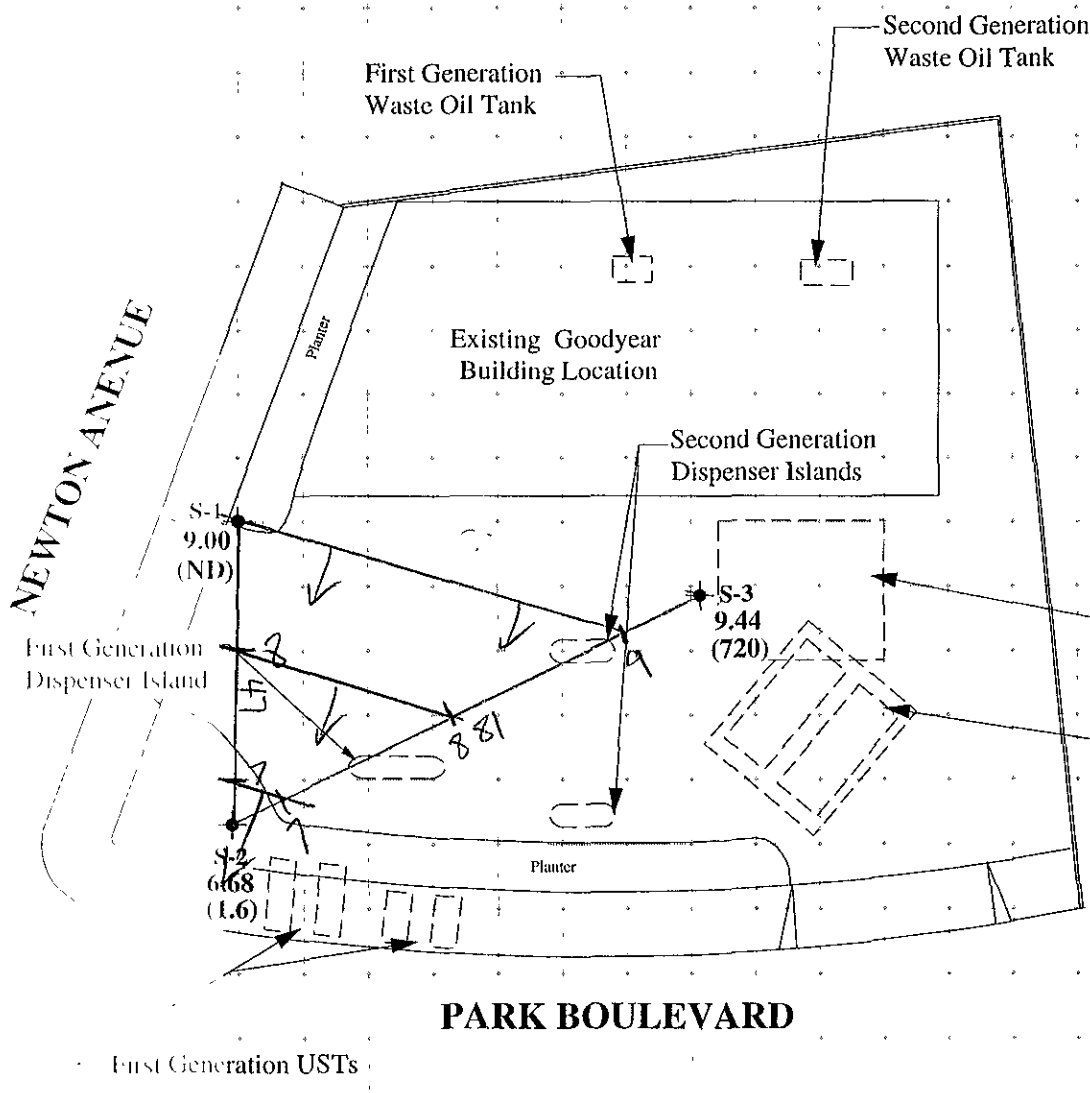


PLATE
2

GROUND WATER CONTOUR/BENZENE CONCENTRATION MAP
Former Shell Service Station
2101 Park Boulevard
Oakland, California

enviros ®
97267

Drawn By MED | Date: 6-May-97 | Approved By: MEQ | Date: 5.15.97



EXPLANATION

- Ground Water Monitoring Well
- Ground water elevation contour in feet referenced to mean sea level (MSL). Arrows indicate approximate ground water flow direction.
- **6.68** Ground water elevation in feet above MSL
- **(1.6)** Benzene concentration in ppb
  ND = None Detected

Note: Monitoring performed on 10-Mar-97.
Approximate Hydraulic Gradient =

Scale
0 15 30 60 Feet
1 Inch = 30 Feet

PLATE
2

GROUND WATER CONTOUR/BENZENE CONCENTRATION MAP
Former Shell Service Station
2101 Park Boulevard
Oakland, California

enviros ®
97267

Drawn By: MED | Date: 6-May-97 | Approved By: _____ Date: _____

Appendix A

Blaine Tech Services Inc.
Quarterly Ground Water Monitoring Report

BLAINE
TECH SERVICES inc

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
(408) 573-7771 FAX
(408) 573-0555 PHONE

March 28, 1997

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

Attn: Alex Perez

Shell WIC #204-5508-1206
2101 Park Blvd.
Oakland, California

1st Quarter 1997

Quarterly Groundwater Monitoring Report 970310-C-1

Blaine Tech Services, Inc. performs environmental sampling and documentation as an independent third party. Copies of our Sampling Report along with the laboratory's Certified Analytical Report are forwarded to the consultant overseeing work at this site. Submission of the assembled documents to interested regulatory agencies will be made by the designated consultant.

Groundwater monitoring at this site was performed in accordance with Standard Operating Procedures provided to the interested regulatory agencies. If you have any questions about the work performed at this site please call me at (408) 573-0555 ext. 201.

Yours truly,

Francis Thie

attachments: Table of Well Gauging Data
Chain of Custody
Field Data Sheets
Certified Analytical Report

cc Enviros, Inc.
P.O Box 259
Sonoma, CA 95476-0259
Attn: Joe Neely

(Any professional evaluations or recommendations will be made by the consultant under separate cover)

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	3/10/97	TOC	--	NONE	--	--	2.93	16.90
S-2 *	3/10/97	TOC	--	NONE	--	--	5.38	17.32
S-3	3/10/97	TOC	ODOR	NONE	--	--	4.10	16.87

* Sample DUP was a duplicate sample taken from well S-2.

9703564

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 970310-c1

Date: 03-10-97
Page 1 of 1

Site Address: 2101 Park Blvd., Oakland, CA

WIC#: 204-5508-1206

Shell Engineer: R. Jeff Granberry
Phone No.: (510) 675-6168
Fax #: 675-6172

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

Consultant Contact: Fran Thie
Phone No.: (408) 995-5535.x201
Fax #: 293-8773

Comments:

Sampled by: [signature]

Printed Name: Kevin Carwin

LAB: SEQUOIA

CHECK ONE (1) BOX ONLY		CT/DT
G.W. Monitoring	[X]	4461
Site Investigation	[ ]	4441
Soil Classify/Disposal	[ ]	4442
Water Classify/Disposal	[ ]	4443
Soil/Air Rem. or Sys. O & M	[ ]	4452
Water Rem. or Sys. O & M	[ ]	4453
Other	[ ]	

TURN AROUND TIME
- 24 hours [ ]
- 48 hours [ ]
- 15 days [X] (Normal)
- Other [ ] ____

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

UST AGENCY: ____

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	MTBE		Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
S-1	03/10			X		5		X				X	X							
S-2	3/10			X		3						X	X							
S-3	3/10			X		3						X	X							
Dup	3/10			X		3						X	X							
EB	3/10			X		3						X	X							

Relinquished By (signature):	Printed Name:	Date/Time	Received (signature):	Printed Name:	Date/Time
[signature]	Kevin Carwin	Date: 3/11/97 Time: 11:30	[signature]	Fultcher	Date: 3/11/97 Time: 11:30
[signature]		Date: 3/11/97 Time:			Date: Time:
		Date: Time:	Mara Grislis	Mara Grislis	Date: 3/11/97 Time: 13:20

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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112
Attention: Fran Thie

Project: Shell Oakland/970310-C1

Enclosed are the results from samples received at Sequoia Analytical on March 11, 1997. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9703564 -01	LIQUID, S-1	03/10/97	TPGBMW Purgeable TPH/BTEX
9703564 -01	LIQUID, S-1	03/10/97	TPHD_W Extractable TPH
9703564 -02	LIQUID, S-2	03/10/97	TPGBMW Purgeable TPH/BTEX
9703564 -03	LIQUID, S-3	03/10/97	TPGBMW Purgeable TPH/BTEX
9703564 -04	LIQUID, Dup	03/10/97	TPGBMW Purgeable TPH/BTEX
9703564 -05	LIQUID, EB	03/10/97	TPGBMW Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell Oakland/970310-C1
Sample Descript: S-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9703564-01

Sampled: 03/10/97
Received: 03/11/97

Analyzed: 03/14/97
Reported: 03/21/97

QC Batch Number: GC031497BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	89

Analytes reported as N.D. were not present above the stated limit of detection

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell Oakland/970310-C1
Sample Descript: S-1
Matrix: LIQUID
Analysis Method: EPA 8015 Mod
Lab Number: 9703564-01

Sampled: 03/10/97
Received: 03/11/97
Extracted: 03/17/97
Analyzed: 03/19/97
Reported: 03/21/97

QC Batch Number: GC0317970HBPEXZ
Instrument ID: GCHP5A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	50	200
Chromatogram Pattern: **Unidentified HC**		C9-C24

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	128

Analytes reported as N.D. were not present above the stated limit of detection

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Tech Services	Client Proj. ID: Shell Oakland/970310-C1	Sampled: 03/10/97
1680 Rogers Avenue	Sample Descript: S-2	Received: 03/11/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 03/14/97
Attention: Fran Thie	Lab Number: 9703564-02	Reported: 03/21/97

QC Batch Number: GC031497BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**61**
Methyl t-Butyl Ether	2.5	N.D.
Benzene	**0.50**	**1.6**
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

Analytes reported as N.D. were not present above the stated limit of detection

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell Oakland/970310-C1
Sample Descript: S-3
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9703564-03

Sampled: 03/10/97
Received: 03/11/97

Analyzed: 03/14/97
Reported: 03/21/97

QC Batch Number: GC031497BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	7000
Methyl t-Butyl Ether	50	110
Benzene	10	720
Toluene	10	29
Ethyl Benzene	10	340
Xylenes (Total)	10	620
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92

Analytes reported as N.D. were not present above the stated limit of detection

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell Oakland/970310-C1
Sample Descript: Dup
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9703564-04

Sampled: 03/10/97
Received: 03/11/97

Analyzed: 03/19/97
Reported: 03/21/97

QC Batch Number: GC031997BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**77**
Methyl t-Butyl Ether	2.5	N.D.
Benzene	**0.50**	**2.0**
Toluene	0.50	N.D.
Ethyl Benzene	**0.50**	**0.69**
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	110

Analytes reported as N.D. were not present above the stated limit of detection

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell Oakland/970310-C1
Sample Descript: EB
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9703564-05

Sampled: 03/10/97
Received: 03/11/97

Analyzed: 03/14/97
Reported: 03/21/97

QC Batch Number: GC031497BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	83

Analytes reported as N.D. were not present above the stated limit of detection

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112
Attention: Fran Thie

Client Proj. ID: Shell Oakland/970310-C1
Lab Proj. ID: 9703564

Received: 03/11/97
Reported: 03/21/97

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 10 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

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Project Manager

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Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell Oakland/970310-C1
Matrix: Liquid
Work Order #: 9703564 -01-03, -05
Reported: Mar 26, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC031497BTEX21A	GC031497BTEX21A	GC031497BTEX21A	GC031497BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	970315302	970315302	970315302	970315302
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/14/97	3/14/97	3/14/97	3/14/97
Analyzed Date:	3/14/97	3/14/97	3/14/97	3/14/97
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.2	9.1	9.1	28
MS % Recovery:	92	91	91	93
Dup. Result:	9.6	9.5	9.4	29
MSD % Recov.:	96	95	94	97
RPD:	4.3	4.3	3.2	3.5
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	BLK031497	BLK031497	BLK031497	BLK031497
Prepared Date:	3/14/97	3/14/97	3/14/97	3/14/97
Analyzed Date:	3/14/97	3/14/97	3/14/97	3/14/97
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	8.9	8.9	9.0	28
LCS % Recov.:	89	89	90	93
MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

Please Note.
The LCS is a control sample of known interferent-free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

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Blaine Tech Services, Inc.
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San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell Oakland/970310-C1
Matrix: Liquid

Work Order #: 9703564-04

Reported: Mar 26, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC031997BTEX03A	GC031997BTEX03A	GC031997BTEX03A	GC031997BTEX03A	GC031997BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	970336701	970336701	970336701	970336701	970336701
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/19/97	3/19/97	3/19/97	3/19/97	3/19/97
Analyzed Date:	3/19/97	3/19/97	3/19/97	3/19/97	3/19/97
Instrument I.D.#:	GCHP03	GCHP03	GCHP03	GCHP03	GCHP03
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	11	11	11	31	58
MS % Recovery:	110	110	110	103	97
Dup. Result:	11	11	11	32	59
MSD % Recov.:	110	110	110	107	98
RPD:	0.0	0.0	0.0	3.2	1.7
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK031997	BLK031997	BLK031997	BLK031997	BLK031997
Prepared Date:	3/19/97	3/19/97	3/19/97	3/19/97	3/19/97
Analyzed Date:	3/19/97	3/19/97	3/19/97	3/19/97	3/19/97
Instrument I.D.#:	GCHP03	GCHP03	GCHP03	GCHP03	GCHP03
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	11	11	11	31	57
LCS % Recov.:	110	110	110	103	95
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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Attention: Fran Thie

Client Project ID: Shell Oakland/970310-C1
Matrix: Liquid
Work Order #: 9703564-01

Reported: Mar 26, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Diesel
QC Batch#:	GC0317970HBPEXZ
Analy. Method:	EPA 8015M
Prep. Method:	EPA 3520
Analyst:	B. Sullivan
MS/MSD #:	970370201
Sample Conc.:	7200
Prepared Date:	3/17/97
Analyzed Date:	3/20/97
Instrument I.D.#:	GCHP4A
Conc. Spiked:	1000 µg/L
Result:	7500*
MS % Recovery:	30
Dup. Result:	6300*
MSD % Recov.:	0.0
RPD:	17
RPD Limit:	0-50

*Spike diluted out

LCS #:	BLK031797
Prepared Date:	3/17/97
Analyzed Date:	3/19/97
Instrument I.D.#:	GCHP19A
Conc. Spiked:	1000 µg/L
LCS Result:	970
LCS % Recov.:	97

MS/MSD	50-150
LCS	60-140
Control Limits	

SEQUOIA ANALYTICAL

Reggy Penner
Project Manager

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