CAMBRIA

February 15, 1998

Mr. Alex Perez
Shell Oil Products Company
P.O. Box 8080
Martinez, California 94553

Re: **Quarterly Monitoring Report - Fourth 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 fourth 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 December 15, 1997. The samples were transported to Sequoia Analytical 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). The ground water flow direction appears to be southerly at an approximate hydraulic gradient of 0.056.
- The ground water sample from Well S-3 contained 9,800 ppb TPPH. Wells S-2 and S-3 contained benzene concentrations of 4.1 ppb and 840 ppb, respectively.

CAMBRIA
ENVIRONMENTAL
TECHNOLOGY, INC.
270 PERKINS STREET,
P.O. BOX 259
SONOMA,
CA 95476
PH: (707) 935-4850
FAX: (707) 935-6649

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, a duplicate sample was taken and analyzed for quality control purposes.

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

Quarterly monitoring, sampling, and reporting will continue on the established schedule for the next quarter. As mentioned in the first Quarterly Monitoring Report of 1997, Oxygen Releasing Compound (ORC) will be installed in wells S-2 and S-3. This is expected to be accomplished by mid-February. After introduction of the ORC, bioremediation indicator parameters will be added to the normal set of constituents being sampled for in these wells. These parameters include dissolved oxygen, oxidation-reduction potential, pH, conductivity, temperature, alkalinity, nitrate, sulfate and ferrous iron (Fe^{2+}).

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

Sincerely,
Cambria Environmental Technology, Inc.

Mike Prinz
Staff Engineer

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

Attachments

Table 1. Well Concentrations

Plate 1. Vicinity Map
Plate 2. Ground Water Contour/Chemical 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	
26-Jun-97	3.91	8.02	0.00	<50	99	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	
30-Sep-97	4.00	7.93	0.00	<50	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	
15-Dec-97	2.83	9.10	0.00	<50	99	<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	
26-Jun-97	5.68	6.38	0.00	90	NA	1.5	<0.50	<0.50	<0.50	<2.5	NA	NA	
30-Sep-97	5.75	6.31	0.00	<50	NA	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	
15-Dec-97	5.35	6.71	0.00	<50	NA	4.1	<0.50	<0.50	<0.50	<2.5	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
S-2 (DUP)													
10-Mar-97	NA	NA	NA	77	NA	2.0	<0.50	0.69	<0.50	<2.5	NA	NA	
26-Jun-97	3.91	8.02	0.00	<50	99	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	
30-Sep-97	5.75	6.31	0.00	<50	NA	<0.50	<0.50	<0.50	<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	
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	
26-Jun-97	5.23	8.31	0.00	11000	NA	1100	63	470	1300	150	NA	NA	
30-Sep-97	5.36	8.18	0.00	25000	NA	970	170	1200	4600	<50	NA	NA	
30-Sep-97	5.36	8.18	0.00	25000	NA	970	170	1200	4600	<50	NA	NA	
15-Dec-97	3.81	9.73	0.00	9800	NA	840	55	420	1100	350	NA	NA	

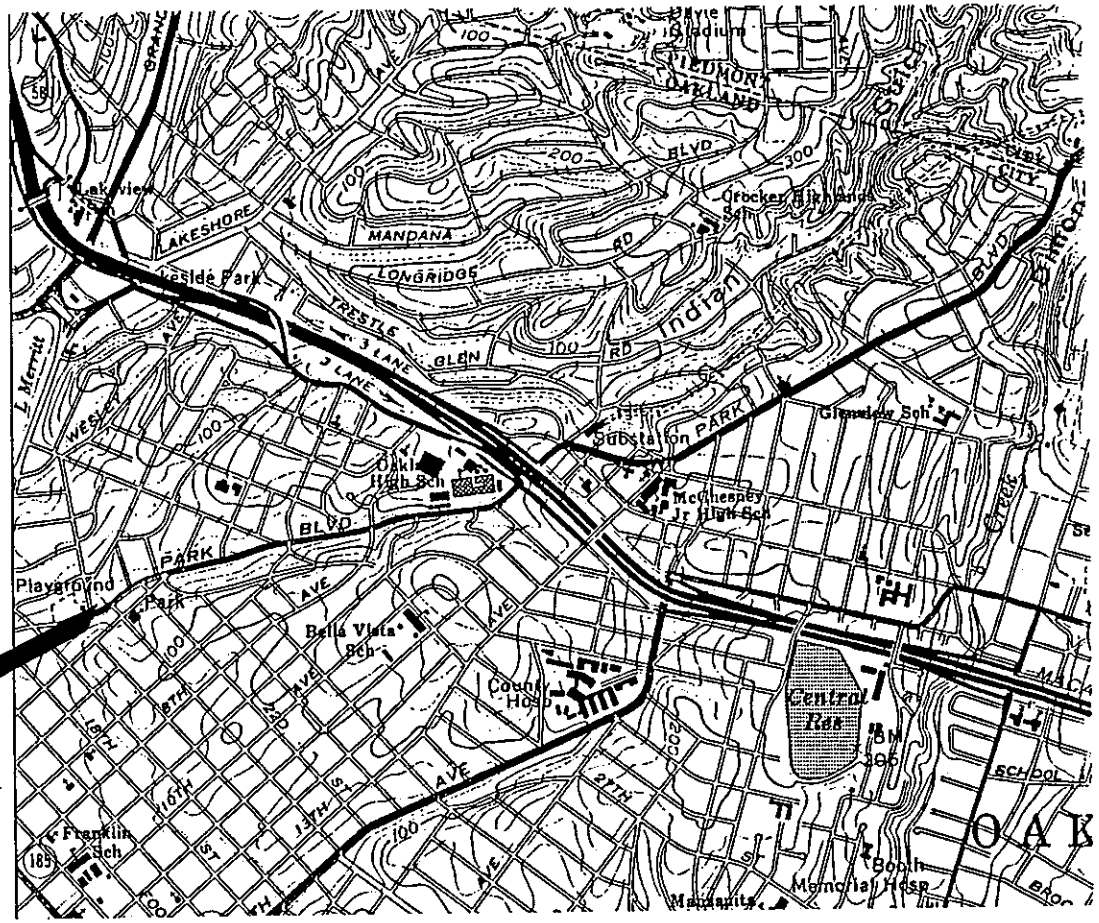

PLATE	VICINITY MAP	CAMBRIA
1	Former Shell Service Station 2101 Park Boulevard Oakland, California	267
Drawn By: GLV	Date: 2-24-95	Approved By: mh Date: 2-12-96

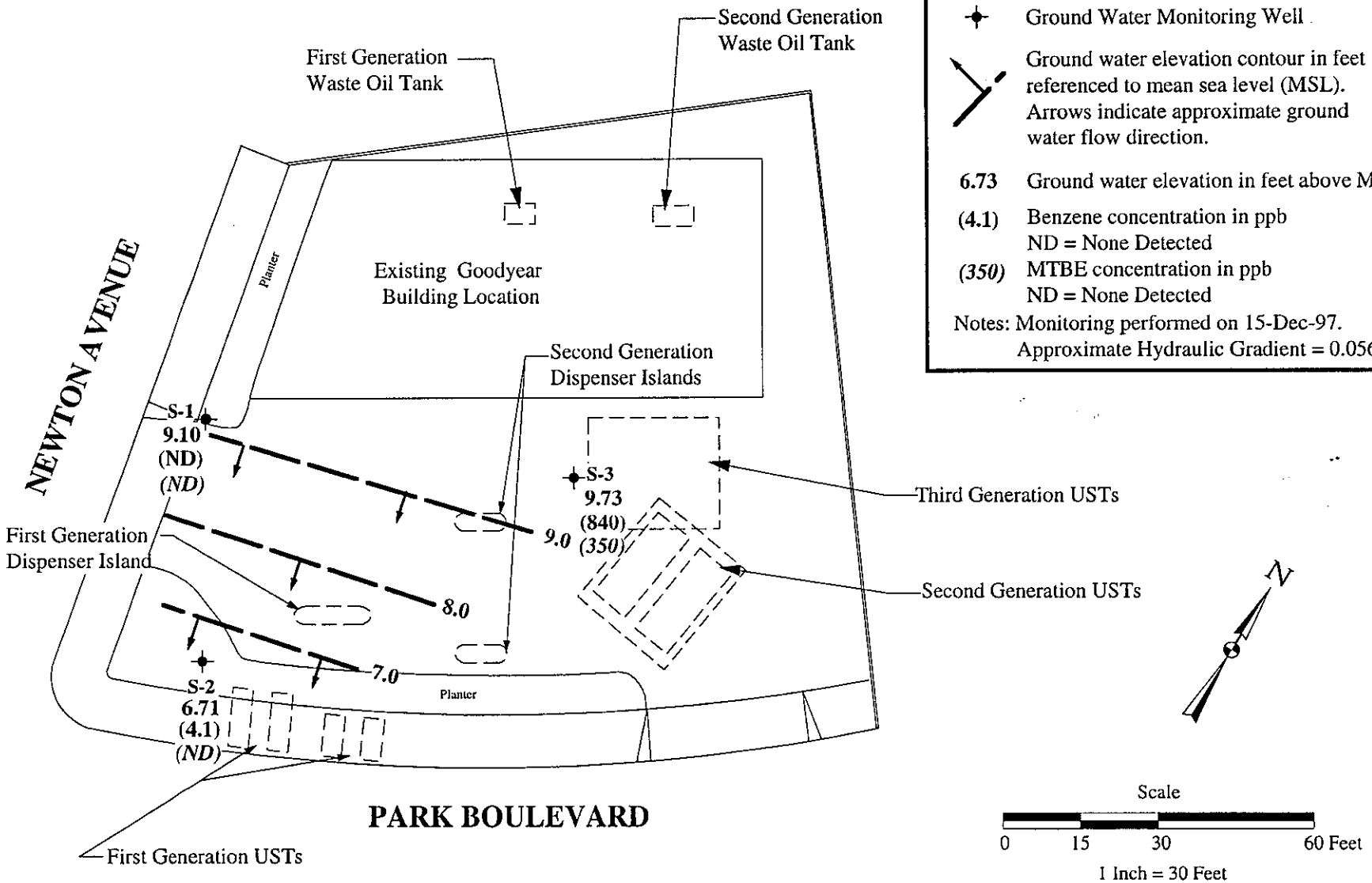

PLATE **2**

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

CAMBRIA
267

Drawn By: MDP | Date: 2-Feb-98 | Approved By: _____ Date: 2-12-98

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

January 16, 1998

Shell Oil Company
P.O. Box 8080
Martinez, CA 94553

Attn: Alex Perez

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

4th Quarter 1997

Groundwater Monitoring Report 971215-A-2

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: Cambria Environmental Technology, 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	12/15/97	TOC	--	NONE	--	--	2.83	16.90
S-2	12/15/97	TOC	--	NONE	--	--	5.35	17.30
S-3*	12/15/97	TOC	ODOR	NONE	--	--	3.81	16.89

* Sample DUP was a duplicate sample taken from well S-3.

9712C78

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 971215-A2

Date: 12-15-97
Page 1 of 1

Site Address: 2101 Park Blvd., Oakland, CA

WIC#: 204-5508-1206

Shell Engineer: Alex Perez
Phone No.: (510) 675-6168
Fax #: 675-6172

Consultant Name & Address: Blaine Tech Services, Inc. 1680 Rogers AVe., San Jose, CA 95112

Consultant Contact: Fran Thie
Phone No.: (408) 573-0555
Fax #: 573-7771

Comments:

Sampled by: Al Gentry

Printed Name: AL GENTRY

LAB: SEQUOIA

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
1 S-1 -	12/15			X		10	X	X	X				X							CONFIRM HIGHEST MTBE HIT BY 8260
2 S-2 -	12/15			X		6	X		X				X							
3 S-3 -	12/15			X		3/6	X		X				X							
4 DUP	12/15			X		3	X		X				X							

CHECK ONE (1) BOX ONLY — CT/DT — TURN AROUND TIME

G.W. Monitoring	XX	4441
Site Investigation	☐	4441
Soil Closure/Disposal	☐	4442
Water Closure/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 ☒ Normal ☐ Other ☐

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

UST AGENCY:

	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:
Relinquished By (signature): Al Gentry	AL GENTRY	12/16/97	10:45	Steve Ten	Steve Ten	12/16/97	10:45
Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:
Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:

PAGE. 2/2
408 573 7771
BLAINE TECH SERVICES
(FRI) 10:06

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 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 971215-A2

Enclosed are the results from samples received at Sequoia Analytical on December 16, 1997. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9712C78 -01	LIQUID, S-1	12/15/97	TPGM2W Purgeable TPH/BTEX
9712C78 -01	LIQUID, S-1	12/15/97	TPHD_W Extractable TPH
9712C78 -02	LIQUID, S-2	12/15/97	TPGM2W Purgeable TPH/BTEX
9712C78 -03	LIQUID, S-3	12/15/97	TPGM2W Purgeable TPH/BTEX
9712C78 -04	LIQUID, Dup	12/15/97	TPGM2W Purgeable TPH/BTEX
9712C78 -04	LIQUID, Dup	12/15/97	MTBEMW Methyl t-Butyl Ethe

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, (650) 364-9600, FAX (650) 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 971215-A2
Sample Descript: S-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9712C78-01

Sampled: 12/15/97
Received: 12/16/97

Analyzed: 12/29/97
Reported: 01/02/98

QC Batch Number: GC122997BTEX02A
Instrument ID: GCHP2

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	86

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, (650) 364-9600, FAX (650) 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 971215-A2	Sampled: 12/15/97
1680 Rogers Avenue	Sample Descript: S-1	Received: 12/16/97
San Jose, CA 95112	Matrix: LIQUID	Extracted: 12/22/97
	Analysis Method: EPA 8015 Mod	Analyzed: 12/27/97
Attention: Fran Thie	Lab Number: 9712C78-01	Reported: 01/02/98

QC Batch Number: GC122297OHBPEXZ
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	**50**	**99**
Chromatogram Pattern:		**C9-C24**

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	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, (650) 364-9600, FAX (650) 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 971215-A2	Sampled: 12/15/97
1680 Rogers Avenue	Sample Descript: S-2	Received: 12/16/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/29/97
Attention: Fran Thie	Lab Number: 9712C78-02	Reported: 01/02/98

QC Batch Number: GC122997BTEX03A
Instrument ID: GCHP3

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**	**4.1**
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	93

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, (650) 364-9600, FAX (650) 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 971215-A2	Sampled: 12/15/97
1680 Rogers Avenue	Sample Descript: S-3	Received: 12/16/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/29/97
Attention: Fran Thie	Lab Number: 9712C78-03	Reported: 01/02/98

QC Batch Number: GC122997BTEX03A
Instrument ID: GCHP3

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1250	9800
Methyl t-Butyl Ether	62	350
Benzene	12	840
Toluene	12	55
Ethyl Benzene	12	420
Xylenes (Total)	12	1100
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	109

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, (650) 364-9600, FAX (650) 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 971215-A2	Sampled: 12/15/97
1680 Rogers Avenue	Sample Descript: Dup	Received: 12/16/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/29/97
Attention: Fran Thie	Lab Number: 9712C78-04	Reported: 01/02/98

QC Batch Number: GC122997BTEX03A
Instrument ID: GCHP3

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1250	9800
Methyl t-Butyl Ether	62	360
Benzene	12	850
Toluene	12	56
Ethyl Benzene	12	420
Xylenes (Total)	12	1100
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	122

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, (650) 364-9600, FAX (650) 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 971215-A2	Sampled: 12/15/97
1680 Rogers Avenue	Sample Descript: Dup	Received: 12/16/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: EPA 8260	Analyzed: 12/31/97
Attention: Fran Thie	Lab Number: 9712C78-04	Reported: 01/02/98

QC Batch Number: MS123097MTBEH6A
Instrument ID: H6

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	20	N.D.

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	97

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, (650) 364-9600, FAX (650) 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, Inc.
1680 Rogers Ave.
San Jose, CA 95112
Attention: Fran Thie

Client Project ID: Shell Oakland / 971215-A2
Matrix: Liquid
Work Order #: 9712C78 -01
Reported: Jan 5, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC122997BTEX02A	GC122997BTEX02A	GC122997BTEX02A	GC122997BTEX02A	GC122997BTEX02A
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:	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab
MS/MSD #:	9712A2818	9712A2818	9712A2818	9712A2818	9712A2818
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/29/97	12/29/97	12/29/97	12/29/97	12/29/97
Analyzed Date:	12/29/97	12/29/97	12/29/97	12/29/97	12/29/97
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	8.6	8.5	8.8	27	64
MS % Recovery:	86	85	88	90	107
Dup. Result:	8.4	8.3	8.6	26	62
MSD % Recov.:	84	83	86	87	103
RPD:	2.4	2.4	2.3	3.8	3.2
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK122997	BLK122997	BLK122997	BLK122997	BLK122997
Prepared Date:	12/29/97	12/29/97	12/29/97	12/29/97	12/29/97
Analyzed Date:	12/29/97	12/29/97	12/29/97	12/29/97	12/29/97
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	8.3	8.2	8.5	26	61
LCS % Recov.:	83	82	85	87	102
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

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

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

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

Client Project ID: Shell Oakland / 971215-A2
Matrix: Liquid
Work Order #: 9712C78-02-04
Reported: Jan 5, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC122997BTEX03A	GC122997BTEX03A	GC122997BTEX03A	GC122997BTEX03A	GC122997BTEX03A
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:	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab	A. Miraftab
MS/MSD #:	9712A2818	9712A2818	9712A2818	9712A2818	9712A2818
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/29/97	12/29/97	12/29/97	12/29/97	12/29/97
Analyzed Date:	12/29/97	12/29/97	12/29/97	12/29/97	12/29/97
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	9.5	9.8	10	30	62
MS % Recovery:	95	98	100	100	103
Dup. Result:	11	11	11	34	70
MSD % Recov.:	110	110	110	113	117
RPD:	15	12	9.5	13	12
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK122997	BLK122997	BLK122997	BLK122997	BLK122997
Prepared Date:	12/29/97	12/29/97	12/29/97	12/29/97	12/29/97
Analyzed Date:	12/29/97	12/29/97	12/29/97	12/29/97	12/29/97
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	10	10	11	32	66
LCS % Recov.:	100	100	110	107	110
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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Client Project ID: Shell Oakland / 971215-A2
Matrix: Liquid
Work Order #: 9712C78-01
Reported: Jan 5, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Diesel
QC Batch#:	GC1222970HPBEXZ
Analy. Method:	EPA 8015M
Prep. Method:	EPA 3520
Analyst:	A. Porter
MS/MSD #:	9712C0802
Sample Conc.:	2400
Prepared Date:	12/22/97
Analyzed Date:	12/27/97
Instrument I.D.#:	GCHP4
Conc. Spiked:	1000 µg/L
Result:	2300*
MS % Recovery:	-10
Dup. Result:	2200*
MSD % Recov.:	-20
RPD:	4.4*
RPD Limit:	0-50

*Matrix interference

LCS #:	BLK122297
Prepared Date:	12/22/97
Analyzed Date:	12/29/97
Instrument I.D.#:	GCHP4
Conc. Spiked:	1000 µg/L
LCS Result:	850
LCS % Recov.:	85

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

SEQUOIA ANALYTICAL

Peggy Fehner
Project Manager

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Attention: Fran Thie

Client Project ID: Shell Oakland / 971215-A2
Matrix: Liquid
Work Order #: 9712C78-04
Reported: Jan 5, 1998

QUALITY CONTROL DATA REPORT

Analyte:	MTBE
QC Batch#:	MS1230978260H6A
Analy. Method:	EPA 8260
Prep. Method:	N.A.
Analyst:	L. Zhu
MS/MSD #:	9712F5003
Sample Conc.:	N.D.
Prepared Date:	12/30/97
Analyzed Date:	12/30/97
Instrument I.D.#:	H6
Conc. Spiked:	50 µg/L
Result:	46
MS % Recovery:	92
Dup. Result:	47
MSD % Recov.:	94
RPD:	2.2
RPD Limit:	0-25

LCS #:	LCS123197
Prepared Date:	12/31/97
Analyzed Date:	12/31/97
Instrument I.D.#:	F2
Conc. Spiked:	50 µg/L
LCS Result:	55
LCS % Recov.:	110

MS/MSD	60-140
LCS	70-130
Control Limits	

SEQUOIA ANALYTICAL

Peggy Renner
Project Manager

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Attention: Fran Thie

Client Proj. ID: Shell Oakland 971215-A2
Lab Proj. ID: 9712C78

Received: 12/16/97
Reported: 01/02/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 11 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

MTBE Note: Sample 9712C78-04 (dup) did not confirm for MTBE by EPA 8260 therefore all MTBE results at this site should be considered suspect.

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager