STID 454
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CAMBRIA

97 DEC -3 PM 4:04

November 30, 1997

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

Re: **Ground Water Monitoring Report - Fourth Quarter 1997**
Former Shell Service Station
2703 Martin Luther King Jr. Way 94612
Oakland, California
WIC #204-5508-1701

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.

Quarterly Monitoring & Sampling Summary

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

- Blaine Tech Services, Inc. (Blaine) of San Jose, California measured water levels and collected ground water samples from Wells MW-1, MW-2, V-1, and V-2 October 24, 1997. Ground water samples were transported to Sequoia Analytical of Redwood City, California for laboratory analysis.

- Cambria Environmental Technology, Inc. (Cambria) evaluated water-level measurement data and prepared a ground water contour/benzene concentration map (Plate 2). Ground water flow direction is southwesterly at an approximate hydraulic gradient of 0.03.

- Wells MW-1 and MW-2 were ND for TPPH, BTEX, and MTBE. Wells V-1 and V-2 contained 57,000 ppb and 7,300 ppb TPPH and 5,200 ppb and 1,100 ppb benzene, respectively. MTBE detected in Wells V-1 and V-2 by EPA Method 8020 was not confirmed by EPA Method 8260.

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 MW-1, MW-2, V-1, and V-2 were sampled and analyzed for Total Purgeable Petroleum Hydrocarbons quantitated as gasoline (TPPH) according to EPA Method 8015 (Modified), and benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl-tertiary-butyl-ether (MTBE) according to EPA Method 8020. Additionally, a duplicate sample was prepared and analyzed for quality control purposes.

Field monitoring and chemical analytical data have been included in Table 1. Blaine's quarterly ground water monitoring report is presented in Appendix A.

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

Sincerely,
Cambria Environmental Technology, Inc.

Joe W. Neely
Project Geologist

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

Attachments:

Table 1. Well Concentrations

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

Appendix A

Blaine Tech Services Inc. - Quarterly Ground Water Monitoring Report

cc: Mr. Tom Peacock, Alameda County Health Care Services Agency

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
2703 Martin Luther King Jr. Way
Oakland, California
WIC #204-5508-1701

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
MW-1 (B-11)		**Top casing elevation (ft): 23.53**								
02-Aug-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	
05-Aug-96	8.76	14.77	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
17-Oct-96	9.88	13.65	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
08-Jan-97	6.82	16.71	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
07-Apr-97	7.89	15.64	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
02-Jul-97	8.71	14.82	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
24-Oct-97	9.26	14.27	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
MW-1 (DUP)										
05-Aug-96	NA	NA	NA	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
MW-2 (B-12)		**Top casing elevation (ft): 22.47**								
17-Jul-96	NA	NA	NA	<50	<0.50	0.69	<0.50	<0.50	<2.5	Water sample from Boring
05-Aug-96	8.35	14.12	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
17-Oct-96	9.32	13.15	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
08-Jan-97	6.80	15.67	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
07-Apr-97	7.81	14.66	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
02-Jul-97	8.27	14.20	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
24-Oct-97	9.12	13.35	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
2703 Martin Luther King Jr. Way
Oakland, California
WIC #204-5508-1701

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
MW-2 (DUP)		**Top casing elevation (ft): 22.47**								
17-Oct-96	NA	NA	NA	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
08-Jan-97	NA	NA	NA	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
B-10		**Top casing elevation (ft): NA**								
17-Jul-96	NA	NA	NA	20000	400	<100	<100	870	<500	Water sample from Boring
B-13		**Top casing elevation (ft): NA**								
17-Jul-96	NA	NA	NA	290000	34000	21000	9900	47000	<2500	Water sample from Boring
V-1		**Top casing elevation (ft): 23.26**								
02-Aug-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	
05-Aug-96	8.58	14.68	0.00	NA	NA	NA	NA	NA	NA	
17-Oct-96	10.02	13.24	0.00	NA	NA	NA	NA	NA	NA	
16-Jan-97	5.55	17.71	0.00	9500	1200	250	280	880	<50	
07-Apr-97	7.40	15.86	0.00	2200	42	<5.0	130	15	<25	
02-Jul-97	8.94	14.32	0.00	2600	340	5.8	49	12	74	MTBE by 8260: <4.0 ppb
24-Oct-97	9.43	13.83	0.00	57000	5200	2300	3600	16000	1900	MTBE by 8260: <200 ppb
V-2		**Top casing elevation (ft): 22.80**								
02-Aug-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	
05-Aug-96	7.94	14.86	0.00	NA	NA	NA	NA	NA	NA	
17-Oct-96	9.30	13.50	0.00	NA	NA	NA	NA	NA	NA	

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
2703 Martin Luther King Jr. Way
Oakland, California
WIC #204-5508-1701

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
08-Jan-97	5.82	16.98	0.00	69000	4800	2800	2700	13000	750	
07-Apr-97	7.10	15.70	0.00	90000	4400	1900	3300	14000	<500	
02-Jul-97	8.35	14.45	0.00	82000	5500	2700	3500	16000	530	MTBE by 8260: <100 ppb
24-Oct-97	10.03	12.77	0.00	7300	1100	97	230	180	91	MTBE by 8260: <12 ppb
V-2 (DUP)										
07-Apr-97	NA	NA	NA	77000	4400	2000	3200	14000	<250	
02-Jul-97	NA	NA	NA	85000	5600	2800	3600	17000	520	MTBE by 8260: <100 ppb
24-Oct-97	NA	NA	NA	12000	1700	340	650	630	120	MTBE by 8260: <20 ppb

Abbreviations:

TPPH = Total Purgeable Petroleum Hydrocarbons carbon range C6 to C12 by EPA Method 8015 modified

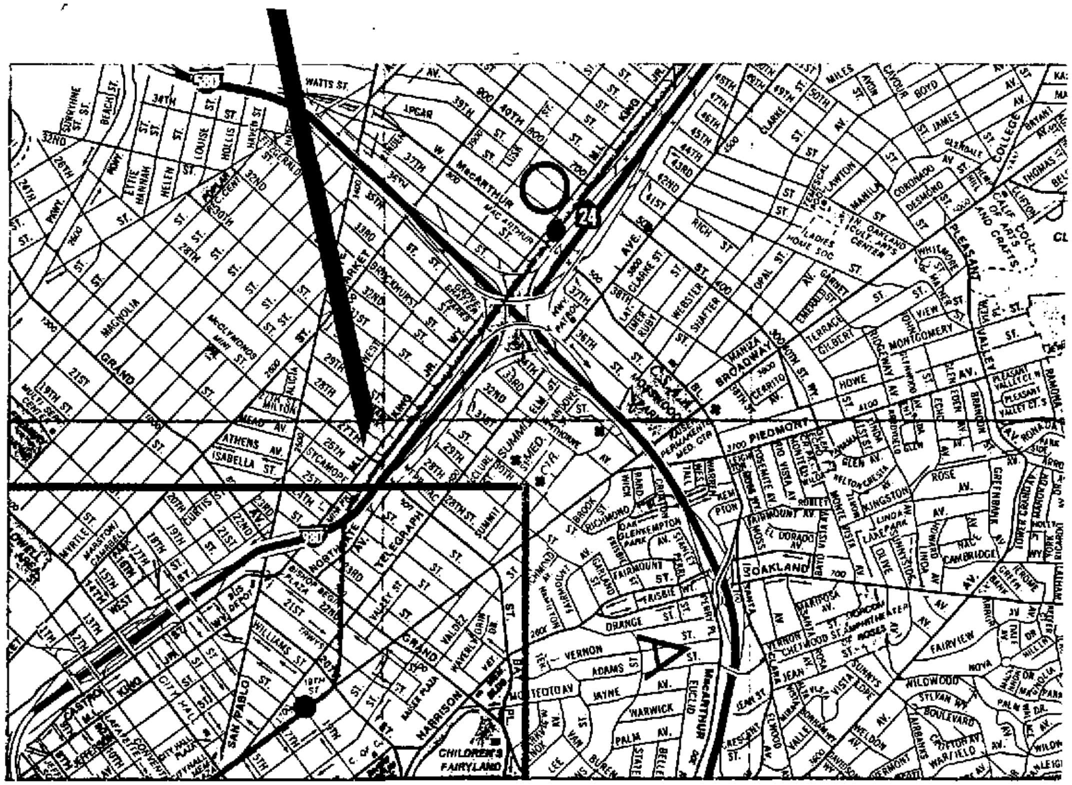
BTEX = benzene, toluene, ethylbenzene, xylenes by EPA Method 8020

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

NA = Not analyzed or not available

<x = Not detected at detection limit of x

Subject Site



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BASE MAP: CALIFORNIA STATE AUTOMOBILE ASSOCIATION

PLATE 1	**VICINITY MAP** Former Shell Service Station 2703 Martin Luther King Jr. Way Oakland, California	CAMBRIA 324

Drawn By: DML	Date: 12-28-95	Approved By: nah	Date: 11-26-97

BLAINE
TECH SERVICES inc.

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

November 18, 1997

Shell Oil Company
P.O. Box8080
Martinez, CA 94553

Attn: Alex Perez

Shell WIC #204-5508-1701
2703 Martin Luther King Junior Way
Oakland, California

4th Quarter 1997

Groundwater Monitoring Report 971024-F-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: 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)
MW-1	10/24/97	TOC	–	NONE	–	–	9.26	20.19
MW-2	10/24/97	TOC	–	NONE	–	–	9.12	20.10
V-1	10/24/97	TOC	ODOR	NONE	–	–	9.43	13.02
V-2 *	10/24/97	TOC	ODOR	NONE	–	–	10.03	13.28

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

9710G04

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 971024-F1

Date: 10/24/97

Page 1 of 1

Site Address: 2703 Martin Luther King Junior Way, Oakland, CA

WIC#: 254-5508-1701

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: TG

Printed Name: Tim Graf

LAB: Sequoia

Analysis Required

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:

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
MW-1	10/24			W		3						X								CONFIRM
MW-2						3						X								MTBE by 8260
V-1						3						X								IF DETECTED
V-2						3						X								MW 10/27/97
DUP	10/24			W		3						X								

Relinquished By (signature):	Printed Name:	Date: / Time:	Received (signature):	Printed Name:	Date: / Time:
Tim Graf	Tim GRAF		[signature]	Pena Fla	Date: 10/27/97 Time: 1020
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:

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

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/971024-F1	Sampled: 10/24/97
1680 Rogers Avenue	Sample Descript: MW-1	Received: 10/27/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/30/97
Attention: Fran Thie	Lab Number: 9710G04-01	Reported: 11/04/97

QC Batch Number: GC103097BTEX18A
Instrument ID: GCHP18

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	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/971024-F1	Sampled: 10/24/97
1680 Rogers Avenue	Sample Descript: MW-2	Received: 10/27/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/30/97
Attention: Fran Thie	Lab Number: 9710G04-02	Reported: 11/04/97

QC Batch Number: GC103097BTEX18A
Instrument ID: GCHP18

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	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

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

Blaine Tech Services	Client Proj. ID: Shell Oakland/971024-F1	Sampled: 10/24/97
1680 Rogers Avenue	Sample Descript: V-1	Received: 10/27/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/30/97
Attention: Fran Thie	Lab Number: 9710G04-03	Reported: 11/04/97

QC Batch Number: GC103097BTEX18A
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**5000**	**57000**
Methyl t-Butyl Ether	**250**	**1900**
Benzene	**50**	**5200**
Toluene	**50**	**2300**
Ethyl Benzene	**50**	**3600**
Xylenes (Total)	**50**	**16000**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	105

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

SEQUOIA ANALYTICAL - ELAP #1210

Reggy 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/971024-F1
Sample Descript: V-1
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9710G04-03

Sampled: 10/24/97
Received: 10/27/97

Analyzed: 11/03/97
Reported: 11/04/97

QC Batch Number: MS110197MTBEH6A
Instrument ID: H6

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	200	N.D.

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	111

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/971024-F1	Sampled: 10/24/97
1680 Rogers Avenue	Sample Descript: V-2	Received: 10/27/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/31/97
Attention: Fran Thie	Lab Number: 9710G04-04	Reported: 11/04/97

QC Batch Number: GC103197BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2000	7300
Methyl t-Butyl Ether	25	91
Benzene	20	1100
Toluene	20	97
Ethyl Benzene	20	230
Xylenes (Total)	20	180
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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
1680 Rogers Avenue
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell Oakland/971024-F1
Sample Descript: V-2
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9710G04-04

Sampled: 10/24/97
Received: 10/27/97

Analyzed: 11/03/97
Reported: 11/04/97

QC Batch Number: MS110197MTBEH6A
Instrument ID: H6

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	12	N.D.

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	113

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

Blaine Tech Services	Client Proj. ID: Shell Oakland/971024-F1	Sampled: 10/24/97
1680 Rogers Avenue	Sample Descript: Dup	Received: 10/27/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/31/97
Attention: Fran Thie	Lab Number: 9710G04-05	Reported: 11/04/97

QC Batch Number: GC103197BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	2000	12000
Methyl t-Butyl Ether	25	120
Benzene	20	1700
Toluene	20	340
Ethyl Benzene	20	650
Xylenes (Total)	20	630
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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
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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/971024-F1
Sample Descript: Dup
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9710G04-05

Sampled: 10/24/97
Received: 10/27/97

Analyzed: 11/03/97
Reported: 11/04/97

QC Batch Number: MS110197MTBEH6A
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	113

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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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 / 971024-F1
Matrix: Liquid
Work Order #: 9710G04 -01-03
Reported: Nov 5, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC103097BTEX18A	GC103097BTEX18A	GC103097BTEX18A	GC103097BTEX18A	GC103097BTEX18A
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. Porter	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	9710E9001	9710E9001	9710E9001	9710E9001	9710E9001
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/30/97	10/30/97	10/30/97	10/30/97	10/30/97
Analyzed Date:	10/30/97	10/30/97	10/30/97	10/30/97	10/30/97
Instrument I.D.#:	GCHP18	GCHP18	GCHP18	GCHP18	GCHP18
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	10	10	10	33	66
MS % Recovery:	100	100	100	110	110
Dup. Result:	10	10	11	33	65
MSD % Recov.:	100	100	110	110	108
RPD:	0.0	0.0	9.5	0.0	1.5
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK103097	BLK103097	BLK103097	BLK103097	BLK103097
Prepared Date:	10/30/97	10/30/97	10/30/97	10/30/97	10/30/97
Analyzed Date:	10/30/97	10/30/97	10/30/97	10/30/97	10/30/97
Instrument I.D.#:	GCHP18	GCHP18	GCHP18	GCHP18	GCHP18
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	11	11	11	34	67
LCS % Recov.:	110	110	110	113	112
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:
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

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 / 971024-F1
Matrix: Liquid

Work Order #: 9710G04-04-05

Reported: Nov 5, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC103197BTEX02A	GC103197BTEX02A	GC103197BTEX02A	GC103197BTEX02A	GC103197BTEX02A
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 #:	9710D1102	9710D1102	9710D1102	9710D1102	9710D1102
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/31/97	10/31/97	10/31/97	10/31/97	10/31/97
Analyzed Date:	10/31/97	10/31/97	10/31/97	10/31/97	10/31/97
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:	11	11	11	33	65
MS % Recovery:	110	110	110	110	108
Dup. Result:	11	10	10	31	65
MSD % Recov.:	110	100	100	103	108
RPD:	0.0	9.5	9.5	6.3	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25

LCS #:	BLK103197	BLK103197	BLK103197	BLK103197	BLK103197
Prepared Date:	10/31/97	10/31/97	10/31/97	10/31/97	10/31/97
Analyzed Date:	10/31/97	10/31/97	10/31/97	10/31/97	10/31/97
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:	11	10	10	31	65
LCS % Recov.:	110	100	100	103	108

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

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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Blaine Tech Services, Inc.	Client Project ID:	Shell Oakland / 971024-F1	
1680 Rogers Ave.	Matrix:	Liquid	
San Jose, CA 95112			
Attention: Fran Thie	Work Order #:	9710G04-03-05	Reported: Nov 5, 1997

QUALITY CONTROL DATA REPORT

Analyte:	MTBE
QC Batch#:	MS110197MTBEH6A
Analy. Method:	EPA 8260
Prep. Method:	N.A.

Analyst:	M. Williams
MS/MSD #:	9710G2501
Sample Conc.:	N.D.
Prepared Date:	11/1/97
Analyzed Date:	11/1/97
Instrument I.D.#:	H6
Conc. Spiked:	50 µg/L
Result:	57
MS % Recovery:	114
Dup. Result:	57
MSD % Recov.:	114
RPD:	0.0
RPD Limit:	0-25

LCS #:	LCS110397
Prepared Date:	11/3/97
Analyzed Date:	11/3/97
Instrument I.D.#:	H6
Conc. Spiked:	50 µg/L
LCS Result:	54
LCS % Recov.:	108

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

SEQUOIA ANALYTICAL

Reggy Penner
Project Manager

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Blaine Tech Services	Client Proj. ID: Shell Oakland/971024-F1	Received: 10/27/97
1680 Rogers Avenue		
San Jose, CA 95112	Lab Proj. ID: 9710G04	Reported: 11/04/97
Attention: Fran Thie		

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 14 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

MTBE Note: MTBE did not confirm by EPA 8260 therefore all MTBE results at this site should be considered suspect.

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager