CAMBRIA

5510295
25

March 24, 1998

Jennifer Eberle
Alameda County Department
of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: **Fourth Quarter 1997 Monitoring Report**
Former Shell Service Station
1230 14th Street
Oakland, California
WIC # 204-4878-1300
Cambria Project # 24-314-497

Dear Ms. Eberle:

On behalf of Shell Oil Products Company, Cambria Environmental Technology, Inc. (Cambria) is submitting this monitoring report to satisfy the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Division 3, Chapter 16, Article 5, Section 2652.d.

FOURTH QUARTER 1997 ACTIVITIES

Ground Water Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, California measured ground water depths and collected water samples from selected site wells (Figure 1). Blaine installed oxygen releasing compounds (ORCs) in wells MW-1, VW/MW-2, and VW/MW-4 on March 25, 1997. Sampling of these wells was suspended until dissolved oxygen (DO) concentrations return to pre-ORC levels. The Blaine report, describing these sampling activities and presenting the analytical results, is included as Attachment A. Cambria calculated ground water elevations and compiled the analytical data (Table 1), and prepared a ground water elevation contour map (Figure 1).

CAMBRIA
ENVIRONMENTAL
TECHNOLOGY, INC.
1144 65TH STREET,
SUITE B
OAKLAND,
CA 94608
PH: (510) 420-0700
FAX: (510) 420-9170

ANTICIPATED FIRST QUARTER 1998 ACTIVITIES

Ground Water Monitoring and ORC Installation: Based on the results of the fourth quarter sampling, Blaine will measure ground water elevations and collect ground water samples from wells MW-1, MW-2, MW-3, MW-4, VW/MW-2, and VW/MW-4 during first quarter 1998. Blaine will replace ORCs in wells MW-1, VW/MW-2, and VW/MW-4. Cambria will submit a report summarizing the activities for the upcoming quarter.

CLOSING

We appreciate the opportunity to work with you on this project. Please call if you have any questions.

Sincerely,
Cambria Environmental Technology, Inc.

Khaled B. Rahman, R.G., C.H.G.
Senior Geologist

Attachments: A - Blaine Quarterly Ground Water Monitoring Report

cc: A. E. (Alex) Perez, Shell Oil Products Company, P.O. Box 8080, Martinez, California 94553

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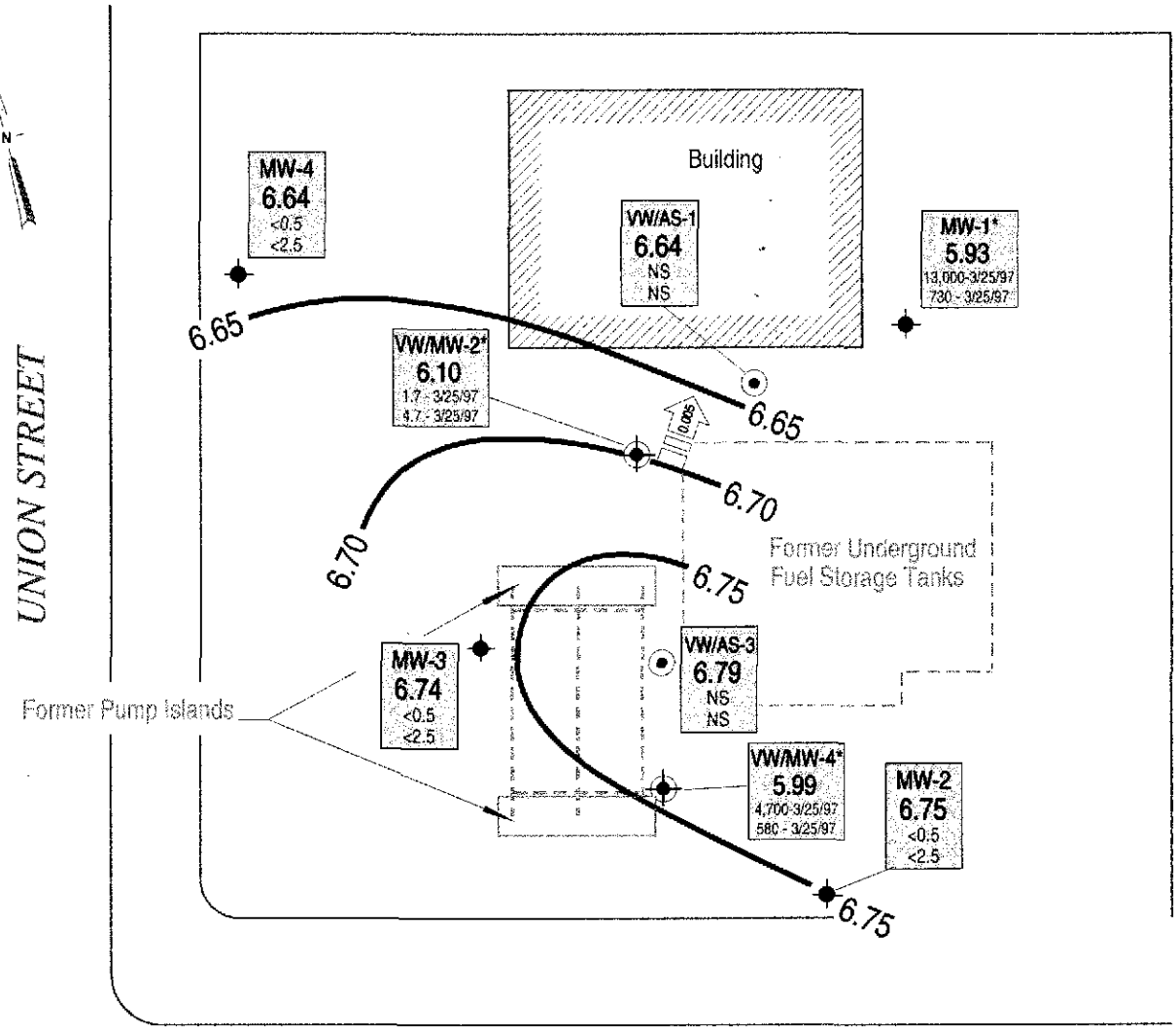

EXPLANATION

- MW-2 — Ground Water Monitoring Well
- VW/AS-3 — Combination Air Sparge/Soil Vapor Extraction Wells
- VW/MW-4 — Combination Soil Vapor Extraction Well/Monitoring Well
- Ground Water Contour
- Ground Water Flow Direction/Gradient (ft/ft)
- NS — Not Sampled
- * — Not Contoured, ORCs removed prior to gauging

ELEV.
Benz. - Date
MTBE - Date

1. Ground water elevation, ft above mean sea level (msl)
2. Benzene and MTBE concentrations are in parts per billion (ppb)
3. Date is most recent sampling unless otherwise indicated

0 10 20
Scale (ft)

Base Map by Tank Protect Engineering

CAMBRIA
Environmental Technology, Inc.

Former Shell Service Station
1230 14th Street
Oakland, California

Ground Water Elevation
Contours
December 5, 1997

G:\OAK1230\FIGURES\4QM97-MP.DWG

FIGURE
1

Table 1. Ground Water Elevation and Analytical Data - Former Shell Service Station WIC # 204-5508-3103 - 1230 14th Street, Oakland, California

Well ID (Quarters Sampled)	Date	GW Depth (ft)	GW Elev. (ft)	GW Flow Direction	GW Gradient(ft/ft)	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	POG	DO (mg/L)
						← (concentrations in µg/L) →							
MW-1	03/25/96	9.53	9.05	---	---	37,000	<500	7,400	1,500	720	3,300	<5,000	---
(Sampling Suspended)	06/21/96	10.72	7.86	NE	---	35,000	890	9,900	460	340	3,500	<5,000	---
TOC=18.58	09/26/96	12.88	5.70	W	---	19,000	<250	8,200	510	780	790	3,800	---
	12/19/96	12.59	5.99	N	---	27,000	<100	120	1,200	1,400	2,800	9,000	---
	12/19/96[dup]	12.59	5.99	N	---	32,000	830	12,000	1,300	1,600	3,100	8,800	---
	03/25/97	11.10	7.48	NE	0.03	39,000	730	13,000	1,600	840	3,100	<5,000	1.2
	06/26/97[a]	12.42	6.16	NE	0.007	---	---	---	---	---	---	---	---
	09/26/97[a]	13.31	5.27	NE	0.005	---	---	---	---	---	---	---	0.8
	12/05/97	**12.65**	**5.93**	**NE**	**0.005**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**0.3**
MW-2	03/25/96	8.19	9.71	---	---	<50	<2.5	<0.50	<0.50	<0.50	<0.50	---	---
(All)	06/21/96	9.94	7.96	NE	---	<50	<2.5	<0.50	<0.50	<0.50	<0.50	---	---
TOC=17.90	09/26/96	12.15	5.75	NW	---	<50	<2.5	<0.50	<0.50	<0.50	<0.50	---	---
	12/19/96	11.70	6.20	N	---	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---
	03/25/97	9.25	8.65	NE	0.03	<50	<2.5	<0.50	<0.50	<0.50	<0.50	---	1.8
	06/26/97	11.36	6.54	NE	0.007	<50	<2.5	<0.50	<0.50	<0.50	<0.50	<5,000	2.4
	09/26/97	12.56	5.34	NE	0.005	<50	<2.5	<0.50	<0.50	<0.50	<0.50	<5,000	1.1
	09/26/97[dup]	12.56	5.34	NE	0.005	<50	<2.5	<0.50	<0.50	<0.50	<0.50	<5,000	1.1
	12/05/97	**11.15**	**6.75**	**NE**	**0.005**	**<50**	**<2.5**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<5,000**	**0.7**
MW-3	03/25/96	8.47	9.71	---	---	<50	<2.5	<0.50	<0.50	<0.50	<0.50	---	---
(All)	06/21/96	10.40	7.78	NE	---	<50	<2.5	<0.50	<0.50	<0.50	<0.50	---	---
TOC= 18.18	09/26/96	12.45	5.73	N	---	<50	<2.5	<0.50	<0.50	<0.50	<0.50	---	---
	12/19/96	12.14	6.02	N	---	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---
	03/25/97	9.54	8.64	NE	0.03	<50	<2.5	<0.50	<0.50	<0.50	<0.50	---	2.2
	06/26/97	11.66	6.52	NE	0.007	<50	<2.5	<0.50	<0.50	<0.50	<0.50	<5,000	3.6
	09/26/97	12.85	5.33	NE	0.005	<50	<2.5	<0.50	<050	<0.50	<0.50	<5,000	1.1
	12/05/97	**11.44**	**6.74**	**NE**	**0.005**	**<50**	**<2.5**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<5,000**	**0.6**
MW-4	03/25/96	9.20	8.81	---	---	<50	<2.5	<0.50	<0.50	<0.50	<0.50	---	---
(All)	06/21/96	10.25	7.76	NE	---	<50	<2.5	<0.50	<0.50	<0.50	<0.50	---	---
TOC= 18.01	09/26/96	12.29	5.72	NE	---	<50	<2.5	<0.50	<0.50	<0.50	<0.50	---	---
	12/19/96	12.47	5.54	N	---	<50	<2.5	<0.5	<0.5	<0.5	<0.5	---	---
	03/25/97	9.44	8.57	NE	0.03	<50	<2.5	<0.50	<0.50	<0.50	<0.50	---	1.8
	06/26/97	11.57	6.44	NE	0.007	<50	<2.5	<0.50	<0.50	<0.50	<0.50	<5,000	6.2

Table 1. Ground Water Elevation and Analytical Data - Former Shell Service Station WIC # 204-5508-3103 - 1230 14th Street, Oakland, California

Well ID (Quarters Sampled)	Date	GW Depth (ft)	GW Elev. (ft)	GW Flow Direction	GW Gradient(ft/ft)	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	POG	DO (mg/L)
						← (concentrations in µg/L) →							
	06/26/97[dup]	11.57	6.44	NE	0.007	<50	<2.5	<0.50	<0.50	<0.50	<0.50	<5,000	6.2
	09/26/97	12.75	5.26	NE	0.005	<50	<2.5	<0.50	<0.50	<0.50	<0.50	<5,000	2.1
	12/05/97	**11.37**	**6.64**	**NE**	**0.005**	**<50**	**<2.5**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<5,000**	**1.0**
	12/05/97[dup]	**11.37**	**6.64**	**NE**	**0.005**	**<50**	**<2.5**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<5,000**	**1.0**
VW/MW-2	03/25/96	9.04	9.26	---	---	13,000	<250	900	920	180	1,500	---	---
(Sampling Suspended)	06/21/96	10.48	7.82	NE	---	27,000	700	4,100	1,100	1,400	3,200	---	---
TOC= 18.30	09/26/96	12.52	5.78	NE	---	27,000	<500	5,300	1,900	980	2,200	---	---
	09/26/96[dup]	12.52	5.78	NE	---	29,000	<250	5,800	2,200	1,100	2,500	---	---
	12/19/96	12.42	5.88	N	---	50,000	590	6,200	5,100	1,700	5,600	---	---
	03/25/97	9.83	8.47	NE	0.03	210	14	5.6	<0.50	0.52	<0.50	---	2.0
	03/25/97[dup]	9.83	8.47	NE	0.03	250	4.7	1.7	0.58	0.51	<0.50	---	2.0
	06/26/97[a]	12.43	5.87	NE	0.007	---	---	---	---	---	---	---	---
	09/26/97[a]	12.98	5.32	NE	0.005	---	---	---	---	---	---	---	0.9
	12/05/97	**12.20**	**6.10**	**NE**	**0.005**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**0.4**
VW/MW-4	03/25/96	8.45	9.69	---	---	83,000	<250	6,500	7,000	2,000	11,000	---	---
(Sampling Suspended)	03/25/96[dup]	8.45	9.69	---	---	84,000	<250	6,400	7,000	2,100	12,000	---	---
TOC= 18.14	06/21/96	10.38	7.76	NE	---	110,000	1,700	14,000	15,000	3,700	17,000	---	---
	06/21/96[dup]	10.38	7.76	NE	---	100,000	<1,000	12,000	12,000	2,900	13,000	---	---
	09/26/96	12.43	5.71	NE	---	52,000	<500	13,000	2,700	2,100	3,200	---	---
	12/19/96	11.87	6.27	N	---	75,000	<1,250	15,000	6,600	3,000	7,600	---	---
	03/25/97	9.60	8.54	NE	0.03	56,000	580	4,700	1,500	2,500	6,300	---	2.4
	06/26/97[a]	12.36	5.78	NE	0.007	---	---	---	---	---	---	---	---
	09/26/97[a]	12.82	5.32	NE	0.005	---	---	---	---	---	---	---	0.4
	12/05/97	**12.15**	**5.99**	**NE**	**0.005**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**0.3**
VW/AS-1	03/25/96	8.98	9.62	---	---	---	---	---	---	---	---	---	---
(Gauge only)	06/21/96	10.95	7.65	NE	---	---	---	---	---	---	---	---	---
TOC= 18.60	09/26/96	12.98	5.62	N	---	---	---	---	---	---	---	---	---
	12/19/96	12.67	5.93	N	---	---	---	---	---	---	---	---	---
	03/25/97	10.12	8.48	NE	0.03	---	---	---	---	---	---	---	---
	06/26/97	12.34	6.26	NE	0.007	---	---	---	---	---	---	---	---
	09/26/97	13.40	5.20	NE	0.005	---	---	---	---	---	---	---	---[b]
	12/05/97	**11.96**	**6.64**	**NE**	**0.005**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**5.2[c]**

Table 1. Ground Water Elevation and Analytical Data - Former Shell Service Station WIC # 204-5508-3103 - 1230 14th Street, Oakland, California

Well ID (Quarters Sampled)	Date	GW Depth (ft)	GW Elev. (ft)	GW Flow Direction	GW Gradient(ft/ft)	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	POG	DO (mg/L)
						← (concentrations in µg/L) →							
VW/AS-3	03/25/96	8.50	9.67	---	---	---	---	---	---	---	---	---	---
(Gauge only)	06/21/96	10.42	7.75	NE	---	---	---	---	---	---	---	---	---
TOC= 18.17	09/26/96	12.49	5.68	NE	---	---	---	---	---	---	---	---	---
	12/19/96	12.28	5.89	N	---	---	---	---	---	---	---	---	---
	03/25/97	9.61	8.56	NE	0.03	---	---	---	---	---	---	---	---
	06/26/97	11.80	6.37	NE	0.007	---	---	---	---	---	---	---	---
	09/26/97	12.89	5.28	NE	0.005	---	---	---	---	---	---	---	---[b]
	12/05/97	**11.38**	**6.79**	**NE**	**0.005**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**1.8[c]**

Abbreviations:

GW = Ground water
ft = Feet
µg/L = Micrograms per liter
mg/L = Milligrams per liter
TOC = Top of casing elevation
TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
MTBE = Methyl tert-butyl ether by EPA Method 8020
POG = Petroleum oil and grease by SMMW 5520 B&F
DO = Dissolved oxygen
dup = Duplicate sample
--- = Not analyzed/Not available
<n = Below detection limits of n µg/L

Notes:

a = Oxygen releasing compounds (ORCs) installed in wells were removed prior to gauging.
b = DO reading not taken due to small diameter of well.
c = Used pin bailer to capture water and take DO readings up-hole on December 12, 1997.
Benzene, Toluene, Ethylbenzene, and Xylenes by EPA Method 8020

CAMBRIA

ATTACHMENT A

Blaine Quarterly Ground Water Monitoring Report

BLAINE
TECH SERVICES INC

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

February 4, 1998

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

Attn: Alex Perez

Shell WIC #204-5508-3103
1230 14th Street
Oakland, California

4th Quarter 1997

Groundwater Monitoring Report 971205-D-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.
1144 65th Street, Suite C
Oakland, CA, CA 95476
Attn: Josh Bergstrom

(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	12/05/97	TOC	–	NONE	–	–	12.65	21.35
MW-2	12/05/97	TOC	–	NONE	–	–	11.15	22.17
MW-3	12/05/97	TOC	–	NONE	–	–	11.44	20.39
MW-4*	12/05/97	TOC	–	NONE	–	–	11.37	20.95
VW/MW-2	12/05/97	TOC	–	NONE	–	–	12.20	21.29
VW/MW-4	12/05/97	TOC	–	NONE	–	–	12.15	19.36
VW/AS-1	12/05/97	TOC	–	NONE	–	–	11.96	19.21
VW/AS-3	12/05/97	TOC	–	NONE	–	–	11.38	19.80

* Sample DUP was a duplicate sample taken from well MW-4.

9712649

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 971205-D1

Date:
Page 1 of 1

Site Address: 1230 14th St., Oakland, CA

WIC#: 204-5508-3103

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:

Printed Name: Dan Vlnos

LAB: Sequoia

CHECK ONE (1) BOX ONLY		CT/DT	TURN AROUND TIME
G.W. Monitoring	XX	4461	24 hours
Site Investigation		4441	48 hours
Soil Classify/Disposal		4442	15 days (Normal)
Water Classify/Disposal		4443	Other
Soil/Air Rem. or Sys. O & M		4452	NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M		4453	
Other			

UST AGENCY: DEH

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	Total oil & grease	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-2	12/5	1		X		5						X	X						
MW-3	↓	2		↓		↓						X	X						
MW-4		3										X	X						
EB		4										X	X						
Dup		5										X	X						

Relinquished By (signature):	Printed Name:	Date: 12/8 Time: 12:45	Received (signature):	Printed Name:	Date: 12/8/97 Time: 12:46
Relinquished By (signature):	Printed Name: R. Scrogin	Date: 12/8 Time:	Received (signature):	Printed Name:	Date: Time:
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name: Chemical Carle	Date: 12/8/97 Time: 1326

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

Project: Shell Oakland/971205-D1

Enclosed are the results from samples received at Sequoia Analytical on December 8, 1997. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9712649 -01	LIQUID, MW-2	12/05/97	TRPH (SM 5520 B&F)
9712649 -01	LIQUID, MW-2	12/05/97	TPGM2W Purgeable TPH/BTEX
9712649 -02	LIQUID, MW-3	12/05/97	TRPH (SM 5520 B&F)
9712649 -02	LIQUID, MW-3	12/05/97	TPGM2W Purgeable TPH/BTEX
9712649 -03	LIQUID, MW-4	12/05/97	TRPH (SM 5520 B&F)
9712649 -03	LIQUID, MW-4	12/05/97	TPGM2W Purgeable TPH/BTEX
9712649 -04	LIQUID, EB	12/05/97	TRPH (SM 5520 B&F)
9712649 -04	LIQUID, EB	12/05/97	TPGM2W Purgeable TPH/BTEX
9712649 -05	LIQUID, Dup	12/05/97	TRPH (SM 5520 B&F)
9712649 -05	LIQUID, Dup	12/05/97	TPGM2W 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, (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/971205-D1	Sampled: 12/05/97
1680 Rogers Avenue	Sample Descript: MW-2	Received: 12/08/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/15/97
Attention: Fran Thie	Lab Number: 9712649-01	Reported: 12/17/97

QC Batch Number: GC121597BTEX09A
Instrument ID: GCHP9

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	94

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

SEQUOIA ANALYTICAL - ELAP #1271

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/971205-D1	Sampled: 12/05/97
1680 Rogers Avenue	Sample Descript: MW-3	Received: 12/08/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/15/97
Attention: Fran Thie	Lab Number: 9712649-02	Reported: 12/17/97

QC Batch Number: GC121597BTEX09A
Instrument ID: GCHP9

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	94

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

SEQUOIA ANALYTICAL - ELAP #1271

Peggy Penner
Project Manager

Sequoia Analytical

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Blaine Tech Services	Client Proj. ID: Shell Oakland/971205-D1	Sampled: 12/05/97
1680 Rogers Avenue	Sample Descript: MW-4	Received: 12/08/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/15/97
Attention: Fran Thie	Lab Number: 9712649-03	Reported: 12/17/97

QC Batch Number: GC121597BTEX09A
Instrument ID: BCHP9

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	94

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

SEQUOIA ANALYTICAL - ELAP #1271

Peggy Penner
Project Manager

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Blaine Tech Services	Client Proj. ID: Shell Oakland/971205-D1	Sampled: 12/05/97
1680 Rogers Avenue	Sample Descript: EB	Received: 12/08/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/15/97
Attention: Fran Thie	Lab Number: 9712649-04	Reported: 12/17/97

QC Batch Number: GC121597BTEX09A
Instrument ID: GCHP9

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	94

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

SEQUOIA ANALYTICAL - ELAP #1271

Peggy Penner
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Blaine Tech Services	Client Proj. ID: Shell Oakland/971205-D1	Sampled: 12/05/97
1680 Rogers Avenue	Sample Descript: Dup	Received: 12/08/97
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 12/11/97
Attention: Fran Thie	Lab Number: 9712649-05	Reported: 12/17/97

QC Batch Number: GC121197BTEX05A
Instrument ID: GCHP5

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	128

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

SEQUOIA ANALYTICAL - ELAP #1271

Peggy Penner
Project Manager

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Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell Oakland/971205-D1

Lab Proj. ID: 9712649

Sampled: 12/05/97
Received: 12/08/97
Analyzed: see below

Reported: 12/17/97

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9712649-01 Sample Desc : **LIQUID,MW-2**				
TRPH (SM 5520 B&F)	mg/L	12/12/97	5.0	N.D.
Lab No: 9712649-02 Sample Desc : **LIQUID,MW-3**				
TRPH (SM 5520 B&F)	mg/L	12/12/97	5.0	N.D.
Lab No: 9712649-03 Sample Desc : **LIQUID,MW-4**				
TRPH (SM 5520 B&F)	mg/L	12/12/97	5.0	N.D.
Lab No: 9712649-04 Sample Desc : **LIQUID,EB**				
TRPH (SM 5520 B&F)	mg/L	12/12/97	5.0	N.D.
Lab No: 9712649-05 Sample Desc : **LIQUID,Dup**				
TRPH (SM 5520 B&F)	mg/L	12/17/97	5.0	N.D.

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.	Client Project ID:	Shell Oakland / 971205-D1	
1680 Rogers Ave.	Matrix:	Liquid	
San Jose, CA 95112			
Attention: Fran Thie	Work Order #:	9712649 -01-04	Reported: Dec 29, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Total Recoverable Petroleum Hydrocarbons
QC Batch#:	IN121197552000A
Analy. Method:	SM 5520 BF
Prep. Method:	N.A.

Analyst:	P. Cheung
MS/MSD #:	BLK121197
Sample Conc.:	N.D.
Prepared Date:	12/11/97
Analyzed Date:	12/12/97
Instrument I.D.#:	MANUAL
Conc. Spiked:	10 mg/L
Result:	7.8
BS % Recovery:	78
Dup. Result:	8.6
BSD % Recov.:	86
RPD:	9.8
RPD Limit:	0-30

LCS #:	LCS121197
Prepared Date:	12/11/97
Analyzed Date:	12/12/97
Instrument I.D.#:	MANUAL
Conc. Spiked:	10 mg/L
LCS Result:	8.6
LCS % Recov.:	86

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

SEQUOIA ANALYTICAL

Reggy 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.	Client Project ID:	Shell Oakland / 971205-D1	
1680 Rogers Ave.	Matrix:	Liquid	
San Jose, CA 95112			
Attention: Fran Thie	Work Order #:	9712649-05	Reported: Dec 29, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Total Recoverable Petroleum Hydrocarbons
QC Batch#:	IN121197552000A
Analy. Method:	SM 5520 BF
Prep. Method:	N.A.

Analyst:	P. Cheung
MS/MSD #:	BLK121197
Sample Conc.:	N.D.
Prepared Date:	12/11/97
Analyzed Date:	12/12/97
Instrument I.D.#:	MANUAL
Conc. Spiked:	10 mg/L
Result:	7.8
BS % Recovery:	78
Dup. Result:	8.6
BSD % Recov.:	86
RPD:	9.8
RPD Limit:	0-30

LCS #:	LCS121697
Prepared Date:	12/16/97
Analyzed Date:	12/17/97
Instrument I.D.#:	MANUAL
Conc. Spiked:	10 mg/L
LCS Result:	10
LCS % Recov.:	100

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

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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

Client Project ID: Shell Oakland / 971205-D1
Matrix: Liquid
Work Order #: 9712649-05

Reported: Dec 29, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC121197802005A	GC121197802005A	GC121197802005A	GC121197802005A	GC121197802005A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8021
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill	K. Nill
MS/MSD #:	7120645	7120645	7120645	7120645	7120645
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/11/97	12/11/97	12/11/97	12/11/97	12/11/97
Analyzed Date:	12/11/97	12/11/97	12/11/97	12/11/97	12/11/97
Instrument I.D.#:	HP5	HP5	HP5	HP5	HP5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	327 µg/L
Result:	19	19	19	59	316
MS % Recovery:	95	95	95	98	97
Dup. Result:	19	19	19	59	327
MSD % Recov.:	95	95	95	98	100
RPD:	0.0	0.0	0.0	0.0	3.4
RPD Limit:	0-20	0-20	0-20	0-20	0-50

LCS #:	LCS121197	LCS121197	LCS121197	LCS121197	LCS121197
Prepared Date:	12/11/97	12/11/97	12/11/97	12/11/97	12/11/97
Analyzed Date:	12/11/97	12/11/97	12/11/97	12/11/97	12/11/97
Instrument I.D.#:	HP5	HP5	HP5	HP5	HP5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	327 µg/L
LCS Result:	16	16	16	49	307
LCS % Recov.:	80	80	80	82	94
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
Elap #1271

Peggy Penner
Project Manager

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

Client Project ID: Shell Oakland / 971205-D1
Matrix: Liquid
Work Order #: 9712649-01-04

Reported: Dec 29, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC121597802009A	GC121597802009A	GC121597802009A	GC121597802009A	GC121597802009A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8021
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	K. Nill	K. Nill	K. Nill	K. Nill	K. Nill
MS/MSD #:	7120978	7120978	7120978	7120978	7120978
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/15/97	12/15/97	12/15/97	12/15/97	12/15/97
Analyzed Date:	12/15/97	12/15/97	12/15/97	12/15/97	12/15/97
Instrument I.D.#:	HP9	HP9	HP9	HP9	HP9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	330 µg/L
Result:	20	21	21	64	323
MS % Recovery:	100	105	105	107	98
Dup. Result:	21	22	22	68	343
MSD % Recov.:	105	110	110	113	104
RPD:	4.9	4.7	4.7	6.1	6.0
RPD Limit:	0-20	0-20	0-20	0-20	0-50

LCS #:	LCS121597	LCS121597	LCS121597	LCS121597	LCS121597
Prepared Date:	12/15/97	12/15/97	12/15/97	12/15/97	12/15/97
Analyzed Date:	12/15/97	12/15/97	12/15/97	12/15/97	12/15/97
Instrument I.D.#:	HP9	HP9	HP9	HP9	HP9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	330 µg/L
LCS Result:	17	19	19	61	297
LCS % Recov.:	85	95	95	102	90
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
Elap #1271

Reggy Penner
Project Manager

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Blaine Tech Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Fran Thie	Client Proj. ID: Shell Oakland/971205-D1 Lab Proj. ID: 9712649	Received: 12/08/97 Reported: 12/17/97

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.).

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager