



CAMBRIA ENVIRONMENTAL PROTECTION

RC415

March 19, 1997

97 MAR 26 PM 2:07

Barney Chan
Alameda County
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Fourth Quarter 1996**
Shell Service Station
WIC #204-5508-3400
4411 Foothill Boulevard
Oakland, California

Dear Mr. Chan:

On behalf of Shell Oil Products Company, Cambria Environmental Technology, Inc. (Cambria) is submitting this quarterly monitoring report for the site referenced above in accordance with the requirements specified in California Administrative Code Title 23 Waters, Division 3, Chapter 16, Article 5, Section 2652.d.

ACTIVITIES THIS QUARTER

Blaine Tech Services, Inc. (Blaine) of San Jose, California measured ground water depths and collected ground water samples from the site wells (Figure 1). The BTS report describing these activities and the analytic report for the ground water samples are included as Attachment A. Cambria calculated ground water elevations (Table 1), compiled the analytic data (Table 2) and prepared a ground water elevation contour map (Figure 1).

ANTICIPATED ACTIVITIES NEXT QUARTER

Cambria will submit a report presenting a summary of activities for the upcoming quarter.

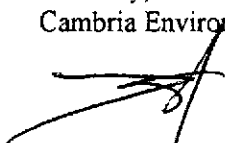
CAMBRIA
ENVIRONMENTAL
TECHNOLOGY, INC.
1144 65TH STREET,
SUITE 8
OAKLAND,
CA 94608
PH: (510) 420-0700
FAX: (510) 420-9170

Barney Chan
March 19, 1997

CAMBRIA

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

Sincerely,
Cambria Environmental Technology, Inc.



N. Scott MacLeod, R.G.
Principal Geologist



Attachments: A - Blaine Tech Ground Water Monitoring Report

cc: A. E. (Alex) Perez, Shell Oil Products Company, P.O. Box 4023, Concord, California 94524

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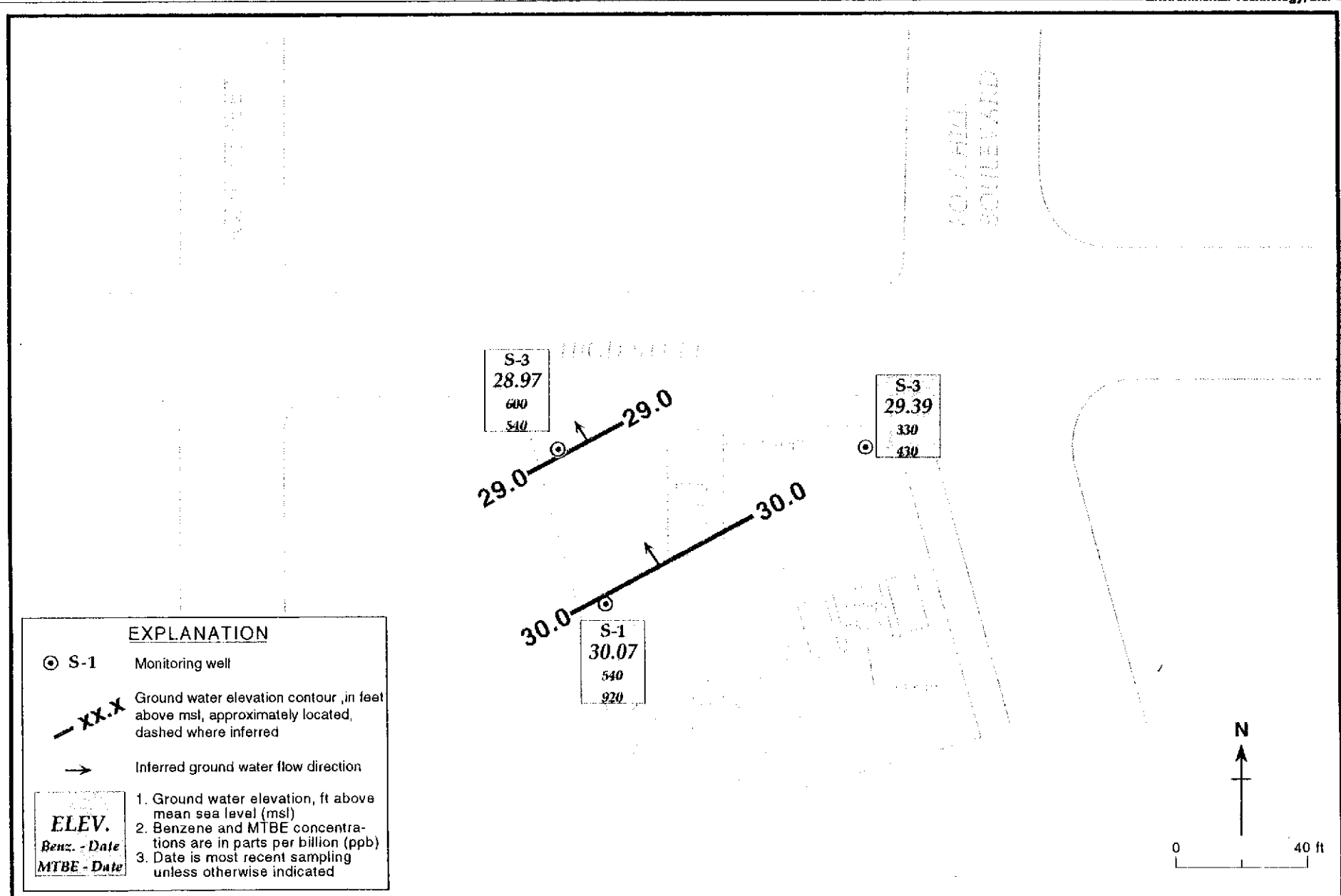


Figure 1. Ground Water Elevation Contours - December 19, 1996 - Shell Service Station WIC# 204-5508-3400 - 4411 Foothill Boulevard, Oakland, California

Table 1. Ground Water Elevation and Analytic Data - Shell Service Station #204-5508-3400, 4411 Foothill Boulevard, Oakland, California

Well ID and Elevation (ft-msl)	Date	Depth to Water (feet)	Ground Water Elevation (ft-msl)	TPHg (8015) (ppb)	Benzene (8020) (ppb)	Toluene (8020) (ppb)	Ethylbenzene (8020) (ppb)	Xylenes (8020) (ppb)	TEPH (8015) (ppb)	Motor Oil (8015) (ppb)	MTBE (8260) (ppb)	Notes
S-1 38.31	12/18/92	9.06	---	41,000	3,100	1,100	1,200	8,700	---	9,400	---	a
	05/26/93	---	---	39,000	1,300	4,700	1,500	7,800	6,000	370	---	
	05/28/93	12.13	26.18	---	---	---	---	---	---	---	---	
	06/03/93	8.89	29.42	---	---	---	---	---	---	---	---	
	06/08/93	8.80	29.51	---	---	---	---	---	---	---	---	
	09/21/93	10.40	27.91	34,000	480	5,000	3,800	18,000	5,900	ND	---	
	12/14/93	9.66	28.65	25,000	1,100	5,000	2,200	11,000	13,000	ND	---	
	03/17/94	8.20	30.11	57,000	1,300	5,400	2,100	11,000	1,600	2,300	---	
	06/16/94	9.41	28.90	57,000	1,600	6,000	2,000	13,000	3,000	210	---	
	09/22/94	11.13	27.18	39,000	1,300	2,100	1,500	7,100	ND	ND	---	
	12/15/94	7.15	31.16	30,000	1,100	4,700	1,600	10,000	3,100	ND	---	b
	03/30/95	6.09	32.22	30,000	1,400	4,000	1,500	11,000	3,100	ND	---	b, c
	06/20/95	7.30	31.01	28,000	1,100	2,300	1,100	8,300	2,100	NC	---	
	09/20/95	10.02	28.29	40,000	840	3,600	1,300	8,600	2,600	NC	---	
	12/06/95	11.64	26.67	38,000	920	3,200	1,500	9,400	6,400	ND	---	b
	03/21/96	6.87	31.44	48,000	700	4,200	1,100	8,600	---	---	---	
	09/06/96	10.50	27.81	41,000	830	2,600	2,100	12,000	4,100	<1,000	<250	
12/19/96	8.24	30.07	40,000	540	3,100	1,900	9,800	2,500	<500	920		
S-2 38.79	05/28/93	9.51	29.28	---	---	---	---	---	---	---	---	
	06/03/93	9.51	29.28	---	---	---	---	---	---	---	---	
	06/08/93	9.57	29.22	---	---	---	---	---	---	---	---	
	06/29/93	---	---	1,300	290	35	38	130	---	---	---	
	09/21/93	10.54	28.25	3,300	870	24	190	120	---	---	---	
	12/14/93	9.76	29.03	1,300	400	16	36	27	---	---	---	
	03/17/94	9.92	28.87	4,500	610	27	92	110	---	---	---	
	03/17/94	9.92	28.87	4,000	610	26	93	120	---	---	---	duplicate
	06/16/94	10.11	28.68	2,800	690	45	97	140	---	---	---	
	09/22/94	10.51	28.28	4,000	630	94	64	230	---	---	---	
	12/15/94	9.12	29.67	1,600	450	300	67	130	---	---	---	
	03/30/95	7.86	30.93	8,200	2,800	190	240	700	---	---	---	c
	06/20/95	9.51	29.28	9,600	2,600	160	170	500	---	---	---	
	09/20/95	10.06	28.73	4,200	920	45	98	140	---	NC	---	
12/06/95	10.52	28.27	ND	790	67	64	130	---	---	---	d	
03/21/96	8.60	30.19	3,700	850	45	96	170	---	---	---		

Table 1. Ground Water Elevation and Analytic Data - Shell Service Station #204-5508-3400, 4411 Foothill Boulevard, Oakland, California

Well ID and Elevation (ft-msl)	Date	Depth to Water (feet)	Ground Water Elevation (ft-msl)	TPHg (8015) (ppb)	Benzene (8020) (ppb)	Toluene (8020) (ppb)	Ethylbenzene (8020) (ppb)	Xylenes (8020) (ppb)	TEPH (8015) (ppb)	Motor Oil (8015) (ppb)	MTBE (8260) (ppb)	Notes
	09/06/96	10.50	28.29	2,400	500	33	39	84	---	---	490	
	12/19/96	9.40	29.39	1,200	330	15	24	31	---	---	430	
S-3	06/28/93	8.45	28.88	---	---	---	---	---	---	---	---	
37.33	06/03/93	8.36	28.97	---	---	---	---	---	---	---	---	
	06/08/93	8.41	28.92	---	---	---	---	---	---	---	---	
	06/29/93	---	---	29,000	1,500	1,800	950	6,200	---	---	---	
	09/21/93	10.08	27.25	15,000	900	2,200	2,600	11,000	---	---	---	
	12/94/93	8.80	28.53	20,000	1,100	2,400	1,800	8,500	---	---	---	
	03/17/94	8.34	28.99	14,000	580	190	750	1,700	---	---	---	
	06/16/94	9.12	28.21	20,000	700	690	1,400	4,100	---	---	---	
	06/16/94	---	---	19,000	680	560	1,300	3,700	---	---	---	duplicate
	09/22/94	10.27	27.06	24,000	630	1,100	1,400	5,700	---	---	---	
	09/22/94	---	---	25,000	720	1,100	1,500	6,100	---	---	---	duplicate
	12/15/94	7.81	29.52	18,000	520	800	1,100	4,200	---	---	---	
	12/15/94	---	---	23,000	1,000	1,900	2,000	8,600	---	---	---	duplicate
	03/30/95	7.06	30.27	8,800	360	730	700	3,700	---	---	---	c
	03/30/95	---	---	7,600	330	570	600	2,600	---	---	---	e, duplicate
	06/20/95	8.15	29.18	9,600	510	170	960	1,700	---	---	---	
	06/20/95	---	---	9,800	500	170	950	1,700	---	---	---	duplicate
	09/20/95	9.32	28.01	21,000	400	560	1,300	4,600	---	---	---	
	12/06/95	10.53	26.80	24,000	630	1,400	1,400	6,000	---	---	---	
	12/06/95	---	---	22,000	630	1,200	1,400	5,500	---	---	---	duplicate
	03/21/96	7.32	30.01	9,100	290	110	490	1,600	---	---	---	
	03/21/96	---	---	11,000	310	250	540	2,100	---	---	---	duplicate
	09/06/96	10.10	27.23	15,000	440	300	1,100	3,000	---	---	500	e
	09/06/96	---	---	11,000	490	170	820	1,500	---	---	700	e, duplicate
	12/19/96	8.36	28.97	12,000	600	380	850	2,500	---	---	380	
	12/19/96	8.36	28.97	12,000	590	380	830	2,500	---	---	540	duplicate

Table 1. Ground Water Elevation and Analytic Data - Shell Service Station #204-5508-3400, 4411 Foothill Boulevard, Oakland, California

Well ID and Elevation (ft-msl)	Date	Depth to Water (feet)	Ground Water Elevation (ft-msl)	TPHg (8015) (ppb)	Benzene (8020) (ppb)	Toluene (8020) (ppb)	Ethylbenzene (8020) (ppb)	Xylenes (8020) (ppb)	TEPH (8015) (ppb)	Motor Oil (8015) (ppb)	MTBE (8260) (ppb)	Notes
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Abbreviations:

- NA = Information not available.
- TPHg = Total petroleum hydrocarbons as gasoline
- TEPH = Total extractable petroleum hydrocarbons
- ppb = Parts per billion
- = Not measured and/or analyzed
- ND = Not detected
- NC = Not calculated, TPH as motor oil included with TEPH analysis.
- 8015 = EPA Method 8015M
- 8020 = EPA Method 8020
- 8260 = EPA Method 8260

- a. Phenolic and naphthalene compounds detected in Sample S-1 by semi-volatile organics (EPA Method 8270).
- b. Laboratory noted that concentrations appears to be a lighter hydrocarbon than diesel.
- c. National Environmental Testing, Inc., analyzed within hold time but further dilutions were required and analyzed out of hold time. NET suggests that these should be considered minimum concentrations.
- d. Sample result is ND, but laboratory reporting limit for this analysis is 5,000 ppb.
- e. MTBE not detected on EPA Method 8260 confirmation analysis, therefore, MTBE may not be in ground water.

CAMBRIA

ATTACHMENT A

Blaine Tech Ground Water Monitoring Report

BLAINE
TECH SERVICES INC.



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

January 15, 1997

Shell Oil Company
P.O. Box 4023
Concord, CA 94524

Attn: R. Jeff Granberry

Shell WIC #204-5508-3400
4411 Foothill Blvd.
Oakland, California

4th Quarter 1996

Quarterly Groundwater Monitoring Report 961219-J-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.
1144 65th Street, Suite C
Oakland, CA 94608
Attn: Paul Waite

(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	12/19/96	TOB	--	--	--	--	8.24	24.13
S-2	12/19/96	TOB	ODOR	--	--	--	9.40	22.43
S-3 *	12/19/96	TOB	ODOR	--	--	--	8.36	20.60

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



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 901219-52

Date: 12/19/96

Page of 1

Site Address: 4411 Foothill Blvd., Oakland, CA

WIC#: 204-5508-3400

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 95133

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

Comments:

Sampled by: *[Signature]*

Printed Name: Matt Sames

Analysis Required

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 / <u>MTBE</u>	TPH - Motor Oil	Asbestos	Container Size	Preparation Used	Composite Y/N
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LAB: SEQ

CHECK ONE (1) BOX ONLY	CT/DI	TURN AROUND TIME
G.W. Monitoring <input checked="" type="checkbox"/>	4441	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	4441	48 hours <input type="checkbox"/>
Soil Classfy/Disposal <input type="checkbox"/>	4442	16 days <input checked="" type="checkbox"/> (Normal)
Water Classfy/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

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

9012022

UST AGENCY: _____

Sample ID	Date	Sludge	Soil	Water	Air	No. of conls.	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 / <u>MTBE</u>	TPH - Motor Oil	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITIONS & COMMENTS
1 S-1	12/19			W		7		X				X	X						
2 S-2	↓			↓		3						X							
3 S-3	↓			↓		3						X							
4 Dup	↓			↓		3						X							
5 EB	↓			↓		3						X							

Relinquished By (signature): <i>[Signature]</i>	Printed Name: <u>Matt Sames</u>	Date: <u>12/20/96</u>	Time: <u>07:50</u>	Received (signature): <i>[Signature]</i>	Printed Name: <u>SWRIGHT</u>	Date: <u>12/20/96</u>	Time: <u>9:52</u>
Relinquished By (signature): <i>[Signature]</i>	Printed Name: <u>SWRIGHT</u>	Date: <u>12/20/96</u>	Time: <u>11:31</u>	Received (signature): <i>[Signature]</i>	Printed Name: <u>SWRIGHT</u>	Date: <u>12/20/96</u>	Time: <u>11:38</u>
Relinquished By (signature): <i>[Signature]</i>	Printed Name: _____	Date: _____	Time: _____	Received (signature): <i>[Signature]</i>	Printed Name: <u>K. Herling</u>	Date: <u>12/20/96</u>	Time: <u>1:38</u>

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



Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834

(415) 364-9600
(510) 988-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

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

Project: Shell Oakland/961219-J2

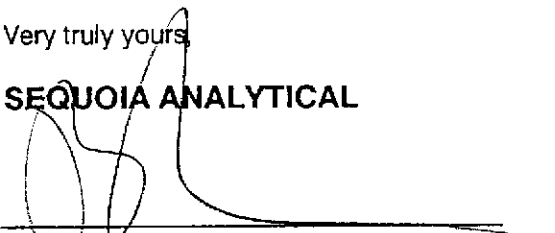
Enclosed are the results from samples received at Sequoia Analytical on December 20, 1996.
The requested analyses are listed below:

<u>SAMPLE #</u>	<u>SAMPLE DESCRIPTION</u>	<u>DATE COLLECTED</u>	<u>TEST METHOD</u>
9612D22 -01	LIQUID, S-1	12/19/96	TPGBMW Purgeable TPH/BTEX
9612D22 -01	LIQUID, S-1	12/19/96	TPHD_W Extractable TPH
9612D22 -01	LIQUID, S-1	12/19/96	TPHMOW Fuel Fingerprint/Mo
9612D22 -02	LIQUID, S-2	12/19/96	TPGBMW Purgeable TPH/BTEX
9612D22 -03	LIQUID, S-3	12/19/96	TPGBMW Purgeable TPH/BTEX
9612D22 -04	LIQUID, DUP	12/19/96	TPGBMW Purgeable TPH/BTEX
9612D22 -05	LIQUID, EB	12/19/96	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



Blaine Technical Services	Client Proj. ID: Shell Oakland/961219-J2	Sampled: 12/19/96
1680 Rogers Avenue	Sample Descript: S-1	Received: 12/20/96
San Jose, CA 95112	Matrix: LIQUID	
Attention: Fran Thie	Analysis Method: 8015Mod/8020	Analyzed: 01/02/97
	Lab Number: 9612D22-01	Reported: 01/06/97

QC Batch Number: GC010296BTEX21A
Instrument ID: GCHP21

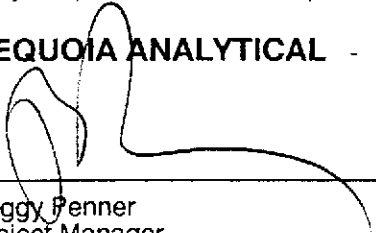
Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	5000	40000
Methyl t-Butyl Ether	250	920
Benzene	50	540
Toluene	50	3100
Ethyl Benzene	50	1900
Xylenes (Total)	50	9800
Chromatogram Pattern:		C6-C12

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





Blaine Technical Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Fran Thie	Client Proj. ID: Shell Oakland/961219-J2 Sample Descript: S-1 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9612D22-01	Sampled: 12/19/96 Received: 12/20/96 Extracted: 12/31/96 Analyzed: 01/02/97 Reported: 01/06/97
---	---	--

QC Batch Number: GC1231960HBPEXB
Instrument ID: GCHP5A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50	2500 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 115

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

SEQUOIA ANALYTICAL - ELAP #1210


Peggy Penner
Project Manager





Blaine Technical Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Fran Thie	Client Proj. ID: Shell Oakland/961219-J2 Sample Descript: S-1 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9612D22-01	Sampled: 12/19/96 Received: 12/20/96 Extracted: 12/31/96 Analyzed: 01/02/97 Reported: 01/06/97
---	---	--

QC Batch Number: GC1231960HBPEXB
Instrument ID: GCHP5A

Fuel Fingerprint : Motor Oil

Analyte	Detection Limit ug/L	Sample Results ug/L
Extractable HC as Motor Oil Chromatogram Pattern:	500	N.D.
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	115

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

SEQUOIA ANALYTICAL - ELAP #1210


Peggy Renner
Project Manager





Blaine Technical Services 1680 Rogers Avenue San Jose, CA 95112 Attention: Fran Thie	Client Proj. ID: Shell Oakland/961219-J2 Sample Descript: S-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612D22-02	Sampled: 12/19/96 Received: 12/20/96 Analyzed: 12/31/96 Reported: 01/06/97
---	---	---

QC Batch Number: GC123196BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	250	1200
Methyl t-Butyl Ether	12	430
Benzene	2.5	330
Toluene	2.5	15
Ethyl Benzene	2.5	24
Xylenes (Total)	2.5	31
Chromatogram Pattern:		C6-C12
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





Blaine Technical Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell Oakland/961219-J2 Sample Descript: S-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612D22-03	Sampled: 12/19/96 Received: 12/20/96 Analyzed: 01/02/97 Reported: 01/06/97
Attention: Fran Thie		

QC Batch Number: GC010297BTEX21A
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	12000
Methyl t-Butyl Ether	50	380
Benzene	10	600
Toluene	10	380
Ethyl Benzene	10	850
Xylenes (Total)	10	2500
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	87

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

SEQUOIA ANALYTICAL - ELAP #1210


Peggy Penner
Project Manager





Blaine Technical Services 1680 Rogers Avenue San Jose, CA 95112	Client Proj. ID: Shell Oakland/961219-J2 Sample Descript: DUP Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9612D22-04	Sampled: 12/19/96 Received: 12/20/96 Analyzed: 01/02/97 Reported: 01/06/97
---	---	---

QC Batch Number: GC010297BTEX21A
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	12000
Methyl t-Butyl Ether	50	540
Benzene	10	590
Toluene	10	380
Ethyl Benzene	10	830
Xylenes (Total)	10	2500
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	85

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

SEQUOIA ANALYTICAL - ELAP #1210


Peggy Penner
Project Manager





Blaine Technical Services
1680 Rogers Avenue
San Jose, CA 95112

Client Proj. ID: Shell Oakland/961219-J2
Sample Descript: EB
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9612D22-05

Sampled: 12/19/96
Received: 12/20/96
Analyzed: 01/02/97
Reported: 01/06/97

QC Batch Number: GC010297BTEX21A
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 Technical Services
1680 Rogers Avenue
San Jose, CA 95112
Attention: Fran Thie

Client Proj. ID: Shell Oakland/961219-J2

Received: 12/20/96

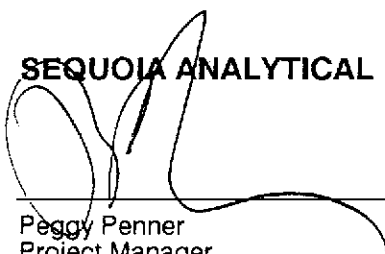
Lab Proj. ID: 9612D22

Reported: 01/06/97

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 13 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





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

Client Project ID: Shell Oakland / 961219-J2
Matrix: Liquid

Work Order #: 9612D22 -01, 03-05

Reported: Jan 10, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC010297BTEX21A	GC010297BTEX21A	GC010297BTEX21A	GC010297BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	G. Fish	G. Fish	G. Fish	G. Fish
MS/MSD #:	9612F2911	9612F2911	9612F2911	9612F2911
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/2/97	1/2/97	1/2/97	1/2/97
Analyzed Date:	1/2/97	1/2/97	1/2/97	1/2/97
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.9	9.8	10	30
MS % Recovery:	99	98	100	100
Dup. Result:	10	10	10	31
MSD % Recov.:	100	100	100	103
RPD:	1.0	2.0	0.0	3.3
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK010297	BLK010297	BLK010297	BLK010297
Prepared Date:	1/2/97	1/2/97	1/2/97	1/2/97
Analyzed Date:	1/2/97	1/2/97	1/2/97	1/2/97
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	10	10	11	33
LCS % Recov.:	100	100	110	110

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

9612D22.BLA <1>





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

Client Project ID: Shell Oakland / 961219-J2
Matrix: Liquid

Work Order #: 9612D22-02

Reported: Jan 10, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC123196BTEX21A	GC123196BTEX21A	GC123196BTEX21A	GC123196BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	G. Fish	G. Fish	G. Fish	G. Fish
MS/MSD #:	9612C4901	9612C4901	9612C4901	9612C4901
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/31/96	12/31/96	12/31/96	12/31/96
Analyzed Date:	12/31/96	12/31/96	12/31/96	12/31/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	8.9	8.5	8.7	26
MS % Recovery:	89	85	87	87
Dup. Result:	8.9	8.6	8.9	27
MSD % Recov.:	89	86	89	90
RPD:	0.0	1.2	2.3	3.8
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	BLK123196	BLK123196	BLK123196	BLK123196
Prepared Date:	12/31/96	12/31/96	12/31/96	12/31/96
Analyzed Date:	12/31/96	12/31/96	12/31/96	12/31/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	8.7	8.5	8.9	27
LCS % Recov.:	87	85	89	90

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:

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

9612D22.BLA <2>





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

Client Project ID: Shell Oakland / 961219-J2
Matrix: Liquid

Work Order #: 9612D22-01

Reported: Jan 10, 1997

QUALITY CONTROL DATA REPORT

Analyte: Diesel

QC Batch#: GC1231960HBPEXB

Analy. Method: EPA 8015M

Prep. Method: EPA 3510

Analyst: J. Minkel

MS/MSD #: 9612D3104

Sample Conc.: 210

Prepared Date: 12/31/96

Analyzed Date: 1/2/97

Instrument I.D.#: GCHP5

Conc. Spiked: 1000 µg/L

Result: 1300

MS % Recovery: 109

Dup. Result: 1300

MSD % Recov.: 109

RPD: 0.0

RPD Limit: 0-50

LCS #: BLK123196

Prepared Date: 12/31/96

Analyzed Date: 1/2/97

Instrument I.D.#: GCHP5

Conc. Spiked: 1000 µg/L

LCS Result: 1100

LCS % Recov.: 110

MS/MSD 50-150

LCS 60-140

Control Limits

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SEQUOIA ANALYTICAL

Reggy Penner
Project Manager

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

9612D22.BLA <3>