CAMBRIA

April 13, 1998

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

Re: **First Quarter 1998 Monitoring Report**
Shell Service Station
4255 MacArthur Boulevard
Oakland, California
WIC #204-5510-0600
Cambria Project #24-314-198

Dear Mr. Chan:

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.

FIRST QUARTER 1998 ACTIVITIES

Ground Water Monitoring: Blaine Tech Services, Inc. (Blaine) of San Jose, California, measured ground water depths, checked for separate-phase hydrocarbons (SPH) and collected ground water samples from the site wells (Figure 1). The Blaine report describing these activities and presenting the analytical report for the ground water samples is included as Attachment A. Blaine removed SPH from passive skimmer devices in well MW-2 (Table 1). The quantities removed are presented in the table below.

Separate-Phase Hydrocarbon Removal Summary	
This Quarter (lbs)	Cumulative Removal (lbs)
1.29	20.35

Cambria calculated ground water elevations (Table 2), compiled the analytical data (Table 3), 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

Subsurface Investigation: On February 13, 1998, Cambria installed two soil borings offsite and down-gradient of the site on the MacArthur-High Trailer Park property. Results of the investigation are presented in Cambria's March 19, 1998 *Subsurface Investigation Report.*

ANTICIPATED SECOND QUARTER 1998 ACTIVITIES

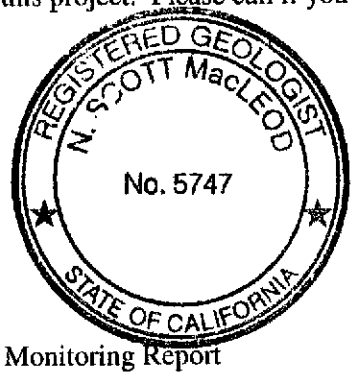
Ground Water Monitoring: Blaine will gauge water levels, check for SPH, and collect ground water samples from the site wells. Cambria will submit a report presenting a summary of activities for the upcoming quarter.

Corrective Action Plan: Cambria will submit a corrective action plan.

CLOSING

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

Sincerely,
Cambria Environmental Technology, Inc.



N. Scott MacLeod, R.G.
Principal 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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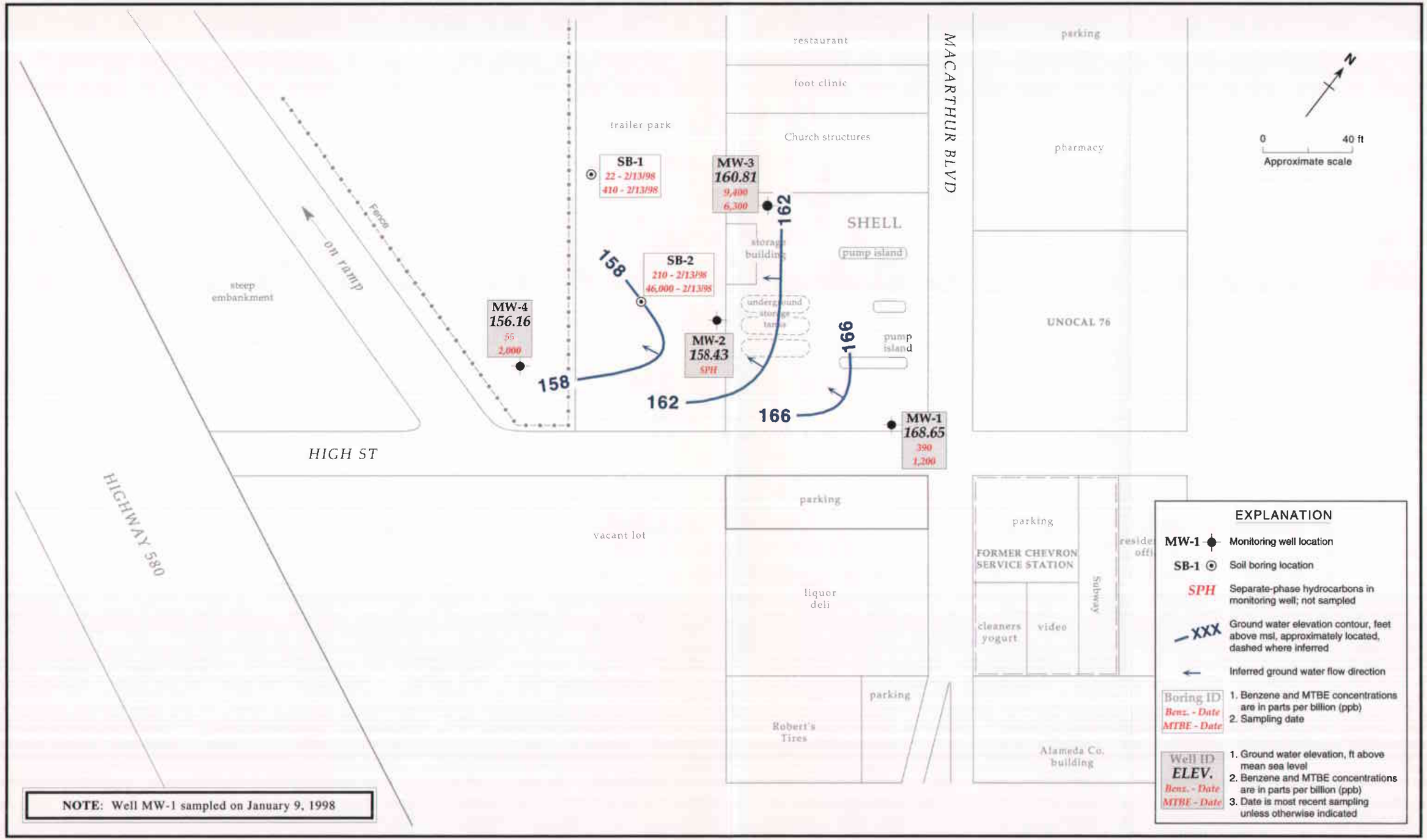

Figure 1. Ground Water Elevation Contours - January 8, 1998 - Shell Service Station WIC #204-5510-0600, 4255 MacArthur Boulevard, Oakland, California

G:\SHELL\OAK4255\FIGURES\1QM98-MP.AI

03/30/98

Table 1. **Separate-Phase Hydrocarbon Removal** - Shell Service Station
WIC #204-5510-0600, 4255 MacArthur Blvd., Oakland, California

Well ID	Date	SPH Thickness (ft)	SPH Removed (lbs)	Cumulative SPH Removed (lbs)
MW-2	11/17/93	0.0	0.0	0.0
	01/20/94	0.0	0.0	0.0
	04/25/94	0.0	0.0	0.0
	07/07/94	0.0	0.0	0.0
	01/13/95	0.0	0.0	0.0
	04/12/95	0.0	0.0	0.0
	08/10/95	0.52	5.98[a]	5.98
	10/18/95	0.13	0.0	5.98
	01/17/96	0.17	1.74	7.72
	04/25/96	0.03	0.65	8.37
	07/17/96	0.48	2.11	10.48
	10/01/96	0.28	0.81	11.29
	01/22/97	0.11	0.48	11.77
	04/08/97	0.20	0.97	12.74
	07/08/97	0.19	0.97	13.71
	10/08/97	0.05	0.81	14.52
	01/08/98	**0.08**	**1.29**	**15.81**
MW-3	11/17/93	0.0	0.0	0.0
	01/20/94	0.0	0.0	0.0
	04/25/94	0.0	0.0	0.0
	07/07/94	0.0	0.0	0.0
	01/13/95	---	0.02	0.02
	04/12/95	---	0.02	0.04
	08/10/95	0.06	0.69[a]	0.73
	10/18/95	0.05	0.0	0.73
	01/17/96	0.24	2.62	3.35
	04/25/96	0.02	0.33	3.68
	07/17/96	0.03	0.70	4.38
	04/08/97	0.03	0.16	4.54
	07/08/97	0.0	0.0	4.54
	10/08/97	0.0	0.0	4.54
	01/08/98	**0.0**	**0.0**	**4.54**
TOTAL HYDROCARBONS REMOVED				**20.35**

Notes and Abbreviations:

SPH = Separate-phase hydrocarbons
ft = Feet
lbs = Pounds
--- = Not measured
a = SPH in 10" boring and 4" well estimated by following factor: 1 ft of SPH = 11.5 lbs of SPH
Weight of SPH converted from volume using the relation: 1 liter gasoline = 1.61 pounds

Table 2. **Ground Water Elevations** - Shell Service Station WIC #204-5510-0600, 4255 MacArthur Blvd., Oakland, California

Well ID	Date Gauged	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft below TOC)	Separate-phase Hydrocarbons (ft)	Ground Water Elevation[a] (ft above msl)
MW-1	11/17/93	175.79	8.59	---	167.20
	01/20/94		8.22	---	167.57
	04/25/94		7.63	---	168.16
	07/07/94		8.31	---	167.48
	10/27/94		8.84	---	166.95
	11/17/94		7.60	---	168.19
	11/28/94		7.56	---	168.23
	01/13/95		7.11	---	168.68
	04/12/95		7.08	---	168.71
	07/25/95		7.73	---	168.06
	10/18/95		8.42	---	167.37
	01/17/96		7.83	---	167.96
	04/25/96		7.35	---	168.44
	07/17/96		7.70	---	168.09
	10/01/96		8.07	---	167.72
	01/22/97		7.21	---	168.58
	04/08/97		7.75	---	168.04
	07/08/97		8.01	---	167.78
	10/08/97		8.10	---	167.69
	01/08/98[b]		**7.14**	**---**	**168.65**
MW-2	11/17/93	170.91	12.31	---	158.60
	01/20/94		11.48	---	159.43
	04/25/94		10.84	---	160.07
	07/07/94		11.89	---	159.02
	10/27/94		12.89	---	158.02
	11/17/94		9.11	---	161.80
	11/28/94		9.22	---	161.69
	01/13/95		8.10	---	162.81
	04/12/95		10.12	---	160.79
	07/25/95		11.53	0.52	159.80
	10/18/95		14.02	0.13	156.99
	01/17/96		10.27	0.17	160.78
	04/25/96		11.68	0.03	159.25
	07/17/96		12.78	0.48	158.81
	10/01/96		14.21	0.28	156.70
	01/22/97		10.92	0.11	160.08
	04/08/97		14.12	0.20	156.95
	07/08/97		14.98	0.19	156.08
	10/08/97		12.97	0.05	157.98
	01/08/98		**12.54**	**0.08**	**158.43**
MW-3	11/17/93	174.61	15.40	---	159.21
	01/20/94		14.61	---	160.00

Table 2. **Ground Water Elevations** - Shell Service Station WIC #204-5510-0600, 4255 MacArthur Blvd., Oakland, California (continued)

Well ID	Date Gauged	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft below TOC)	Separate-phase Hydrocarbons (ft)	Ground Water Elevation[a] (ft above msl)
	04/25/94		13.12	---	161.49
	07/07/94		14.54	0.02	160.07
	10/27/94		15.62	0.05	159.03
	11/17/94		13.83	---	160.78
	11/28/94		14.02	---	160.59
	01/13/95		12.13	---	162.48
	04/12/95		12.96	---	161.65
	07/25/95		14.28	0.06	160.38
	10/18/95		15.88	0.05	158.77
	01/17/96		13.86	0.24	160.94
	04/25/96		13.82	0.02	160.81
	07/17/96		16.11	0.03	158.52
	10/01/96		16.56	---	158.05
	01/22/97		13.07	---	161.54
	04/08/97		17.09	0.03	157.54
	07/08/97		15.85	---	158.76
	10/08/97		16.22	---	158.39
	01/08/98		**13.80**	**---**	**160.81**
MW-4	11/17/94	164.06	6.62	---	157.44
	11/28/94		6.11	---	157.95
	01/13/95		6.05	---	158.01
	04/12/95		6.31	---	157.75
	07/25/95		7.36	---	156.70
	10/18/95		8.54	---	155.52
	01/17/96		8.48	---	155.58
	04/25/96		7.40	---	156.66
	07/17/96		7.75	---	156.31
	10/01/96		8.82	---	155.24
	01/22/97		7.51	---	156.55
	04/08/97		7.18	---	156.88
	07/08/97		9.00	---	155.06
	10/08/97		8.97	---	155.09
	01/08/98		**7.90**	**---**	**156.16**

Notes and Abbreviations:

a = When separate-phase hydrocarbons are present, ground water elevation is corrected using the relation: Corrected ground water elevation equals top of casing elevation minus depth to water plus (0.8 x separate phase hydrocarbon thickness)
b = Well MW-1 sampled on January 9, 1998
--- = Separate-phase hydrocarbons not present
msl = Mean sea level
TOC = Top of casing
ft = Feet

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Table 3. **Ground Water Analytical Results for Petroleum Hydrocarbons** - Shell Service Station WIC #204-5510-0600, 4255 MacArthur Boulevard, Oakland, California

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	MTBE	B	T	E	X
			← parts per billion (µg/L) →					
MW-1	11/17/93	8.59	410	---	21	11	7.9	47
	01/20/94	8.22	1,200	---	180	19	48	47
	04/25/94	7.63	3,100	---	610	<10	130	27
	07/07/94	8.31	2,400	---	1,000	10	250	20
	10/27/94	8.84	2,200	---	500	3.1	72	1.8
	01/13/95	7.11	570	---	75	2.5	6.7	11
	04/12/95	7.08	1,800	---	480	<5.0	79	<5.0
	07/25/95	7.73	120	---	15	1.1	2.1	2.9
	07/25/95[dup]	7.73	300	---	88	2.4	11	6.5
	10/18/95	8.42	130	---	9.5	0.8	1.3	1.7
	10/18/95[dup]	8.42	120	---	11	0.8	1.4	1.8
	01/17/96	7.83	250	---	22	0.9	1.6	2.3
	04/25/96	7.35	<50	500[b]	4.6	<0.5	<0.5	0.60
	07/17/96	7.70	<250	540	15	<2.5	<2.5	<2.5
	10/01/96	8.07	1,200	1,900	500	12	57	82
	01/22/97	7.21	640	1,200	170	4.3	33	33
	04/08/97	7.75	<200	950	34	<2.0	3.3	4.3
	04/08/97[dup]	7.75	<200	740	66	<2.0	6.4	8.0
	07/08/97	8.01	190	560	49	1.2	5.8	8.6
	10/08/97	8.10	<100	620	7.0	<1.0	<1.0	<1.0
	01/09/98[c]	**7.14**	**970**	**1,200**	**390**	**12**	**48**	**71**
MW-2	11/17/93	12.31	31,000	---	9,400	4,600	1,000	3,900
	01/20/94	11.48	40,000	---	6,900	5,600	780	4,100
	01/20/94[dup]	11.48	41,000	---	7,200	6,200	900	4,800
	04/25/94	10.84	60,000	---	9,300	6,100	1,400	6,200
	07/07/94	11.89	280,000[a]	---	40,000	26,000	8,100	32,000
	07/07/94[dup]	11.89	53,000	---	13,000	6,600	2,000	8,400
	10/27/94	12.89	130,000	---	14,000	12,000	2,400	13,000
	10/27/94[dup]	12.89	390,000	---	8,800	7,000	1,700	11,000
	01/13/95	8.10	75,000	---	5,900	12,000	3,100	17,000
	04/12/95	10.12	100,000	---	8,500	11,000	2,400	12,000
	04/12/95[dup]	10.12	80,000	---	4,200	9,300	2,500	12,000
	08/10/95[SPH]	11.53	---	---	---	---	---	---

Table 3. **Ground Water Analytical Results for Petroleum Hydrocarbons** - Shell Service Station WIC #204-5510-0600, 4255 MacArthur Boulevard, Oakland, California (continued)

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	MTBE	B	T	E	X
			← parts per billion (µg/L) →					
	10/18/95[SPH]	14.02	---	---	---	---	---	---
	01/17/96[SPH]	10.27	---	---	---	---	---	---
	04/25/96[SPH]	11.68	---	---	---	---	---	---
	07/17/96[SPH]	12.78	---	---	---	---	---	---
	10/01/96[SPH]	14.21	---	---	---	---	---	---
	01/22/97[SPH]	10.92	---	---	---	---	---	---
	04/08/97[SPH]	14.12	---	---	---	---	---	---
	07/08/97[SPH]	14.98	---	---	---	---	---	---
	10/08/98[SPH]	12.97	---	---	---	---	---	---
	01/08/98[SPH]	**12.54**	**---**	**---**	**---**	**---**	**---**	**---**
MW-3	11/17/93	15.40	18,000	---	5,400	660	720	2,200
	01/20/94	14.61	55,000	---	13,000	2,600	2,200	6,500
	04/25/94	13.12	96,000	---	11,000	1,600	3,100	9,900
	04/25/94[dup]	13.12	78,000	---	12,000	1,900	2,600	7,300
	07/07/94[SPH]	14.54	---	---	---	---	---	---
	10/27/94[SPH]	15.62	---	---	---	---	---	---
	01/13/95	12.13	180,000	---	3,200	2,700	1,700	5,200
	01/13/95[dup]	12.13	23,000	---	4,000	690	960	3,000
	04/12/95	12.96	56,000	---	8,700	1,500	2,100	6,300
	08/10/95[SPH]	14.28	---	---	---	---	---	---
	10/18/95[SPH]	15.88	---	---	---	---	---	---
	01/17/96[SPH]	13.86	---	---	---	---	---	---
	04/25/96[SPH]	13.82	---	---	---	---	---	---
	07/17/96[SPH]	16.11	---	---	---	---	---	---
	10/01/96	16.56	46,000	3,200	7,300	530	1,700	3,900
	10/01/96[dup]	16.56	47,000	2,900	7,100	530	1,700	4,000
	01/22/97	13.07	82,000	1,100	5,200	1,300	2,800	8,900
	01/22/97[dup]	13.07	61,000	2,700	8,400	1,100	2,300	7,000
	04/08/97[SPH]	17.09	---	---	---	---	---	---
	07/08/97	15.85	56,000	2,800	8,800	580	2,000	4,900
	10/08/97	16.22	48,000	5,100	8,000	590	1,700	3,400
	01/08/98	**13.80**	**47,000**	**6,300**	**9,400**	**810**	**2,300**	**4,700**
	01/08/98[dup]	**13.80**	**48,000**	**5,800**	**8,100**	**750**	**2,000**	**4,100**

Table 3. **Ground Water Analytical Results for Petroleum Hydrocarbons** - Shell Service Station WIC #204-5510-0600, 4255 MacArthur Boulevard, Oakland, California (continued)

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	MTBE	B	T	E	X
			← parts per billion (µg/L) →					
MW-4	11/28/94	6.11	2,900	---	200	17	76	260
	01/13/95	6.05	1,900	---	130	5.6	13	40
	04/14/95	6.31	680	---	150	<2.0	10	13
	07/25/95	7.36	340	---	100	0.8	8.8	3.0
	10/18/95	8.54	150	---	31	<0.5	3.5	0.8
	01/17/96	8.48	290	---	14	<0.5	1.8	0.8
	04/25/96	7.40	<500	1,700	65	<5	<5	<5
	04/25/96[dup]	7.40	<500	1,500	66	<5	8.7	<5
	07/17/96	7.75	<500	1,500	84	<5.0	6.5	<5.0
	07/17/96[dup]	7.75	<500	1,700 (2,100)	54	<5.0	<5.0	<5.0
	10/01/96	8.82	<500	3,000	1.9	<5.0	<5.0	<5.0
	01/22/97	7.51	580	1,200	130	<2.5	18	5.2
	04/08/97	7.18	770	1,500	200	7.0	26	55
	07/08/97	9.00	570	1,200	78	<5.0	14	11
	07/08/97[dup]	9.00	640	1,600	81	<5.0	16	19
	10/08/97	8.97	<500	1,400	40	<5.0	7.4	5.4
	10/08/97[dup]	8.97	<500	1,400	36	<5.0	5.9	<5.0
	01/08/98	**7.90**	**<1,000**	**2,000**	**55**	**<10**	**13**	**<10**
Trip Blank	01/20/94		<50	---	<0.5	<0.5	<0.5	<0.5
	04/25/94		<50	---	<0.5	<0.5	<0.5	<0.5
	07/07/94		<50	---	<0.5	<0.5	<0.5	<0.5
	10/27/94		<50	---	<0.5	<0.5	<0.5	<0.5
	01/13/95		<50	---	<0.5	<0.5	<0.5	<0.5
	04/12/95		<50	---	<0.5	<0.5	<0.5	0.89
	07/25/95		<50	---	<0.5	<0.5	<0.5	<0.5
	10/18/95		<50	---	<0.5	<0.5	<0.5	<0.5
MCLs			NE	NE	1	150	700	1,750

Table 3. **Ground Water Analytical Results for Petroleum Hydrocarbons** - Shell Service Station WIC #204-5510-0600, 4255 MacArthur Boulevard, Oakland, California

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
MTBE = Methyl tert-butyl ether by EPA Method 8020. Result in parentheses indicates MTBE by EPA Method 8260
B = Benzene by EPA Method 8020
T = Toluene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
X = Xylenes by EPA Method 8020
SPH = Separate-phase hydrocarbons present, well not sampled
--- = Not analyzed/Not available
<n = Below detection limits of n µg/L
dup = Duplicate sample
ft = Feet
µg/L = Micrograms per liter
MCLs = California primary maximum contaminant levels for drinking water (22 CCR 64444
NE = MCLs not established

Notes:

a = Ground water surface had a sheen when sampled
b = MTBE value is estimated by Sequoia Analytical of Redwood City, California
c = Well MW-1 gauged on January 8, 1998

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 17, 1998

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

Attn: Alex Perez

Shell WIC #204-5510-0600
4255 MacArthur Blvd.
Oakland, California

1st Quarter 1998

Groundwater Monitoring Report 980108-T-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 94608
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	01/08/98	TOC	--	NONE	--	--	7.14	23.25
MW-2	01/08/98	FREE PRODUCT	ODOR	12.46	0.08	800	12.54	--
MW-3*	01/08/98	TOC	ODOR/SHEEN	NONE	--	--	13.80	21.82
MW-4	01/08/98	TOC	--	NONE	--	--	7.90	30.20

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

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 980108-T1

Date: 1/8/98
Page 1 of 1

Site Address: 4255 MacArthur Blvd., Oakland

WIC#: 204-5510-0600

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

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

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

Comments:

Sampled by: [signature]

Printed Name: Mike Toll

Analysis Required

LAB: SEQUOIA

CHECK ONE (1) BOX ONLY	CT/DT
Quarterly Monitoring XX	5441
Site Investigation ☐	5441
Soil Classify/Disposal ☐	5442
Water Classify/Disposal ☐	5443
Soil/Air Rem. or Sys. O & M ☐	5452
Water Rem. or Sys. O & M ☐	5453
Other ☐	

TURN AROUND TIME
- 24 hours ☐
- 48 hours ☐
- 15 days XX (Normal)
- Other ☐

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

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
MW3	1/8/98			X		3						X							9801574	
MW4	↓			X		3						X								
~~EB~~				~~X~~		~~3~~						~~X~~								
Dup #	↓			X		3						X								

Relinquished By (signature):	Printed Name:	Date / Time	Received (signature):	Printed Name:	Date / Time
[signature]	Mike Toll	Date: 1/12/98 Time: 11:45	[signature]	Steve Teu	Date: 1/12/98 Time: 11:45
[signature]		Date: 1/12/98 Time:			Date: 12 Time: 1:50
		Date: Time:	[signature]		Date: 1/12/98 Time: [illegible]

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY [illegible]

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 98159-K1

Date:
Page 1 of 1

Site Address: 4255 MacArthur Blvd., Oakland

WIC#: 204-5510-0600

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

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

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

Comments:

Sampled by:

Printed Name: Mark Spindler

LAB: Sequoia

CHECK ONE (1) BOX ONLY	C1/D1
Quarterly Monitoring [X]	6441
Site Investigation [ ]	6441
Soil Closure/Disposal [ ]	6442
Water Closure/Disposal [ ]	6443
Soil/Air Rem. or Sys. O & M [ ]	6462
Water Rem. or Sys. O & M [ ]	6463
Other [ ]	

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

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

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 (Sequoia)			Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-1	11/9/98			3		3						X							9801572	

Analysis Required

Relinquished By (signature):	Printed Name:	Date: 11/12/98	Received (signature):	Printed Name: Steve Ten	Date: 11/12/98
Relinquished By (signature): Steve Ten	Printed Name:	Time: 11:45	Received (signature):	Printed Name:	Time: 11:45
Relinquished By (signature):	Printed Name:	Date: 11/12/98	Received (signature):	Printed Name:	Date:
		Time:			Time:
		Date:			Date:
		Time:			Time: 12 1 50

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
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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

Project: Shell Oakland/980108-T1

Enclosed are the results from samples received at Sequoia Analytical on January 12, 1998. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9801574 -01	LIQUID, MW-3	01/08/98	TPGM2W Purgeable TPH/BTEX
9801574 -02	LIQUID, MW-4	01/08/98	TPGM2W Purgeable TPH/BTEX
9801574 -03	LIQUID, Dup	01/08/98	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

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

Project: Shell Oakland/980109-K1

Enclosed are the results from samples received at Sequoia Analytical on January 12, 1998. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9801572 -01	LIQUID, MW-1	01/09/98	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

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Blaine Tech Services	Client Proj. ID: Shell Oakland/980108-T1	Sampled: 01/08/98
1680 Rogers Avenue	Sample Descript: MW-3	Received: 01/12/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 01/21/98
Attention: Fran Thie	Lab Number: 9801574-01	Reported: 01/23/98

QC Batch Number: GC012198BTEX01A
Instrument ID: GCHP01

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**20000**	**47000**
Methyl t-Butyl Ether	**1000**	**6300**
Benzene	**200**	**9400**
Toluene	**200**	**810**
Ethyl Benzene	**200**	**2300**
Xylenes (Total)	**200**	**4700**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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/980108-T1	Sampled: 01/08/98
1680 Rogers Avenue	Sample Descript: MW-4	Received: 01/12/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 01/21/98
Attention: Fran Thie	Lab Number: 9801574-02	Reported: 01/23/98

QC Batch Number: GC012198BTEX01A
Instrument ID: GCHP01

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	N.D.
Methyl t-Butyl Ether	**50**	**2000** ←
Benzene	**10**	**55**
Toluene	10	N.D.
Ethyl Benzene	**10**	**13**
Xylenes (Total)	10	N.D.
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

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/980108-T1	Sampled: 01/08/98
1680 Rogers Avenue	Sample Descript: Dup	Received: 01/12/98
San Jose, CA 95112	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 01/21/98
Attention: Fran Thie	Lab Number: 9801574-03	Reported: 01/23/98

QC Batch Number: GC012198BTEX01A
Instrument ID: GCHP01

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**20000**	**48000**
Methyl t-Butyl Ether	**1000**	**5800**
Benzene	**200**	**8100**
Toluene	**200**	**750**
Ethyl Benzene	**200**	**2000**
Xylenes (Total)	**200**	**4100**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	91

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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

Client Project ID: Shell Oakland / 980108-T1
Matrix: Liquid
Work Order #: 9801574 -01-03
Reported: Jan 28, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC012198BTEX01A	GC012198BTEX01A	GC012198BTEX01A	GC012198BTEX01A	GC012198BTEX01A
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:	C. Demartini	C. Demartini	C. Demartini	C. Demartini	C. Demartini
MS/MSD #:	980132904	980132904	980132904	980132904	980132904
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/21/98	1/21/98	1/21/98	1/21/98	1/21/98
Analyzed Date:	1/21/98	1/21/98	1/21/98	1/21/98	1/21/98
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
Result:	9.9	10	10	31	63
MS % Recovery:	99	100	100	103	105
Dup. Result:	9.9	9.9	10	31	63
MSD % Recov.:	99	99	100	103	105
RPD:	0.0	1.0	0.0	0.0	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK012198	BLK012198	BLK012198	BLK012198	BLK012198
Prepared Date:	1/21/98	1/21/98	1/21/98	1/21/98	1/21/98
Analyzed Date:	1/21/98	1/21/98	1/21/98	1/21/98	1/21/98
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L	60 µg/L
LCS Result:	11	11	11	35	71
LCS % Recov.:	110	110	110	117	118
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

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Blaine Tech Services	Client Proj. ID: Shell Oakland/980108-T1	Received: 01/12/98
1680 Rogers Avenue		
San Jose, CA 95112	Lab Proj. ID: 9801574	Reported: 01/23/98
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 4 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
1680 Rogers Avenue
San Jose, CA 95112

Attention: Fran Thie

Client Proj. ID: Shell Oakland/980109-K1
Sample Descript: MW-1
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9801572-01

Sampled: 01/09/98
Received: 01/12/98

Analyzed: 01/22/98
Reported: 01/23/98

QC Batch Number: GC012298BTEX18A
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**250**	**970**
Methyl t-Butyl Ether	**12**	**1200**
Benzene	**2.5**	**390**
Toluene	**2.5**	**12**
Ethyl Benzene	**2.5**	**48**
Xylenes (Total)	**2.5**	**71**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	72

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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

Client Project ID: Shell Oakland / 980109-K1
Matrix: Liquid
Work Order #: 9801572 -01

Reported: Jan 28, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC012298BTEX18A	GC012298BTEX18A	GC012298BTEX18A	GC012298BTEX18A	GC012298BTEX18A
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:	R. Geckler	R. Geckler	R. Geckler	R. Geckler	R. Geckler
MS/MSD #:	9801A0004	9801A0004	9801A0004	9801A0004	9801A0004
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/22/98	1/22/98	1/22/98	1/22/98	1/22/98
Analyzed Date:	1/22/98	1/22/98	1/22/98	1/22/98	1/22/98
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:	8.4	8.4	8.3	26	58
MS % Recovery:	84	84	83	87	97
Dup. Result:	8.2	8.2	8.1	25	56
MSD % Recov.:	82	82	81	83	93
RPD:	2.4	2.4	2.4	3.9	3.5
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK012298	BLK012298	BLK012298	BLK012298	BLK012298
Prepared Date:	1/22/98	1/22/98	1/22/98	1/22/98	1/22/98
Analyzed Date:	1/22/98	1/22/98	1/22/98	1/22/98	1/22/98
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:	8.4	8.5	8.4	26	57
LCS % Recov.:	84	85	84	87	95
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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

Client Proj. ID: Shell Oakland/980109-K1
Lab Proj. ID: 9801572

Received: 01/12/98
Reported: 01/23/98

LABORATORY NARRATIVE

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SEQUOIA ANALYTICAL

Peggy Penner
Project Manager