Weiss Associates

Environmental and Geologic Services

5500 Shellmound Street, Emeryville, CA 94608-2411

Fax: 510-547-5043 Phone: 510-450-6000

June 24, 1996

Jennifer Eberle
Alameda County
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Re: **Second Quarter 1996**
Shell Service Station
WIC #204-5510-0204
350 Grand Avenue
Oakland, California
WA Job #81-0701-206

Dear Ms. Eberle:

This status report satisfies the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Division 3, Chapter 16, Article 5, Section 2652.d.

Second Quarter 1996 Activities:

- Blaine Tech Services, Inc. (BTS) of San Jose, California measured ground water depths and collected ground water samples from the site wells (Figures 1 and 2). BTS' report describing these activities and the analytic report for the ground water samples are included as Attachment A.

- Weiss Associates (WA) calculated ground water elevations and compiled the analytic data (Tables 1 and 2) and prepared a ground water elevation map and plotted benzene concentrations in ground water (Figure 2).

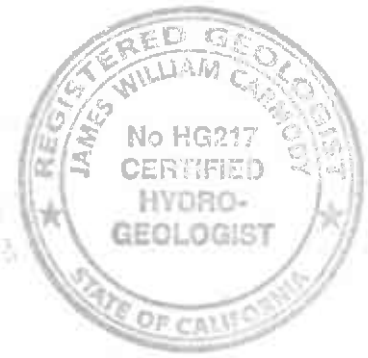
- WA oversaw the removal of four underground gasoline and diesel storage tanks from the site as part of a station upgrade. Soil samples were collected from the tankpit, product piping, and dispenser excavations. A report of the excavation activities is forthcoming.

Anticipated Third Quarter 1996 Activities:

- WA will submit a report presenting the results of the third quarter 1996 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results and ground water elevations, we will prepare a ground water elevation map and plot benzene concentrations in ground water.

Please call if you have any questions.

Sincerely,
Weiss Associates



Grady S. Glasser
Technical Assistant

James W. Carmody, C.H.G.
Senior Project Hydrogeologist

Attachments: A - BTS Ground Water Monitoring Report

cc: R. Jeff Granberry, Shell Oil Products Company, P.O. Box 4023, Concord, California 94524

GSG/JWC:all
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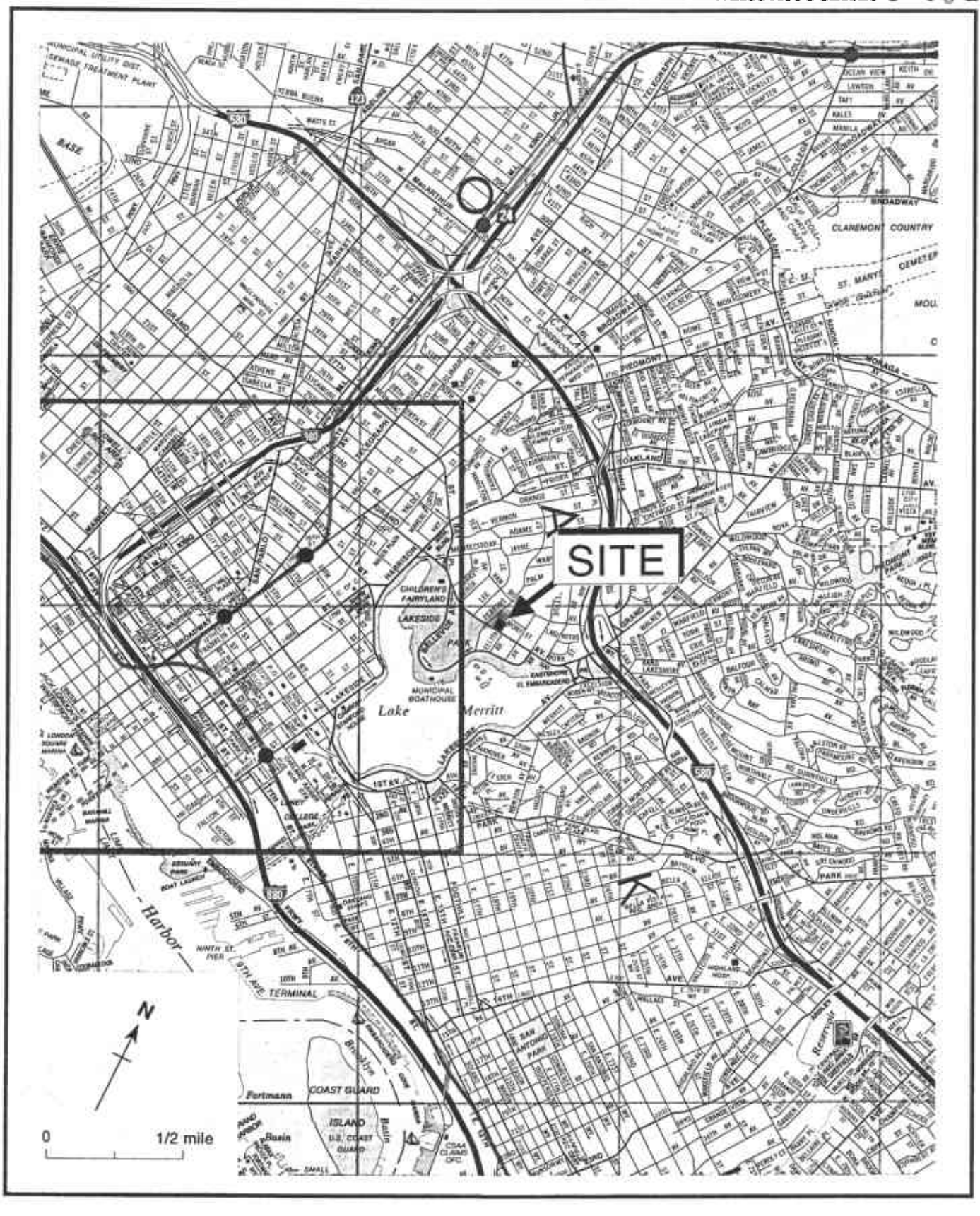
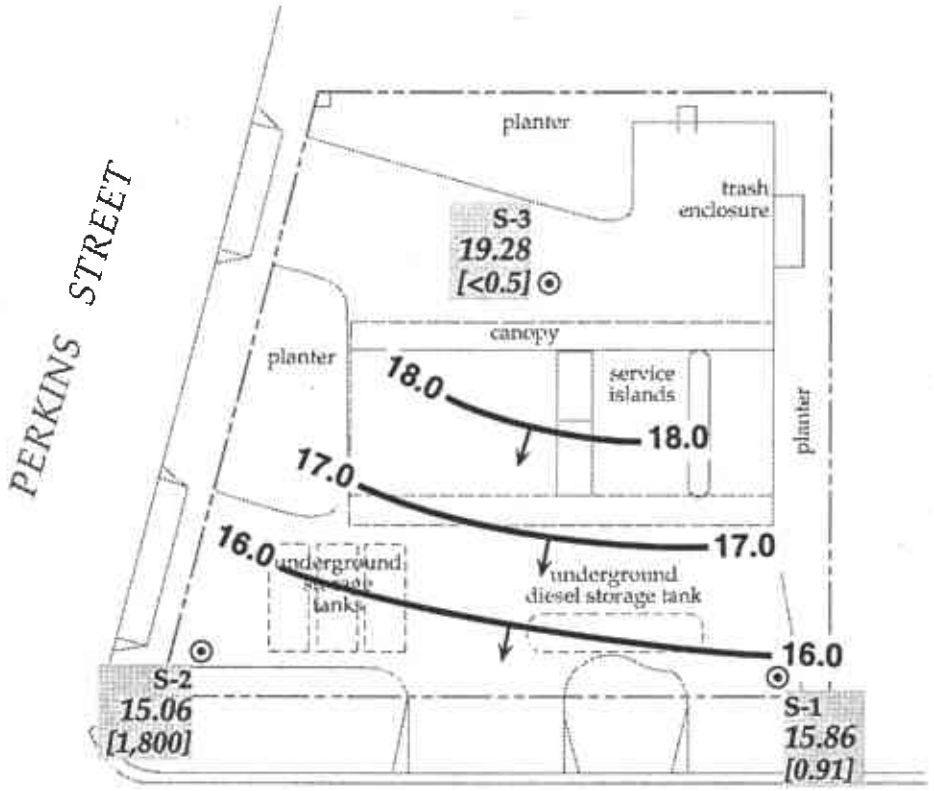


Figure 1. Site Location Map - Shell Service Station WIC #204-5510-0204, 350 Grand Avenue, Oakland, California



EXPLANATION

⊙S-1	Monitoring well
15.86	Ground water elevation, ft above mean sea level (msl)
[0.91]	Benzene concentrations in parts per billion (ppb)
—16.0	Ground water elevation contour, ft above msl, approximately located, dashed where inferred
→	Inferred ground water flow direction

N

0 40 ft

Base map from GeoStrategies Inc.

Figure 2. Monitoring Well Location, Ground Water Elevation, and Benzene Concentrations in Ground Water - April 2, 1996 - Shell Service Station WIC #204-5510-0204, 350 Grand Avenue, Oakland, California

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5510-0204, 350 Grand Avenue, Oakland, California

Well ID	Date	Top-of-Vault Elevation	Depth to Water (ft)	Ground Water Elevation (ft above msl)
S-1	01/23/91	20.84	9.73	11.11
	04/25/91		7.37	13.47
	07/19/91		8.92	11.92
	10/09/91		9.62	11.22
	01/23/92		8.94	11.90
	04/27/92		7.06	13.78
	07/10/92		8.31	12.53
	10/06/92		9.55	11.29
	01/06/93		9.86	10.98
	04/26/93		6.30	14.54
	07/20/93		8.78	12.06
	10/18/93		9.20	11.64
	01/07/94		9.53	11.31
	04/11/94		8.50	12.34
	07/14/94		8.45	12.39
	07/19/94		9.07	11.77
	10/06/94		11.68	9.16
	01/04/95		8.51	12.33
	04/12/95		6.66	14.18
	07/07/95		6.95	13.89
	10/05/95		8.50	12.34
	01/12/96		8.02	12.82
	04/02/96		4.98	15.86
S-2	01/23/91	21.24	10.55	10.69
	04/25/91		8.24	13.00
	07/19/91		9.55	11.69
	10/09/91		10.26	10.98
	01/23/92		9.51	11.73
	04/27/92		7.83	13.41
	07/10/92		8.57	12.67
	10/06/92		9.49	11.75
	01/06/93		8.56	12.68
	04/26/93		6.84	14.40
	07/20/93		8.52	12.72
	10/18/93		9.36	11.88
	01/07/94		8.37	12.87
	04/11/94		6.96	14.28
	07/14/94		7.49	13.75
	07/19/94		8.02	13.22
	10/06/94		11.00	10.24
	01/04/94		8.07	13.17
	04/12/95		6.12	15.12

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5510-0204, 350 Grand Avenue, Oakland, California (continued)

Well ID	Date	Top-of-Vault Elevation	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	07/07/95		6.35	14.89
	10/05/95		7.36	13.88
	01/12/96		7.64	13.60
	04/02/96		6.18	15.06
S-3	01/23/91	22.70	14.67	8.03
	04/25/91		12.96	9.74
	07/19/91		12.45	10.25
	10/09/91		12.98	9.72
	01/23/92		13.06	9.64
	04/27/92		7.25	15.45
	07/10/92		8.46	14.24
	10/06/92		11.77	10.93
	01/06/93		12.53	10.17
	04/26/93		4.28	18.42
	07/20/93		5.70	17.00
	10/18/93		10.30	12.40
	01/07/94		12.40	10.30
	04/11/94		10.94	11.76
	07/14/94		7.90	14.80
	07/19/94		8.12	14.58
	10/06/94		12.15	10.55
	01/04/95		11.18	11.52
	04/12/95		3.76	18.94
	07/07/95		4.72	17.98
	10/05/95		5.80	16.90
	01/12/96		7.00	15.70
	04/02/96		3.42	19.28

Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-5510-0204, 350 Grand Avenue, Oakland, California

Sample ID	Date	Depth to Water (ft)	TPH-D	TPH-G	B	E	T	X
			← parts per billion (µg/L) →					
WELLS								
S-1	01/23/91	9.73	<50	<50	<0.5	<0.5	<0.5	<0.5
	04/25/91	7.37	<50	<50	<0.5	<0.5	<0.5	<0.5
	07/19/91	8.92	<50	<50	6.8	<0.5	<0.5	<0.5
	10/09/91	9.62	260[a]	120	10	<0.5	<0.5	<0.5
	01/23/92	8.94	<50	<50	<0.5	<0.5	<0.5	<0.5
	04/27/92	7.06	70[b]	<50	1.2	<0.5	<0.5	<0.5
	07/10/92	8.31	930	<50	13	<0.5	<0.5	<0.5
	10/06/92	9.55	110	62	<0.5	<0.5	<0.5	<0.5
	01/06/93	9.86	81	85	1.1	<0.5	<0.5	<0.5
	04/26/93	6.30	53[c]	<50	<0.5	<0.5	<0.5	<0.5
	04/26/93[dup]	6.30	53[c]	<50	<0.5	<0.5	<0.5	<0.5
	07/20/93	8.78	140	<50	<0.5	<0.5	<0.5	<0.5
	10/18/93	9.20	210	<50	<0.5	<0.5	<0.5	<0.5
	01/07/94	9.53	<50	<50	1.4	0.55	1.5	2.8
	01/07/94[dup]	9.53	53	<50	1.2	<0.5	1.5	2.7
	04/11/94	8.50	320	<50	2.8	<0.5	<0.5	<0.5
	04/11/94[dup]	8.50	220	<50	2.6	<0.5	<0.5	<0.5
	07/19/94	9.07	110	<50	<0.5	<0.5	<0.5	<0.5
	10/06/94	11.68	370	110	1.4	<0.5	<0.5	<0.5
	01/04/95	8.51	1,000	120	2.5	1.5	<0.5	1.7
	04/12/95	6.66	290	<50	2.1	<0.5	<0.5	<0.5
	04/12/95[dup]	6.66	480	<50	<0.5	<0.5	<0.5	<0.5
	07/07/95	6.95	370	<50	5.5	<0.5	<0.5	<0.5
	07/07/95[dup]	6.95	450	<50	6.5	<0.5	<0.5	<0.5
	10/05/95	8.50	200	<50	3.9	<0.5	1.2	2.4
	01/12/96	8.02	1,500	230	2.5	0.9	<0.5	0.6
	04/02/96	4.98	2600	95	0.91	<0.5	<0.5	<0.5

Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-5510-0204, 350 Grand Avenue, Oakland, California (continued)

Sample ID	Date	Depth to Water (ft)	TPH-D	TPH-G	B	E	T	X
			← parts per billion (µg/L) →					
S-2	01/23/91	10.55	1,200	2,500	550	33	15	42
	04/25/91	8.24	20,000[b]	32,000	2,900	1,400	480	2,300
	07/19/91	9.55	30,000[b]	21,000	4,700	1,200	430	2,400
	10/09/91	10.26	32,000[b]	29,000	6,300	1,700	510	2,400
	01/23/92	9.51	36,000[b]	31,000	5,800	2,000	480	2,700
	04/27/92	7.83	12,000[b]	21,000[d]	4,800	1,600	320	1,400
	07/10/92	8.57	3,700[e]	31,000	7,500	3,400	940	3,500
	10/06/92	9.49	4,500[e]	57,000	9,300	4,000	1,200	4,900
	01/06/93	8.56	5,600	55,000	5,600	3,000	360	3,000
	04/26/93	6.84	9,400[e]	32,000	10,000	4,400	500	3,600
	07/20/93	8.52	8,400[e]	25,000	5,800	2,700	300	1,400
	07/20/93[dup]	8.52	8,900[e]	25,000	5,900	2,800	310	1,400
	10/18/93	9.36	18,000[e]	23,000	3,700	2,100	200	1,600
	10/18/93[dup]	9.36	14,000[e]	28,000	3,700	2,100	210	1,600
	01/07/94	8.37	22,000[e]	120,000	6,900	3,100	400	2,600
	04/11/94	6.96	17,000[e]	34,000	4,800	1,900	170	880
	07/19/94	8.02	---	23,000	4,300	1,100	210	1,000
	07/19/94[dup]	8.02	---	29,000	4,700	1,200	270	1,200
	10/06/94	11.00	---	61,000	4,600	1,900	290	1,900
	10/06/94[dup]	11.00	---	52,000	5,200	2,100	270	1,900
	01/04/95	8.07	---	23,000	4,500	1,300	49	500
	01/04/95[dup]	8.07	---	18,000	3,800	1,100	33	390
	04/12/95	6.12	---	29,000	4,300	990	210	700
	07/07/95	6.35	---	26,000	4,200	1,100	180	730
	10/05/95	7.36	10,000	26,000	3,500	1,100	150	640
	10/05/95[dup]	7.36	9,400	33,000	4,200	1,500	210	850
	01/12/96	7.64	13,000	36,000	4,100	1,400	240	790
	01/12/96[dup]	7.64	11,000	40,000	4,100	1,400	260	860
	04/02/96	6.18	7,360	12,000	1,300	460	120	150
	04/02/96[dup]	6.18	---	17,000	1,800	590	29	140

Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-5510-0204, 350 Grand Avenue, Oakland, California (continued)

Sample ID	Date	Depth to Water (ft)	TPH-D	TPH-G	B	E	T	X
			← parts per billion (µg/L) →					
S-3	01/23/91	14.67	---	<50	<0.5	<0.5	<0.5	<0.5
	04/25/91	12.96	---	<50	<0.5	<0.5	<0.5	<0.5
	07/19/91	12.45	---	<50	<0.5	<0.5	<0.5	<0.5
	10/09/91	12.98	---	<50	<0.5	<0.5	<0.5	<0.5
	01/23/92	13.06	---	<50	<0.5	<0.5	<0.5	<0.5
	04/27/92	7.25	100	<50	<0.5	<0.5	<0.5	<0.5
	07/10/92	8.46	68	<50	<0.5	<0.5	<0.5	<0.5
	10/06/92	11.77	<10	<50	<0.5	<0.5	<0.5	<0.5
	01/06/93	12.53	<10	<50	<0.5	<0.5	<0.5	<0.5
	04/26/93	4.28	69	<50	<0.5	<0.5	<0.5	<0.5
	07/20/93	5.70	120	<50	<0.5	<0.5	0.6	<0.5
	10/18/93	10.30	160	<50	<0.5	<0.5	<0.5	<0.5
	01/07/94[f]	12.40	58	160	59	4.9	26	22
	04/11/94	10.94	<50	<50	<0.52	<0.5	<0.5	<0.5
	07/19/94	8.12	110[g]	<50	<0.5	<0.5	<0.5	<0.5
	10/06/94	12.15	<50	<50	<0.5	<0.5	<0.5	<0.5
	01/04/95	11.18	<50	<50	<0.5	<0.5	<0.5	<0.5
	04/12/95	3.76	110	<50	<0.5	<0.5	<0.5	<0.5
	07/07/95	4.72	410	<50	<0.5	<0.5	<0.5	<0.5
	10/05/95	5.80	160	<50	<0.5	<0.5	<0.5	<0.5
	01/12/96	7.00	<50	100	<0.5	<0.5	<0.5	<0.5
	04/02/96	3.42	170	<50	<0.5	<0.5	<0.5	<0.5
HP-1	01/27/93		14,000	22,000	2,500	1,400	130	140
HP-2	01/27/93		---	<50	<0.5	<0.5	4.4	<0.5
HP-3	01/27/93		---	<50	<0.5	<0.5	<0.5	<0.5

Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-5510-0204, 350 Grand Avenue, Oakland, California (continued)

Sample ID	Date	Depth to Water (ft)	TPH-D	TPH-G	B	E	T	X
			← parts per billion (µg/L) →					
Trip Blank	01/23/91		---	<50	<0.5	<0.5	<0.5	<0.5
	04/25/91		---	---	---	---	---	---
	07/19/91		---	<50	<0.5	<0.5	<0.5	<0.5
	10/09/91		---	---	---	---	---	---
	01/23/92		<50	<50	<0.5	<0.5	<0.5	<0.5
	04/26/93		<50	<50	<0.5	<0.5	<0.5	<0.5
	07/20/93		---	<50	<0.5	<0.5	<0.5	<0.5
	10/18/93		<50	<50	<0.5	<0.5	<0.5	<0.5
	01/07/94		<50	<50	<0.5	<0.5	<0.5	<0.5
	04/11/94		<50	<50	<0.5	<0.5	<0.5	<0.5
	07/19/94		<50	<50	<0.5	<0.5	<0.5	<0.5
	10/06/94		---	<50	<0.5	<0.5	<0.5	<0.5
	01/04/95		---	<50	<0.5	<0.5	<0.5	<0.5
	04/12/95		---	<50	<0.5	<0.5	<0.5	<0.5
	07/07/95		---	<50	<0.5	<0.5	<0.5	<0.5
	10/05/95		---	<50	<0.5	<0.5	<0.5	<0.5
	01/12/96		---	<50	<0.5	<0.5	<0.5	<0.5
DTSC MCLs				NE	1	680	100[g]	1,750

Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-5510-0303, 5755 Broadway, Oakland, California (continued)

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015
B = Benzene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
T = Toluene by EPA Method 8020
X = Xylenes by EPA Method 8020
--- = Not analyzed
DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water
NE = Not established
<n = Not detected at detection limits of n ppb
dup = Duplicate sample
HP = Hydropunch ground water sample

Notes:

a = compounds detected and calculated as diesel are not characteristic of the standard diesel chromatographic pattern
b = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline
c = Concentration reported as diesel primarily due to the presence of a heavier petroleum product, possibly motor oil
d = Compounds detected and calculated as gasoline are not characteristic of the standard gasoline chromatographic pattern
e = Concentration reported as diesel is primarily due to the presence of lighter petroleum product, possibly gasoline
f = TPH-G/BETX concentrations anomalous with historical data. Lab verified concentrations.
g = DTSC recommended action level for drinking water; MCL not established

ATTACHMENT A

GROUND WATER MONITORING REPORT AND ANALYTIC REPORT

BLAINE
TECH SERVICES INC.

985 TIMOTHY D
SAN JOSE, CA 9
(408) 995-
FAX (408) 293-

April 19, 1996

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

Attn: R. Jeff Granberry

Shell WIC #204-5510-0204
350 Grand Avenue
Oakland, California

2nd Quarter 1996

Quarterly Groundwater Monitoring Report 960402-T-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) 995-5535 ext. 201.

Yours truly,

Francis Thie

attachments: Table of Well Gauging Data
Chain of Custody
Field Data Sheets
Certified Analytical Report

cc: Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608-2411
Attn: Grady Glasser

(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	4/2/96	TOB	--	NONE	--	--	4.98	17.80
S-2 *	4/2/96	TOB	ODOR	NONE	--	--	6.18	15.10
S-3	4/2/96	TOB	--	NONE	--	--	3.42	15.21

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

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 960402-T2

Date:

Page 1 of 1

Site Address: 350 Grand Avenue, Oakland

WIC#: 204-5510-0204

Shell Engineer: ~~Dan Kirk~~ R. Jeff Granberry — Phone No.: (510) 675-6168 Fax #: 675-6172

Consultant Name & Address: Blaine Tech Services, Inc. 985 Timothy Drive San Jose, CA 95133

Consultant Contact: Jim Keller — Phone No.: (408) 995-5535 Fax #: 293-8773

Comments:

Sampled by: Mike Toll

Printed Name: Mike Toll

LAB: Kiemetrix / SEQ

CHECK ONE (1) BOX ONLY — TURN AROUND TIME

- Quarterly Monitoring ☒ 8441 — 24 hours ☐
- Site Investigation ☐ 8441 — 48 hours ☐
- Soil Classify/Disposal ☐ 8442 — 15 days ☒ (Normal)
- Water Classify/Disposal ☐ 8443 — Other ☐
- Soil/Air Rem. or Sys. O & M ☐ 8442
- Water Rem. or Sys. O & M ☐ 8443
- Other ☐

NOTE: Notify Lab at once if results at 24/48 hrs. TAT.

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of cont.	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
S1 ✓	4/2			X		5		X				X	X					01	9604138
S2 ✓	4/2			X		5		X				X	X					02	
S3 ✓	4/2			X		5		X				X	X					03	
EB ✓	4/2			X		5		X				X	X					04	
DUP ✓	4/2			X		5		X				X	X					05	

Relinquished By (signature):	Printed Name:	Date: 4-3-96 Time: 1045	Received (signature):	Printed Name:	Date: Time:
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name:	Date: Time:
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name: C. Thorn	Date: 4/3/96 Time: 1127

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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 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 Technical Services
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Project: Shell Oakland,960402-T2

Enclosed are the results from samples received at Sequoia Analytical on April 3, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9604318 -01	LIQUID, S1	04/02/96	TPHD W Extractable TPH
9604318 -01	LIQUID, S1	04/02/96	TPGBMW Purgeable TPH/BTEX
9604318 -02	LIQUID, S2	04/02/96	TPHD W Extractable TPH
9604318 -02	LIQUID, S2	04/02/96	TPGBMW Purgeable TPH/BTEX
9604318 -03	LIQUID, S3	04/02/96	TPHD W Extractable TPH
9604318 -03	LIQUID, S3	04/02/96	TPGBMW Purgeable TPH/BTEX
9604318 -04	LIQUID, EB	04/02/96	TPHD W Extractable TPH
9604318 -04	LIQUID, EB	04/02/96	TPGBMW Purgeable TPH/BTEX
9604318 -05	LIQUID, Dup	04/02/96	TPHD W Extractable TPH
9604318 -05	LIQUID, Dup	04/02/96	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

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 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 Technical Services	Client Proj. ID: Shell Oakland,960402-T2	Sampled: 04/02/96
985 Timothy Drive	Sample Descript: S1	Received: 04/03/96
San Jose, CA 95133	Matrix: LIQUID	Extracted: 04/08/96
	Analysis Method: EPA 8015 Mod	Analyzed: 04/09/96
Attention: Jim Keller	Lab Number: 9604318-01	Reported: 04/15/96

QC Batch Number: GC0408960HBPEXA
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	**50**	**2000**
Chromatogram Pattern:		**C9-C24**

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	107

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	Client Proj. ID: Shell Oakland,960402-T2	Sampled: 04/02/96
985 Timothy Drive	Sample Descript: S1	Received: 04/03/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/10/96
Attention: Jim Keller	Lab Number: 9604318-01	Reported: 04/15/96

QC Batch Number: GC041096BTEX20A
Instrument ID: GCHP20

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**95**
Methyl t-Butyl Ether	**2.5**	**140**
Benzene	**0.50**	**0.91**
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
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.

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Blaine Technical Services	Client Proj. ID: Shell Oakland,960402-T2	Sampled: 04/02/96
985 Timothy Drive	Sample Descript: S2	Received: 04/03/96
San Jose, CA 95133	Matrix: LIQUID	Extracted: 04/08/96
	Analysis Method: EPA 8015 Mod	Analyzed: 04/09/96
Attention: Jim Keller	Lab Number: 9604318-02	Reported: 04/15/96

QC Batch Number: GC0408960HBPEXA
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	**250**	**7300**
Chromatogram Pattern:		**C9-C24**

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	114

Diesel is C10-22

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

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Blaine Technical Services	Client Proj. ID: Shell Oakland,960402-T2	Sampled: 04/02/96
985 Timothy Drive	Sample Descript: S2	Received: 04/03/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/10/96
Attention: Jim Keller	Lab Number: 9604318-02	Reported: 04/15/96

QC Batch Number: GC041096BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**10000**	**12000**
Methyl t-Butyl Ether	**500**	**4000**
Benzene	**100**	**1300**
Toluene	**100**	**120**
Ethyl Benzene	**100**	**460**
Xylenes (Total)	**100**	**150**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	95

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

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Blaine Technical Services	Client Proj. ID: Shell Oakland,960402-T2	Sampled: 04/02/96
985 Timothy Drive	Sample Descript: S3	Received: 04/03/96
San Jose, CA 95133	Matrix: LIQUID	Extracted: 04/08/96
	Analysis Method: EPA 8015 Mod	Analyzed: 04/09/96
Attention: Jim Keller	Lab Number: 9604318-03	Reported: 04/15/96

QC Batch Number: GC0408960HBPEXA
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	50	170
Chromatogram Pattern:		C9-C24

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	100

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

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Project Manager

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Blaine Technical Services	Client Proj. ID: Shell Oakland,960402-T2	Sampled: 04/02/96
985 Timothy Drive	Sample Descript: S3	Received: 04/03/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/10/96
Attention: Jim Keller	Lab Number: 9604318-03	Reported: 04/15/96

QC Batch Number: GC041096BTEX03A
Instrument ID: GCHP03

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**	**3.4**
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	102

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

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Peggy Penner
Project Manager

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Blaine Technical Services	Client Proj. ID: Shell Oakland,960402-T2	Sampled: 04/02/96
985 Timothy Drive	Sample Descript: EB	Received: 04/03/96
San Jose, CA 95133	Matrix: LIQUID	Extracted: 04/08/96
	Analysis Method: EPA 8015 Mod	Analyzed: 04/09/96
Attention: Jim Keller	Lab Number: 9604318-04	Reported: 04/15/96

QC Batch Number: GC0408960HBPEXA
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	96

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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

Blaine Technical Services	Client Proj. ID: Shell Oakland,960402-T2	Sampled: 04/02/96
985 Timothy Drive	Sample Descript: EB	Received: 04/03/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/10/96
Attention: Jim Keller	Lab Number: 9604318-04	Reported: 04/15/96

QC Batch Number: GC041096BTEX03A
Instrument ID: GCHP03

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	105

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

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

Blaine Technical Services	Client Proj. ID: Shell Oakland,960402-T2	Sampled: 04/02/96
985 Timothy Drive	Sample Descript: Dup	Received: 04/03/96
San Jose, CA 95133	Matrix: LIQUID	Extracted: 04/09/96
	Analysis Method: EPA 8015 Mod	Analyzed: 04/09/96
Attention: Jim Keller	Lab Number: 9604318-05	Reported: 04/15/96

QC Batch Number: GC0408960HBPEXA
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	100	5800
Chromatogram Pattern:		C9-C24

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	68

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

SEQUOIA ANALYTICAL - ELAP #1210

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Project Manager

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Blaine Technical Services	Client Proj. ID: Shell Oakland,960402-T2	Sampled: 04/02/96
985 Timothy Drive	Sample Descript: Dup	Received: 04/03/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 04/10/96
Attention: Jim Keller	Lab Number: 9604318-05	Reported: 04/15/96

QC Batch Number: GC041096BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**10000**	**17000**
Methyl t-Butyl Ether	**500**	**7600**
Benzene	**100**	**1800**
Toluene	**100**	**29**
Ethyl Benzene	**100**	**590**
Xylenes (Total)	**100**	**140**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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Blaine Tech Services, Inc.	Client Project ID:	Shell/Oakland / 960402-T2	
985 Timothy Drive	Matrix:	Liquid	
San Jose, CA 95133			
Attention: Jim Keller	Work Order #:	9604318 -01	Reported: Apr 16, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC041096BTEX20A	GC041096BTEX20A	GC041096BTEX20A	GC041096BTEX20A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	9603J2105	9603J2105	9603J2105	9603J2105
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/10/96	4/10/96	4/10/96	4/10/96
Analyzed Date:	4/10/96	4/10/96	4/10/96	4/10/96
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.9	9.7	10	30
MS % Recovery:	99	97	100	100
Dup. Result:	10	9.8	10	30
MSD % Recov.:	100	98	100	100
RPD:	1.0	1.0	0.0	0.0
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK041096	BLK041096	BLK041096	BLK041096
Prepared Date:	4/10/96	4/10/96	4/10/96	4/10/96
Analyzed Date:	4/10/96	4/10/96	4/10/96	4/10/96
Instrument I.D.#:	GCHP20	GCHP20	GCHP20	GCHP20
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.9	9.4	9.8	29
LCS % Recov.:	99	94	98	97
MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130

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 / 960402-T2	
985 Timothy Drive	Matrix:	Liquid	
San Jose, CA 95133			
Attention: Jim Keller	Work Order #:	9604318-02-05	Reported: Apr 16, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC041096BTEX03A	GC041096BTEX03A	GC041096BTEX03A	GC041096BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	9603J2105	9603J2105	9603J2105	9603J2105
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	4/10/96	4/10/96	4/10/96	4/10/96
Analyzed Date:	4/10/96	4/10/96	4/10/96	4/10/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	11	11	33
MS % Recovery:	110	110	110	110
Dup. Result:	11	10	10	32
MSD % Recov.:	110	100	100	107
RPD:	0.0	9.5	9.5	3.1
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK041096	BLK041096	BLK041096	BLK041096
Prepared Date:	4/10/96	4/10/96	4/10/96	4/10/96
Analyzed Date:	4/10/96	4/10/96	4/10/96	4/10/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	10	10	10	31
LCS % Recov.:	100	100	100	103
MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

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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.
985 Timothy Drive
San Jose, CA 95133
Attention: Jim Keller

Client Project ID: Shell/Oakland / 960402-T2
Matrix: Liquid
Work Order #: 9604318-01-05

Reported: Apr 16, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Diesel
QC Batch#:	GC0408960HBPEXA
Analy. Method:	EPA 8015M
Prep. Method:	EPA 3510
Analyst:	B. Ali
MS/MSD #:	960423210
Sample Conc.:	N.D.
Prepared Date:	4/8/96
Analyzed Date:	4/9/96
Instrument I.D.#:	GCHP4
Conc. Spiked:	1000 µg/L
Result:	930
MS % Recovery:	93
Dup. Result:	1000
MSD % Recov.:	100
RPD:	7.3
RPD Limit:	0-50

LCS #:	BLK040896
Prepared Date:	4/8/96
Analyzed Date:	4/9/96
Instrument I.D.#:	GCHP4
Conc. Spiked:	1000 µg/L
LCS Result:	890
LCS % Recov.:	89

MS/MSD LCS Control Limits	38-122

SEQUOIA ANALYTICAL

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Project Manager

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