



April 1, 1996

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

Re: **First 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.

First 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).

On January 30, 1996, WA attempted to install an offsite ground water monitoring well south of the site on Grand Avenue. The installation was unsuccessful due to the presence of underground utilities in the vicinity.

*What does this mean?
Depths? What utilities?
as conduit?? Does it act*

96 APR 11 PM 4: 10
ENVIRONMENTAL
PROTECTION

Anticipated Second Quarter 1996 Activities:

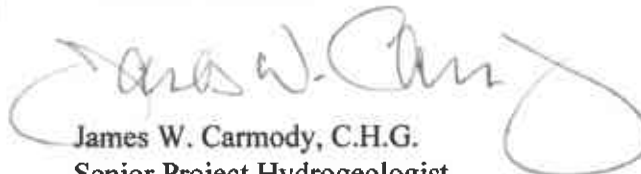
- WA will submit a report presenting the results of the second quarter 1996 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results and ground water elevations, we will prepare a ground water elevation map and plot benzene concentrations in ground water.
- WA will oversee the removal of four underground gasoline and diesel storage tanks from the site as part of a station upgrade. Further assessment of site conditions will be made when work is completed.

Please call if you have any questions.

Sincerely,
Weiss Associates



Grady S. Glasser
Technical Assistant



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

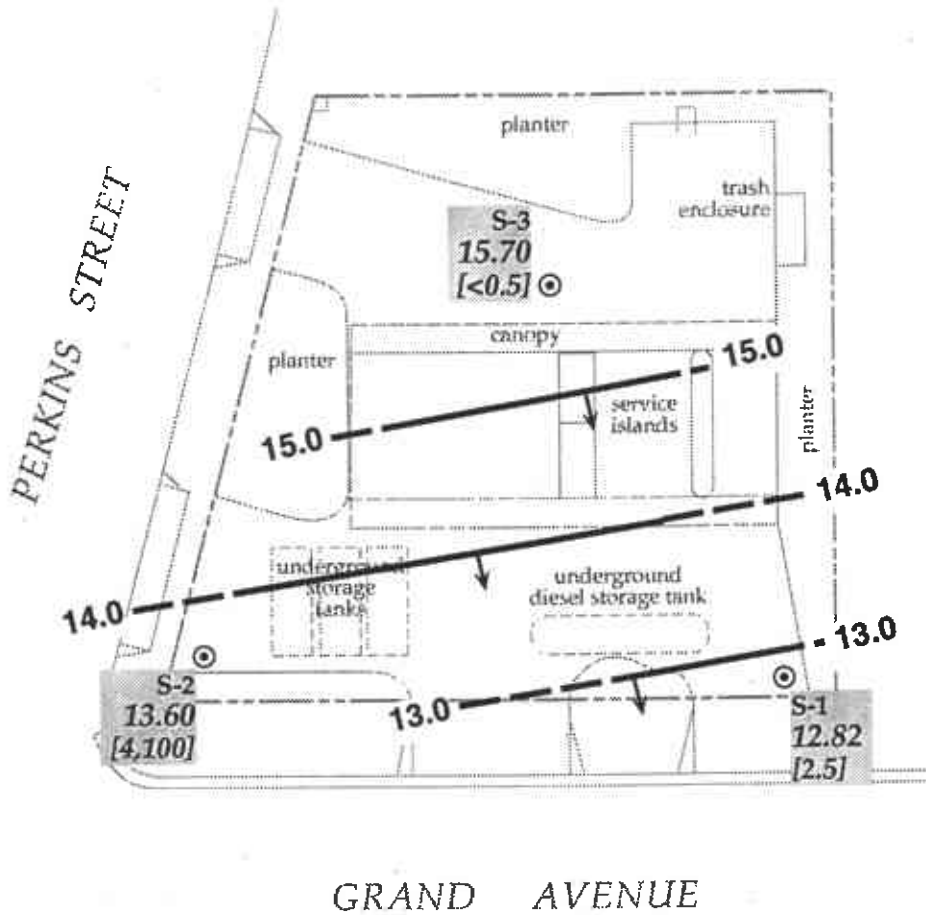
Attachments: A - BTS Ground Water Monitoring Report

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

GSG/JWC:all
J:\SHELL\0781\Q\96Q1\96Q1R.DOC



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



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

Base map from GeoStrategies Inc.

Figure 2. Monitoring Well Location, Ground Water Elevation, and Benzene Concentrations in Ground Water - January 12, 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
	S-2		01/23/91	21.24
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
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

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	parts per billion (µg/L)			
					B	E	T	X
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



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	parts per billion (µg/L)				
					B	E	T	X	
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	

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)	parts per billion (µg/L)					
			TPH-D	TPH-G	B	E	T	X
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 ^a	<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	
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	parts per billion (µg/L)			
					B	E	T	X
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:

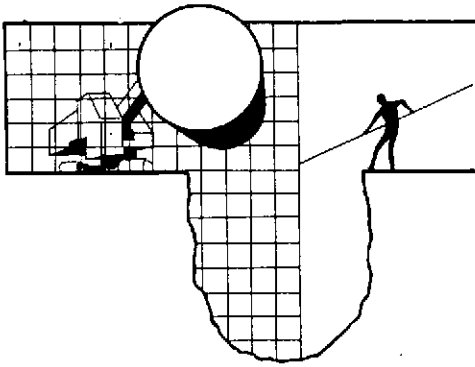
TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015
B = Benzene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
T = Toluene by EPA Method 8020
X = Xylenes by EPA Method 8020
--- = Not analyzed
DTSC 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 DRIVE
SAN JOSE, CA 95133
(408) 995-5535
FAX (408) 293-8773

February 1, 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

1st Quarter 1996

Quarterly Groundwater Monitoring Report 960112-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) 995-5535 ext. 201.

Yours truly,

A handwritten signature in cursive script, appearing to read 'Francis Thie', is written over a horizontal line.

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	1/12/96	TOB	—	NONE	—	—	8.02	17.75
S-2 *	1/12/96	TOB	ODOR	NONE	—	—	7.64	15.10
S-3	1/12/96	TOB	—	NONE	—	—	7.00	15.20

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



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 460112-T1

Date: 1/15/96
Page 1 of 1

Silo Address: 350 Grand Avenue, Oakland

WICH#: 204-5510-0204

Shell Engineer: Don Rick 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: m/johal

Printed Name: Mike Toll

Analysis Required

LAB: ~~XXXXXXXXXX~~ NET

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
Quantity Monitoring <input checked="" type="checkbox"/>	6441	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	6441	48 hours <input type="checkbox"/>
Soil Classfy/Dxpasal <input type="checkbox"/>	6442	16 days <input checked="" type="checkbox"/> (Normal)
Water Classfy/Dxpasal <input type="checkbox"/>	6443	Other <input type="checkbox"/>
Soil/Air Rem. of Sys. O & M <input type="checkbox"/>	6442	
Water Rem. of Sys. O & M <input type="checkbox"/>	6443	
Other <input type="checkbox"/>		

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

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	Asbestos	Container Size	Preparation Used	Composite Y/N
S1	1/12			X		5	X				X					
S2	1/12			X		5	X				X					
S3	1/12			X		5	X				X					
DUP	1/12			X		5	X				X					
EPB	1/12			X		5	X				X					

MATERIAL DESCRIPTION

SAMPLE CONDITION/ COMMENTS

CUSTODY SEALED

Date: 1-15-96 Time: 13:50 Initials: PS
SEAL INTACT? Yes No Initials: PS

Relinquished By (signature): <u>m/johal</u>	Printed Name: <u>Mike Toll</u>	Date: <u>1-15-96</u>	Received (signature): <u>P. Smart</u>	Printed Name: <u>P. Smart</u>	Date: <u>1-15-96</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>P. Smart</u>	Date: <u>1-15-96</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>PAM GREENE</u>	Date: <u>1-16-96</u>
Relinquished By (signature):	Printed Name:	Date:	Received (signature):	Printed Name:	Date:

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

NCS



NATIONAL
ENVIRONMENTAL
TESTING, INC.

Santa Rosa Division
3636 North Laughlin Road
Suite 110
Santa Rosa, CA 95403-8226
Tel: (707) 526-7200
Fax: (707) 541-2333

Jim Keller
Blaine Tech Services
985 Timothy Dr.
San Jose, CA 95133

Date: 01/25/1996
NET Client Acct. No: 1821
NET Job No: 96.00176
Received: 01/16/1996

Client Reference Information

Shell 350 Grand Ave., Oakland, CA/960112-T1

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Results apply only to the samples analyzed. All positive results have been confirmed as required. Reproduction of this report is permitted only in its entirety. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel free to call me at (707) 541-2305.

Submitted by:

A handwritten signature in cursive script that reads "Ginger Brandlee".

Ginger Brandlee
Project Coordinator

Enclosure (s)



Client Name: Blaine Tech Services
 Client Acct: 1821
 NET Job No: 96.00176

Date: 01/25/1996
 ELAP Cert: 1386
 Page: 2

Ref: Shell 350 Grand Ave., Oakland, CA/960112-T1

SAMPLE DESCRIPTION: S1
 Date Taken: 01/12/1996
 Time Taken:
 NET Sample No: 258917

Parameter	Results	Flags	Reporting		Method	Date	Date	Run Batch No.
			Limit	Units		Extracted	Analyzed	
5030/8015-M/8020 (Shell)								
DILUTION FACTOR*	1						01/23/1996	3494
Purgeable TPH	230		50	ug/L	5030/M8015		01/23/1996	3494
Carbon Range: C6 to C12	--						01/23/1996	3494
8020 (GC, Liquid)								
Benzene	2.5		0.5	ug/L	8020		01/23/1996	3494
Toluene	ND		0.5	ug/L	8020		01/23/1996	3494
Ethylbenzene	0.9		0.5	ug/L	8020		01/23/1996	3494
Xylenes (Total)	0.6		0.5	ug/L	8020		01/23/1996	3494
SURROGATE RESULTS								
Bromofluorobenzene (SURR)	95			% Rec.	8020		01/23/1996	3494
3510/8015-M (Shell)								
DILUTION FACTOR*	1					01/22/1996		
Extractable TPH	1,500		50	ug/L	3510/M8015		01/22/1996	1163
Carbon range: C9 to C24	--						01/22/1996	1163

SAMPLE DESCRIPTION: S2
 Date Taken: 01/12/1996
 Time Taken:
 NET Sample No: 258918

Parameter	Results	Flags	Reporting		Method	Date	Date	Run Batch No.
			Limit	Units		Extracted	Analyzed	
5030/8015-M/8020 (Shell)								
DILUTION FACTOR*	100						01/24/1996	3496
Purgeable TPH	36,000		5,000	ug/L	5030/M8015		01/24/1996	3496
Carbon Range: C6 to C12	--						01/24/1996	3496
8020 (GC, Liquid)								
Benzene	4,100		50	ug/L	8020		01/24/1996	3496
Toluene	240		50	ug/L	8020		01/24/1996	3496
Ethylbenzene	1,400		50	ug/L	8020		01/24/1996	3496
Xylenes (Total)	790		50	ug/L	8020		01/24/1996	3496
SURROGATE RESULTS								
Bromofluorobenzene (SURR)	104			% Rec.	8020		01/24/1996	3496
3510/8015-M (Shell)								
DILUTION FACTOR*	10					01/22/1996		
Extractable TPH	13,000		500	ug/L	3510/M8015		01/22/1996	1163
Carbon range: C9 to C24	--						01/22/1996	1163

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

Client Name: Blaine Tech Services
 Client Acct: 1821
 NET Job No: 96.00176

Date: 01/25/1996
 ELAP Cert: 1386
 Page: 3

Ref: Shell 350 Grand Ave., Oakland, CA/960112-T1

SAMPLE DESCRIPTION: S3
 Date Taken: 01/12/1996
 Time Taken:
 NET Sample No: 258919

Parameter	Results	Flags	Reporting		Method	Date	Date	Run Batch No.
			Limit	Units		Extracted	Analyzed	
5030/8015-M/8020 (Shell)								
DILUTION FACTOR*	1						01/23/1996	3494
Purgeable TPH	ND		50	ug/L	5030/M8015		01/23/1996	3494
Carbon Range: C6 to C12	--						01/23/1996	3494
8020 (GC, Liquid)								
Benzene	ND		0.5	ug/L	8020		01/23/1996	3494
Toluene	ND		0.5	ug/L	8020		01/23/1996	3494
Ethylbenzene	ND		0.5	ug/L	8020		01/23/1996	3494
Xylenes (Total)	ND		0.5	ug/L	8020		01/23/1996	3494
SURROGATE RESULTS								
Bromofluorobenzene (SURR)	89			% Rec.	8020		01/23/1996	3494
3510/8015-M (Shell)								
DILUTION FACTOR*	1					01/22/1996		
Extractable TPH	110		50	ug/L	3510/M8015		01/22/1996	1163
Carbon range: C9 to C24	--						01/22/1996	1163

SAMPLE DESCRIPTION: DUP
 Date Taken: 01/12/1996
 Time Taken:
 NET Sample No: 258920

Parameter	Results	Flags	Reporting		Method	Date	Date	Run Batch No.
			Limit	Units		Extracted	Analyzed	
5030/8015-M/8020 (Shell)								
DILUTION FACTOR*	100						01/24/1996	3496
Purgeable TPH	40,000		5,000	ug/L	5030/M8015		01/24/1996	3496
Carbon Range: C6 to C12	--						01/24/1996	3496
8020 (GC, Liquid)								
Benzene	4,100		50	ug/L	8020		01/24/1996	3496
Toluene	260		50	ug/L	8020		01/24/1996	3496
Ethylbenzene	1,400		50	ug/L	8020		01/24/1996	3496
Xylenes (Total)	860		50	ug/L	8020		01/24/1996	3496
SURROGATE RESULTS								
Bromofluorobenzene (SURR)	102			% Rec.	8020		01/24/1996	3496
3510/8015-M (Shell)								
DILUTION FACTOR*	10					01/22/1996		
Extractable TPH	11,000		500	ug/L	3510/M8015		01/22/1996	1163
Carbon range: C9 to C24	--						01/22/1996	1163

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Client Name: Blaine Tech Services
Client Acct: 1821
NET Job No: 96.00176

Date: 01/25/1996
ELAP Cert: 1386
Page: 4

Ref: Shell 350 Grand Ave., Oakland, CA/960112-T1

SAMPLE DESCRIPTION: EB

Date Taken: 01/12/1996

Time Taken:

NET Sample No: 258921

Parameter	Results	Flags	Reporting		Method	Date	Date	Run
			Limit	Units		Extracted	Analyzed	Batch
<hr/>								
5030/8015-M/8020 (Shell)								
DILUTION FACTOR*	1						01/23/1996	3494
Purgeable TPH	ND		50	ug/L	5030/M8015		01/23/1996	3494
Carbon Range: C6 to C12	--						01/23/1996	3494
8020 (GC, Liquid)	--						01/23/1996	3494
Benzene	ND		0.5	ug/L	8020		01/23/1996	3494
Toluene	ND		0.5	ug/L	8020		01/23/1996	3494
Ethylbenzene	ND		0.5	ug/L	8020		01/23/1996	3494
Xylenes (Total)	ND		0.5	ug/L	8020		01/23/1996	3494
SURROGATE RESULTS	--						01/23/1996	3494
Bromofluorobenzene (SURR)	90			µ Rec.	8020		01/23/1996	3494
						01/22/1996		
3510/8015-M (Shell)								
DILUTION FACTOR*	1						01/22/1996	1162
Extractable TPH	ND		50	ug/L	3510/M8015		01/22/1996	1162
Carbon range: C9 to C24	--						01/22/1996	1162

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Client Name: Blaine Tech Services
 Client Acct: 1021
 NET Job No: 96.00176

Date: 01/25/1996
 ELAP Cert: 1386
 Page: 5

Ref: Shell 350 Grand Ave., Oakland, CA/960112-T1

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV	CCV	CCV	Flags	Units	Date Analyzed	Analyst Initials	Run Batch Number
	Standard % Recovery	Standard Amount Found	Standard Amount Expected					
5030/8015-M/8020 (Shell)								
Purgeable TPH	102.0	0.51	0.50		mg/L	01/23/1996	aal	3494
Benzene	92.2	4.61	5.00		ug/L	01/23/1996	aal	3494
Toluene	91.0	4.55	5.00		ug/L	01/23/1996	aal	3494
Ethylbenzene	96.2	4.81	5.00		ug/L	01/23/1996	aal	3494
Xylenes (Total)	97.3	14.6	15.0		ug/L	01/23/1996	aal	3494
Bromofluorobenzene (SURR)	97.0	97	100		% Rec.	01/23/1996	aal	3494
5030/8015-M/8020 (Shell)								
Purgeable TPH	110.0	0.55	0.50		mg/L	01/24/1996	aal	3496
Benzene	103.8	5.19	5.00		ug/L	01/24/1996	aal	3496
Toluene	103.8	5.19	5.00		ug/L	01/24/1996	aal	3496
Ethylbenzene	95.2	4.76	5.00		ug/L	01/24/1996	aal	3496
Xylenes (Total)	100.0	15.0	15.0		ug/L	01/24/1996	aal	3496
Bromofluorobenzene (SURR)	95.0	95	100		% Rec.	01/24/1996	aal	3496
3510/8015-M (Shell)								
Extractable TPH	103.0	1030	1000		mg/L	01/22/1996	tts	1162
3510/8015-M (Shell)								
Extractable TPH	111.0	1110	1000		mg/L	01/22/1996	tts	1163

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

Client Name: Blaine Tech Services
Client Acct: 1821
NET Job No: 96.00176

Date: 01/25/1996
ELAP Cert: 1386
Page: 6

Ref: Shell 350 Grand Ave., Oakland, CA/960112-T1

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Flags	Units	Date Analyzed	Analyst Initials	Run Batch Number
5030/8015-M/8020 (Shell)							
Purgeable TPH	ND	0.05		mg/L	01/23/1996	aal	3494
Benzene	ND	0.5		ug/L	01/23/1996	aal	3494
Toluene	ND	0.5		ug/L	01/23/1996	aal	3494
Ethylbenzene	ND	0.5		ug/L	01/23/1996	aal	3494
Xylenes (Total)	ND	0.5		ug/L	01/23/1996	aal	3494
Bromofluorobenzene (SURR)	89			% Rec.	01/23/1996	aal	3494
5030/8015-M/8020 (Shell)							
Purgeable TPH	ND	0.05		mg/L	01/24/1996	aal	3496
Benzene	ND	0.5		ug/L	01/24/1996	aal	3496
Toluene	ND	0.5		ug/L	01/24/1996	aal	3496
Ethylbenzene	ND	0.5		ug/L	01/24/1996	aal	3496
Xylenes (Total)	ND	0.5		ug/L	01/24/1996	aal	3496
Bromofluorobenzene (SURR)	110			% Rec.	01/24/1996	aal	3496
3510/8015-M (Shell)							
Extractable TPH	ND	0.05		mg/L	01/22/1996	tts	1162

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Client Name: Blaine Tech Services
 Client Acct: 1821
 NET Job No: 96.00176

Date: 01/25/1996
 ELAP Cert: 1386
 Page: 7

Ref: Shell 350 Grand Ave., Oakland, CA/960112-T1

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike				Matrix Spike				Flags	Units	Date Analyzed	Run Batch	Sample Spike
	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Conc.					
5030/8015-M/8020 (Shell)													25887
Purgeable TPH	104.0	106.0	1.9	0.50	ND	0.52	0.53		mg/L	01/23/1996	3494		25887
Benzene	102.2	105.0	2.7	7.24	4.2C	11.6	11.8		ug/L	01/23/1996	3494		25887
Toluene	99.2	99.2	0.0	23.6	ND	23.4	23.4		ug/L	01/23/1996	3494		25887
5030/8015-M/8020 (Shell)													25896
Purgeable TPH	106.0	110.0	3.7	0.5	ND	0.53	0.55		mg/L	01/24/1996	3496		25896
Benzene	97.1	97.9	0.8	8.52	ND	8.27	8.34		ug/L	01/24/1996	3496		25896
Toluene	98.6	100.4	1.7	27.8	ND	27.4	27.9		ug/L	01/24/1996	3496		25896
3510/8015-M (Shell)													258921
Extractable TPH	82.9	76.3	8.3	2.11	ND	1.75	1.61		mg/L	01/22/1996	1162		258921

C : Positive result confirmed by secondary column or GC/MS analysis.

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Client Name: Blaine Tech Services
Client Acct: 1821
NET Job No: 96.00176

Date: 01/25/1996
ELAP Cert: 1386
Page: 8

Ref: Shell 350 Grand Ave., Oakland, CA/960112-T1

LABORATORY CONTROL SAMPLE REPORT

Parameter	LCS % Rec.	DUP LCS % Rec.	RPD	LCS	DUP		Flags	Units	Date Analyzed	Analyst Initials	Run Batch
				Amount Found	LCS Amount Found	LCS Amount Exp.					
3510/8015-M (Shell)											
Extractable TPH	75.0			0.750		1.00		mg/L	01/22/1996	tts	1162

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.



KEY TO ABBREVIATIONS and METHOD REFERENCES

- < : Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
- * : Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
- ICVS : Initial Calibration Verification Standard (External Standard).
- mean : Average; sum of measurements divided by number of measurements.
- mg/Kg (ppm) : Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
- mg/L : Concentration in units of milligrams of analyte per liter of sample.
- mL/L/hr : Milliliters per liter per hour.
- MPN/100 mL : Most probable number of bacteria per one hundred milliliters of sample.
- N/A : Not applicable.
- NA : Not analyzed.
- ND : Not detected; the analyte concentration is less than applicable listed reporting limit.
- NTU : Nephelometric turbidity units.
- RPD : Relative percent difference, $100 \text{ (Value 1 - Value 2) / mean value}$.
- SNA : Standard not available.
- ug/Kg (ppb) : Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
- ug/L : Concentration in units of micrograms of analyte per liter of sample.
- umhos/cm : Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

COOLER RECEIPT FORM

Project: 960112-71 Log No: 9914
Cooler received on: 11/6/96 and checked on 11/6/96 by Tom Green
(signature) Tom Green

- Were custody papers present?..... YES NO
- Were custody papers properly filled out?..... YES NO
- Were the custody papers signed?..... YES NO
- Was sufficient ice used?..... YES NO *Temp 0°*
- Did all bottles arrive in good condition (unbroken)?..... YES NO
- Did bottle labels match COC?..... YES NO
- Were proper bottles used for analysis indicated?..... YES NO
- Correct preservatives used?..... YES NO
- VOA vials checked for headspace bubbles?..... YES NO

Note which voas (if any) had bubbles:*

Sample descriptor:

Number of vials:

All VOAs with headspace bubbles have been set aside so they will not be used for analysis..... YES NO

List here all other jobs received in the same cooler:

Client Job #	NET log #
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

(coolerrec)