

ALSO
HAZMAT

94 DEC -9 PM 2: 37



Chevron

December 7, 1994

Chevron U.S.A. Products Company
6001 Bollinger Canyon Rd., Bldg. L
P.O. Box 5004
San Ramon, CA 94583-0804

Ms. Jennifer Eberle
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Site Assessment & Remediation Group
Phone (510) 842-9500

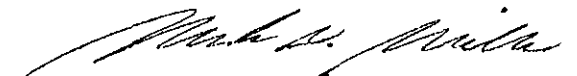
Re: Former Gulf Service Station #0006
460 Grand Avenue, Oakland, CA

Dear Ms. Eberle:

Enclosed is the quarterly Ground Water Sampling report dated October 28, 1994, prepared by our consultant Sierra Environmental Services for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline and BTEX. Benzene was detected in ground water monitor wells C-2 and C-3 at concentrations of 1.1 and 4.2 ppb, respectively. Depth to ground water was measured at approximately 5.7 to 6.1 feet below grade and the direction of flow is to the south.

Chevron will continue to monitor and sample this site quarterly. I will contact you during the next week to discuss the results of this sampling event and pending future work for this site. If you have any questions or comments, please do not hesitate to call me at (510) 842-8134.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

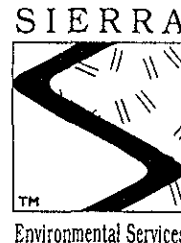

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Jon Robbins - CHVPKV/V1156
Ms. B.C. Owen

Mr. John C. Gibson
Adams, Gibson & MacPhee
22 Battery Street, 10th Floor
San Francisco, CA 94111

Mr. Robert Falashi
3080 Frye Street
Oakland, CA 94602



October 28, 1994

Mark Miller
Chevron USA Products Company
P.O. Box 5004
San Ramon, CA 94583

Re: Former Gulf Service Station #0006
460 Grand Avenue
Oakland, California
SES Project #1-382-04

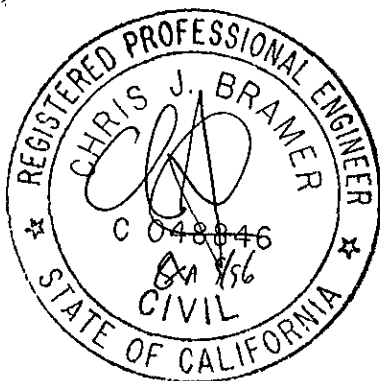
Dear Mr. Miller:

This report presents the results of the quarterly ground water sampling at former Gulf Service Station #0006, located at 460 Grand Avenue in Oakland, California. Three wells, C-1, C-2 and C-3 were sampled (Figure 1).

On September 26, 1994, SES personnel visited the site. Water level measurements were collected in all site wells and all wells were checked for the presence of free-phase hydrocarbons. Free-phase hydrocarbons were not present in any of the site wells. Water level data are shown in Table 1 and ground water elevation contours are included on Figure 1.

The ground water samples were collected on September 26, 1994 in accordance with SES Standard Operating Procedure - Ground Water Sampling (attached). The field water sampling forms for this event are included. All analyses were performed by Superior Precision Analytical, Inc. of Martinez, California. Analytic results for ground water are presented in Table 1. The chain of custody document and laboratory analytic reports are attached. SES is not responsible for laboratory omissions or errors.

Thank you for allowing us to provide services to Chevron. Please call if you have any questions.



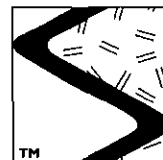
Sincerely,
Sierra Environmental Services

L. Chernyak
Luda Chernyak
Staff Technician

Chris J. Bramer
Professional Engineer #C48846

LAC/CJB/lmo
38204QM.OC4

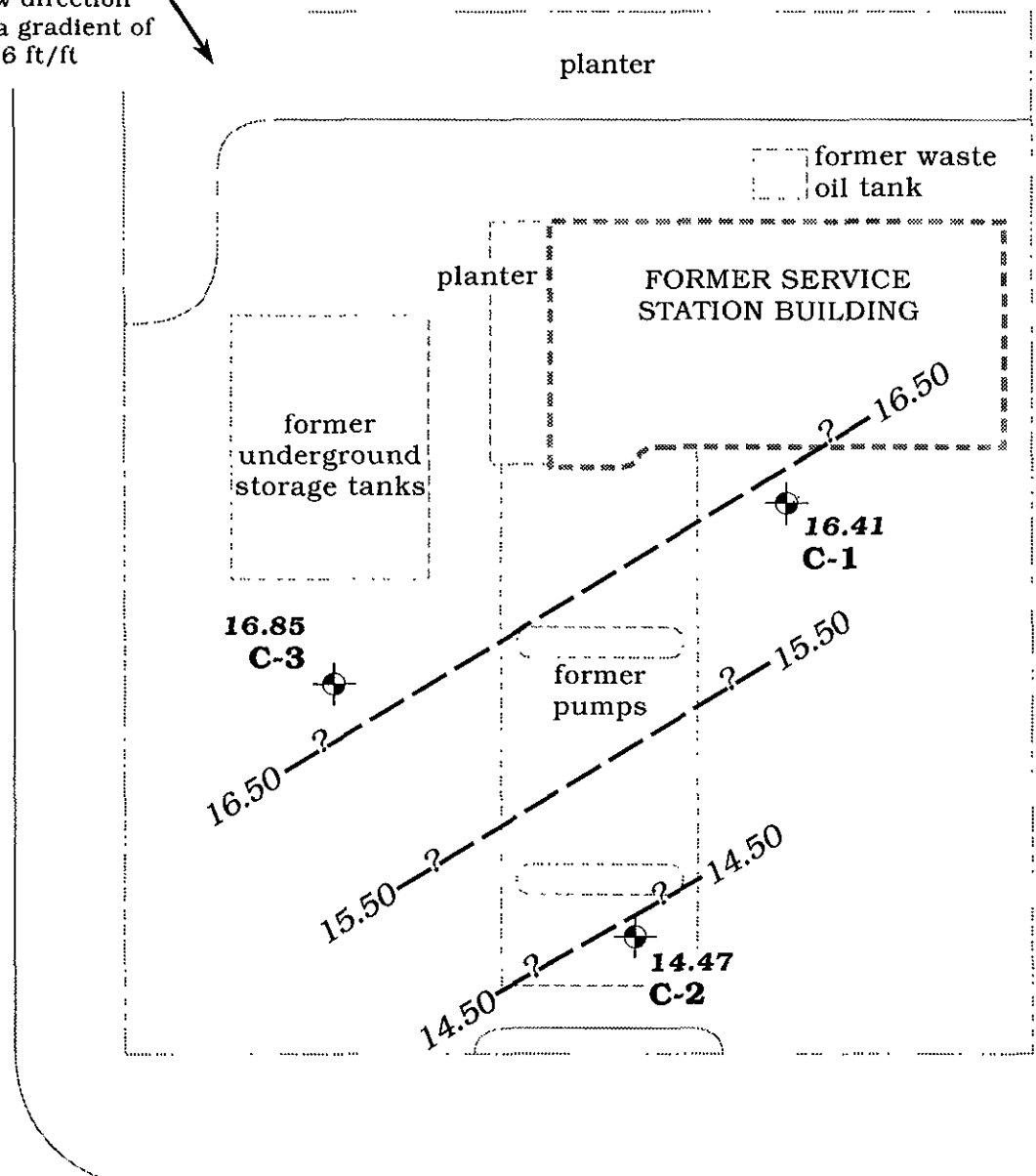
- Attachments
- Figure
- Table
- SES Standard Operating Procedure
- Field Water Sampling Forms
- Chain of Custody Document and Laboratory Analytic Reports



SIERRA

Approximate ground water flow direction at a gradient of 0.06 ft/ft

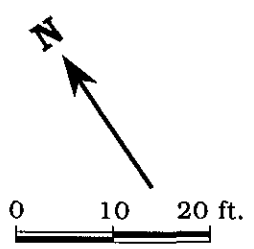
BELLEVUE AVENUE



GRAND AVENUE

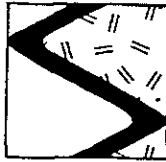
EXPLANATION

- C-3** Monitoring well
- 16.85** Ground water elevation, in feet
- 16.50** Ground water elevation contour, dashed where inferred, queried where uncertain



Base map after Pacific Environmental Group, Inc.

Figure 1. Monitoring Well Locations and Ground Water Elevation Contour Map - September 26, 1994 - Former Gulf Service Station #0006, 460 Grand Avenue, Oakland, California



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Table 1. Water Level Data and Ground Water Analytic Results - Former Gulf Service Station #0006, 460 Grand Avenue, Oakland, California

Well ID/ TOC (ft)	Date	DTW (ft)	GWE (msl)	Product Thickness* (ft)	Analytic Method	←-----ppb----->				
						TPPH(G)	B	T	E	X
C-1/ 22.48 ¹	12/16/92	5.68	16.80	0	8015/8020 ^{2,3,4}	<50	<0.5	<0.3	<0.3	<0.4
	6/22/94	5.55	16.93	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
	9/26/94	6.07	16.41	0	8015/8020	<50 ✓	<0.5 ✓	<0.5	<0.5	<0.5
C-2/ 20.49 ¹	12/16/92	7.49	13.00	0	8015/8020 ^{2,3,5}	640	63	83	37	90
	6/22/94	5.48	15.01	0	8015/8020	200	2.8	4.5	1.5	15
	9/26/94	6.02	14.47	0	8015/8020	<50 ✓	1.1 ✓	1.1	<0.5	0.5
C-3/ 22.51 ¹	12/16/92	5.17	17.34	0	8015/8020 ^{2,3,6}	<50	<0.4	<0.3	<0.3	<0.4
	6/22/94	5.10	17.41	0	8015/8020	140	5.6	3	4.2	4.4
	9/26/94	5.66	16.85	0	8015/8020	51 ✓	4.2 ✓	4.2	0.7	1.5
Trip Blank TB-LB	6/22/94	---	---	---	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
	9/26/94	---	---	---	8015/8020	<50	<0.5	<0.5	<0.5	<0.5



Table 1. Water Level Data and Ground Water Analytic Results - Former Gulf Service Station #0006, 460 Grand Avenue, Oakland, California (continued)

EXPLANATION:

DTW = Depth to water
TOC = Top of casing elevation
GWE = Ground water elevation
TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
ppb = Parts per billion
--- = Not analyzed/not applicable

ANALYTIC METHODS:

8015 = EPA Method 8015/5030 for TPPH(G)
8020 = EPA Method 8020 for BTEX

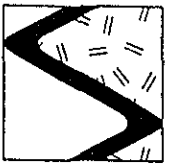
NOTES:

Water level data and analytic results prior to June 22, 1994 were compiled from the subsurface investigation report prepared for Chevron by Pacific Environmental Group, January 15, 1993.

NOTES: (continued)

Analytic Methods prior to 1994 are assumed to be 8015/8020.

- * Product thickness was measured with an MMC flexi-dip interface probe on and after June 22, 1994.
- ¹ TOC elevation is actually top of box elevation.
- ² TPH(D) was also analyzed but not detected at detection limits of 50 ppb.
- ³ Motor oil was also analyzed but not detected at detection limits of 200 ppb.
- ⁴ Cadmium, chromium, lead, nickel and zinc were also analyzed but not detected at detection limits of 0.005, 0.01, 0.05, 0.02, and 0.01 ppm, respectively.
- ⁵ Cadmium, chromium, lead, nickel and zinc were also analyzed. Chromium, Nickel and zinc were detected at 0.05, 0.08 and 0.08 ppm, respectively. Other metals not detected.
- ⁶ Cadmium, chromium, lead, nickel and zinc were also analyzed. Chromium, lead, nickel and zinc were detected at 0.19, 0.07, 0.36 and 0.38 ppm, respectively. Cadmium was not detected at detection limits of 0.005 ppm.



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SES STANDARD OPERATING PROCEDURE GROUND WATER SAMPLING

The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination of the sample, and to preserve the sample for subsequent analysis. Wells will be sampled no less than 24 hours after well development. Collection methods specific to ground water sampling are presented below.

Prior to sampling, each well is checked for the presence of free-phase hydrocarbons using an MMC flexi-dip interface probe. Product thickness (measured to the nearest 0.01 foot) is noted on the sampling form. Water level measurements are also made using either a water level meter or the interface probe. The water level measurements are also noted on the sampling form.

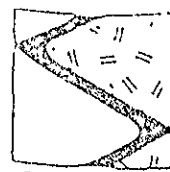
Prior to sampling, each well is purged of a minimum of three well casing volumes of water using a steam-cleaned PVC bailer, or a pre-cleaned pump. Temperature, pH and electrical conductivity are measured at least three times during purging. Purging is continued until these parameters have stabilized (i.e., changes in temperature, pH or conductivity do not exceed $\pm 0.5^{\circ}\text{F}$, 0.1 or 5%, respectively).

The purge water is taken to Chevron's Richmond Refinery for disposal.

Ground water samples are collected from the wells with Chevron designated disposable bailers. The water samples are decanted into the appropriate container for the analysis to be performed. Pre-preserved sample containers may be used or the analytic laboratory may add preservative to the sample upon arrival. Duplicate samples are collected from each well as a back-up sample and/or to provide quality control. The samples are labeled to include the project number, sample ID, date, preservative, and the field person's initials. The samples are placed in polyethylene bags and in an ice chest (maintained at 4°C) for transport under chain of custody to the laboratory.

The chain of custody form includes the project number, analysis requested, sample ID, date analysis and the SES field person's name. The form is signed and dated (with the transfer time) by each person who yields or receives the samples beginning with the field personnel and ending with the laboratory personnel.

A trip blank accompanies each sampling set, or 5% trip blanks are included for sets of greater than 20 samples. The trip blank is analyzed for some or all of the same compounds as the ground water samples.



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WATER SAMPLING DATA

Job Name Grand Ave. Oakland Job Number 1-38204
 Well Number C-1 Date 9/26/94
 Sample Point Location/Description on site mid. lot
 Depth to Water (static) 6.07 Well Depth (sounded) 14.82
 Initial height of water in casing 8.75 Volume 1.42 gallons
 Volume to be purged 4 gallons
 Purged With Sub pump Sampled With Disposable Baiters
 Pumped or Bailed Dry? Yes No Time After gallons
 Water level at sampling Percent Recovery

Sampler JOE CARTER
 Well Diameter 8"
 Well Depth (spec.)

Formulas/Conversions
 r = well radius in ft
 h = ht of water col. in ft
 vol. in cyl. = $\pi r^2 h$
 7.48 gal/ft³
 V_2 casing = 0.163 gal/ft
 V_3 casing = 0.367 gal/ft
 V_4 casing = 0.653 gal/ft
 V_5 casing = 0.826 gal/ft
 V_6 casing = 1.47 gal/ft
 V_7 casing = 2.61 gal/ft

CHEMICAL DATA

Purge Time		Purge Volume (gal.)	Cumulative (gal.)	pH	Temp (°C)	Specific Conductance	
Start	Stop					Measurement	x umhos/cm
5:00	5:01	1	1	7.6	70	680	
	5:03	2	3	7.0	69	800	
	5:04	1	4	6.9	68	710	

SAMPLES COLLECTED Time 5:11 Total volume purged (gal.) 4
 Water color Slight Cloud Odor NONE
 Description of sediments or material in sample: NONE
 Additional Comments:

Sample ID	# of Cont.	Container Type	Filtered (size, u)	Preservative (type)	Refrig. (Y/N)	Lab (Init)	Analysis Requested
<u>C-1</u>	<u>3</u>	<u>1</u>	<u> </u>	<u>HCl</u>	<u>Y</u>	<u>SPA</u>	<u>g/BTEX</u>

Container Type Codes: 1 = 40 ml clear VOA/Teflon septa; 2 = Brown glass/teflon lined cap (specify size);
 3 = Clear glass/teflon lined cap (specify size); 4 = Polyethylene/polyethylene cap (specify size);
 5 = Other ; 6 = Other



WATER SAMPLING DATA

Job Name Grand Ave. Oakland Job Number 1-382-04
 Well Number C-2 Date 9/26/94
 Sample Point Location/Description on site north of Grand Ave.
 Depth to Water (static) 6.02 Well Depth (sounded) 14.48
 Initial height of water in casing 8.46 Volume 1.37 gallons
 Volume to be purged 4 gallons
 Purged With Sub pump Sampled With Disposable Canteens
 Pumped or Bailed Dry? Yes No Time After gallons
 Water level at sampling Percent Recovery

Sampler Joe Carter
 Well Diameter 8"
 Well Depth (spec.)

Formulas/Conversions
 r = well radius in ft
 h = ht of water col. in ft
 vol. in cyl. = $\pi r^2 h$
 * 7.48 gal/ft³
 V₁" casing = 0.163 gal/ft
 V₂" casing = 0.367 gal/ft
 V₃" casing = 0.653 gal/ft
 V₄" casing = 0.826 gal/ft
 V₅" casing = 1.47 gal/ft
 V₆" casing = 2.61 gal/ft

CHEMICAL DATA

Purge Time		Purge Volume (gal.)	Cumulative (gal.)	pH	Temp (°C)	Specific Conductance	
Start	Stop					Measurement	x umhos/cm
5:35	5:36	1	1	7.9	65	570	
	5:38	2	3	7.7	65	560	
	5:39	1	4	7.7	67	550	

SAMPLES COLLECTED Time 5:46 Total volume purged (gal.) 4
 Water color Cloudy Odor NONE
 Description of sediments or material in sample: some very light sed.
 Additional Comments:

Sample ID	# of Cont.	Container Type	Filtered (size, u)	Preservative (type)	Refrig. (Y/N)	Lab (Init)	Analysis Requested
<u>C-2</u>	<u>3</u>	<u>1</u>	<u> </u>	<u>HCL</u>	<u>Y</u>	<u>SPA</u>	<u>g/BTEX</u>

Container Type Codes: 1 = 40 ml clear VOA/Teflon septa; 2 = Brown glass/teflon lined cap (specify size);
 3 = Clear glass/teflon lined cap (specify size); 4 = Polyethylene/polyethylene cap (specify size);
 5 = Other ; G = Other



WATER SAMPLING DATA

Job Name GRAND AVE. OAKLAND Job Number 1-382-04
 Well Number C-3 Date 9/26/94
 Sample Point Location/Description ON SITE WEST OF BELLEVUE AVE.
 Depth to Water (static) 5.66 Well Depth (sounded) 1-1.81
 Initial height of water in casing 9.15 Volume 1.49 gallons
 Volume to be purged 4 gallons
 Purged With Sub pump Sampled With DISPOSABLE BOTTLES
 Pumped or Bailed Dry? Yes No Time After gallons
 Water level at sampling Percent Recovery

Sampler JOE CARTER
 Well Diameter 2"
 Well Depth (spec.)

Formulas/Conversions
 r = well radius in ft
 h = ht of water col. in ft
 vol. in cyl. = $\pi r^2 h$
 7.48 gal/ft³
 V₁ casing = 0.163 gal/ft
 V₂ casing = 0.367 gal/ft
 V₃ casing = 0.653 gal/ft
 V₄ casing = 0.826 gal/ft
 V₅ casing = 1.47 gal/ft
 V₆ casing = 2.61 gal/ft

CHEMICAL DATA

Purge Time		Purge Volume (gal.)	Cumulative (gal.)	pH	Temp (°F)	Specific Conductance	
Start	Stop					Measurement	x umhos/cm
522	523	1	1	7.3	69	860	
	525	2	3	7.2	68	840	
	526	1	4	7.1	68	830	

SAMPLES COLLECTED Time 532 Total volume purged (gal.) 4
 Water color cloudy Odor NONE
 Description of sediments or material in sample: NONE
 Additional Comments:

Sample ID	# of Cont.	Container Type	Filtered (size, u)	Preservative (type)	Refrig. (Y/N)	Lab (Inst)	Analysis Requested
<u>C-3</u>	<u>3</u>	<u>1</u>	<u>—</u>	<u>HCl</u>	<u>Y</u>	<u>SPA</u>	<u>g/BTEX</u>

Container Type Codes: 1 = 40 ml clear VOA/Teflon septa; 2 = Brown glass/teflon lined cap (specify size);
 3 = Clear glass/teflon lined cap (specify size); 4 = Polyethylene/polyethylene cap (specify size);
 5 = Other ; 6 = Other



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

Sierra Environmental
Attn: ED MORALES

Project 1-382-04
Reported 10/03/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
30775- 1	TB-LB	09/26/94	09/30/94 Water
30775- 2	C-1	09/26/94	09/30/94 Water
30775- 3	C-3	09/26/94	09/30/94 Water
30775- 4	C-2	09/26/94	09/30/94 Water

RESULTS OF ANALYSIS

Laboratory Number: 30775- 1 30775- 2 30775- 3 30775- 4

Gasoline:	ND<50	ND<50 /	51 /	ND<50 /
Benzene:	ND<0.5	ND<0.5 /	4.2 /	1.1 /
Toluene:	ND<0.5	ND<0.5	4.2	1.1
Ethyl Benzene:	ND<0.5	ND<0.5	0.7	ND<0.5
Total Xylenes:	ND<0.5	ND<0.5	1.5	0.5
Concentration:	ug/L	ug/L	ug/L	ug/L

Pacific Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

1555 Burke St., Unit I
San Francisco, California 94124
(415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2
QA/QC INFORMATION
SET: 30775

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = parts per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	75/77	3%	56-117
Benzene:	113/92	20%	59-149
Toluene:	118/95	22%	59-149
Ethyl Benzene:	120/97	21%	59-149
Total Xylenes:	123/100	21%	59-149

Certified Laboratory Chemist

Abraham. Salas 10/5/94

825 Arnold Dr., Suite 114
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