

Chevron U.S.A. Products Company

93 DEC -6 PM 1:59

Marketing Department

December 1, 1993

STID 142

Ms. Susan Hugo Alameda County Health Care Services 80 Swan Way, Room 200 Oakland, CA 94621

Re: Chevron Service Station No. 9-0329

340 Highland Avenue, Piedmont, California

Dear Ms. Hugo:

During this sampling period, monitoring wells C-3 and C-4 were below the detection limit for dissolved hydrocarbon constituents. However, the remaining well C-2 contained dissolved hydrocarbons.

Regarding the additional investigation, Chevron is still awaiting your approval on the work plan.

For additional information regarding the groundwater, please refer to the enclosed monitoring and sampling report from Sierra Environmental Services dated November 20, 1993. If you have any questions or comments, please feel free to contact me at (510) 842-8752.

Sincerely,

Chevron U.S.A. Products Co.

Kenneth Kan Engineer

LKAN/MacFile 9-0329R12

Enclosure

cc: Mr. Rich Hiett, RWQCB-San Francisco Bay Area 2101 Webster Street, Suite 500, Oakland, CA 94612

Attn. Frank Hoffman, Hoffman Investment Company 1760 Willow Road, Hillsborough, CA 94010

Mir Ghafari, Chevron Service Station 340 Highlands Ave., Piedmont, CA 94611

Ms. Bette Owen, Chevron U.S.A. Products Co.



DEC 1'93 J.M.M.



MAZMÁT 93 DEC -6 PM 1:59

ALL

November 20, 1993

Kenneth Kan Chevron USA Products Company P.O. Box 5004 San Ramon, CA 94583

Re:

Chevron Service Station #9-0329

340 Highland Avenue Piedmont, California SES Project #1-294-04

Dear Mr. Kan:

This report presents the results of the quarterly ground water sampling at Chevron Service Station #9-0329, located at 340 Highland Avenue in Piedmont, California. Three wells, C-2, C-3 and C-4 were sampled (Figure 1).

On October 11, 1993, SES personnel visited the site. Water levels were measured in all 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 October 11, 1993 in accordance with SES Standard Operating Procedure - Ground Water Sampling (attached). All analyses were performed by GTEL of Concord, California. Analytic results for ground water are presented in Table 2. 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

Argy Mena (
Staff Geologist

Chris J. Bramer

Professional Engineer #C48846

AJM/CJB/cb 29404QM.NO3

Attachments:

Figure Tables

SES Standard Operating Procedure

Chain of Custody Document and Laboratory Analytic Reports

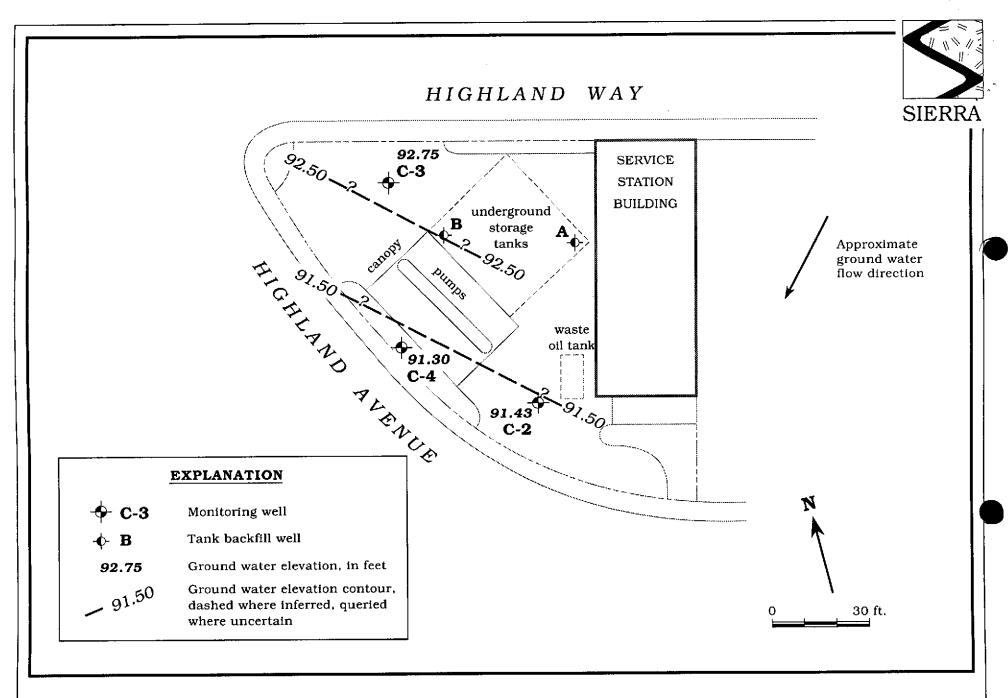


Figure 1. Monitoring Well Locations and Ground Water Elevation Contour Map - October 11, 1993 - Chevron Service Station #9-0329, 340 Highland Avenue, Piedmont, California



Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-0329, 340 Highland Avenue, Piedmont, California

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness* (ft)	Screen Interval <	Sand Pack Interval feet below grade	Bentonite/Grout Interval >
C-2	8/7/89	2.88	94.19	91.33	0.00	UNK	UNK	UNK
	11/15/89	2.80		91.39	0.00			51112
	2/1/91	3.75		90.41	0.00			
	4/16/91	2.55		91.64	0.00			
	10/16/91	3.52		90.67	0.00			
	1/8/92	4.15		90.04	SHEEN			
	4/10/92	2.96		91.23	SHEEN			
	7/14/92	2.83		91.36	SHEEN			
	10/5/92	4.38		89.81	0.00			
	1/6/93	3.94		90.25	0			
	3/29/93	2.09		92.10	0			
	7/2/93	2.09		92.10	0			
	10/11/93	2.76		91.43	0			
C-3	8/7/89	4.29	97.65	93.36	0.00	UNK	UNK	UNK
	11/15/89	5.17		92.48	0.00			
	2/1/91	6.38		91.27	0.00			
	4/16/91	3.72		93.93	0.00			
	10/16/91	8.20		89.45	0.00			
	1/8/92	6.68		90.97	0.00			
	4/10/92	4.50		93.15	0.00			
	7/14/92	6.21		91. 44	0.00			
	10/5/92	9.31		88.34	0.00			
	1/6/93	3.41		94.24	0			
	3/29/93	0.50		97.15	0			
	7/2/93	2.59		95.06	0			
	10/11/93	4.90		92.75	0			
C-4	8/7/89	DRY	95.60			UNK	UNK	U NK
	11/15/89	4.95		90.65	0.00			
	2/1/91	4.78		90.82	0.00			
	4/16/91	4.83		95.60	0.00			
	10/16/91	4.23		91.37	0.00			
	1/8/92	4.81		90.79	0.00			



Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-0329, 340 Highland Avenue, Piedmont, California (continued)

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness*	Screen Interval (ft)<	Sand Pack Intervalfeet below grade	Bentonite/Grout Interval >
C-4	4/10/92	4.26		91.34	0.00			
(cont)	7/14/92	4.28		91.32	0.00			
(,	10/5/92	4.29		91.31	0.00			
	1/6/93	4.29		91.31	0			
	3/29/93	4.30		91.30	0			
	7/2/93	4.22		91.38	0			
	10/11/93	4.30		91.30	0			
A^1	8/7/89	2.10			0.0	UNK	UNK	UNK
	11/15/89	2.04			0.0			
	2/1/91	3.05			0.0			
	4/16/91	2.01			0.0			
	10/16/91	4.15			0.0			
B¹	8/7/89	4.12			0.0	UNK	UNK	UNK
	11/15/89							
	2/1/91	5.03			0.0			
	4/16/91	4.00			0.0			
	10/16/91	6.24			0.0			

EXPLANATION:

DTW = Depth to water

TOC = Top of casing elevation

GWE = Ground water elevation

msl = Measurements referenced relative to mean sea level

UNK = Unknown

--- = Not applicable/not measured

NOTES:

All top of casing elevations were compiled from Quarterly Groundwater Monitoring Report prepared for Chevron by Groundwater Technology, Inc., December 2, 1992.

Well construction details unavailable for inclusion in this report.

- Product thickness was measured on and after January 6, 1993 with an MMC flexi-dip interface probe.
- Tank backfill wells



Table 2. Analytic Results for Ground Water - Chevron Service Station #9-0329, 340 Highland Avenue, Piedmont, California

Well	Date	Analytic	Analytic	TPPH(G)	TOG	В	T ppb	E	X
ID	Sampled	Lab	Method	<	ad 48 at at at at at at at a p a p ap ap ap ap ap ap	>			
C-2	8/7/89	UNK	NS	34,000	12,000	580	60	170	270
	11/15/89	UNK	NS	8,100	<5,000	500	36	420	180
	2/1/91	UNK	NS	6,800	7,000	490	21	310	86
	4/16/91	UNK	NS	9,600	<5,000	810	43	550	270
	10/16/91	UNK	NS	7,100	<5,000	320	23	200	60
	1/8/92	UNK	NS	2,400		190	9	83	22
	4/10/92	UNK	NS	6,600		550	33	340	170
	7/14/92	UNK	NS	9,000		680	330	580	690
	10/5/92	UNK	NS	5,500		250	17	130	82
	1/6/93	SPA	8015/8020	5,500		190	32	41	54
	3/29/93	GTEL	8015/8020	19,000		670	40	180	370
	7/2/93	GTEL	8015/8020	$8,000^{2}$		1,100	41	420	500
	10/11/93	GTEL	8015/8020	42,000		940	34	140	87
C-3	8/7/89	UNK	NS	<50		<0.5	<1	<1	<3
	11/15/89	UNK	NS	<500	<5,000	<0.5	2.8	< 0.5	1.1
	2/1/91	UNK	NS	<50		< 0.5	< 0.5	<0.5	<0.5
	4/16/91	UNK	NS	<50		<0.5	< 0.5	<0.5	<0.5
	10/16/91	UNK	NS	<50		<0.5	< 0.5	<0.5	<0.5
	1/8/92	UNK	NS	<50		<0.5	<0.5	<0.5	<0.5
	4/10/92	UNK	NS	<50		<0.5	<0.5	<0.5	<0.5
	7/14/92	UNK	NS	<50		<0.5	<0.5	<0.5	<0.5
	10/5/92	UNK	NS	<50		<0.5	<0.5	<0.5	<0.5
	1/6/93	SPA	8015/8020	<50		<0.5	<0.5	<0.5	<0.5
	3/29/93	GTEL	8015/8020	<50		<0.5	<0.5	<0.5	0.8
	7/2/93	GTEL	8015/8020	<50		4	3	<0.5	3
	10/11/93	GTEL	8015/8020	<50		<0.5	<0.5	<0.5	<0.5
C-4	8/7/89	UNK	NS						
	11/15/89	UNK	NS	1,300	<5,000	2.9	310	0.5	2.9
	2/1/91	UNK	NS	72		9	<0.5	<0.5	<0.5
	4/16/91	UNK	NS	<50		<0.5	<0.5	<0.5	<0.5
	10/16/91	UNK	NS	<50		<0.5	<0.5	<0.5	<0.5
	1/8/92	UNK	NS	<50	***	<0.5	<0.5	<0.5	<0.5
	4/10/92	UNK	NS	<50		<0.5	<0.5	<0.5	<0.5
	7/14/92	UNK	NS	<50		<0.5	3.8	<0.5	<0.5
	10/5/92	UNK	NS	<50		<0.5	<0.5	<0.5	<0.5
	1/6/93	SPA	8015/8020	<50		0.7	<0.5	<0.5	<0.5
	3/29/93	GTEL	8015/8020	<50 ~~2		0.5	1	<0.5	2
	7/2/93	GTEL	8015/8020	<50 ²		<0.5	<0.5	<0.5	<0.5
	10/11/93	GTEL	8015/8020	<50		0.6	< 0.5	< 0.5	<0.5



Table 2. Analytic Results for Ground Water - Chevron Service Station #9-0329, 340 Highland Avenue, Piedmont, California (continued)

Well	Date	Analytic	Analytic	TPPH(G)	TOG	В	T	E	X
ID	Sampled	Lab	Method	<			ppb	5 4.3 130 86 <0.5 <0.5	>
Α ^ι	8/7/89	UNK	NS	1,000		50	6	5	22
	11/15/89	UNK	NS	3,700	<5,000	98	2.1	4.3	55
	2/1/91	UNK	NS	36,000		1,100	750	130	6,100
	4/16/91	UNK	NS	8,000		370	6	86	750
	10/16/91	UNK	NS						
\mathbf{B}^{1}	8/7/89	UNK	NS					~	
	11/15/89	UNK	NS						
	2/1/91	UNK	NS						
	4/16/91	UNK	NS						
	10/16/91	UNK	NS						
Trip Blar	ık 1/6/93	SPA	8015/8020	<50		<0.5	<0.5	<0.5	<0.5
TB-LB	3/29/93	GTEL	8015/8020	<50		<0.5	0.5	<0.5	I
	7/2/93	GTEL	8015/8020	<50		<0.5	< 0.5	<0.5	<0.5
	10/11/93	GTEL	8015/8020	<50		<0.5	<0.5	<0.5	<0.5
Bailer									
Blank	1/6/93	SPA	8015/8020	<50		<0.5	< 0.5	<0.5	<0.5
(BB)	3/29/93	GTEL	8015/8020	<50		<0.5	<0.5	<0.5	<0.5
•	7/2/93	GTEL	8015/8020	<50		<0.5	<0.5	<0.5	< 0.5
	10/11/93	GTEL	8015/8020	<50	***	<0.5	< 0.5	< 0.5	<0.5



Table 2. Analytic Results for Ground Water - Chevron Service Station #9-0329, 340 Highland Avenue, Piedmont, California (continued)

EXPLANATION:

TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylenes

TOG = Total Oil & Grease

ppb = Parts per billion

--- = Not analyzed/Not applicable

NS = Not stated

ANALYTIC METHODS:

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

8020 = EPA Method 8020 for BTEX

ANALYTIC LABORATORIES:

UNK = Unknown

SPA = Superior Precision Analytical, Inc., of Martinez, California

GTEL = Groundwater Technology Environmental Laboratories, Inc., of Concord, California

NOTES:

Analytic data prior to January 6, 1993 compiled from Quarterly Groundwater Monitoring Report prepared for Chevron by Groundwater Technology, Inc., December 2, 1992.

- ¹ Tank backfill wells.
- ² Laboratory reports that an uncategorized compound is not included in the gasoline hydrocarbon total.

29404T.GW



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 ±0.5°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 steam-cleaned Teflon batlers. The water samples are decanted into the appropriate container for the analysis to be performed. Prepreserved 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 and bailer blank accompanies each sampling set, or 5% trip blanks and 5% bailer blanks are included for sets of greater than 20 samples. The bailer blank is prepared by pouring previously boiled water into a steam-cleaned Teflon bailer prior to sampling a well. The trip and bailer blanks are analyzed for some or all of the same compounds as the ground water samples.



4080 Pike Lane Concord, CA 94520 (510) 685-7852 (800) 544-3422 Inside CA (800) 423-7143 Outside CA (510) 825-0720 FAX

Client Number: SIE01CHV08
Consultant Project Number: 1-294-04
Facility Number: 9-0328
Project ID: 340 Highland Ave.

Piedmont

Work Order Number: C3-10-0245

October 25, 1993

Ed Morales Sierra Environmental Services P.O. Box 2546 Martinez, CA 94553

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 10/12/93.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

GTEL Environmental Laboratories, Inc.

Gollen J. Buller

Eileen F. Bullen

Laboratory Director

Client Number: SIE01CHV08
Consultant Project Number: 1-294-04
Facility Number: 9-0328
Project ID: 340 Highland Ave. Piedmont

Work Order Number: C3-10-0245

Table 1

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015a

GTEL Sample Number		01	02	03	04
Client Identification		TB-LB	BB	C-4	C-3
Date Sampled		10/11/93	10/11/93	10/11/93	10/11/93
Date Analyzed		10/19/93	10/19/93	10/20/93	10/20/93
Analyte	Concentration, ug/L				
Benzene	0.5	<0.5	<0.5	0.6	<0.5
Toluene	0.5	<0.5	<0.5	< 0.5	<0.5
Ethylbenzene	0.5	<0.5	<0.5	<0.5	<0.5
Xylene, total	0.5	<0.5	<0.5	<0.5	<0.5
BTEX, total	-		••	0.6	
TPH as Gasoline	50	<50	<50	<50	<50
Detection Limit Multiplier	1	1	1	1	
BFB surrogate, % recovery		97.2	97.2	94.8	94.4

Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.



Client Number: SIE01CHV08
Consultant Project Number: 1-294-04
Facility Number: 9-0328
Project ID: Sindenant

Piedmont Work Order Number: C3-10-0245

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015a

GTEL Sample Number		05	G101993		
Client Identification		C-2	METHOD BLANK		·
Date Sampled		10/11/93			
Date Analyzed		10/21/93	10/19/93		
Analyte	Concentration, ug/L				
Benzene	0.5	940	<0.5		
Toluene	0.5	34	<0.5		
Ethylbenzene	0.5	140	<0.5		
Xylene, total	0.5	87	<0.5		
BTEX, total	-	1200	<u></u>		
TPH as Gasoline	50	42000	<50		
Detection Limit Multiplier	25	1			
BFB surrogate, % recovery					

Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.



Client Number: SIE01CHV08
Consultant Project Number: 1-294-04
Facility Number: 9-0328
Project ID: 340 Highland Ave. Piedmont
Work Order Number: C3-10-0245

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery,	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C3100208-6	20	ug/L	101	108	6.2	55 - 129
Toluene	C3100208-6	20	ug/L	95.5	109	9.6	72 - 149
Ethylbenzene	C3100208-6	20	ug/L	88.5	103	15.1	75 - 138
Xylene, total	C3100208-6	60	ug/L	79.7	111	28.6	74 - 147



☐ Yes Chain-of-Custody-Record Fax copy of Lab Report and COC to Chevron Contact: □ No KEN KAN 9-0329 Chevron Contact (Name) Chevron Facility Number ____ 842-8752 Facility Address 340 HIGHLAND AND PIECEST Chevron U.S.A. Inc. Consultant Project Number 1- 294. 84 G782 Laboratory Name _____ P.O. BOX 5004 Laboratory Release Number 86 18131 Consultant Name 51 ERRA ENVIRONMENTAL SVES San Ramon, CA 94583 Samples Collected by (Name) RGY MCNA 94553 Address P.D. BOX 2546 MARTINEZ FAX (415)842-9591 Project Contact (Name) @ MORACES GRAV W/1163 Collection Date ______ (Phone) 370. 1280 (Fax Number) 370-7459 NOTE : Analyses To Be Performed DO NOT BILL Purgeable Halocarbons (8010) 'urgeable Aromatica (8020) Purgeoble Organics (8240) TB-LB SAMPLES Extractable Organica (8270) BIEX + TPH CAS (8020 + 8015) 1 I ∢0 Seals in Oil and Grease (5520) ဖပ္မ Remarks ANALYZE 1000 HCL 73-43 \mathfrak{L} 1248 1314 0.3 1250 1325 4.2 Date/Ilme / / 8.3 Organization Turn Around Time (Circle Choice) Date/Time //55 Received By (Signature) Organization Relinquished By (Signature) 10.12-93 Relinguished By (Signature) وسك John welly 10/12/93 Organization Date/Time/2:30 Received By (Signature) Date/Time Organization 5 Days 19/2/93 10 Days Date/filme 12:30 Recieved For Laboratory By (Signgture) Date/Time Organization Ke Contracted Relinquished By (Signature)