



Chevron U.S.A. Inc.

2410 Camino Ramon, San Ramon, California • Phone (415) 842-9500
Mail Address: P.O. Box 5004, San Ramon, CA 94583-0804

EPA
h.s.
Cynthia

Marketing Operations

D. Moller
Manager, Operations
S. L. Patterson
Area Manager, Operations
C. G. Trimbach
Manager, Engineering

April 19, 1990

Mr. Rafat Shahid
Alameda County
Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Re: Former Chevron SS #9-4612
3616 San Leandro Street
Oakland, CA

Dear Mr. Shahid:

Enclosed we are forwarding the Quarterly Groundwater Sampling report dated January 10, 1990, conducted by our consultant Weiss Associates, at the above referenced site.

The groundwater beneath this site has been sampled four consecutive quarters. Sampling results generally show declining levels of hydrocarbon contaminants. In order to further characterize the extent of contamination, Chevron has instructed Weiss to proceed with additional well installations in the City streets hydrogeologically down gradient of the site. Chevron will proceed with this work under self direction unless otherwise informed by your office.

I declare under penalty of perjury that the information contained in the attached report is true and correct, and that any recommended actions are appropriate under the circumstances, to the best of my knowledge.

If you have any questions or comments please do not hesitate to call me at (415) 842 - 9625.

Very truly yours,
C. G. Trimbach

JMR/jmr
Enclosure

By 
John Randall

cc: Mr. Lester Feldman
RWQCB-Bay Area
1800 Harrison Street
Suite # 700
Oakland, CA 94612

January 10, 1990

John Randall
Chevron USA
P.O. Box 5004
San Ramon, CA 94583-0804

JAN 16 '90 H.C.H.

Re: Former Chevron Service Station #94612
3616 San Leandro Street
Oakland, California
WA Job #4-438-01

Dear Mr. Randall:

Weiss Associates (WA) collected ground water samples from one monitoring well on December 8, 1989 as part of the quarterly ground water monitoring program at former Chevron Service Station #94612 in Oakland, California (Figure 1). The ground water sample from monitoring well VH-1 (Figure 2) contained total purgeable petroleum hydrocarbons (TPPH) at 11,000 parts per billion (ppb), benzene at 1,900 ppb, ethylbenzene at 270 ppb, toluene at 69 ppb, and xylenes at 99 ppb.

GROUND WATER SAMPLING

Personnel: Robert Kitay
WA Position: Staff Geologist
Date of sampling: December 8, 1989

Monitoring/other well sampled: VH-1

Method of purging well:

- Steam-cleaned PVC bailer: VH-1

Volume of water purged prior to sampling:

- Well was purged of about three well-casing volumes, approximately 28 gallons.

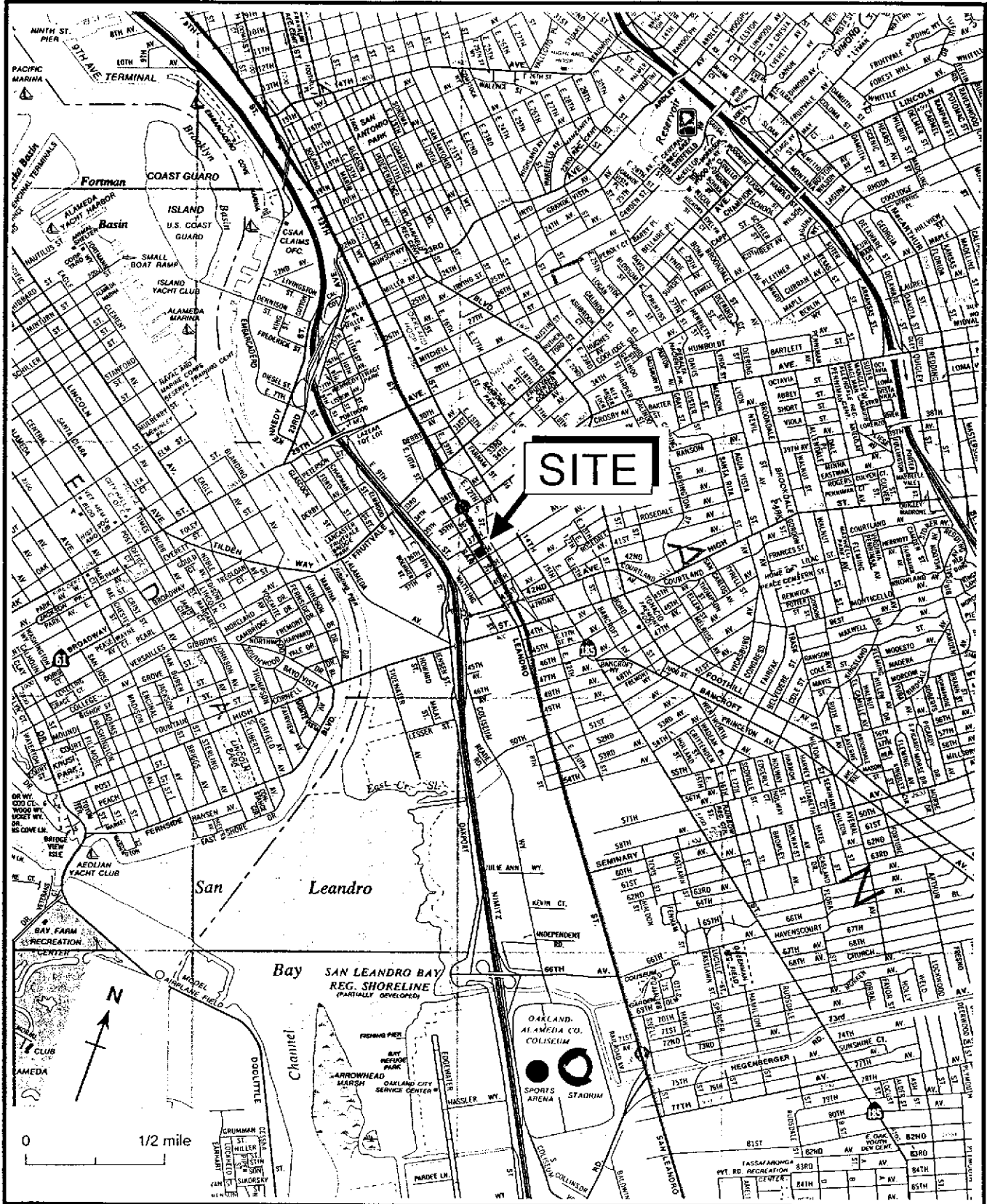
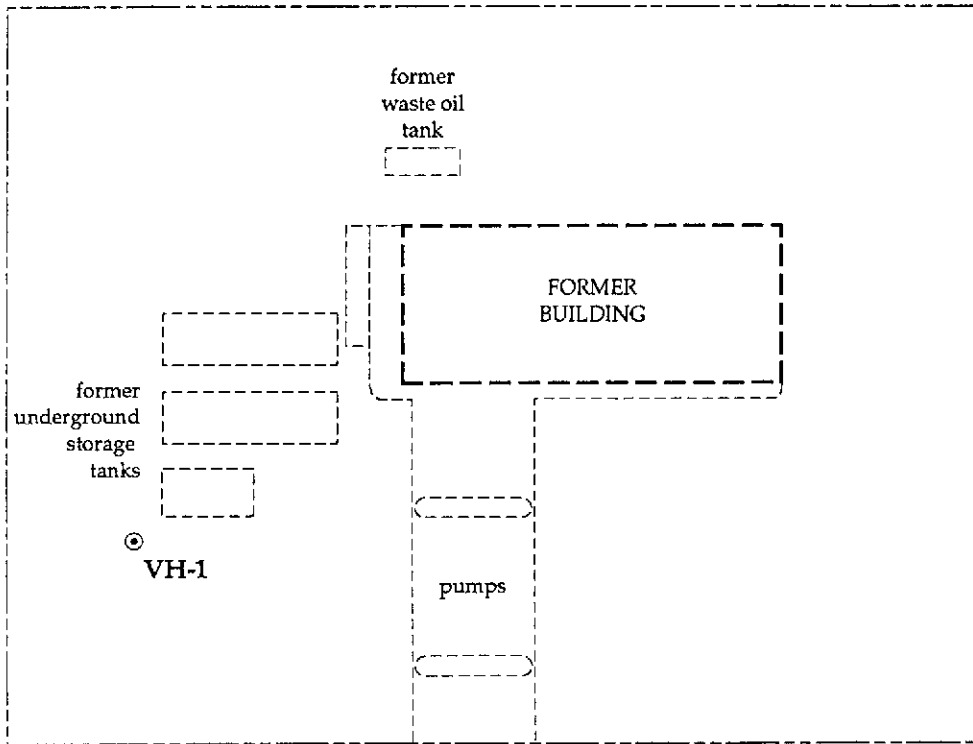
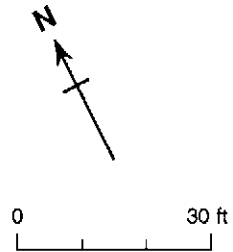


Figure 1. Site Location Map - Chevron Service Station #94612, 3616 San Leandro Street, Oakland, California

37TH AVENUE (FORMERLY MERRILL)



SAN LEANDRO STREET

EXPLANATION

⊙ VH-1 Monitoring well, approximately located

Figure 2. Monitoring Well Location - December 8, 1989 - Former Chevron Service Station #94612, 3616 San Leandro Street, Oakland, California

Mr. John Randall
January 10, 1990

4

Method of ground water sample collection:

- Decanted from disposable polyethylene bailer.

Method of containing ground water sample:

- 40 ml glass, volatile organic analysis (VOA) vial, preserved with hydrochloric acid and sealed in plastic guard bottle containing activated carbon pellets:

The sample was placed in a cooler and refrigerated for transport to the analytical laboratory.

Water samples transported to:

- Groundwater Technology Environmental Laboratories, Inc., Concord, California

Samples were received by laboratory on December 11, 1989.

Quality assurance/quality control:

A bailer blank was not necessary because a disposable polyethylene bailer was used to sample the well.

A travel blank was not necessary because previous analytic results have consistently shown moderate hydrocarbon concentrations in this well.

Water sample collection records and chain-of-custody forms are included as Attachments A and B, respectively.

GROUND WATER ELEVATIONS

Water levels were measured in: VH-1

Water level was measured on December 8, 1989.

Mr. John Randall
January 10, 1990

5

There is only one monitoring well on site, therefore a ground water elevation contour map was not prepared.

CHEMICAL ANALYSES

The ground water sample was analyzed for:

- Total purgeable petroleum hydrocarbons (TPPH) by modified EPA Method 8015.
- Benzene, ethylbenzene, toluene and xylenes (BETX) by EPA Method 8020

The sample was analyzed on December 12, 1989.

Discussion of analytic results of ground water for this quarter:

- Hydrocarbon concentrations are generally consistent with previous results.

The results of the water analyses are presented in Table 1 and the analytic reports are included as Attachment C.

There is only one monitoring well on site, therefore TPPH and BETX isoconcentration contour maps were not prepared.

We appreciate the opportunity to provide hydrogeologic consulting services to Chevron and trust that this report meets your needs. If you have any questions, please call Jim Carmody or Mariette Shin.



Sincerely,
Weiss Associates



Mariette Shin
Environmental Technician



Eric M. Nichols
Senior Water Resources Engineer

MMS/EMN:kw
F:\ALL\CHEV\438R1DE9.WP

Attachments: A - Water Sample Collection Records
B - Chain of Custody
C - Analytic Reports

TABLE 1. Analytic Results for Ground Water - Former Chevron Service Station #94612, 3616 San Leandro Street, Oakland, California

Sample ID	Date Sampled	Analytical Lab	Analytical Method	TPPH	parts per billion (µg/L)					TL	C
					B	E	T	X			
VH-1	8-10-88	CCAS	524.2/8240/7421/407	11,000	3,300	520	200	540	43	43,000	
	6-01-89	SAL	8015/8020	15,000	2,200	540	120	310	---	---	
	9-15-89	SAL	8015/8020	5,600	1,900	350	90	160	---	---	
	12-8-89	GTEL	8015/8020	11,000	1,900	270	69	99	---	---	
Travel Blank	6-01-89	SAL	8015/8020	<500	<0.5	<0.5	<0.5	<0.5	---	---	
	9-15-89	SAL	8015/8020	<500	<0.5	<0.5	<0.5	<0.5	---	---	

Abbreviations:

TPPH = Total Purgeable Petroleum Hydrocarbons
 B = Benzene
 E = Ethylbenzene
 T = Toluene
 X = Xylenes
 C = Chloride
 TL = Total Lead
 --- = Not Analyzed

Analytical Laboratory:

CCAS = Central Coast Analytical Services of Goleta, California
 SAL = Superior Analytical Laboratory of San Francisco, California
 GTEL = Groundwater Technology Environmental Laboratories, Inc. of Concord California

Analytic Methods:

407 = American Public Health Association Standard Method 407, Chloride
 524.2/8240 = Fuel Fingerprint Analysis - EPA Method 524.2/8240,
 Total Fuel and Aromatic Volatile Hydrocarbons
 7421 = EPA Method 7421, Total Lead
 8015 = Modified EPA Method 8015, TPPH
 8020 = EPA Method 8020, Volatile Aromatics



WATER SAMPLING DATA Well Name VH-1 Date 12-5-87 Time 11:40
 Job Name/Number Cherwin Oakland # 4-485-01 Initials RLK
 Well Spring Surface Other _____
 Location In basement of warehouse

WELL DATA: Well type M (Describe; M - monitoring well)
 Depth to Water 14.77 ft (pump/stat) Maximum Drawdown Limit (MDL) NA ft
 Well depth 28.60 ft (sounded) Well depth 28.57 ft (spec)
 Well diameter 4 in. TOC height above ground NA ft Water elev. NA ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop	/	/	<u>11:31</u>
Start	/	/	<u>11:03</u>
Total hrs/min	/	/	<u>28 min</u>
Total Evacuated	<u>28</u> gal.		
Evacuation Rate	<u>1.0</u> gpm		

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
 V₂" casing = 0.163 gal/ft
 V₃" casing = 0.367 gal/ft
 V₄" casing = 0.653 gal/ft
 V_{4.5}" casing = 0.826 gal/ft
 V₆" casing = 1.47 gal/ft
 V₈" casing = 2.61 gal/ft

Pump # and type / Bailer # and type PVC # LL
 Hose # and type /

Sampling Port: Rate / gpm Volume / gal.
 Location/description /

Initial height of water in casing = 13.83 ft; volume = 9.08 gal. $\times 3$
 Evacuation at drawdown limit = 3 x initial volume = / gal.
 Evacuation at sampling point = 1 x initial volume = / gal.
 Total to be evacuated = 27.1 gal.

Water Color: None Odor: Very strong
 Description of sediment and/or foreign matter in sample: None

Point of collection: Bottom of disposable polyethylene bucket
 Depth to water during pumping / ft / time Sampling / ft / time
 Pumped dry? No After / gal. Recovery rate /
 ADDITIONAL COMMENTS, LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over).

CHEMICAL DATA

Temperature / °C Thermometer # _____ Specific Conductance / umhos
 pH / Calibration / 4.0, / 7.0, / 10.0 Calibration Temp. / °C

SAMPLES COLLECTED:

Sample ID No.	Bottle/Cap (Specify)	Filtered (size, u) (N - No)	Preservative (specify) (R - Refrigerated)	Analysis	Lab
<u>129-1</u>	<u>40 ml PVC</u>	<u>N</u>	<u>HE1 R</u>	<u>URS/BETX</u>	<u>GTEL</u>
	ml				
	ml				
	ml				
	ml				
	ml				
	ml				
	ml				
	ml				
	ml				

Bottles: P - Polyethylene; Pp - Polypropylene; C or B - Clear/Brown Glass; O - Other (describe)
 Additional Cap Codes: Py - Polyseal; V - VOA/Teflon septa; M - Metal

Project Number: SFB-175-0204.72
Consultant Project Number: 4-438-01
Contract Number: N46CWC0244-9-X
Facility Number: 94612
Work Order Number: C912261
Report Issue Date: December 16, 1989

Table 2

REAGENT BLANK DATA

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

Date of Analysis: 12/12/89

Analyte	Concentration, ug/L
Benzene	<0.3
Toluene	<0.3
Ethylbenzene	<0.3
Xylene (total)	<0.6
Gasoline	<50

Project Number: SFB-175-0204.72
 Consultant Project Number: 4-438-01
 Contract Number: N46CWC0244-9-X
 Facility Number: 94612
 Work Order Number: C912261
 Report Issue Date: December 16, 1989

Table 3

INDEPENDENT QC CHECK SAMPLE RESULTS

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015

Date of Analysis: 12/08/89

Analyte	Expected Result, ug/L	Observed Result, ug/L	Recovery, %	Acceptability Limits, %
Benzene	50	52	104	85 - 115
Toluene	50	52	104	85 - 115
Ethylbenzene	50	54	108	85 - 115
Xylene (total)	150	162	108	85 - 115

Table 3a

INDEPENDENT QC CHECK SAMPLE SOURCE

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015

Analyte	Lot Number	Source
Benzene	LA18104	SUPELCO
Toluene	LA18104	SUPELCO
Ethylbenzene	LA18104	SUPELCO
Xylene (total)	LA18104	SUPELCO

Project Number: SFB-175-0204.72
Consultant Project Number: 4-438-01
Contract Number: N46CWC0244-9-X
Facility Number: 94612
Work Order Number: C912261
Report Issue Date: December 16, 1989

Table 4

SURROGATE COMPOUND RECOVERY

Naphthalene

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

Acceptability Limits¹: 73 - 129 %

GTEL No.	Expected Result, ug/L	Surrogate Result, ug/L	Surrogate Recovery, %
Blank	200	200	100
01	200	234	117
MS	200	176	88
WS	200	218	109
WSD	200	193	97

MS = Matrix Spike
WS = Reagent Water Spike
WSD = Reagent Water Spike Duplicate
1 = Acceptability limits are derived from the 99% confidence interval of all samples during the previous quarter.

Project Number: SFB-175-0204.72
Consultant Project Number: 4-438-01
Contract Number: N46CWC0244-9-X
Facility Number: 94612
Work Order Number: C912261
Report Issue Date: December 16, 1989

Table 5

MATRIX SPIKE (MS) RECOVERY REPORT

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

Date of Analysis: 12/12/89 Client ID: B
Sample Spiked: C912246-02 Units: ug/L

Analyte	Sample Result	Concentration Added	Concentration Recovered	MS Result	MS, % Recovery	Acceptability Limits ¹ , %
Benzene	<0.3	25	27.0	27.0	108	73 - 119
Toluene	<0.3	25	21.5	21.5	86	72 - 118
Ethylbenzene	<0.3	25	21.7	21.7	87	78 - 115
Xylene (total)	<0.6	75	67.9	67.9	91	84 - 116

<# = Not detected at the indicated detection limit.

1 = Acceptability limits are derived from the 99% confidence interval of all samples during the previous quarter.

Project Number: SFB-175-0204.72
 Consultant Project Number: 4-438-01
 Contract Number: N46CWC0244-9-X
 Facility Number: 94612
 Work Order Number: C912261
 Report Issue Date: December 16, 1989

Table 6

REAGENT WATER SPIKE AND REAGENT WATER SPIKE DUPLICATE
 RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD) REPORT

Purgeable Aromatics and Total Petroleum Hydrocarbons
 as Gasoline in Water
 EPA Method 8020/8015

Date of Analysis: 12/12/89

Units: ug/L

Analyte	Concentration Added	WS Result	WS, % Recovery	WSD Result	WSD, % Recovery
Benzene	25	27.2	109	25.9	104
Toluene	25	25.5	102	24.1	96
Ethylbenzene	25	26.9	108	24.9	100
Xylene (total)	75	84.7	112	78.0	104

Analyte	RPD, %	Acceptability Limits	
		Maximum RPD, %	% Recovery ¹
Benzene	5	30	76 - 120
Toluene	6	30	72 - 117
Ethylbenzene	8	30	73 - 123
Xylene (total)	8	30	81 - 125

1 = Acceptability limits are derived from the 99% confidence limit of all samples during the previous quarter.