

Chevron U.S.A. Inc.

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

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

John Randal

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

Geologic and Environmental Services

Fax: 415-547-5043

5500 Shellmound Street, Emeryville, CA 94608

Phone: 415-547-5420

January 10, 1990

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

JAN 1 6 '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.

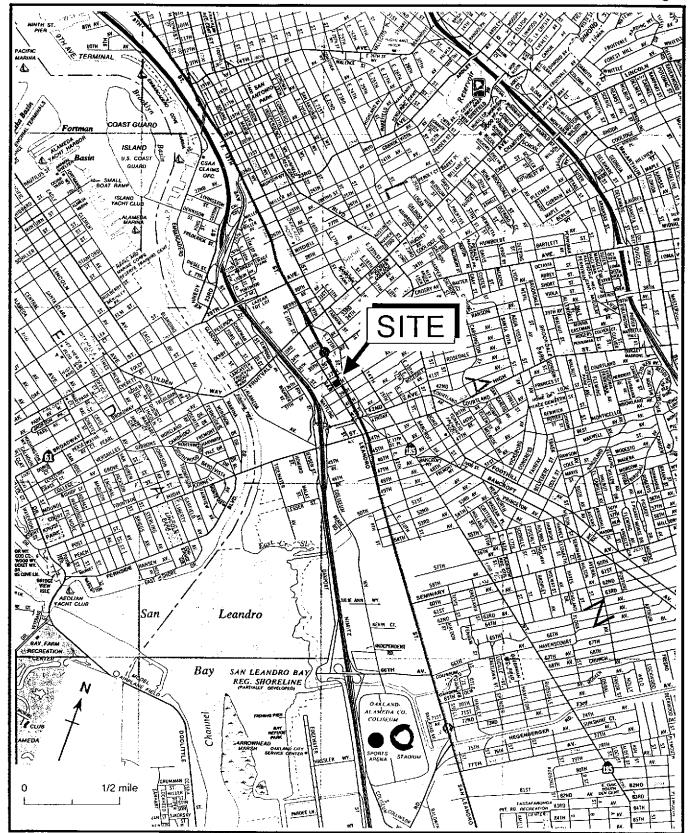


Figure 1. Site Location Map - Chevron Service Station #94612, 3616 San Leandro Street, Oakland, California

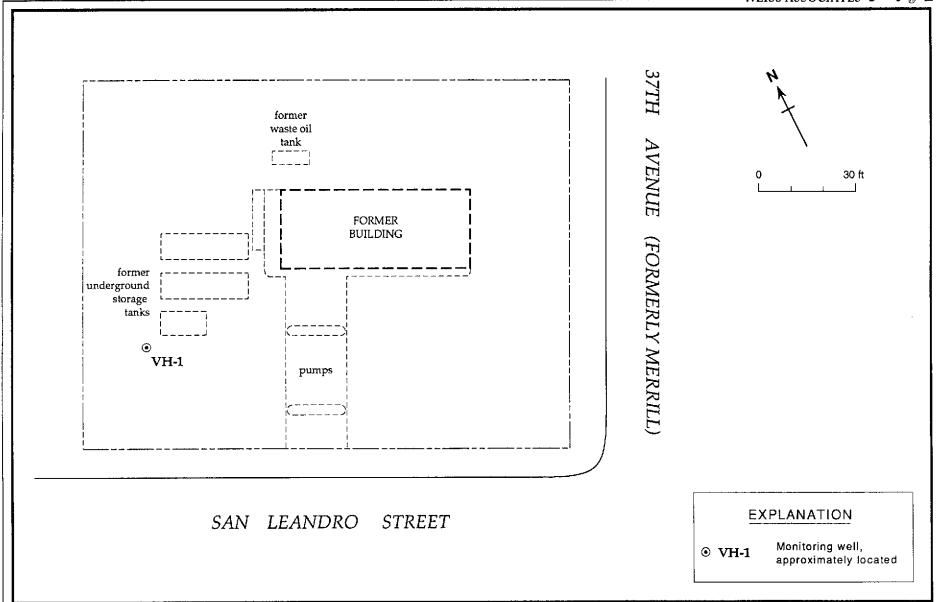


Figure 2. Monitoring Well Location - December 8, 1989 - Former Chevron Service Station #94612, 3616 San Leandro Street, Oakland, California

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

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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

No. C 042695

Exp. 3/31/82

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	Analytica Lab	l Analytical Method	TPPH <	B	E	T partor per bi	X (Ltion (μg/L)	TL	C
	0.40.00	CCAS	524.2/8240/7421/407	11 000	3,300	520	200	540	43	43,000
VH-1	8-10-88 6-01-89	SAL	8015/8020	13,000	2,200	540	120	310		
	9-15-89	SAL	8015/8020	5,600	1,900	350	90	160		
	12-8-89	GTEL		11,000	1,990	270	69	99		
Tagual	6-01-89	SAL	8015/8020	<500	<0.5	<0.5	<0.5	<0.5		
Travel Blank	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

	7 - L M / M
	Job Name/Number Observed Contiand I 4-438-01 Initials REK
	Well X Spring Surface Other
	Location for pertocan of whenthersky
	WELL DATA: Well type // (Describe; M - monitoring well) Depth to Water // // ft (pump(stat) Maximum Drawdown Limit (MDL) // ft
	Wall death 27 ft (pumpestal) restaurant blawdown blatt (mbb) 10 ft
	Well depth 25.6 ft (sounded) Well depth 25.57 ft (spec)
	Well diameter $\frac{4}{2}$ in. TOC height above ground $\frac{1}{2}$ ft Water elev. $\frac{1}{2}$ ft
	Volume Evacuated: Pumped Pumped Bailed
	Time: Stop
	Start 11.0.3 r = well radius in ft
	Total hrs/min b = ht of water col in ft
	7.40 841/20
	Evacuation Rate / C gpm V2" casing = 0.163 gal/ft
	V ₃ " casing = 0.367 gal/ft V ₄ " casing = 0.653 gal/ft V ₄ " casing = 0.653 gal/ft
	Pump # and type Bailer # and type fv LL V4" casing = 0.653 gal/ft V4.5" casing = 0.826 gal/ft
	Hose # and type V6" casing = 1.47 gal/ft
	V ₈ " casing = 2.61 gal/ft
	Sampling Port: Rate gpm Volume gal.
	Location/description
	.7 87
	Initial height of water in casing = 13 83 ft; volume = 9-03 gal.
	Evacuation at drawdown limit = 3 x initial volume = gal.
	Evacuation at sampling point - 1 x initial volume - gal.
	
	Total to be evacuated = 27. f gal.
	Water Color: None Odor: Very Hone
	Description of sediment and/or foreign matter in sample: Node
•	Description of sediment and/or foreign matter in sample: Abdu
	Description of sediment and/or foreign matter in sample: Abdu
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A 11965	Point of collection: Betom of disposible following backer Depth to water during pumping ft time Sampling ft time
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ân luci	Point of collection: British of dispersion for foreign matter in sample: Abdul Point of collection: British of dispersion for foreign matter in sample: Abdul Depth to water during pumping ft time Sampling ft time Pumped dry? 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
ån lue	Point of collection: between of desperable parts and property for time sample: Node parts for time sample parts for time sampling ft time additional comments, location sketch, environmental conditions, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over).
والمرابعة	Point of collection: British of dispersion for foreign matter in sample: Abdul Point of collection: British of dispersion for foreign matter in sample: Abdul Depth to water during pumping ft time Sampling ft time Pumped dry? 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
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فكام المائية	Point of collection: Stem of desperable for time Sample: Abdulation for time Sampling ft ti
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	Point of collection: Better of desperable for foreign matter in sample: Acquired for the collection: Better of desperable for the collection of the collection for th
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an we	Point of collection: between of desperation and provided for foreign matter in sample: Active Point of collection: between of desperation for the first between the first bet
and and	Point of collection: Depth to water during pumping
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arity (3)	Point of collection: Determined from the sample for the sample for time from the sample for time for the sampling for time for sampling for

of-Custody Record (Oakland III) 94612 Chevron Contact (Name) __ Chevron Facility Number P.O. Box 5004 San Ramon, CA 9458 FAX (415) 842-9591 Consultant 4-438-01 Release Number 248 Laboratory Name Samples Collected by (Name) (415) Collection Date Project Contact (Name) 465+1100 Analyses To Be Performed = Air = Charcoat Arom. Volatiles - BTXE Soil: 8020/Wtr.; 602 Arom, Volatiles - BTXE Soil: 8240/Wtr.: 624 Modified EPA 8015 Total Petro. Hydrocarb. **Number of Containers** G = Grab C = Composite Modified EPA 8015
Total Petro. Hydrocarl
as Gasoline + Diesel 503 Oil and Grease **DHS-AB 1803** Matrix S = Soil W = Water Total Lead DHS-Luft Type Remarks Yes 3 Turn Around Time Organization CONTRACTOR Date/Time Date/Time 1525 Received By (Signarure)/ Rolinquished By (Signature) Organization 12/8/89.30 STM Choice) duson 12/8/89 24 Hrs Date / time Received By (Signature) Organization Date/Time Organization Relinquished By (Signature) 48 Hrs 5 Days Date/Time 2/1/89.3:1 Received For Laborardry By (Signatore) 10 Days Date/Time Relinquished By (Signature) Organization WS 505 (6.35

Pariet e USA

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
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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



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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

WS

1

WSD

Matrix Spike Reagent Water Spike Reagent Water Spike Duplicate 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: Sample Spiked:

<# 1

12/12/89

C912246-02

Client ID: 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. 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:

1

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

		Acceptability Limits		
Analyte	RPD, %	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	

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

