Chevron

Chevron

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

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

November 15, 1994

Mr. Barney Chan
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

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

Dear Mr. Chan:

Enclosed is the quarterly Groundwater Monitoring and Sampling Activities report dated September 21, 1994, prepared by our consultant Groundwater Technology, Inc. (GTI) for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline and BTEX. Sampling of MW-3 for TPH-D was overlooked during the past quarter, however will be included in subsequent monitoring events. Dissolved concentrations of these constituents observed during the past quarter are consistent with historical results. Depth to ground water was measured at approximately 10.8 to 11.4 feet below grade and the direction of flow is to the southeast.

As indicated in Chevron's letter of September 20, 1994, we have instructed GTI to move forward with the work plan dated March 25, 1994, for additional assessment. It does not appear possible or necessary to pursue additional up gradient plume definition at this time.

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: Ms. B.C. Owen

Mr. Jack Ratto
191 98th Avenue
Oakland, CA 94603

Mr. Vernon C.McIlraith
1809 Golden Rain Road, #5
Walnut Creek, CA 94595

File: 9-4612 QM6

GROUNDWATER TECHNOLOGY, INC.

4057 Port Chicago Highway, Concord, CA 94520 (415) 671-2387
FAX: (415) 685-9148

September 21, 1994

Project No. 020104099

Mr. Mark Miller
Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583-0804

SUBJECT: *Groundwater Monitoring and Sampling Activities*
Chevron Service Station No. 9-4612
3616 San Leandro Street, Oakland, California

Dear Mr. Miller:

Groundwater Technology, Inc. presents the quarterly groundwater monitoring and sampling data collected on August 28, 1994. Three groundwater monitoring wells at this site were gauged to measure depth to groundwater (DTW) and to check for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not detected in the monitoring wells. A potentiometric surface map and a summary of groundwater monitoring data are presented in attachments 1 and 2, respectively. After the DTW was measured, each monitoring well was purged and sampled. Groundwater monitoring and sample collection protocol and field data sheets are presented in attachment 3. The groundwater samples collected were analyzed for benzene, toluene, ethylbenzene, and xylenes and total petroleum hydrocarbons-as-gasoline. Results of the chemical analyses are summarized in attachment 2. The laboratory report and chain-of-custody record are included in attachment 4. Monitoring-well purge water was transported by Groundwater Technology to the Chevron Terminal in Richmond, California, for recycling.

Groundwater Technology is pleased to assist Chevron on this project. If you have any questions or comments, please contact our Concord office at (510) 671-2387.

Sincerely,
Groundwater Technology, Inc.
Written/Submitted by

Kenneth P. Johnson
Project Manager

Wendell W. Lattz
Vice President, General Manager
West Region

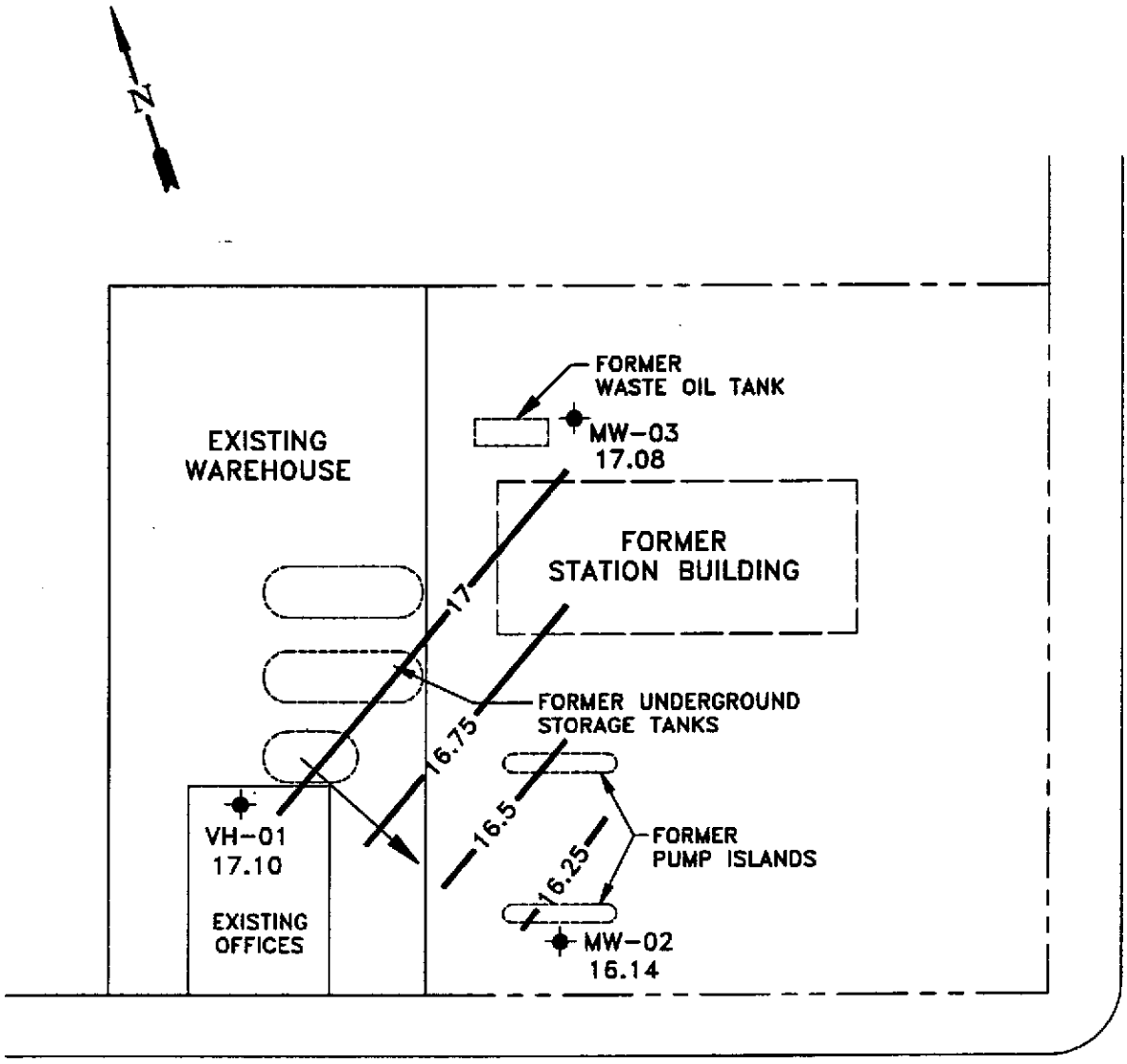
PR

Attachment 1 Figures
Attachment 2 Table
Attachment 3 Protocol and Field Data Sheets
Attachment 4 Laboratory Report

4099QMSR.394

ATTACHMENT 1

Figures



REGISTERED GEOLOGIST
EDVARDAS (ED) K. SIMONIS
No. 4422
STATE OF CALIFORNIA

LEGEND

- PROPERTY LINE
- MONITORING WELL
- X.XX — POTENTIOMETRIC SURFACE ELEVATION (FT)
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION

NOTE:
1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS ABOVE MEAN SEA LEVEL.

GROUNDWATER TECHNOLOGY

0 FEET 30
SCALE

POTENTIOMETRIC SURFACE MAP (8/26/94)

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-4612	FILE: 4099PSM, (1:30)	PROJECT NO.: 02010-4099	PM: [illegible]	PE/RG: SS
LOCATION: 3616 SAN LEANDRO STREET OAKLAND, CALIFORNIA	REV.			FIGURE: 1
	DES.: SS	DET.: SS	DATE: 8/30/94	

ATTACHMENT 2

Table

TABLE 1
MONITORING DATA AND ANALYTICAL RESULTS OF GROUNDWATER
Chevron Station No. 9-4612
3616 San Leandro Street, Oakland, California

Well ID/Elev	Date	TPH-G	Benzene	Toulene	Ethyl-benzene	Xylenes	TPH-D	TOG	HVO	DTW (ft)	SPT (ft)	GWE (ft)
VH-1	08/10/88	11,000	3,300	200	520	540	---	---	---	13.00	---	---
	06/01/89	15,000	2,200	120	540	310	---	---	---	10.32	---	---
	09/15/89	5,600	1,900	90	350	160	---	---	---	15.69	---	---
	12/08/89	11,000	1,900	69	270	99	---	---	---	14.77	---	---
	03/07/91	4,500	820	39	120	77	---	---	---	11.26	---	---
	09/24/91	3,300	520	19	39	27	---	---	---	12.98	---	---
	01/08/92	5,000	600	34	81	76	---	---	---	13.77	---	---
	04/20/92	7,400	670	60	110	140	---	---	---	8.18	---	---
27.85	03/26/93	4,900	600	40	72	94	---	---	---	6.71	0.00	21.14
	05/27/93	13,000	1,600	120	230	220	---	---	---	8.58	0.00	19.27
	08/18/93	2,700	210	10	8.1	18	---	---	---	10.46	0.00	17.39
	11/03/93	4,600	680	42	35	68	---	---	---	12.57	0.00	15.28
	02/10/94	1,900	260	19	22	29	---	---	---	9.08	0.00	18.77
	05/12/94	2,000	390	28	3.9	29	---	---	---	8.09	0.00	19.76
	08/26/94	4,900	500	<5	23	31	---	---	---	10.75	0.00	17.10
MW-2	02/16/93	9,200	720	110	250	170	---	---	---	---	---	---
27.51	03/26/93	---	---	---	---	---	---	---	---	7.62	0.00	19.89
	05/27/93	360	5.3	2.1	1.8	2.5	---	---	---	9.47	0.00	18.04
	08/18/93	9,400	1,100	76	110	100	---	---	---	11.05	0.00	16.46
	11/03/93	8,600	390	20	2.7	120	---	---	---	12.95	0.00	14.56
	02/10/94	2,700	370	38	44	41	---	---	---	9.79	0.00	17.72
	05/12/94	3,800	650	76	15	62	---	---	---	8.92	0.00	18.59
	08/26/94	16,000	1,300	270	28	120	---	---	---	11.37	0.00	16.14
MW-3	02/16/93	3,500	<0.5	8.1	4.6	7.7	---	---	---	---	---	---
28.50	03/26/93	---	---	---	---	---	---	---	---	7.18	0.00	21.32
	05/27/93	4,200	580	84	150	100	---	---	---	9.33	0.00	19.17
	08/18/93	910	12	3.7	6.2	3.8	1,400	<5,000	ND	12.00	0.00	16.50
	11/03/93	5,300	29	1.9	0.6	27	---	---	---	13.29	0.00	15.21
	02/10/94	63	<0.5	0.7	<0.5	<0.5	<50	---	---	9.63	0.00	18.87
	05/12/94	<50	<0.5	0.5	<0.5	<0.5	84	---	---	8.77	0.00	19.73
	08/26/94	2,100	12	<0.5	5.0	0.5	---	---	---	11.42	0.00	17.08

TABLE 1
MONITORING DATA AND ANALYTICAL RESULTS OF GROUNDWATER
Chevron Station No. 9-4612
3616 San Leandro Street, Oakland, California

Well ID/Elev	Date	TPH-G	Benzene	Toulene	Ethyl-benzene	Xylenes	TPH-D	TOG	HVO	DTW (ft)	SPT (ft)	GWE (ft)
Rinsate	02/10/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---
TBLB	05/27/93	<50	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---
	08/18/93	<50	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---
	11/03/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---
	02/10/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---
	05/12/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---
	08/26/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---

TPH-G = Total petroleum hydrocarbons-as-gasoline
DTW = Depth to water
SPT = Separate-phase hydrocarbons
GWE = Groundwater elevation in feet above mean sea level relative to United States Geological Survey brass disc
HVO = Halogenated volatile organics
--- = Not available, not sampled, not monitored
Data for VH-1 (August 10, 1988 to April 20, 1992) from Pacific Environmental Group Inc. Report, May 18, 1992.
Concentrations are presented in parts per billion (ppb).

ATTACHMENT 3

Groundwater Monitoring and Sample Collection Protocol
and
Field Data Sheets

GROUNDWATER TECHNOLOGY GROUNDWATER MONITORING AND SAMPLE COLLECTION PROTOCOL

Groundwater Monitoring

Groundwater monitoring is accomplished using a INTERFACE PROBE™ Well Monitoring System. The INTERFACE PROBE™ Well Monitoring System is a hand held, battery operated device for measuring the depth to separate-phase hydrocarbons and depth to water. The INTERFACE PROBE™ Well Monitoring System consists of a dual-sensing probe which utilizes an optical liquid sensor and electrical conductivity to distinguish between water and petroleum products.

Monitoring is accomplished by measuring from the surveyed top of well casing or grade to groundwater and separate-phase hydrocarbons if present. The static water elevation is then calculated for each well and a potentiometric surface map is constructed. If separate-phase hydrocarbons are detected the water elevation is adjusted by the following calculation:

(Product thickness) x (0.8) + (Water elevation) = Corrected water elevation

Groundwater monitoring wells are monitored in order of wells with lowest concentrations of volatile organic compounds to wells with the highest concentrations, based upon historical concentrations. If separate-phase hydrocarbons are encountered in a well, the product is visually inspected to confirm and note color, amount, and viscosity. Monitoring equipment is washed with laboratory grade detergent and rinsed with distilled or deionized water before monitoring each well.

Groundwater Sampling

Before groundwater samples are collected, sufficient water is purged from each well to ensure representative formation water is entering the well. Wells are purged and sampled in the same order as monitoring, from wells with the lowest concentrations of volatile organic compounds to wells with the highest concentrations. Wells are purged using either a polyvinyl chloride (PVC) bailer fitted with a check valve or with a stainless steel submersible Grundfos pump. The purge equipment is decontaminated before use in each well by washing with laboratory grade detergent and tripled rinsing with deionized or distilled water. A minimum of 3 well-casing volumes of water are removed from each well while pH, electrical conductivity, and temperature are recorded to verify that "fresh" formation water is being sampled and the parameters have stabilized. If the well is low yielding, it may be purged dry and sampled before 3 casing volumes are purged. The wells are then allowed to recharge to approximately 80 percent of the initial water level before a sample is collected.

Groundwater samples are collected from each well using a new, prepackaged disposable bailer and string. The water sample is decanted from the bailer into laboratory-provided containers (appropriate for the analyses required) so that there is no headspace in the containers. Samples collected for benzene, toluene, ethylbenzene, xylene, and total petroleum hydrocarbons (TPH)-as-gasoline analyses are collected in 40-milliliter vials fitted with Teflon® septum lids. Samples are preserved with hydrochloric acid (HCL) to a pH of less than 2. Dissolved metals samples are filtered through a 0.45-micron paper filter in the field and preserved as required before submitting to the laboratory for analyses. All samples are labeled immediately upon collection and logged on the chain-of-custody record. Sample label and chain-of-custody recorded information includes the project name and number, sample identification, date and time of collection, analyses requested, and the sampler's name. Sample bottles are placed in plastic bags (to protect the bottles and labels) and on ice (frozen water) in an insulated cooler and are shipped under chain-of-custody protocol to the laboratory.

The chain-of-custody record documents who has possession of the samples until the analyses is performed. Other pertinent information is also noted for the laboratory use on the chain-of-custody record.

Trip blanks (TBLBs) are used for each project as a quality assurance/quality control measure. The TBLBs are prepared by the laboratory and are placed in the insulated cooler and accompany the field samples throughout the sampling event.

Project Name: Chevron - San Leandro

Date: _____

Site Address: 3616 San Leandro Blvd., Oakland

Page 1 of 3

Project Number: 020104099.0610

Project Manager: Ken Johnson

Well ID: UH-1

Well Diameter: 4

DTW Measurements: DTB = 28.51

Initial: 10.75 Calc Well Volume: 11.72 gal

Recharge: _____ 3 Well Volume: 36 gal

Purge Method

Peristaltic X

Gear Drive _____

Submersible X

Pump Depth _____ ft.

Hand Bailed _____

Air Lift _____

Other _____

Instruments Used

YSI: X

Hydac: _____

Omega: _____

Other: _____

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
9:30	19.3	0.98	6.98	9	clear	
9:35	19.3	0.98	6.90	17	clear	
9:39	19.6	0.99	6.73	25	clear	
9:42	19.6	0.99	6.76	30	clear	
9:48	19.5	0.99	6.89	36	clear	

Project Name: Chevron - San Leandro

Date: -

Site Address: 3616 San Leandro Blvd., Oakland

Page 2 of 3

Project Number: 020104099.0610

Project Manager: Ken Johnson

Well ID: MW-2

Well Diameter: 2

DTW Measurements:
Initial: 11.37 Calc Well Volume: 1.36 gal
Recharge: 3 Well Volume: 5 gal

Purge Method
Peristaltic
Gear Drive
Submersible

Pump Depth ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI:
Hydac:
Omega:
Other:

Time	Temp C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
10:02	19.7	0.98	7.16	1	cloudy	Sheen
10:03	20.1	0.98	6.95	2	cloudy	|
10:04	20.1	0.99	6.91	3	cloudy	|
10:05	20.0	0.98	6.96	4	cloudy	|
10:06	20.0	0.98	6.94	5	cloudy	|

Project Name: Chevron - San Leandro

Date: _____

Site Address: 3616 San Leandro Blvd., Oakland

Page 3 of 3

Project Number: 020104099.0610

Project Manager: Ken Johnson

Well ID: MW-3

Well Diameter: 2

DTW Measurements:
Initial: 11.42 Calc Well Volume: 1.3 gal
Recharge: _____ 3Well Volume: 4 gal

Purge Method
Peristaltic_____
Gear Drive_____
Submersible_____

Pump Depth_____ft.
Hand Bailed X
Air Lift_____
Other_____

Instruments Used
YSI: X
Hydac: _____
Omega:_____
Other:_____

Time	Temp ~~C~~ F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
10:15	19.7	0.94	6.87	1	cloudy	
10:16	19.6	0.90	6.92	2		very sandy
10:17	19.6	0.90	6.92	3	↓	
10:18	19.5	0.89	7.12	4	dry @ 4gal	
10:19						

ATTACHMENT 4

Laboratory Reports

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

GROUNDWATER TECHNOLOGY, INC.
Attn: KEN JOHNSON

Project 9-4612
Reported 09/09/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
30730- 1	TB-LB	08/26/94	09/07/94	Water
30730- 2	VH-1	08/26/94	09/07/94	Water
30730- 3	MW-3	08/26/94	09/07/94	Water
30730- 4	MW-2	08/26/94	09/07/94	Water

RESULTS OF ANALYSIS

Laboratory Number:	30730- 1	30730- 2	30730- 3	30730- 4
Gasoline:	ND<50	4900	2100	16000
Benzene:	ND<0.5	500	12	1300
Toluene:	ND<0.5	ND<5	ND<0.5	270
Ethyl Benzene:	ND<0.5	23	5.0	28
Total Xylenes:	ND<0.5	31	0.5	120
Concentration:	ug/L	ug/L	ug/L	ug/L

Certified Laboratories
1555 Burke St., Unit 1 • San Francisco, California 94124 • (415) 647-2081 / Fax (415) 821-7123

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☐ No 30730

Chain-of-Custody-Reco

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number 9-4612
Facility Address 3616 SAN LEANDRO BLVD
Consultant Project Number 20104099
Consultant Name GROUNDWATER TECHNOLOGY
Address 4057 PORT CHICAGO HWY CONCORD, CA
Project Contact (Name) KEN JOHNSON
(Phone) 671-2387 (Fax Number)

Chevron Contact (Name) Mark Miller
(Phone) 510 842-8134
Laboratory Name Superior
Laboratory Release Number 763-3640
Samples Collected by (Name) TERRY JAMES
Collection Date 8/26/94
Signature Terry James

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)						Remarks
								Analyses To Be Performed													NOTE: Do Not Bill TB-LB SAMPL
TBLB	(1)	2	W				↑	X													
MW-1	(2)	3	W	C	10:25	Yes	Yes	X													
MW-3	(3)	3	W	C	10:30	↓	↓	X													
MW-2	(4)	3	W	C	10:40	↓	↓	X													

Please Initial: m
Samples Stored in Ice: Y
Appropriate containers: YES
Samples preserved: Y
VOA's without headspace: YES
Comments: 11 - VOAS RECEIVED

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Terry James	GTI	8/26	Walter Engman	Aero	8/29 2:45
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Walter Engman	Aero	8/29 3:03			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			Mark Miller		8/29/94 3:04 PM

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted