PACIFIC AMERICAN MANAGEMENT CO.
PAMCO

369 Broadway • San Francisco, CA 94133
(415) 421-9099 • Fax: (415) 421-2544

Susan Clark, Property Manager

Francis Meynard, Controller

June 15, 1994

Ms. Eva Chu
ALAMEDA COUNTY HEALTH AGENCY
80 Swan Way, Room 200
Oakland, California 94621

RE: GROUNDWATER MONITORING

Dear Ms. Chu:

I have Chevron's letter of June 7, 1994 with the attached groundwater test results. As you can see, there is heavy concentration of TPH in the vicinity of their old tanks. The concentrations in the down gradient well will increase as the plume enriches from it source.

It would appear to me that the best way of handling this matter would simply be to excavate the contaminated soil in the vicinity of the former Chevron tanks replacing same with clean new fill. This will stop the source. This is the procedure that should have been followed when they vacated this site. Given the high values of the groundwater tests they can darn near take the soil to their refinery, reprocess it and sell it again.

Very truly yours,

PACIFIC AMERICAN MANAGEMENT CO.

RONALD E. HOTHEM

encl.
cc: Bette Owen/Chevron, USA Products Co.
Leonard Stein, Esq. (w/encl.)
c:\files:chu-5.ltr

GROUNDWATER TECHNOLOGY, INC.

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

May 27, 1994

Project No. 020105494

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

SUBJECT: *Groundwater Monitoring and Sampling Activities*
Chevron Service Station No. 9-1723
9757 San Leandro St., Oakland, California

Dear Mr. Kan:

Groundwater Technology, Inc. presents the attached quarterly groundwater monitoring and sampling data collected on May 12, 1994. Five 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. Figure 2, in Attachment 1 shows the historical locations of the pump islands, sidewalk and buildings. After the DTW was measured, the monitoring wells were purged and sampled. Groundwater monitoring and sample collection protocol and field data sheets are presented in Attachment 3. The groundwater samples were analyzed for benzene, toluene, ethylbenzene, and xylenes, and for total petroleum hydrocarbons-as-gasoline. Results of the chemical analyses are summarized in Table 1. 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

Tim Watchers
Project Manager

PR KJ

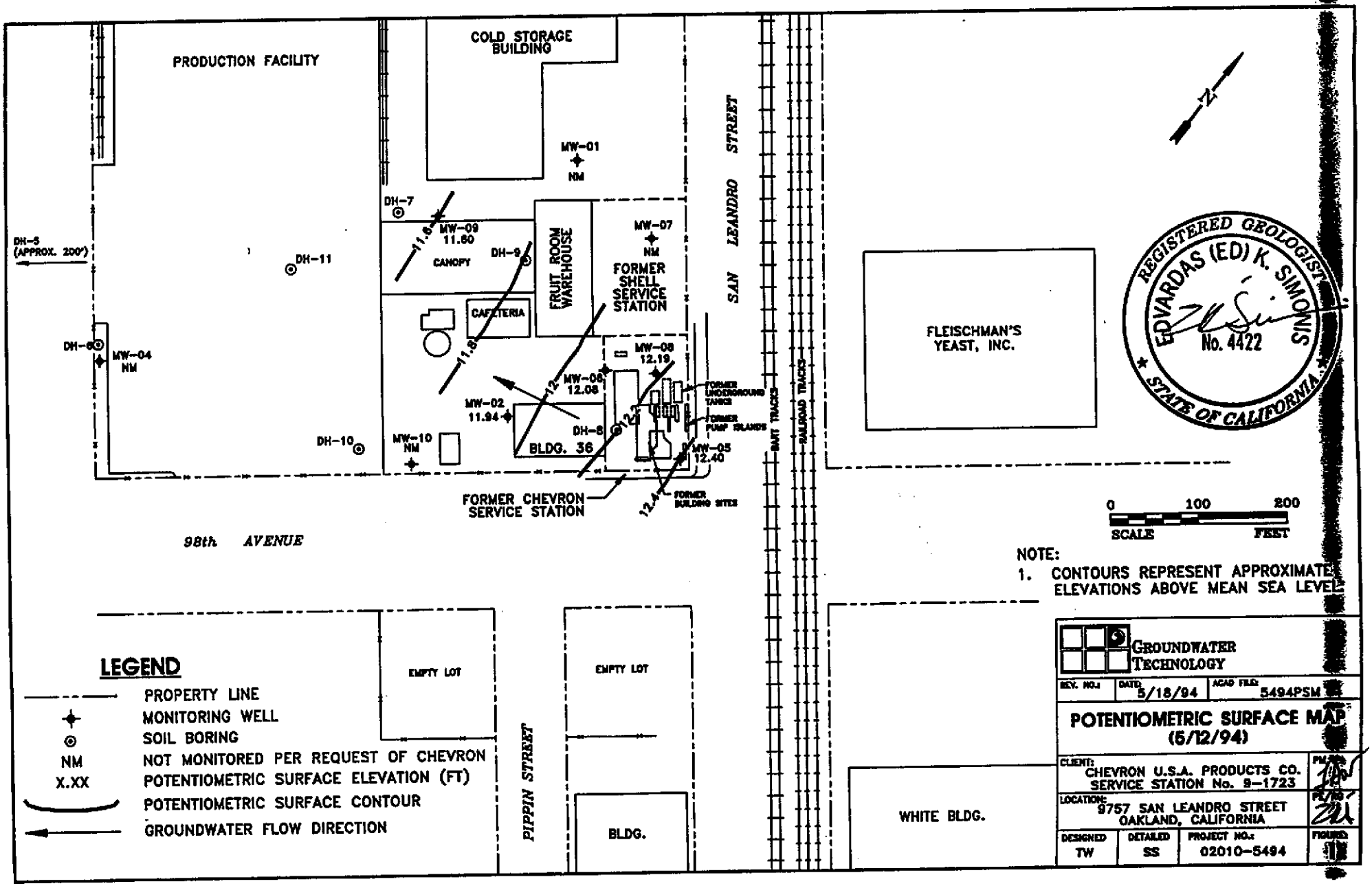
For:
Wendell W. Lattz
Vice President, General Manager
West Region

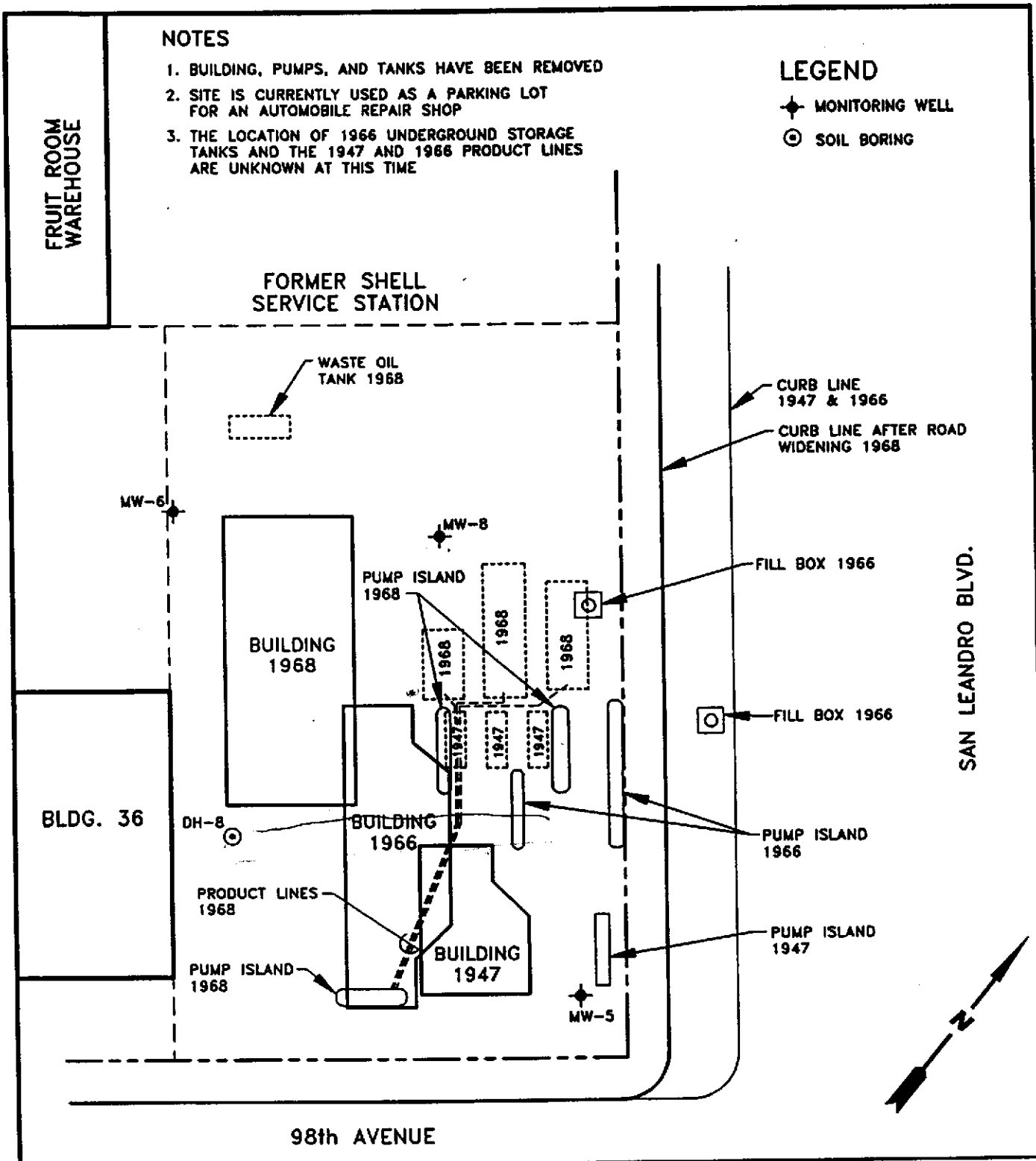
Attachment 1 Figure
Attachment 2 Table
Attachment 3 Protocol and Field Data Sheets
Attachment 4 Laboratory Report

5594QMSR.294

ATTACHMENT 1

Figure


PRODUCTION FACILITY
COLD STORAGE BUILDING
SAN LEANDRO STREET
MW-01
NM
DH-7
MW-09
11.80
CANOPY
DH-9
FRUIT ROOM WAREHOUSE
MW-07
NM
FORMER SHELL SERVICE STATION
CAFETERIA
DH-5
(APPROX. 200')
DH-11
DH-6
MW-04
NM
MW-08
12.19
MW-06
12.08
MW-02
11.94
DH-8
BLDG. 36
DH-10
MW-10
NM
MW-05
12.40
FORMER UNDERGROUND TANKS
FORMER PUMP ISLANDS
FORMER BUILDING SITES
FORMER CHEVRON SERVICE STATION
98th AVENUE
BART TRACKS
RAILROAD TRACKS
FLEISCHMAN'S YEAST, INC.
N
0
100
200
SCALE
FEET
NOTE:
1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS ABOVE MEAN SEA LEVEL
LEGEND
PROPERTY LINE
MONITORING WELL
SOIL BORING
NM NOT MONITORED PER REQUEST OF CHEVRON
X.XX POTENTIOMETRIC SURFACE ELEVATION (FT)
POTENTIOMETRIC SURFACE CONTOUR
GROUNDWATER FLOW DIRECTION
EMPTY LOT
EMPTY LOT
PIPPIN STREET
BLDG.
WHITE BLDG.
REGISTERED GEOLOGIST
EDVARDAS (ED) K. SIMONIS
No. 4422
STATE OF CALIFORNIA
GROUNDWATER TECHNOLOGY
REV. NO.: 1
DATE: 5/18/94
ACAD FILE: 5494PSM
POTENTIOMETRIC SURFACE MAP
(5/12/94)
CLIENT: CHEVRON U.S.A. PRODUCTS CO.
SERVICE STATION No. 9-1723
LOCATION: 9757 SAN LEANDRO STREET
OAKLAND, CALIFORNIA
DESIGNED: TW
DETAILED: SS
PROJECT NO.: 02010-5494
PM:
PE/RG:
FIGURE:



GROUNDWATER TECHNOLOGY

0 FEET 30
SCALE

SITE PLAN 1947/1966/1968

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-1723	FILE: SP494		PROJECT NO: 020105494	PM	RG/PE
LOCATION: 9757 SAN LEANDRO BLVD. OAKLAND, CALIFORNIA	REV: 1			FIGURE: 2	
	DES: TW	DET: ML	DATE: 5/2/94		

ATTACHMENT 2

Table

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1723
9757 San Leandro St., Oakland, California

Well ID/ Elev	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	Lead	DTW (ft)	SPT (ft)	WTE (ft)
MW-1	11/02/93	---	---	---	---	---	---	10.24	0.00	10.68
20.92	02/10/94	---	---	---	---	---	---	---	---	---
	05/12/94	---	---	---	---	---	---	---	---	---
MW-2	11/02/93	---	---	---	---	---	---	10.48	0.00	10.83
21.31	02/10/93	---	---	---	---	---	---	---	---	---
	05/12/94	390	6.8	2.0	6.3	14	---	9.37	0.00	11.94
MW-4	11/02/93	---	---	---	---	---	---	10.23	0.00	---
---	02/10/93	---	---	---	---	---	---	---	---	---
	05/12/94	---	---	---	---	---	---	---	---	---
MW-5	11/02/93	790	43	3.4	22	12	<400	10.69	0.00	11.15
21.84	02/10/94	1,400	52	3	50	40	---	8.74	0.00	13.10
	05/12/94	1,800	87	6.2	77	66	---	9.44	0.00	12.40
MW-6	11/02/93	300	19	1.8	2.5	5.0	<400	10.78	0.00	10.93
21.71	02/10/94	200	10	0.9	2	4	---	8.85	0.00	12.86
	05/12/94	210	10	1.1	1.2	3.1	---	9.63	0.00	12.08
MW-7	11/02/93	---	---	---	---	---	---	10.07	0.00	10.88
20.95	02/10/94	---	---	---	---	---	---	---	---	---
	05/12/94	---	---	---	---	---	---	---	---	---
MW-8	11/02/93	15,000	2,000	440	420	1,400	---	10.82	0.00	11.02
21.84	02/10/94	6,500	1,200	380	250	7,900	---	8.87	0.00	12.97
	05/12/94	30,000	1,400	2,900	800	3,800	---	9.65	0.00	12.19
MW-9	11/02/93	---	---	---	---	---	---	10.02	0.00	10.53
20.55	02/10/94	---	---	---	---	---	---	---	---	---
	05/12/94	<50	<0.5	<0.5	<0.5	<0.5	---	8.95	0.00	11.60

GROUNDWATER TECHNOLOGY

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1723
9757 San Leandro St., Oakland, California

Well ID/ Elev	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	Lead	DTW (ft)	SPT (ft)	WTE (ft)
MW-10	11/02/93	---	---	---	---	---	---	10.32	0.00	10.93
21.25	02/10/94	---	---	---	---	---	---	---	---	---
	05/12/94	---	---	---	---	---	---	---	---	---
Rinsate	02/10/94	<50	<0.5	0.5	<0.5	<0.5	---	---	---	---
TBLB	02/10/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	05/12/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---

TPH-G = Total petroleum hydrocarbons-as-gasoline
DTW = Depth to water
SPT = Separate-phase hydrocarbon thickness
WTE = Water-table elevation
Concentrations are in parts per billion.

GROUNDWATER TECHNOLOGY

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

Site Address: 9757 San Leandro St., Oakland

Project Number: 020105494.0610

Date: 8/16/94

Page 1 of 5

Project Manager: Tim Watchers

Well ID: MW-5

Well Diameter: 2"

DTW Measurements:
Initial: 9.44
Recharge:

Calc Well Volume: 1.33 gal
Well Volume: 3.98 gal

11.65 - 9.44 = 2.21 × .163 = 1.33

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
1124	20.0	0.82	6.53	1		cloudy Grey
1126	19.6	0.81	6.69	2		"
1129	19.8	0.97	6.74	4		"
						*

Project Name: Chevron - San Leandro

Date: 5/12/04

Site Address: 9757 San Leandro St., Oakland

Page 2 of 5

Project Number: 020105494.0610

Project Manager: Tim Watchers

Well ID: MW-6

Well Diameter: 2"

DTW Measurements:
Initial: 9.63
Recharge:

Calc Well Volume: 1.20 gal
Well Volume: 5.10 gal

20.10 - 9.63 = 10.47 × .163 = 1.70 × 3 = 5.10

Purge Method
Peristaltic
Gear Drive
Submersible

Pump Depth ft.
Hand Bailed X
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:
Other:

Time	Temp X C / E	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1203	20.4	0.84	6.78	2		cloudy Gray-Brown
1205	19.9	0.93	6.78	3		"
1208	19.8	0.94	6.75	5		"

Project Name: Chevron - San Leandro

Site Address: 9757 San Leandro St., Oakland

Project Number: 020105494.0610

Date: 5/12/94

Page 3 of 5

Project Manager: Tim Watchers

Well ID: MW-8

Well Diameter: 2"

DTW Measurements:
Initial: 9.65
Recharge:

Calc Well Volume: 1.49 gal
Well Volume: 4.47 gal

Purge Method
Peristaltic
Gear Drive
Submersible X

Pump Depth ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:

Other:

18.80 - 9.65 - 9.15 x .163 = 1.49 x 3 = 4.47

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1223	20.5	0.89	6.60	2		cloudy Dk. Grey
1224	20.4	0.92	6.64	4		"
1224	20.2	0.93	6.64	5		cloudy Grey

Project Name: Chevron - San Leandro

Site Address: 9757 San Leandro St., Oakland

Project Number: 020105494.0610

Date: 5/12/14

Page 4 of 5

Project Manager: Tim Watchers

Well ID: MW-2

Well Diameter: 2"

DTW Measurements:
Initial: 9.37
Recharge:

Calc Well Volume: 2.02 gal
Well Volume: 6.06 gal

21.80 - 9.37 = 12.43 f. .163 = 2.02 f 3 = 6.06

Purge Method
Peristaltic
Gear Drive
Submersible

Pump Depth ft.
Hand Bailed X
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:
Other:

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1253	19.5	1.10	6.61	2		cloudy brown
1255	19.2	1.09	6.67	4		"
1258	19.1	1.11	6.53	6		"

Project Name: Chevron - San Leandro

Site Address: 9757 San Leandro St., Oakland

Project Number: 020105494.0610

Date: 5/12/94

Page 5 of 5

Project Manager: Tim Watchers

Well ID: MW-9

Well Diameter: 2"

DTW Measurements:
Initial: 8.55
Recharge:

Calc Well Volume: 6.69 gal
Well Volume: 20.07 gal

19.20 - 8.55 = 10.25 x .65 = 6.69 x 3 =

Purge Method
Peristaltic
Gear Drive
Submersible

Pump Depth ft.
Hand Bailed X
Air Lift
Other

Instruments Used
YSI:
Hydac:
Omega:
Other:

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1334	16.5	0.83	6.92	5		cloudy sediment
1337	16.3	0.81	6.91	10		"
1339	16.4	0.81	6.63	15		"
1342	16.5	0.81	6.56	20		"

ATTACHMENT 4

Laboratory Report

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080 Pike Lane
Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

Client Number: 020105494
Consultant Project Number: 020105494
Facility Number: 9-1723
Project ID: 9757 San Leandro St. Oakland
Work Order Number: C4-05-0228

May 20, 1994

Tim Watchers
Groundwater Technology, Inc.
4057 Port Chicago Hwy.
Concord, CA 94520

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 05/13/94.

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.

Rashmi Shah
Laboratory Director

Client Number: 020105494
Consultant Project Number: 020105494
Facility Number: 9-1723
Project ID: 9757 San Leandro St. Oakland
Work Order Number: C4-05-0228

ANALYTICAL RESULTS

Aromatic Volatile Organics and

Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		01	02	03	04
Client Identification		TBLB	MW-5	MW-6	MW-8
Date Sampled		05/12/94	05/12/94	05/12/94	05/12/94
Date Analyzed		05/15/95	05/15/95	05/15/95	05/15/95
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	87	10	1400
Toluene	0.5	<0.5	6.2	1.1	2900
Ethylbenzene	0.5	<0.5	77	1.2	800
Xylene, total	0.5	<0.5	66	3.1	3800
TPH as Gasoline	50	<50	1800	210	30000
Detection Limit Multiplier		1	1	1	25
BFB surrogate, % recovery		102	16.3	99.7	107

a. 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 Board LUFT Manual procedures. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

Client Number: 020105494
Consultant Project Number: 020105494
Facility Number: 9-1723
Project ID: 9757 San Leandro St. Oakland
Work Order Number: C4-05-0228

ANALYTICAL RESULTS

Aromatic Volatile Organics and

Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		05	06	E051594-1	
Client Identification		MW-2	MW-9	METHOD BLANK	
Date Sampled		05/12/94	05/12/94	–	
Date Analyzed		05/15/94	05/15/94	05/15/94	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	6.8	<0.5	<0.5	
Toluene	0.5	2.0	<0.5	<0.5	
Ethylbenzene	0.5	6.3	<0.5	<0.5	
Xylene, total	0.5	14	<0.5	<0.5	
TPH as Gasoline	50	390	<50	<50	
Detection Limit Multiplier		1	1	1	
BFB surrogate, % recovery		99.1	91.1	105	

a. 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 Board LUFT Manual procedures. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

Client Number: 020105494
Consultant Project Number: 020105494
Facility Number: 9-1723
Project ID: 9757 San Leandro St. Oakland
Work Order Number: C4-05-0228

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	C4050166-03	20.0	ug/L	101	80.6	22.5	57.3 - 138
Toluene	C4050166-03	20.0	ug/L	88.8	72.3	20.5	63.0 - 134
Ethylbenzene	C4050166-03	20.0	ug/L	94.2	78.7	17.9	59.3 - 137
Xylene, total	C4050166-03	60.0	ug/L	99.7	84.2	16.9	59.3 - 144

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

Chain-of-Custody-Recor

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

Chevron Facility Number: 9-1723
Facility Address: 9257 San Leandro St., Oakland
Consultant Project Number: 020/054.84
Consultant Name: Groundwater Technology, Inc.
Address: 4057 Port Chicago Hwy, Concord, CA. 94520
Project Contact (Name): Tim Watchers
(Phone) 510-671-2387 (Fax Number)

Chevron Contact (Name): Tim Watchers
(Phone): (510) 671-2381
Laboratory Name: GTEL
Laboratory Release Number: 741-580
Samples Collected by (Name): J. Matsa
Collection Date: 5/12/94
Signature:

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air 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)				
TB-LB	01	2	W	G	1135	HCL	Y	X											
MW-5	02	3	W		1140			X											
MW-6	03	3	W		1215			X											
MW-8	04	3	W		1235			X											
MW-2	05	3	W		1300			X											
MW-9	06	3	W	G	1350	G	Y	X											

NOTE:
DO NOT BILL TB-LB SAMPLES
6° Seals intact
Remarks

F-2

C4050228

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
	GTI	5/12/94		GTI	5-13-94	24 Hrs.
Relinquished By (Signature)	Organization	Date/Time 1230	Received By (Signature)	Organization	Date/Time 1230	48 Hrs.
	GTI	5-13-94		GTEL	5-13-94	5 Days
Relinquished By (Signature)	Organization	Date/Time 1700	Received For Laboratory By (Signature)		Date/Time 1700	10 Days
	GTEL	5-13-94			5/13/94	As Contracted