

NOV 29 1994

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Chevron

December 7, 1994

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

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

**Re: Chevron Service Station #9-6991
2920 Castro Valley Boulevard, Castro Valley, CA**

Dear Mr. Seery:

Enclosed is the Groundwater Monitoring and Sampling Activities report dated October 24, 1994, prepared by our consultant Groundwater Technology, Inc. for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline, total petroleum hydrocarbons as diesel, and BTEX. Dissolved concentrations of these constituents were consistent with previous measurements at the site. Depth to ground water was measured at 9.9 feet to 11.7 feet below grade and the direction of flow is to the southwest.

Quarterly monitoring of well MW-6 has been discontinued as discussed in Chevron's letter of May 13, 1994. We will continue quarterly monitoring and sampling activities. We have instructed our consultant to review all historical site data and determine the applicability of Non Attainment Areas to this site. We anticipate forwarding a document presenting the results of the review by the end of the month.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

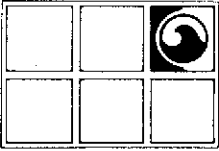
Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. T. Vukelich
Ms. Alison Watts, Weiss Associates

File: 9-6991 QM8



GROUNDWATER TECHNOLOGY, INC.

4057 Port Chicago Highway, Concord, CA 94520 (415) 671-2387

FAX: (415) 685-9148

October 24, 1994

Project No. 020104092

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. 9-6991
2920 Castro Valley Boulevard, Castro Valley, California

Dear Mr. Miller:

Groundwater Technology, Inc. presents the quarterly groundwater monitoring and sampling data collected on September 23, 1994. The six 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 were analyzed for benzene, toluene, ethylbenzene, xylenes, total petroleum hydrocarbons-as-gasoline and total petroleum hydrocarbons-as-diesel. Results of the analyses are summarized in attachment 2. Laboratory report and chain-of-custody record are presented 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

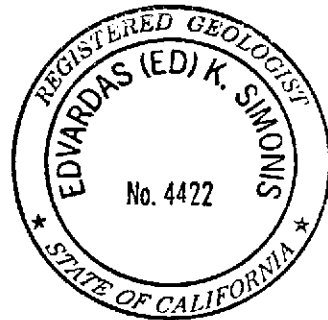
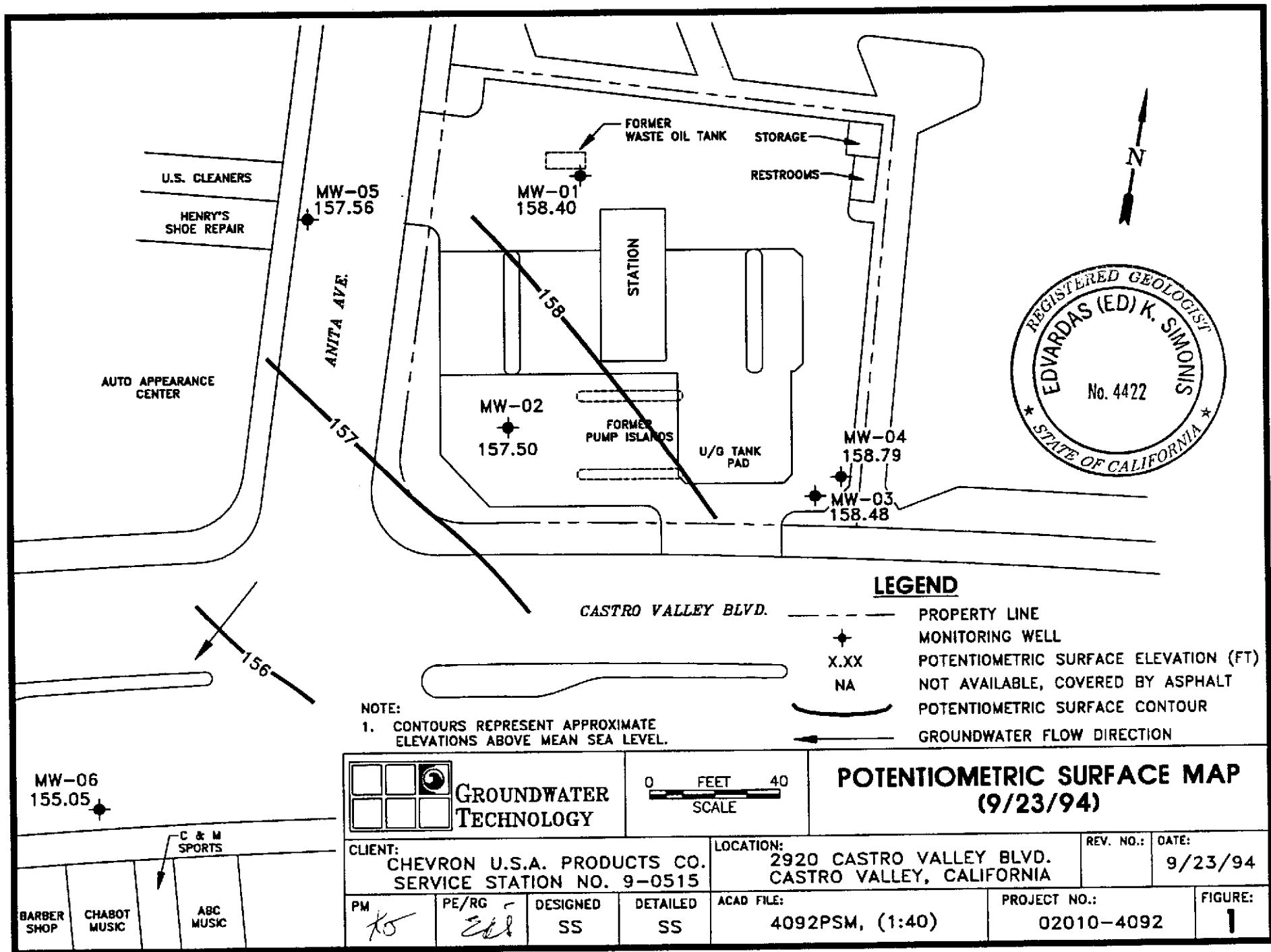
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Attachment 1 Figure
Attachment 2 Table
Attachment 3 Protocol and Field Data Sheets
Attachment 4 Laboratory Report

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

ATTACHMENT 1

Figure



LEGEND

- PROPERTY LINE
- ◆ MONITORING WELL
- X.XX POTENTIOMETRIC SURFACE ELEVATION (FT)
- NA NOT AVAILABLE, COVERED BY ASPHALT
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION

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


GROUNDWATER TECHNOLOGY



POTENTIOMETRIC SURFACE MAP (9/23/94)

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION NO. 9-0515				LOCATION: 2920 CASTRO VALLEY BLVD. CASTRO VALLEY, CALIFORNIA		REV. NO.:	DATE: 9/23/94
PM <i>K5</i>	PE/RG <i>Ed</i>	DESIGNED SS	DETAILED SS	ACAD FILE: 4092PSM, (1:40)	PROJECT NO.: 02010-4092	FIGURE: 1	

MW-06 155.05		
BARBER SHOP	CHABOT MUSIC	ABC MUSIC

ATTACHMENT 2

Table

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-6991
2920 Castro Valley Boulevard, Castro Valley, California

Well ID/ Elev.	Date	TOG	TPH-D	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
MW-1 169.30	10/08/91	<5000	---	230	45	<0.5	0.9	9.1	11.10	0.00	158.20
	11/04/91	---	---	340	120	<0.5	<0.5	6.1	11.03	0.00	158.27
	12/04/91	<5000	170	<50	3.9	<0.5	<0.5	<0.5	11.05	0.00	158.25
	06/05/92	---	<50	100	26	0.6	0.5	1.0	11.04	0.00	158.26
	10/27/92	---	54	<50	11	<0.5	<0.5	<0.5	11.10	0.00	158.20
	12/30/92	---	170	<50	24	<0.5	<0.5	<0.5	---	---	---
	01/27/93	---	---	---	---	---	---	---	10.63	0.00	158.67
	03/05/93	---	<50	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	03/17/93	---	---	---	---	---	---	---	10.71	0.00	158.59
	06/18/93	---	<50	<50	0.6	<0.5	<0.5	<1.5	11.01	0.00	158.29
	09/28/93	---	<50	<50	0.8	<0.5	<0.5	<1.5	11.95	0.00	157.35
	12/30/93	---	<50	<50	8.5	<0.5	<0.5	<0.5	10.96	0.00	158.34
	04/07/94	---	<10	<50	<0.5	<0.5	<0.5	<0.5	10.81	0.00	158.49
	05/31/94	---	<50	<50	1.0	<0.5	<0.5	<0.5	10.92	0.00	158.38
09/23/94	---	<50	<50	1.3	<0.5	<0.5	<0.5	10.90	0.00	158.40	
MW-2 169.15	10/08/91	---	---	110	5.1	1.1	0.8	26	11.95	0.00	157.20
	11/19/91	---	---	120	11	1.1	<0.5	17	11.75	0.00	157.40
	12/04/91	---	130	440	30	2.5	<0.5	52	11.80	0.00	157.35
	06/05/92	---	130*	80	13	<0.5	<0.5	1.0	11.80	0.00	157.35
	10/27/92	---	110	54	13	<0.5	<0.5	<0.5	12.00	0.00	157.15
	12/30/92	---	92*	180	30	<0.5	<0.5	1.0	---	---	---
	01/27/93	---	---	---	---	---	---	---	10.91	0.00	158.24
	03/05/93	---	<50	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	03/17/93	---	---	---	---	---	---	---	10.89	0.00	158.26
	06/18/93	---	<50	<50	1.4	<0.5	<0.5	<1.5	11.74	0.00	157.41
	09/28/93	---	<50	<50	0.6	<0.5	<0.5	<1.5	11.18	0.00	157.97
	12/30/93	---	<50	<50	0.9	<0.5	<0.5	<0.5	21.00	0.00	158.34
	04/07/94	---	<10	<50	<0.5	<0.5	<0.5	<0.5	10.75	0.00	158.40
	05/31/94	---	<50	<50	<0.5	<0.5	<0.5	<0.5	10.80	0.00	158.35
09/23/94	---	---	120	<50	0.7	<0.5	<0.5	<0.5	11.65	0.00	157.50

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-6991
2920 Castro Valley Boulevard, Castro Valley, California

Well ID/ Elev.	Date	TOG	TPH-D	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
MW-3 169.11	10/08/91	---	---	81	1.9	0.7	0.8	2.4	8.27	0.00	160.84
	11/04/91	---	---	60	<0.5	<0.5	<0.5	<0.5	10.85	0.00	158.26
	12/04/91	---	<50	<50	<0.5	<0.5	<0.5	<0.5	11.05	0.00	158.06
	06/05/92	---	170*	<50	<0.5	<0.5	<0.5	<0.5	11.15	0.00	157.96
	10/27/92	---	120	<50	<0.5	<0.5	<0.5	<0.5	11.60	0.00	157.51
	12/30/92	---	170*	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/27/93	---	---	---	---	---	---	---	9.11	0.00	160.00
	03/05/93	---	---	---	---	---	---	---	---	---	---
	03/17/93	---	---	---	---	---	---	---	9.95	0.00	159.16
	06/18/93	---	<50	<50	<0.5	<0.5	<0.5	<1.5	10.89	0.00	158.22
	09/28/93	---	<50	<50	<0.5	<0.5	<0.5	<1.5	9.62	0.00	159.49
	12/30/93	---	<50	<50	<0.5	<0.5	<0.5	<0.5	9.31	0.00	159.80
	04/07/94	---	<10	<50	<0.5	<0.5	<0.5	<0.5	8.81	0.00	160.30
	05/31/94	---	<50	<50	<0.5	<0.5	<0.5	<0.5	8.90	0.00	160.21
	09/23/94	---	<50	<50	<0.5	<0.5	<0.5	<0.5	10.63	0.00	158.48
MW-4 169.18	10/27/92	---	<50	<50	<0.5	0.6	0.5	4.3	11.39	0.00	157.79
	12/30/92	---	<50	<50	<0.5	<0.5	<0.5	<0.5	10.13	0.00	159.05
	01/27/93	---	---	---	---	---	---	---	9.09	0.00	160.09
	03/05/93	---	<50	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	03/17/93	---	---	---	---	---	---	---	9.90	0.00	159.28
	06/18/93	---	<50	<50	<0.5	<0.5	<0.5	<1.5	10.68	0.00	158.50
	09/28/93	---	<50	<50	<0.5	<0.5	<0.5	<1.5	9.36	0.00	159.82
	12/30/93	---	<50	<50	<0.5	<0.5	<0.5	<0.5	9.27	0.00	159.91
	04/07/94	---	<10	<50	<0.5	<0.5	<0.5	<0.5	8.81	0.00	160.37
	05/31/94	---	<50	<50	<0.5	<0.5	<0.5	<0.5	8.91	0.00	160.27
	09/23/94	---	<50	<50	<0.5	<0.5	<0.5	<0.5	10.39	0.00	158.79

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HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-6991
2920 Castro Valley Boulevard, Castro Valley, California

Well ID/ Elev.	Date	TOG	TPH-D	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
MW-5 167.41	10/27/92	---	<50	74	<0.5	<0.5	0.6	7.1	9.95	0.00	157.46
	12/30/92	---	<50	<50	<0.5	<0.5	<0.5	<0.5	9.20	0.00	158.21
	01/27/93	---	---	---	---	---	---	---	9.61	0.00	157.80
	03/05/93	---	<50	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	03/17/93	---	---	---	---	---	---	---	9.51	0.00	157.90
	06/18/93	---	<50	<50	<0.5	<0.5	<0.5	<0.5	9.85	0.00	157.56
	09/28/93	---	<50	<50	<0.5	<0.5	<0.5	<1.5	9.86	0.00	157.55
	12/30/93	---	<50	<50	<0.5	<0.5	<0.5	<0.5	10.33	0.00	157.08
	04/07/94	---	<10	<50	<0.5	<0.5	<0.5	<0.5	9.72	0.00	157.69
	05/31/94	---	<50	<50	<0.5	<0.5	<0.5	<0.5	9.73	0.00	157.68
09/23/94	---	<50	<50	<0.5	<0.5	<0.5	<0.5	9.85	0.00	157.56	
MW-6 166.46	10/27/92	---	<50	600	22	22	24	130	12.54	0.00	153.92
	12/30/92	---	470*	1,700	170	16	46	160	10.20	0.00	156.26
	01/27/93	---	---	---	---	---	---	---	10.02	0.00	158.44
	03/05/93	---	150*	480	76	0.9	3.1	7.1	---	---	---
	03/17/93	---	---	---	---	---	---	---	10.67	0.00	155.79
	06/18/93	---	51	240	37	3.4	2.9	18	11.83	0.00	154.63
	09/28/93	---	120	150	11	1.2	1.3	4.3	11.56	0.00	154.90
	12/30/93	---	290*	680	77	5.1	5.5	13	11.65	0.00	154.81
	04/07/94	---	<10	190	24	2.9	1.9	8.0	11.12	0.00	155.34
	05/31/94	---	---	---	---	---	---	---	---	---	---
09/23/94	---	---	---	---	---	---	---	11.41	0.00	155.05	

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-6991
2920 Castro Valley Boulevard, Castro Valley, California

Well ID/ Elev.	Date	TOG	TPH-D	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
TBLB	10/08/91	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	11/04/91	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/04/91	---	<50	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	06/05/92	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/30/92	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/27/93	---	<50	---	---	---	---	---	---	---	---
	03/05/93	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	03/17/93	---	---	---	---	---	---	---	---	---	---
	06/18/93	---	---	<50	<0.5	<0.5	<0.5	<1.5	---	---	---
	09/28/93	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	12/30/93	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	04/07/94	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	05/31/94	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	09/23/94	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
RINSATE	12/30/93	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---

DTW = Depth to water
SPT = Separate-phase hydrocarbons thickness
WTE = Water table elevation in feet above mean sea level
TOG = Total oil and grease
TPH-G = Total petroleum hydrocarbons-as-gasoline
TPH-D = Total petroleum hydrocarbons-as-diesel fuel
--- = Not applicable/not sampled/not measured
* = The pattern of peaks observed are not typical of diesel.
Results in parts per billion

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:

$$(\text{Product thickness}) \times (0.8) + (\text{Water elevation}) = \text{Corrected water elevation}$$

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 triple 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 - Castro Valley

Date: 9/23/94

Site Address: 2920 Castro Valley Blvd.

Page 1 of 5

Project Number: 020104092.0610

Project Manager: Ken Johnson

Well ID: MW-1

DTW Measurements:

Well Diameter: 3/4"

Initial: 10.90 Calc Well Volume: .41 gal
Recharge: _____ Well Volume: 1.29 gal

Purge Method Peristaltic Pump Depth _____ ft.
Hand Bailed _____
Gear Drive _____ Air Lift _____
Submersible _____ Other _____

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

Time	Temp		Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	C	F					
11:10	21.6		1.63	6.28	1/3	cloudy	
11:10	22.4		1.48	6.23	2/3	clear	
11:11	22.5		1.43	6.29	1	clear	
11:12	22.5		1.42	6.33	1/2	↓	
11:13	22.5		1.41	6.35	2	↓	

Nuts in Street Box completely stripped out
Lid in sitting on top (3/4" Bolts)

Project Name: Chevron - Castro Valley

Date: 7/23/99

Site Address: 2920 Castro Valley Blvd.

Page 2 of 5

Project Number: 020104092.0610

Project Manager: Ken Johnson

Well ID: MW-2

DTW Measurements:

Well Diameter: 3/4"

Initial: 11.65 Calc Well Volume: 1.38 gal

Recharge: _____ Well Volume: 1.15 gal

Purge Method **Pump Depth** _____ ft.

Peristaltic Hand Bailed _____

Gear Drive _____ Air Lift _____

Submersible _____ Other _____

Instruments Used

YSI: _____ Other: _____

Hydac: _____

Omega: _____

Time	Temp		Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	<input checked="" type="checkbox"/> C	<input type="checkbox"/> F					
11:31	22.2		1.17	6.54	1/4	clear	
11:31	22.1		1.18	6.50	1/2	clear	
11:32	22.0		1.18	6.52	1	clear	
11:33	21.9		1.18	6.55	1 1/2	clear	

One Nut Stripped out in Sheet Box

Project Name: Chevron - Castro Valley

Date: 9/23/94

Site Address: 2920 Castro Valley Blvd.

Page 3 of 5

Project Number: 020104092.0610

Project Manager: Ken Johnson

Well ID: MW-3

DTW Measurements:

Well Diameter: 3/4"

Initial: 10.63 Calc Well Volume: 138 gal
Recharge: _____ Well Volume: 1.15 gal

Purge Method Peristaltic ^w Pump Depth _____ ft.
Hand Bailed _____
Gear Drive _____ Air Lift _____
Submersible _____ Other _____

Instruments Used
YSI: 2 Other: _____
Hydac: _____
Omega: _____

Time	Temp A C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
11:45	22.7	0.98	6.58	1/4	clear	
11:45	22.5	0.94	6.49	1/2	clear	
11:46	21.9	0.93	6.57	3/4	clear	
11:47	21.7	0.98	6.74	1	clear	
11:47	22.4	0.97	6.84	1 1/2	slightly cloudy	dry

Low Vol well long time to Recharge

ATTACHMENT 4
Laboratory Report



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

Groundwater Technology Inc.
Attn: KEN JOHNSON

Project 9-6991
Reported 10/04/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
15809- 1	TB-LB	09/23/94	09/29/94 Water
15809- 2	MW-1	09/23/94	09/29/94 Water
15809- 3	MW-2	09/23/94	09/29/94 Water
15809- 4	MW-3	09/23/94	09/29/94 Water
15809- 5	MW-4	09/23/94	09/29/94 Water
15809- 6	MW-5	09/23/94	09/29/94 Water

RESULTS OF ANALYSIS

Laboratory Number: 15809- 1 15809- 2 15809- 3 15809- 4 15809- 5

Gasoline_Range:	ND<50	ND<50	ND<50	ND<50	ND<50
Benzene:	ND<0.5	1.3	0.7	ND<0.5	ND<0.5
Toluene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Total Xylenes:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Diesel:	NA	ND<50	120	ND<50	ND<50
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number: 15809- 6

Gasoline_Range:	ND<50
Benzene:	ND<0.5
Toluene:	ND<0.5
Ethyl Benzene:	ND<0.5
Total Xylenes:	ND<0.5
Diesel:	ND<50
Concentration:	ug/L



Superior Precision Analytical, Inc.

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C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2
QA/QC INFORMATION
SET: 15809

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = parts per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline_Range:	94/92	2%	56-117
Benzene:	65/64	2%	59-149
Toluene:	85/84	1%	59-149
Ethyl Benzene:	87/87	0%	59-149
Total Xylenes:	98/97	1%	59-149
Diesel:	78/90	14%	50-150

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