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May 13, 1994

Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583
P.O. Box 5004
San Ramon, CA 94583-0804

Mr. Scott Seery
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Marketing Department
Phone 510 842 9500

**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 April 29, 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. Concentrations of these constituents were below method detection limits in all wells with the exception of MW-6. Depth to ground water was measured at 8.8 feet to 11.1 feet below grade and the direction of flow is to the west-southwest.

Hydrocarbon concentrations observed in off-site monitor well MW-6 have been consistently higher than concentrations observed in any of the on-site wells. According to contaminant fate and transport theory, the hydrocarbons observed in this well could not have originated from the Chevron site.

*du?
show
analysis*

Additionally, soil samples collected at 5 feet below grade during the installation of MW-6 contained higher TPH-G and BTEX concentrations than soil samples collected at similar depths on-site. These samples were collected above the highest historical ground water elevation and indicates the presence of an off-site hydrocarbon source. As I have mentioned in past correspondence, potential off-site sources include the former service station located at 2896 Castro Valley Boulevard and the 36" diameter sewer line adjacent to MW-6.

*TPH-G =
"ND"
T = 0.26
X = 0.011
B = "ND"
E = "ND"*

Chevron will continue to monitor this site on a quarterly basis. We will discontinue monitoring MW-6 starting with the next quarterly event. We will continue to collect depth to ground water measurements from this well to maintain knowledge of ground water gradient in the area. We have instructed our consultant to review the historical site data and determine the applicability of alternative compliance points to this site.

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

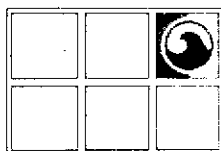
Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Rich Hiett, RWQCB - Bay Area
Mr. M.R. Purcell

File: 9-6991 QM6



GROUNDWATER TECHNOLOGY, INC.

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

FAX: (415) 685-9148

April 29, 1994

Project No. 020104092

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

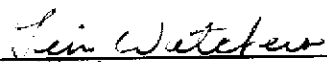
SUBJECT: *Groundwater Monitoring and Sampling Activities*
Chevron Service Station No. 9-6991
2920 Castro Valley Boulevard, Castro Valley, California

Dear Mr. Miller:

Groundwater Technology, Inc. presents the quarterly groundwater monitoring and sampling data collected on April 7, 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. 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 Table 1. 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



Tim Watchers
Project Manager

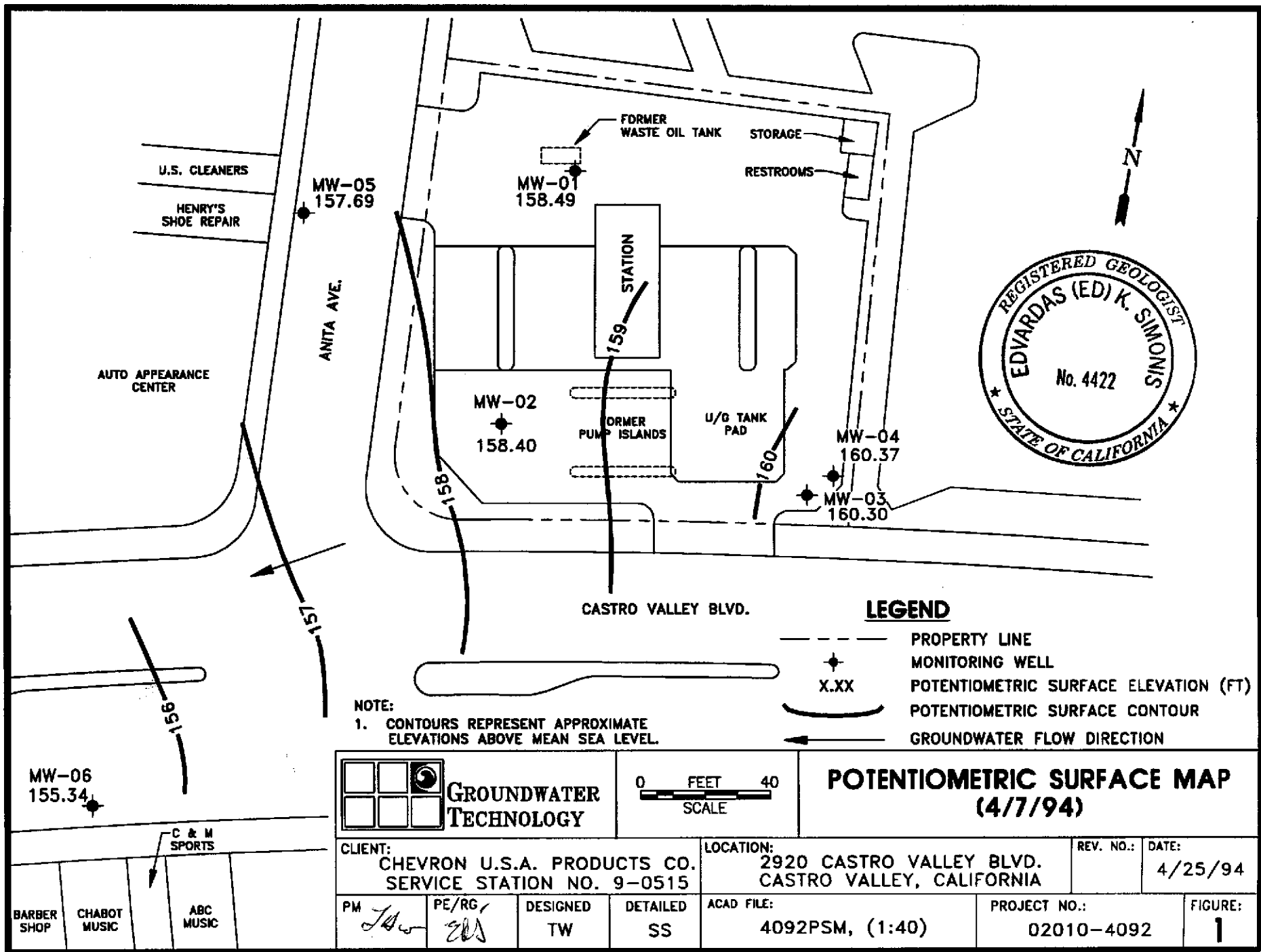
PR 

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

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

ATTACHMENT 1

Figure

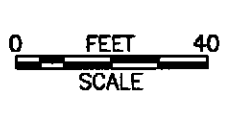


NOTE:
 1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS ABOVE MEAN SEA LEVEL.

LEGEND

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

 **GROUNDWATER TECHNOLOGY**



POTENTIOMETRIC SURFACE MAP (4/7/94)

CLIENT: CHEVRON U.S.A. PRODUCTS CO.
 SERVICE STATION NO. 9-0515

LOCATION: 2920 CASTRO VALLEY BLVD.
 CASTRO VALLEY, CALIFORNIA

REV. NO.: DATE:
 4/25/94

BARBER SHOP CHABOT MUSIC ABC MUSIC

PM *JLW* PE/RG *EDS* DESIGNED TW DETAILED SS

ACAD FILE: 4092PSM, (1:40)

PROJECT NO.: 02010-4092

FIGURE: 1

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
	MW-2 169.15	10/08/91	---	---	110	5.1	1.1	0.8	26	11.95	0.00
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

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
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
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

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-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	156.44
	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
	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	---	---	---	
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

Field Data Sheets

Project Name: Chevron - Castro Valley

Date: 4/7/94

Site Address: 2920 Castro Valley Blvd.

Page 1 of 6

Project Number: 020104092.0610

Project Manager: Tim Watchers

Well ID: MW-1

DTW Measurements:

Well Diameter: 3/4"

Initial: _____ Calc Well Volume: _____ gal

Recharge: _____ Well Volume: _____ gal

Purge Method

Peristaltic _____

Gear Drive _____

Submersible _____

Pump Depth _____ ft.

Hand Bailed _____

Air Lift _____

Other _____

Instruments Used

YSI: _____

Hydac: _____

Omega: _____

Other: _____

Time	Temp <input checked="" type="checkbox"/> C <input type="checkbox"/> F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
11:07	18.5	1.41	6.64	1		cloudy, no odor ↓
11:08	18.2	1.34	6.93	2		
11:09	18.6	1.33	6.91	3		
11:10	18.6	1.35	6.90	4		
11:11	18.7	1.35	6.90	5		

Project Name: Chevron - Castro Valley

Date: 4/7/94

Site Address: 2920 Castro Valley Blvd.

Page 4 of 8

Project Number: 020104092.0610

Project Manager: Tim Watchers

Well ID: MW-4

DTW Measurements:

Well Diameter: 2

Initial: _____

Calc Well Volume: _____ gal

Recharge: _____

Well Volume: 5 gal

Purge Method _____ Pump Depth _____ ft.

Instruments Used

Peristaltic _____ Hand Bailed _____

YSI: 6

Other: _____

Gear Drive _____ Air Lift _____

Hydac: _____

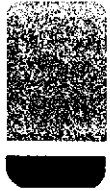
Submersible X Other _____

Omega: _____

CALIBRATED YSI TO 4+7 BUFFER SOLUTION @ 9:40 AM ON 4/7/94

Time	Temp <u>X</u> C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
9:46	16.2	0.74	5.49	1		CLOUDY, NO ODOR ↓ DRY at 5 gallons
9:47	17.6	0.78	6.08	2		
9:48	18.5	0.81	6.43	3		
9:49	18.6	0.81	6.47	4		
9:50	18.7	0.81	6.79	5		

ATTACHMENT 4
Laboratory Report



GTEL

ENVIRONMENTAL
LABORATORIES, INC.

Western Region

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

Client Number: 020104092
Project ID: Castro Valley
CHV/Castro Valley
Work Order Number: C4-04-0137

April 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 04/08/94, under chain of custody record 24387.

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

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 ^b	04
Client Identification		TB LB	MW-1	MW-2	MW-3
Date Sampled		04/07/94	04/07/94	04/07/94	04/07/94
Date Analyzed		04/09/94	04/10/94	04/10/94	04/10/94
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5	<0.5	<0.5
Toluene	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	<0.5	<0.5	<0.5	<0.5
Xylene, total	0.5	<0.5	<0.5	<0.5	<0.5
TPH as Gasoline	50	<50	<50	<50	<50
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		99.7	83.2	87.0	86.7

- 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%.
- b. Uncategorized compound is not included in gasoline concentration.

Client Number: 020104092
 Project ID: Castro Valley
 CHV/Castro Valley
 Work Order Number: C4-04-0137

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	07	G041094
Client Identification		MW-4	MW-5	MW-6	METHOD BLANK
Date Sampled		04/07/94	04/07/94	04/07/94	--
Date Analyzed		04/10/94	04/10/94	04/10/94	NA
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5	24	<0.5
Toluene	0.5	<0.5	<0.5	2.9	<0.5
Ethylbenzene	0.5	<0.5	<0.5	1.9	<0.5
Xylene, total	0.5	<0.5	<0.5	8.0	<0.5
TPH as Gasoline	50	<50	<50	190	<50
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		87.9	89.2	89.7	85.8

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%. NA = Not Applicable.

ANALYTICAL RESULTS

TPH as Diesel in Water

Method: Modified EPA 8015^a

GTEL Sample Number		02	03	04	05
Client Identification		MW-1	MW-2	MW-3	MW-4
Date Sampled		04/07/94	04/07/94	04/07/94	04/07/94
Date Extracted		04/13/94	04/13/94	04/13/94	04/13/94
Date Analyzed		04/15/94	04/15/94	04/15/94	04/15/94
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	10	<10	<10	<10	<10
Detection Limit Multiplier		1	1	1	1
OTP surrogate, % recovery		92.8	89.1	96.3	86.3

GTEL Sample Number		06	07 ^b	GCK0415	
Client Identification		MW-5	MW-6	METHOD BLANK	
Date Sampled		04/07/94	04/07/94	--	
Date Extracted		04/13/94	04/13/94	04/13/94	
Date Analyzed		04/15/94	04/15/94	04/15/94	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	10	<10	<10	<10	
Detection Limit Multiplier		1	1	1	
OTP surrogate, % recovery		102	96.1	90.0	

- a. Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. O, U.S. EPA, November, 1986. Modification for TPH as diesel as per California State Water Resources Board LUFT Manual procedures. O-Terphenyl surrogate recovery acceptability limits are 50-150%.
- b. Hydrocarbon pattern not characteristic of diesel.

