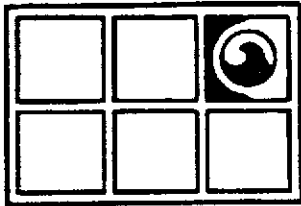


Update Report

Chevron Service Station

Crow Canyon Road, Castro Valley California





GROUNDWATER TECHNOLOGY

A DIVISION OF OIL RECOVERY SYSTEMS, INC.

4080 Pike Lane, Suite D, Concord, CA 94520-1227 (415) 671-2387

~~████████████████████~~
Project No. 20-3231
L3231A

Mr. Robert Stolz
Chevron USA
2 Annabel Lane
San Ramon, CA 94583

Re: Service Station No. 95607
Castro Valley, California

Dear Mr. Stolz,

This letter report presents an update of Groundwater Technology, Inc's activities, observations, and status of the product recovery operations at the Chevron Service Station located at the corner of Crow Canyon Road and Waterford Place in Castro Valley, California. ~~This quarterly report provides an update from January 1987 through March 1987.~~

Groundwater monitoring of the nine monitoring wells and one recovery well located at the site has been performed bi-weekly (once every two weeks). Monthly water samples have been collected from both the influent and effluent pipes of the carbon absorption system for laboratory analysis of benzene, toluene, xylene and total hydrocarbon concentrations (See Table 1). *but not from wells*

On January 9, 1987, samples were taken for laboratory analysis from both the influent and effluent and submitted for standard 2 week turn-around. During the following visit, on January 14, a decrease in the flow rate through the carbon tank was noted. The carbon was manually stirring and the flow increased to its original rate.

On January 20, the carbon was again stirred to maintain flow rate. Permission was then obtained from Chevron USA to change the carbon in the tank. The necessity of this was verified upon receipt of the January 9 lab results which showed that the carbons absorptive capacity had been reached. On February 5, 1987 the system was shut down and the carbon changed. The system was back in operation on February 6, with start-up samples obtained for analysis on February 10, 1987. Effluent concentrations have stabilized and appear as non-detectable later in February indicating the system is operating again at full efficiency.

Mr. Stolz
April 9, 1987
Page 2

Groundwater gradient maps (Figure 1 and 2) have been prepared using the February 10 and March 19, 1987 data. The maps indicate that the groundwater gradient is to the southwest with a slight northeast/southwest elongation due to the recovery well pumping activity. The piezometric surface elevations show an overall increase which is expected due to the seasonal groundwater recharge. (See Table 2).

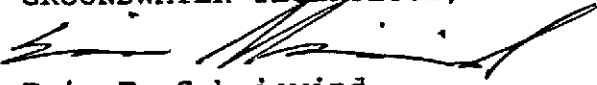
The recovery well water table depression pump has been set and bi-weekly adjustments have been made to maintain a pumping rate of between one and three gallons per minute.

The bi-monthly monitoring has found small and intermittent accumulations of product in the monitoring wells during January and in the recovery well during the entire quarter. Groundwater Technology personnel have hand bailed approximately 2.5 gallons of free floating product from the recovery well during this quarter. The total volume of free product removed since October 1985 is now approximately 29 gallons.

It is Groundwater Technology, Inc's opinion that the present system of bi-weekly monitoring, monthly water samples and quarterly letter reports is currently the best method to keep Chevron updated on the status of this project.

If you have any questions or comments, please feel free to contact us at our Concord office.

Sincerely,
GROUNDWATER TECHNOLOGY, INC.



Eric T. Schniewind
Project Geologist

Joyce Miley
Joyce M. Miley
Project Manager

Darryl B. Taggart
Gary B. Taggart
Certified Engineering
Geologist No. 1061

Enclosure

ETS:JMM:lr

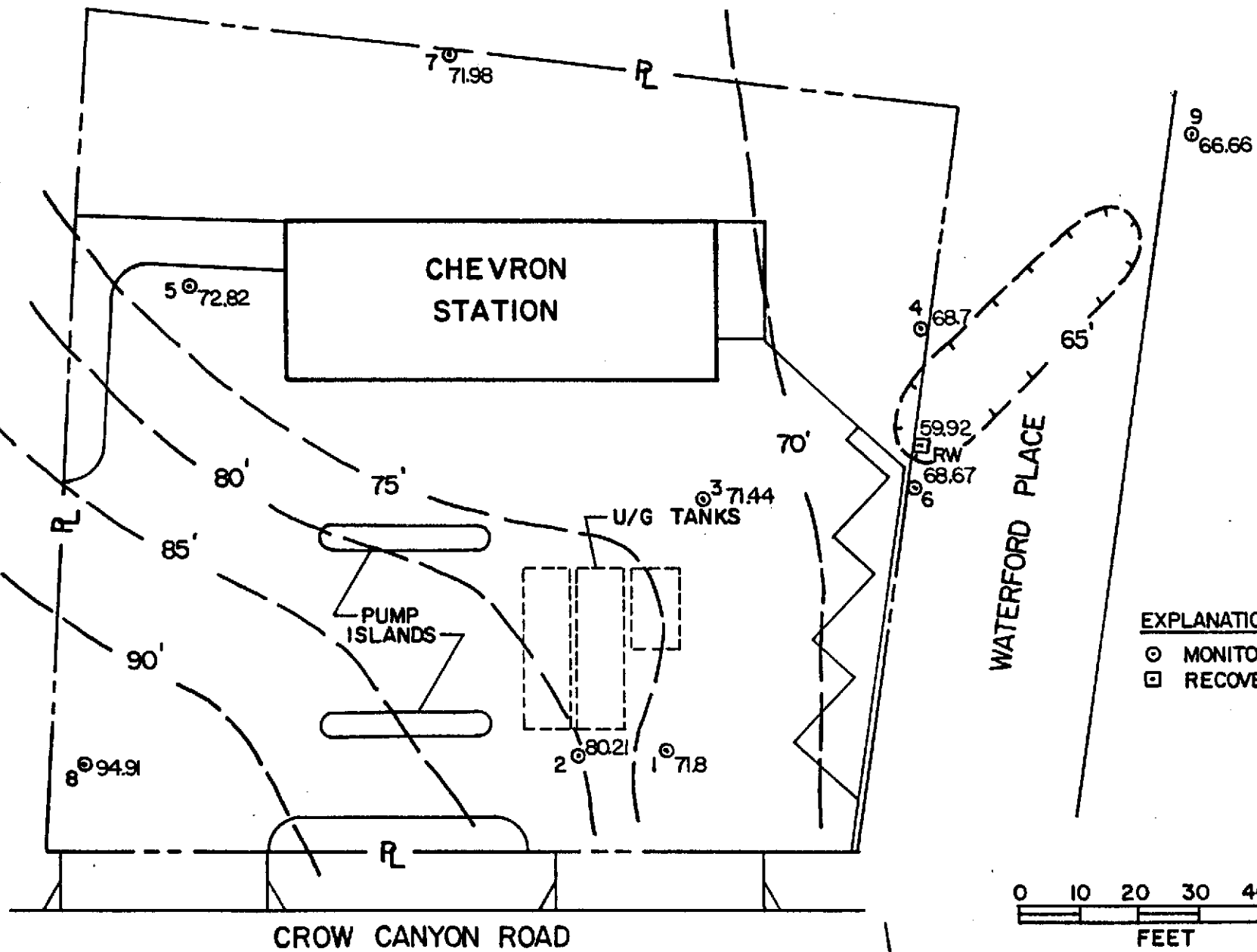
SAMPLE ANALYSES SUMMARY SHEET

PROJECT: Chevron 20-3231 LOCATION: Castro Valley YEAR: 1986/1987



		July 3	August 27	Sept 25	Oct. 22	December 3	January 9	February 10	February 26								
Carbon Tank-Influent	Benzene	9620	6400	8500	8300	3300	7200	680	1,500								
	Toluene	2870	4100	4410	4600	2000	3900	340	920								
	Ethyl Benzene	380	810	860	950	----	----	----	----								
	Total Xylenes	9380	3500	4600	3700	2500	1500	430	1,000								
	Aliphatic Hydro.	11200	1200	7700	8800	----	----	----	----								
	Misc. Aromatics	7000	4400	3500	2100	----	----	----	----								
	Total Hydro.	40400	21000	29000	29000	78000	62000	52000	25000								
Carbon Tank-Effluent	Benzene	ND	ND	ND	ND	ND	900	150	ND								
	Toluene	ND	ND	ND	ND	ND	510	62	ND								
	Ethyl Benzene	ND	ND	ND	ND	ND	----	----	----								
	Total Xylenes	ND	ND	ND	ND	ND	340	90	ND								
	Aliphatic Hydro.	11	ND	1.8	ND	ND	----	----	----								
	Misc. Aromatics	ND	1000	ND	ND	ND	----	----	----								
	Total Hydro.	11	1000	1.8	ND	ND	12000	1,100	ND								
Well #9	Benzene																
	Toluene																
	Ethyl Benzene																
	Total Xylenes	-	-	-	-	-	-	-	-								
	Aliphatic Hydro.																
	Misc. Aromatics																
	Total Hydro.																
Well #10	Benzene																
	Toluene																
	Ethyl Benzene																
	Total Xylenes																
	Aliphatic Hydro.																
	Misc. Aromatics																
	Total Hydro.																

GTL: Groundwater Technology, Inc. Analysis in ppb
 - : NOT SAMPLED



EXPLANATION

- ⊙ MONITORING WELL
- ⊠ RECOVERY WELL

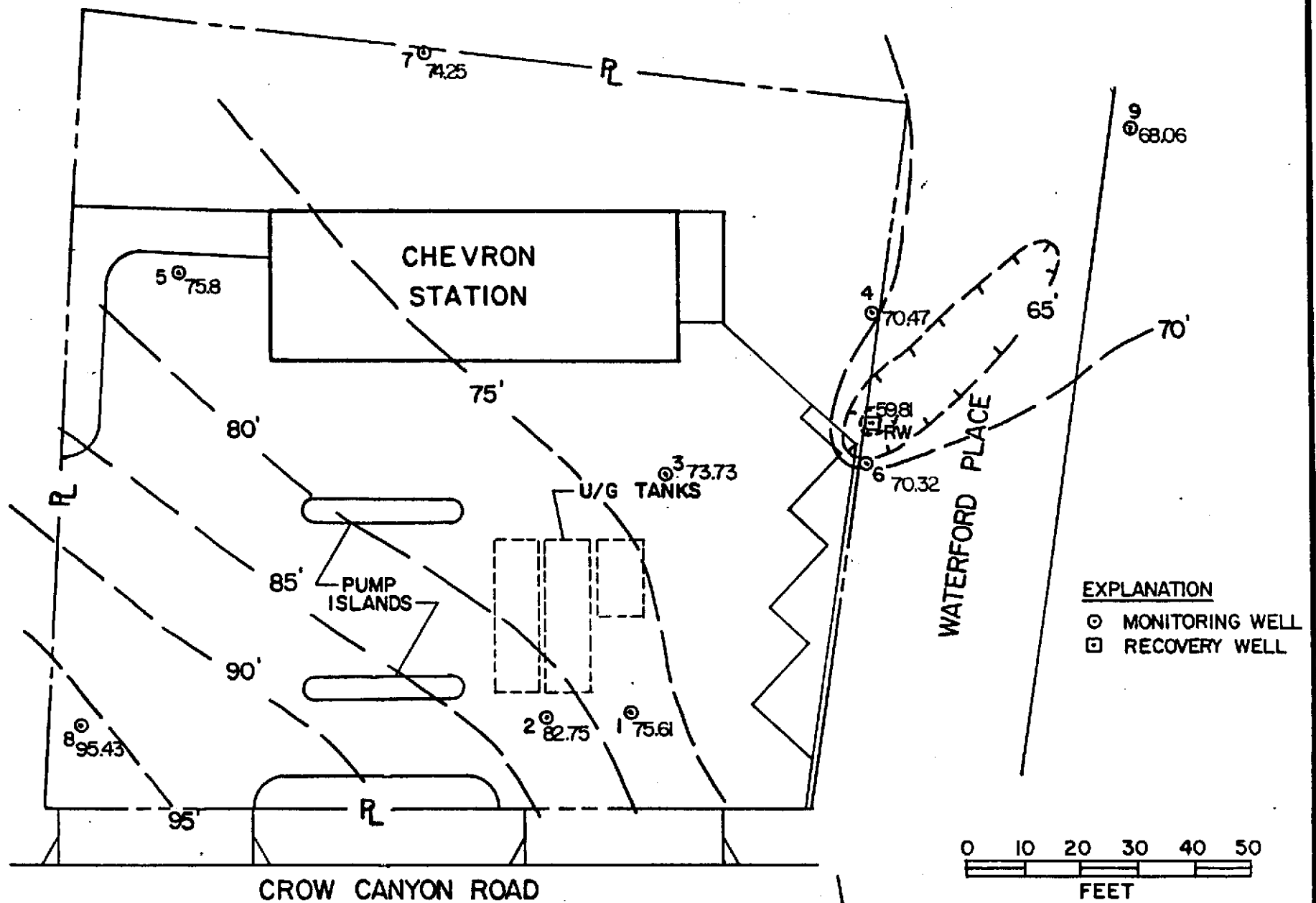


**GROUNDWATER
TECHNOLOGY, INC.**

CONSULTING GROUNDWATER GEOLOGISTS

FIGURE 1
GROUNDWATER GRADIENT MAP
FEBRUARY 10, 1987

**CHEVRON SERVICE STATION
CASTRO VALLEY, CALIFORNIA**



PROJECT: CHEVRON/CASTRO VALLEY
 JOB NUMBER: 20-3231
 DATE: MARCH 1987

		WELL 1	WELL 2	WELL 3	WELL 4	WELL 5	WELL 6	WELL 7	WELL 8	WELL 9	RW 1
DATE	ELEV. (ft.)	96.55	98.43	98.98	86.65	101.42	89.06	84.74	101.60	82.14	88.55
01/14/87	DTW	27.72	24.30	19.11	19.43	-	17.51	13.39	7.62	15.76	27.87
	DTP	-	-	-	-	-	-	-	-	-	27.67
	PT	TRACE	TRACE	0	0	-	0	0	0	0	0.20
01/20/87	DTW	28.10	25.01	20.04	17.98	29.37	20.13	13.59	8.71	16.04	28.44
	DTP	-	-	-	-	-	-	-	-	-	28.34
	PT	TRACE	0	0	0	0	SHEEN	0	0	0	0.10
01/29/87	DTW	28.04	24.15	18.63	18.25	29.62	20.54	13.80	6.88	16.00	28.77
	DTP	-	-	-	-	-	-	-	-	-	28.73
	PT	TRACE	TRACE	0	0	0	TRACE	0	0	0	0.04
02/05/87	DTW	23.25	17.69	27.71	18.07	28.86	20.31	13.34	6.23	15.62	27.07
	DTP	-	-	-	-	-	-	-	-	-	26.95
	PT	0	0	0	0	0	0	0	0	0	0.12
02/10/87	DTW	24.75	18.22	27.54	17.95	28.60	20.39	12.76	6.69	15.48	28.73
	DTP	-	-	-	-	-	-	-	-	-	28.60
	PT	0	0	0	0	0	0	0	0	0	0.13
02/18/87	DTW	20.86	15.90	25.83	16.55	26.43	18.85	11.24	5.85	-	28.74
	DTP	-	-	-	-	-	-	-	-	-	28.55
	PT	0	0	0	0	0	0	0	0	0	0.19

DTW = Depth To Water
 DTP = Depth To Product
 PT = Product Thickness
 MD3231A

PROJECT: CHEVRON/CASTRO VALLEY
 JOB NUMBER: 20-3231
 DATE: MARCH 1987

		WELL 1	WELL 2	WELL 3	WELL 4	WELL 5	WELL 6	WELL 7	WELL 8	WELL 9	RW 1
DATE	ELEV. (ft.)	96.55	98.43	98.98	86.65	101.42	89.06	84.74	101.60	82.14	88.55
02-26-87	DTW	22.10	16.95	25.73	16.44	25.83	19.18	10.67	6.63	14.18	28.90
	DTP	-	-	-	-	-	-	-	-	-	28.82
	PT	0	0	0	0	0	0	0	0	0	0.08
03-05-87	DTW	22.36	17.38	26.17	16.64	26.28	19.49	10.92	7.08	14.49	28.84
	DTP	-	-	-	-	-	-	-	-	-	28.75
	PT	0	0	0	0	0	0	0	0	0	0.09
03-11-87	DTW	21.85	16.47	26.04	16.65	26.49	19.15	11.11	6.64	14.42	28.83
	DTP	-	-	-	-	-	-	-	-	-	28.72
	PT	0	0	0	0	0	0	0	0	0	0.11
03-19-87	DTW	20.94	15.68	25.25	16.18	25.62	18.74	10.49	6.17	14.08	28.80
	DTP	-	-	-	-	-	-	-	-	-	28.73
	PT	0	0	0	0	0	0	0	0	0	0.07
03-26-87	DTW	20.50	15.45	25.04	-	25.14	18.37	10.08	6.01	13.74	25.69
	DTP	-	-	-	-	-	-	-	-	-	25.62
	PT	0	0	0	-	0	0	0	0	0	0.07

PT = Product Thickness
 DTW = Depth To Water
 DTP = Depth To Product
 PT = Product Thickness
 MD3231A



SEQUOIA Analytical Laboratory

2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

26

Groundwater Technology Laboratory
4080 Pikelane, Suite D
Concord, CA 94520
Attn: Joyce Miley

Date Sampled: 01/09/87
Date Received: 01/09/87
Date Reported: 01/22/87
Project #3231

Sample Number

7010374

Sample Description
Chevron/Castro Valley,
Influent Carbon Tank

ANALYSIS

	<u>Detection Limit</u> ppb	<u>Sample Results</u> ppb
Total Hydrocarbons	50	62000
Benzene	0.5	7200
Toluene	0.5	3900
Xylenes	0.5	1500

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sls



SEQUOIA Analytical Laboratory

2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology Laboratory
4080 Pikelane, Suite D
Concord, CA 94520
Attn: Joyce Miley

Date Sampled: 01/09/87
Date Received: 01/09/87
Date Reported: 01/22/87
Project #3231

Sample Number

7010375

Sample Description
Chevron/Castro Valley,
Effluent Carbon Tank

ANALYSIS

	<u>Detection Limit</u> ppb	<u>Sample Results</u> ppb
Total Hydrocarbons	50	12000
Benzene	0.5	900
Toluene	0.5	510
Xylenes	0.5	340

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sls



SEQUOIA Analytical Laboratory

2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology
4080 Pikelane, Suite D
Concord, CA 94520
Attn: J. Miley

Date Sampled: 02/10/87
Date Received: 02/12/87
Date Reported: 02/19/87
Project No. 20-3231

Sample Number

7020963

Sample Description
Chevron/Castro Valley
Water Ct., Influent

ANALYSIS

	<u>Detection Limit</u> ppb	<u>Sample Results</u> ppb
Total Hydrocarbons	50	5,200
Benzene	0.5	680
Toluene	0.5	340
Xylenes	0.5	430

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

mpr



SEQUOIA Analytical Laboratory

2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology
4080 Pikelane, Suite D
Concord, CA 94520
Attn: J. Miley

Date Sampled: 02/10/87
Date Received: 02/12/87
Date Reported: 02/19/87
Project No. 20-3231

Sample Number

7020964

Sample Description

Chevron/Castro Valley
Water CT Discharge

ANALYSIS

	<u>Detection Limit</u> ppb	<u>Sample Results</u> ppb
Total Hydrocarbons	50	1,100
Benzene	0.5	150
Toluene	0.5	62
Xylenes	0.5	90

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

mpr



SEQUOIA Analytical Laboratory

2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology Laboratory
4080 Pikelane, Suite D
Concord, CA 94520
Attn: Joyce Miley

Date Sampled: 02/26/87
Date Received: 03/02/87
Date Reported: 03/13/87
Project No. 20-3231

Sample Number
7030007

Sample Description
Water, RW-Influent,
Chevron-Castro Valley

ANALYSIS

	<u>Detection Limit</u> ppb	<u>Sample Results</u> ppb
Total Hydrocarbons	50	25,000
Benzene	0.5	1,500
Toluene	0.5	920
Xylenes	0.5	1,000

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

mpr



SEQUOIA Analytical Laboratory

2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology Laboratory
4080 Pikelane, Suite D
Concord, CA 94520
Attn: Joyce Miley

Date Sampled: 02/26/87
Date Received: 03/02/87
Date Reported: 03/13/87
Project No. 20-3231

Sample Number

7030006

Sample Description

Water, RW-Discharge,
Chevron-Castro Valley

ANALYSIS

	<u>Detection Limit</u> ppb	<u>Sample Results</u> ppb
Total Hydrocarbons	50	< 50
Benzene	0.5	< 0.5
Toluene	0.5	< 0.5
Xylenes	0.5	< 0.5

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

mpr

REGIONAL
8 1987
6/5 19 87
QUALITY CONTROL BOARD

TO: RWQCB S.F. Bay Region

FROM: R.S. Stoltz, Chevron USA INC.

SUBJECT: CHEVRON SS# 5607

OUR FILE:

5269 Crow Canyon Rd, Castro Valley California
Recovery System Update / AMTDA

Gentlemen!

Enclosed is an update report for the referenced location's recovery system.

If you have any questions, please call me at (415) 838-5302

Robert Stoltz