GROUNDWATER TECHNOLOGY, INC.
OIL RECOVERY SYSTEMS
4080 Pike Lane, Suite D, Concord, CA 94520-1227 (415) 671-2387

I II GS2 8/24/87

August 10, 1987

Job No. 203 175 3231

CALIFORNIA

AUG 13

QUALITY CO

Mr. Greg Zentner
California Regional Water
Quality Control Board
San Francisco Bay Region
1111 Jackson Street, Room 6040
Oakland, CA 94607

5209 Crow Canyon Rd
Castro Valley
Alameda

Dear Mr. Zentner,

Please find the enclosed Quarterly Update Report for the Chevron service station located at the intersection of Crow Canyon Road and Waterford Place in Castro Valley, California. The report provides a summary of the work performed at the site by Groundwater Technology, Inc. from April through June, 1987.

If you have any questions or require additional information, please contact us.

Sincerely,
GROUNDWATER TECHNOLOGY, INC.

Mark B. Winters

Mark B. Winters
Geologist

MBW:sm

Enclosure

cc: Robert Stolz

CALIFORNIA REGIONAL WATER

AUG 13 1987

QUALITY CONTROL BOARD

GROUNDWATER TECHNOLOGY, INC.
OIL RECOVERY SYSTEMS
4080 Pike Lane, Suite D, Concord, CA 94520-1227 (415) 671-2387

August 4, 1987

Job No. 203 175 3231

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

Dear Mr. Stolz,

This letter report presents an update of Groundwater Technology, Inc's (GTI) activities and observations as well as the 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** period of April through June 1987.

Groundwater monitoring of the nine monitoring wells and one recovery well at the site has been performed weekly. (See Attached Monitoring Charts). **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 I and attached laboratory reports).**

Groundwater gradient maps (Figures 1, 2 and 3) have been prepared using the data collected on April 17, May 20, and June 19, 1987. The maps all indicate that the groundwater gradient is to the southwest with perturbation occuring in the vicinity of the recovery well due to the pumping activity. The piezometric surface elevations show an overall decrease from April to June which is expected due to the seasonal groundwater fluctuations.

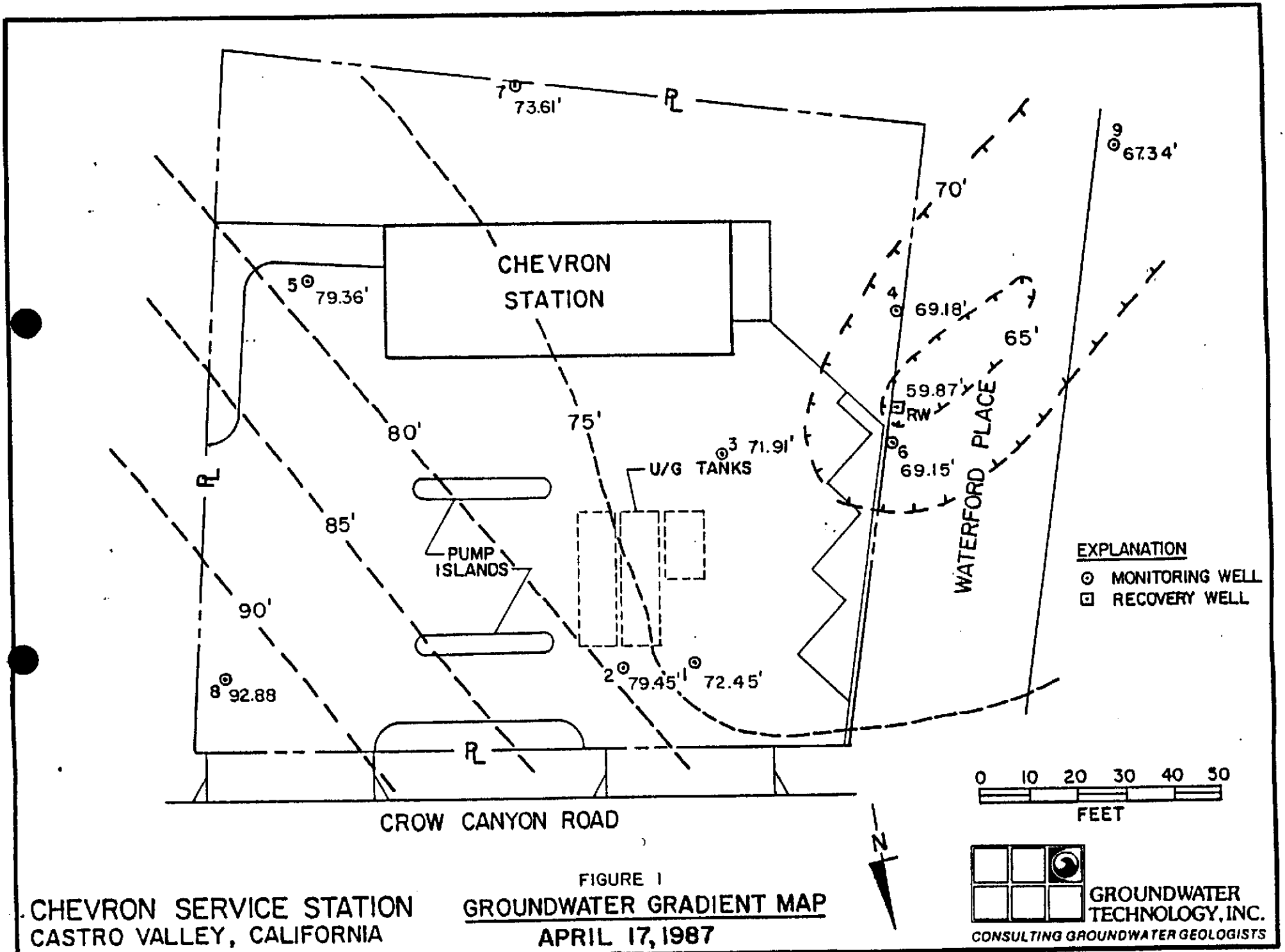

FIGURE 1

CHEVRON SERVICE STATION
CASTRO VALLEY, CALIFORNIA

GROUNDWATER GRADIENT MAP
APRIL 17, 1987

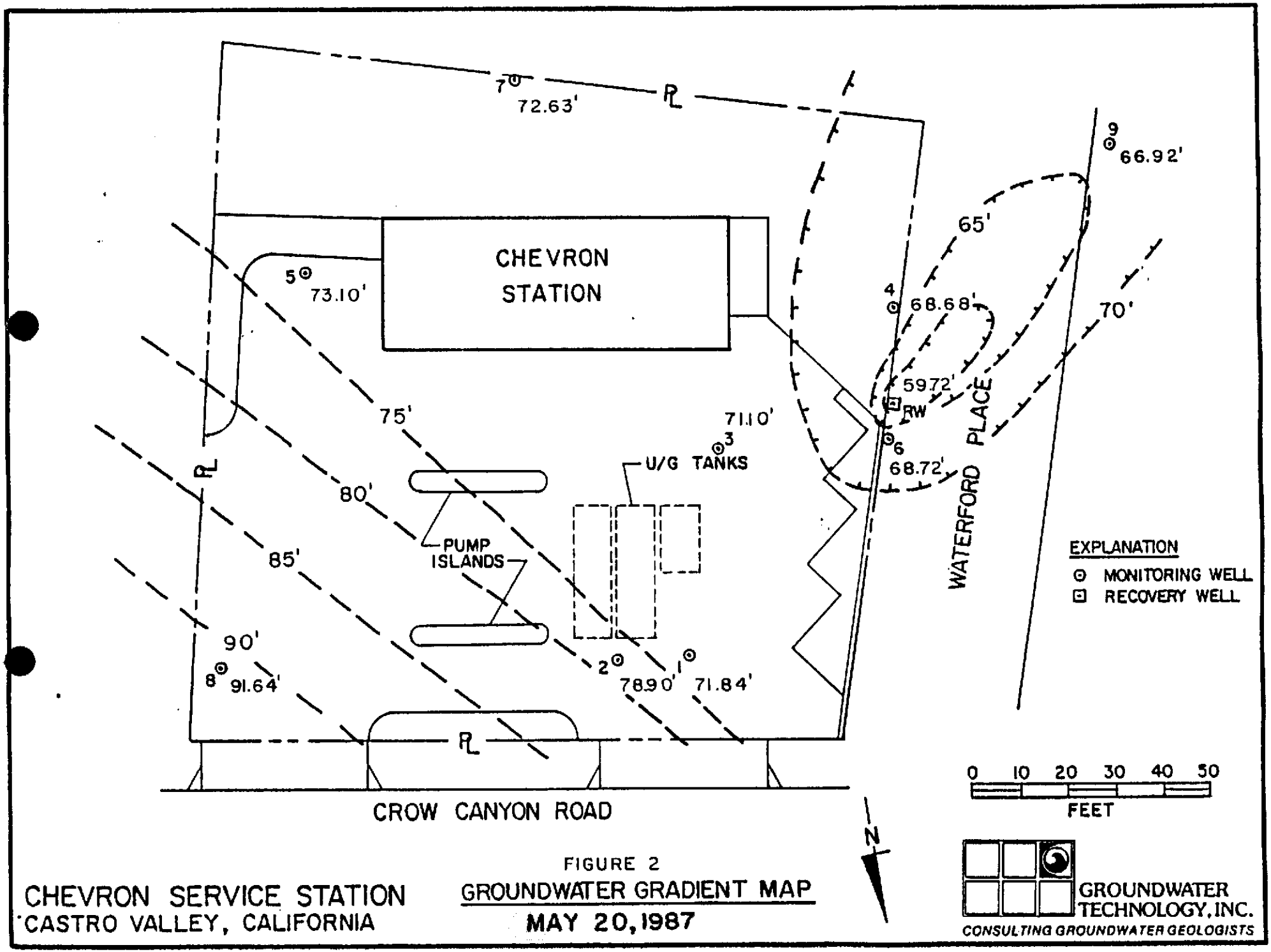

FIGURE 2

GROUNDWATER GRADIENT MAP

MAY 20, 1987

CHEVRON SERVICE STATION

CASTRO VALLEY, CALIFORNIA

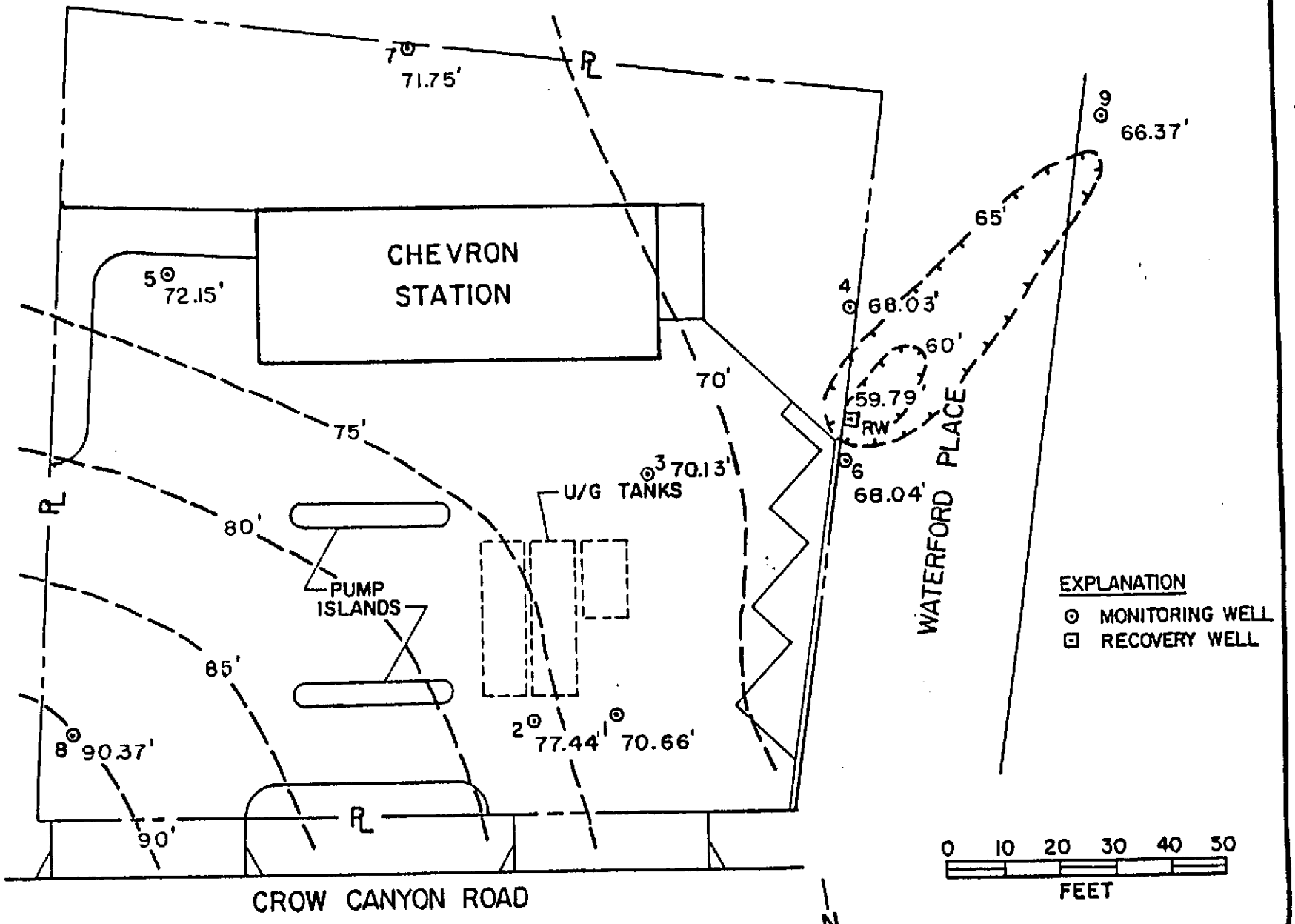

FIGURE 3

GROUNDWATER GRADIENT MAP

JUNE 19, 1987

CHEVRON SERVICE STATION
CASTRO VALLEY, CALIFORNIA

GROUNDWATER TECHNOLOGY, INC.
CONSULTING GROUNDWATER GEOLOGISTS

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

The weekly monitoring has encountered small accumulations of product in monitor wells MW-1 and MW-3 since June 11 [redacted] product has been noted in the recovery well for the entire quarter. GTI personnel have hand bailed approximately 1 gallon of free floating product from the recovery well during this quarter. The total volume of free product removed since October 1985 is now approximately 30 gallons.

It is GTI's opinion that the present system of weekly monitoring, monthly groundwater sampling, and quarterly reports is currently the best method to keep Chevron updated on the status of this project.

Sincerely,
GROUNDWATER TECHNOLOGY, INC.

Joyce Miley

Joyce M. Miley
Project Manager

Lynn E. Pera

Lynn E. Pera
Certified Civil Engineer
No. 33431

Enclosure
JMM:LEP:lr

TABLE I

SAMPLE ANALYSES SUMMARY SHEET

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

GROUNDWATER TECHNOLOGY, INC.
CONSULTING GROUNDWATER GEOLOGISTS

		July 3	August 27	Sept 25	Oct. 22	December 3	January 9	February 10	February 26	April 9	May 20	July 2
Carbon Tank-Influent	Benzene	9620	6400	8500	8300	3300	7200	680	1,500	7,700	5,977	6,440
	Toluene	2870	4100	4410	4600	2000	3900	340	920	4,300	1,178	2,677
	Ethyl Benzene	380	810	860	950	----	----	----	----	--	297	413.9
	Total Xylenes	9380	3500	4600	3700	2500	1500	430	1,000	5,600	2,610	2,536
	Aliphatic Hydro.	11200	1200	7700	8800	----	----	----	----	--	--	---
	Misc. Aromatics	7000	4400	3500	2100	----	----	----	----	--	2,753	3018
	Total Hydro.	40400	21000	29000	29000	78000	62000	52000	25000	76,000	12,815	15,085
Carbon Tank-Effluent	Benzene	ND	ND	ND	ND	ND	900	150	ND	ND	ND	ND
	Toluene	ND	ND	ND	ND	ND	510	62	ND	ND	ND	ND
	Ethyl Benzene	ND	ND	ND	ND	ND	----	----	----	--	ND	ND
	Total Xylenes	ND	ND	ND	ND	ND	340	90	ND	ND	ND	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	ND	ND	ND
Well #9	Benzene											
	Toluene											
	Ethyl Benzene											
	Total Xylenes	-	-	-	-	-	-	-	-	-	-	-
	Aliphatic Hydro.											
	Misc. Aromatics											
	Total Hydro.											
	Benzene											
	Toluene											
	Ethyl Benzene											
	Total Xylenes											
	Aliphatic Hydro.											
	Misc. Aromatics											
	Total Hydro.											

GTL: Groundwater Technology Lab *Analysis in ppb

- : NOT SAMPLED

PROJECT: CHEVRON/CASTRO VALLEY
JOB NUMBER: 203 175 3231
DATE: JUNE 1987

DATE		WELL 1	WELL 2	WELL 3	WELL 4	WELL 5	WELL 6	WELL 7	WELL 8	WELL 9	WELL RW
	ELEV. (ft.)	96.55	98.43	98.98	86.65	101.42	89.06	84.74	101.60	82.14	88.55
4/02/87	DTW	22.14	17.08	25.55	16.36	25.18	18.91	13.96	6.84	9.86	28.74
	DTP	-	-	-	-	-	-	-	-	-	28.68
	PT	0	0	0	0	0	0	0	0	0	0.06
4/05/87	DTW	23.85	18.54	27.51	17.76	28.04	20.00	11.91	8.78	15.00	28.74
	DTP	-	-	-	-	-	-	-	-	-	28.60
	PT	0	0	0	0	0	0	0	0	0	0.14
4/09/87	DTW	23.21	18.12	26.31	16.96	26.08	19.49	10.44	7.80	14.48	28.69
	DTP	-	-	-	-	-	-	-	-	-	28.62
	PT	0	0	0	0	0	0	0	0	0	0.07
4/17/87	DTW	24.10	18.98	27.07	17.47	27.06	19.91	11.13	8.72	14.80	28.70
	DTP	-	-	-	-	-	-	-	-	-	28.67
	PT	0	0	0	0	0	0	0	0	0	0.03
4/24/87	DTW	24.60	19.54	27.62	17.85	27.76	20.27	11.73	9.31	15.13	28.68
	DTP	-	-	-	-	-	-	-	-	-	28.64
	PT	0	0	0	0	0	0	0	0	0	0.04

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

PROJECT: CHEVRON/CASTRO VALLEY
JOB NUMBER: 203 175 3231
DATE: JUNE 1987

DATE		WELL 1	WELL 2	WELL 3	WELL 4	WELL 5	WELL 6	WELL 7	WELL 8	WELL 9	WELL RW
	ELEV. (ft.)	96.55	98.43	98.98	86.65	101.42	89.06	84.74	101.60	82.14	88.55
4/30/87	DTW	24.27	19.23	27.82	18.04	28.14	20.39	12.03	9.57	15.32	28.79
	DTP	-	-	-	-	-	-	-	-	-	28.74
	PT	0	0	0	0	0	0	0	0	0	0.05
5/11/87	DTW	23.82	18.58	26.99	16.42	27.99	18.09	11.83	9.34	14.85	27.86
	DTP	-	-	-	-	-	-	-	-	-	-
	PT	0	0	0	0	0	0	0	0	0	0
5/20/87	DTW	24.71	19.53	27.88	17.97	28.32	20.34	12.11	9.96	15.22	28.85
	DTP	-	-	-	-	-	-	-	-	-	28.83
	PT	0	0	0	0	0	0	0	0	0	0.02
5/29/87	DTW	25.33	20.23	28.36	18.32	28.75	20.69	12.57	6.58	15.53	28.70
	DTP	-	-	-	-	-	-	-	-	-	28.66
	PT	0	0	0	0	0	0	0	0	0	0.04
6/05/87	DTW	25.48	26.43	28.50	18.37	28.86	20.79	12.58	10.88	15.56	28.78
	DTP	-	-	-	-	-	-	-	-	-	28.75
	PT	0	0	0	0	0	0	0	0	0	0.03

DTW = Depth To Water
DTP = Depth To Product
PT = Product Thickness
MD3231B

PROJECT: CHEVRON/CASTRO VALLEY
JOB NUMBER: 203 175 3231
DATE: JUNE 1987

DATE		WELL 1	WELL 2	WELL 3	WELL 4	WELL 5	WELL 6	WELL 7	WELL 8	WELL 9	WELL RW
	ELEV. (ft.)	96.55	98.43	98.98	86.65	101.42	89.06	84.74	101.60	82.14	88.55
6/11/87	DTW	25.67	20.73	28.68	28.50	29.03	20.90	12.74	11.07	15.67	28.68
	DTP	-	-	-	-	-	-	-	-	-	28.64
	PT	TRACE	0	0	0	0	0	0	0	0	0.04
6/19/87	DTW	25.89	20.99	28.85	18.62	29.29	21.02	12.99	11.23	15.77	28.77
	DTP	25.88	-	28.84	-	-	-	-	-	-	-
	PT	0.01	0	0.01	0	0	0	0	0	0	0
6/26/87	DTW	26.02	21.26	28.97	18.71	29.37	21.11	13.02	11.29	15.86	28.61
	DTP	26.01	-	28.94	-	-	-	-	-	-	28.59
	PT	0.01	0	0.03	0	0	0	0	0	0	0.02

DTW = Depth To Water
DTP = Depth To Product
PT = Product Thickness
MD3231C

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

RECEIVED MAY 06 1987

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

Date Sampled: 04/09/87
Date Received: 04/09/87
Date Reported: 04/30/87

Sample Number

7040711

Sample Description

Chevron/Castro Valley, Carbon Tank, Discharge Acidified

ANALYSIS

	Detection Limit ppb	Sample Results ppb
Total Hydrocarbons as Gasoline	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

sls

GT Environmental Laboratories
A division of Groundwater Technology, Inc.

Western Region
4080-C Pike Ln., Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

05/27/87
PROJECT MGR: Joyce Miley
Groundwater Technology, Inc.
4080 Pike Lane
Concord, CA. 94520

PROJECT #:20-3231-2
LOCATION: Castro Valley, CA.
SAMPLED: 05/20/87 BY: T.Watchers
RECEIVED: 05/20/87 BY: T.Nguyen
ANALYZED: 05/21/87 BY: J.Floro
MATRIX: Water

TEST RESULTS (ppb)

COMPOUNDS	LAB # / I.D. #	2686 CT/INF	2687 CT/Disch
Benzene		5977	<0.5
Ethylbenzene		296.8	<0.5
Toluene		1178	<0.5
Xylenes		2610	<0.5
Total BTEX		10062	<0.5
Chlorobenzene		--	--
1,2 DCB		--	--
1,3 DCB		--	--
1,4 DCB		--	--
MEK		--	--
MIBK		--	--
Misc.Aromatics		2753	<0.5
Total Hydrocarbons		12815	<0.5

-- = Not Requested. < = Method Detection Limit-Compound below this level would not be detected. MEK = Methyl Ethyl Ketone MIBK = Methyl Isobutyl Ketone

METHODS: Modified EPA Method 602.
Total Hydrocarbons is the summation of Total BTEX and Miscellaneous Aromatics.

GT Environmental Laboratories
A division of Groundwater Technology, Inc.

Western Region
4080-C Pike Ln., Concord, CA 94520
(415) 685-7852
In CA: (800) 544-3422
Outside CA: (800) 423-7143

07/14/87
PROJECT MGR: Joyce Miley
Groundwater Technology, Inc.
4080-D Pike Lane
Concord, CA. 94520
PROJECT #:203-175-3231-3
LOCATION: Castro Valley, CA.
SAMPLED: 07/02/87 BY: T. Watchers
RECEIVED: 07/02/87 BY: R. Heines
ANALYZED: 07/08/87 BY: E. Foley
MATRIX: Water

TEST RESULTS (ppb)

COMPOUNDS	MDL	LAB # I.D.#	3972 RW/DIS	3973 RW/INF			
Benzene	< 0.5		< 0.5	6440			
Ethylbenzene	< 0.5		< 0.5	413.9			
Toluene	< 0.5		< 0.5	2677			
Xylenes	< 0.5		< 0.5	2536			
Total BTEX	< 0.5		< 0.5	12067			
Chlorobenzene	--		--	--			
1,2 DCB	--		--	--			
1,3 DCB	--		--	--			
1,4 DCB	--		--	--			
MEK	--		--	--			
MIBK	--		--	--			
Misc. Hydrocarbons (C4-12)	< 0.5		< 0.5	3018			
Total Volatile Hydrocarbons	< 0.5		< 0.5	15085			

-- = Not Requested. MDL = Method Detection Limit; compound below this level would not be detected.
MEK = Methyl Ethyl Ketone MIBK = Methyl Isobutyl Ketone
METHODS: Modified EPA Method 602.
Total Volatile Hydrocarbons is the summation of Total BTEX and Miscellaneous Hydrocarbons.
Sample 3973 was confirmed by 2nd column.

Eileen M Foley SK

SAFY KHALIFA, Ph.D., Director