

**GROUNDWATER
TECHNOLOGY, INC.**

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

FAX: (415) 685-9148

**QUARTERLY STATUS UPDATE REPORT NO. 2
FORMER TEXACO SERVICE STATION
3940 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA**

AUGUST 16, 1991

Prepared for:

Mr. Ron Zielinski
Texaco Environmental Services
108 Cutting Boulevard
Richmond, CA 94804

R0175A1.GM
(0314)



Texaco Refining
and Marketing Inc

108 Cutting Boulevard
Richmond CA 94804

91 SEP 26 AM 11:04

September 19, 1991

Mr. Scott Seery
Alameda County Department of
Environmental Health
Hazardous Material Division
80 Swan Way, Room 200
Oakland, CA 94621

Dear Mr. Seery:

Enclosed is a copy of our Quarterly Status Update Report No. 2 dated August 16, 1991 for our former Texaco Service Station located at 3940 Castro Valley Boulevard in Castro Valley, California. This report covers the period from April 1, 1991 to June 30, 1991, and includes the results of one groundwater monitoring and sampling event.

Please call me at (415) 236-3541 if you have any questions.

Best Regards,

K. Detterman
Environmental Geologist

KD:pap

Enclosure

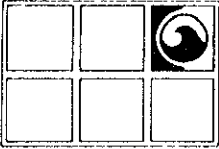
cc: Mr. Thomas J. Callaghan
San Francisco Bay Regional Water
Quality Control Board
2101 Webster Street, Suite 500
Oakland, CA 94612

Mr. Pat Patterson
Lakeshore Financial
21060 Redwood Road
Castro Valley, CA 94596

pr: *6/RS*

KEG

3940CVB.SS



GROUNDWATER TECHNOLOGY, INC.

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FAX: (415) 685-9148

QUARTERLY STATUS UPDATE REPORT NO. 2 FORMER TEXACO SERVICE STATION 3940 CASTRO VALLEY BOULEVARD CASTRO VALLEY, CALIFORNIA

AUGUST 16, 1991

Prepared for:

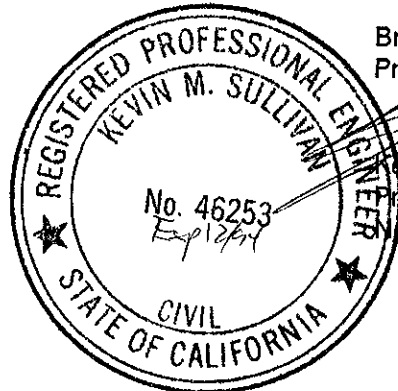
Mr. Ron Zielinski
Texaco Environmental Services
108 Cutting Boulevard
Richmond, CA 94804

Prepared by:

GROUNDWATER TECHNOLOGY, INC.
4057 Port Chicago Highway
Concord, CA 94520

Gregory A. Mischel
Project Geologist

Brian Barrie
Project Manager



Kevin Sullivan
Professional Engineer
No. C46253

R0175A1.GM
(0314)

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QUARTERLY STATUS UPDATE REPORT NO. 2
FORMER TEXACO SERVICE STATION
3940 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

AUGUST 16, 1991

INTRODUCTION

This report presents an update of the groundwater monitoring and sampling program conducted by Groundwater Technology, Inc. at the former Texaco Service Station located at 3940 Castro Valley Boulevard in Castro Valley, California.

WORK PERFORMED

The work performed during this groundwater monitoring and sampling period of April 1, 1991, to June 30, 1991, included the following tasks:

- On April 11, May 14 and June 10, 1991, the groundwater levels in four monitoring wells were measured.
- On May 14, 1991, groundwater samples were collected from monitoring wells MW-1, MW-3, MW-4 and MW-5 in accordance with the Leaking Underground Fuel Tank Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure prepared by the State of California Leaking Underground Fuel Tank Task Force.

GROUNDWATER MONITORING

On April 11, 1991, May 14, 1991, and June 10, 1991, the groundwater levels in four monitoring wells were measured using an Interface Probe® Well Monitoring System capable of distinguishing between water and separate-phase hydrocarbons to determine depth-to-water (DTW) and to check for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not detected in any of the groundwater-monitoring wells. Between the February 22, 1991, and May 14, 1991, monitoring events, the average groundwater elevation increased by 1.09 feet. The monitoring data are summarized in Table 1. The collected water elevation data were used to construct the Potentiometric Surface Map (Figure 2). Based on Figure 2, the groundwater gradient is toward the west and southeast and was calculated to be approximately 0.0005. A historical summary of the groundwater elevations is presented in Table 2.

GROUNDWATER SAMPLING AND RESULTS

On May 14, 1991, groundwater samples were collected from groundwater-monitoring wells MW-1, MW-3, MW-4 and MW-5. All samples collected were sent to a California-certified laboratory and analyzed for the presence of benzene, toluene, ethylbenzene, xylenes (BTEX) and total petroleum hydrocarbons (TPH)-as-gasoline in accordance with the Regional Water Quality Control Board's (RWQCB) Regional Board Staff Recommendation for Preliminary Evaluation and Investigation of Underground Tanks - Tri-Regional Recommendations, revised August 1990.

The results of laboratory analyses for the groundwater samples collected from monitoring wells MW-3 and MW-5 on May 14, 1991, reported BTEX and TPH-as-gasoline concentrations below their respective method detection limits (MDL). The results of laboratory analyses for the groundwater sample collected from monitoring well MW-4 on May 14, 1991, reported a concentration of benzene of 29 parts per billion (ppb) and a concentration of TPH-as-gasoline of 370 ppb. Results of laboratory analyses are presented in Table 3 and Appendix A. The reported groundwater laboratory data were used to construct the Dissolved Total Petroleum Hydrocarbons (TPH)-as-Gasoline Concentrations Map and the Dissolved Benzene Concentrations Map (Figure 3 and 4). A historical summary of the groundwater analyses data is presented in Table 4.

SUMMARY

The four groundwater-monitoring wells were monitored on April 11, May 14 and June 10, 1991. Between the February 22, 1991, and May 14, 1991, monitoring events, the average groundwater elevation increased by 1.09 feet. The groundwater gradient is toward the west and southeast and was calculated to be approximately 0.0005.

During the May 14, 1991, groundwater sampling event, the highest levels of benzene and TPH-as-gasoline were detected in the groundwater sample collected from monitoring well MW-4 at 29 ppb and 370 ppb, respectively. Results of analyses of water samples taken from groundwater-monitoring wells MW-3 and MW-5 reported BTEX and TPH-as-gasoline concentrations below the MDL.

CLOSURE

This concludes Groundwater Technology, Inc.'s Quarterly Status Update Report No. 2 for the former Texaco Service Station located at 3940 Castro Valley Boulevard in Castro Valley, California. If you have any questions regarding the contents of this report, please contact Brian Barrie at (415) 671-2387.

LIST OF FIGURES

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- FIGURE 2 POTENTIOMETRIC SURFACE MAP (05/14/91)
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CONCENTRATIONS MAP (05/14/91)
- FIGURE 4 DISSOLVED BENZENE CONCENTRATIONS MAP (05/14/91)

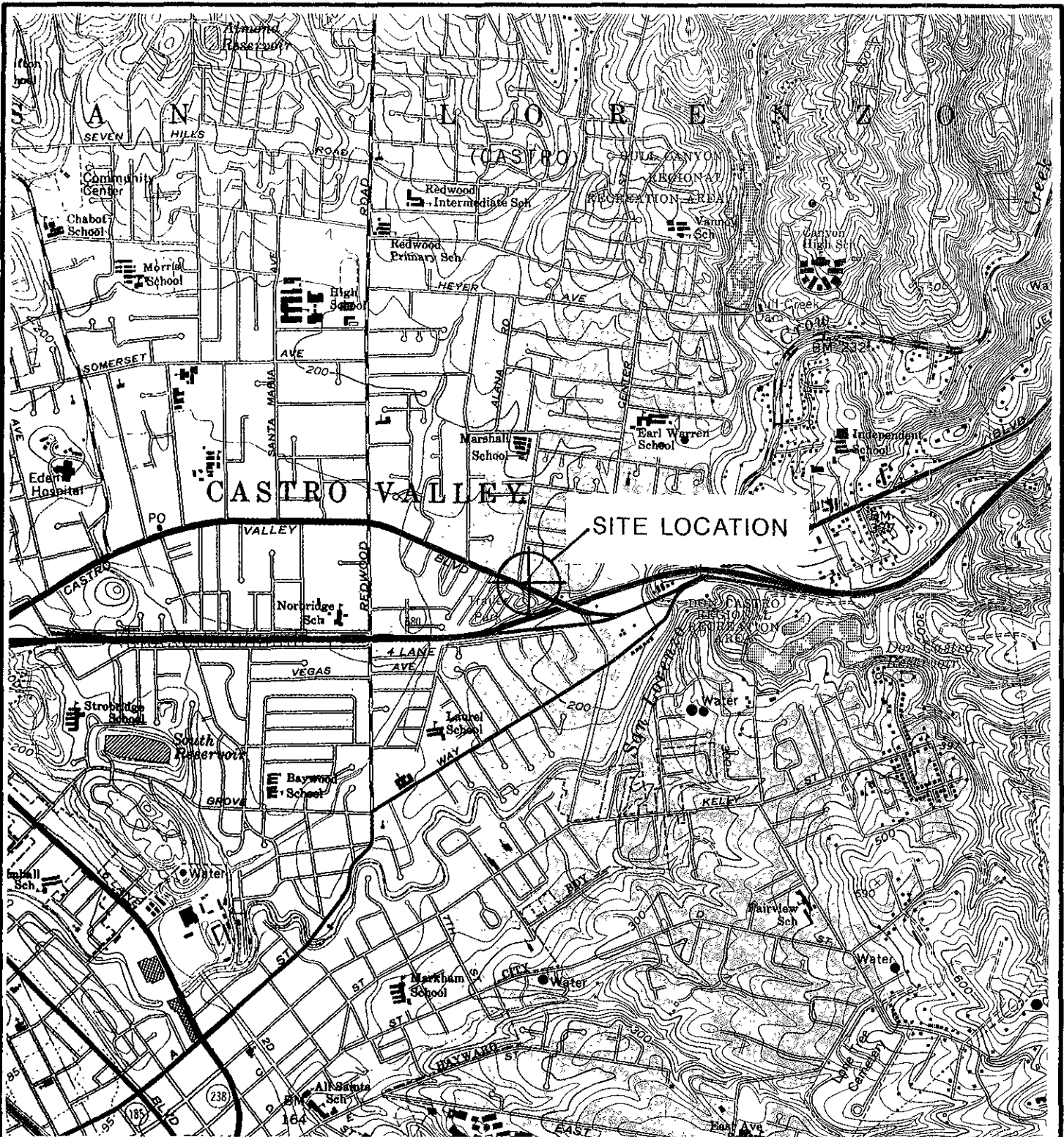
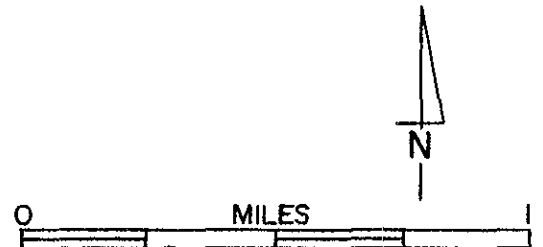


FIGURE 1
SITE LOCATION MAP



FORMER TEXACO SERVICE STATION
3940 CASTRO VALLEY BLVD.
CASTRO VALLEY, CALIFORNIA

ML 12/89



GROUNDWATER
TECHNOLOGY, INC.

LEGEND

- ⊙ MONITORING WELL
- () POTENTIOMETRIC SURFACE ELEVATION (FT)
- POTENTIOMETRIC SURFACE CONTOUR

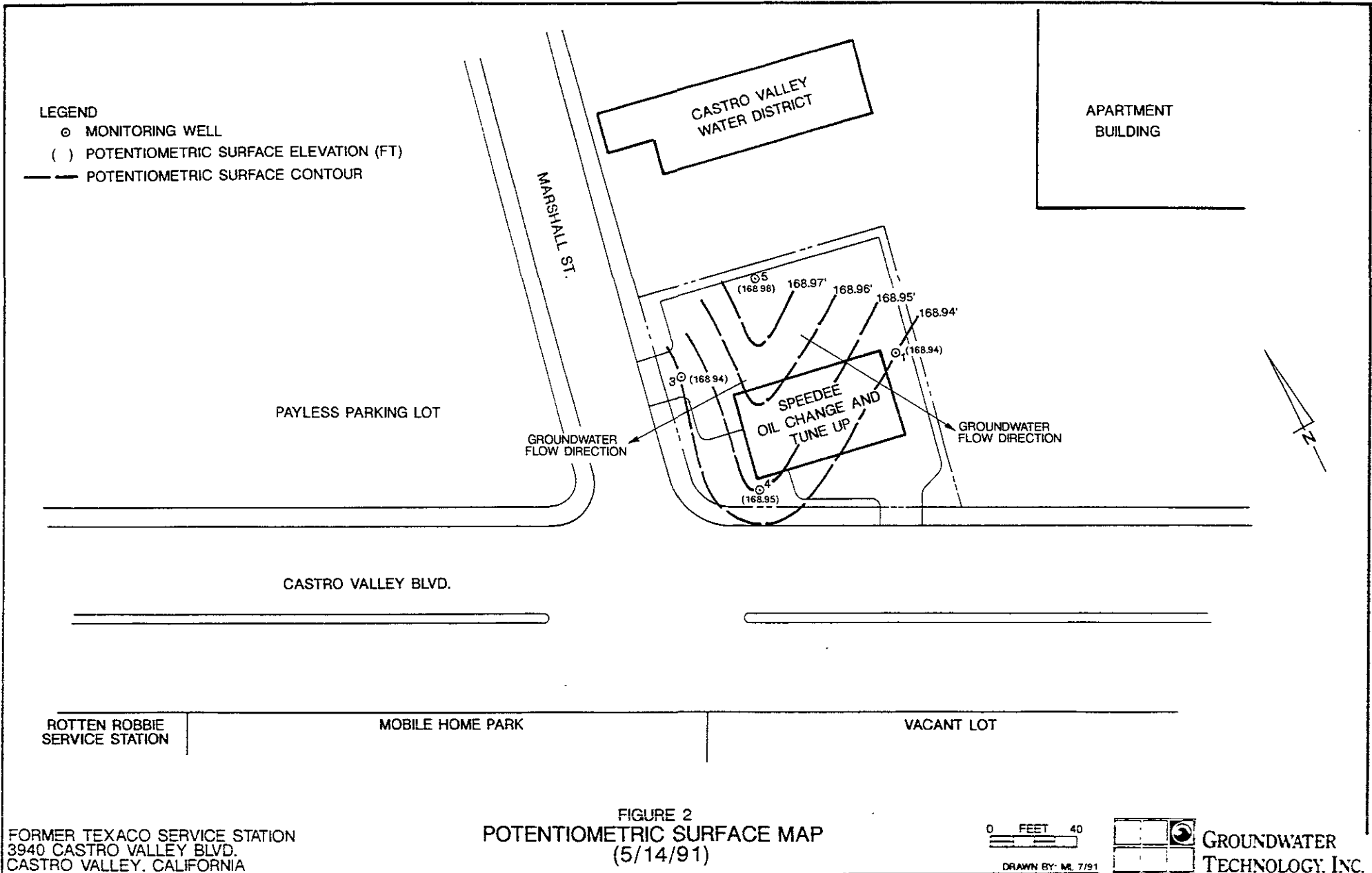


FIGURE 2
POTENTIOMETRIC SURFACE MAP
(5/14/91)

FORMER TEXACO SERVICE STATION
3940 CASTRO VALLEY BLVD.
CASTRO VALLEY, CALIFORNIA

0 FEET 40
DRAWN BY: ML 7/91

GROUNDWATER TECHNOLOGY, INC.

LEGEND

- ⊙ MONITORING WELL
- () TOTAL PETROLEUM HYDROCARBONS (TPH)-as-GASOLINE CONCENTRATION (ppb)

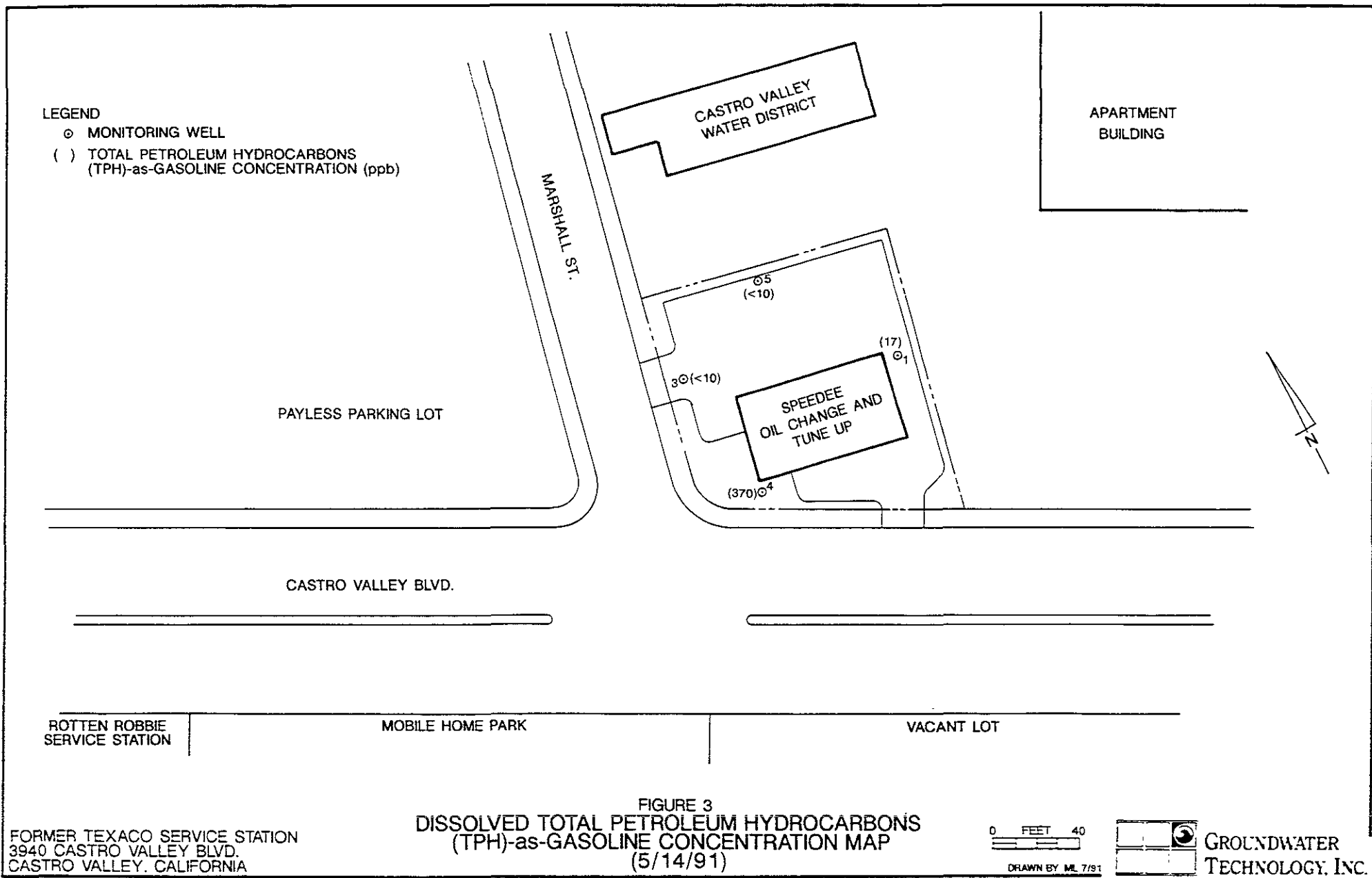
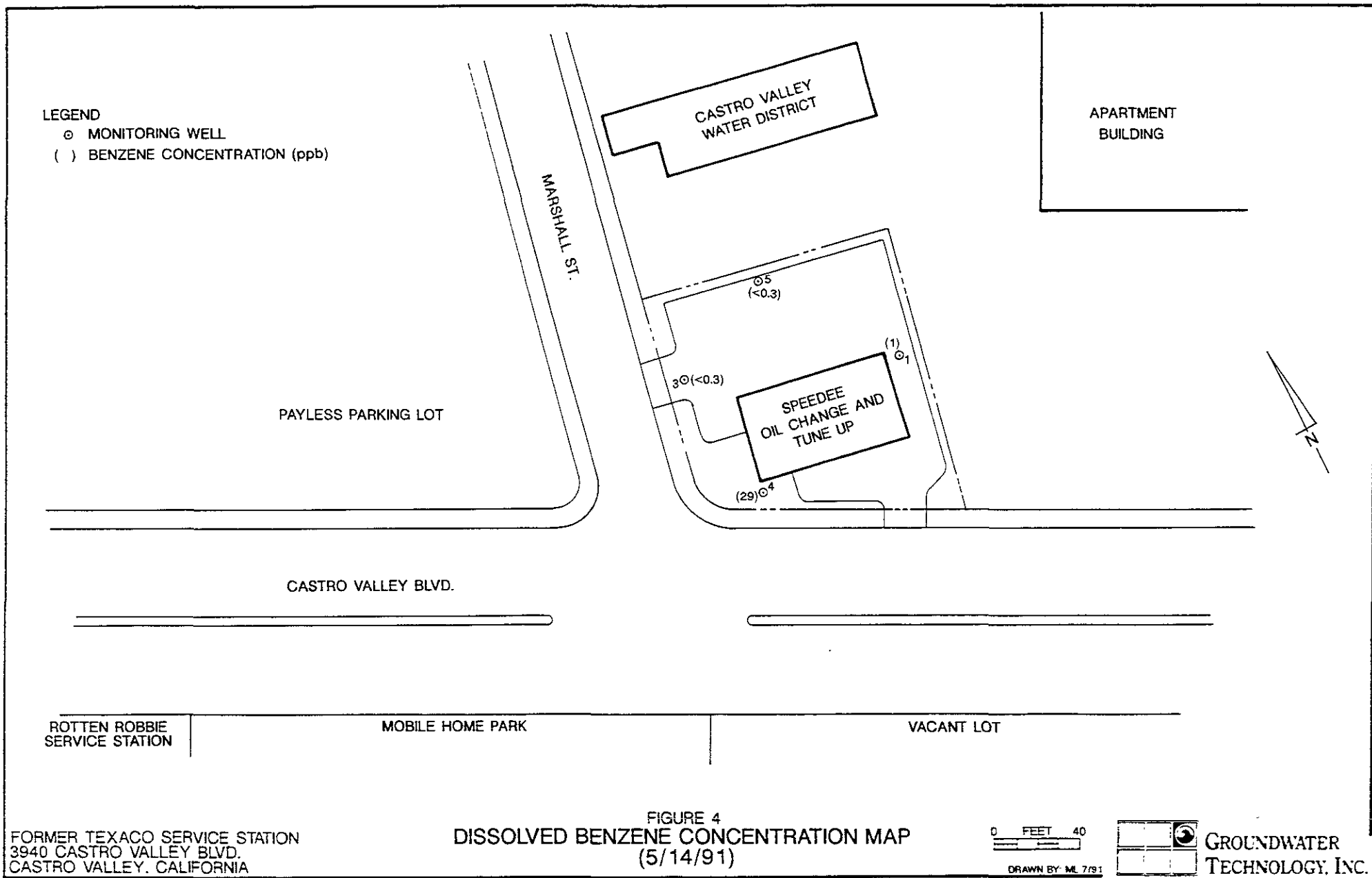


FIGURE 3
DISSOLVED TOTAL PETROLEUM HYDROCARBONS
(TPH)-as-GASOLINE CONCENTRATION MAP
(5/14/91)

FORMER TEXACO SERVICE STATION
3940 CASTRO VALLEY BLVD.
CASTRO VALLEY, CALIFORNIA

LEGEND

- ⊙ MONITORING WELL
- () BENZENE CONCENTRATION (ppb)



FORMER TEXACO SERVICE STATION
3940 CASTRO VALLEY BLVD.
CASTRO VALLEY, CALIFORNIA

FIGURE 4
DISSOLVED BENZENE CONCENTRATION MAP
(5/14/91)

0 FEET 40
DRAWN BY: ML 7/91

GROUNDWATER TECHNOLOGY, INC.

TABLES

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TABLE 2	HISTORICAL SUMMARY OF THE GROUNDWATER ELEVATIONS
TABLE 3	WATER SAMPLE ANALYSES RESULTS
TABLE 4	SUMMARY OF GROUNDWATER ANALYSES RESULTS

TABLE 1
GROUNDWATER MONITORING DATA
(Measurements in feet)

DATE	ELEV.	MW-1 192.46	MW-3 190.48	MW-4 191.63	MW-5 191.55
04/11/91	DTW	23.41	21.14	22.60	22.50
	GWE	169.05	169.34	169.03	169.05
05/14/91	DTW	23.52	21.54	22.68	22.57
	GWE	168.94	168.94	168.95	168.98
06/10/91	DTW	23.61	21.64	22.79	22.68
	GWE	168.85	168.84	168.84	168.87

DTW = Depth-to-water
GWE = Groundwater elevation

TABLE 2
HISTORICAL SUMMARY OF THE
GROUNDWATER ELEVATIONS
(Measurements in feet)

DATE	MW-1	MW-3	MW-4	MW-5
12/30/87	170.54	167.88	-	-
06/07/88	169.11	169.58	-	-
12/13/88	169.29	169.56	-	-
08/29/89	168.76	169.00	-	-
02/27/90	169.21	168.90	-	-
04/12/90	168.81	168.78	168.79	168.81
06/11/90	168.72	168.69	169.81	168.72
07/18/90	168.56	168.52	168.54	168.54
08/22/90	168.39	168.38	168.39	168.40
09/27/90	168.25	168.24	168.25	168.26
10/10/90	168.21	168.20	167.20	169.22
11/15/90	168.01	167.98	167.99	168.01
12/11/90	169.92	165.94	167.94	167.96
01/09/91	167.78	167.77	167.79	167.8
01/23/91	167.85	167.83	167.84	167.86
02/22/91	167.88	167.80	167.86	167.89
03/20/91	168.51	168.52	168.52	168.54
04/11/91	169.05	169.34	169.03	169.05
05/14/91	168.94	168.94	168.95	168.98
06/10/91	168.85	168.84	168.84	168.87

MW = Monitoring well

TABLE 3
WATER SAMPLE ANALYSES RESULTS
 May 14, 1991

WELL NO.	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-AS-GASOLINE
MW-1	1	<0.3	0.4	0.8	17
MW-3	<0.3	<0.3	<0.3	<0.6	<10
MW-4	29	<0.3	9	1	370
MW-5	<0.3	<0.3	<0.3	<0.6	<10

All concentrations shown in parts per billion

TPH-as-gasoline = Total petroleum hydrocarbons-as-gasoline

MW = Monitoring well

MDL = Method detection limit

**TABLE 4
SUMMARY OF GROUNDWATER ANALYSES RESULTS**

WELL I.D.	SAMPLE DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-AS-GASOLINE
MW-1	12/30/87	15	12	3	190	2,100
	06/07/88	12	<PQL	<PQL	17	290
	12/13/88	3	<PQL	<PQL	<PQL	370
	08/29/89	6	<PQL	<PQL	<PQL	160
	03/07/90	<PQL	<PQL	<PQL	<PQL	<PQL
	04/16/90	NOT SAMPLED				
	06/11/90	14	1	1	2	39
	08/22/90	0.3	<MDL	<MDL	<MDL	130
	09/12/90	7	<MDL	2	3	92
	10/10/90	2	<MDL	0.6	1	40
	11/15/90	0.8	<MDL	<MDL	<MDL	18
	12/11/90	<MDL	<MDL	<MDL	<MDL	<MDL
	01/09/91	0.7	<MDL	<MDL	<MDL	33
	02/22/91	<MDL	<MDL	<MDL	<MDL	<MDL
05/14/91	1	<0.3	0.4	0.8	17	
MW-2	12/30/87	220	16	3	150	2,400
	06/07/88	220	<PQL	32	46	1,200
	12/13/88	640	23	120	110	4,000
	08/29/89	WELL ABANDONED				

**TABLE 4
SUMMARY OF GROUNDWATER ANALYSES RESULTS**

WELL I.D.	SAMPLE DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-AS-GASOLINE	
MW-3	12/30/87	<MDL	<MDL	<MDL	<MDL	<MDL	
	06/07/88	<PQL	<PQL	<PQL	<PQL	<PQL	
	12/13/88	<PQL	<PQL	<PQL	<PQL	<PQL	
	08/29/89	<PQL	<PQL	<PQL	<PQL	<PQL	
	03/07/90	<PQL	<PQL	<PQL	<PQL	<PQL	
	04/16/90	NOT SAMPLED					
	6/11/90	<MDL	<MDL	<MDL	<MDL	<MDL	
	08/22/90	<MDL	<MDL	<MDL	<MDL	<MDL	
	09/12/90	<MDL	<MDL	<MDL	<MDL	<MDL	
	10/10/90	<MDL	<MDL	<MDL	<MDL	<MDL	
	11/15/90	<MDL	<MDL	<MDL	<MDL	<MDL	
	12/11/90	<MDL	<MDL	<MDL	<MDL	<MDL	
	01/09/91	<MDL	<MDL	<MDL	<MDL	<MDL	
	02/22/91	<MDL	<MDL	<MDL	<MDL	<MDL	
05/14/91	<0.3	<0.3	<0.3	<0.6	<10		
MW-4	04/16/90	97	1	11	120	1,500	
	06/11/90	18	<MDL	<MDL	0.7	110	
	08/22/90	4	<MDL	<MDL	1	50	
	09/12/90	6	<MDL	0.5	1	49	
	10/10/90	4	<MDL	<MDL	<MDL	77	
	11/15/90	2	<MDL	0.4	<MDL	49	
	12/11/90	6	<MDL	1	<MDL	79	
	01/09/91	6	<MDL	3	<MDL	120	
	02/22/91	1	<MDL	<MDL	<MDL	120	
	05/14/91	29	<0.3	9	1	370	

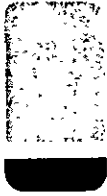
**TABLE 4
SUMMARY OF GROUNDWATER ANALYSES RESULTS**

WELL I.D.	SAMPLE DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-AS-GASOLINE
MW-5	04/16/90	<MDL	<MDL	<MDL	<MDL	<MDL
	06/11/90	<MDL	<MDL	<MDL	<MDL	<MDL
	08/22/90	<MDL	<MDL	<MDL	<MDL	<MDL
	09/12/90	<MDL	<MDL	<MDL	<MDL	<MDL
	10/10/90	<MDL	<MDL	<MDL	<MDL	<MDL
	11/15/90	<MDL	<MDL	<MDL	<MDL	<MDL
	12/11/90	<MDL	<MDL	<MDL	<MDL	<MDL
	01/09/91	<MDL	<MDL	<MDL	<MDL	<MDL
	02/22/91	<MDL	<MDL	<MDL	<MDL	<MDL
	05/14/91	<0.3	<0.3	<0.3	<0.6	<10

 Concentrations shown in parts per billion
 TPH-as-gasoline = Total petroleum hydrocarbons-as-gasoline
 MW = Monitoring well
 MDL = Method detection limit
 PQL = Practical quantitation level

APPENDIX A

**CERTIFIED ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY RECORDS
FOR GROUNDWATER SAMPLES**



GTEL

ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region

4080-C Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California
(415) 825-0720 (FAX)

Client Number: 020300175
Project ID: 3940 Castro Valley Blvd.
Work Order Number: C1-05-361

May 17, 1991

Brian Barrie
Groundwater Technology, Inc.
4057 Port Chicago Hwy.
Concord, CA 94520

Enclosed please find the analytical results report prepared by GTEL for samples received on 05/14/91, under chain of custody number 72-14206.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project was performed in strict adherence to our QA/QC program to ensure sample integrity and to meet quality control criteria.

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.

Emma P. Popek
Laboratory Director

Table 1
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		MW 1	RBMW 5	MW 5	MW 3
Date Sampled		05/14/91	05/14/91	05/14/91	05/14/91
Date Analyzed		05/15/91	05/15/91	05/15/91	05/15/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	1	<0.3	<0.3	<0.3
Toluene	0.3	<0.3	<0.3	<0.3	<0.3
Ethylbenzene	0.3	0.4	<0.3	<0.3	<0.3
Xylene, total	0.6	0.8	<0.6	<0.6	<0.6
BTEX, total	--	2	--	--	--
TPH as Gasoline	10	17	<10	<10	<10
Detection Limit Multiplier		1	1	1	1

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 Control Board LUFT Manual protocols, May 1988 revision.

Table 1 (Continued)

ANALYTICAL RESULTS

**Aromatic Volatile Organics and
 Total Petroleum Hydrocarbons as Gasoline in Water**

EPA Methods 5030, 8020, and Modified 8015a

GTEL Sample Number		05			
Client Identification		MW 4			
Date Sampled		05/14/91			
Date Analyzed		05/15/91			
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	29			
Toluene	0.3	<0.3			
Ethylbenzene	0.3	9			
Xylene, total	0.6	1			
BTEX, total	--	39			
TPH as Gasoline	10	370			
Detection Limit Multiplier		1			

- 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 Control Board LUFT Manual protocols, May 1988 revision.

