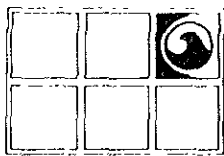


reviewed 12/20/91 SPS



**GROUNDWATER
TECHNOLOGY, INC.**

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FAX: (415) 685-9148

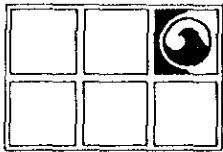
**QUARTERLY STATUS UPDATE REPORT NO. 3
FORMER TEXACO SERVICE STATION
3940 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA**

OCTOBER 23, 1991

Prepared for:

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

R0175A2.BB
(0314)



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QUARTERLY STATUS UPDATE REPORT NO. 3 FORMER TEXACO SERVICE STATION 3940 CASTRO VALLEY BOULEVARD CASTRO VALLEY, CALIFORNIA

OCTOBER 23, 1991

Prepared for:

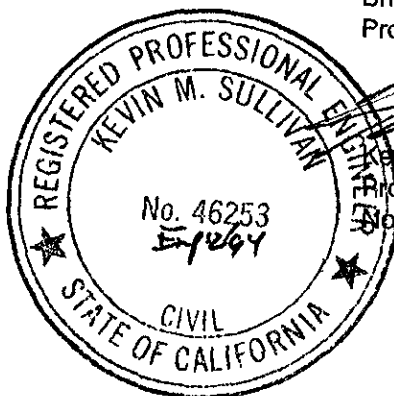
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GROUNDWATER TECHNOLOGY, INC.
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R0175A2.BB
(0314)

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QUARTERLY STATUS UPDATE REPORT NO. 3
FORMER TEXACO SERVICE STATION
3940 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

OCTOBER 23, 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 (Figure 1).

WORK PERFORMED

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

- On July 16, August 9, and September 11, 1991, the groundwater levels in four monitoring wells were measured.
- On September 11, 1991, groundwater samples were collected from monitoring wells MW-1, MW-3, MW-4, and MW-5 according to 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 July 16, August 9, and September 11, 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 May 14, 1991, and September 11, 1991, monitoring events, the average groundwater elevation decreased by 0.67 foot. The monitoring data

are summarized in Table 1. A Potentiometric Surface Map was not prepared because the difference in calculated water elevations across the site is only 0.04 foot. This difference approaches the limits of accuracy and precision for calculating groundwater elevations. Based on the water elevation data, the groundwater gradient is toward the west. A historical summary of the groundwater elevations is presented in Table 2.

GROUNDWATER SAMPLING AND RESULTS

On September 11, 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 according to 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-1, MW-3, and MW-5 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 reported a benzene concentration of 0.8 parts per billion (ppb) and a TPH-as-gasoline concentration of 22 ppb. Results of laboratory analyses are presented in Table 2 and Appendix A. The reported groundwater laboratory data were used to construct the Dissolved Total Petroleum Hydrocarbons (TPH)-as-Gasoline and Benzene Concentrations Map (Figure 2). A historical summary of the groundwater analyses data is presented in Table 4.

SUMMARY

The four groundwater monitoring wells were monitored on July 16, August 9, and September 11, 1991. Between the May 14, 1991, and September 11, 1991, monitoring events, the average groundwater elevation decreased by 0.67 foot. The groundwater gradient is toward the west and was calculated to be approximately 0.0005.

Laboratory analyses of the samples collected during the September 1991 groundwater sampling event reported the highest levels of benzene and TPH-as-gasoline in the groundwater sample collected from monitoring well MW-4 at 0.8 ppb and 22 ppb, respectively. Results of analyses of water samples collected from groundwater monitoring wells MW-1, 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. 3 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 (510) 671-2387.

LIST OF FIGURES

- FIGURE 1 SITE LOCATION MAP
- FIGURE 2 DISSOLVED TOTAL PETROLEUM HYDROCARBONS (TPH)-AS-GASOLINE AND
 BENZENE CONCENTRATIONS MAP (09/11/91)

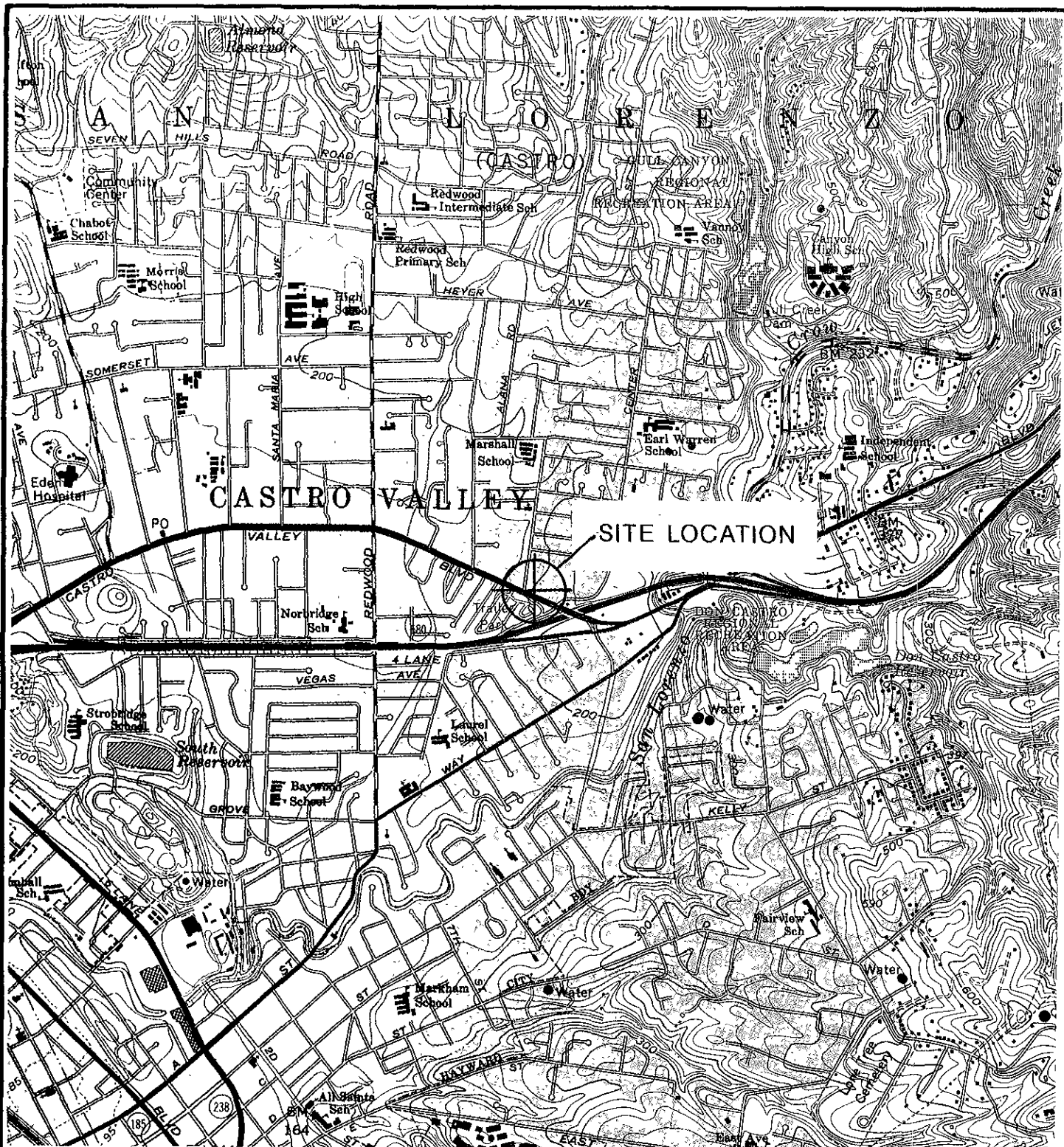
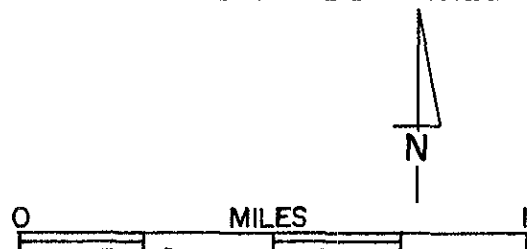


FIGURE 1
SITE LOCATION MAP



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

ML 12/89



GROUNDWATER
TECHNOLOGY, INC.

LEGEND

- ⊙ MONITORING WELL
- () TPH-AS-GASOLINE CONCENTRATION (ppb)
- [] BENZENE CONCENTRATION (ppb)

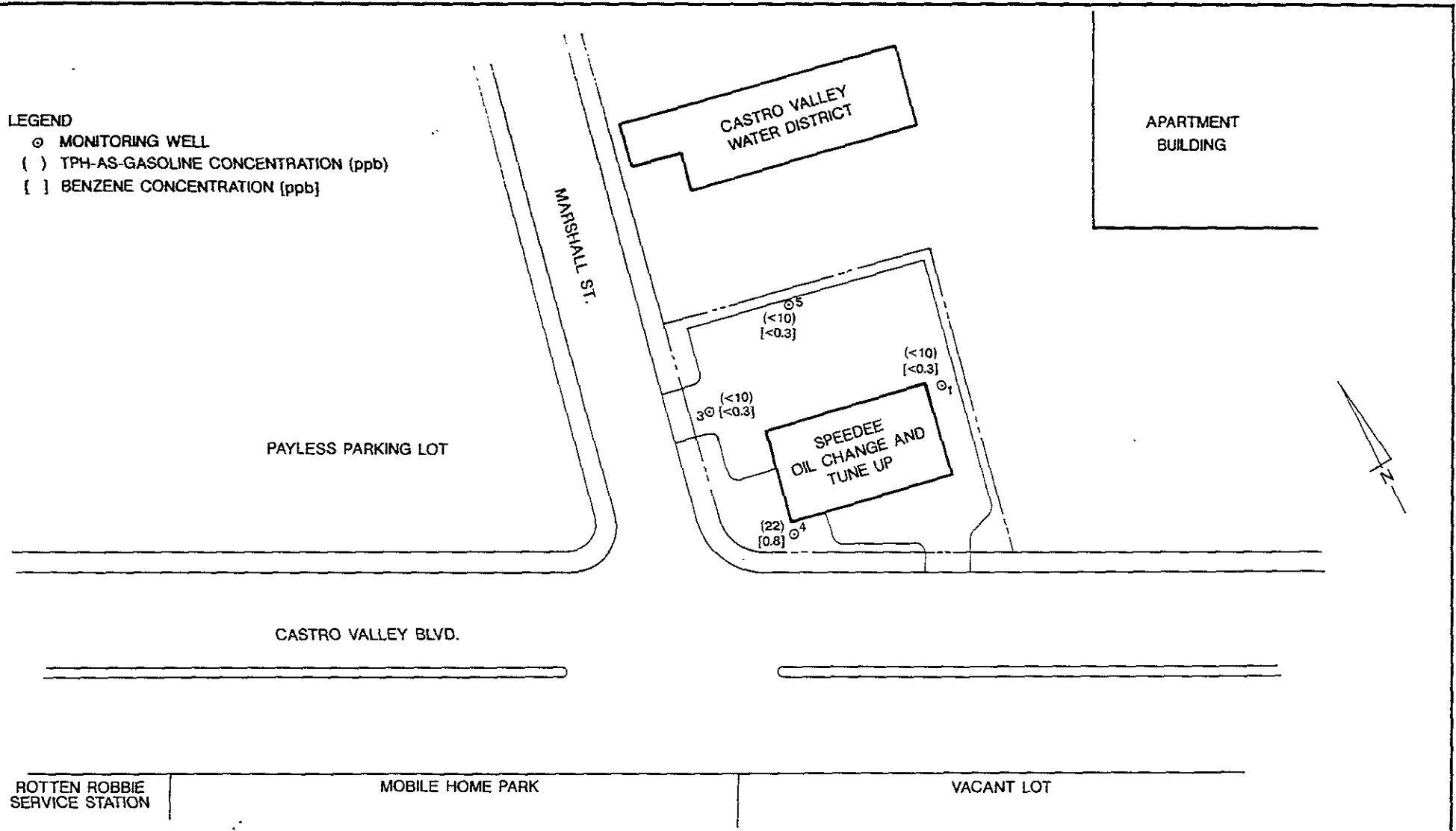


FIGURE 2
DISSOLVED TOTAL PETROLEUM HYDROCARBONS
(TPH)-AS-GASOLINE & BENZENE CONCENTRATIONS
(9/11/91)

0 FEET 40

DRAWN BY: ML 10/91



GROUNDWATER
TECHNOLOGY, INC.

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

TABLES

TABLE 1	GROUNDWATER MONITORING DATA
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
07/16/91	DTW	23.89	21.93	23.06	22.95
	GWE	168.57	168.55	168.57	168.60
08/09/91	DTW	23.96	21.99	23.14	23.01
	GWE	168.50	168.49	168.49	168.54
09/11/91	DTW	24.16	22.22	23.36	23.26
	GWE	168.30	168.26	168.27	168.29

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
07/16/91	168.57	168.55	168.57	168.60
08/09/91	168.50	168.49	168.49	168.54
09/11/91	168.30	168.26	168.27	168.29

MW = Monitoring well

TABLE 3
WATER SAMPLE ANALYSES RESULTS
SAMPLES COLLECTED SEPTEMBER 11, 1991
 (Results in parts per billion)

WELL NO.	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-AS-GASOLINE
MW-1	<0.3	<0.3	<0.3	<0.6	<10
MW-3	<0.3	<0.3	<0.3	<0.6	<10
MW-4	0.8	<0.3	1	<0.6	22
MW-5	<0.3	<0.3	<0.3	<0.6	<10

TPH-as-gasoline = Total petroleum hydrocarbons

TABLE 4
SUMMARY OF GROUNDWATER ANALYSES RESULTS
 (Results in parts per billion)

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
09/11/91	<0.3	<0.3	<0.3	<0.6	<10	
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
 (Results in parts per billion)

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					
	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	
09/11/91	<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	
09/11/91	0.8	<0.3	1	<0.6	22		

TABLE 4
SUMMARY OF GROUNDWATER ANALYSES RESULTS
 (Results in parts per billion)

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
	09/11/91	<0.3	<0.3	<0.3	<0.6	<10

TPH = Total petroleum hydrocarbons
 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

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Concord, CA 94520
(415) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California

Client Number: GT172TEX01
Consultant Project Number: 020300175
Project ID: Castro Valley
Work Order Number: C1-09-334

October 4, 1991

Brian Barrie
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 09/12/91, under chain of custody record 72-14334.

A formal Quality Control/Quality Assurance (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 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.

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		RBMW-5	MW-5	MW-3	MW-4
Date Sampled		09/11/91	09/11/91	09/11/91	09/11/91
Date Analyzed		09/20/91	09/20/91	09/20/91	09/20/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	<0.3	0.8
Toluene	0.3	<0.3	<0.3	<0.3	<0.3
Ethylbenzene	0.3	<0.3	<0.3	<0.3	1
Xylene, total	0.6	<0.6	<0.6	<0.6	<0.6
BTEX, total	--	--	--	--	2
Gasoline	10	<10	<10	<10	22
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 8015^a

GTEL Sample Number		05			
Client Identification		MW-1			
Date Sampled		09/11/91			
Date Analyzed		09/20/91			
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3			
Toluene	0.3	<0.3			
Ethylbenzene	0.3	<0.3			
Xylene, total	0.6	<0.6			
BTEX, total	--	--			
Gasoline	10	<10			
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.

