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TEXACO REFINING AND MARKETING INC.  
100 CUTTING BOULEVARD  
RICHMOND CA 94804

November 7, 1989

Mr. Thomas J. Callaghan  
Regional Water Quality Control Board  
San Francisco Bay Region  
1800 Harrison Street  
Oakland, CA 94612

Dear Mr. Callaghan:

Enclosed is a copy of our Biannual Status Report dated October 27, 1989 for our former Texaco service station located at 3940 Castro Valley Boulevard in Castro Valley, California. This report covers the period from January through August, 1989.

A work plan including a proposal for additional investigation to further define the areal and vertical extent of subsurface hydrocarbons and replacement of the destroyed monitoring well MW-2, will be submitted shortly.

Please call me at (415) 236-1770 if you have any questions.

Very truly yours,

  
R.R. ZIELINSKI  
Field Environmental  
Supervisor

Enclosure

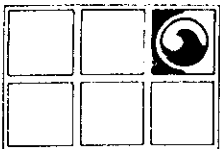
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cc: Mr. Scott Seery  
Alameda County  
Department of Environmental Health  
Hazardous Materials Division  
80 Swan Way, Room 200  
Oakland, CA 94621

RR

BIANNUAL STATUS REPORT  
FORMER TEXACO SERVICE STATION  
3940 CASTRO VALLEY BOULEVARD  
CASTRO VALLEY, CALIFORNIA  
OCTOBER 27, 1989

GROUNDWATER TECHNOLOGY, INC.  
CONCORD, CALIFORNIA



**GROUNDWATER  
TECHNOLOGY, INC.**

4080-D Pike Lane, Concord, CA 94520

(415) 671-2387

**BIANNUAL STATUS REPORT  
FORMER TEXACO SERVICE STATION  
3940 CASTRO VALLEY BOULEVARD  
CASTRO VALLEY, CALIFORNIA  
OCTOBER 27, 1989**

**Prepared for:**

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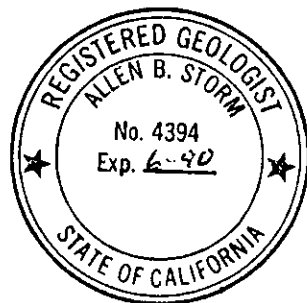
**Prepared by:**

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**BIANNUAL STATUS REPORT  
FORMER TEXACO SERVICE STATION  
3940 CASTRO VALLEY BOULEVARD  
CASTRO VALLEY, CALIFORNIA  
OCTOBER 27, 1989**

**INTRODUCTION**

This report presents the results of the most recent biannual monitoring and sampling performed at the former Texaco Service Station site located at 3940 Castro Valley Boulevard, Castro Valley, California. The report covers the period from January through August 1989.

**WORK PERFORMED**

Groundwater monitoring and sampling of the two monitoring wells, MW-1 and MW-3, were conducted on August 29, 1989. The previous monitoring and sampling round was performed on December 13, 1988.

**GROUNDWATER MONITORING**

The depth to groundwater (DTW) was measured in each of the available monitoring wells, MW-1 and MW-3 on August 29, 1989. Well MW-2 was destroyed during construction work on site. The groundwater in the monitoring wells was checked for the presence of separate-phase hydrocarbons.



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## GROUNDWATER SAMPLING

On August 29, 1989, groundwater samples were collected from monitoring wells MW-1 and MW-3. Prior to sampling, each well was purged of four well volumes with an acrylic bailer. Rinsate blanks containing a sample of the final distilled-water rinsate from the cleaned surface sampler were collected prior to each sampling as part of a Quality Assurance/Quality Control (QA/QC) program. The groundwater samples were placed in 40-milliliter glass vials with Teflon<sup>R</sup> septum caps, then labeled and transported on ice to a California state-certified laboratory. The groundwater samples were accompanied by a Chain-of-Custody Manifest at all times. All groundwater samples, plus a randomly chosen rinsate blank (MW-3B), were analyzed using modified U.S. Environmental Protection Agency (EPA) Methods 5030/8020/8015 for the presence of total petroleum hydrocarbons (TPH)-as-gasoline with distinction of benzene, toluene, ethylbenzene, and xylenes (BTEX) (Appendix B).

## RESULTS

### MONITORING

The measured DTW in the monitoring wells was approximately 21- to 24-feet below grade on August 29, 1989. These DTW measurements indicate an approximate 0.5-foot drop in both wells, compared with the monitoring data obtained in December 1988. A potentiometric surface map could not be constructed since information from two points on the groundwater table does not provide sufficient information for graphical interpretation of groundwater flow and groundwater gradient. Based on a local surface topography and previous graphical interpretations of monitoring data, groundwater-flow direction is most probably to



the northwest. No separate-phase hydrocarbons were observed in monitoring wells.

#### SAMPLING

Table 1 summarizes the results of the groundwater sample analyses. The laboratory reports are included in Appendix B. The analytical results for the groundwater samples collected from the two monitoring wells indicate that 6 parts per billion (ppb) of benzene and 160 ppb TPH-as-gasoline were detected in the sample from MW-1, while no BTEX or TPH-as-gasoline at Practical Quantitation Levels (PQL) were detected in the groundwater sample collected from well MW-3. A rinsate blank sample MW-3B was analyzed for the presence of TPH-as-gasoline and BTEX. Results showed that no dissolved hydrocarbons at PQL were detected in this blank sample.

A comparison of the current results with the results from groundwater samples collected since December 30, 1987 (Table 2) shows that concentrations of TPH-as-gasoline detected in the samples collected from well MW-1 on August 29, 1989, were the lowest on record. Concentrations of dissolved hydrocarbons in MW-3 have been below PQL from December 30, 1987, through the current sampling on August 29, 1989.

A map of the dissolved-benzene concentrations (Figure 1) and TPH-as-gasoline concentrations (Figure 2) shows an approximate distribution of hydrocarbons detected in groundwater samples collected from the site on August 29, 1989. Dissolved hydrocarbons were only detected in the samples from monitoring well MW-1.



**TABLE 1**  
**DISSOLVED HYDROCARBON CONCENTRATIONS**  
**in parts per billion (ppb)**  
**AUGUST 29, 1989**

CONSTITUENTS	MW-1	MW-3
BENZENE	6	<PQL
TOLUENE	<PQL	<PQL
ETHYLBENZENE	<PQL	<PQL
XYLENES	<PQL	<PQL
TOTAL BTEX	6	<PQL
TOTAL TPH- AS-GASOLINE	160	<PQL

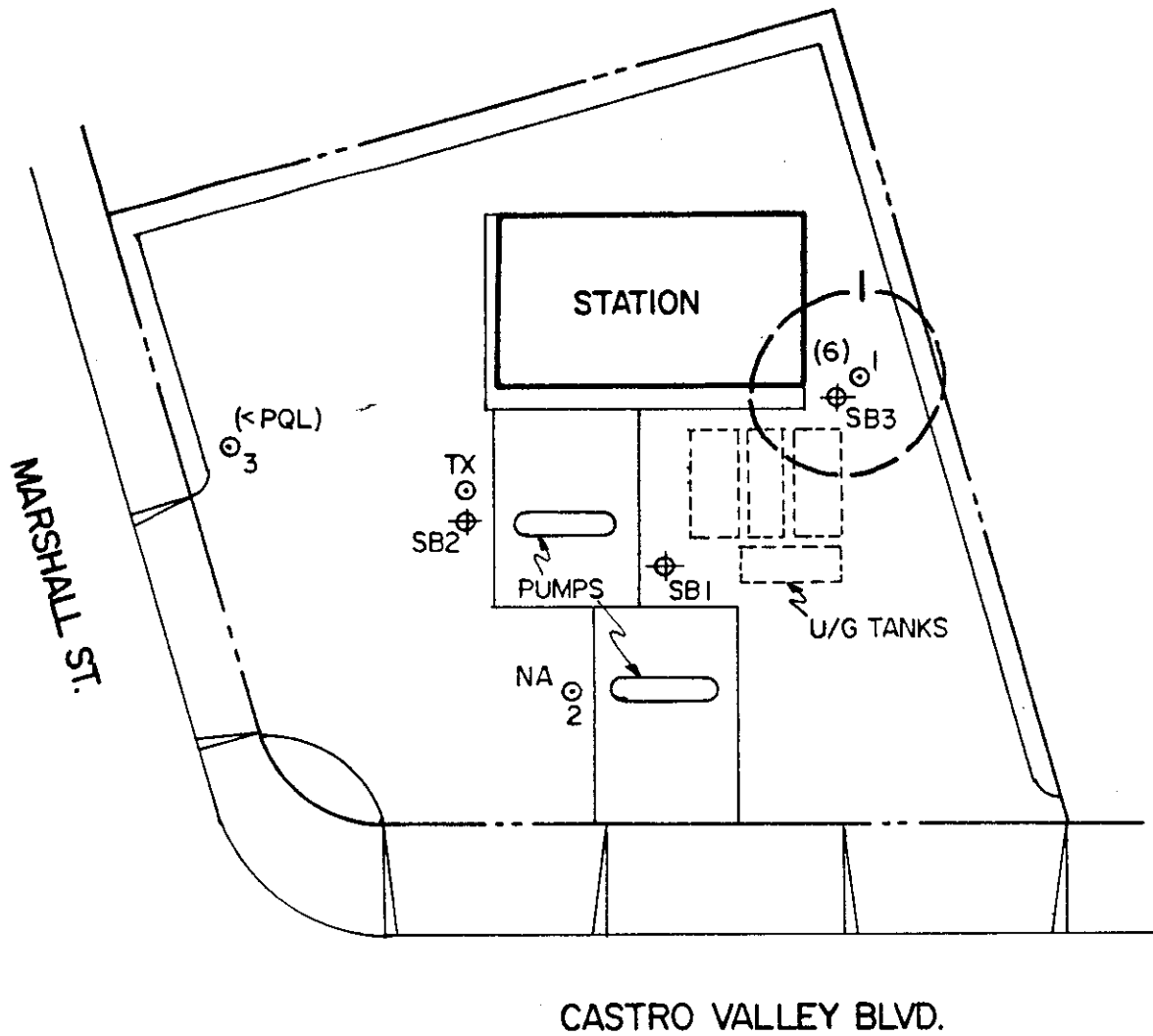
**TABLE 2**  
**HISTORICAL REVIEW OF DISSOLVED**  
**TPH-AS-GASOLINE CONCENTRATIONS**  
**in parts per billion (ppb)**  
**December 1987 - August 1989**

DATE SAMPLED	MW-1	MW-2	MW-3
12/30/87	2,100	2,400	<PQL
06/07/88	290	1,200	<PQL
12/13/88	370	4,000	<PQL
08/29/89	160	NA	<PQL

MW = Monitoring Well  
 BTEX = Benzene, Toluene, Ethylbenzene, Xylenes  
 TPH = Total Petroleum Hydrocarbons  
 NA = Not Available  
 PQL = Less Than Practical Quantitation Levels







- LEGEND**
- MONITORING WELL
  - ⊕ SOIL BORING
  - ( ) BENZENE CONCENTRATION (ppb)
  - PQL PRACTICAL QUANTITATION LEVEL
  - NA NOT AVAILABLE

FIGURE 1  
**BENZENE CONCENTRATION MAP**  
 8/29/89

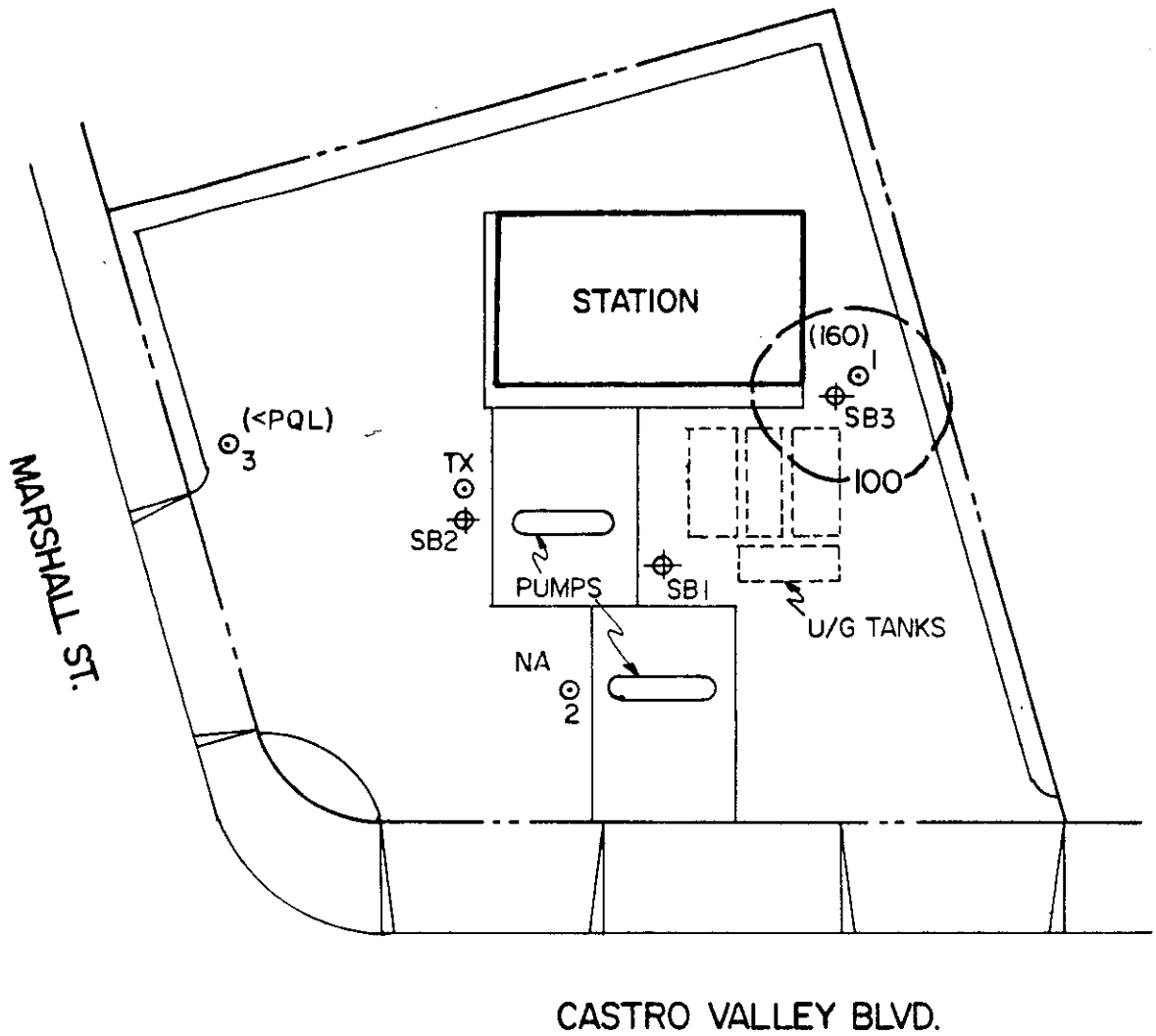


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 CASTRO VALLEY, CALIFORNIA



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ML 10/89



LEGEND

- ⊙ MONITORING WELL
- ⊕ SOIL BORING
- ( ) TPH CONCENTRATION (ppb)
- PQL PRACTICAL QUANTITATION LEVEL
- NA NOT AVAILABLE

FIGURE 2  
**TPH-as-GASOLINE CONCENTRATION MAP**  
 8/29/89



0 FEET 30

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### SUMMARY

Groundwater monitoring indicated an approximate 0.5-foot drop in groundwater elevations occurred from December 1988 to August 1989. Analytical results of groundwater samples collected from two monitoring wells on site, MW-1 and MW-3, showed low concentrations of dissolved hydrocarbons detected only in one monitoring well, MW-1.



**APPENDIX A**  
**GROUNDWATER MONITORING DATA**



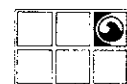
**GROUNDWATER  
TECHNOLOGY, INC.**

PROJECT: TEXACO/CASTRO VALLEY  
 JOB NUMBER: 203 150 4080  
 DATE: DECEMBER 1987 - AUGUST 1989

DATE	ELEV. (ft.)	MW-1	MW-2	MW-3
		99.10	99.60	96.80
12/30/87	DTW	21.82	22.30	22.60
	DTP	-	-	-
	PT	0	0	0
06/07/88	DTW	23.35	23.83	21.09
	DTP	-	-	-
	PT	0	0	0
12/13/88	DTW	23.17	23.69	20.92
	DTP	-	-	-
	PT	0	0	0
08/29/89	DTW	23.70		21.48
	DTP	-	NA	-
	PT	0		0

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MW = Monitoring Well  
 ELEV. = Relative Elevation of Wellhead  
 DTW = Depth to Water (ft)  
 DTP = Depth to Product (ft)  
 PT = Product Thickness (ft)  
 NA = Not Available



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**APPENDIX B**  
**ANALYTICAL RESULTS**



**GROUNDWATER  
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# 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

10/24/89 SP

Page 1 of 1

WORK ORD#: C908714

CLIENT: JAN PRASIL  
GROUNDWATER TECHNOLOGY, INC.  
4080 PIKE LN.  
CONCORD, CA 94520

PROJECT#: 203-199-4080-1  
LOCATION: 3940 CASTRO VALLEY BLVD.  
CASTRO VALLEY, CA

SAMPLED: 08/29/89 BY: J. PRASIL  
RECEIVED: 08/30/89  
ANALYZED: 09/05/89 BY: R. CONDIT

MATRIX: Water  
UNITS: ug/L (ppb)

PARAMETER	SAMPLE #	01	02	03	Units
	I.D.	MW1	MW3	MW3B	
Benzene		6	<PQL <1	<PQL	0.5 ppb
Toluene		<PQL	<PQL <3	<PQL	↓
Ethylbenzene		<PQL	<PQL <4	<PQL	
Xylenes		<PQL	<PQL <15	<PQL	
Total BTEX		6	<PQL	<PQL	
Total Petroleum Hydrocarbons as Gasoline		160	<PQL <1	<PQL	

<PQL= Less than Practical Quantitation Levels per EPA Federal Register, November 13, 1985, page 46906.  
Results rounded to two significant figures.  
METHOD: Modified EPA 5030/8020/8015

*Emma P. Popek*  
EMMA P. POPEK, Laboratory Director

