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LETTER REPORT  
GROUNDWATER MONITORING AND SAMPLING  
Third Quarter 1993  
at  
Former Texaco Station  
3940 Castro Valley Boulevard  
Castro Valley, California

62091.01

3315 Almaden Expressway, Suite 34  
San Jose, CA 95118  
Phone: (408) 264-7723  
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October 19, 1993  
62091.01

Mr. Marvin Katz  
Texaco Environmental Services  
10 Universal City Plaza, 7th Floor  
Unviersal City, California 91608

Subject: Groundwater Monitoring and Sampling, Third Quarter 1993, Former Texaco Station, 3940 Castro Valley Boulevard, Castro Valley, California.

Mr. Katz:

At the request of Texaco Environmental Services, RESNA Industries Inc. (RESNA) has prepared this letter report which summarizes the results of quarterly groundwater monitoring and sampling at the former Texaco Service Station located at 3940 Castro Valley Boulevard in Castro Valley, California (Plate 1, Site Vicinity Map) for the third quarter 1993 (July through September 1993). On August 24 and 25, 1993, quarterly groundwater monitoring and sampling was conducted to evaluate groundwater elevations, gradient and flow direction, the presence and thickness of any petroleum hydrocarbon sheen or floating product, and the distribution of dissolved hydrocarbons in the seven monitoring wells (MW-1 and MW-3 through MW-8) at this site. Monitoring wells TX and MW-2 have been destroyed. Well MW-5 was inaccessible and not sampled this quarter because a car was parked over it.

The analytical results of the trip blank and rinsate blank revealed similar concentrations, indicating that the deionized water used for both blanks appeared to be lightly impacted with hydrocarbons. However, this does not appear to have affected the integrity of the groundwater samples collected. RESNA's groundwater sampling protocol and well purge data sheets are included in Appendix A.

## **GROUNDWATER MONITORING**

Groundwater elevations in the wells monitored at the site have decreased an average of 0.45 foot from the elevations reported last quarter (June 22, 1993). The groundwater beneath the site appears to be flowing toward the northwest with a gradient of less than 0.001 (Plate 2, Groundwater Gradient Map). Floating product or hydrocarbon sheen was not observed

in the monitored wells this quarter. Historical and recent monitoring data are summarized in Table 1, Cumulative Groundwater Monitoring Data.

## **GROUNDWATER SAMPLING**

Groundwater samples were submitted to Mobile Chem Laboratories (California Hazardous Materials Testing Laboratory Certification No. 1223) in Martinez, California under chain of custody protocol. The samples were analyzed for the gasoline constituents benzene, toluene, ethylbenzene, and total xylenes and total petroleum hydrocarbons as gasoline (TPHg) using modified Environmental Protection Agency Methods 5030 and TPH LUFT with Method 602. Laboratory Analyses Reports and Chain of Custody Documentation are included in Appendix B.

## **GROUNDWATER ANALYTICAL RESULTS**

Concentrations of TPHg in groundwater samples collected were less than 50 parts per billion (ppb) in all wells sampled. Dissolved benzene concentrations in groundwater samples collected were less than 0.5 ppb in all wells sampled, except for wells MW-4 (0.7 ppb) and MW-7 (0.5 ppb). TPHg and benzene concentrations are shown on Plate 3, TPHg/Benzene Concentrations in Groundwater. Historical and recent analytical data are summarized in Table 2, Cumulative Results of Laboratory Analyses of Groundwater Samples.

## **PURGE WATER RECYCLING**

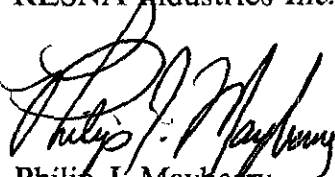
On August 25, 1993, approximately 300 gallons of purge water generated during purging and sampling of the monitoring wells were removed from the site for transport to Gibson Environmental in Redwood City, California for recycling.

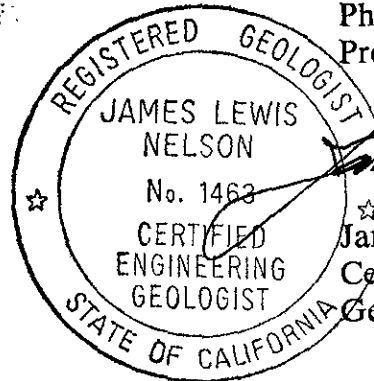
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If you have any questions or comments regarding this report, please call (408) 264-7723.

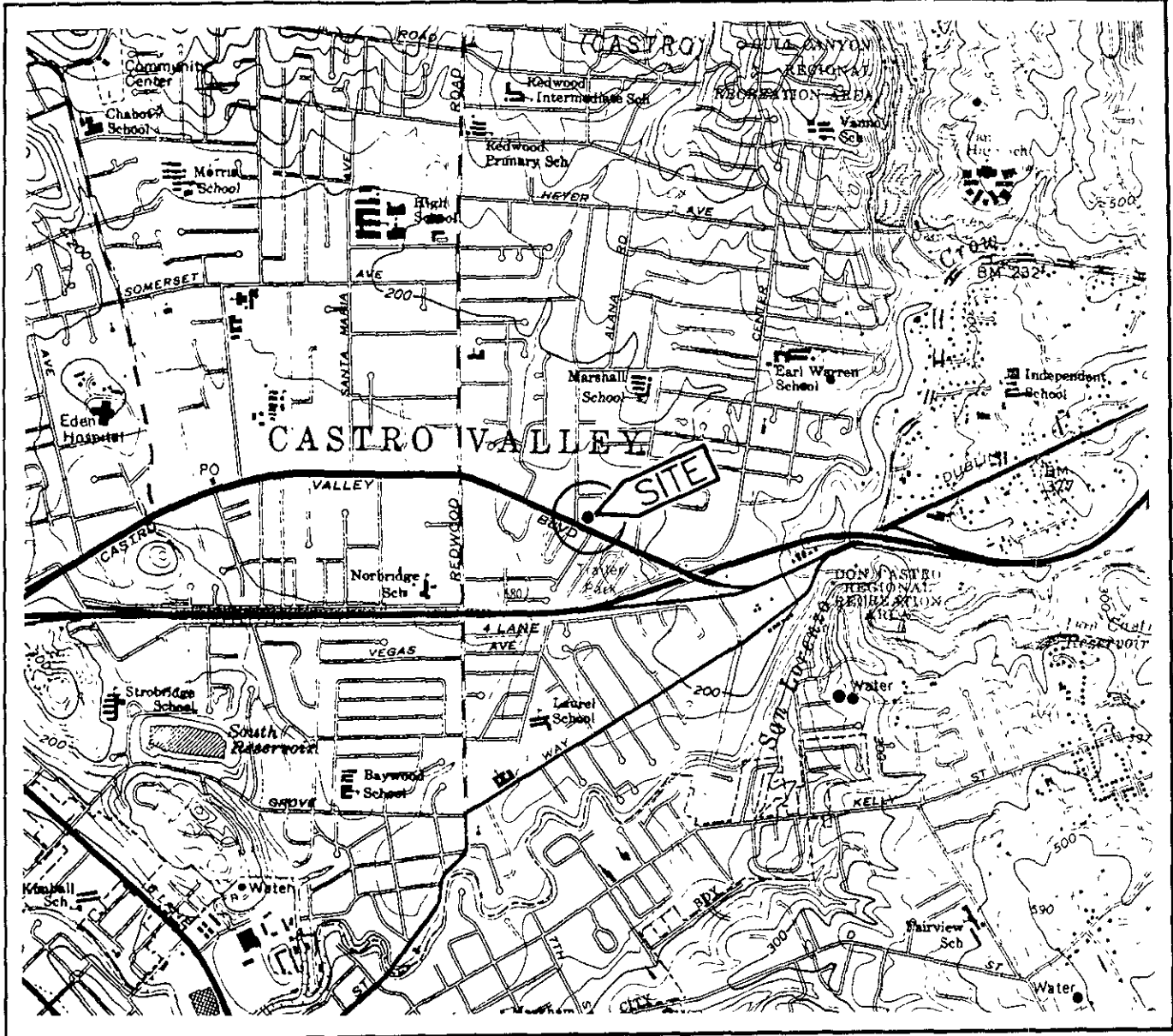
Sincerely,  
RESNA Industries Inc.

  
Philip J. Mayberry  
Project Geologist



  
James L. Nelson  
Certified Engineering  
Geologist No. 1463

- Enclosures: Plate 1: Site Vicinity Map  
Plate 2: Groundwater Gradient Map  
Plate 3: TPHg/Benzene Concentrations in Groundwater
- Table 1: Cumulative Groundwater Monitoring Data  
Table 2: Cumulative Results of Laboratory Analyses of Groundwater Samples
- Appendix A, Groundwater Sampling Protocol and Well Purge Data Sheets  
Appendix B, Laboratory Analysis Reports and Chain of Custody Documentation



Base U.S. Geological Survey  
 7.5-Minute Quadrangles  
 Hayward, California.  
 Photorevised 1980

**LEGEND**

● = Site Location

Approximate Scale



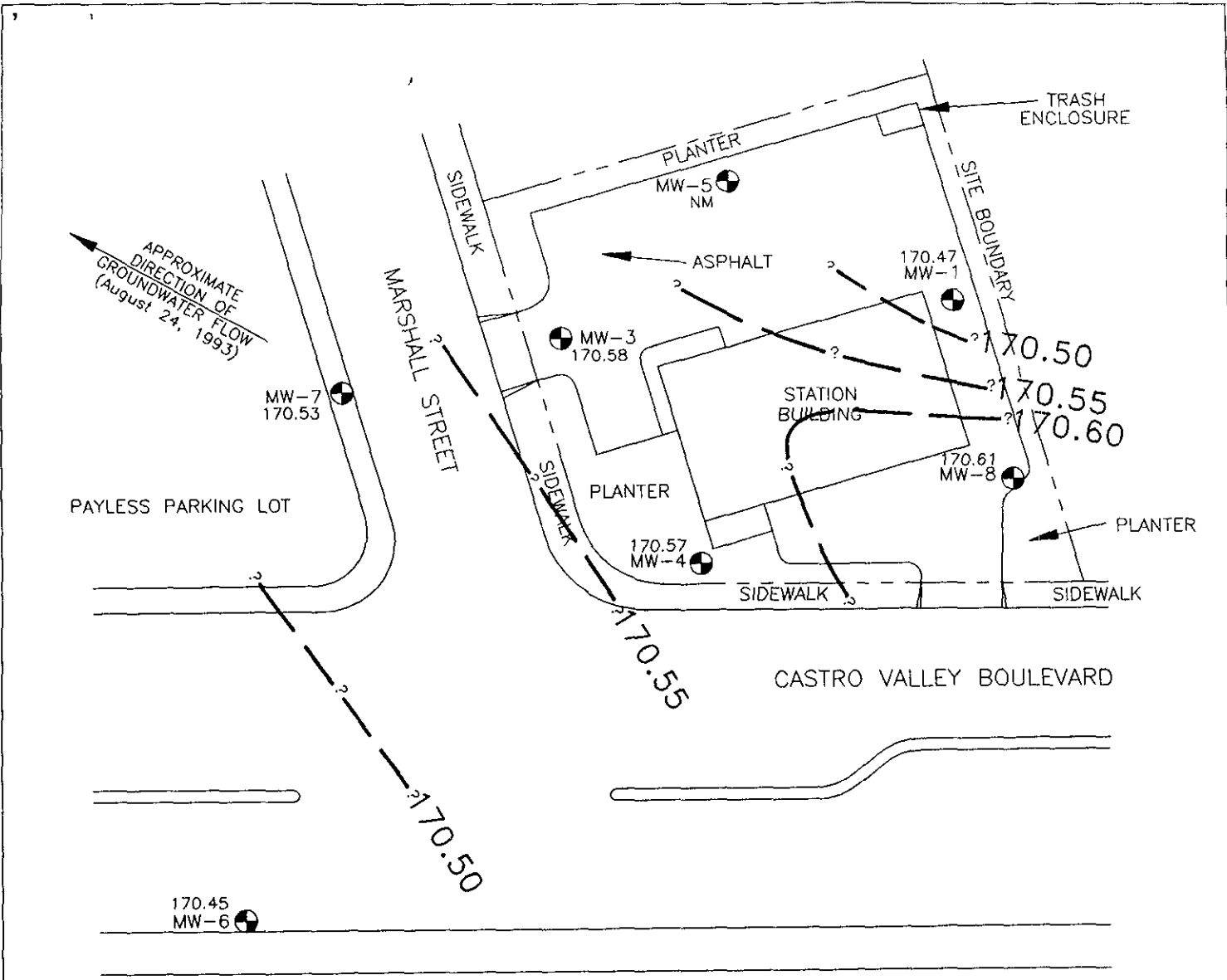
**RESNA**  
 Working to Restore Nature

**SITE VICINITY MAP**  
 Former Texaco Station  
 3940 Castro Valley Boulevard  
 Castro Valley, California

**PLATE**

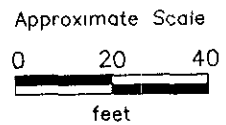
**1**

**PROJECT 62091.01**



EXPLANATION

- MW-8 = Monitoring Well
- 170.60 = Line of equal elevation of groundwater in feet above mean sea level (MSL)
- 170.61 = Elevation of groundwater in feet above MSL, August 24, 1993
- NM = Not monitored (inaccessible)



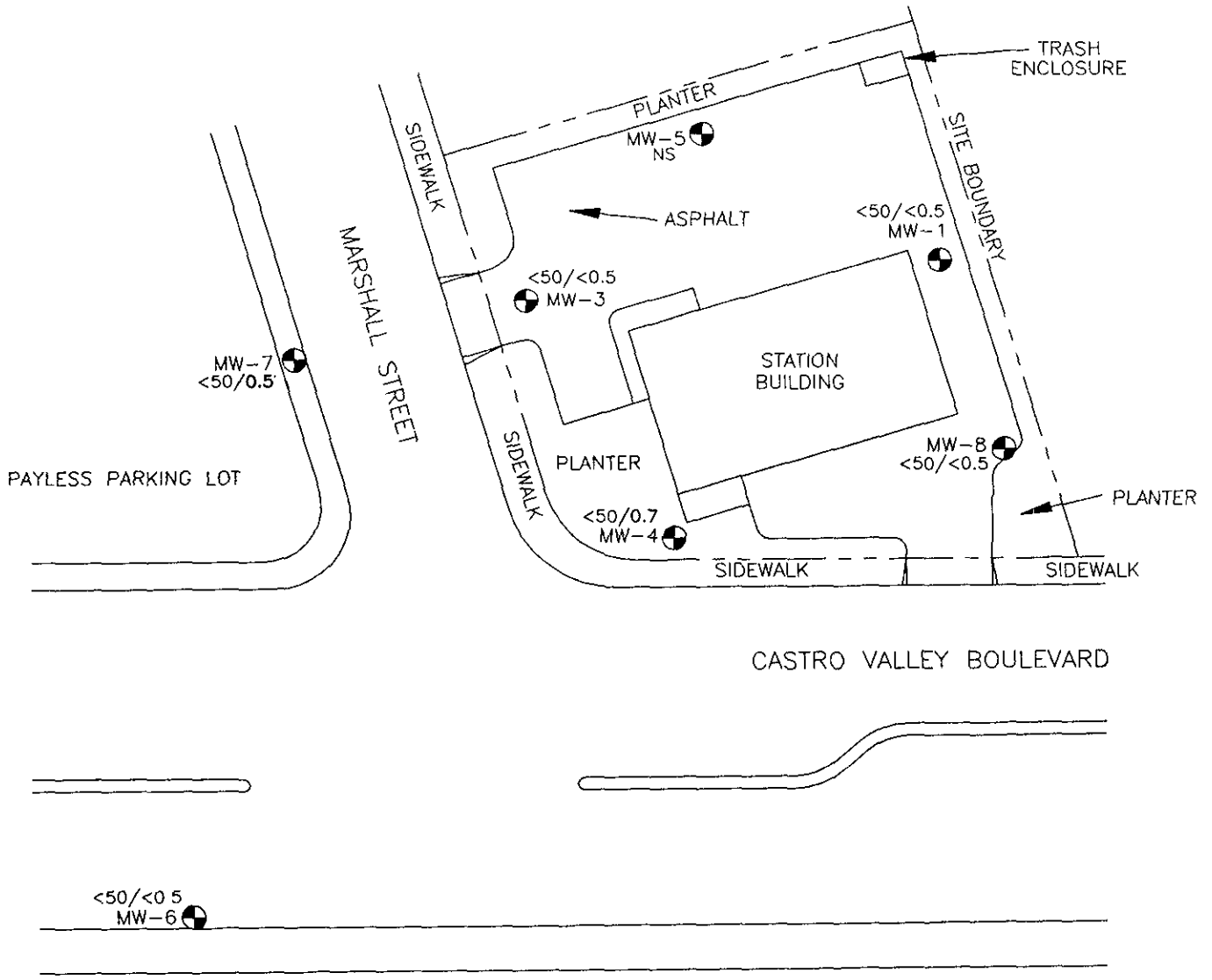
BASE MAP SURVEYED BY RON ARCHER  
CIVIL ENGINEER, INC.

**RESNA**  
Working to Restore Nature


GROUNDWATER GRADIENT MAP  
Former Texaco Station  
3940 Castro Valley Boulevard  
Castro Valley, California

PLATE  
2

PROJECT 62091.01



EXPLANATION

MW-8  = Monitoring Well

<50/0.7 = Concentrations of TPHg/Benzene in groundwater in parts per billion, August 24 and 25, 1993

NS = Not sampled (inaccessible)



Approximate Scale



BASE MAP: SURVEYED BY RON ARCHER  
CIVIL ENGINEER, INC.



TPHg\BENZENE CONCENTRATIONS  
IN GROUNDWATER  
Former Texaco Station  
3940 Castro Valley Boulevard  
Castro Valley, California

PLATE  
3

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TABLE 1  
CUMULATIVE GROUNDWATER MONITORING DATA  
Former Texaco Service Station  
3940 Castro Valley Boulevard  
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(Page 1 of 5)

Well	Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Floating Product
<u>TX</u>	11/19/87	—	Dry	—	—
	12/20/87		Dry	—	—
	12/30/87		Dry	—	—
	06/07/88		Dry	—	—
	12/13/88		Dry	—	—
	08/29/92		Well Destroyed		
<u>MW-1</u>	12/30/87	192.46	21.92	170.54	NR
	06/07/88		23.35	169.11	NR
	12/13/88		23.17	169.29	NR
	08/29/89		23.70	168.76	NR
	02/27/90		23.25	169.21	NR
	04/21/90		23.65	168.81	NR
	06/11/90		23.74	168.72	NR
	07/18/90		23.90	168.56	NR
	08/22/90		24.07	168.39	NR
	09/27/90		24.21	168.25	NR
	10/10/90		24.25	168.21	NR
	11/15/90		24.45	168.01	NR
	12/11/90		23.54	168.92	NR
	01/09/91		24.68	167.78	NR
	01/23/91		24.61	167.85	NR
	02/22/91		24.58	167.88	NR
	03/20/91		23.95	168.51	NR
	04/11/91		23.41	169.05	NR
	05/14/91		23.52	168.94	NR
	06/10/91		23.61	168.85	NR
	07/16/91		23.89	168.57	NR
	08/09/91		23.96	168.50	NR
	09/11/91		24.16	168.30	NR
	12/11/91		24.68	167.78	NR
	02/28/92	192.45	23.72	168.73	NR
	03/30/92		23.25	169.20	NR
	06/30/92		23.44	169.01	NR
RESNA	10/05/92		23.96	168.49	ND
	12/29/92		Flooded - Not Accessible		
	03/31/93		21.38	171.07	ND
	06/22/93		21.49	170.96	ND
	08/24/93		21.98	170.47	ND

See notes on page 5 of 5.



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TABLE 1  
CUMULATIVE GROUNDWATER MONITORING DATA  
Former Texaco Service Station  
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Well	Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Floating Product
<u>MW-2</u>	12/20/87	---	22.30	---	---
	06/07/88	---	23.83	---	---
	12/13/88	---	23.69	---	---
	08/29/89	---	Well Destroyed	---	---
<u>MW-3</u>	12/30/87	190.48	22.60	167.88	NR
	06/07/88		20.90	169.58	NR
	12/13/88		20.92	169.56	NR
	08/29/89		21.48	169.00	NR
	02/27/90		21.58	168.90	NR
	04/12/90		21.70	168.78	NR
	06/11/90		21.79	168.69	NR
	07/18/90		21.96	168.52	NR
	08/22/90		22.10	168.38	NR
	09/27/90		22.24	168.24	NR
	10/10/90		22.28	168.20	NR
	11/15/90		22.50	167.98	NR
	12/11/90		24.54	165.94	NR
	01/09/91		22.71	167.77	NR
	01/23/91		22.65	167.83	NR
	02/22/91		22.68	167.80	NR
	03/20/91		24.96	168.52	NR
	04/11/91		21.14	169.34	NR
	05/14/91		21.54	168.94	NR
	06/10/91		21.64	168.84	NR
	07/16/91		21.93	168.55	NR
	08/09/91		21.99	168.49	NR
	09/11/91		22.22	168.26	NR
12/11/91		22.67	167.81	NR	
02/28/92	190.50	21.76	168.74	NR	
03/30/92		21.49	169.18	NR	
06/30/92		21.49	169.01	NR	
RESNA	10/05/92		22.15	168.35	ND
	12/29/92		21.90	168.60	ND
	03/31/93		19.50	171.00	ND
	06/22/93		19.49	171.01	ND
	08/24/93		19.92	170.58	ND
<u>MW-4</u>	04/12/90	191.63	22.84	168.79	NR

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Well	Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Floating Product
<u>MW-4 (cont.)</u>					
	06/11/90		21.82	169.81	NR
	07/18/90		23.09	168.54	NR
	08/22/90		23.24	168.39	NR
	09/27/90		23.38	168.25	NR
	10/10/90		24.43	167.20	NR
	11/15/90		21.64	167.99	NR
	12/11/90		23.69	167.94	NR
	01/09/91		23.84	167.79	NR
	01/23/91		23.79	167.84	NR
	02/22/91		23.77	167.86	NR
	03/20/91		23.11	168.52	NR
	04/11/91		22.60	169.03	NR
	05/14/91		22.68	168.95	NR
	06/10/91		22.79	168.84	NR
	07/16/91		23.06	168.57	NR
	08/09/91		23.14	168.49	NR
	09/11/91		23.36	168.27	NR
	10/11/91		23.75	167.88	NR
	11/12/91		23.87	167.76	NR
	12/11/91		23.80	167.83	NR
	01/28/92	191.64	23.79	167.85	NR
	02/28/92		22.90	168.74	NR
	03/30/92		22.46	169.18	NR
	06/30/92		22.64	169.00	NR
RESNA	10/05/92		23.90	167.74	ND
	12/29/92		Flooded - Not Accessible		
	03/31/93		20.63	171.01	ND
	06/22/93		20.63	171.01	ND
	08/24/93		21.07	170.57	ND
<u>MW-5</u>					
	04/12/90	191.55	22.74	168.81	NR
	06/11/90		22.83	168.72	NR
	07/18/90		23.01	168.54	NR
	08/22/90		23.15	168.40	NR
	09/27/90		23.29	168.26	NR
	10/10/90		22.33	169.22	NR
	11/15/90		23.54	168.01	NR
	12/11/90		23.59	167.96	NR
	01/09/91		23.75	167.80	NR
	01/23/91		23.69	167.86	NR

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TABLE 1  
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Well	Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Floating Product
<u>MW-5 (cont.)</u>					
	02/22/91		23.66	167.89	NR
	03/20/91		23.01	168.54	NR
	04/11/91		22.50	169.05	NR
	05/14/91		22.57	168.98	NR
	06/10/91		22.68	168.87	NR
	07/16/91		22.95	168.60	NR
	08/09/91		23.01	168.54	NR
	09/11/91		23.26	168.29	NR
	12/11/91		23.70	167.85	NR
	02/28/92	191.56	22.80	168.76	NR
	03/30/92		22.35	168.21	NR
	06/30/92		22.54	169.02	NR
RESNA	10/05/92		23.05	168.51	ND
	12/29/92		22.53	169.03	ND
	03/31/93		20.55	171.01	ND
	06/22/93		20.63	170.93	ND
	08/24/93		Not monitored-inaccessible		
<u>MW-6</u>					
	01/28/92	187.30	19.55	167.75	NR
	02/28/92		18.62	168.68	NR
	03/30/92		18.20	168.10	NR
	06/30/92		18.38	168.92	NR
RESNA	10/05/92		19.02	168.28	ND
	12/29/92		18.73	168.57	ND
	03/31/93		16.45	170.85	ND
	06/22/93		16.40	170.90	ND
	08/24/93		16.85	170.45	ND
<u>MW-7</u>					
	01/28/92	189.34	21.53	167.81	NR
	02/28/92		20.61	168.73	NR
	03/30/92		20.17	169.17	NR
	06/30/92		20.37	168.97	NR
RESNA	10/05/92		21.00	168.34	ND
	12/29/92		20.65	168.69	ND
	03/31/93		18.35	170.99	ND
	06/22/93		18.35	170.99	ND
	08/24/93		18.81	170.53	ND
<u>MW-8</u>					
	01/28/92	193.62	25.77	167.85	NR

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TABLE 1  
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Well	Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Floating Product
<u>MW-8 (cont.)</u>	02/28/92		24.89	168.73	NR
	03/30/92		24.42	169.20	NR
	06/30/92		24.61	169.01	NR
RESNA	10/05/92		25.20	168.42	ND
	12/29/92		25.00	168.62	ND
	03/31/93		22.63	170.99	ND
	06/22/93		22.56	171.06	ND
	08/24/93		23.01	170.61	ND

Measurements in feet and Datum Mean Sea Level (MSL)

Depth to water measured in feet below top of casing.

NR : No Record  
ND : None Detected  
— : Not Applicable

RESNA : RESNA Industries Inc., began monitoring

RESNA assumes all wells are screened in the same hydrostratigraphic unit as identified by previous environmental consultant.

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TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES  
Former Texaco Service Station  
3940 Castro Valley Boulevard  
Castro Valley, California  
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Well	Date	TPHg	Benzene	Toluene	Ethyl- benzene	Total Xylenes
<u>TX</u>						
	12/30/87	---	---	---	---	---
	06/07/88	---	---	---	---	---
	12/13/88	---	---	---	---	---
	08/29/89		Well Abandoned			
<u>MW-1</u>						
	12/30/87	2,100	15	12	3	190
	06/07/88	290	12	<PQL	<PQL	17
	12/13/88	370	3	<PQL	<PQL	<PQL
	08/29/89	160	6	<PQL	<PQL	<PQL
	03/07/90	<PQL	<PQL	<PQL	<PQL	<PQL
	04/16/90	NA	NA	NA	NA	NA
	06/11/90	39	14	1	1	2
	08/22/90	130	0.3	<MDL	<MDL	<MDL
	09/12/90	92	7	<MDL	2	3
	10/10/90	40	2	<MDL	0.6	1
	11/15/90	18	0.8	<MDL	<MDL	<MDL
	12/11/90	<MDL	<MDL	<MDL	<MDL	<MDL
	01/09/91	33	0.7	<MDL	<MDL	<MDL
	02/22/91	<MDL	<MDL	<MDL	<MDL	<MDL
	05/14/91	17	1	<0.3	0.4	0.8
	09/11/91	<10	<0.3	<0.3	<0.3	<0.6
	10/11/91	NA	NA	NA	NA	NA
	11/12/91	NA	NA	NA	NA	NA
	12/11/91	<50	<0.5	<0.5	<0.5	<0.5
	01/28/92	NA	NA	NA	NA	NA
	02/28/92	NA	NA	NA	NA	NA
	03/31/92	280	<0.5	<0.5	<0.5	1.3
	06/30/92	67	1.3	<0.5	<0.5	<0.5
RESNA	10/05/92	<50	<0.5	<0.5	<0.5	<0.5
	12/29/92	NA	NA	NA	NA	NA
	03/31/93	<50	1.0	<0.5	<0.5	<0.5
	06/23/93	<50	<0.5	<0.5	<0.5	<0.5
	08/25/93	<50	<0.5	<0.5	<0.5	<0.5
<u>MW-2</u>						
	12/30/87	2,400	220	16	3	150
	06/07/88	1,200	220	<PQL	32	46
	12/13/88	4,000	640	23	120	110
	08/29/89		Well Abandoned			

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TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES  
Former Texaco Service Station  
3940 Castro Valley Boulevard  
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Well	Date	TPHg	Benzene	Toluene	Ethyl- benzene	Total Xylenes
<u>MW-3</u>	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	NA	NA	NA	NA	NA
	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	<10	<0.3	<0.3	<0.3	<0.6
	09/11/91	<10	<0.3	<0.3	<0.3	<0.6
	10/11/91	NA	NA	NA	NA	NA
	11/12/90	NA	NA	NA	NA	NA
	12/11/90	<50	<0.5	<0.5	<0.5	<0.5
	01/28/92	NA	NA	NA	NA	NA
02/02/92	NA	NA	NA	NA	NA	
03/31/92	<50	<0.5	<0.5	<0.5	1.0	
06/30/92	<50	<0.5	<0.5	<0.5	<0.5	
RESNA	10/05/92	<50	<0.5	<0.5	<0.5	<0.5
	12/29/92	260	6.2	<0.5	<0.5	<0.5
	03/31/93	64	5.6	<0.5	<0.5	<0.5
	06/23/93	1,900	220	160	29	160
08/24/93	<50	<0.5	<0.5	<0.5	2.0	
<u>MW-4</u>	04/16/90	1,500	97	1	11	120
	06/11/90	110	18	<MDL	<MDL	0.7
	08/22/90	50	4	<MDL	<MDL	1
	09/12/90	49	6	<MDL	<MDL	1
	10/10/90	77	4	<MDL	<MDL	<MDL
	11/15/90	49	2	<MDL	0.4	<MDL
	12/11/90	79	6	<MDL	1	<MDL
	01/19/91	120	6	<MDL	3	<MDL
	02/22/91	120	1	<MDL	<MDL	<MDL
	05/14/91	370	29	<0.3	9	1

See notes on page 5 of 5.

TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES  
Former Texaco Service Station  
3940 Castro Valley Boulevard  
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Well	Date	TPHg	Benzene	Toluene	Ethyl- benzene	Total Xylenes
<u>MW-4 (cont.)</u>						
	09/11/91	22	0.8	<0.3	1	<0.6
	10/11/91	<50	1.0	<0.5	1.5	<0.5
	11/12/91	<50	1.6	<0.5	1.3	<0.5
	12/11/91	<50	0.8	<0.5	0.9	<0.5
	01/28/92	1,200	26	0.8	28	2.0
	02/28/92	9,400	68	5.3	68	240
	03/31/92	360	<0.5	<0.5	3.2	1.1
	06/30/92	76	2.4	<0.5	3.3	<0.5
RESNA	10/05/92	<50	1.5	<0.5	<0.5	<0.5
	12/29/92	NA	NA	NA	NA	NA
	03/31/93	<50	<0.5	<0.5	<0.5	<0.5
	06/23/93	<50	<0.5	<0.5	<0.5	<0.5
	08/25/93	<50	0.7	0.5	<0.5	3.2
<u>MW-5</u>						
	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	<10	<0.3	<0.3	<0.3	<0.6
	09/11/91	<10	<0.3	<0.3	<0.3	<0.6
	10/11/91	NA	NA	NA	NA	NA
	11/12/91	NA	NA	NA	NA	NA
	12/11/91	<50	<0.5	<0.5	<0.5	<0.5
	01/28/92	NA	NA	NA	NA	NA
	02/28/92	NA	NA	NA	NA	NA
	03/31/92	<50	<0.5	<0.5	<0.5	1.2
	06/30/90	<50	<0.5	<0.5	<0.5	<0.5
RESNA	10/05/92	<50	<0.5	<0.5	<0.5	<0.5
	12/29/92	<50	<0.5	<0.5	<0.5	<0.5
	03/31/93	<50	<0.5	<0.5	<0.5	<0.5
	06/23/93	<50	<0.5	<0.5	<0.5	<0.5
	08/24/93	Not sampled-inaccessible				
<u>MW-6</u>						
	01/28/92	<50	<0.5	<0.5	<0.5	<0.5

See notes on page 5 of 5.

TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES  
Former Texaco Service Station  
3940 Castro Valley Boulevard  
Castro Valley, California  
(Page 4 of 5)

Well	Date	TPHg	Benzene	Toluene	Ethyl- benzene	Total Xylenes
<u>MW-6 cont.</u>						
	02/28/92	280	<0.5	0.3	<0.5	5.1
	03/31/92	<50	<0.5	<0.5	<0.5	<0.5
	06/30/92	<50	<0.5	<0.5	<0.5	<0.5
RESNA	10/05/92	<50	<0.5	<0.5	<0.5	<0.5
	12/29/92	<50	0.7	0.5	0.7	3.3
	03/31/93	<50	<0.5	<0.5	<0.5	<0.5
	06/23/93	<50	<0.5	<0.5	<0.5	<0.5
	08/24/93	<50	<0.5	<0.5	<0.5	<0.5
<u>MW-7</u>						
	01/28/92	<50	<0.5	<0.5	<0.5	<0.5
	02/28/92	<50	<0.5	0.6	<0.5	1.8
	03/31/92	<50	<0.5	<0.5	<0.5	<0.5
	06/30/92	<50	<0.5	<0.5	<0.5	<0.5
RESNA	10/05/92	<50	<0.5	<0.5	<0.5	<0.5
	12/29/92	<50	0.5	<0.5	0.6	3.0
	03/31/93	60	0.8	<0.5	<0.5	<0.5
	06/22/93	<50	<0.5	<0.5	<0.5	<0.5
	08/24/93	<50	<0.5	<0.5	<0.5	2.6
<u>MW-8</u>						
	01/28/92	<50	<0.5	<0.5	<0.5	<0.5
	02/28/92	69	<0.5	<0.5	<0.5	0.9
	03/31/92	62	<0.5	<0.5	<0.5	4.3
	06/30/92	<50	<0.5	<0.5	<0.5	<0.5
RESNA	10/05/92	<50	<0.5	<0.5	<0.5	<0.5
	12/29/92	<50	<0.5	<0.5	<0.5	<0.5

See notes on page 5 of 5.



Third Quarter 1993 Quarterly Report  
Castro Valley Boulevard, Castro Valley, California

October 19, 1993  
62091.01

TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES  
Former Texaco Service Station  
3940 Castro Valley Boulevard  
Castro Valley, California  
(Page 5 of 5)

Well	Date	TPHg	Benzene	Toluene	Ethyl- benzene	Total Xylenes
<u>MW-6 cont.</u>	03/31/93	<50	<0.5	<0.5	<0.5	<0.5
	06/23/93	<50	<0.5	<0.5	<0.5	<0.5
	08/24/93	<50	<0.5	<0.5	<0.5	2.3
	MCLs:	-	1.0	-	680	1,750
	DWAL:	-	-	100	-	--

Results in parts per billion (ppb).

- NA : Not Analyzed
- PQL : Practical quantitative level
- MDL : Method detection limit
- TPHg : Total petroleum hydrocarbons as gasoline analyzed by EPA method 5030/602.
- BTEX : Analyzed by EPA method 5030/602.
- < : Less than the detection limit for the specified method of analysis.
- MCLs : Adopted Maximum Contaminant Levels in Drinking Water, DHS (October 1990)
- DWAL : Recommended Drinking Water Action Level, DHS (October 1990)
- RESNA : RESNA Industries Inc. began sampling.

**APPENDIX A**

**GROUNDWATER SAMPLING PROTOCOL  
AND WELL PURGE DATA SHEETS**

## GROUNDWATER SAMPLING PROTOCOL

The static water level and floating product level, if present, in each well that contained water was measured with an ORS Interphase Probe Model No. 1068018, or Solonist Water Level Indicator; these instruments are accurate to the nearest 0.01 foot. These groundwater depths were subtracted from wellhead elevations, including corrections for product thickness, when necessary, for gradient evaluation by multiplying product thickness (PT) by a correction factor 0.8 and subtracting from the Depth to Water (DTW); (Adjusted DTW = DTW - [PT x 0.8]).

Water samples collected for subjective evaluation were collected by gently lowering approximately half the length of a new disposable bailer or a Teflon® bailer past the air-water interface (if possible) and collecting a sample from near the surface of the water in the well. The samples were checked for measurable floating hydrocarbon product. All Teflon® bailers are triple washed with Alconox® and triple rinsed with distilled water prior to each use.

Before water samples were collected from the groundwater monitoring wells, the wells were purged until stabilization of the temperature, pH, and conductivity were obtained. Approximately four well casing volumes were purged before those characteristics stabilized. The quantity of water purged from each well was calculated as follows:

1 well casing volume =  $\pi r^2 h (7.48)$  where:

- r = radius of the well casing in feet.
- h = column of water in the well in feet  
(depth to bottom - depth to water).
- 7.48 = conversion constant from cubic feet to  
gallons

Gallons of water purged/gallons in 1 well casing volume = well casing volumes removed.

After purging, each well was allowed to recharge to at least 80% of the initial water level. Water samples were collected with a new disposable bailer, and carefully poured into 40-milliliter (ml) glass vials, which were filled so as to produce a positive meniscus. Each vial was preserved with hydrochloric acid, sealed with a cap containing a Teflon® septum, and subsequently examined for air bubbles to avoid headspace which would allow volatilization to occur. The samples were promptly transported in iced storage in a thermally-insulated ice chest, accompanied by a Chain of Custody Record, to a California-certified laboratory.

WELL PURGE DATA SHEET

Project Name: Texaco--Castro Valley

Job No. 62091.01

Date: August 25, 1993

Page 1 of 1

Well No. MW-1

Time Started 8:30

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
8:30	Start purging MW-3			
8:30	0	65.8	7.31	2490
8:38	11.4	64.9	7.30	2430
8:45	22.8	64.6	7.28	2420
8:53	34.2	64.6	7.29	2400
9:00	45.6	64.5	7.30	2420
9:01	Stop purging MW-3			
Notes:				
<p style="text-align: center;">NM = Not Measured</p> <p style="text-align: center;">Well Diameter (inches) : 4</p> <p style="text-align: center;">Depth to Bottom (feet) : 39.28</p> <p style="text-align: center;">Depth to Water - initial (feet) 8/24/93 : 21.98</p> <p style="text-align: center;">Depth to Water - final (feet) : 21.98</p> <p style="text-align: center;">% recovery : 100%</p> <p style="text-align: center;">Time Sampled : 10:00</p> <p style="text-align: center;">Gallons per Well Casing Volume : 11.4</p> <p style="text-align: center;">Gallons Purged : 45.6</p> <p style="text-align: center;">Well Casing Volume Purged : 4</p> <p style="text-align: center;">Approximate Pumping Rate (gpm) : 1.5</p>				

WELL PURGE DATA SHEET

Project Name: Texaco--Castro Valley

Job No. 62091.01

Date: August 24, 1993

Page 1 of 1

Well No. MW-3

Time Started 12:30

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
12:30	Start purging MW-3			
12:37	0	75.2	7.58	2250
12:43	9.5	73.4	7.60	2130
12:50	19.0	73.8	7.61	2150
12:56	27.5	73.8	7.60	2140
13:03	38.0	72.8	7.59	2130
13:04	Stop purging MW-3			

Notes:

NM = Not Measured  
 Well Diameter (inches) : 4  
 Depth to Bottom (feet) : 34.24  
 Depth to Water - initial (feet) : 19.92  
 Depth to Water - final (feet) : 19.92  
 % recovery : 100%  
 Time Sampled : 14:15  
 Gallons per Well Casing Volume : 9.45  
 Gallons Purged : 38  
 Well Casing Volume Purged : 4  
 Approximate Pumping Rate (gpm) : 1.5

WELL PURGE DATA SHEET

Project Name: Texaco--Castro Valley

Job No. 62091.01

Date: August 25, 1993

Page 1 of 1

Well No. MW-4

Time Started 9:30

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
9:30	Start purging MW-5			
9:30	0	69.3	7.35	2490
9:36	12.5	69.2	7.37	2460
9:43	25.0	70.3	7.32	2480
9:49	37.5	71.2	7.33	2490
9:55	50.0	72.4	7.35	2490
9:56	Stop purging MW-4			
Notes:				
	Well Diameter (inches) :	4		
	Depth to Bottom (feet) :	40.00		
	Depth to Water - initial (feet) 08/24/93 :	20.07		
	Depth to Water - final (feet) :	20.07		
	% recovery :	100%		
	Time Sampled :	10:45		
	Gallons per Well Casing Volume :	12.5		
	Gallons Purged :	50		
	Well Casing Volume Purged :	4		
	Approximate Pumping Rate (gpm) :	2		

WELL PURGE DATA SHEET

Project Name: Texaco--Castro Valley

Job No. 62091.01

Date: August 24, 1993

Page 1 of 1

Well No. MW-6

Time Started 10:00

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
10:00	Start purging MW-6			
10:00	0.	70.9	7.43	2500
10:06	13.5	70.5	7.47	2480
10:11	27	70.9	7.48	2490
10:17	40.5	71.1	7.49	2470
10:22	54.0	71.1	7.50	2470
10:23	Stop purging MW-6			

Notes:

NM = Not Measured  
 Well Diameter (inches) : 4  
 Depth to Bottom (feet) : 37.34  
 Depth to Water - initial (feet) : 16.85  
 Depth to Water - final (feet) : 16.85  
 % recovery : 100%  
 Time Sampled : 11:35  
 Gallons per Well Casing Volume : 13.52  
 Gallons Purged : 54.0  
 Well Casing Volume Purged : 4  
 Approximate Pumping Rate (gpm) : 2.5

WELL PURGE DATA SHEET

Project Name: Texaco--Castro Valley

Job No. 62091.01

Date: August 24, 1993

Page 1 of 1

Well No. MW-7

Time Started 11:00

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
11:00	Start purging MW-7			
11:00	0	73.8	7.63	2420
11:06	12.1	72.3	7.60	2290
11:12	24.2	71.4	7.52	2290
11:18	36.3	72.0	7.51	2290
11:24	48.4	72.0	7.52	2280
11:25	Stop purging MW-7			

Notes:

Well Diameter (inches) : 4  
 Depth to Bottom (feet) : 37.10  
 Depth to Water - initial (feet) : 18.81  
 Depth to Water - final (feet) : 18.81  
 % recovery : 100%  
 Time Sampled : 12:15  
 Gallons per Well Casing Volume : 12.10  
 Gallons Purged : 48.4  
 Well Casing Volume Purged : 4  
 Approximate Pumping Rate (gpm) : 2½



WELL PURGE DATA SHEET

Project Name: Texaco--Castro Valley

Job No. 62091.01

Date: August 24, 1993

Page 1 of 1

Well No. MW-8

Time Started 13:30

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
13:30	Start purging MW-8			
13:30	0	77.6	7.55	2690
13:35	10.5	77.5	7.63	2710
13:41	21.0	77.2	7.61	2710
13:46	31.5	77.6	7.62	2710
13:52	42.0	77.7	7.61	2710
13:53	Stop purging MW-8			

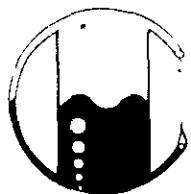
Notes:

Well Diameter (inches) : 4  
 Depth to Bottom (feet) : 38.90  
 Depth to Water - initial (feet) : 23.01  
 Depth to Water - final (feet) : 23.01  
 % recovery : 100%  
 Time Sampled : 15:00  
 Gallons per Well Casing Volume : 10.5  
 Gallons Purged : 42.0  
 Well Casing Volume Purged : 4  
 Approximate Pumping Rate (gpm) : 2

**APPENDIX B**

**LABORATORY ANALYSIS REPORTS AND  
CHAIN OF CUSTODY DOCUMENTATION**

SEP 20 1993



# MOBILE CHEM LABS INC.

RESNA  
SAN JOSE

5011 Blum Road, Suite 1 • Martinez, CA 94553  
Phone (510) 372-3700 • Fax (510) 372-6955

62091.01\1718\012939

RESNA Industries  
3315 Alamen Expressway, #34  
San Jose, CA 95118  
Attn: Phillip Mayberry  
Project Manager

Date Sampled: 08-24-93  
Date Received: 08-27-93  
Date Analyzed: 09-02-93

Sample Number  
-----  
083699

Sample Description  
-----  
Project # 62091.01  
Texaco - Castro Valley  
3940 Castro Valley Blvd.  
Trip Blank WATER

ANALYSIS  
-----

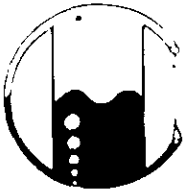
	Detection Limit ----- ppb	Sample Results ----- ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	0.6
Toluene	0.5	1.0
Xylenes	0.5	1.7
Ethylbenzene	0.5	<0.5

QA/QC: Duplicate Deviation is 3.0%

Note: Analysis was performed using EPA methods 5030 and TPH  
LUFT with method 602 used for BTX distinction.  
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans  
Lab Director



# MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553  
Phone (510) 372-3700 • Fax (510) 372-6955

62091.01\1718\012939

RESNA Industries  
3315 Alamen Expressway, #34  
San Jose, CA 95118  
Attn: Phillip Mayberry  
Project Manager

Date Sampled: 08-25-93  
Date Received: 08-27-93  
Date Analyzed: 09-02-93

Sample Number  
-----  
083706

Sample Description  
-----  
Project # 62091.01  
Texaco - Castro Valley  
3940 Castro Valley Blvd.  
MW1 WATER

## ANALYSIS -----

	Detection Limit ----- ppb	Sample Results ----- ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Spike Recovery is 134%

Note: Analysis was performed using EPA methods 5030 and TPH  
LUFT with method 602 used for BTX distinction.  
(ppb) = (µg/L)

MOBILE CHEM LABS

  
Ronald G. Evans  
Lab Director



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62091.01\1718\012939

RESNA Industries  
3315 Alamen Expressway, #34  
San Jose, CA 95118  
Attn: Phillip Mayberry  
Project Manager

Date Sampled: 08-24-93  
Date Received: 08-27-93  
Date Analyzed: 09-02-93

Sample Number  
-----  
083703

Sample Description  
-----  
Project # 62091.01  
Texaco - Castro Valley  
3940 Castro Valley Blvd.  
MW3 WATER

## ANALYSIS

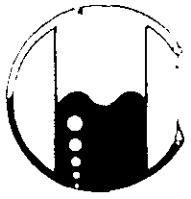
-----

	Detection Limit	Sample Results
	----- ppb	----- ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	2.0
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH  
LUFT with method 602 used for BTX distinction.  
(ppb) = (µg/L)

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62091.01\1718\012939

RESNA Industries  
3315 Alamden Expressway, #34  
San Jose, CA 95118  
Attn: Phillip Mayberry  
Project Manager

Date Sampled: 08-25-93  
Date Received: 08-27-93  
Date Analyzed: 09-02-93

Sample Number

083705

Sample Description

Project # 62091.01  
Texaco - Castro Valley  
3940 Castro Valley Blvd.  
MW4 WATER

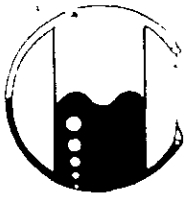
ANALYSIS

	<u>Detection Limit</u>	<u>Sample Results</u>
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	0.7
Toluene	0.5	0.5
Xylenes	0.5	3.2
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH  
LUFT with method 602 used for BTX distinction.  
(ppb) = (µg/L)

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Ronald G. Evans  
Lab Director



# MOBILE CHEM LABS INC.

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62091.01\1718\012939

RESNA Industries  
3315 Alamen Expressway, #34  
San Jose, CA 95118  
Attn: Phillip Mayberry  
Project Manager

Date Sampled: 08-24-93  
Date Received: 08-27-93  
Date Analyzed: 09-02-93

Sample Number  
-----  
083701

Sample Description  
-----  
Project # 62091.01  
Texaco - Castro Valley  
3940 Castro Valley Blvd.  
MW6 WATER


## ANALYSIS

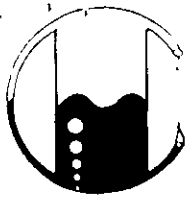
-----

	Detection Limit ----- ppb	Sample Results ----- ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH  
LUFT with method 602 used for BTX distinction.  
(ppb) = (µg/L)

MOBILE CHEM LABS

  
Ronald G. Evans  
Lab Director



# MOBILE CHEM LABS INC.

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62091.01\1718\012939

RESNA Industries  
3315 Alampen Expressway, #34  
San Jose, CA 95118  
Attn: Phillip Mayberry  
Project Manager

Date Sampled: 08-24-93  
Date Received: 08-27-93  
Date Analyzed: 09-02-93

Sample Number

083700

Sample Description

Project # 62091.01  
Texaco - Castro Valley  
3940 Castro Valley Blvd.  
Rin Blk MW6 WATER

ANALYSIS

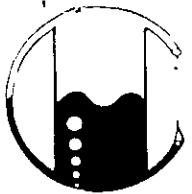
	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	0.6
Toluene	0.5	1.0
Xylenes	0.5	1.7
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH  
LUFT with method 602 used for BTX distinction.  
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans  
Lab Director





# MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553  
Phone (510) 372-3700 • Fax (510) 372-6955

62091.01\1718\012939

RESNA Industries  
3315 Alamen Expressway, #34  
San Jose, CA 95118  
Attn: Phillip Mayberry  
Project Manager

Date Sampled: 08-24-93  
Date Received: 08-27-93  
Date Analyzed: 09-02-93

Sample Number  
-----

083702

Sample Description  
-----

Project # 62091.01  
Texaco - Castro Valley  
3940 Castro Valley Blvd.  
MW7                      WATER

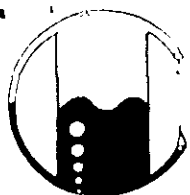
ANALYSIS  
-----

	Detection Limit ----- ppb	Sample Results ----- ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	0.5
Toluene	0.5	<0.5
Xylenes	0.5	2.6
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH  
LUFT with method 602 used for BTX distinction.  
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans  
Lab Director



# MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553  
Phone (510) 372-3700 • Fax (510) 372-6955

62091.01\1718\012939

RESNA Industries  
3315 Alanden Expressway, #34  
San Jose, CA 95118  
Attn: Phillip Mayberry  
Project Manager

Date Sampled: 08-24-93  
Date Received: 08-27-93  
Date Analyzed: 09-02-93

Sample Number  
-----  
083704

Sample Description  
-----  
Project # 62091.01  
Texaco - Castro Valley  
3940 Castro Valley Blvd.  
MW8                      WATER

## ANALYSIS

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	Detection Limit ----- ppb	Sample Results ----- ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	2.3
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH  
LUFT with method 602 used for BTX distinction.  
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans  
Lab Director



## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO 6209101		PROJECT NAME/SITE Texaco 3740 Castro Vly Blvd, City					ANALYSIS REQUESTED										PO #							
SAMPLERS (SIGN) <i>Robin Adair</i>		(PRINT) <i>Robin Adair</i>					NO CONTAINERS	SAMPLE TYPE	/										REMARKS					
SAMPLE IDENTIFICATION	DATE	TIME	COMP	GRAB	PRES USED	ICED			BTEX (602/8020)	TPHg (8015)	TPHg (8015)	TOG 418 1/5520	601/801C	624/8240	625/8270									
TRIP Blank	8-24-93	1:35			HCL	Y	2	X	X															
Rin BK - mwt6		11:30					2	X	X															
mwt6		11:35					2	X	X															
mwt7		12:15					2	X	X															
<del>mwt5</del>		N/A																						
mwt3		2:15					2	X	X															
mwt8		3:00					2	X	X															
mwt4	8-25-93	10:45					2	X	X															
mwt1		10:15					2	X	X															
RELINQUISHED BY		DATE	TIME	RECEIVED BY			LABORATORY <i>mobile chem labs</i>					PLEASE SEND RESULTS TO <i>Phil Mayberry</i> <i>Resna, San Jose</i>												
RELINQUISHED BY		DATE	TIME	RECEIVED BY			REQUESTED TURNAROUND TIME <i>NORMAL</i>																	
RELINQUISHED BY		DATE	TIME	RECEIVED BY			RECEIPT CONDITION <i>02 ICE No heat stored</i>																	
RELINQUISHED BY <i>[Signature]</i>		DATE 8-27-93	TIME 10:05	RECEIVED BY LABORATORY <i>DAVE Levine</i>			PROJECT MANAGER																	