



Texaco Refining
and Marketing Inc

10 Universal City Plaza
Universal City CA 91608

March 11, 1993

Ms. Susan Hugo
Alameda County Environmental
Health Department
80 Swan Way, Room 200
Oakland, CA 94621

STID 1109

Dear Ms. Hugo:

Enclosed is a copy of our quarterly technical letter report dated February 22, 1993, for the former Texaco and then Exxon service station facility that was located at 500 Grand Avenue in Oakland, California. This report covers the fourth quarter of 1992.

Please call me at (818) 505-2476 if you have any questions or wish to discuss the report further.

Very truly yours,
Texaco Refining and Marketing Inc.


Bob Robles
Environmental Coordinator

RR:rr

Enclosure

Mr. Rich Hiett
California Regional Water
Quality Control Board
San Francisco Bay Area Region
2101 Webster Street, Ste. 500
Oakland, CA 94612

RRZielinski-Richmond

pr: __

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
FAX: (408) 264-2435

LETTER REPORT
QUARTERLY GROUNDWATER MONITORING
Fourth Quarter 1992
at
Former Texaco Station
500 Grand Avenue
Oakland, California

62078.01

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
FAX: (408) 264-2435

February 22, 1993
0116RROB
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Mr. Robert Robles
Texaco Environmental Services
10 Universal City Plaza, 7th Floor
Universal City, California 91608

Subject: Results of the Fourth Quarter 1992 Quarterly Groundwater Monitoring and Sampling Letter Report for the Former Texaco Station located at 500 Grand Avenue in Oakland, California.

Mr. Robles:

At the request of Texaco Environmental Services (TES), RESNA Industries Inc. (RESNA) has prepared this letter which summarizes the results of quarterly groundwater monitoring at the former Texaco Service Station located at 500 Grand Avenue in Oakland, California (Plate 1, Site Vicinity Map) for the fourth quarter 1992 (October through December 1992). On November 19, 1992, 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 four of the monitoring wells (MW-8F, MW-8H, MW-8I and MW-8J) at this site. Monitoring wells MW-8B and MW-8C and observation wells OB-1 through OB-4 were not monitored or sampled at the request of TES. Wells MW-8A and MW-8E were abandoned August 3, 1992. Well MW-8D was decommissioned and had no historical data, according to the May 28, 1992 report by Harding Lawson Associates. Monitoring well MW-8G was not monitored or sampled because a car was parked over it. RESNA's groundwater sampling protocol and well purge data sheets are included in Appendix A. Results of laboratory analyses with chain of custody documentation are included in Appendix B.

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500 Grand Avenue, Oakland, California.

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WORK PERFORMED

GROUNDWATER MONITORING

Based on data from MW-8F, groundwater elevations at the site appear to have increased about 0.6 feet from those reported the previous quarter. The groundwater gradient map shows the groundwater beneath the site to be flowing towards the northeast with a hydraulic gradient of approximately 0.10 (Plate 2, Groundwater Gradient Map). Historical and recent monitoring data are summarized in Table 1.

South

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 (BTEX), and total petroleum hydrocarbons as gasoline (TPHg) using modified Environmental Protection Agency (EPA) Methods 5030/602. The chain of custody manifest and laboratory analyses sheets are included in Appendix B.

GROUNDWATER ANALYTICAL RESULTS

Concentrations of TPHg in groundwater samples ranged from less than the Method Detection Limit (MDL) of 50 parts per billion (ppb) in MW-8F and MW-8J to 720 ppb in MW-8I. Dissolved benzene concentrations ranged from less than the MDL of 0.5 ppb to 120 ppb in MW-8I. TPHg and benzene concentrations are shown on Plate 3, TPHg/Benzene Concentrations in Groundwater. Neither free product nor hydrocarbon sheen was observed in the wells. Historical and recent analytical data are summarized in Table 2, Cumulative Results of Laboratory Analyses of Groundwater. Copies of the Laboratory Analysis Sheets and the Chain of Custody Record for the groundwater samples are included in Appendix B.

PURGE WATER DISPOSAL

Purge water generated during purging and sampling of the four monitoring wells is being temporarily stored on-site in Department of Transportation (DOT) approved 55 gallon drums. Purge water is subsequently pumped into a water trailer and transported to Gibson Environmental in Redwood City, California for disposal.

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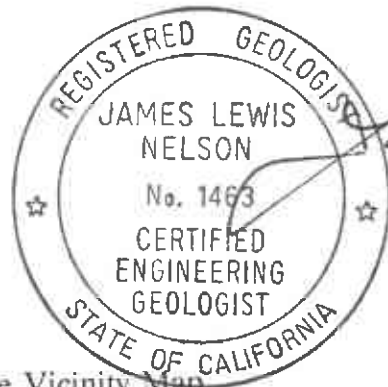
February 22, 1993
62078.01

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

Sincerely,
RESNA Industries Inc.



Kathy D. Thomas
Staff Geologist

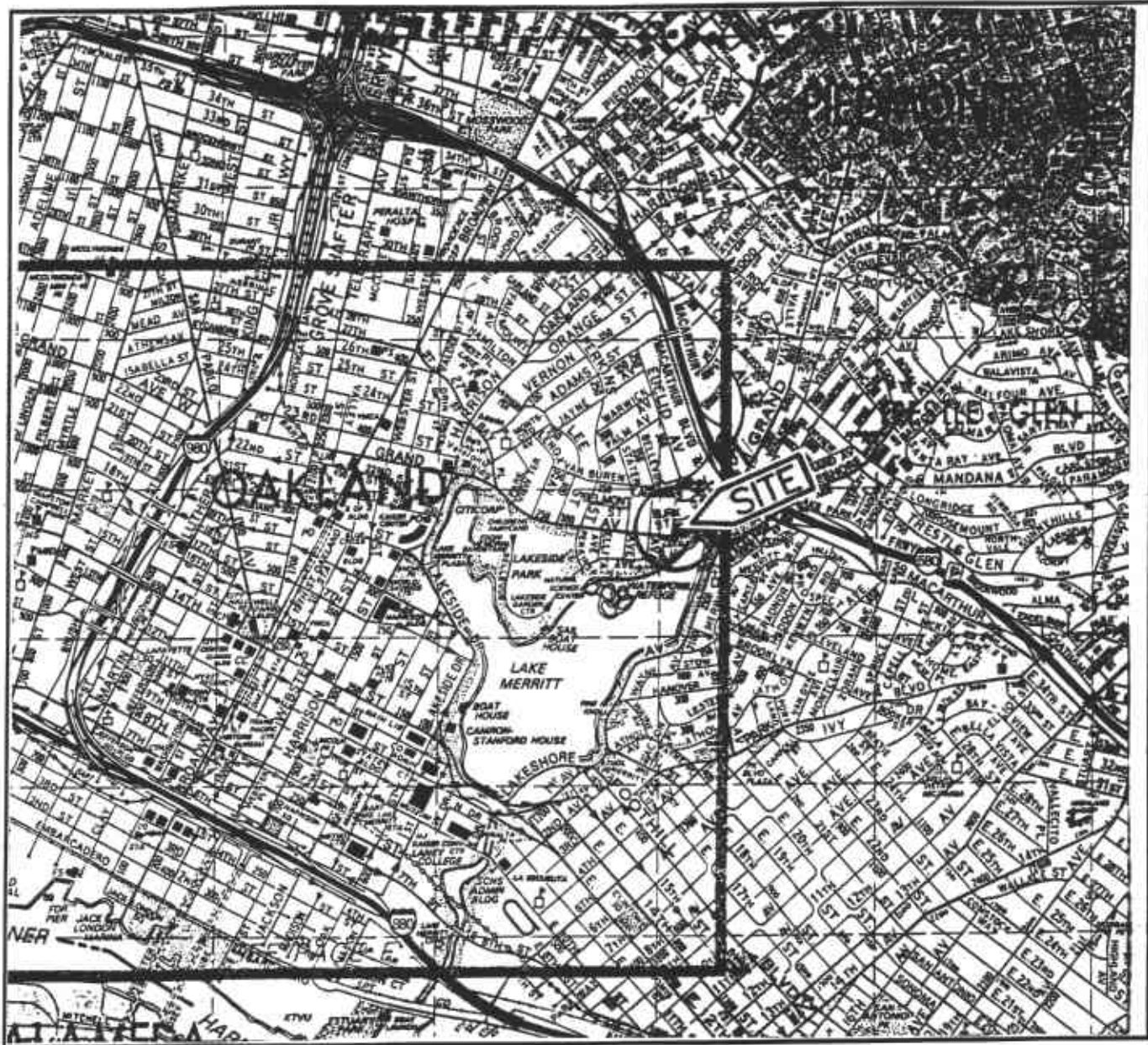


James L. Nelson
Certified Engineering
Geologist No. 1463

- 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: The Thomas Guide
 Alameda County
 Oakland, California.
 1991

LEGEND

○ = Site Location



Approximate Scale

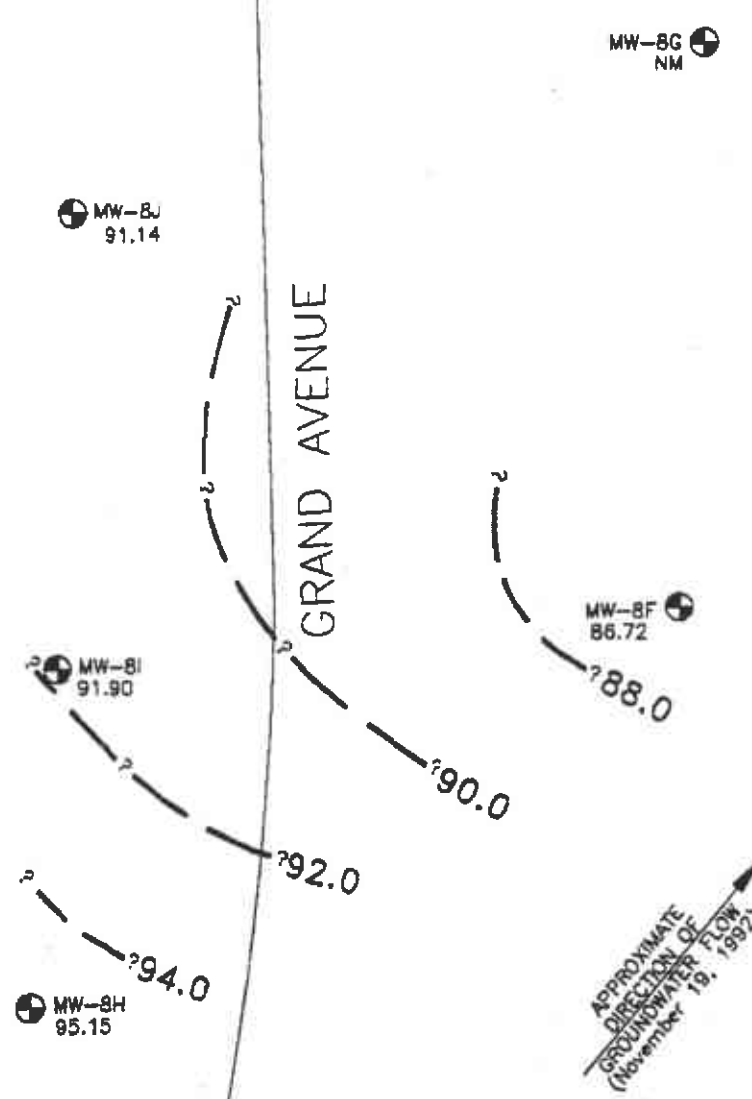
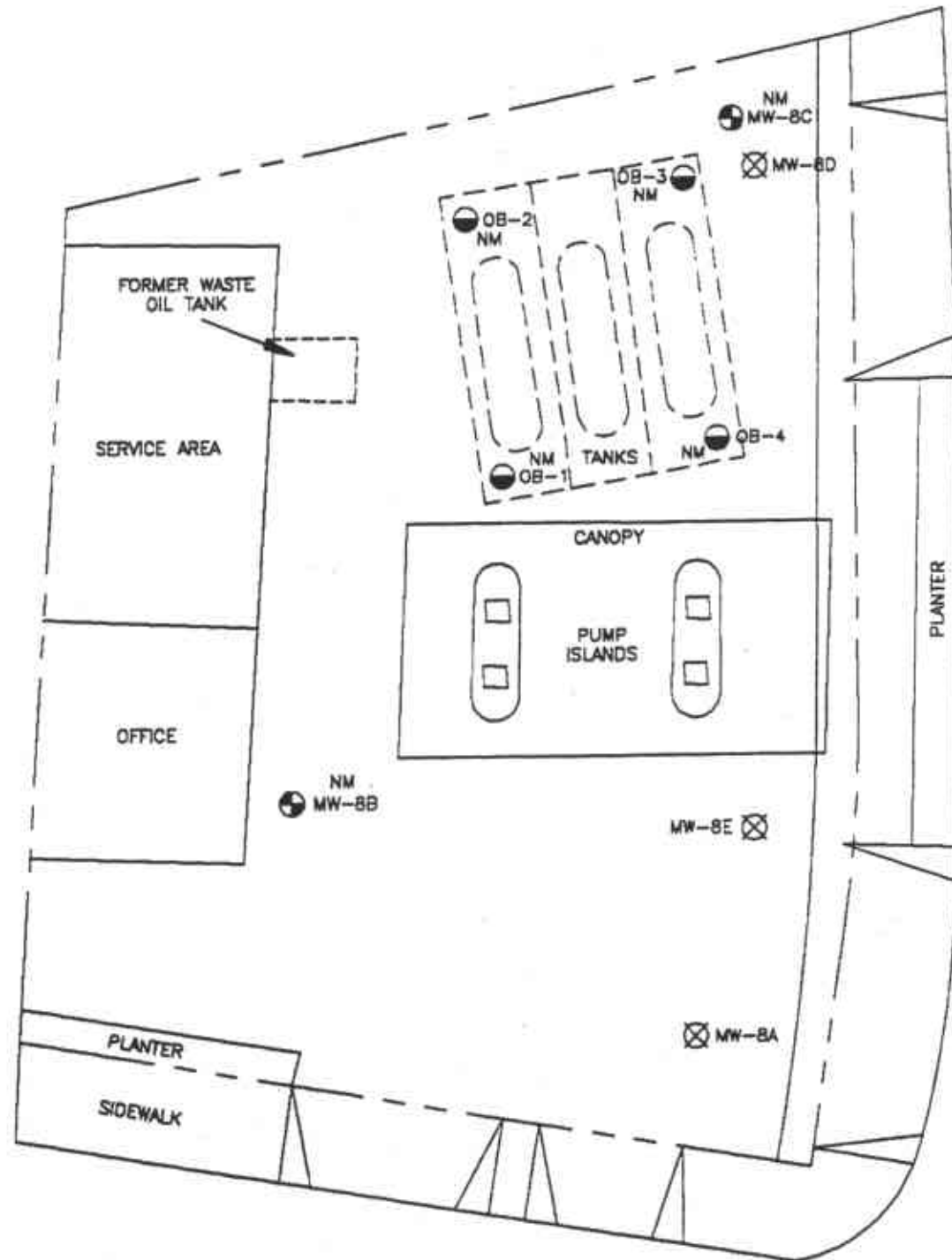


RESNA
 Working to Restore Nature

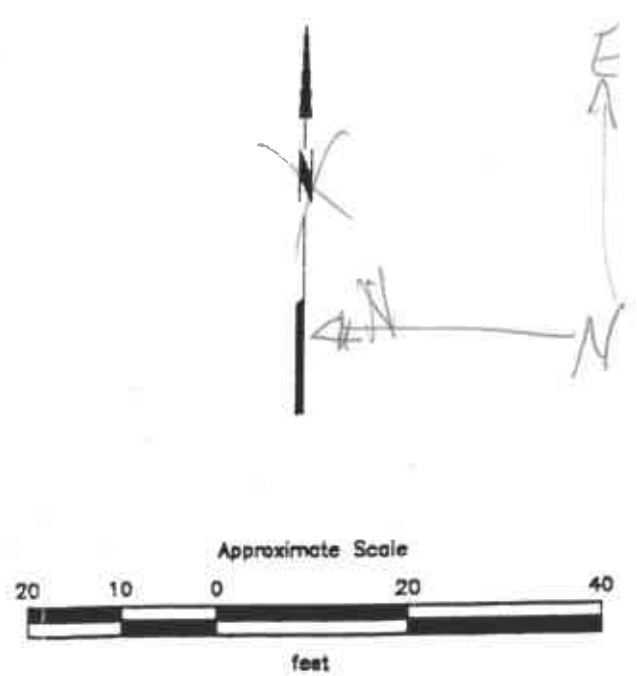
PROJECT 62078.01

SITE VICINITY MAP
Former Texaco Station
500 Grand Avenue
Oakland, California

PLATE
1



- EXPLANATION**
- 94.0 = Line of equal elevation of groundwater in feet above mean sea level (MSL)
 - 95.15 = Elevation of groundwater in feet above MSL. (November 19, 1992)
 - MW-8J = Monitoring well (1988, 1989, 1990)
 - OB-4 = Observation well (1989)
 - MW-8D = Abandoned well
 - NM = Not monitored



Source: Modified from site plan provided by Harding Lawson Associates, dated May 11, 1992.

RESNA
Working to Restore Nature

PROJECT

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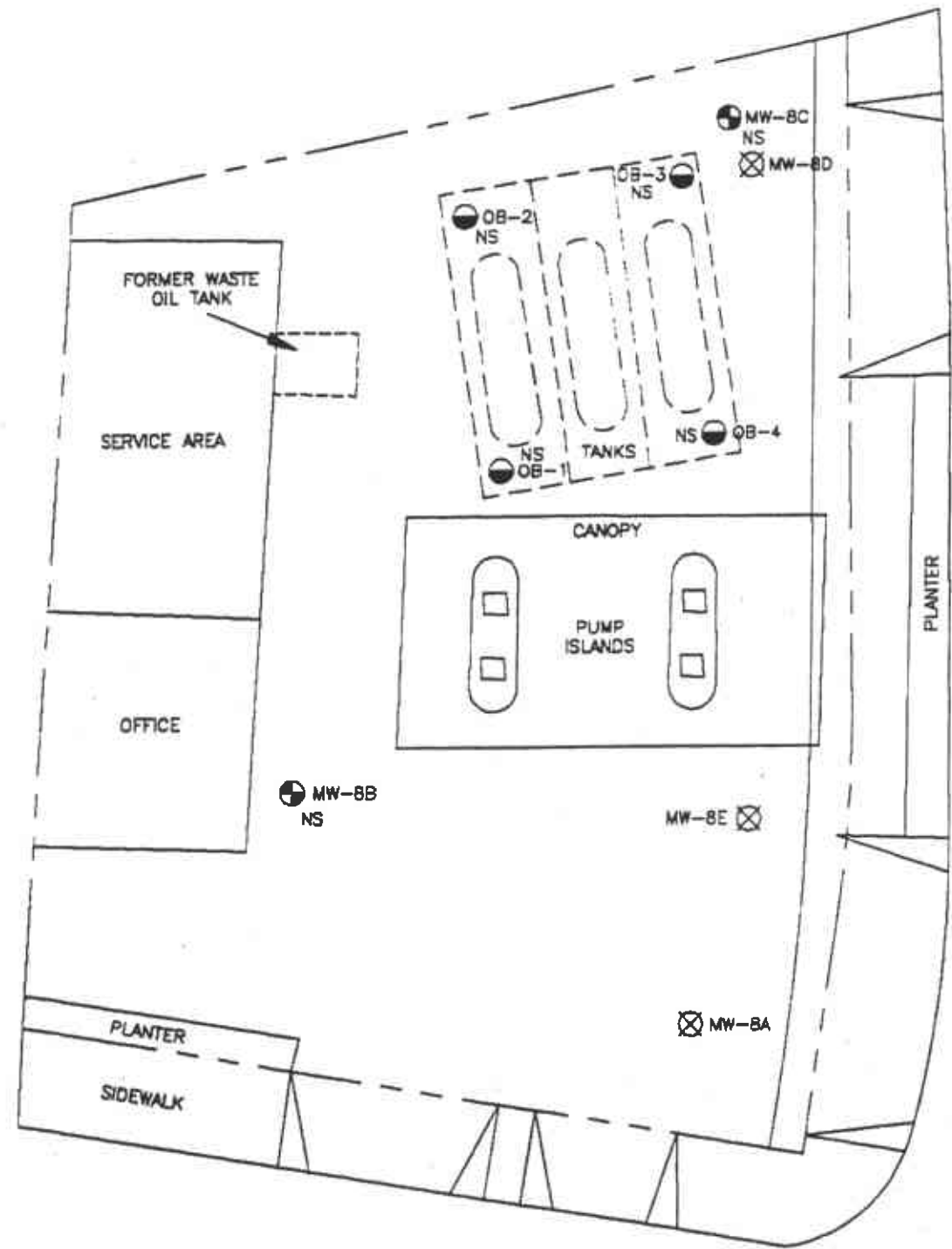
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DVW 2/12

GROUNDWATER ELEVATION MAP
Former Texaco Station
500 Grand Avenue
Oakland, California

PLATE

2

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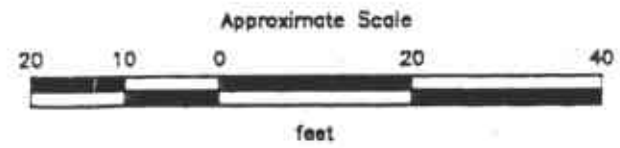
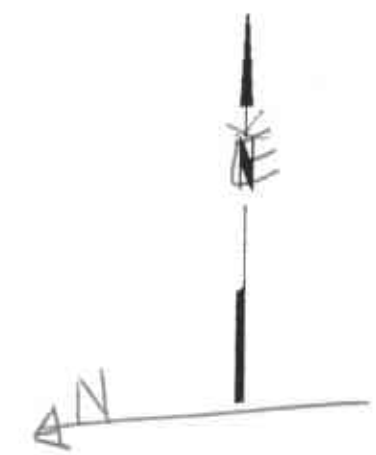


GRAND AVENUE

EUCLID AVENUE

EXPLANATION

- MW-8J ⊕ = Monitoring well (1988, 1989, 1990)
- OB-4 ⊙ = Observation well (1989)
- MW-8D ⊗ = Abandoned well
- 720/120 = TPHg/Benzene concentrations in groundwater in parts per billion (November 19, 1992)
- NS = Not sampled



Source: Modified from site plan provided by Harding Lawson Associates, dated May 11, 1992.



PROJECT **62078.01** DRAWN BY DVW 2/12

TPHg/BENZENE CONCENTRATIONS IN GROUNDWATER
Former Texaco Station
500 Grand Avenue
Oakland, California

PLATE
3
CAD FILE: 620781Q4

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Station
500 Grand Avenue
Oakland, California
(Page 1 of 4)

Well	Date	Wellhead Elevation*	Depth to Water	Groundwater Elevation*	Floating Product		
<u>MW-8A</u> HLA	03/29/91	99.72	2.32	97.40	NA		
	04/23/91		2.31	97.41	NA		
	06/10/91		2.82	96.90	NA		
	06/28/91		2.53	97.19	NA		
	07/23/91		2.35	97.37	NA		
	08/22/91		2.68	97.04	NA		
	10/03/91		2.46	97.26	NA		
	10/24/91		2.53	97.19	NA		
	11/26/91		3.03	96.69	NA		
	12/30/91		2.28	97.44	NA		
	01/23/92		2.57	97.15	NA		
	02/28/92		2.48	97.24	NA		
	03/26/92		2.13	97.59	NA		
	04/30/92		2.10	97.62	NA		
	08/03/92		Well Abandoned				
	<u>MW-8B</u> HLA		03/29/91	101.11	0.26	100.85	NA
04/23/91		0.31	100.80		NA		
06/10/91		0.42	100.69		NA		
06/28/91		0.41	100.70		NA		
07/23/91		0.52	100.59		NA		
08/22/91		0.62	100.49		NA		
10/03/91		0.52	100.59		NA		
10/24/91		0.62	100.49		NA		
11/26/91		0.73	100.38		NA		
12/30/91		0.50	100.81		NA		
01/23/92		0.54	100.57		NA		
02/28/92		0.29	100.82		NA		
03/26/92		0.07	101.04		NA		
04/30/92		0.60	100.51		NA		
RESNA		09/28/92	Not Monitored				
		11/19/92	Not Monitored				
<u>MW-8C</u> HLA	03/29/91	98.41	6.47	91.94	NA		
	04/23/91		6.67	91.74	NA		
	06/10/91		8.08	90.33	NA		
	06/28/91		7.36	91.05	NA		
	07/23/91		7.37	91.04	NA		
	08/22/91		8.79	89.62	NA		

See notes on page 4 of 4.

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TABLE I
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Station
500 Grand Avenue
Oakland, California
(Page 2 of 4)

Well	Date	Wellhead Elevation*	Depth to Water	Groundwater Elevation*	Floating Product	
<u>MW-8C</u> Con't	10/03/91		7.93	90.48	NA	
	10/24/91		7.68	90.73	NA	
	11/26/91		7.59	90.82	NA	
	12/30/91		7.15	91.26	NA	
	01/23/92		6.88	91.53	NA	
	02/28/92		6.69	91.72	NA	
	03/26/92		6.69	91.72	NA	
	04/30/92		5.90	91.51	NA	
	RESNA	09/28/92			Not Monitored	
11/19/92				Not Monitored		
<u>MW-8E</u> HLA	03/29/91	99.38	3.28	96.10	NA	
	04/23/91		3.02	96.36	NA	
	06/10/91		3.08	96.30	NA	
	06/28/91		3.25	96.13	NA	
	07/23/91		3.24	96.14	NA	
	08/22/91		3.78	95.90	NA	
	10/03/91		3.32	96.06	NA	
	10/24/91		3.45	95.93	NA	
	11/26/91		3.34	96.04	NA	
	12/30/91		3.53	95.85	NA	
	01/23/92		3.57	95.81	NA	
	02/28/92		3.35	96.03	NA	
	03/26/92		3.01	96.37	NA	
	04/30/92		3.76	95.62	NA	
	08/03/92			Well Abandoned		
	<u>MW-8F</u> HLA	03/29/91	97.94	8.59	89.35	NA
		04/23/91		8.85	89.09	NA
06/10/91			9.58	88.36	NA	
06/28/91			9.48	88.46	NA	
07/23/91			9.79	88.15	NA	
08/22/91			11.44	86.50	NA	
10/03/91			11.58	86.36	NA	
10/24/91			11.75	86.19	NA	
11/26/91			11.63	86.31	NA	
12/30/91			10.51	87.43	NA	
01/23/92			10.24	87.70	NA	
02/28/92			9.93	88.01	NA	

See notes on page 4 of 4.

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Station
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Well	Date	Wellhead Elevation*	Depth to Water	Groundwater Elevation*	Floating Product	
<u>MW-8F</u> Con't	03/26/92		8.78	89.16	NA	
	04/30/92		9.36	88.58	NA	
	RESNA	09/28/92		11.83	86.11	None
		11/19/92		11.22	86.72	None
<u>MW-8G</u>						
	<u>HLA</u>	97.24	Well Inaccessible			
	03/29/91		9.44	87.80	NA	
	04/23/91		10.29	86.95	NA	
	06/10/91		10.3	86.94	NA	
	06/28/91		10.74	86.50	NA	
	07/23/91		12.56	84.68	NA	
	08/22/91		13.09	84.15	NA	
	10/03/91		13.42	83.82	NA	
	10/24/91		13.02	84.22	NA	
	11/26/91		11.94	85.30	NA	
	12/30/91		11.30	85.94	NA	
	01/23/92		10.83	85.41	NA	
	02/28/92		9.20	88.04	NA	
	03/26/92		9.00	88.24	NA	
RESNA	04/30/92		13.32	83.92	None	
	09/28/92		Well Inaccessible			
	11/19/92					
<u>MW-8H</u>						
	<u>HLA</u>	98.90	3.70	95.20	NA	
	03/29/91		6.03	92.87	NA	
	04/23/91		3.68	95.22	NA	
	06/10/91		3.83	95.07	NA	
	06/28/91		3.85	95.05	NA	
	07/23/91		3.80	95.10	NA	
	08/22/91		3.79	95.11	NA	
	10/03/91		4.02	94.88	NA	
	10/24/91		3.88	95.02	NA	
	11/26/91		3.84	95.06	NA	
	12/30/91		3.74	95.16	NA	
	01/23/92		4.44	94.46	NA	
	02/28/92		4.21	94.69	NA	
	03/26/92		3.46	95.44	NA	
RESNA	04/30/92		Well Inaccessible			
	09/28/92		3.75	95.15	None	
	11/19/92					

See notes on page 4 of 4.

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TABLE 1
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Well	Date	Wellhead Elevation*	Depth to Water	Groundwater Elevation*	Floating Product
<u>MW-8I</u>					
HLA	03/29/91	98.27	6.15	92.12	NA
	04/23/91		6.29	91.98	NA
	06/10/91		6.11	92.16	NA
	06/28/91		6.30	91.97	NA
	07/23/91		6.41	91.86	NA
	08/22/91		6.44	91.83	NA
	10/03/91		6.47	91.80	NA
	10/24/91		6.57	91.70	NA
	11/26/91		6.58	91.69	NA
	12/30/91		6.41	91.86	NA
	01/23/92		6.33	91.94	NA
	02/28/92		6.55	91.72	NA
	03/26/92		6.45	91.82	NA
	04/30/92		6.48	91.79	NA
RESNA	09/28/92		Well Inaccessible		
	11/19/92		6.37	91.90	None
<u>MW-8J</u>					
HLA	03/29/91	97.69	5.71	91.98	NA
	04/23/91		3.81	93.88	NA
	06/10/91		6.17	91.52	NA
	06/28/91		6.31	91.38	NA
	07/23/91		6.67	91.02	NA
	08/22/91		6.75	90.94	NA
	10/03/91		6.77	90.92	NA
	10/24/91		6.88	90.81	NA
	11/26/91		6.59	91.10	NA
	12/30/91		6.41	91.28	NA
	01/23/92		6.31	91.38	NA
	02/28/92		6.28	91.41	NA
	03/26/92		6.20	91.49	NA
	04/30/92		6.48	91.21	NA
RESNA	09/28/92		Well Inaccessible		
	11/19/92		6.55	91.14	None

Depth to water measured in feet below top of casing.

- * : relative to arbitrary datum of 100 feet.
- NA : Information Not Available
- HLA : Harding Lawson Associates

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TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Station
500 Grand Avenue
Oakland, California
(Page 1 of 5)

Well	Date	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPHg	TPHd	TPH Other ¹
<u>MW-8A</u>								
HLA	06/14/88	<0.5	1.5	<2	6.6	NA	NA	NA
	10/25/88	<0.5	<1	<2	<1	NA	NA	NA
	09/28/89	<0.5	<0.5	<0.5	<3	<50	NA	NA
	11/29/89	<0.5	1.0	<0.5	<0.5	<50	1,200	<50
	01/24/90	<0.5	<0.5	<0.5	<0.5	<100	NA	2,800
	04/26/90	<0.5	<0.5	<0.5	<0.5	<2,500	<50	890
	07/26/90	6.0	<0.5	<0.5	<0.5	<50	<50	<50
	10/18/90	<0.5	<0.5	<0.5	<0.5	<50	<50	<50
	01/08/91	<0.3	<0.3	<0.3	<0.3	<30	<50	130 ²
	04/23/91	<0.5	<0.5	<0.5	<0.5	<50	<50	<500
	07/23/91	<0.5	<0.5	<0.5	<0.5	<50	<50	<500
	10/24/91	<0.5	<0.5	<0.5	<0.5	<50	<50	<500
	01/23/92	<0.5	<0.5	<0.5	<0.5	<50	700 ⁴	NA
	04/30/92	<0.5	<0.5	<0.5	<0.5	<50	<50	<500
	08/03/92					Well Abandoned		
<u>MW-8B</u>								
HLA	06/14/88	<0.5	<1	<2	<1	NA	NA	NA
	10/21/88	<0.5	<1	<2	3.1	NA	NA	NA
	09/28/89	<0.5	<0.5	<0.5	<3	<50	NA	NA
	11/29/89	<0.5	<0.5	<0.5	<0.5	<50	<50	380
	01/24/90	<0.5	<0.5	<0.5	<0.5	<100	NA	350
	04/26/90	<0.5	<0.5	<0.5	<0.5	<50	<50	110
	07/26/90	<0.5	<0.5	<0.5	<0.5	<50	<50	<50
	10/18/90	<0.5	<0.5	<0.5	<0.5	<50	<50	<50
	01/08/91	<0.3	<0.3	<0.3	<0.3	<30	<50	180 ²
	04/23/91	8.4	2.5	<0.5	5.1	<50	<50	<500
	07/23/91	<0.5	1.1	<0.5	2.0	<50	<50	<500
	10/24/91	<0.5	<0.5	<0.5	<0.5	<50	<50	<500
	01/23/92	<0.5	<0.5	<0.5	<0.5	<50	550 ⁴	NA
	04/30/92	<0.5	<0.5	<0.5	<0.5	<50	<50	<500
RESNA	09/28/92					Not Sampled		
	11/19/92					Not Sampled		
<u>MW-8C</u>								
HLA	06/14/88	5.3	3.5	2.6	13.0	NA	NA	NA
	10/21/88	<0.5	<1	<2	<1	NA	NA	NA
	09/28/89	<0.5	<0.5	<0.5	<3.0	<50	NA	NA
	11/29/89	<0.5	<0.5	<0.5	<0.5	<50	<50	190
	01/24/90	0.9	<0.5	<0.5	<0.5	<100	NA	480
	04/26/90	<0.5	<0.5	<0.5	<0.5	<50	<50	160

See notes on page 5 of 5.

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TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Station
500 Grand Avenue
Oakland, California
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Well	Date	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPHg	TPHd	TPH Other ¹
<u>MW-8C</u> Con't								
	07/26/90	<0.5	<0.5	<0.5	<0.5	<50	<50	<50
	10/18/90	<0.5	<0.5	<0.5	<0.5	<50	<50	<50
	01/08/91	<0.3	<0.3	<0.3	<0.3	<30	76	110 ²
	04/23/91	12	25	3.7	19	800	<50	<500
	07/23/91	<0.5	0.6	<0.5	<0.5	<50	<50	<500
	10/24/91	<0.5	<0.5	<0.5	<0.5	<50	<50	<500
	01/23/92	1.2	<0.5	<0.5	<0.5	<50	840 ⁴	NA
	04/30/92	<0.5	<0.5	<0.5	<0.5	<50	150	<500
RESNA	09/28/92					Not Sampled		
	11/19/92					Not Sampled		
<u>MW-8E</u>								
HLA	10/25/88	1,400	510	2.9	420	NA	NA	NA
	09/28/89	5,600	3,100	<500	<3000	22,000	NA	NA
	11/29/89	4,900	2,600	<250	1,490	15,000	6,800	<50
	01/24/90	10,100	3,340	540	1,790	36,000	NA	4,900
	04/26/90	11,000	5,700	840	2,900	48,000	1,400	<50
	07/26/90	15,000	6,200	520	4,700	55,000	<50	<50
	(10/18/90)	1,500	1,300	170	1,800	15,000	620	<50
	01/08/91	14,000	5,400	860	1,700	51,000	17,000	520 ²
	04/23/91	19,000	6,100	750	4,100	50,000	4,800	<500
	07/23/91	16,000	5,400	1,100	4,000	47,000	3,500 ³	<500
	10/24/91	19,000	6,100	1,100	4,900	40,000	9,400	<500
	01/23/92	3,800	2,800	610	4,800	38,000	9,800 ³	NA
	04/23/92	20,000	3,700	500	3,900	41,000	9,600	<500
	08/03/92					Well Abandoned		
<u>MW-8F</u>								
HLA	04/14/89	<0.5	<1	<2	<1	NA	NA	NA
	09/28/89	<0.5	<0.5	<0.5	<3.0	<50	NA	NA
	11/29/89	<0.5	<0.5	<0.5	<0.5	<50	<50	<50
	01/24/90	<0.5	<0.5	<0.5	<0.5	<100	NA	<300
	04/26/90	<0.5	<0.5	<0.5	<0.5	<50	<50	110
	(07/26/90)	<0.5	<0.5	<0.5	<0.5	<50	<50	<50
	10/18/90	<0.5	<0.5	<0.5	<0.5	<50	360	<50
	01/08/91	<0.3	<0.3	<0.3	<0.3	<30	380	620 ²
	04/23/91	5.9	3.1	<0.5	2.7	<50	1,400	3,200
	07/23/91	<0.5	0.8	<0.5	<0.5	<50	60	<500
	10/24/91	<0.5	<0.5	<0.5	<0.5	<50	<50	<500

See notes on page 5 of 5.

Fourth Quarter 1992 Quarterly Report
500 Grand Avenue, Oakland, California.

February 22, 1993
62078.01

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Station
500 Grand Avenue
Oakland, California
(Page 3 of 5)

Well	Date	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPHg	TPHd	TPH Other ¹
<u>MW-8F Con't</u>								
	01/23/92	4.0	1.3	<0.5	1.9	<50	1,300 ^a	NA
	04/30/92	<0.5	<0.5	<0.5	<0.5	<50	<50	<500
RESNA	09/28/92	<0.5	<0.5	<0.5	<0.5	<50	NA	NA
	11/19/92	<0.5	<0.5	<0.5	<0.5	<50	NA	NA
<u>MW-8G</u>								
HLA	04/14/89	<0.5	<1	<2	<1	NA	NA	NA
	09/28/89	<0.5	<0.5	<0.5	<3.0	<50	NA	NA
	11/29/89	<0.5	<0.5	<0.5	<0.5	<50	<50	<50
	01/24/90	<0.5	<0.5	<0.5	<0.5	<100	NA	650
	04/26/90	<0.5	<0.5	<0.5	<0.5	<50	<50	120
	(07/26/90)	<0.5	<0.5	<0.5	<0.5	<50	<50	<50
	10/18/90	<0.5	<0.5	<0.5	<0.5	<50	460	<50
	01/08/91	<0.3	<0.3	<0.3	<0.3	<30	220	260 ²
	04/23/91	0.9	0.9	<0.5	<0.5	<50	1,100	<500
	07/23/91	0.5	1.5	<0.5	3.0	<50	<50	<500
	10/24/91	0.6	<0.5	<0.5	<0.5	<50	NA	NA
	01/24/92	<0.5	<0.5	<0.5	<0.5	<50	980 ^a	NA
	04/30/92	1.7	<0.5	<0.5	<0.5	<50	<50	<500
RESNA	09/28/92	Insufficient Water for Sampling						
	11/19/92	Not Sampled						
<u>MW-8H</u>								
HLA	01/24/90	14.8	14.8	10.8	38.8	460	NA	<300
	04/26/90	67	19	43	64	830	<50	820
	(07/26/90)	45	1.3	12	8.2	190	<50	<50
	10/18/90	17	2.5	14	8.5	300	<50	<50
	01/08/91	12	2.2	6.4	4.0	320	180	89 ²
	04/23/91	1.5	<0.5	<0.5	<0.5	<50	730	<500
	07/23/91	21	1.8	9.7	2.6	270	<50	<500
	10/24/91	7.6	1.0	3.5	2.4	120	70	<500
	01/23/92	7.2	1.2	4.7	3.2	110	<60 ^a	NA
	04/30/92	11	1.5	5.6	3.6	190	90	<500
RESNA	09/28/92	Not Sampled						
	11/19/92	6.8	<0.5	1.1	1.5	130	NA	NA

See notes on page 5 of 5.

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62078.01

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Station
500 Grand Avenue
Oakland, California
(Page 4 of 5)

Well	Date	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPHg	TPHd	TPH Other ¹
<u>MW-8I</u>								
HLA	01/24/90	116	2.9	13	30.5	580	NA	440
	04/26/90	2.400	100	230	350	4.400	<50	1.400
	(07/26/90)	<0.5	<0.5	<0.5	<0.5	<50	<50	<50
	10/18/90	92	4.1	37	21	530	<50	<50
	01/08/91	500	4.3	36	26	1.300	710	210 ²
	04/23/91	1.600	17	100	86	1.500	1,100	900
	07/23/91	1.600	30	140	63	1.700	260	<500
	10/25/91	470	6.0	76	13	760	230	<500
	01/23/92	420	7.2	27	20	820	210 ³	NA
	04/30/92	1,800	19	180	25	2,200	430	<500
RESNA	09/28/92				Not Sampled			
	11/19/92	120	1.1	29	13	720	NA	NA
<u>MW-8J</u>								
HLA	01/24/90	2.7	<0.5	1	2.6	<100	NA	<300
	04/26/90	28	7.7	19	24	160	<50	320
	(07/26/90)	<0.5	<0.5	<0.5	<0.5	<50	<50	<50
	10/18/90	8.3	<0.5	2.6	1.5	<50	<50	<50
	01/08/91	0.41	<0.3	<0.3	0.52	71	<50	69 ²
	04/23/91	16	2.2	9.3	4.6	300	<50	<500
	07/23/91	4.6	<0.5	3.1	<0.5	<50	<50	<500
	10/24/91	0.8	<0.5	<0.5	<0.5	<50	<50	<500
	01/23/92	0.8	<0.5	<0.5	<0.5	<50	<50	NA
	04/30/92	2.3	<0.5	<0.5	<0.5	<50	<50	<500
RESNA	09/28/92				Not Sampled			
	11/19/92	<0.5	<0.5	<0.5	<0.5	<50	NA	NA
<u>OB-3</u>								
HLA	11/06/89	420	8	6	64	4,000	NA	NA
	04/26/90	160	19	5	8.6	1,000	3,200	<50
	(07/26/90)	<0.5	<0.5	<0.5	0.9	68	1,200	<50
	10/18/90	260	59	35	490	3,200	2,100	<50
RESNA	09/28/92				Not Sampled			
	11/19/92				Not Sampled			

See notes on page 5 of 5.

Fourth Quarter 1992 Quarterly Report
500 Grand Avenue, Oakland, California.

February 22, 1993
62078.01

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Station
500 Grand Avenue
Oakland, California
(Page 5 of 5)

Well	Date	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPHg	TPHd	TPH Other ¹
<u>OB-4</u>								
HLA	11/06/89	500	11	10	24	4,000	NA	NA
	04/26/90	360	10	10	18	460	3,900	<50
	(07/26/90)	23	3.7	1.6	5.9	200	1,600	<50
	10/18/90	600	540	83	840	4,300	330	<50
RESNA	09/28/92				Not Sampled			
	11/19/92				Not Sampled			
MCLs		1.0	---	680	1,750	---	---	---
DWAL		---	100	---	---	---	---	---

Results in parts per billion (ppb).

- TPHg : Total petroleum hydrocarbons analyzed as gasoline.
- TPHd : Total petroleum hydrocarbons analyzed as diesel.
- ¹ : "Heavy" petroleum hydrocarbons such as waste oil, mineral spirits, jet fuel, or fuel oil.
- ² : TPH as motor oil analyses; analyst did not feel that motor oil was indicated on the chromatogram.
- ³ : Petroleum hydrocarbons quantified as diesel appear to be light hydrocarbons.
- ⁴ : Petroleum hydrocarbons quantified as diesel appear to be heavier hydrocarbons than diesel.
- < : Less than the detection limit for the specified method of analysis.
- NA : Not analyzed/Sample not collected
- (07/26/90) : BTEX and TPHg not analyzed within 14-day holding time.
-
- MCLs : Adopted Maximum Contaminant Levels in Drinking Water, DHS (October 1990)
- DWAL : Recommended Drinking Water Action Levels, DHS (October 1990)

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 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 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 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 -- Grand Avenue

Job No. 62078.01

Date: November 11, 1992

Page 1 of 1

Well No. MW-8F

Time Started 10:00

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
10:00	Start purging MW-8F			
10:00	0	59.7	7.60	2370
10:02	2	60.2	7.59	2340
10:04	4	61.5	7.58	2350
	Well Dry -- Allow to Recharge			
	6	62.1	7.58	2380
10:32	8	62.0	7.52	2370
10:34	Stop purging MW-8F			
Notes:				
	Well Diameter (inches) :	4"		
	Depth to Bottom (feet) :	14.47		
	Depth to Water - initial (feet) :	11.22		
	Depth to Water - final (feet) :	11.22		
	% recovery :	100%		
	Time Sampled :	11:55		
	Gallons per Well Casing Volume :	2.12		
	Gallons Purged :	8		
	Well Casing Volume Purged :	3.77		
	Approximate Pumping Rate (gpm) :	0.23		

WELL PURGE DATA SHEET

Project Name: Texaco -- Grand Avenue

Job No. 62078.01

Date: November 11, 1992

Page 1 of 1

Well No. MW-8H

Time Started 12:00

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
12:00	Start purging MW-8H			
12:00	0	65.6	8.43	690
12:07	7.3	67.4	8.40	650
12:14	14.6	65.5	8.35	660
	Well Dry -- Allow to Recharge			
12:44	21.9	65.4	8.41	720
12:51	29.2	65.5	8.36	680
12:51	Stop purging MW-8H			
Notes:				
	Well Diameter (inches)	:	4"	
	Depth to Bottom (feet)	:	14.80	
	Depth to Water - initial (feet)	:	3.75	
	Depth to Water - final (feet)	:	3.75	
	% recovery	:	100%	
	Time Sampled	:	2:35	
	Gallons per Well Casing Volume	:	7.21	
	Gallons Purged	:	29.2	
	Well Casing Volume Purged	:	4.05	
	Approximate Pumping Rate (gpm)	:	0.57	

WELL PURGE DATA SHEET

Project Name: Texaco -- Grand Avenue

Job No. 62078.01

Date: November 11, 1992

Page 1 of 1

Well No. MW-8I

Time Started 1:30

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
1:30	Start purging MW-8I			
1:30	0	66.9	8.18	950
1:36	5.4	68.5	8.16	990
1:42	10.8	68.4	8.15	980
	Well Dry -- Allow to Recharge			
2:12	16.2	68.0	8.12	950
2:19	21.6	68.3	8.13	980
2:19	Stop purging MW-8I			

Notes:

Well Diameter (inches) : 4"
 Depth to Bottom (feet) : 14.55
 Depth to Water - initial (feet) : 6.37
 Depth to Water - final (feet) : 6.37
 % recovery : 100%
 Time Sampled : 3:05
 Gallons per Well Casing Volume : 5.34
 Gallons Purged : 21.6
 Well Casing Volume Purged : 4.04
 Approximate Pumping Rate (gpm) : 0.44

WELL PURGE DATA SHEET

Project Name: Texaco -- Grand Avenue

Job No. 62078.01

Date: November 11, 1992

Page 1 of 1

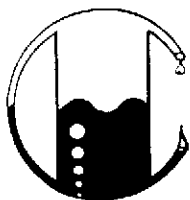
Well No. MW-8J

Time Started 11:00

TIME (hr)	GALLONS (cum.)	TEMP. (F)	pH	CONDUCT. (micromho)
11:00	Start purging MW-8J			
11:00	0	63.8	8.51	1320
11:06	6.4	66.0	8.50	1290
11:12	10.8	66.7	8.49	1290
	Well Dry -- Allow to Recharge			
11:42	16.2	66.0	8.47	1290
11:48	21.6	66.2	8.41	1290
11:48	Stop purging MW-8J			
Notes:				
	Well Diameter (inches) :	4"		
	Depth to Bottom (feet) :	14.75		
	Depth to Water - initial (feet) :	6.55		
	Depth to Water - final (feet) :	6.56		
	% recovery :	99.9%		
	Time Sampled :	1:20		
	Gallons per Well Casing Volume :	5.35		
	Gallons Purged :	21.6		
	Well Casing Volume Purged :	4.03		
	Approximate Pumping Rate (gpm) :	0.45		

APPENDIX B

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



MOBILE CHEM LABS INC.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

62078.01\1718\012271

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

Date Sampled: 11-19-92
Date Received: 11-25-92
Date Analyzed: 11-27-92

Sample Number

112371

Sample Description

Project # 62078.01
Texaco - Oakland
500 Grand Avenue
BB1 WATER

ANALYSIS

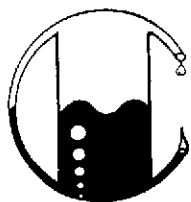
	<u>Detection Limit</u>	<u>Sample Results</u>
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected

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.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

62078.01\1718\012271

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

Date Sampled: 11-19-92
Date Received: 11-25-92
Date Analyzed: 11-27-92

Sample Number

112372

Sample Description

Project # 62078.01
Texaco - Oakland
500 Grand Avenue
MW-8F WATER

ANALYSIS

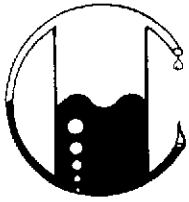
	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected

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

Date Sampled: 11-19-92
Date Received: 11-25-92
Date Analyzed: 11-27-92

Sample Number

112373

Sample Description

Project # 62078.01
Texaco - Oakland
500 Grand Avenue
MW-8J WATER

ANALYSIS

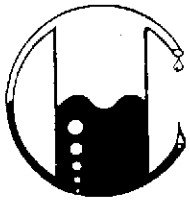
	Detection Limit ----- ppb	Sample Results ----- ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected
Spike Recovery is 78%

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



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

Date Sampled: 11-19-92
Date Received: 11-25-92
Date Analyzed: 11-27-92

Sample Number

112374

Sample Description

Project # 62078.01
Texaco - Oakland
500 Grand Avenue
MW-8H WATER

ANALYSIS

	Detection Limit	Sample Results
	-----	-----
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	130
Benzene	0.5	6.8
Toluene	0.5	<0.5
Xylenes	0.5	1.5
Ethylbenzene	0.5	1.1

QA/QC: Sample blank is none detected

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.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

62078.01\1718\012271

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

Date Sampled: 11-19-92
Date Received: 11-25-92
Date Analyzed: 11-27-92

Sample Number

112375

Sample Description

Project # 62078.01
Texaco - Oakland
500 Grand Avenue
MW-8I WATER

ANALYSIS

	Detection Limit	Sample Results
	----- ppb	----- ppb
Total Petroleum Hydrocarbons as Gasoline	50	720
Benzene	0.5	120
Toluene	0.5	1.1
Xylenes	0.5	13
Ethylbenzene	0.5	29

QA/QC: Sample blank is none detected
Duplicate Deviation is 9.0%

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

PROJECT NO. <i>470-18-01</i>		PROJECT NAME/SITE <i>TEXACO 500 Concord Ave. Oakland</i>							ANALYSIS REQUESTED										PO #				
SAMPLERS <i>John A. Chan</i> (SIGN)		(PRINT) <i>John A. Chan</i>		NO. CONTAINERS	SAMPLE TYPE	BTEX (602/8020)	TPHg (8015)	TPHg (8015)	TOG 418 (8015)	601/8010	624/8240	625/8270	REMARKS										
SAMPLE IDENTIFICATION	DATE	TIME	COMP										GRAB	PRLS USED	ICED								
<i>BBI</i>	<i>11/19/92</i>	<i>1:05</i>			<i>41</i>	<i>Y</i>	<i>2</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>		
<i>MW- 8F</i>	<i>↓</i>	<i>11:55</i>			<i>↓</i>	<i>↓</i>	<i>2</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	
<i>MW- 8I</i>	<i>↓</i>	<i>1:20</i>			<i>↓</i>	<i>↓</i>	<i>2</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	
<i>MW- 8H</i>	<i>↓</i>	<i>2:35</i>			<i>↓</i>	<i>↓</i>	<i>2</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	
<i>MW- 8I</i>	<i>↓</i>	<i>3:05</i>			<i>↓</i>	<i>↓</i>	<i>2</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	
RELINQUISHED BY: <i>John A. Chan</i>		DATE <i>11/20/92</i>	TIME <i>8:00 AM</i>	RECEIVED BY:		LABORATORY <i>Mobile Chem Labs</i>						PLEASE SEND RESULTS TO: <i>Phil Mayberry Resna - San Jose</i>											
RELINQUISHED BY:		DATE:	TIME:	RECEIVED BY:		REQUESTED TURNAROUND TIME <i>NORMAL</i>						PROJECT MANAGER <i>Dave Higgins</i>											
RELINQUISHED BY: <i>Dave Higgins</i>		DATE <i>11-25-92</i>	TIME <i>9:20</i>	RECEIVED BY LABORATORY <i>DAVE R. HIGGINS</i>		RECEIPT CONDITION																	