Texaco Refining
and Marketing Inc

108 Cutting Boulevard
Richmond CA 94804

May 10, 1993

ENV - STUDIES, SURVEYS, & REPORTS
Exxon Service Station/Former Texaco Service Station
2200 E. 12th St., Oakland CA

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

Dear Mr. Hiett:

Enclosed please find the Quarterly Groundwater Monitoring Report dated April 29, 1993 for the subject site.

If you have any questions I can be contacted at (510) 236-1770.

Best Regards,

for RR Zielinski

R. R. Zielinski
Area Supervisor
Texaco Environmental Services

RRZ:kep
2200\QTRCVR.RH

Enclosure

cc: [redacted] - Alameda County Environmental Health Department
Ms. Deborah Harris - Exxon

PR:

RESNA
Working To Restore Nature

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
2200 East 12th Street
Oakland, California

62079.01

Apr 29, 93

RESNA
Working To Restore Nature

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
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April 29, 1993
0301RZIE
62079.01

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

Subject: Results of Groundwater Monitoring and Sampling for the Fourth Quarter 1992, at the Former Texaco Station located at 2200 East 12th Street in Oakland, California.

Mr. Zielinski:

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 2200 East 12th Street in Oakland, California (Plate 1, Site Vicinity Map) for the fourth quarter 1992 (October through December 1992). On November 16, 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 7 of the monitoring wells (MW-9A, MW-9B, MW-9C, MW-9D, MW-9F, MW-9G, and MW-9I) sampled at this site. Well MW-9H was not sampled due to road work in progress. RESNA's groundwater sampling protocol and well purge data sheets are included in Appendix A. Laboratory analyses with chain of custody documentation are included in Appendix B.

WORK PERFORMED

GROUNDWATER MONITORING

Groundwater elevations at the site have increased an average of about 0.3 feet from the elevations reported the previous quarter. The Groundwater Gradient Map (Plate 2) shows the groundwater beneath the site to be flowing towards the northwest with a hydraulic gradient of approximately 0.01 (Plate 2, Groundwater Gradient Map). 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 (BTEX), and total petroleum hydrocarbons as gasoline (TPHg) using modified Environmental Protection Agency (EPA) Methods 5030/602. The Chain of Custody Record and Laboratory Analysis reports are included in Appendix B.

GROUNDWATER ANALYTICAL RESULTS

Concentrations of TPHg in groundwater samples ranged from less than 50 parts per billion (ppb) (below the method detection limit [MDL]) to 200 ppb (MW-9B). Dissolved benzene concentrations ranged from less than 0.5 ppb (below the MDL) to 33 ppb (MW-9B). Neither floating 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 Samples. Copies of the laboratory analyses reports and the chain of custody manifest are included in Appendix B.

PURGE WATER DISPOSAL

On January 5, 1993, approximately 110 gallons of purge water generated during purging and sampling of the 5 monitoring wells were transported to Gibson Environmental in Redwood City, California for disposal.

RESNA
Working to Restore Nature

Fourth Quarter 1992 Quarterly Report — April 29, 1993
2200 East 12th Street, Oakland, California. — 62079.01

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

Sincerely,
RESNA Industries Inc.

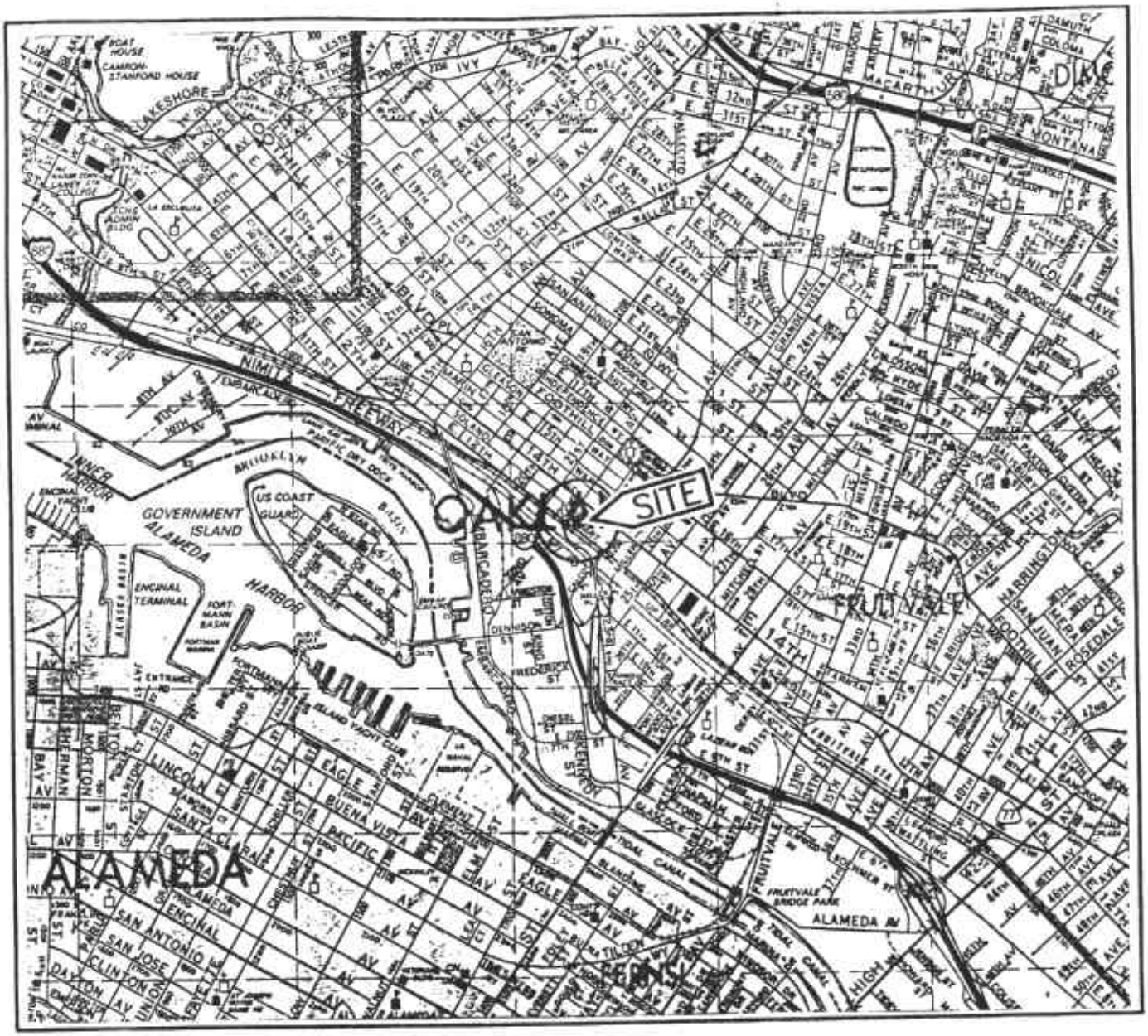
Mary E. Rysdale
Geologic Technician

REGISTERED GEOLOGIST
JAMES LEWIS NELSON
No. 1463
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

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

N

LEGEND

⊙ = Site Location

Approximate Scale

2200 1100 0 2200 4400

feet

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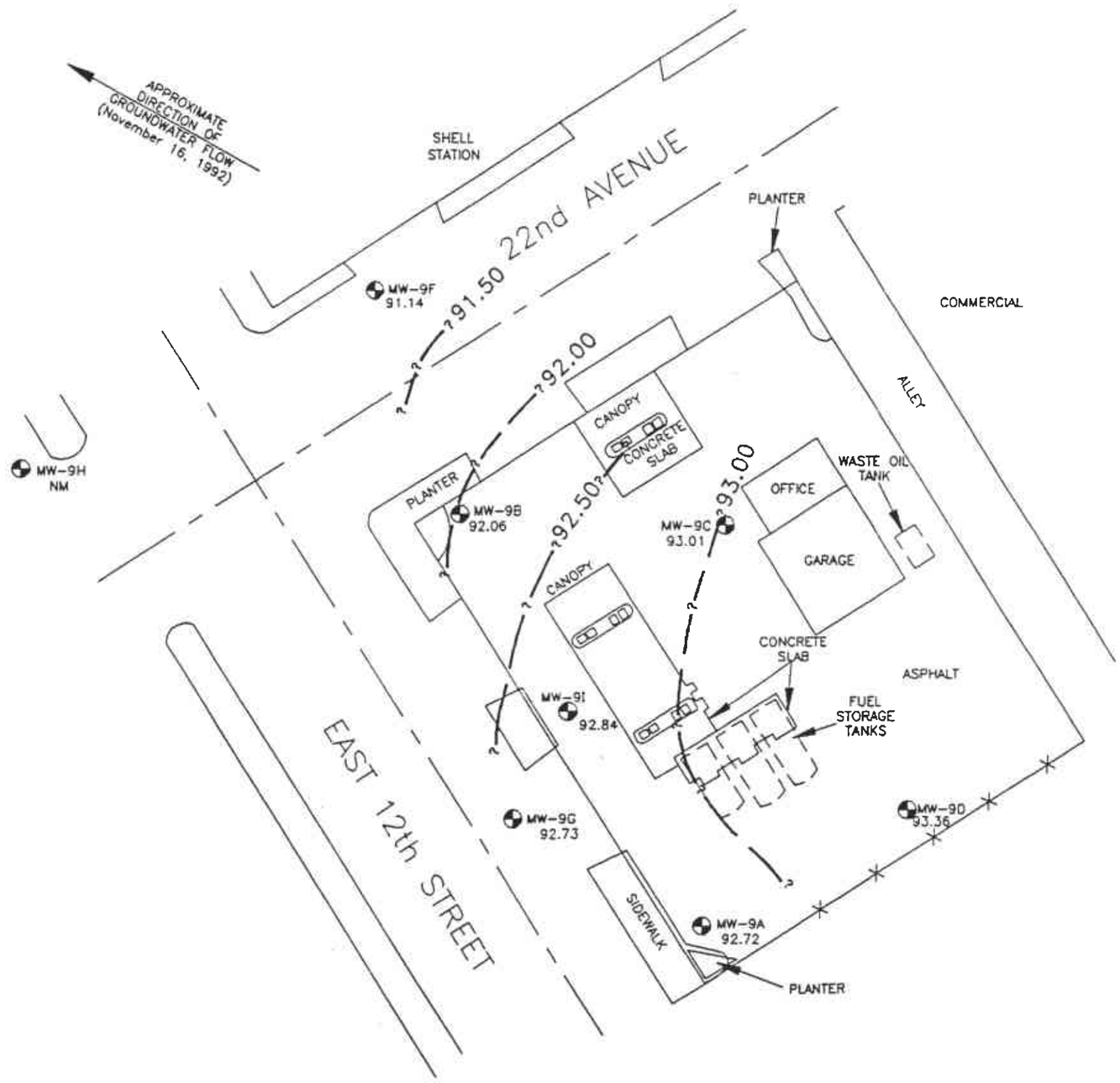
PROJECT 62079.01

SITE VICINITY MAP
Former Texaco Station
2200 East 12th Street
Oakland, California

PLATE
1



EXPLANATION

MW-9I = Monitoring well (1988)

93.00 = Line of equal elevation of groundwater in feet relative to an arbitrary benchmark

33.36 = Elevation of groundwater in feet relative to an arbitrary benchmark, November 16, 1992

NM = Not monitored

N

Approximate Scale

30 15 0 30 60

feet

Source: Modified from site plan provided by Harding Lawson Associates, dated July 20, 1992.

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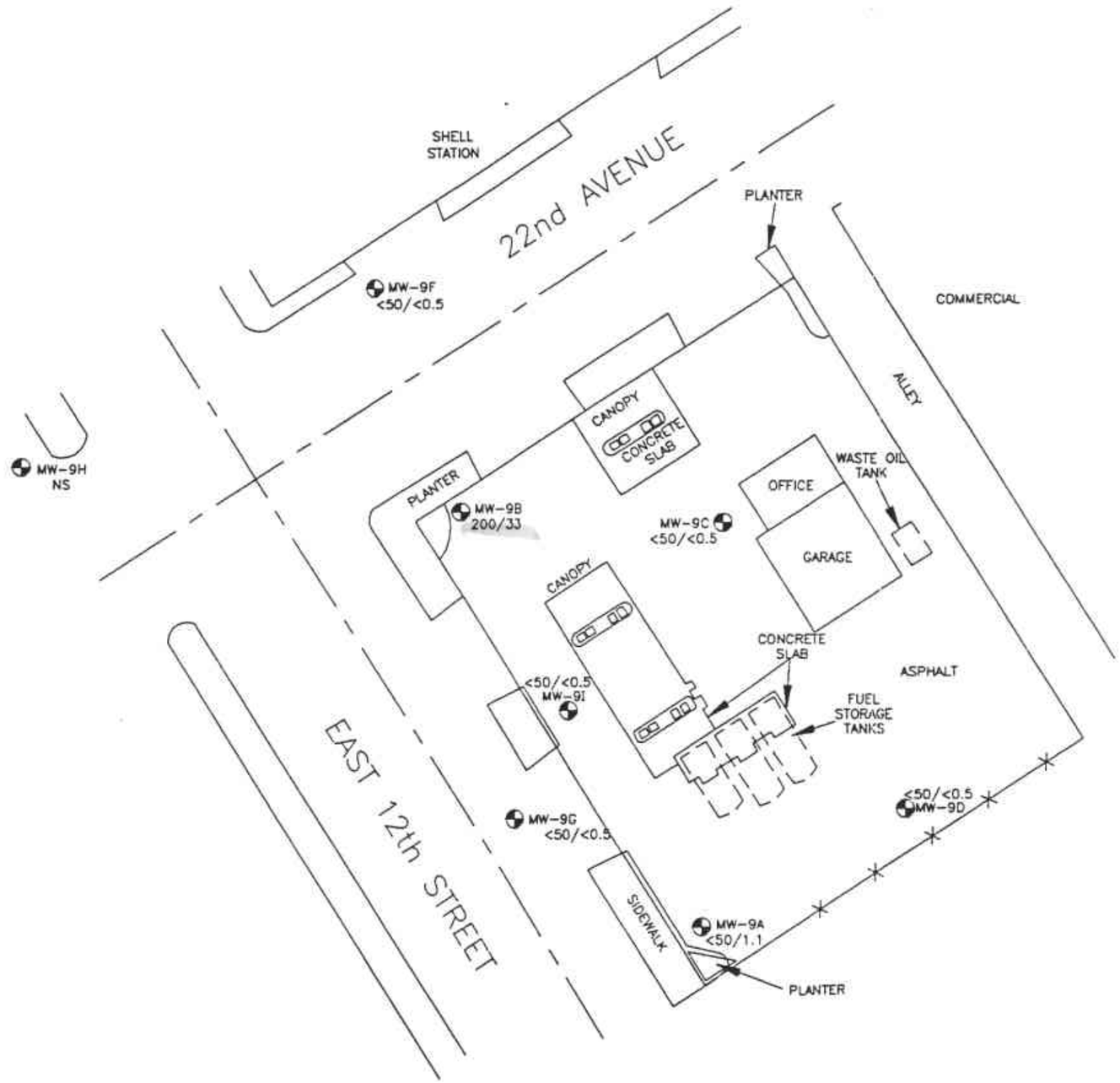
GROUNDWATER GRADIENT MAP
Former Texaco Station
2200 East 12th Street
Oakland, California

PLATE
2



EXPLANATION

MW-9I = Monitoring well (1988)

200/33 = Concentration of TPHg/benzene in groundwater in parts per billion, November 16, 1992

NS = Not sampled

N

Approximate Scale

30 15 0 30 60

feet

Source: Modified from site plan provided by Harding Lawson Associates, dated July 20, 1992.

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PROJECT 62079.01 62079104

TPHg/BENZENE CONCENTRATION IN GROUNDWATER
Former Texaco Station
2200 East 12th Street
Oakland, California

PLATE
3

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Station
2200 East 12th Street
Oakland, California
(Page 1 of 3)

Well	Date	Wellhead Elevation*	Depth to Water	Groundwater Elevation*
MW-9A				
HLA	10/12/89	100.07	7.25	92.82
	09/20/90		NA	NA
	10/19/90		7.23	92.84
	01/11/91		6.96	93.11
	04/30/91		6.74	93.33
	07/29/91		7.22	92.85
	10/25/91		7.49	92.58
	02/05/92		6.93	93.14
	05/05/92		6.95	93.12
RESNA	09/14/92		7.65	92.42
	11/16/92		7.35	92.72
MW-9B				
HLA	10/12/89	98.41	6.14	92.27
	09/20/90		6.28	92.13
	10/19/90		6.21	92.20
	01/11/91		6.21	92.20
	04/30/91		5.74	92.67
	07/29/91		6.23	92.18
	10/25/91		6.42	91.99
	02/05/92		5.95	92.46
	05/05/92		5.92	92.49
RESNA	09/14/92		6.60	91.81
	11/16/92		6.35	92.06
MW-9C				
HLA	10/12/89	99.73	6.99	92.74
	09/20/90		NA	NA
	10/19/90		6.96	92.77
	01/11/91		6.60	93.13
	04/30/91		6.32	93.41
	07/29/91		6.92	92.81
	10/25/91		7.13	92.60
	02/05/92		6.44	93.29
	05/05/92		6.50	93.23
RESNA	09/14/92		7.00	92.73
	11/16/92		6.72	93.01

See notes on page 3 of 3.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Station
2200 East 12th Street
Oakland, California
(Page 2 of 3)

Well	Date	Wellhead Elevation*	Depth to Water	Groundwater Elevation*
MW-9D				
HLA	10/12/89	101.46	8.40	93.06
	09/20/90		8.47	92.99
	10/19/90		8.43	93.03
	01/11/91		7.97	93.49
	04/30/91			Well Inaccessible
	07/29/91		8.35	93.11
	10/25/91		8.54	92.92
	02/05/92		7.78	93.68
	05/05/92		7.90	93.56
RESNA	09/14/92		8.45	93.01
	11/16/92		8.10	93.36
MW-9E				
HLA	10/12/89	98.41	5.70	92.71
	09/20/90		5.84	92.57
	10/19/90		5.78	92.63
	11/02/90			Well Abandoned
MW-9F				
HLA	10/12/89	96.96	6.07	90.89
	09/20/90		5.97	90.99
	10/19/90		5.94	91.02
	01/11/91		5.72	91.24
	04/30/91		5.74	91.22
	07/29/91		6.02	90.94
	10/25/91		6.11	90.85
	02/05/92		5.81	91.15
	05/05/92		5.86	91.10
RESNA	09/14/92			Not Measured
	11/16/92		5.82	91.14
MW-9G				
HLA	10/12/89	98.51	6.01	92.50
	09/20/90		6.03	92.48
	10/19/90		5.92	92.59

See notes on page 3 of 3.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Station
2200 East 12th Street
Oakland, California
(Page 3 of 3)

Well	Date	Wellhead Elevation*	Depth to Water	Groundwater Elevation*
MW-9G Cont'd				
	01/11/91		5.72	92.79
	04/30/91		5.74	93.04
	07/29/91		5.97	92.54
	10/25/91		6.16	92.35
	02/05/92		5.59	92.92
	05/05/92		5.60	92.91
RESNA	09/14/92			Not Measured
	11/16/92		5.78	92.73
MW-9H				
HLA	10/12/89	97.14	8.35	88.79
	09/20/90		8.25	88.89
	10/19/90		8.17	88.97
	01/11/91		7.55	89.59
	04/30/91		8.02	89.12
	07/29/91		8.22	88.92
	10/25/91		8.25	88.89
	02/05/92		7.70	89.44
	05/05/92		8.12	89.02
RESNA	09/14/92			Not Measured
	11/16/92			Not Measured
MW-9I				
HLA	11/15/90	98.66	6.01	92.65
	01/11/91		5.80	92.86
	04/30/91		5.45	93.21
	07/29/91		6.07	92.59
	10/25/91		6.23	92.43
	02/05/92		5.56	93.10
	05/05/92		5.60	93.06
RESNA	09/14/92		6.12	92.54
	11/16/92		5.82	92.84

Measurements in feet.
* : Elevation relative to temporary benchmark with an arbitrary elevation of 100.0 feet.
HLA : Harding Lawson Associates
RESNA : RESNA Industries Inc.
RESNA presumes all wells are in the same hydrostratagraphic unit.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Station
2200 East 12th Street
Oakland, California
(Page 1 of 4)

Well	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-9A						
HLA	06/13/88	<0.5	<1.0	<2.0	<1.0	NA
	10/24/88	<0.5	<1.0	<2.0	<1.0	NA
	10/13/89	<0.5	<0.5	<0.5	<3.0	NA
	10/19/90	<0.5	<0.5	<0.5	<0.5	<50
	01/11/91	<0.5	<0.5	<0.5	<0.5	<50
	04/30/91	<0.5	<0.5	<0.5	<0.5	<50
	07/29/91	<0.5	<0.5	<0.5	<0.5	<50
	10/25/91	<0.5	<0.5	<0.5	<0.5	<50
	02/05/92	1.1	1.8	0.6	1.3	<50
	05/05/92	<0.5	<0.5	<0.5	<0.5	<50
RESNA	09/14/92	<0.5	<0.5	<0.5	<0.5	<50
	11/16/92	1.1	<0.5	<0.5	<0.5	<50
MW-9B						
HLA	06/13/88	350	7.8	66	160	NA
	10/24/88	84	<1.0	3.1	3.2	NA
	10/13/89	4.1	<0.5	<0.5	<3.0	NA
	10/19/90	27	<0.5	2.3	<0.5	62
	01/11/91	4.3	<0.5	1.1	1.0	100
	04/30/91	68	1.0	3.9	<0.5	170
	07/29/91	1.6	<0.5	<0.5	<0.5	100
	10/25/91	1.2	<0.5	<0.5	<0.5	<50
	02/05/92	14	<0.5	2.9	2.5	60
	05/05/92	180	2.4	8.4	2.2	620
RESNA	09/14/92	9.6	<0.5	<0.5	<0.5	110
	11/16/92	33	<0.5	4.2	1.4	200
MW-9C						
HLA	06/13/88	<0.5	<1.0	<2.0	<1.0	NA
	10/28/88	<0.5	<1.0	<2.0	<1.0	NA
	10/13/89	<0.5	<0.5	<0.5	<3.0	NA
	10/19/90	<0.5	<0.5	<0.5	<0.5	<50
	01/11/91	<0.5	<0.5	<0.5	<0.5	<50
	04/30/91	100	1.6	<0.5	<0.5	240
	07/29/91	<0.5	<0.5	<0.5	<0.5	<50
	10/25/91	<0.5	<0.5	<0.5	<0.5	<50
	02/05/92	<0.5	<0.5	<0.5	<0.5	<50
	05/05/92	<0.5	<0.5	<0.5	<0.5	<50
RESNA	09/14/92	<0.5	<0.5	<0.5	<0.5	<50
	11/16/92	<0.5	<0.5	<0.5	<0.5	<50

See notes on page 4 of 4.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Station
2200 East 12th Street
Oakland, California
(Page 2 of 4)

Well	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-9D						
HLA	10/24/88	<0.5	<1.0	<2.0	<1.0	NA
	10/13/89	<0.5	<0.5	<0.5	<3.0	NA
	10/19/90	<0.5	<0.5	<0.5	<0.5	<50
	01/11/91	<0.5	<0.5	<0.5	<0.5	<50
	04/30/91	<0.5	<0.5	<0.5	<0.5	<50
	07/29/91	<0.5	<0.5	<0.5	<0.5	<50
	10/25/91	<0.5	<0.5	<0.5	<0.5	<50
	02/05/92	<0.5	<0.5	<0.5	<0.5	<50
	05/05/92	<0.5	<0.5	<0.5	<0.5	<50
RESNA	09/14/92	<0.5	<0.5	<0.5	<0.5	<50
	11/16/92	<0.5	<0.5	<0.5	<0.5	<50
MW-9E						
HLA	10/24/88	1.3	<1.0	<2.0	<1.0	NA
	10/13/89	15	<0.5	2.1	<3.0	NA
	10/19/90	4.0	<0.5	0.9	<0.5	<50
	11/02/90	Well Abandoned				
MW-9F						
HLA	12/06/88	<0.5	<1.0	<2.0	<1.0	NA
	10/13/89	<0.5	<0.5	<0.5	<3.0	NA
	10/19/90	<0.5	<0.5	<0.5	<0.5	<50
	01/11/91	<0.5	<0.5	<0.5	<0.5	<50
	04/30/91	<0.5	<0.5	<0.5	<0.5	<50
	07/29/91	<0.5	<0.5	<0.5	<0.5	<50
	10/25/91	1.1	<0.5	<0.5	<0.5	<50
	02/05/92	<0.5	<0.5	<0.5	<0.5	<50
	05/05/92	<0.5	<0.5	<0.5	<0.5	<50
RESNA	09/14/92	Not Sampled				
	11/16/92	<0.5	<0.5	<0.5	<0.5	<50
MW-9G						
HLA	12/06/88	0.8	<1.0	<2.0	<1.0	NA
	10/13/89	<0.5	<0.5	<0.5	<3.0	NA
	10/19/90	<0.5	<0.5	<0.5	<0.5	<50
	01/11/91	<0.5	<0.5	<0.5	<0.5	<50
	04/30/91	<0.5	<0.5	<0.5	<0.5	<50
	07/29/91	<0.5	<0.5	<0.5	<0.5	<50
	10/25/91	<0.5	<0.5	<0.5	<0.5	<50
	02/05/92	<0.5	<0.5	<0.5	<0.5	<50

See notes on page 4 of 4.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Station
2200 East 12th Street
Oakland, California
(Page 3 of 4)

Well	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-9G Cont'd						
	05/05/92	1.5	3.8	1.0	4.7	<50
RESNA	09/14/92			Not Sampled		
	11/16/92	<0.5	<0.5	<0.5	<0.5	<50
MW-9H						
HLA	12/06/88	<0.5	<1.0	<2.0	<1.0	NA
	10/13/89	<0.5	<0.5	<0.5	<3.0	NA
	10/19/90	<0.5	<0.5	<0.5	<0.5	<50
	01/11/91	<0.5	<0.5	<0.5	<0.5	<50
	04/30/91	<0.5	<0.5	<0.5	0.5	<50
	07/29/91	<0.5	<0.5	<0.5	<0.5	<50
	10/25/91	<0.5	<0.5	<0.5	<0.5	<50
	02/05/92	<0.5	<0.5	<0.5	<0.5	<50
	05/05/92	<0.5	<0.5	<0.5	<0.5	<50
RESNA	09/14/92			Not Sampled		
	11/16/92			Not Sampled		
MW-9I						
HLA	11/15/90	4.0	1.2	1.1	2.2	55
	01/11/91	6.1	<0.5	<0.5	<0.5	<50
	04/30/91	100	3.5	4.2	4.4	460
	07/29/91	<0.5	<0.5	<0.5	<0.5	150
	10/25/91	<0.5	<0.5	<0.5	<0.5	<50
	02/05/92	<0.5	<0.5	<0.5	<0.5	<50
	05/05/92	0.9	<0.5	<0.5	0.7	<50
RESNA	09/14/92	<0.5	<0.5	<0.5	<0.5	<50
	11/16/92	<0.5	<0.5	<0.5	<0.5	<50
MCLs		1.0	—	680	1,750	—
DWAL		—	100	—	—	—

See notes on page 4 of 4.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
Former Texaco Station
2200 East 12th Street
Oakland, California
(Page 4 of 4)

Results in parts per billion (ppb).

TPHg	:	Total petroleum hydrocarbons analyzed as gasoline.
NA	:	Not Analyzed
<	:	This symbol means "less than"
MCLs	:	Adopted Maximum Contaminant Levels in Drinking Water, DHS (October 1990)
DWAL	:	Recommended Drinking Water Action Levels, DHS (October 1990)
HLA	:	Harding Lawson Associates
RESNA	:	RESNA Industries Inc.

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 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 triple washed with Alconox® and triple rinsed with distilled water prior to 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 three to 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 or Teflon® 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.

RESNA
Working to Restore Nature

WELL PURGE DATA SHEET

Project Name: Texaco - 12th Street **Job No.** 62079.01

Date: November 16, 1992 **Page** 1 **of** 1

Well No. MW-9A **Time Started** 2:15

TIME (hr)	GALLONS (cum.)	TEMP. (°F)	pH	CONDUCT. (micromho)
2:15	Start purging MW-9A			
2:15	0	68.7	7.76	590
2:17	1.7	68.7	7.76	560
2:19	3.4	68.7	7.73	560
2:27	5.1	68.8	7.74	560
2:29	6.8	68.7	7.73	560
2:30	Stop purging MW-9A			

Notes:

Well Diameter (inches) :	2
Depth to Bottom (feet) :	17.52
Depth to Water - initial (feet) :	7.35
Depth to Water - final (feet) :	7.35
% recovery :	100%
Time Sampled :	3:40
Gallons per Well Casing Volume :	1.7
Gallons Purged :	6.8
Well Casing Volume Purged :	4
Approximate Pumping Rate (gpm) :	1

RESNA
Working to Restore Nature

WELL PURGE DATA SHEET

Project Name: Texaco - 12th Street Job No. 62079.01

Date: November 16, 1992 Page 1 of 1

Well No. MW-9B Time Started 3:10

TIME (hr)	GALLONS (cum.)	TEMP. (°F)	pH	CONDUCT. (micromho)
3:10	Start purging MW-9B			
3:10	0	69.1	7.65	630
3:12	1.9	69.6	7.64	690
3:14	3.8	69.6	7.55	690
3:22	5.7	69.8	7.53	720
3:24	7.6	69.8	7.53	710
3:25	Stop purging MW-9B			

Notes:

Well Diameter (inches) :	2
Depth to Bottom (feet) :	17.55
Depth to Water - initial (feet) :	6.35
Depth to Water - final (feet) :	6.35
% recovery :	100%
Time Sampled :	4:05
Gallons per Well Casing Volume :	1.9
Gallons Purged :	7.6
Well Casing Volume Purged :	4
Approximate Pumping Rate (gpm) :	1

RESNA
Working to Restore Nature

WELL PURGE DATA SHEET

Project Name: Texaco - 12th Street **Job No.** 62079.01

Date: November 16, 1992 **Page** 1 **of** 1

Well No. MW-9C **Time Started** 10:10

TIME (hr)	GALLONS (cum.)	TEMP. (°F)	pH	CONDUCT. (micromho)
10:10	Start purging MW-9C			
10:10	0	71.0	7.74	720
10:12	1.6	71.1	7.75	740
10:14	3.2	71.0	7.74	730
10:22	4.8	71.2	7.73	740
10:24	6.4	71.1	7.74	730
10:25	Stop purging MW-9C			

Notes:

Well Diameter (inches) :	2
Depth to Bottom (feet) :	16.15
Depth to Water - initial (feet) :	6.72
Depth to Water - final (feet) :	6.72
% recovery :	100%
Time Sampled :	11:50
Gallons per Well Casing Volume :	1.6
Gallons Purged :	6.4
Well Casing Volume Purged :	4
Approximate Pumping Rate (gpm) :	1

RESNA
Working to Restore Nature

WELL PURGE DATA SHEET

Project Name: Texaco - 12th Street **Job No.** 62079.01

Date: November 16, 1992 **Page** 1 **of** 1

Well No. MW-9D **Time Started** 9:30

TIME (hr)	GALLONS (cum.)	TEMP. (°F)	pH	CONDUCT. (micromho)
9:30	Start purging MW-9D			
9:30	0	68.5	8.10	550
9:34	4.3	68.6	8.09	570
9:38	8.6	68.6	8.07	600
9:46	12.9	68.8	8.04	610
9:50	17.2	68.7	8.04	610
9:51	Stop purging MW-9D			

Notes:

Well Diameter (inches) :	4
Depth to Bottom (feet) :	14.70
Depth to Water - initial (feet) :	8.10
Depth to Water - final (feet) :	8.10
% recovery :	100%
Time Sampled :	10:50
Gallons per Well Casing Volume :	4.3
Gallons Purged :	17.2
Well Casing Volume Purged :	4
Approximate Pumping Rate (gpm) :	1

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Working to Restore Nature

WELL PURGE DATA SHEET

Project Name: Texaco - 12th Street — Job No. 62079.01

Date: November 16, 1992 — Page 1 of 1

Well No. MW-9F — Time Started 1:30

TIME (hr)	GALLONS (cum.)	TEMP. (°F)	pH	CONDUCT. (micromho)
1:30	Start purging MW-9F			
1:30	0	69.7	7.67	620
1:35	5.2	70.1	7.64	620
1:40	10.4	70.5	7.61	630
1:45	15.6	70.6	7.61	630
1:50	20.8	70.7	7.61	630
1:51	Stop purging MW-9F			

Notes:

Well Diameter (inches) :	4
Depth to Bottom (feet) :	13.75
Depth to Water - initial (feet) :	5.82
Depth to Water - final (feet) :	5.82
% recovery :	100%
Time Sampled :	2:50
Gallons per Well Casing Volume :	5.2
Gallons Purged :	20.8
Well Casing Volume Purged :	4
Approximate Pumping Rate (gpm) :	1

RESNA
Working to Restore Nature

WELL PURGE DATA SHEET

Project Name: Texaco - 12th Street Job No. 62079.01

Date: November 16, 1992 Page 1 of 1

Well No. MW-9G Time Started 12:30

TIME (hr)	GALLONS (cum.)	TEMP. (°F)	pH	CONDUCT. (micromho)
12:30	Start purging MW-9G			
12:30	0	67.8	7.64	530
12:35	5.4	67.6	7.60	530
12:40	10.8	68.0	7.58	530
12:45	16.2	68.3	7.58	530
12:50	21.6	68.3	7.58	530
12:51	Stop purging MW-9G			

Notes:

Well Diameter (inches) :	4
Depth to Bottom (feet) :	13.95
Depth to Water - initial (feet) :	5.78
Depth to Water - final (feet) :	5.78
% recovery :	100%
Time Sampled :	2:05
Gallons per Well Casing Volume :	5.4
Gallons Purged :	21.6
Well Casing Volume Purged :	4
Approximate Pumping Rate (gpm) :	1

RESNA
Working to Restore Nature

WELL PURGE DATA SHEET

Project Name: Texaco - 12th Street **Job No.** 62079.01

Date: November 16, 1992 **Page** 1 **of** 1

Well No. MW-9I **Time Started** 11:15

TIME (hr)	GALLONS (cum.)	TEMP. (°F)	pH	CONDUCT. (micromho)
11:15	Start purging MW-9I			
11:15	0	71.1	7.61	1180
11:20	5.3	71.4	7.57	1190
11:25	10.6	71.4	7.48	1140
11:35	15.9	71.6	7.48	1160
11:40	21.2	71.5	7.47	1160
11:41	Stop purging MW-9I			

Notes:

Well Diameter (inches) :	4
Depth to Bottom (feet) :	13.90
Depth to Water - initial (feet) :	5.82
Depth to Water - final (feet) :	5.82
% recovery :	100%
Time Sampled :	1:10
Gallons per Well Casing Volume :	5.3
Gallons Purged :	21.2
Well Casing Volume Purged :	4
Approximate Pumping Rate (gpm) :	1

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

RECEIVED
NOV 30 1992
RESNA
SAN JOSE

62079.01\1718\012263

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

Date Sampled: 11-16-92
Date Received: 11-17-92
Date Analyzed: 11-23-92

Sample Number	Sample Description
112242	Project # 62079.01 Texaco - Oakland 2200 E. 12th BB1 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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Phone (415) 372-3700 • Fax (415) 372-6955

62079.01\1718\012263

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

Date Sampled: 11-16-92
Date Received: 11-17-92
Date Analyzed: 11-23-92

Sample Number	Sample Description
112243	Project # 62079.01 Texaco - Oakland 2200 E. 12th MW-9D 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
Spike Recovery is 98%

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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Lab Director

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

Date Sampled: 11-16-92
Date Received: 11-17-92
Date Analyzed: 11-23-92

Sample Number	Sample Description
112244	Project # 62079.01 Texaco - Oakland 2200 E. 12th MW-9C 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)

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Lab Director

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

Date Sampled: 11-16-92
Date Received: 11-17-92
Date Analyzed: 11-23-92

Sample Number	Sample Description
112245	Project # 62079.01 Texaco - Oakland 2200 E. 12th MW-9I 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)

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Lab Director

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

Date Sampled: 11-16-92
Date Received: 11-17-92
Date Analyzed: 11-23-92

Sample Number	Sample Description
112246	Project # 62079.01 Texaco - Oakland 2200 E. 12th MW-9G 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)

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Ronald G. Evans
Lab Director

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

Date Sampled: 11-16-92
Date Received: 11-17-92
Date Analyzed: 11-23-92

Sample Number	Sample Description
112247	Project # 62079.01 Texaco - Oakland 2200 E. 12th MW-9F 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)

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Ronald G. Evans
Lab Director

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

Date Sampled: 11-16-92
Date Received: 11-17-92
Date Analyzed: 11-23-92

Sample Number	Sample Description
112248	Project # 62079.01 Texaco - Oakland 2200 E. 12th MW-9A WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	1.1
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

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62079.01\1718\012263

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

Date Sampled: 11-16-92
Date Received: 11-17-92
Date Analyzed: 11-23-92

Sample Number	Sample Description
112249	Project # 62079.01 Texaco - Oakland 2200 E. 12th MW-9B WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	200
Benzene	0.5	33
Toluene	0.5	<0.5
Xylenes	0.5	1.4
Ethylbenzene	0.5	4.2

QA/QC: Sample blank is none detected
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

TESNA

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO.	PROJECT NAME/SITE	P.O. #:
62079.01	Texaco 2200 E 12th Oakland	

SAMPLERS (SIGN) Robin A Adair / (PRINT) Robin A Adair

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	DATE	TIME	COMP	GRAB	PRES. USED	ICED	NO. CONTAINERS	SAMPLE TYPE	BTEX (602/8020)	TPHg (8015)	TPHd (8015)	TOG 418.1/5520	601/8010	624/8240	625/8270					REMARKS
BB1	11/16/92	[illegible]			HCl	Y	2		✓	✓										
MW-9D	|	10:50			|	|	2	|	✓	✓										
MW-9G	|	11:50			|	|	2	|	✓	✓										
MW-9E	|	1:10			|	|	2	|	✓	✓										
MW-9C	|	2:05			|	|	2	|	✓	✓										
MW-9F	|	2:50			|	|	2	H2O	✓	✓										
MW-9A	|	3:10			|	|	2	|	✓	✓										
MW-9B	↓	4:05			↓	↓	2	|		✓										

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	LABORATORY:	PLEASE SEND RESULTS TO:
Robin A Adair	11/17/92	9:00AM		Mobile Chem Labs	Phil Mayberry Resna San Jose
RELINQUISHED BY: Robin Bonkan	11/17/92	10:30	RECEIVED BY:		
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REQUESTED TURNAROUND TIME: Normal	
RELINQUISHED BY	11-17-92	10:30	RECEIVED BY LABORATORY: Dave R Levine	RECEIPT CONDITION	PROJECT MANAGER: Tom Higgins