Texaco Refining
and Marketing Inc

108 Cutting Boulevard
Richmond CA 94804

March 30, 1993

ENV - STUDIES, SURVEYS & REPORTS
Quarterly Technical Report
2200 E. 12th St., Oakland, CA

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

Dear Mr. Hiett:

Enclosed is a copy of our Quarterly Technical Report for our former Texaco Service Station located at 2200 East 12th Street in Oakland, California.

Please call me at (510) 236-1770 if you have any questions.

Best Regards,

R.R. Zielinski
Area Supervisor

RRZ:kep

Enclosure

cc: Mr. Barney Chan
Alameda County Environmental
Health Department
80 Swan Way, Room 200
Oakland, CA 94621

pr: Kep

HR/P

2200CVR.RH

RESNA
Working To Restore Nature

3315 Almaden Expressway, Suite 34
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Phone: (408) 264-7723
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# LETTER REPORT
# QUARTERLY GROUNDWATER MONITORING
## Third Quarter 1992
## at
## Former Texaco Station
## 2200 East 12th Street
## Oakland, California

62079.01 STID 345

3/9/93

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3315 Almaden Expressway, Suite 34
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March 9, 1993
1130RZIE
62079.01

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

Subject: Results of Groundwater Monitoring and Sampling for the Third 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 third quarter 1992 (July through September 1992). On September 14, 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 5 of the monitoring wells (MW-9A, MW-9B, MW-9C, MW-9D, and MW-9I) associated with this site. Wells MW-9F, MW-9G, and MW-9H were not sampled because of traffic hazards. 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 decreased an average of about 0.6 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 110 ppb (MW-9B). Dissolved benzene concentrations ranged from less than 0.5 ppb (below the MDL) to 9.6 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 November 16, 1992, 80 gallons of purge water generated during purging and sampling of the 5 monitoring wells was transported to Gibson Environmental in Redwood City, California for disposal.

Third Quarter 1992 Quarterly Report
2200 East 12th Street, Oakland, California.

March 9, 1993
62079.01

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

Sincerely,
RESNA Industries Inc.

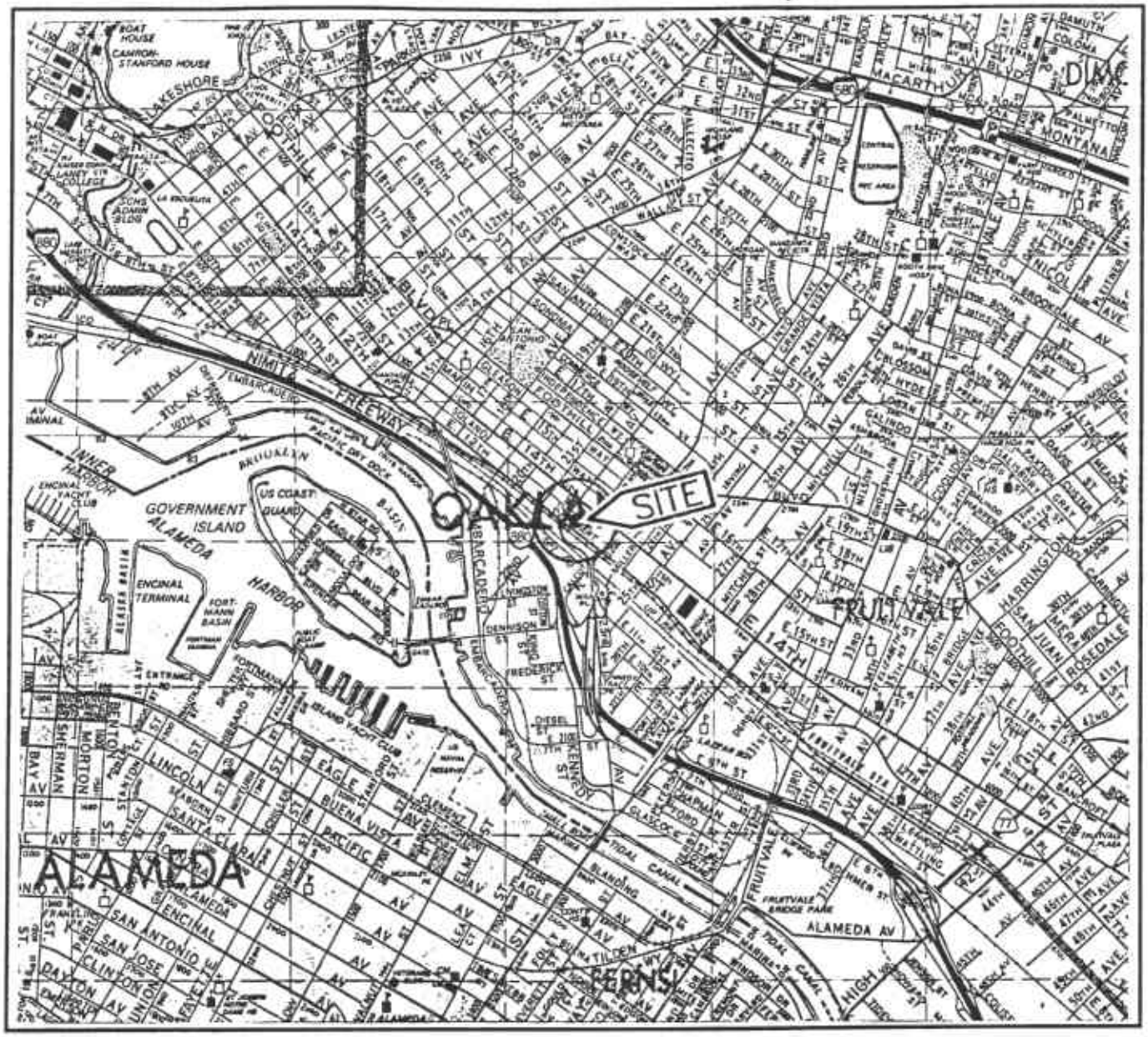
Jeanne Buckthal
Geologic Technician

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

LEGEND

⊙ = Site Location

Approximate Scale

2200 1100 0 2200 4400

feet

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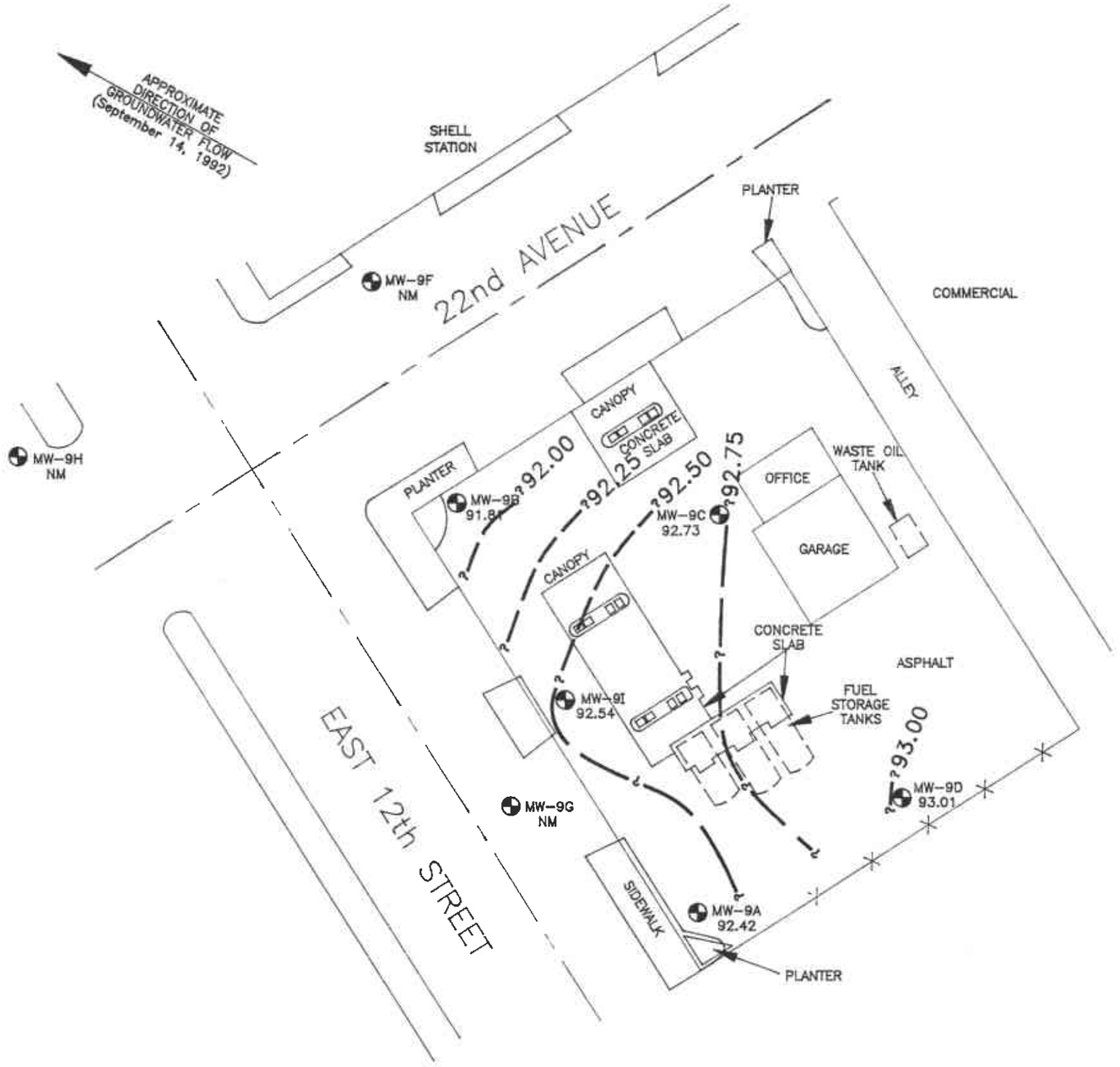
**SITE VICINITY MAP**
**Former Texaco Station**
**2200 East 12th Street**
**Oakland, California**

**PLATE**
**1**




EXPLANATION

MW-9I = Monitoring well (1988)

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

93.01 = Elevation of groundwater in feet relative to an arbitrary benchmark, September 14, 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, 1982.

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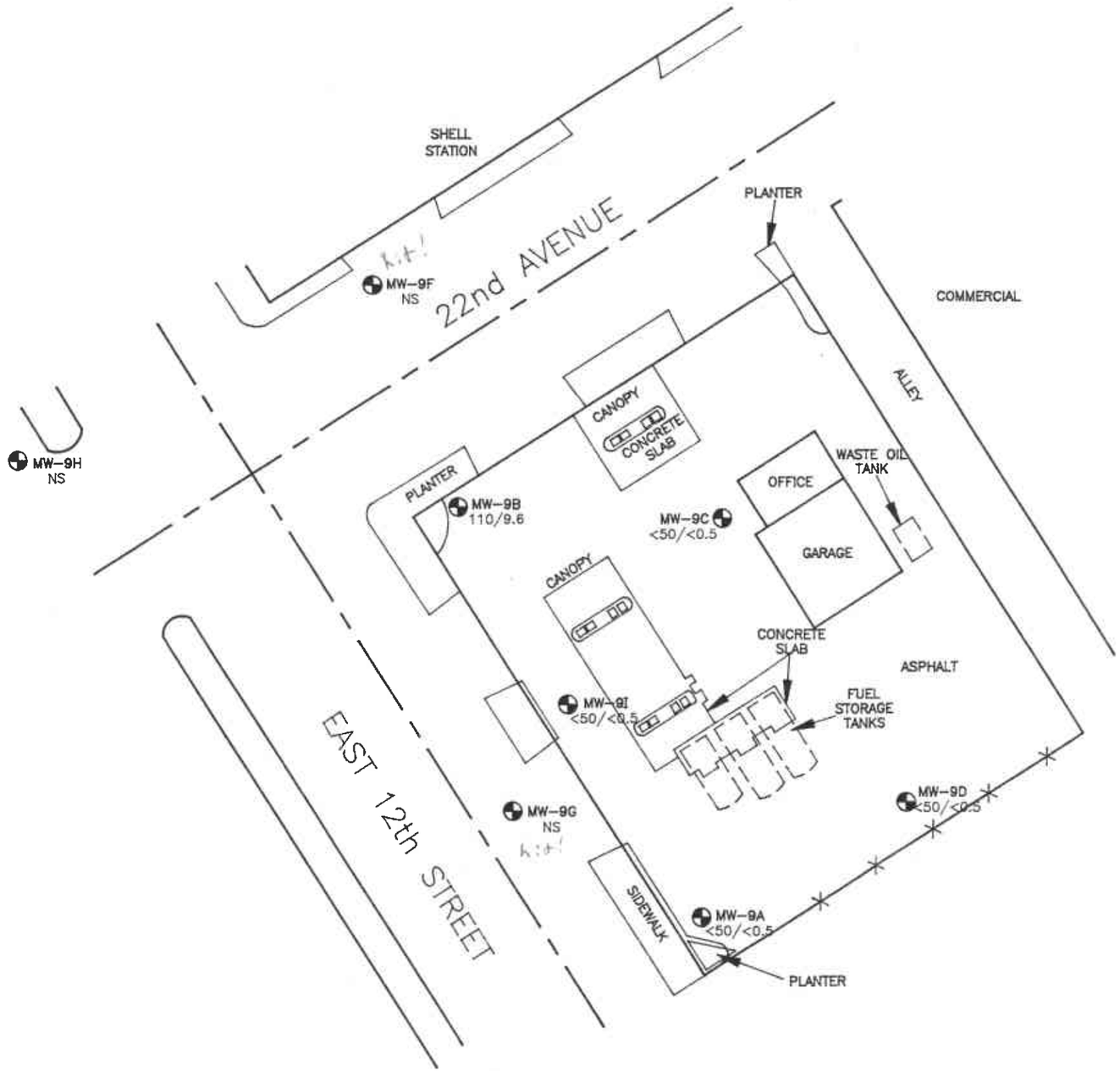
**GROUNDWATER GRADIENT MAP**
**Former Texaco Station**
**2200 East 12th Street**
**Oakland, California**

**PLATE**
**2**




EXPLANATION

MW-9I ⊕ = Monitoring well (1988)

110/9.6 = Concentration of TPHg/benzene in groundwater in parts per billion, September 14, 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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**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 |
| 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 |
| 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 |
| 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 |

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 Con't | | | | |
| | 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 |
| 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 | |
| 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 |
| | 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 | |
| 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 |

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-9H Con't | | | | |
| | 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 | |
| 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 |

Measurements in feet.
* : Elevation relative to temporary benchmark with an arbitrary elevation of 100.0 feet.
HLA : Harding Lawson Associates

**TABLE 2**
**CUMULATIVE RESULTS OF LABORATORY ANALYSES**
**OF GROUNDWATER SAMPLES**
**Former Texaco Station**
**2200 East 12th Street**
**Oakland, California**
**(Page 1 of 3)**

| 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 |
| 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 |
| 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 |

See notes on page 3 of 3.

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

| 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 |
| 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 | | | | |
| 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 |
| | 05/05/92 | 1.5 | 3.8 | 1.0 | 4.7 | <50 |
| RESNA | 09/14/92 | Not Sampled | | | | |

See notes on page 3 of 3.

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

| Well | Date | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHg |
|---|---|---|---|---|---|---|
| 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 | | |
| 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 |
| MCLs | | 1.0 | — | 680 | 1,750 | — |
| DWAL | | — | 100 | — | — | — |

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

# 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: September 14, 1992  Page 1 of 1

Well No. MW-9A  Time Started 1:45

| TIME (hr) | GALLONS (cum.) | TEMP. (°F) | pH | CONDUCT. (micromho) |
|---|---|---|---|---|
| 1:45 | Start purging MW-9A | | | |
| 1:45 | 0 | 72.6 | 7.79 | 560 |
| 1:47 | 1.7 | 71.8 | 7.76 | 530 |
| 1:49 | 3.4 | 71.4 | 7.75 | 530 |
| 1:52 | 5.1 | 71.3 | 7.75 | 530 |
| 1:54 | 6.8 | 71.2 | 7.74 | 530 |
| 1:54 | Stop purging MW-9A | | | |

Notes:

| | |
|---|---|
| Well Diameter (inches) | 2" |
| Depth to Bottom (feet) | 17.50 |
| Depth to Water - initial (feet) | 7.65 |
| Depth to Water - final (feet) | 7.65 |
| % recovery | 100.0% |
| Time Sampled | 3:00 |
| Gallons per Well Casing Volume | 1.61 |
| Gallons Purged | 6.8 |
| Well Casing Volume Purged | 4.23 |
| Approximate Pumping Rate (gpm) | 0.75 |

RESNA
Working To Restore Nature

# WELL PURGE DATA SHEET

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

Date: September 14, 1992  Page 1 of 1

Well No. MW-9B  Time Started 1:00

| TIME (hr) | GALLONS (cum.) | TEMP. (°F) | pH | CONDUCT. (micromho) |
|---|---|---|---|---|
| 1:00 | Start purging MW-9B | | | |
| 1:00 | 0 | 72.6 | 7.65 | 580 |
| 1:02 | 2 | 73.3 | 7.72 | 610 |
| 1:04 | 4 | 72.1 | 7.45 | 590 |
| 1:06 | 6 | 71.8 | 7.42 | 590 |
| 1:08 | 8 | 71.7 | 7.41 | 590 |
| 1:08 | Stop purging MW-9B | | | |

Notes:

Well Diameter (inches) : 2"
Depth to Bottom (feet) : 17.50
Depth to Water - initial (feet) : 6.60
Depth to Water - final (feet) : 6.60
% recovery :100.0%
Time Sampled : 2:15
Gallons per Well Casing Volume : 1.79
Gallons Purged : 8.0
Well Casing Volume Purged : 4.49
Approximate Pumping Rate (gpm) : 1.00

RESNA
Working To Restore Nature

# WELL PURGE DATA SHEET

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

Date: September 14, 1992  Page 1 of 1

Well No. MW-9C  Time Started 11:00

| TIME (hr) | GALLONS (cum.) | TEMP. (°F) | pH | CONDUCT. (micromho) |
|---|---|---|---|---|
| 11:00 | Start purging MW-9C | | | |
| 11:00 | 0 | 73.6 | 7.47 | 630 |
| 11:02 | 1.6 | 73.0 | 7.47 | 630 |
| 11:04 | 3.2 | 72.6 | 7.45 | 630 |
| 11:06 | 4.8 | 72.7 | 7.43 | 630 |
| 11:08 | 6.4 | 72.6 | 7.40 | 630 |
| 11:08 | Stop purging MW-9C | | | |

Notes:

| | |
|---|---|
| Well Diameter (inches) | 2" |
| Depth to Bottom (feet) | 16.15 |
| Depth to Water - initial (feet) | 7.00 |
| Depth to Water - final (feet) | 7.00 |
| % recovery | 100.0% |
| Time Sampled | 12:15 |
| Gallons per Well Casing Volume | 1.49 |
| Gallons Purged | 6.4 |
| Well Casing Volume Purged | 4.29 |
| Approximate Pumping Rate (gpm) | 0.80 |

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Working To Restore Nature

# WELL PURGE DATA SHEET

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

Date: September 14, 1992  Page 1 of 1

Well No. MW-9D  Time Started 10:30

| TIME (hr) | GALLONS (cum.) | TEMP. (°F) | pH | CONDUCT. (micromho) |
|---|---|---|---|---|
| 10:30 | Start purging MW-9D | | | |
| 10:30 | 0 | 70.3 | 7.95 | 580 |
| 10:34 | 4 | 70.2 | 7.93 | 540 |
| 10:38 | 8 | 70.1 | 7.81 | 560 |
| 10:42 | 12 | 70.2 | 7.64 | 570 |
| 10:42 | Stop purging MW-9D | | | |

Notes:

Well Diameter (inches) : 4"
Depth to Bottom (feet) : 14.55
Depth to Water - initial (feet) : 8.45
Depth to Water - final (feet) : 8.45
% recovery :100.0%
Time Sampled : 11:30
Gallons per Well Casing Volume : 3.98
Gallons Purged : 12.0
Well Casing Volume Purged : 3.01
Approximate Pumping Rate (gpm) : 1.0

RESNA
Working To Restore Nature

# WELL PURGE DATA SHEET

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

Date: September 14, 1992  Page 1 of 1

Well No. MW-9I  Time Started 11:40

| TIME (hr) | GALLONS (cum.) | TEMP. (°F) | pH | CONDUCT. (micromho) |
|---|---|---|---|---|
| 11:40 | Start purging MW-9I | | | |
| 11:40 | 0 | 74.9 | 7.43 | 800 |
| 11:45 | 5 | 74.2 | 7.38 | 810 |
| 11:50 | 10 | 74.6 | 7.33 | 810 |
| 11:55 | 15 | 73.8 | 7.30 | 800 |
| 11:55 | Stop purging MW-9I | | | |

Notes:

Well Diameter (inches) : 4"
Depth to Bottom (feet) : 13.65
Depth to Water - initial (feet) : 6.12
Depth to Water - final (feet) : 6.12
% recovery :100.0%
Time Sampled : 12:45
Gallons per Well Casing Volume : 4.91
Gallons Purged : 15.0
Well Casing Volume Purged : 3.05
Approximate Pumping Rate (gpm) : 1.0

# 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
SEP 29 1992
RESNA
SAN JOSE


62079.01\1342\012115

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

Date Sampled: 09-14-92
Date Received: 09-16-92
Date Analyzed: 09-23-92

| Sample Number | Sample Description |
|---|---|
| 092275 | Project # 62079.01<br>Texaco - Oakland<br>2200 E. 12th<br>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.

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


62079.01\1342\012115

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

Date Sampled: 09-14-92
Date Received: 09-16-92
Date Analyzed: 09-23-92

| Sample Number | Sample Description |
|---|---|
| 092276 | Project # 62079.01<br>Texaco - Oakland<br>2200 E. 12th<br>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

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


62079.01\1342\012115

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

Date Sampled: 09-14-92
Date Received: 09-16-92
Date Analyzed: 09-23-92

| Sample Number | Sample Description |
|---|---|
| 092277 | Project # 62079.01<br>Texaco - Oakland<br>2200 E. 12th<br>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)

MOBILE CHEM LABS

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: 09-14-92
Date Received: 09-16-92
Date Analyzed: 09-23-92

| Sample Number | Sample Description |
|---|---|
| 092278 | Project # 62079.01<br>Texaco - Oakland<br>2200 E. 12th<br>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
Spike Recovery is 92%
Duplicate Deviation is 4.8%

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


62079.01\1342\012115

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

Date Sampled: 09-14-92
Date Received: 09-16-92
Date Analyzed: 09-23-92

| Sample Number | Sample Description |
|---|---|
| 092279 | Project # 62079.01<br>Texaco - Oakland<br>2200 E. 12th<br>MW-9A 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.

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


62079.01\1342\012115

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

Date Sampled: 09-14-92
Date Received: 09-16-92
Date Analyzed: 09-23-92

| Sample Number | Sample Description |
|---|---|
| 092280 | Project # 62079.01<br>Texaco - Oakland<br>2200 E. 12th<br>MW-9B WATER |

ANALYSIS

| | Detection Limit | Sample Results |
|---|---|---|
| | ppb | ppb |
| Total Petroleum Hydrocarbons as Gasoline | 50 | 110 |
| Benzene | 0.5 | 9.6 |
| 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

# RESNA

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

| PROJECT NO. | PROJECT NAME/SITE |
|---|---|
| 62079-01 | Texaco 2200 E. 12th, Oakland, CA |

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

| SAMPLE IDENTIFICATION | DATE | TIME | COMP | GRAB | PRES. USED | ICED | NO. CONTAINERS | SAMPLE TYPE |
|---|---|---|---|---|---|---|---|---|
| BB1 | 9-14-92 | 11:25 | | | HCl | Y | 3 | H2O |
| MW-9D | | 11:30 | | | | | 3 | |
| MW-9C | | 12:15 | | | | | 3 | |
| MW-9I | | 12:45 | | | | | 3 | |
| MW-9A | | 3:00 | | | | | 3 | |
| MW-9B | | 2:15 | | | | | 3 | |

ANALYSIS REQUESTED: BTEX (602/8020); TPHg (8015); TPHd (8015); TOG 418.1/5520; 601/8010; 624/8240; 625/8270

P.O. #:

REMARKS

| RELINQUISHED BY: | DATE | TIME | RECEIVED BY: |
|---|---|---|---|
| Robin A. Adair | 9-15-92 | 8:00 AM | Virginia Spadaro |
| RELINQUISHED BY: Virginia Spadaro | DATE 9-16-92 | TIME 9-16 9:35 AM | RECEIVED BY: Dave Rhodes |
| RELINQUISHED BY: | DATE | TIME | RECEIVED BY: |
| RELINQUISHED BY | DATE | TIME | RECEIVED BY LABORATORY |

LABORATORY: Mobile Chem Labs

REQUESTED TURNAROUND TIME: NORMAL

RECEIPT CONDITION:

PLEASE SEND RESULTS TO: Robin Adair, Resna, Fremont, CA. Phil Mayberry, Resna, San Jose, CA

PROJECT MANAGER: Dave Higgins