**Harding Lawson Associates**

March 20, 1995

30615 002

Mr. Larry Hanna
U.S. Postal Service
Facilities Service Office
225 North Humphreys Boulevard
Memphis, Tennessee 38166-0300

**First Quarter 1995, Groundwater Monitoring**
**United States Postal Service - GMF/VMF**
**1675 7th Street**
**Oakland, California**

Dear Mr. Hanna,

This letter presents the results of Harding Lawson Associates' (HLA) first quarter 1995 groundwater monitoring at the U.S. Postal Service (USPS) facility, 1675 7th Street, Oakland, California, (Plate 1). HLA's work was performed in accordance with:

Contract No. 47540-94-B-039
Work Order No. 5.00
Groundwater Monitoring, Project No. Y0478
Oakland, California - P&DC

In accordance with the Alameda County Department of Environmental Health (ACDEH) guidelines, water levels and groundwater samples were collected from monitoring Wells MW-1 through MW-4 on February 22, 1995, (Plate 2). Field work was performed using procedures outlined in the *Site Characterization Workplan*, dated August 26, 1993, prepared by Geo/Resource Consultants, Inc., (GRC) and approved by ACDEH. Groundwater samples were sent to National Environmental Testing Inc. (NET), Santa Rosa, California, a state certified laboratory for the analyses requested. Five groundwater samples collected were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and diesel (TPHd) using EPA Test Method 8015 modified, and for benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Test Method 8020. Purge water was placed in 55-gallon drums. Copies of the well sampling forms are attached in the appendix.

Groundwater elevation data for the February 22, 1995, sampling period are presented in Table 1, along with previous water level information. Water elevations rose from 7.6 to 9.4 feet since June 1994. This rise in water elevations is extreme and may be attributed to both the cessation of an East Bay Municipal Utilities District (EBMUD) dewatering program approximately 150 feet southwest of MW-4 and to the above average precipitation recorded. Groundwater flow direction during February was toward the southwest; consistent with previous observations. Well locations and February 1995 groundwater elevations are shown on Plate 2.

Current and previous analytical results for groundwater samples collected are summarized in Table 2. Plate 3 presents the February 22, 1995, TPH and BTEX concentrations in groundwater. TPHd was detected in all samples at concentrations ranging between 280 and 1,100 micrograms per liter (µg/l); however, the laboratory interpreted these results to be a heavier hydrocarbon than diesel in all the wells. TPHg was detected in Wells MW-3 and MW-4 at concentrations of 50 and 140 µg/l, respectively. The laboratory interpreted the gasoline detected in MW-4 as a non-standard gasoline pattern. According to the laboratory, a single peak in the gasoline range was detected. This non-standard pattern is most likely associated with the interference of benzene detected in the sample. Benzene was detected in well MW-4 at a concentration of 1.4 µg/l. A copy of the laboratory analytical report and chain of custody form are attached in the appendix.

Groundwater results were similar to those from previous sampling rounds except for the TPHd detected in MW-3 and the TPHg detected in MW-3 and MW-4. The higher concentrations of petroleum hydrocarbons detected during February may be partially attributed to the increase in groundwater elevation. The rise in groundwater may have mobilized residual petroleum hydrocarbons remaining in soil.

The next quarterly groundwater monitoring will be conducted in May 1995. Prior to the next quarterly sampling round, HLA recommends disposal of the drummed water at a proper disposal facility. Copies of this report should be submitted to the ACDEH.

If you should have any questions, please call Gary Lieberman at (415) 884-3158 or Cynthia Dahl at (415) 884-3133.

Yours very truly,

HARDING LAWSON ASSOCIATES

Gary A. Lieberman
Project Geologist

R. Bruce Scheibach R.G 5062
Principal Hydrogeologist

Attachments: Table 1 - Summary of Groundwater Elevations
Table 2 - Summary of Groundwater Analytical Results
Plate 1 - Vicinity Map
Plate 2 - Groundwater Contour Map
Plate 3 - TPH and BTEX Concentrations in Groundwater
Well Sampling Forms
Laboratory Analytical Report
Chain of Custody Document

cc: Cynthia Dahl

REFERENCE:

Geo Resources Consultants, Inc., 1993. *Site Characterization Workplan, U.S. Postal Service Vehicle Maintenance Facility, 1675 7th Street, Oakland, California* August 26.

GAL/RBS:mb/MH39592.ltr-M

# Table 1. Summary of Groundwater Elevations
## United States Postal Service - GMF/VMF
## 1675 7th Street
## Oakland, California

| Well Name | Date | Top of Well Casing Elevation (ft MSL)* | Depth to Water (ft BTOC)** | Groundwater Elevation (ft MSL)* |
|---|---|---|---|---|
| MW-1 | 9/93 | 8.30 | 3.90 | 4.40 |
| | 1/26/94 | | 3.64 | 4.66 |
| | 2/94 | | 3.37 | 4.93 |
| | 3/94 | | 7.51 | 0.79 |
| | 4/94 | | 10.74 | -2.44 |
| | 5/94 | | 12.98 | -4.68 |
| | 6/94 | | 15.55 | -7.25 |
| | 2/22/95 | | 6.98 | 1.32 |
| MW-2 | 9/93 | 8.86 | 4.55 | 4.31 |
| | 1/26/94 | | 4.69 | 4.17 |
| | 2/94 | | 3.98 | 4.88 |
| | 3/94 | | 8.14 | 0.72 |
| | 4/94 | | 10.60 | -1.74 |
| | 5/94 | | 13.47 | -4.61 |
| | 6/94 | | 15.50 | -6.64 |
| | 2/22/95 | | 7.66 | 1.20 |
| MW-3 | 9/93 | 9.28 | 5.00 | 4.28 |
| | 1/26/94 | | 5.04 | 4.24 |
| | 2/94 | | 4.62 | 4.66 |
| | 3/94 | | 9.54 | -0.26 |
| | 4/94 | | 11.69 | -2.41 |
| | 5/94 | | 14.85 | -5.57 |
| | 6/94 | | 17.30 | -8.02 |
| | 2/22/95 | | 8.64 | 0.64 |
| MW-4 | 9/93 | 8.73 | 4.55 | 4.18 |
| | 1/26/94 | | 4.60 | 4.13 |
| | 2/94 | | 3.95 | 4.78 |
| | 3/94 | | 8.96 | -0.23 |
| | 4/94 | | 8.96 | -0.23 |
| | 5/94 | | 14.24 | -5.51 |
| | 6/94 | | 17.28 | -8.55 |
| | 2/22/95 | | 7.93 | 0.80 |

# Table 1. Summary of Groundwater Elevations
## United States Postal Service - GMF/VMF
## 1675 7th Street
## Oakland, California

| Well Name | Date | Top of Well Casing Elevation (ft MSL)* | Depth to Water (ft BTOC)** | Groundwater Elevation (ft MSL)* |
|---|---|---|---|---|
| MW-5 | 9/93 | 8.23 | 3.63 | 4.60 |
| | 1/26/94 | | 3.70 | 4.53 |
| | 2/94 | | 3.23 | 5.00 |
| | 3/94 | | 7.76 | 0.47 |
| | 4/94 | | 10.19 | -1.96 |
| | 5/94 | | 11.46 | -3.23 |
| | 6/94 | | 14.25 | -6.02 |
| | Well Abandoned - January 1995 | | | |

Notes:

* Feet above mean sea level

** Feet below top of casing

# Table 2. Summary of Analytical Results of Groundwater Samples
## United States Postal Service - GMF/VMF
## 1675 7th Street
## Oakland, California

| Well Name | Sample Date | Total Petroleum Hydrocarbons as Gasoline µg/l | Total Petroleum Hydrocarbons as Diesel µg/l | Benzene µg/l | Toluene µg/l | Ethyl-Benzene µg/l | Xylenes µg/l |
|---|---|---|---|---|---|---|---|
| MW-1 | 9/93 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 9/93 (Dup) | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 1/26/94 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 3/94 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 6/94 | < 50 | 73 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 2/22/95 | < 50 | 600 * | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| MW-2 | 9/93 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 1/26/94 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 3/94 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 6/94 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 2/22/95 | < 50 | 280 * | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| MW-3 | 9/93 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 1/26/94 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 3/94 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 3/94 (Dup) | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 6/94 | Insufficent water - No sample collected | | | | | |
| | 2/22/95 | 50 | 350 * | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| MW-4 | 9/93 | < 50 | 580 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 1/26/94 | < 50 | 850 | 0.7 | <0.5 | <0.5 | < 0.5 |
| | 1/26/94 | < 50 | 450 | 0.8 | <0.5 | <0.5 | < 0.5 |
| | 3/94 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 6/94 | < 50 | 250 | 1.6 | < 0.5 | <0.5 | < 0.5 |
| | 6/94 | < 50 | 260 | 1.7 | < 0.5 | <0.5 | < 0.5 |
| | 2/22/95 | 140 ** | 1100 * | 1.4 | < 0.5 | <0.5 | < 0.5 |
| | 2/22/95 (Dup) | 130 ** | 1000 * | 1.1 | < 0.5 | <0.5 | < 0.5 |
| MW-5 | 9/93 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 1/26/94 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 3/94 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | 6/94 | < 50 | < 50 | < 0.5 | < 0.5 | <0.5 | < 0.5 |
| | | Well Abandoned - January 1995 | | | | | |

Notes:

- µg/l Micrograms per liter (equivalent to parts per billion)
- <1.0 Not detected at indicated reporting limit
- * The laboratory interpreted the result as a heavier hydrocarbon than diesel
- ** A non-standard gasoline pattern was observed
- Dup Duplicate sample

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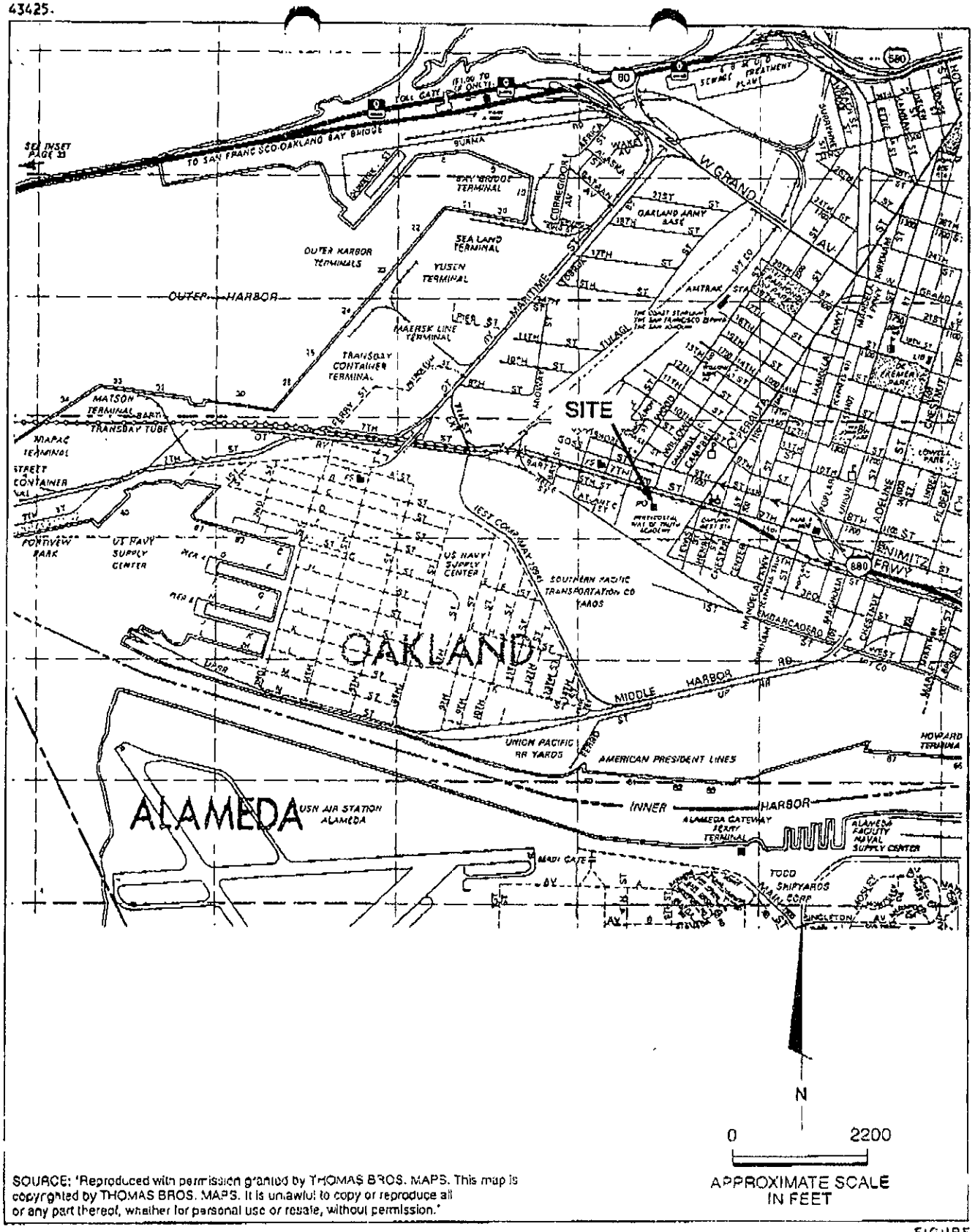




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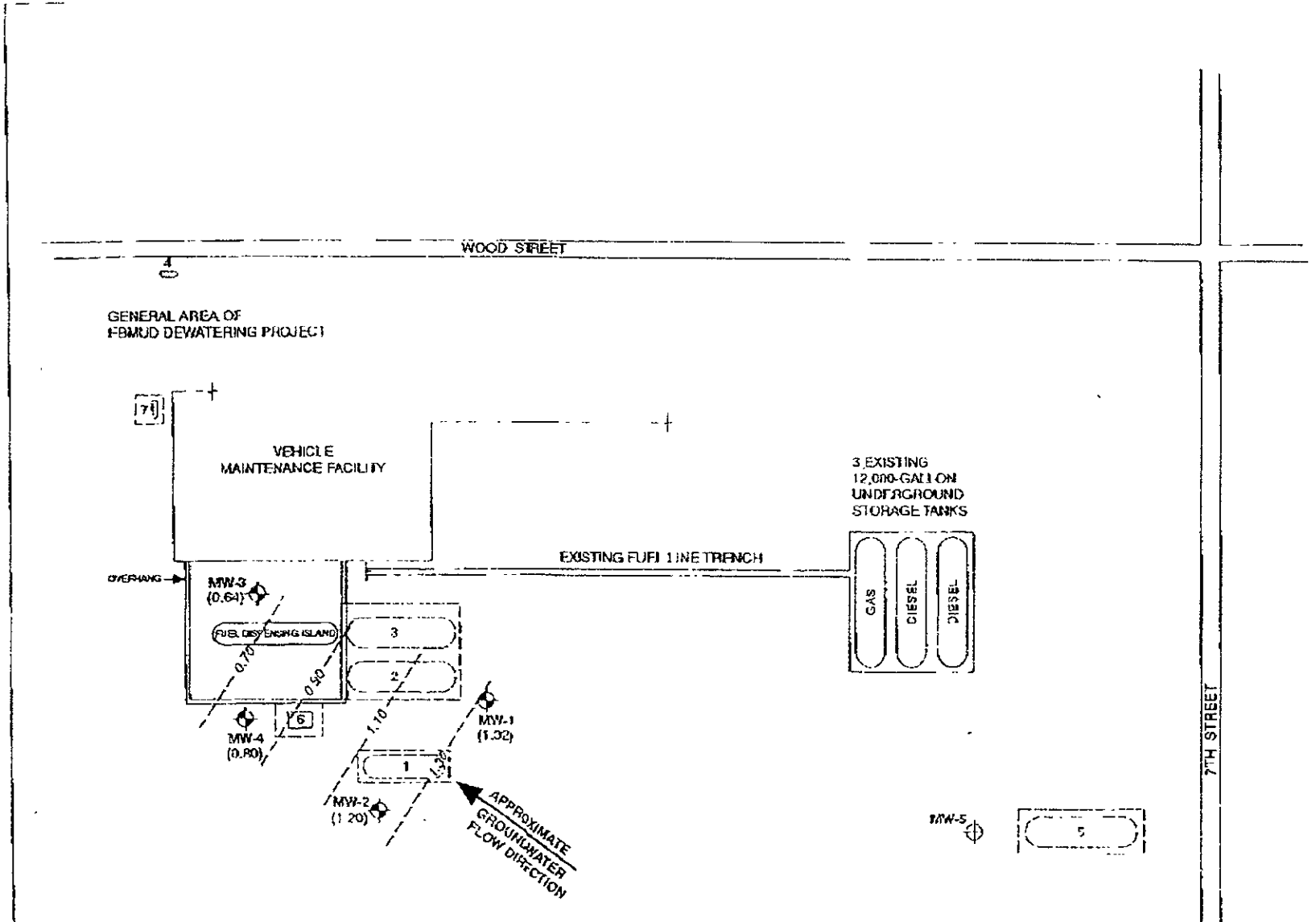
Engineering and Environmental Services

**Vicinity Map**
USPS Oakland GMF/VMF
Oakland, California

FIGURE **1**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED DATE |
|---|---|---|---|---|
| LFD | 30615 002 | GAL | 3/95 | |

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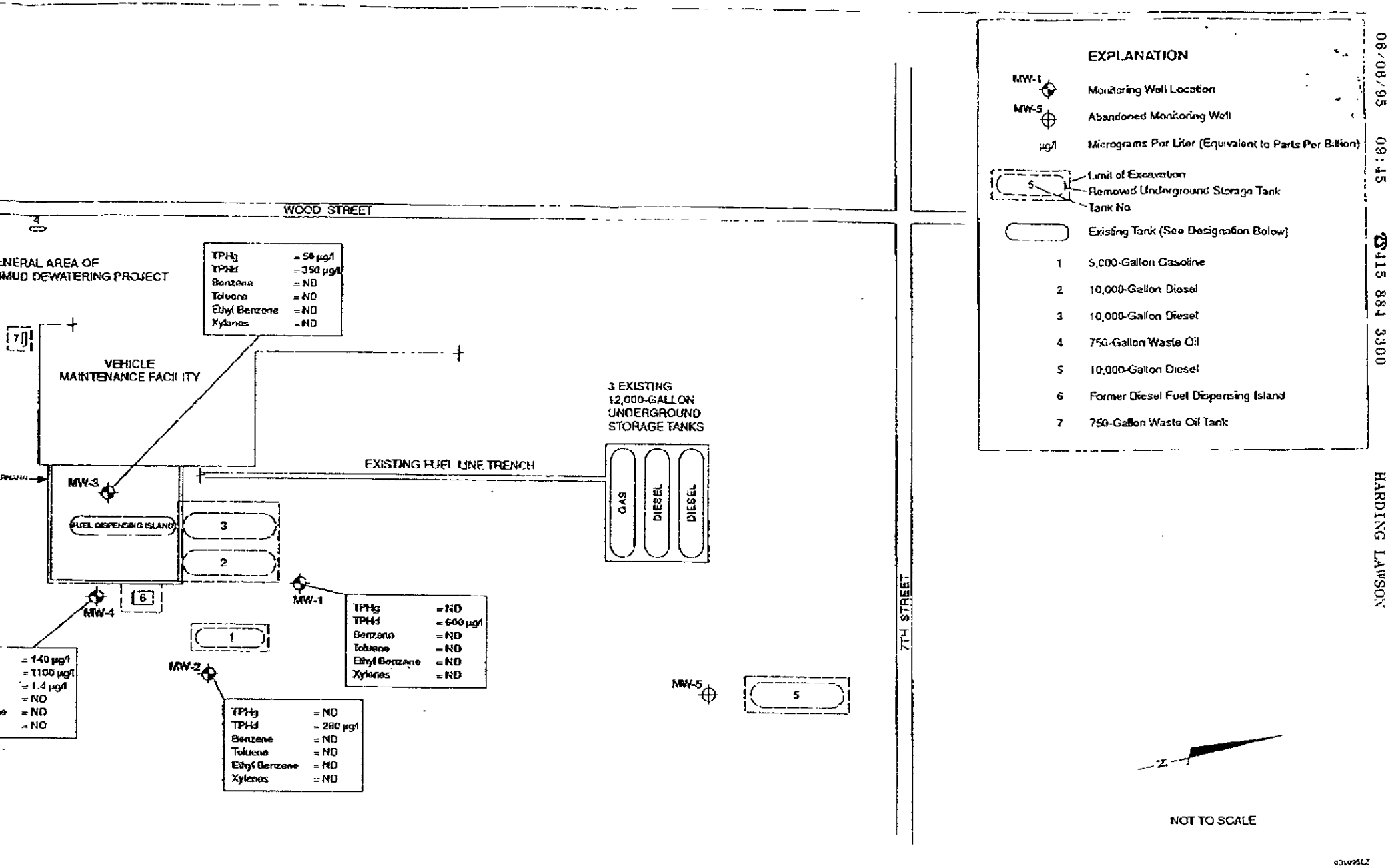
Groundwater Contour Map
USPS Oakland GMF/VMF
Oakland, California

| DRAWN | JOB NUMBER | APPROVED |
|---|---|---|
| LFDc | 30615.002 | GAL |

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Engineering and
Environmental Services

TPH and BTEX Concentrations in Groundwater-
February 22, 1995
USPS Oakland GMF/VMF
Oakland, California

PLATE 3

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED DATE |
|---|---|---|---|---|
| LFDc | 30615.002 | G.A.L. | 3/95 | |