

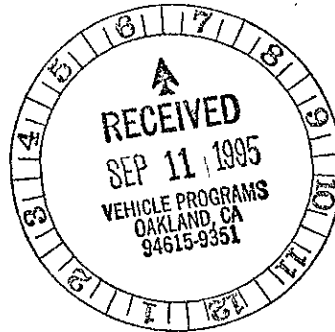
Harding Lawson Associates



September 8, 1995

30615 002

Ms. Sandy Farmer
U.S. Postal Service
Facilities Service Office
225 North Humphreys Boulevard
Memphis, Tennessee 38166-0300



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

Dear Ms. Farmer:

This letter presents the results of Harding Lawson Associates' (HLA) third 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. 475450-94-B-0309
Work Order No. 5.00
Groundwater Monitoring, Project No. Y04728
Oakland, California - P&DC

PROCEDURES

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 August 16, 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. The 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 labeled 55-gallon drums that are stored onsite. Copies of the well sampling forms are attached in the appendix.

FINDINGS

Groundwater elevation data from the August 16, 1995 sampling period and all previous periods are presented in Table 1. Water elevations declined from 0.45 to 0.71 feet since the previous sampling event in June 1995. Additionally, 0.16 feet of product was observed in Well MW-4 during water level monitoring. Groundwater flow direction during August was toward the southwest which is consistent with previous observations. Well locations and August 1995 groundwater elevations are shown on Plate 2.

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Current and previous analytical results for groundwater samples are summarized in Table 2. Plate 3 presents the August 16, 1995 TPH and BTEX concentrations in groundwater. TPHd was detected in all samples at concentrations ranging between 150 and 3,400 micrograms per liter ($\mu\text{g/l}$). The laboratory interpreted these results in samples from Wells MW-1 and MW-2 to be a heavier hydrocarbon than diesel. TPHg was detected in Well MW-4 at a concentration of 1,200 $\mu\text{g/l}$. Benzene and ethylbenzene were also detected in Well MW-4 at concentrations of 1.2 and 0.9 $\mu\text{g/l}$, respectively. A copy of the laboratory analytical report and chain-of-custody form are attached.

CONCLUSIONS

Reported concentrations of petroleum hydrocarbons were similar to those detected in June 1995, except for Well MW-4, in which 0.16 feet of product was detected. Since February 1995, quarterly monitoring results have indicated higher concentrations of petroleum hydrocarbons than those reported during 1993 and 1994. The increase in concentrations may be partially attributed to the observed rise in groundwater elevations, which may have mobilized residual petroleum hydrocarbons present in soil that were previously above the groundwater table. The appearance of product in Well MW-4 does not appear related to variations in groundwater elevation and may represent residual material from the former diesel dispensing island or, possibly, a more recent release.

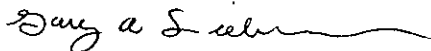
RECOMMENDATIONS

HLA recommends that the fuel inventory logs for the diesel tanks be checked and that monthly monitoring of water levels and product thickness be initiated. The next quarterly groundwater monitoring will be conducted in November 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.


Should you have any questions or require an estimate for monthly water level and product thickness monitoring, 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

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Attachments: Table 1 - Summary of Groundwater Elevations
Table 2 - Summary of Analytical Results of Groundwater Samples
Plate 1 - Vicinity Map
Plate 2 - Groundwater Contour Map - August 16, 1995
Plate 3 - TPH and BTEX Concentrations in Groundwater - August 16, 1995
Well Sampling Forms
Laboratory Analytical Report
Chain of Custody Document

cc: Cynthia Dahl, HLA
Steve Wake, USPS, 1675 7th Street BMF, Oakland, CA 94615-9357
Ray Levinson, USPS, 850 Cherry Avenue, San Bruno, CA 94099-4120

REFERENCE:

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

**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 Product (ft BTOC)**	Depth to Water (ft BTOC)**	Product Thickness (feet)	Groundwater Elevation (ft MSL)*
MW-1	9/93	8.30	No Product	3.90	No Product	4.40
	1/26/94		No Product	3.64	No Product	4.66
	2/94		No Product	3.37	No Product	4.93
	3/94		No Product	7.51	No Product	0.79
	4/94		No Product	10.74	No Product	-2.44
	5/94		No Product	12.98	No Product	-4.68
	6/94		No Product	15.55	No Product	-7.25
	2/22/95		No Product	6.98	No Product	1.32
	6/6/95		No Product	7.51	No Product	0.79
	8/16/95		No Product	8.11	No Product	0.19
MW-2	9/93	8.86	No Product	4.55	No Product	4.31
	1/26/94		No Product	4.69	No Product	4.17
	2/94		No Product	3.98	No Product	4.88
	3/94		No Product	8.14	No Product	0.72
	4/94		No Product	10.60	No Product	-1.74
	5/94		No Product	13.47	No Product	-4.61
	6/94		No Product	15.50	No Product	-6.64
	2/22/95		No Product	7.66	No Product	1.20
	6/6/95		No Product	8.06	No Product	0.80
	8/16/95		No Product	8.77	No Product	0.09
MW-3	9/93	9.28	No Product	5.00	No Product	4.28
	1/26/94		No Product	5.04	No Product	4.24
	2/94		No Product	4.62	No Product	4.66
	3/94		No Product	9.54	No Product	-0.26
	4/94		No Product	11.69	No Product	-2.41
	5/94		No Product	14.85	No Product	-5.57
	6/94		No Product	17.30	No Product	-8.02
	2/22/95		No Product	8.64	No Product	0.64
	6/6/95		No Product	9.07	No Product	0.21
	8/16/95		No Product	9.66	No Product	-0.38
MW-4	9/93	8.73	No Product	4.55	No Product	4.18
	1/26/94		No Product	4.60	No Product	4.13
	2/94		No Product	3.95	No Product	4.78
	3/94		No Product	8.96	No Product	-0.23
	4/94		No Product	8.96	No Product	-0.23
	5/94		No Product	14.24	No Product	-5.51
	6/94		No Product	17.28	No Product	-8.55
	2/22/95		No Product	7.93	No Product	0.80
	6/6/95		No Product	8.48	No Product	0.25
	8/16/95		No Product	8.92	9.08	0.16

**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 Product (ft BTOC)**	Depth to Water (ft BTOC)**	Product Thickness (feet)	Groundwater Elevation (ft MSL)*
MW-5	9/93	8.23	No Product	3.63	No Product	4.60
	1/26/94		No Product	3.70	No Product	4.53
	2/94		No Product	3.23	No Product	5.00
	3/94		No Product	7.76	No Product	0.47
	4/94		No Product	10.19	No Product	-1.96
	5/94		No Product	11.46	No Product	-3.23
	6/94		No Product	14.25	No Product	-6.02
Well Abandoned - January 1995						

Notes:

- * Feet above mean sea level
- ** Feet below top of casing
- *** Groundwater elevation corrected for product

**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		Benzene µg/l	Toluene µg/l	Ethyl- Benzene µg/l	Xylenes µg/l
		Gasoline µg/l	Diesel 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
	6/6/95	< 50	900 *	< 0.5	< 0.5	<0.5	< 0.5
	8/16/95	< 50	810 *	< 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
	6/6/95	< 50	570 *	< 0.5	< 0.5	<0.5	< 0.5
	8/16/95	< 50	150 *	< 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	Insufficient water - No sample collected					
	2/22/95	50	350 *	< 0.5	< 0.5	<0.5	< 0.5
	6/6/95	< 50	380 **	< 0.5	< 0.5	<0.5	< 0.5
	8/16/95	< 50	440	< 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 ***	1,100 *	1.4	< 0.5	<0.5	< 0.5
	2/22/95 (Dup)	130 ***	1,000 *	1.1	< 0.5	<0.5	< 0.5
	6/6/95	1,400 ****	19,000	<0.5	< 0.5	0.5	< 0.5
	6/6/95 (Dup)	24,000*****	23,000	<0.5	< 0.5	<0.5	< 0.5
	8/16/95	1,200	3,400	1.2	< 0.5	0.9	< 0.5
	8/16/95 (Dup)	2,000	3,000	1.2	< 0.5	1.0	0.8



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

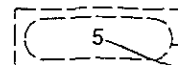
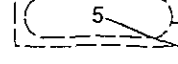
Well Name	Sample Date	Total Petroleum Hydrocarbons as		Benzene µg/l	Toluene µg/l	Ethyl- Benzene µg/l	Xylenes µg/l
		Gasoline µg/l	Diesel µg/l				
MW-5	9/93	< 50	< 50	< 0.5	< 0.5	<0.5	< 0.5
	1/26/94	< 50	< 50	< 0.5	< 0.5	<0.5	< 0.5
	3/94	< 50	< 50	< 0.5	< 0.5	<0.5	< 0.5
	6/94	< 50	< 50	< 0.5	< 0.5	<0.5	< 0.5
Well Abandoned - January 1995							

Notes:

- µg/l Micograms 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 diesel pattern was observed
- *** A non-standard gasoline pattern was observed
- **** The laboratory interpreted the result as a heavier hydrocarbon than gasoline
- Dup Duplicate sample

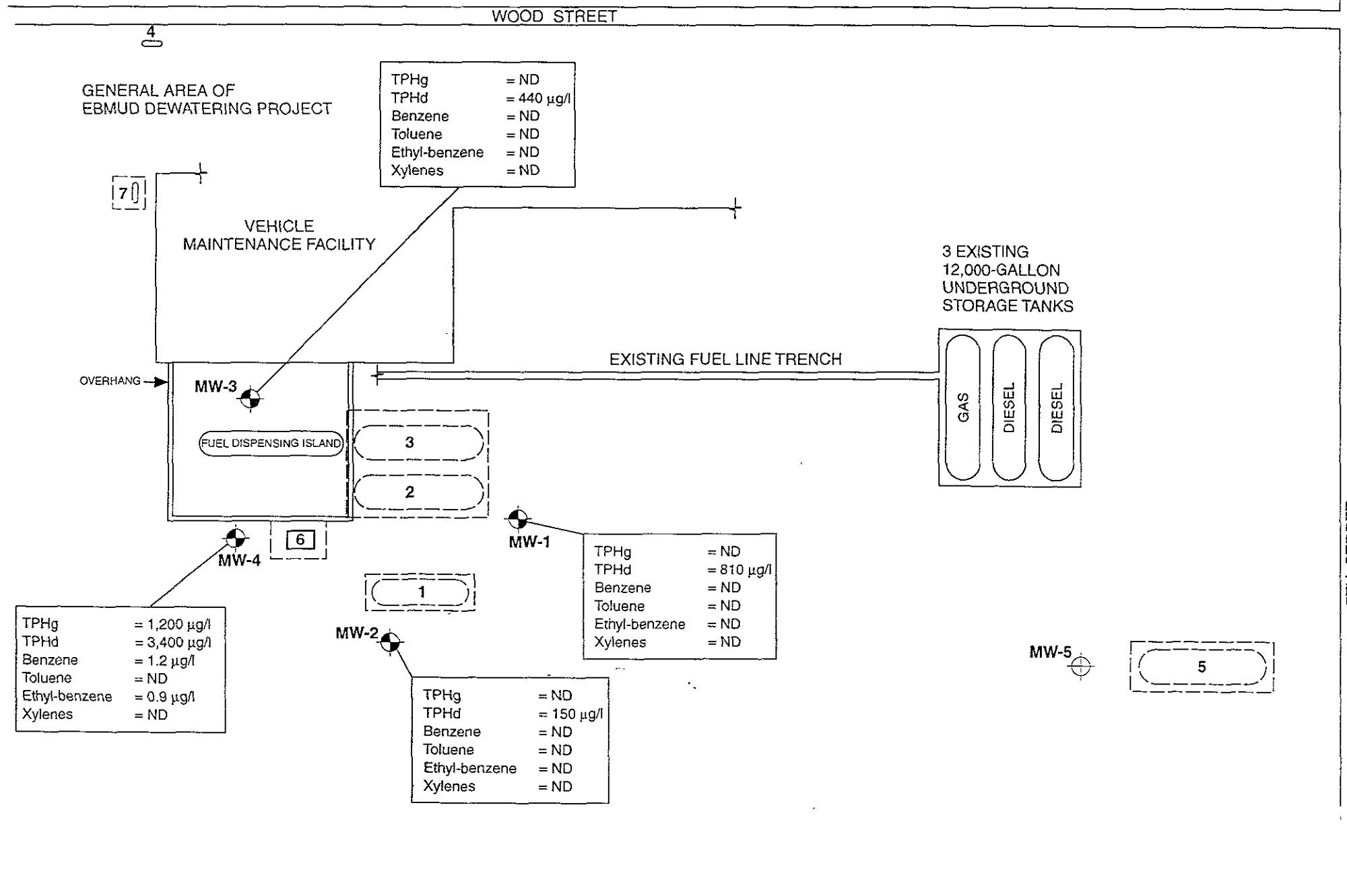
EXPLANATION

- MW-1  Monitoring Well Location
- MW-5  Abandoned Monitoring Well
- µg/l Micrograms Per Liter (Equivalent to Parts Per Billion)

-  Limit of Excavation
-  Removed Underground Storage Tank Tank No.

 Existing Tank (See Designation Below)

- 1 5,000-Gallon Gasoline
- 2 10,000-Gallon Diesel
- 3 10,000-Gallon Diesel
- 4 750-Gallon Waste Oil
- 5 10,000-Gallon Diesel
- 6 Former Diesel Fuel Dispensing Island
- 7 750-Gallon Waste Oil Tank



NOT TO SCALE

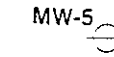
EXPLANATION



MW-1
(1.32)

Monitoring Well Location

Groundwater Elevation Above Mean Sea Level

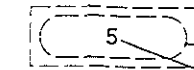


MW-5

Abandoned Monitoring Well

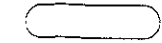
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Groundwater Elevation Contour (feet MSL)



Limit of Excavation

Removed Underground Storage Tank
Tank No.



Existing Tank (See Designation Below)

1 5,000-Gallon Gasoline

2 10,000-Gallon Diesel

3 10,000-Gallon Diesel

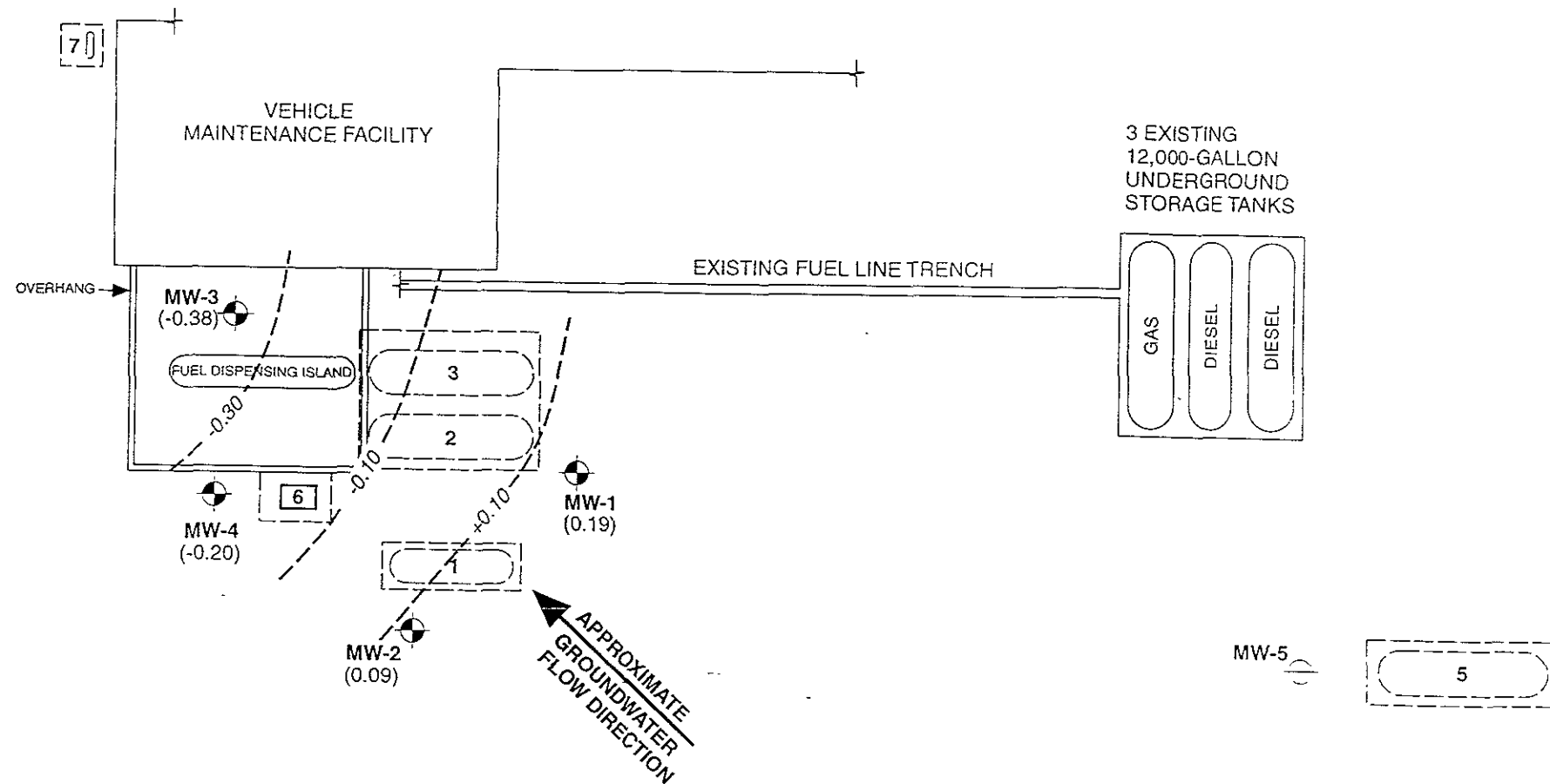
4 750-Gallon Waste Oil

5 10,000-Gallon Diesel

6 Former Diesel Fuel Dispensing Island

7 750-Gallon Waste Oil Tank

GENERAL AREA OF
EBMUD DEWATERING PROJECT



NOT TO SCALE



Harding Lawson Associates

Environmental Engineers
1000 North Main Street
Oakland, California 94612

PROJECT
LFDC

JOB NUMBER
30615 002

Groundwater Contour Map-August 16, 1995

USPS Order: DMF VNF

Oakland, California

DESIGNER
GAL

DATE
3/95