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Ground Water Engineering Hydrocarbon Remediation Education

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May 23, 1991
Project No. RC01904

Mr. Ariu Levi
Division of Hazardous Materials
Department of Environmental Health
Alameda County Health Care Services Agency
80 Swan Way
Oakland, CA 94621

SUBJECT: Results of Monthly Ground-Water Monitoring, April 1991, Former
Penske Truck Leasing Facility, 725 Julie Ann Way, Oakland, California

Dear Mr. Levi,

The above referenced report is being forwarded to you at the request of Penske Truck Leasing Co. The report details the results of the monthly ground-water monitoring well sampling for April at the former Penske Truck Leasing Facility at 725 Julie Ann Way, Oakland. The monthly sampling has been completed in response to the requirements for ground-water sampling contained in the Alameda County Health Care Services, Department of Environmental Health letter to Penske dated October 24, 1989.

If you have any questions, please do not hesitate to call.

Sincerely,
GERAGHTY & MILLER, INC.

Paul V. Hehn
Staff Geologist

Jeffrey W. Hawkins, R.G.
Senior Hydrogeologist/Project Manager

Gary W. Keyes, P.E.
Principal Engineer/Project Officer

CC: Mr. Marc Althen
Penske Truck Leasing Co.

May 17, 1991
Project No. RC01904

Mr. Marc E. Althen
Manager, Environmental Services
Penske Truck Leasing Co.
Route 10, Green Hills
P.O. Box 563
Reading, PA 19603

SUBJECT: Results of Monthly Ground-Water Monitoring, April 1991, Former Penske Truck Leasing Facility, 725 Julie Ann Way, Oakland, California

Dear Mr. Althen,

This report presents the results of the monthly ground-water monitoring for April 1991, which was performed on May 1, 1991, at the former Penske Truck Leasing Co. (Penske) facility referenced above (Figure 1). The scope of work for this project was presented to Penske in a previous Geraghty & Miller, Inc. (Geraghty & Miller) letter dated February 7, 1991. The monitoring program consists of collecting depth-to-water measurements, total-well-depth measurements, and water samples from the three wells located at the project site. In accordance with the requirements of the Alameda County Health Care Services Agency, Department of Environmental Health (ACDEH) dated October 24, 1989, the monitoring activities have been performed monthly for a period of 3 months (February, March, and April 1991) and will subsequently be performed quarterly for 3 additional quarters (July and October 1991, and January 1992).

FIELD PROCEDURES

The monthly ground-water monitoring was performed on May 1, 1991. Ground-water samples were collected from Monitor Wells MW-1 through MW-3. The monitor well locations are shown in Figure 2.

Prior to sampling, depth-to-water and total-well-depth measurements were obtained from each well, and the wells were checked for the presence of liquid-phase hydrocarbons, with a new disposable polyethylene bailer used for each well. Liquid-phase hydrocarbons were not observed

in any of the wells. Each well was purged of approximately three casing volumes of water using a 1-inch diaphragm pump. A summary of the field data is presented in Table 1. Purged water has been stored on site in 55-gallon drums for proper disposal by Penske.

Ground-water samples were collected following purging, with a new polyethylene bailer used for each well. Ground-water samples were placed into the appropriate USEPA approved containers, placed on ice, and transported to Superior Analytical Laboratory, Inc. located in Martinez, California, along with appropriate chain-of-custody documentation. The water samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline (USEPA Method 8015, modified) and benzene, toluene, xylenes, and ethylbenzene (BTXE) (USEPA Method 8020). The water samples are also normally analyzed for TPH as diesel (USEPA Method 8015, modified), but due to an oversight, the samples for TPH as diesel were not collected during the April sampling event. The samples for TPH as diesel will be collected during the quarterly sampling event in July 1991.

RESULTS

SHALLOW GROUND-WATER FLOW

A summary of the depth-to-water data is presented in Table 2. Depth-to-water ranged from approximately 7.91 feet (Monitor Well MW-1) to 8.58 feet (Monitor Wells MW-2 and MW-3) below the ground surface. A ground-water contour map based on the ground-water elevation data collected on May 1, 1991, is presented in Figure 2. The direction of ground-water flow, based on the May 1991 data, is toward the northwest at a hydraulic gradient of 0.003 ft/ft.

GROUND-WATER ANALYTICAL RESULTS

A summary of the ground-water analytical results is presented in Table 2. Copies of the certified laboratory reports and chain-of-custody documentation are included in Attachment 1. Benzene was detected in the water sample collected from Monitor Well MW-1 (2.2 µg/L). TPH as gasoline, toluene, ethylbenzene or xylenes were not detected in the water samples collected from Monitor Wells MW-1, MW-2 and MW-3.

DISCUSSION

SHALLOW GROUND-WATER FLOW

Since the initial depth-to-water level measurements were taken in October 1990 (Geraghty & Miller, November 15, 1990), the direction of ground-water flow has consistently been towards the west/northwest at a hydraulic gradient ranging from 0.003 ft/ft (March and April 1991) to 0.01 ft/ft (February 1991).

GROUND-WATER ANALYTICAL RESULTS

Based on the results presented in Table 2 for the water samples collected at the site, the concentrations of all analyses have generally been decreasing in concentration with each sampling event.

Concentrations of TPH as gasoline have been detected only in the water sample collected from Monitor Well MW-1. The concentrations have decreased from 260 $\mu\text{g/L}$ (February 1991) to non-detect levels (May 1991). TPH as diesel were detected in the water samples collected from all three monitor wells during October 1990 but were detected only in the water samples collected from Monitor Well MW-1 during February and March 1991. The concentrations of TPH as diesel detected in the water samples collected from Monitor Well MW-1 have decreased from 2,900 $\mu\text{g/L}$ (October 1990) to 73 $\mu\text{g/L}$ (February 1991).

Concentrations of benzene detected in the water sample collected from Monitor Well MW-1 have decreased from 43 $\mu\text{g/L}$ (February 1991) to 2.2 $\mu\text{g/L}$ (May 1991). The concentration of benzene in Monitor Well MW-3 has decreased from 28 $\mu\text{g/L}$ (October 1990) to non-detect levels (May 1991). There was no benzene detected in the water samples collected in Monitor Well MW-2 during the February 28, March 25, or May 1, 1991 sampling events.

The highest concentrations of toluene (18.0 $\mu\text{g/L}$, October 1990), ethylbenzene (7.0 $\mu\text{g/L}$, February 1991), and xylenes (5.7 $\mu\text{g/L}$, October 1990) have been detected in water samples collected from Monitor Well MW-1. Toluene, ethylbenzene, and xylenes were not detected in the water samples collected from Monitor Wells MW-2 and MW-3 during February, March, and May 1991, and the concentrations detected in Monitor Well MW-1 have decreased, reaching the non-detect level by the May, 1991, sampling.

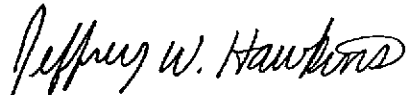
Geraghty & Miller recommends that a copy of this monthly ground-water monitoring report be forwarded to the Alameda County Health Care Services Agency, Department of Environmental Health in Oakland, California.

Geraghty & Miller appreciates the opportunity to be of service to Penske. If you have any questions regarding this proposal, please do not hesitate to call.

Sincerely,
GERAGHTY & MILLER, INC.



Paul V. Hehn
Staff Scientist/Project Geologist



Jeffrey W. Hawkins, R.G.
Senior Scientist/Project Manager



Gary W. Keyes, P.E.
Principal Engineer/Project Officer

Attachments: Table 1 - Summary of Field Sampling, Depth-to-Water,
and Casing Elevation Data

Table 2 - Summary of Ground-Water Analytical Results

Figure 1 - Site Location Map

Figure 2 - Ground-Water Contour Map

Attachment 1 - Copies of Certified Laboratory Reports and Chain-of-Custody
Documentation

REFERENCES

Alameda County Health Care Services Agency. October 24, 1989. Letter on Unauthorized Release, Underground Fuel and Waste Oil Tanks, 725 Julie Ann Way, Oakland, California.

Geraghty & Miller, Inc. November 15, 1990. Results of Initial Soil and Ground-Water Assessment Activities, Former Penske Truck Leasing Co. Facility, 725 Julie Ann Way, Oakland, California.

Geraghty & Miller, Inc. February 7, 1991. Scope of Work and Project Budget Estimate for Ground-Water Monitoring Activities for the Period February 1991 through February 1992, Former Penske Truck Leasing Co. Facility, 725 Julie Ann Way, Oakland, California.

Geraghty & Miller, Inc. March 19, 1991. Results of Monthly Ground-Water Monitoring, February 1991, Former Penske Truck Leasing Facility, 725 Julie Ann Way, Oakland, California.

Geraghty & Miller, Inc. April 11, 1991. Results of Monthly Ground-Water Monitoring, March 1991, Former Penske Truck Leasing Facility, 725 Julie Ann Way, Oakland, California.

Table 1 - Summary of Field Sampling, Depth-to-Water, and Casing Elevation Data
 Monthly and Quarterly Water Sampling
 Former Penske Truck Leasing Facility, 725 Julie Ann Way, Oakland, CA.

Well	Date	Depth to Water (a) (feet)	Top of Casing Elevation (feet MSL)	Top of Water Elevation (feet MSL)	Measured Depth of Well (a) (feet)	Calculated Purge Volume (b) (gallons)	Actual Purge Volume (gallons)	pH	Stabilized Temp. (F)	SC (µmhos/cm)	Casing Diameter (inches)
MW-1	2-Oct-90	9.76	5.42	-4.34	37.28	59	47	6.71	87.5	536	4
	28-Feb-91	8.54	5.42	-3.12	33.58	65	70	6.3	66	970	4
	25-Mar-91	7.35	5.42	-1.93	33.5	71	75	6.5	64	720	4
	1-May-91	7.91	5.42	-2.49	33.7	67	51	6.2	65	350	4
MW-2	2-Oct-90	10.38	6.21	-4.17	32.97	48	47	6.92	86.4	546	4
	28-Feb-91	9.19	6.21	-2.98	29.39	53	55	6.6	64	946	4
	25-Mar-91	7.95	6.21	-1.74	29.39	57	70	6.6	63	640	4
	1-May-91	8.58	6.21	-2.37	29.6	55	50	6.2	64	300	4
MW-3	2-Oct-90	10.38	6.10	-4.28	37.08	57	54	6.89	88.4	639	4
	28-Feb-91	9.45	6.10	-3.35	31.61	58	60	6.1	66	1,020	4
	25-Mar-91	7.98	6.10	-1.88	31.6	70	75	6.4	65	820	4
	1-May-91	8.58	6.10	-2.48	33.7	65	50	6.4	67	410	4

(a) Measured from top of PVC casing.

(b) Based on four casing volumes.

SC Specific Conductance

MSL Mean Sea-Level

Table 2 - Ground-Water Analytical Results
 Monthly and Quarterly Water Sampling
 Former Penske Truck Leasing Facility, 725 Julie Ann Way, Oakland, CA.

Well	Date	TPH Gasoline (a) (µg/L)	TPH Diesel (a) (µg/L)	Benzene (b) (µg/L)	Toluene (b) (µg/L)	Ethyl- benzene (b) (µg/L)	Xylenes (b) (µg/L)
MW-1	2-Oct-90	170	2,900	20.0	18.0	1.9	5.7
	28-Feb-91	260	550	43.0	1.0	7.0	1.0
	25-Mar-91	73	160	10.0	ND(<0.3)	0.5	ND(<0.3)
	1-May-91	ND(<50)	(c)	2.2	ND(<0.3)	ND(<0.3)	ND(<0.3)
MW-2	2-Oct-90	ND(<50)	80	0.4	ND(<0.3)	ND(<0.3)	0.5
	28-Feb-91	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)
	25-Mar-91	ND(<50)	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)
	1-May-91	ND(<50)	(c)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)
MW-3	2-Oct-90	ND(<50)	90	28.0	3.1	0.6	1.5
	28-Feb-91	ND(<50)	ND(<50)	6.0	ND(<0.3)	ND(<0.3)	ND(<0.3)
	25-Mar-91	ND(<50)	ND(<50)	0.6	ND(<0.3)	ND(<0.3)	ND(<0.3)
	1-May-91	ND(<50)	(c)	ND(<0.3)	ND(<0.3)	ND(<0.3)	ND(<0.3)

- (a) Analyzed by USEPA Method 8015, modified.
- (b) Analyzed by USEPA Method 8020.
- (c) No Results - Sample for TPH as Diesel Not Collected.

() Reported Detection Limit
 ND Not Detected

Analysis by Superior Analytical Laboratories, Inc. San Francisco and Martinez, California.



Reference: USGS Oakland East, Ca. 7 1/2 Min. Quad
 Scale: 1:24,000

● = Site



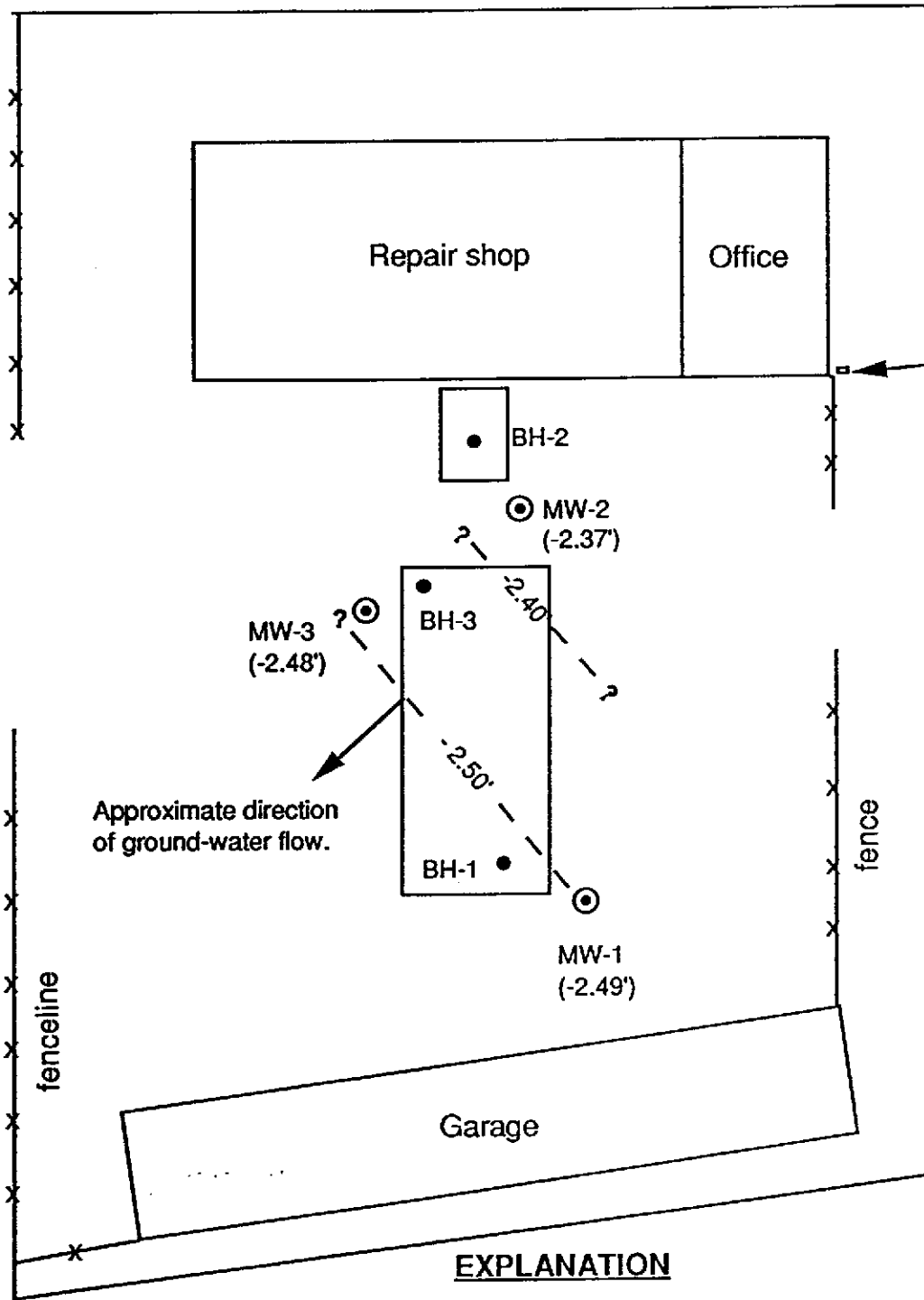
GERAGHTY & MILLER, INC.
Environmental Services

SITE LOCATION MAP
 Former Penske Truck Leasing Co.
 724 Julie Ann Way
 Oakland, California

FIGURE

1

Proj. No. RC01904 Date: March 19, 1991



Julie Ann Way



EXPLANATION

- BH-1 ● = Approximate location of soil borings
- MW-1 ⊙ = Approximate location of ground-water monitor well
- BM = Survey Bench Mark (based on City of Oakland datum which is 3 feet higher than Mean Sea Level).

- (-2.37') = Ground-Water elevation (feet), measured May 1, 1991.
- ? -3.20' = Ground-water elevation contour (feet); Dashed where inferred, queried where uncertain; (contour interval equals 0.10 foot).



Proj. No. RC01904 Date: May 7, 1991

GROUND-WATER CONTOUR MAP

Former Penske Truck Leasing Co.
724 Julie Ann Way
Oakland, California

FIGURE

2

ATTACHMENT 1

COPIES OF CERTIFIED ANALYTICAL REPORTS

AND

CHAIN-OF-CUSTODY DOCUMENTATION

SUPERIOR ANALYTICAL LABORATORIES, INC.

825 ARNOLD, STE. 114 • MARTINEZ, CALIFORNIA 94553 • (415) 229-1512

DOHS #319
DOHS #220

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 83032
CLIENT: Geraghty & Miller
CLIENT JOB NO.: RCO-1902

DATE RECEIVED: 05/03/91
DATE REPORTED: 05/10/91

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration (mg/L) Gasoline Range
1	MW2	ND<0.05
2	MW3	ND<0.05
3	MW1	ND<0.05
4	TRIP BLANK	ND<0.05

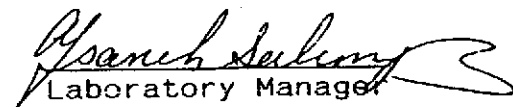
mg/L - parts per million (ppm)

Method Detection Limit for Gasoline in water: 0.05 mg/L

QAQC Summary:

Daily Standard run at 2mg/L: RPD Gasoline = <15
MS/MSD Average Recovery = 94%: Duplicate RPD = 2

Richard Srna, Ph.D.


Laboratory Manager

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORIES, INC.

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DOHS #319
DOHS #220

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 83032
CLIENT: Geraghty & Miller
CLIENT JOB NO.: RCO-1902

DATE RECEIVED: 05/03/91
DATE REPORTED: 05/10/91

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/L)			
		Benzene	Toluene	Ethyl Benzene	Xylenes
1	MW2	ND<0.3	ND<0.3	ND<0.3	ND<0.3
2	MW3	ND<0.3	ND<0.3	ND<0.3	ND<0.3
3	MW1	2.2	ND<0.3	ND<0.3	ND<0.3
4	TRIP BLANK	ND<0.3	ND<0.3	ND<0.3	ND<0.3

ug/L - parts per billion (ppb)

Method Detection Limit in Water: 0.3 ug/L

QAQC Summary:

Daily Standard run at 20ug/L: RPD = <15%
MS/MSD Average Recovery =98%: Duplicate RPD = 4

Richard Srna, Ph.D.


Laboratory Manager

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