GERAGHTY
& MILLER, INC.
Environment and Infrastructure

a **heidemij** company

March 31, 1997
Project No. RC0019.011

Mr. Richard G. Saut
Environmental Project Manager
Penske Truck Leasing Co., L.P.
Environmental Services Department
P.O. Box 7635
Reading, Pennsylvania 19603-7635

SUBJECT: Work Plan for the Installation and Sampling of Two Observation Wells
Former Penske Truck Leasing Co. Facility
725 Julie Ann Way, Oakland, California.

Dear Mr. Saut:

Geraghty & Miller, Inc. (Geraghty & Miller) has prepared this work plan for the installation of two observation wells at the above-referenced former Penske Truck Leasing (Penske) facility (Figure 1) per the Geraghty & Miller proposal dated January 23, 1997, and your signed work order to Geraghty & Miller dated February 11, 1997.

The objective of the work is to install two groundwater observation wells within the backfill of the former underground storage tank (UST) excavation to investigate groundwater levels and potential impacts from petroleum hydrocarbons. The two observation wells will be constructed with 4-inch well casing and well screen so that they could also function as extraction points for possible enhanced power purging or for the possible injection of nutrients to aid in-situ biodegradation of petroleum hydrocarbons in the groundwater.

The scope of work of this work plan is a followup to conversations and correspondence with Barney Chan of the Alameda County Health Care Services Agency (ACHCSA) about alternative methods for increasing the effectiveness of petroleum-hydrocarbon remediation in the soil and groundwater. These discussions and the correspondence between the ACHCSA and Geraghty & Miller were confirmed by a letter to Penske from the ACHCSA dated December 6, 1996. Information on anticipated drilling conditions and observation well completion depths has been determined from a previous

subsurface investigation (Geraghty & Miller, "Results of Initial Soil and Groundwater Assessment Activities," November 15, 1990).

SCOPE OF WORK

TASK 1: PREFIELD ACTIVITIES

This task includes preparation of this work plan and its submission to the ACHCSA. Geraghty & Miller also will schedule drilling subcontractors, obtain necessary regulatory permits, and arrange for laboratory analysis. A representative of Geraghty & Miller will mark the proposed drilling locations at the site. Revisions to the existing site-specific health and safety plan will be prepared for this assessment work.

TASK 2: DRILLING OF SOIL BORINGS

Two soil borings will be drilled using a hollow-stem auger drill rig provided by West Hazmat Drilling Corp. of Newark, California. The two soil borings will be drilled at each end of the former tank excavation (Figure 2), and the drilling activities will be supervised by on-site Geraghty & Miller personnel. The soil borings will be drilled using 8-inch diameter augers. Soil samples will be collected at approximate 5-foot intervals using a split-spoon sampling device. The samples will be used for lithologic information and to aid in determining the completion depths of the observation wells. **Since the majority of each boring will be within the tank backfill of the former UST, no soil samples will be collected for analysis.** The soil samples collected in the split-spoon sampler will be logged by on-site Geraghty & Miller personnel. All equipment which enters the hole will be steam-cleaned before drilling each boring. Prior to each use, the split-spoon sampler will be washed in a solution of nonphosphate detergent and potable water and then triple rinsed in potable water.

During drilling, field measurements of combustible vapors will be obtained from soil samples using a combustible gas detector (Gastech™ Model 1314) or a Thermo Model 580B photoionization detector (PID) calibrated to hexane. A soil sample from each sampling interval will be placed into a Ziploc™ baggie. The concentration of combustible vapors in the headspace will be measured by inserting the tip of the detector into the baggie after allowing approximately 20 minutes for the volatile vapors which may be present in the soil to equilibrate within the headspace in the baggie. The concentration of combustible vapors measured as hexane will be recorded on the soil boring logs.

The driving and sampling process will continue until the bottom of the former tank excavation is encountered. Based on information provided to Geraghty & Miller regarding the removal of the original USTs, the bottom of the tank excavation is anticipated to be at approximately 12 to 15 feet below the ground surface (bgs). It is anticipated that groundwater will be encountered at approximately 8 to 10 feet bgs, with each boring to be drilled to approximately 5 feet below the bottom of the former UST excavation, or approximately 20 feet bgs.

Each boring will be completed as a groundwater observation well by installing 4-inch diameter PVC casing. The slotted portion of the casing (0.020-inch) will extend from the bottom of the well to approximately 5 feet above first encountered water. The well completion may vary based on the actual hydrogeologic conditions encountered during the exploratory drilling. The top-of-casing and ground-surface elevation for each well, relative to mean sea level, will be surveyed by a State-licensed surveyor.

All soil generated during the exploratory drilling activities will be either stockpiled onsite and covered with plastic or stored in drums for proper disposal by Penske. One composite soil sample will be collected from the stockpiled or drummed soil to assist Penske in determining soil-disposal options. All water generated during the exploratory drilling activities will be stored onsite in 55-gallon drums for proper disposal by Penske.

TASK 3: OBSERVATION WELL SAMPLING

The groundwater sampling of the newly completed wells described in Task 2 will be performed at least 48 hours after completion of the wells. The sampling event will consist of obtaining depth-to-water measurements for the two new groundwater observation wells and checking each well for the presence of liquid-phase hydrocarbons (LPH). If LPH are detected, the well will be purged and then allowed to recover. The well will be checked again after purging to see if LPH are still present. Any well which initially contained LPH, and which still contains LPH after purging, may not be sampled. All equipment that will enter the well will be washed in a solution of a nonphosphate cleaner and water, and triple rinsed in distilled water. Prior to sampling, a minimum of four casing volumes of water will be purged from each well, using either an air-lift pump or a low-discharge submersible pump prior to sampling. The purge water will be monitored for temperature, pH, and specific conductance and stored onsite in DOT-approved 55-gallon drums for proper disposal by Penske.

Following purging, groundwater samples will be collected using a new polyethylene disposable bailer for each well. The water samples will be collected into the appropriate USEPA-approved containers, placed on ice, and transported to a California Department of Health Services-approved laboratory for analysis.

A trip blank consisting of a sample vial containing laboratory-grade water, which accompanies the sample vials from the laboratory to the site and back to the laboratory, will also be submitted for analysis. The purpose of the trip blank is to assess whether any of the compounds analyzed for may have been imparted to the samples by air in the vicinity of the sample bottles during shipping, by the sample container, by the preservative, or by other exogenous sources.

TASK 4: LABORATORY ANALYSIS

Groundwater samples will be collected from the two newly completed observation wells. One trip blank prepared by the analytical laboratory will accompany the set of groundwater samples collected from the completed groundwater observation wells and will be analyzed. The groundwater samples will be analyzed for total petroleum hydrocarbons (TPH) as diesel (USEPA Method 8015, modified), TPH as gasoline (USEPA Method 8015, modified), and benzene, toluene, ethylbenzene, and xylenes (BTEX) (USEPA Method 8020). The trip blank will be analyzed only for TPH as gasoline and BTEX.

The composite soil sample will be analyzed to determine disposal options. The sample will be composited in the laboratory prior to analysis and will be analyzed for TPH as diesel (USEPA Method 8015, modified), TPH as gasoline (USEPA Method 8015, modified), and BTEX (USEPA Method 8020).

TASK 5: PREPARATION OF OBSERVATION WELL INSTALLATION REPORT

Following receipt of all data, Geraghty & Miller will prepare a report of the results of the assessment activities to comply with the requirements of the ACHCSA. This report will include:

- Description of the exploratory drilling activities;
- Description of groundwater sampling procedures;
- Exploratory boring logs and well-completion details;

- Tables of analytical results of groundwater samples;
- One cross section;
- Site vicinity map;
- Site plan map with the location of all on-site monitoring wells;
- Spider map showing the results of the groundwater sample analyses; and
- Summary and discussion of the findings and analytical results.

The completed report will be submitted in draft form to Penske for review and approval. After Penske approval, the report will be finalized and forwarded to Penske. If requested by Penske, a copy of the final version of the report will also be forwarded to the ACHCSA.

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

Sincerely,
GERAGHTY & MILLER, INC.

Paul V. Hehn, R.G.
Project Geologist/Project Manager

REGISTERED GEOLOGIST
PAUL V. HEHN
No. 6571
STATE OF CALIFORNIA

Gary W. Keyes
Principal Engineer/Project Officer
Richmond, California Office Manager

Attachments: Figure 1 Site Location Map
Figure 2 Proposed Observation Well Locations

SCALE 1:24000

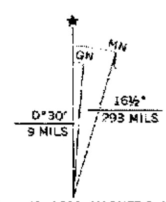
1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

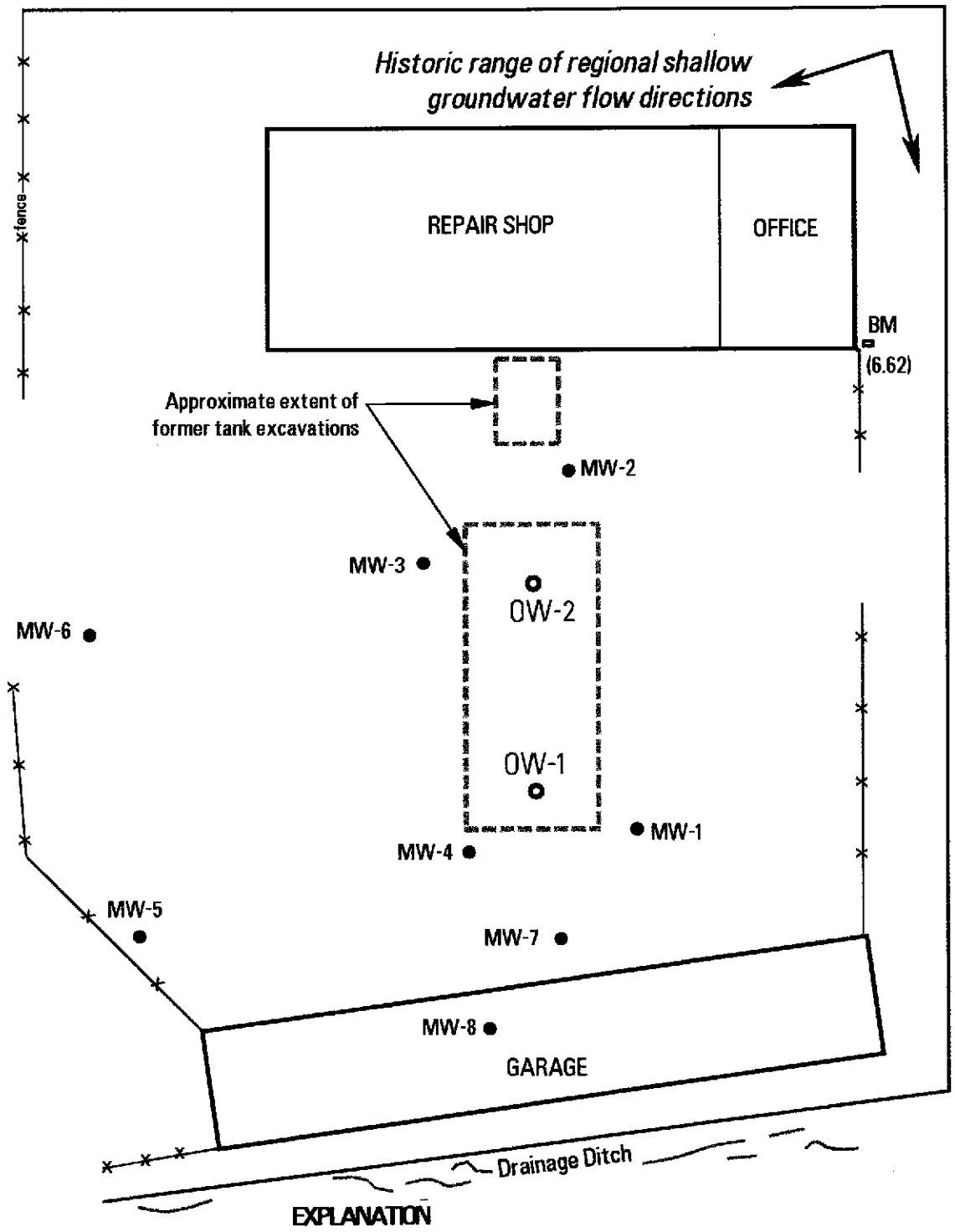
QUADRANGLE LOCATION



UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Reference: U.S.G.S. 7-minute Quadrangle, Oakland East, California, revised, Photorevised 1980.

GERAGHTY & MILLER, INC. *Environmental Services* A **Heidemij** Company	**SITE LOCATION MAP** Former Penske Truck Leasing Co. Facility 725 Julie Ann Way Oakland, California	FIGURE **1**
Project No. RC0019.000		



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PROPOSED OBSERVATION WELL LOCATIONS

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

FIGURE
2