Work Plan for a Proposed Environmental Investigation White GMC Truck Corporation 5050 Coliseum Way Oakland, California

September 3, 1991
2407.02

Prepared for:

Volvo GM Heavy Truck Corporation
7900 National Service Road
Greensboro, North Carolina 27402-6115

LEVINE·FRICKE

LEVINE·FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

September 3, 1991 LF 2407.02

Ms. Cynthia Chapman
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Subject: Work Plan for a Proposed
Environmental Investigation at the
White GMC Truck Facility
5050 Coliseum Way, Oakland, California

Dear Ms. Chapman:

This Work Plan has been prepared by Levine•Fricke, Inc., on behalf of Volvo GM Heavy Truck Corporation in response to the Alameda County Department of Environmental Health's April 10, 1991 letter requesting an environmental investigation at the White GMC Truck facility, 5050 Coliseum Way, Oakland, California. This Work Plan describes our proposed investigation of soil and ground-water quality at the former location of an underground waste-oil storage tank at this site.

If you have any questions or comments on the Work Plan or proposed schedule, please call me or Peter Krasnoff, P.E.

Sincerely,

Kathleen A. Isaacson, R.G.
Senior Project Hydrogeologist

Enclosure

cc: Lester Feldman, California Regional Water Quality Control Board - San Francisco Bay Region

1900 Powell Street, 12th Floor
Emeryville, California 94608
(415) 652-4500
FAX (415) 652-2246

Other offices in Irvine, CA; Sacramento/Roseville, CA; Tallahassee, FL

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LEVINE·FRICKE

September 3, 1991 LF-2407

WORK PLAN FOR A PROPOSED ENVIRONMENTAL INVESTIGATION
WHITE GMC TRUCK CORPORATION
5050 COLISEUM WAY
OAKLAND, CALIFORNIA

1.0 INTRODUCTION

This Work Plan has been prepared by Levine·Fricke, Inc. on behalf of Volvo GM Heavy Truck Corporation ("Volvo GM") in response to the Alameda County Department of Environmental Health's (ACDEH) April 10, 1991 letter requesting an environmental investigation at the White GMC Truck ("White GMC") facility, 5050 Coliseum Way, Oakland, California ("the Site"; Figure 1). This Work Plan describes our proposed investigation of soil and ground-water quality at the former location of the underground waste-oil storage tank at the Site (Figure 2).

motor oil " " ?

1.1 Site Location

The Site is located approximately 0.5 mile northeast of San Leandro Bay in a heavy industrial area of Oakland in Alameda County, California. The Site occupies approximately 4 acres of land with an elevation near sea level.

1.2 Background

According to the "Tank Closure Report" dated July 2, 1991, prepared by Tank Protect Engineering (TPE) of Union City, California, three underground motor-oil tanks and one underground 550-gallon-capacity waste-oil tank were excavated and removed from the Site by TPE on March 18, 1991 (Figure 2).

1.2.1 Waste-Oil Tank

When the waste-oil tank was removed, a 3-inch by 0.5-inch hole was observed by TPE on the north end of the underside of the tank. According to TPE personnel, ground water was observed at approximately 6 feet below ground surface (bgs) and reportedly was abnormally high because of a ruptured terra-cotta sewer pipe located at approximately 8 feet bgs. Two soil samples were collected from above the soil-water interface where hydrocarbon-affected soil was observed. Additional soil was excavated to remove soil observed to be affected by hydrocarbons. The excavation was completed to

about 9 feet bgs. Floating hydrocarbons were observed on ground water in the tank pit. Over two days, TPE pumped approximately 1,500 gallons of water from the excavation. Two to three days later, floating hydrocarbons were again observed on the ground water in the excavation and adsorbent pads were used by TPE to remove the floating hydrocarbons from the ground-water surface. Ground-water samples were collected by TPE from the tank pit on March 26, 1991, and April 4, 1991.

The soil and ground-water samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and diesel (TPHd) using EPA Method 8015, for aromatic hydrocarbons using EPA Method 8020, for oil and grease (O&G) using EPA Method 5520 E and F, for semivolatile hydrocarbons using EPA Method 8270, and for the metals cadmium (Cd), chromium (Cr), lead (Pb), zinc (Zn), and nickel (Ni) using EPA Methods 6010, 6010, 7421, 6010, and 6010, respectively. Ground-water samples were analyzed for polychlorinated biphenyls (PCBs) using EPA Method 8080.

Soil samples collected from the western side (WO1-W) and southeastern side (WO2-S) of the tank excavation contained 470 parts per million (ppm) and 40 ppm TPHd, respectively, 320 ppm and below the detection limit of 1 ppm TPHg, respectively, and 960 ppm and 110 ppm O&G, respectively (Figure 3). TPHd, TPHg, and O&G were reported at 3,300 ppm, 450 ppm, and 870 ppm, respectively, for the soil sample collected from the excavation stockpile (SPWO-1). Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were not detected in the sidewall samples, with the exception of 0.14 ppm ethylbenzene and 0.340 ppm total xylenes in sample WO1-W. The stockpile sample contained 3.60 ppm total xylenes and lower concentrations of toluene and ethylbenzene.

For the three soil samples collected from the excavation sidewalls and the stockpile, the highest reported metals concentrations were 580 ppm Cd, 29 ppm Cr, 16,000 ppm Pb, 5,600 ppm Zn, and 25 ppm Ni. The highest concentrations of Pb and Zn were detected in the stockpile sample. The three soil samples also were analyzed for semivolatile hydrocarbons; 6.0 ppm 1,2-dichlorobenzene and 0.660 ppm 2-methylnaphthalene were detected only in the stockpile sample.

The ground-water samples contained 3,100 parts per billion (ppb) TPHd, 650 ppb TPHg, 2.6 ppb benzene, 42 ppb toluene, 7.6 ppb ethylbenzene, 14 ppb total xylenes, and 7,900 ppb O&G.

Cr and Ni were not reported above detection limits and Cd, Pb, and Zn were reported at concentrations of 130 ppb, 320 ppb, and 100,000 ppb, respectively. PCBs and polynuclear aromatics (PNAs) were not detected in the ground-water samples.

1.2.2 Motor-Oil Tanks

TPE personnel did not observe holes in any of the three underground motor-oil tanks during removal, but evidence of overflow, which possibly occurred during filling of the tanks, was observed by TPE personnel during removal of the tanks. Five soil samples were collected on March 18, 1991, from the sidewalls of the excavation at approximately 8.5 feet bgs, just above the soil-water interface. A ground-water sample was collected from the bottom of the excavation on March 18, 1991, at approximately 9 feet bgs. The soil and ground-water samples were analyzed for TPHd and aromatic hydrocarbons.

TPHd concentrations in the five soil samples ranged from less than the detection limit of 1.0 ppm to 78 ppm. Benzene and ethylbenzene were detected in one soil sample at concentrations of less than 0.001 ppm. Toluene was reported at concentrations ranging from less than the detection limit of 0.050 ppm to 0.024 ppm and total xylenes were reported at concentrations ranging from less than the detection limit of 0.050 ppm to 0.054 ppm. The ground-water sample contained 1,700 ppb TPHd and 0.36 ppb total xylenes. Benzene, toluene, and ethylbenzene were not reported above the detection limit of 0.30 ppb.

1.3 Site History

Based upon a preliminary search of records, the property was occupied by a variety of chemical companies between 1910 and 1964. These tenants included Chemical Pigment Company, a division of Glidden Company, which operated at the Site between 1926 to 1964. Activities conducted at the Site included production of paint-related compounds. The property was not occupied between 1964 and 1973.

The present building and facilities, including the underground storage tanks, were built in 1974 by White Motor Corporation and were operated by White Motor Corporation until 1981. The Site was operated by Volvo-White Truck Corporation from 1981 to 1988. White GMC, a division of Volvo GM, has operated the Site since 1988.

The three underground tanks on the eastern side of the building historically were used to store motor oil. The former waste-oil tank on the western side of the building received waste oil from the adjacent underground clarifier, which is still in place (Figure 3). The clarifier received discharge from on-site steam-cleaning facilities.

2.0 SITE DESCRIPTION

The Site is surrounded by salvage businesses and heavy industrial facilities (Figure 2). A PG&E transformer station is located southwest of the Site. A records search for potential off-site sources of hazardous materials will be conducted and will include identification of nearby wells.

Four shallow monitoring wells are present on the adjoining property located north of the Site at 750-50th Avenue (Figure 2). Water-level measurements taken by Levine·Fricke personnel in August 1991 indicate that ground-water generally flows southward, towards San Leandro Bay. The effects of possible tidal influence or discharge from a canal, which is located directly southwest of the Site across Coliseum Way and which drains into San Leandro Bay, were not evaluated.

where are these results?

Ground-water samples were collected by Aqua Terra Technologies, Inc. (ATT) of Walnut Creek, California, in September 1990. The analytical results, reported in a letter report to Volvo GM dated October 23, 1990, indicated that ground water collected from wells MW-1 through MW-4 did not contain detectable concentrations of organic hydrocarbons based on analysis using EPA Methods 8240 (volatile organic compounds) and 8270 (semivolatile compounds).

3.0 SCOPE OF WORK TO EVALUATE SOIL AND GROUND-WATER QUALITY

Based on the information provided, Levine·Fricke proposes conducting the following six tasks to further characterize soil and ground-water quality at the former waste-oil tank location.

Task 1: Health and Safety Plan
Task 2: Soil Sampling and Well Installation
Task 3: Well Development and Ground-Water Monitoring and Sampling
Task 4: Soil and Ground-Water Analysis
Task 5: Technical Report Preparation
Task 6: Project Management

Tasks 1 through 6 are described in detail below.

Task 1: Health and Safety Plan

As required by the Occupational Safety and Health Administration (OSHA), a Health and Safety Plan will be prepared by Levine·Fricke personnel before initiation of on-site work. A utility line-locating service will be used to locate underground lines and other possible subsurface obstacles.

Task 2: Soil Sampling and Well Installation

Two to three shallow and three deeper soil borings are proposed to assess the extent of petroleum hydrocarbons and metals in native soil in the vicinity of the former location of the waste-oil tank (Figures 2 and 3). Drilling will be conducted by a licensed contractor using the hollow-stem auger method, under the supervision of Levine·Fricke personnel. The borings will be logged using the Unified Soils Classification system. Field personnel will be directed by a California Registered Geologist. Well permits will be obtained from the Alameda County Flood Control District.

Two of the proposed shallow borings will be drilled to first-observed ground water, anticipated to occur approximately 9 feet bgs, to assess the extent of petroleum hydrocarbons and metals previously detected in soil at the northwestern end of the tank pit (Figure 3). An additional proposed shallow boring will be drilled if field evidence indicates the presence of petroleum hydrocarbons in soil samples from either of the first two shallow borings and that further definition is needed.

Three deeper soil borings will be drilled into first ground water and will be completed as monitoring wells (Figure 2). Proposed boring LF-1 will be drilled near the former location of the waste-oil tank to provide data on ground-water quality near the tank pit. Proposed boring LF-2 will be drilled on the south side of the building near the property boundary to provide data on ground-water quality in an estimated downgradient direction from the tank pit. Proposed boring LF-3 will be drilled on the east side of the building to provide data on ground-water quality crossgradient from the former location of the tank pit and to provide additional control in assessing the direction of ground-water flow. The exact locations of all of the borings will depend on site access and possible subsurface obstacles.

Soil samples will be collected in brass tubes at approximately 2.5-foot intervals for lithologic description and possible chemical analysis. Soil samples will be screened with an organic vapor analyzer (OVA) and measurements recorded on the boring log. A minimum of one sample per boring, collected during drilling just above first-observed ground water, will be analyzed. One additional shallower sample will be analyzed per boring if field evidence, such as staining or elevated OVA measurements, are noted during sample collection. Selected samples for chemical analysis will be immediately covered with aluminum foil, capped, and placed in a chilled cooler for delivery under chain of custody to a state-certified laboratory.

Deeper soil borings LF-1 through LF-3 will be completed as 2-inch-diameter PVC monitoring wells to a depth of approximately 20 to 25 feet bgs. The length of slotted well screen and blank PVC casing will be based on the lithology of the sediments and depth to ground water observed during drilling. The screen will extend above the static-water level to allow floating product, if present, to enter the well. The screen size will be determined in the field based on sieve analysis of saturated-zone material. The wells will be installed according to California Regional Water Quality Control Board guidelines. Newly installed wells LF-1 through LF-3 and existing wells MW-1 through MW-4 will be surveyed to the nearest 0.01 foot referenced to mean sea level by a licensed surveyor.

Soil cuttings from drilling activities will be temporarily stored on site in labeled containers pending chemical characterization and disposal in accordance with applicable regulations.

Task 3: Well Development and Ground-Water Monitoring and Sampling

The proposed wells will be developed by hand using a steam-cleaned Teflon bailer to remove sediment from around the screened interval and enhance hydraulic communication with the surrounding formation. Observations of quantity and clarity will be recorded during this process.

Before sampling, water-level measurements will be taken in the newly installed wells and existing wells MW-1 through MW-4 on the adjoining property. Ground-water samples will be collected from the newly installed wells and well MW-2 on the adjoining property (located in an estimated upgradient direction from the Site) with steam-cleaned Teflon bailers

after three to four well volumes are purged. Measurements of electrical conductivity, pH, and temperature will be recorded during purging until those parameters stabilize. The ground-water samples will be placed in containers appropriate for the analyses to be performed. Immediately after collection, samples will be labeled and placed in a chilled cooler for delivery under chain of custody to a state-certified laboratory. One quality control blank will be included with the ground-water samples.

Water produced during development and sampling will be stored on site in labeled containers pending chemical characterization and disposal in accordance with applicable regulations.

Three rounds of water-level measurements will be taken at low and high tides, according to published tide tables, to evaluate possible tidal influences or discharge from the channel south of the Site.

Task 4: Soil and Ground-Water Analysis

[redacted] and one quality-control blank will be analyzed for volatile and extractable hydrocarbons using EPA Method 8015, for O&G using EPA Method 5520 E & F (gravimetric), and for volatile organic compounds using EPA Method 8240. Soil samples will be analyzed for Cd, Cr, Pb, Zn, and Ni using EPA Methods 6010, 6010, 7421, 6010, and 6010, respectively. Ground-water samples will be analyzed for those metals using methods designed to meet San Francisco Basin Plan detection limits. Ground-water samples also will be analyzed for total dissolved solids using standard methods. These analyses have been selected based upon the analytical results for soil and ground-water samples collected during removal of the waste-oil tank.

Task 5: Technical Report Preparation

A technical report describing field activities and reporting the results of laboratory analyses will be submitted to the ACDEH. Water-level data will be evaluated to assess the possible effect of tidal influence on the direction of ground-water flow beneath the Site. Estimates will be included of hydraulic conductivity of the shallow water-yielding material, based on the lithology of saturated

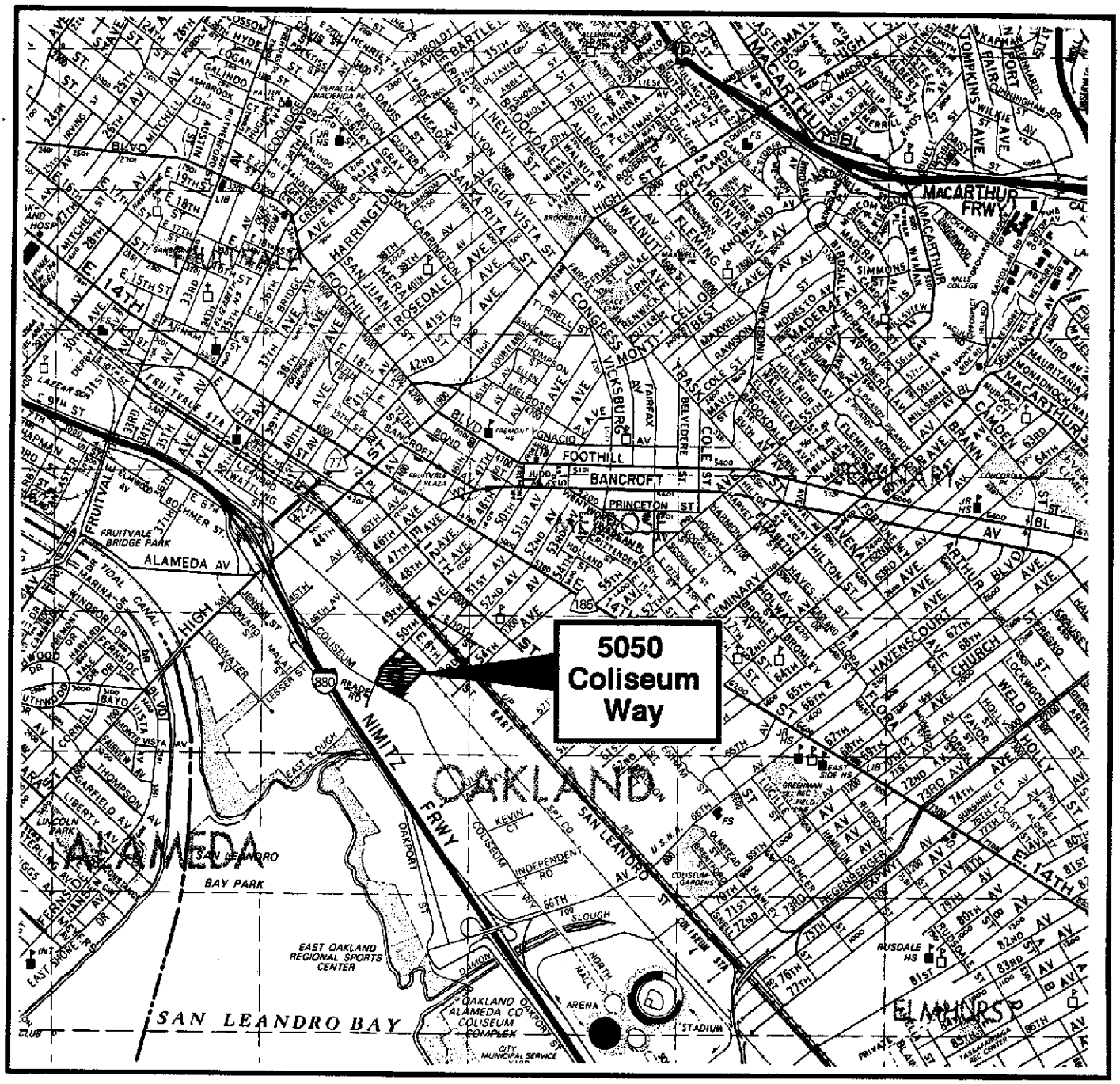
sediments and well production during development and sampling. An estimate will be provided of the volume of soil remaining that possibly contains elevated concentrations of petroleum hydrocarbons and metals. The report will contain recommendations for additional investigation or remediation, if necessary.

Task 6: Project Management

Ms. Kathleen A. Isaacson, R.G., Senior Project Hydrogeologist, will be Project Manager for this project. As such, she will be the primary contact for Volvo GM and will be responsible for all technical and administrative aspects of the project. Mr. Carl A. P. Fricke, Executive Vice President and Principal Hydrogeologist, will provide principal review for the project.

4.0 SCHEDULE

Field work can be conducted within three weeks after receiving approval of the Work Plan from the ACDEH. A technical report will be provided within four weeks after completion of field activities, as required by the ACDEH.



SOURCE: Thomas Bros. map
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Figure 1 : SITE LOCATION MAP

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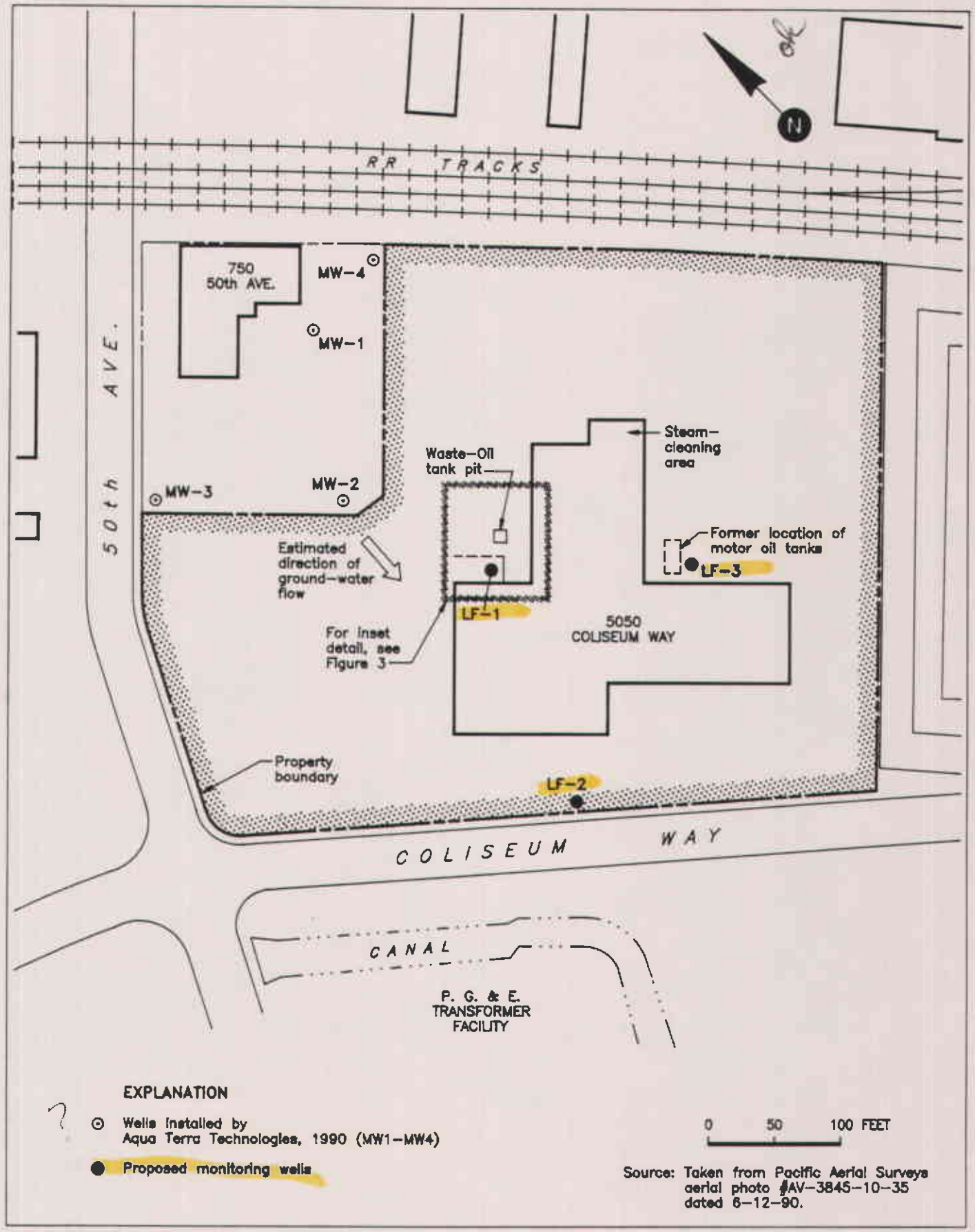

Figure 2 : SITE MAP WITH PROPOSED WELL LOCATIONS
5050 COLISEUM WAY, OAKLAND, CALIFORNIA

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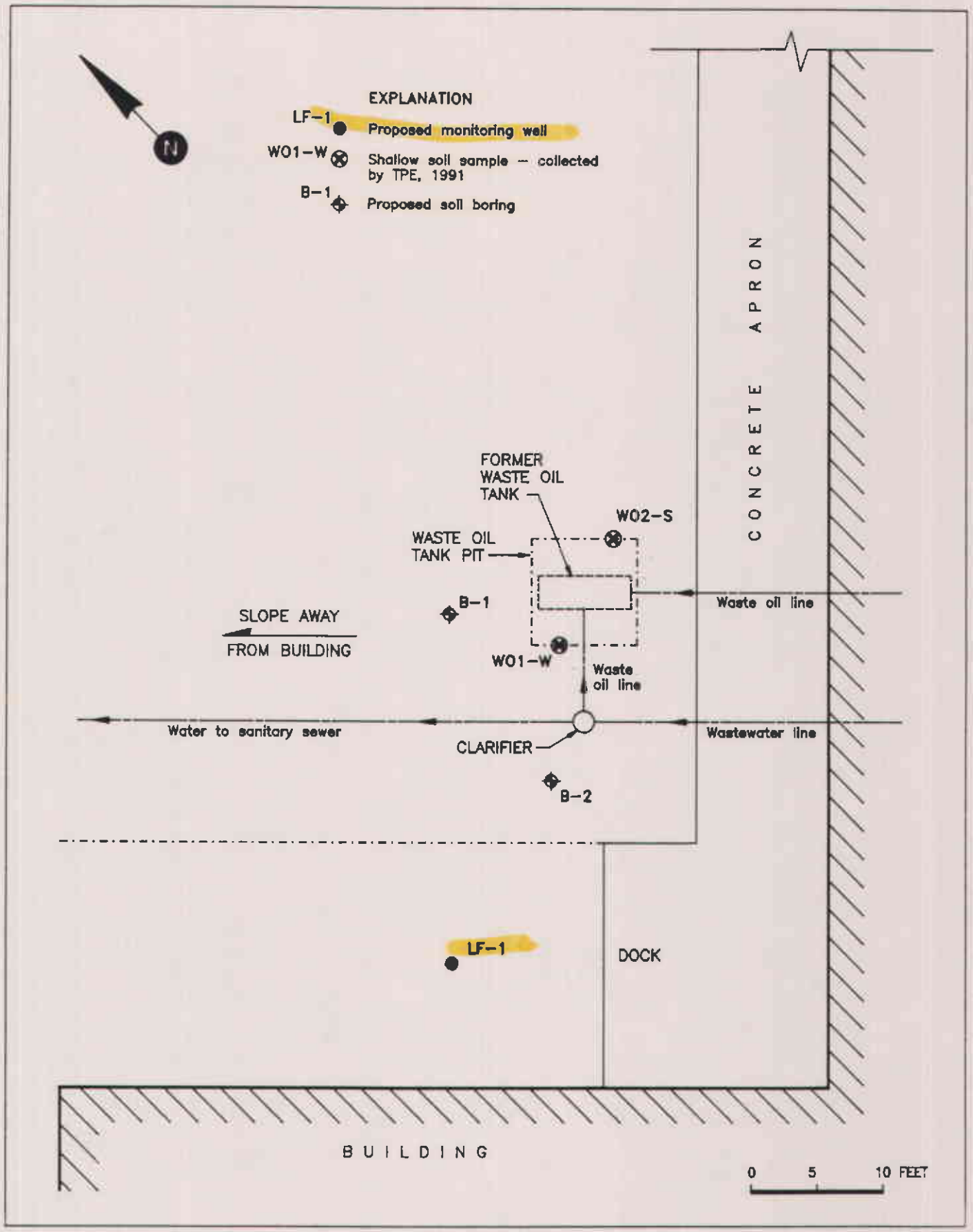

Figure 3 : FORMER LOCATION OF WASTE OIL TANK AND SAMPLING LOCATIONS