Phase I Investigation
Work Order Number 2
RMC LONESTAR
Eliot Plant,
Pleasanton, California

May 1, 1989
88P-271

Prepared for:

RMC Lonestar
6601 Koll Center Parkway
Pleasanton, California

LEVINE·FRICKE

LEVINE·FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

May 1, 1989 88P-271

Mr. Louis Schipper
RMC LONESTAR
11555 Dublin Canyon Road
P.O. Box 5252
Pleasanton, California 94566

Subject: Proposal for Phase 1 Environmental Investigation, RMC LONESTAR Eliot Plant, Pleasanton, California

Dear Louis:

Enclosed are two copies of our proposal to conduct a Phase 1 environmental investigation at the subject site. The purpose of this work will be to assess whether soils excavation around the truck steam-cleaning pad has removed soils affected by waste oils and whether ground water has been affected by leakage of waste oils.

This proposal is written in the form of a Work Order to expedite implementation. To authorize work, please sign both copies of the Approval and Acceptance form included in the Work Order and return one copy to us.

If you have any questions, please call me or Roger Leventhal, P.E.

Sincerely,

Tom Graf, P.E.
Principal Engineer

Enclosure

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

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May 1, 1989 88P-271

PHASE 1 INVESTIGATION
WORK ORDER NUMBER 2

I. INTRODUCTION

A. At the request of RMC LONESTAR, Levine·Fricke has prepared the following description of the Scope of Services, Schedule and Estimated Budget for a Phase I investigation at the RMC LONESTAR Eliot Site in Pleasanton, California. The proposed work entails installing and developing one monitoring well for the collection and analysis of ground-water samples. It also entails collecting and analyzing 14 soil samples from an excavation pit adjacent to the discharge outlet of the truck steam-cleaning pad.

The data collected under this Work Order No. 2 will be analyzed to assess the extent of affected soils in the excavation pit, and whether the ground-water directly under the pit may have been affected from on-site operations.

B. The RMC LONESTAR Eliot Site is located directly off Stanley Boulevard in Pleasanton, California, as shown on Figure 1. The operations at the site involve sand and gravel quarrying, and transport of material by truck to job sites. Previous operations at the site involved essentially the same operation.

Untreated wastewater from the steam-cleaning of trucks and engine parts has been discharged through a drain pipe within a concrete pad onto the subject site for an extended period of time. Additional spillage may have also occurred from a nearby above-ground oil tank, which drains to the same drain pipe. In 1988, RMC LONESTAR excavated a test pit in the vicinity of the drain pipe outlet to an approximate depth of 15 feet. The subsurface soils consisted mainly of sand and gravel and were stained with petroleum products. Ground water was not encountered. Analysis of soil samples collected at the base of the excavation reported concentrations of total petroleum hydrocarbons (TPH) at up to 6,000 parts per million (ppm). The test pit was enlarged in early 1989 by further excavation and stockpiling of soils. The approximate location of the current excavation pit is shown on Figure 2.

[redacted] are located at the site. The only [redacted] There has been [redacted] from this tank.

II. SITE DESCRIPTION

The RMC LONESTAR Eliot Site is located in an area underlain by coarse sand and gravel sediments. Figure 1 shows the surrounding area and topographic features. Shadowcliffs Lake is located directly west of the site. According to LONESTAR personnel, the water level in the lake is maintained at approximately 10 to 15 feet higher than the water level underlying the affected area. This produces a ground-water flow gradient that is approximately northeast, away from the lake. A deep quarry pit along the north side of the site (shown on Figure 2) has been excavated down to ground water. Along the southern side of the quarry pit is a visible seepage face that demonstrates the northward ground-water flow direction.

Analysis of initial soil samples collected by LONESTAR personnel during site excavation indicated that total petroleum hydrocarbon (TPH) concentrations ranged from non-detectable (ND) to 6,000 ppm. Extensive further excavation has been performed within the affected area since these preliminary samples were collected. All soils taken from the excavation pit area were stockpiled on site, as shown on Figure 2.

III. SOIL EXCAVATION AND SAMPLING

The proposed soil sampling will take place within the excavation pit in two stages. The first stage will be confirmatory soil samples from the walls and bottom of the pit along the north, east and south sides. Samples will not be taken initially from the west side of the pit, which is directly under the concrete pad and still shows visual evidence of staining from the waste oil. A total of 8 confirmatory soil samples will be taken at the approximate locations shown on Figure 3.

All confirmatory soil samples will be analyzed for TPH with benzene, toluene, xylenes and ethylbenzene (BTXE) using modified EPA Method 8015. In addition, 3 of the samples will be analyzed for purgeable halocarbons using EPA Method 8010.

We currently propose the following concentrations for the final clean-up levels in the soil:

Chemical	Acceptable Residual Soil Concentration
Total Petroleum Hydrocarbons	100 ppm
Benzene	0.3 ppm
Toulene	0.3 ppm
Xylene	1.0 ppm
Ethylbenzene	1.0 ppm

These levels are proposed based upon past experience with similar projects, and guidance described in the Leaky Underground Fuel Tanks (LUFT) Field Manual produced by the California Regional Water Quality Control Board (CRWQCB) dated December 17, 1987.

If the results of the confirmatory soil sampling indicate chemical concentration levels below the acceptable residual levels, the excavation pit will be backfilled up to the area next to the concrete pad. The purpose of the backfill operation is to regrade the pit area so that on-site construction equipment can complete the excavation along and under the concrete pad.

Following additional excavation around and under the concrete slab, two additional samples will be taken in this area to assess whether clean-up levels have been met. Both samples will be analyzed using EPA Method 8015, and one of the samples will also be analyzed using EPA Method 8010.

Soil samples will be collected using clean brass shelby tubes, and the ends will be capped and sealed with duct tape. Samples will then be placed in a chilled cooler and transported to a laboratory for analysis.

Additional excavated soils will be stockpiled with the previously removed soils and covered with plastic, as shown on Figure 2. Presently, RMC LONESTAR plans to sample these stockpiles separately, and use bioremediation to treat soils exceeding the proposed limits.

Prior to any backfilling operation, a single test boring will be drilled in the excavation pit near the location of the former storage vault. This boring will assess the relative vertical extent of the petroleum hydrocarbons. The boring will then be converted to a monitoring well (see Section IV). Approximately 4 selected soil samples collected while drilling the monitoring well will be analyzed for TPH with BTXE using modified EPA Method 8015. Additionally, 2 of the samples will be analyzed for purgeable halocarbons using EPA Method 8010.

IV. DRILLING OF MONITORING WELL AND SAMPLING

One monitoring well will be installed in the vicinity of the discharge outlet of the truck steam-cleaning pad at the location of the soil boring described above.

Based on an assumed depth to ground water of about 60 to 70 feet, we anticipate that the well will be installed to an approximate depth of 70 to 90 feet. Final depth will be determined in the field. The boring will be drilled using the hollow-stem auger drilling method. Soil samples will be collected using continuous sampling tools during drilling to describe sediment

lithology, observe changes in petroleum hydrocarbon concentration, possible depth of petroleum hydrocarbon occurrence, and for laboratory analyses. Discrete samples will be collected where possible for determination of volatile constituent concentrations.

The monitoring well will be constructed of threaded, 4-inch diameter polyvinyl chloride (PVC) casing with factory-slotted perforations. The top of the screened interval in the well will be placed approximately 5 to 10 feet above the ground-water surface to monitor the presence, if any, of floating product. The actual length, depth and position of the perforated intervals in the well will be determined in the field, based on the actual depth to ground water and types and thicknesses of sediments encountered.

After the well casing is placed in the completed borehole, the well annulus surrounding the screened interval will be backfilled with clean sand to approximately 2 feet above the top of the screen. Bentonite will be placed above the sand pack to isolate the screened interval from material above and to prevent the entrance of grout into the sand pack. A cement-bentonite grout will then be placed above the bentonite seal up to the land surface to seal the remainder of the borehole. A locking steel casing will then be placed over the top of the casing to protect the integrity of the well. The steel casing will be raised approximately 2 feet above the surrounding grade to restrict the entrance of surface water into the well.

All drilling equipment, sampling tools and well casing will be steam-cleaned before each use. It is assumed that RMC LONESTAR will provide the necessary water and power. Wastewater and waste soils produced by the drilling and sampling will be placed in storage vessels supplied by Levine·Fricke. However, the cost of processing (which may include treatment) and disposing of these wastes will not be the responsibility of Levine·Fricke, and such costs are not included in the estimated budget. It is understood that RMC LONESTAR will be considered the generator of these wastes. Levine·Fricke will assist RMC LONESTAR in evaluating disposal options after receiving the analytical results.

Within a week following installation, the proposed monitoring well will be developed and sampled. Well development will be conducted by bailing and/or pumping to remove sediment from around the well and enhance hydraulic communication with the surrounding formation. Observations of the quantity and clarity of water withdrawn during this process will be recorded. After well development, the top of the product surface, product thickness and top of the water surface will be measured. Both the product (if present) and the ground water will then be sampled for chemical analyses.

Approximately 4 to 10 well casing volumes of ground water will be removed from the well before the water is sampled. Specific conductance, pH and temperature will be measured during this purging process to aid in evaluating ground-water quality and the ground-water flow system, as well as to check laboratory quality control. Water will be sampled with a clean Teflon bailer. Water samples will be placed in laboratory-supplied, 40-ml VOA vials and 1-liter glass bottles and then into a chilled cooler for transport to the laboratory.

Levine·Fricke will also perform a ground-water hydrology survey. This task includes determining the relative difference in water-surface elevations between the nearby lake, the installed monitoring well, and the deep pit quarry excavation to assess relationships between these water bodies and possible hydraulic conductivity.

The samples will be analyzed by a state-certified laboratory. For budgetary purposes, we have assumed two ground-water analyses using EPA Methods 8015 and Modified 602.

Data from well installation and sampling activities will be prepared, summarizing the work accomplished and our recommendations. We anticipate that a report of investigations, including well installation procedures and results from the first round of well sampling and testing, will be prepared within four weeks after installation and sampling of the well, assuming a two to three week laboratory turnaround time.

V. SITE SAFETY PLAN

Levine·Fricke will prepare a Site Safety Plan in conformance with DHS requirements. The purpose of the Site Safety Plan will be to outline procedures which will be used to protect workers from exposure during remedial activities.

The Plan will contain the following information:

- chemical composition of the affected soils;
- an evaluation of the potential health hazards due to the presence of chemicals in the soil;
- limits for potential exposure to workers from chemicals in soils;
- levels of protection and equipment required to minimize exposure to chemical hazards; and
- equipment decontamination procedures.

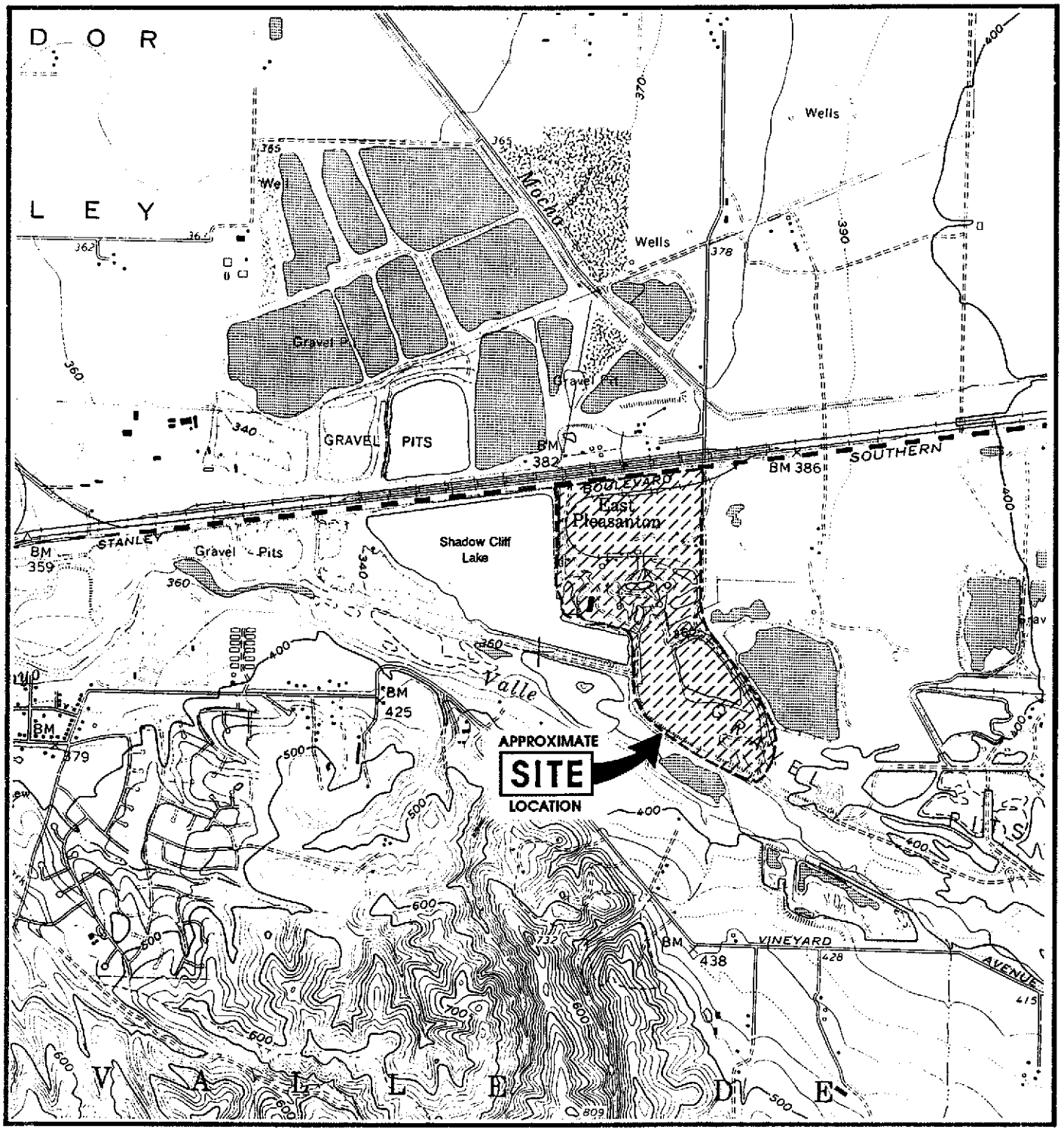
VI. PROJECT MANAGEMENT AND MEETINGS

Mr. Roger Leventhal, Project Engineer, will be the Project Manager. As such, he will be the primary contact for RMC LONESTAR and will be responsible for all technical and administrative aspects of the project and will coordinate and manage the field activities and hydrogeologic evaluations. Mr. Tom Graf, P.E. and Principal Engineer, will peer review the project.

This task includes coordinating subcontracted work, obtaining necessary county permits for the installation of ground-water monitoring wells, and project review.

SCHEDULE

We estimate that drilling and sampling can begin within two to three weeks after receiving authorization to proceed. Laboratory analysis results will be forwarded as they become available. We estimate that a draft report can be prepared within approximately six weeks after initiating project work (scheduling of drillers, etc.). This schedule may be modified due to inclement weather, driller unavailability, or other events beyond Levine·Fricke's control.



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MAP SOURCE:
.S.G.S. Livermore, California
7.5' Quadrangle

Figure 1 : SITE VICINITY MAP

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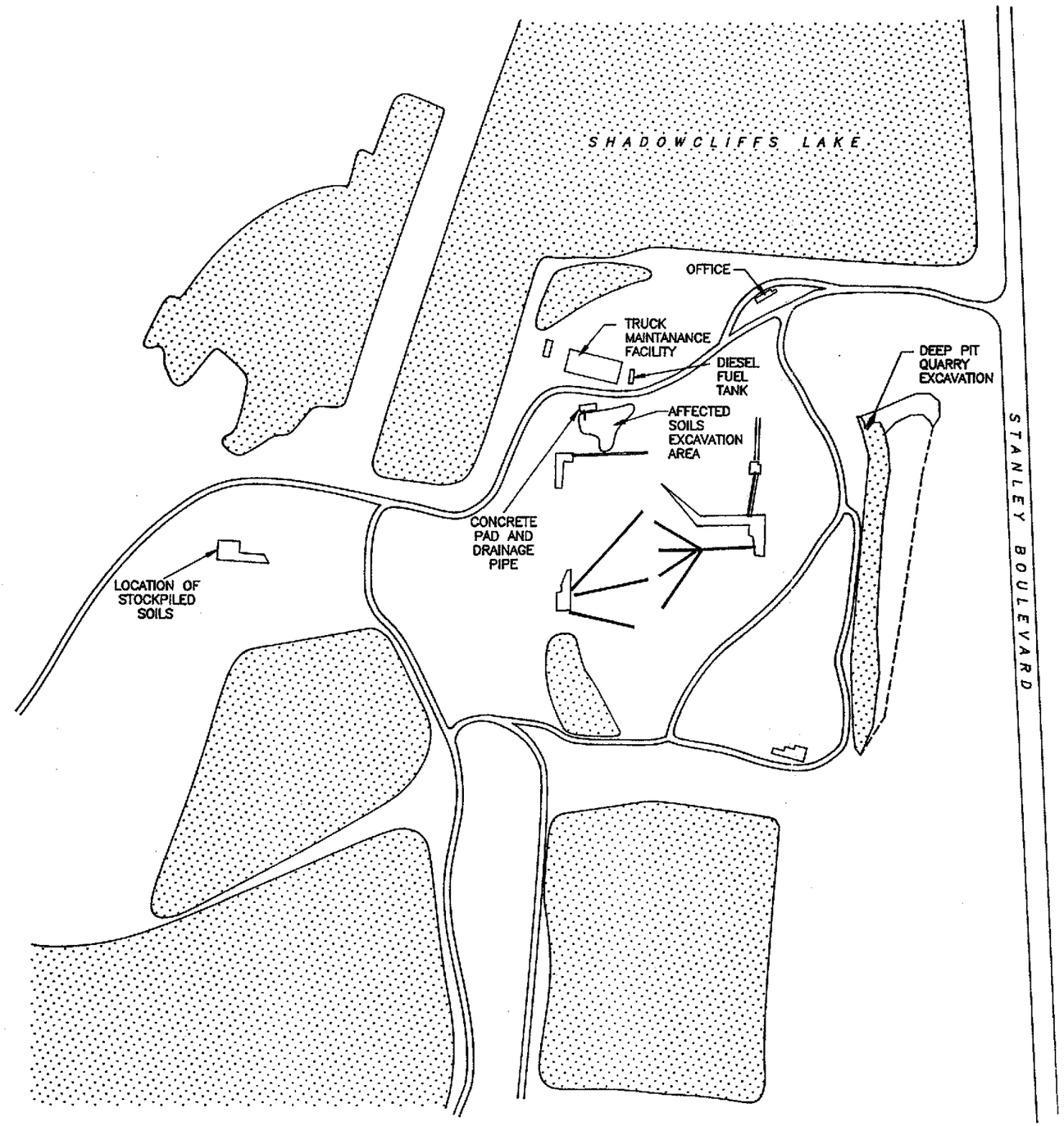

Figure 2 :
SITE PLAN

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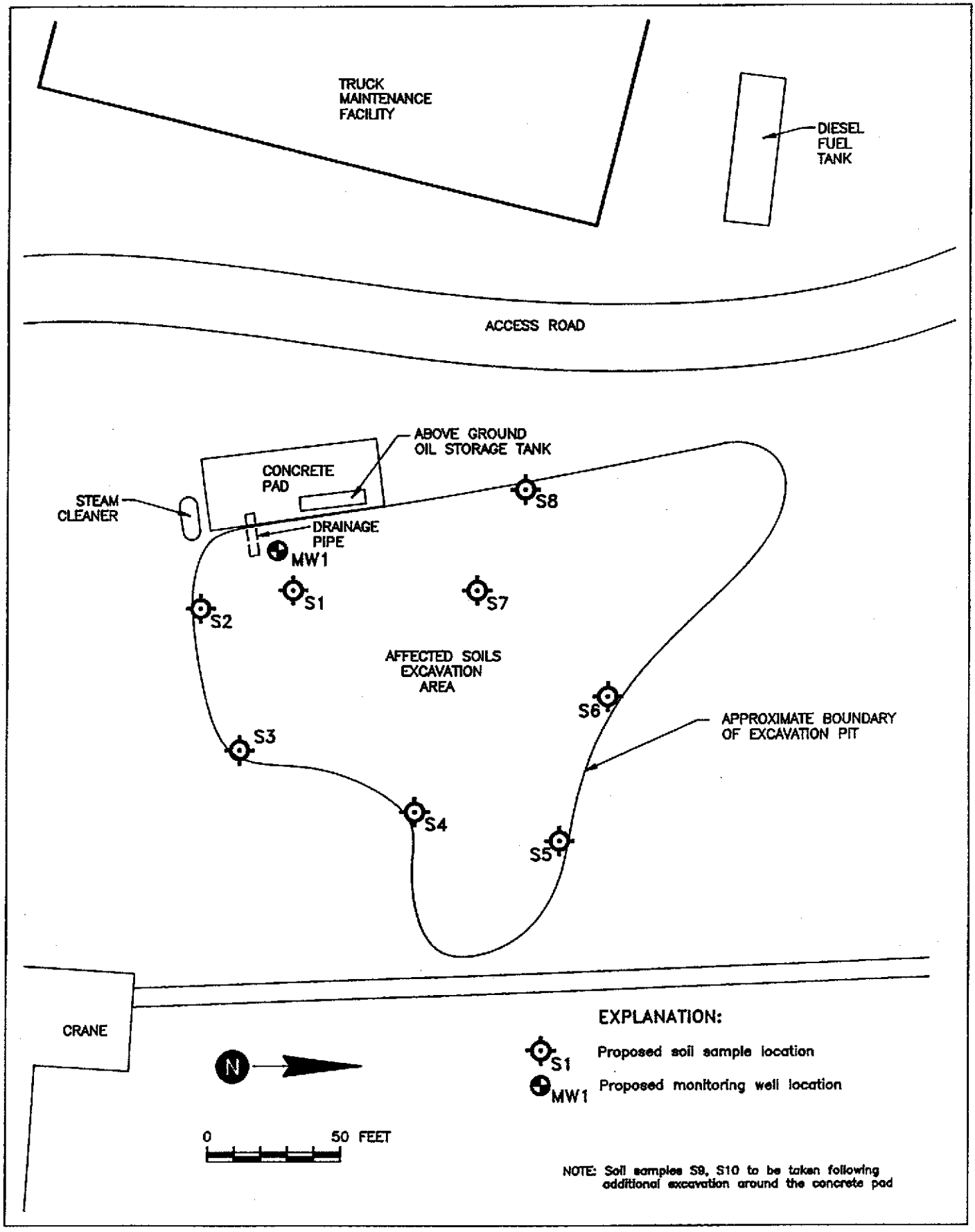

Figure 3 : APPROXIMATE LOCATION OF PROPOSED SOIL SAMPLES AND MONITORING WELL