

Reviewed & Approved on 5/11/95
A. Leach

Golder Associates Inc.

1451 Harbor Bay Pkwy., Suite 1000
Alameda, CA USA 94502
Telephone (510) 521-0400
Fax (510) 865-9618



ENVIRONMENTAL
PROTECTION
95 MAY -1 PM 4: 04

ENVIRONMENTAL
PROTECTION
95 MAY -1 PM 4: 04

May 1, 1995

Our Ref: 943-7017

Alameda County Health Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Attention: Ms. Amy Leach

RE: WORKPLAN FOR SOIL AND GROUND WATER INVESTIGATION
J&M, INC. FACILITY - HAYWARD, CALIFORNIA

Dear Ms. Leach:

On behalf of J&M, Inc., Golder Associates Inc. (Golder) is submitting this workplan for a soil and groundwater investigation at the J&M, Inc. facility (the site) located at 3826 Depot Road in Hayward, California (Figure 1). The purpose of this investigation is to assess the extent of petroleum hydrocarbons in the soil and groundwater at the site following the removal of two underground gasoline storage tanks (USTs) identified as UST Nos. 3 and 4 (Figure 2). This workplan has also been prepared in response to the Alameda County Department of Environmental Health's (ACDEH) letter request, dated April 18, 1995, for a workplan to delineate soil and groundwater contamination related to removal of UST Nos. 3 and 4 and adjacent product piping.

The site is located approximately 1.1 miles east of the San Francisco Bay and is situated at an elevation of approximately 8 feet above mean sea level. The land use in the vicinity of the site includes a mixture of commercial offices and small to medium-sized industrial businesses. The site is bordered on the east by an automotive wrecking yard, on the south by a pallet storage business, on the west by an electrical contractor vehicle storage yard and on the north by Depot Road and commercial office buildings. The following sections provide a brief summary of previous investigations conducted at the site followed by a description of the scope of work proposed for this phase of the investigation.

BACKGROUND

In June 1990, one, 4,000-gallon and one, 7,000-gallon underground diesel storage tank (UST) (identified as Tank Nos. 1 and 2) were removed from the northwest corner of the J&M facility (Figure 2; Terrasearch, 1991). In August 1990, the area of the former USTs was re-excavated and four soil samples and one groundwater sample were collected and analyzed for TPH-d and BTEX. The results of the analyses identified the presence of low concentrations of TPH-d (110 milligrams per kilogram, mg/kg) and toluene (6.2 mg/kg) in one of the four soil samples. The other three soil samples were non-detect for TPH-d and BTEX. TPH-d and BTEX was also reported in the groundwater sample collected from the excavation pit at concentrations of 8,100, 4.7, 9.1, 22 and 6 micrograms per liter (ug/l), respectively.

In April 1991, three groundwater monitoring wells (MW-1, MW-2 and MW-3) were installed and sampled by Terrasearch Inc. to assess the potential impact of residual hydrocarbons in soil on groundwater at the site (Figure 2). Two subsequent rounds of groundwater sampling were performed by Geoenvironmental and Geologic Services (GGS) in January 1992 and March 1993 (GGS, 1992, 1993). The most recent round of groundwater sampling was conducted in September 1993.

Groundwater monitoring has been conducted at the J&M facility since April 1991. The results of historical groundwater elevation measurements indicates groundwater occurs at a depth of 5 to 7 feet and flows to the northwest and San Francisco Bay.

The results of groundwater monitoring conducted to date indicate TPH-d has only been detected on one occasion in one sample collected from well MW-2 at a concentration of 57 µg/l. In addition, the results of TPH as gasoline (TPH-g) analyses conducted in April 1991 and September 1993 have been non-detect. BTEX has not been detected in any groundwater samples collected from wells MW-1, MW-2 and MW-3.

On July 25, 1994, two underground gasoline storage tanks (identified as UST Nos. 3 and 4) were removed from the site. Soil samples collected and analyzed from beneath the tank contained total petroleum hydrocarbons as gasoline (TPH-g) and benzene, toluene, ethylbenzene, and xylenes (BTEX) at maximum concentrations of 550, 1.5, 2.1, 7.1 and 26 milligrams per kilogram (mg/kg), respectively. Following the tank removal, additional soil was excavated laterally and beneath the tank to an approximate depth of 10 feet. Additional soil samples were collected approximately 25 feet west and 15 feet north of the former UST Nos. 3 and 4 at a depth of approximately 5 feet, in the excavation revealed the presence of TPH in the range of diesel (TPHd) and BTEX.

SCOPE OF WORK

The regulations pertaining to the operation and closure of underground storage tanks including unauthorized releases are found in the California Code of Regulations (CCR) Title 23 Chapter 16. Article 11 of Chapter 16 (Article 11) specifies the corrective action activities necessary to "analyze the effects of an unauthorized release; propose a cost effective plan to restore or adequately protect human health, safety and the environment and to restore or protect current and potential beneficial uses of water, and implement and evaluate the effectiveness of the activities. The scope of corrective action activities as specified in Article 11 includes the following four phases:

- Preliminary Site Assessment Phase;
- Soil and Water Investigation Phase;
- Corrective Action Implementation Phase; and,
- Verification Monitoring Phase.

The Soil and Water Investigation Phase (Article 11 Section 2725(a)) requires the collection and analysis of data necessary to assess the lateral and vertical extent of the release and to determine a cost-effective method of cleanup. The investigation activities described in

Task 1 will be used to provide this information. Article 11 Section 2725 (b), (c), and (d), specifies the requirements for a corrective action plan (CAP) which includes an assessment of impacts to the environment, feasibility study of cleanup alternatives and applicable cleanup levels. Cleanup levels are proposed in consideration of guidelines issued by the Regional Water Quality Control Board. The results of the soil and groundwater investigation will be used to develop a CAP as described in Task 2.

Task 1. Field Investigation

The following investigations will be performed in accordance with a site-specific health and safety plan.

Soil and Groundwater Investigation

Golder will perform a soil and insitu groundwater sampling program consisting of drilling and sampling of up to ten borings. The actual number and location of borings may vary depending upon field observations during drilling. All work will be performed under the supervision of a California Registered Geologist or a Professional Engineer. Tentative boring locations are shown on Figure 2.

Prior to the start of drilling, the location of proposed borings will be marked and checked for underground utilities. Soil samples will be collected to approximately 15 feet below ground surface (bgs) using Precision Environmental's continuous core rig. The continuous coring will provide information on lithology. Soil samples from each boring will be logged using the Unified Soil Classification System. Soil samples will be screened in the field for organic vapors using an organic vapor meter (OVM). We anticipate retaining two soil samples from each boring for chemical analysis of TPH-g, TPH-d and BTEX using EPA Test Methods 5030/8015, 3550/8015 and 8020, respectively. Soil samples selected for analysis will be retained in brass or stainless steel tubes, labeled, sealed with Teflon and plastic caps and placed on ice in a cooler. Samples will be transmitted under chain-of-custody procedures to a State of California certified laboratory.

*gw @
approx
5'-6'*

Insitu groundwater samples will also be collected from up to four selected borings. In addition, monitoring wells MW-1, MW-2 and MW-3 will be sampled. This information will be used to assess the presence of TPH-affected groundwater. Groundwater samples from borings, monitoring wells and one field duplicate will be submitted for chemical analysis of TPH-g, TPH-d and BTEX.

All field equipment used in sampling will be decontaminated between borings and samples. Water used to decontaminate the field equipment will be contained in 55-gallon drums, labeled and left onsite. A minimal amount of soil spoils is expected to be generated. This soil will be placed in an existing stockpile of TPH-affected soil at the site. At the completion of drilling and sampling, the borings will be grouted back to the surface.

Investigation and Removal of Diesel Product Line

During the removal of UST Nos. 3 and 4, a two-inch diameter steel pipeline was observed along the northwest portion of the excavation. The pipeline is believed to have previously conveyed diesel from UST Nos. 1 and 2 to the former pump island located above UST Nos. 3 and 4 (Figure 2).

The pipeline will be removed using a backhoe and soil samples will be collected at 20 feet intervals along the length of the pipeline trench (Figure 2). Approximately 3 samples will be collected and analyzed for TPH-g, BTEX, and TPH-d

Stockpile Soil Sampling

Approximately 70 cubic yards (cy) of soil was excavated following the removal of UST Nos. 3 and 4. The soil is currently stockpiled on plastic sheeting in the south-central area of the site. Three grab soil samples will be collected and analyzed to assess the concentration of petroleum hydrocarbons present in the stockpiled soil. Stockpile soil samples will be analyzed for TPH-g, BTEX and TPH-d.

Task 2. Data Evaluation, Reporting and Corrective Action Plan

At the completion of field work and upon receipt of the chemical analysis results, a report will be prepared summarizing the findings of the field investigation. The report will include boring logs, tables summarizing the chemical analysis results, lithologic cross sections and plan view drawings illustrating the extent of petroleum hydrocarbons in the subsurface. The report will also describe the field investigation methods and interpretation of site conditions. The report will also present a CAP for the site that includes the following:

- a description of the site history, historical land use, and local and regional hydrogeologic conditions;
- an assessment of environmental impacts including the chemical and physical characteristics of petroleum hydrocarbon constituents present in the site soil and groundwater. Information regarding other nearby sites where releases have occurred will also be identified to provide additional information on background water quality;
- the location, quality and beneficial uses of nearby surface water and groundwater to identify water quality protection goals;
- an analysis including identification, evaluation, schedule and cost of soil and groundwater cleanup alternatives; and,
- development of cleanup objectives based on anticipated future land use and other site closures at nearby release sites.

ACHADEH
Ms. Leach

May 1, 1995
943-7017

-5-

SCHEDULE

Field investigation activities will be initiated within one week following receipt of approval of the work plan by the ACDEH. Field activities are anticipated to be completed over a three-week period including laboratory chemical analysis. Assuming approval of the work plan is received by May 15, 1995, a technical report and CAP can be submitted to ACDEH by June 30, 1995.

If you have any questions, please contact Kent Reynolds in Golder's Alameda, California office.

Sincerely,

GOLDER ASSOCIATES INC.



Kent R. Reynolds
Senior Hydrogeologist



Diane L. Sarmiento, P.E.
Senior Engineer



KRR/ca

Attachment: Figures

cc: Mr. Manuel Marques, Jr., J&M, Inc., Hayward, California

SCHEDULE

Field investigation activities will be initiated within one week following receipt of approval of the work plan by the ACDEH. Field activities are anticipated to be completed over a three-week period including laboratory chemical analysis. Assuming approval of the work plan is received by May 15, 1995, a technical report and CAP can be submitted to ACDEH by June 30, 1995.

If you have any questions, please contact Kent Reynolds in Golder's Alameda, California office.

Sincerely,

GOLDER ASSOCIATES INC.



Kent R. Reynolds
Senior Hydrogeologist

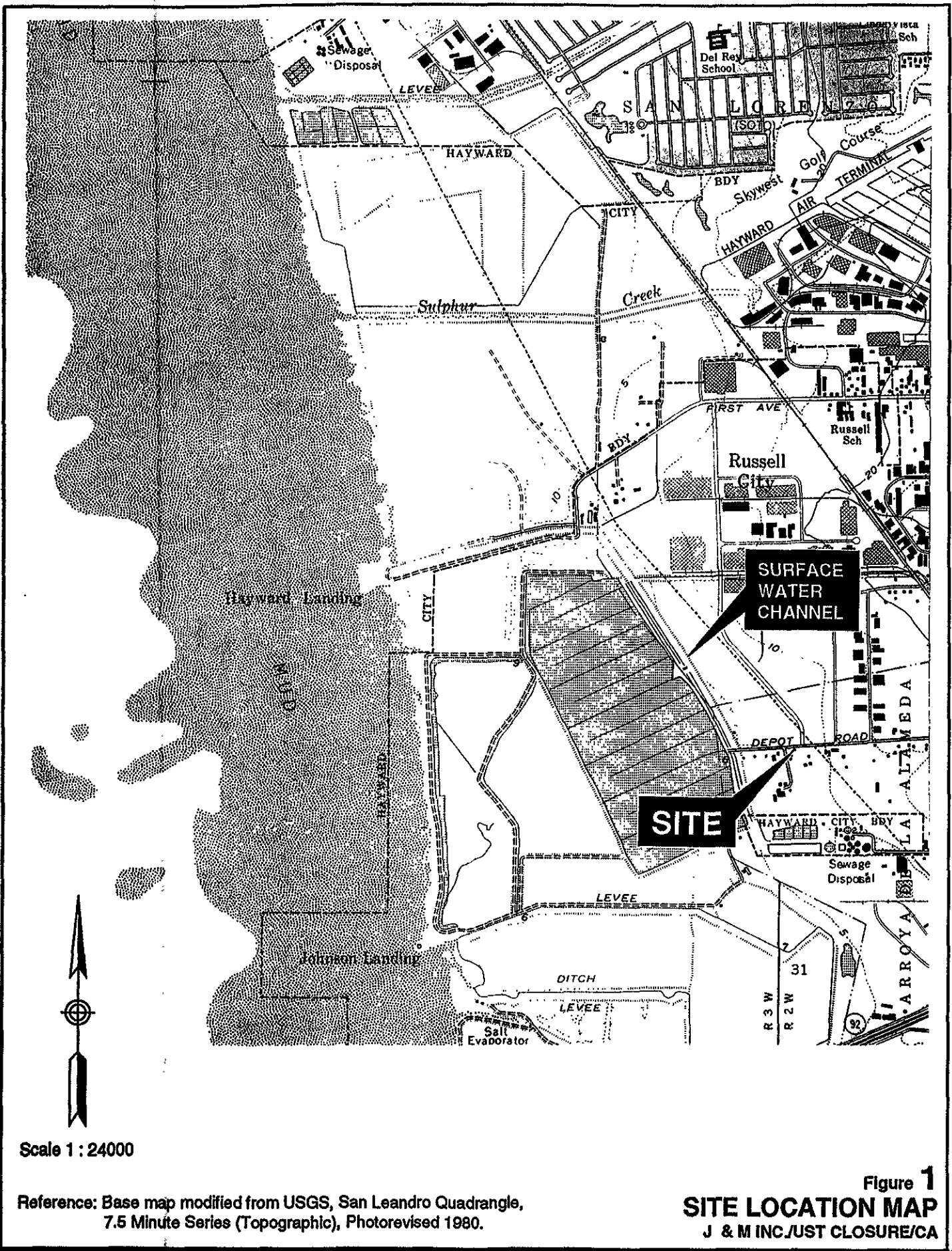


Diane L. Sarmiento, P.E.
Senior Engineer

KRR/ca

Attachment: Figures

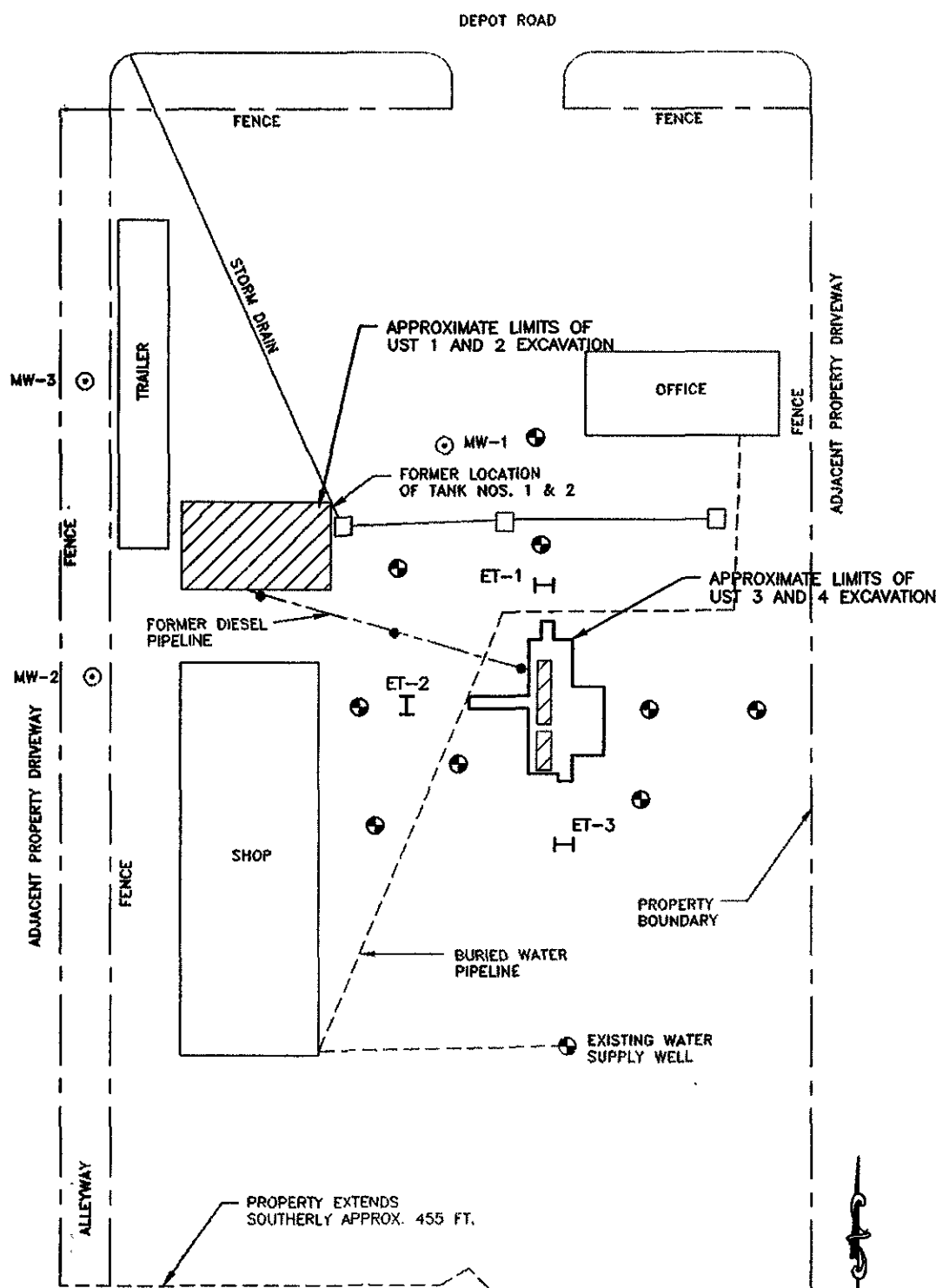
cc: Mr. Manuel Marques, Jr., J&M, Inc., Hayward, California




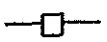
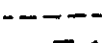



Scale 1 : 24000

Reference: Base map modified from USGS, San Leandro Quadrangle, 7.5 Minute Series (Topographic), Photorevised 1980.

Figure 1
SITE LOCATION MAP
 J & M INC./UST CLOSURE/CA



EXPLANATION:

- MW-3  EXISTING GROUNDWATER MONITORING WELL
-  STORM DRAIN
-  BURIED WATER PIPELINE
- ET-1  EXPLORATORY TRENCH
-  PROPOSED PIPELINE EXCAVATION SOIL SAMPLE LOCATIONS
-  PROPOSED SOIL BORING LOCATIONS

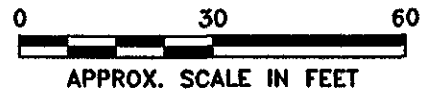
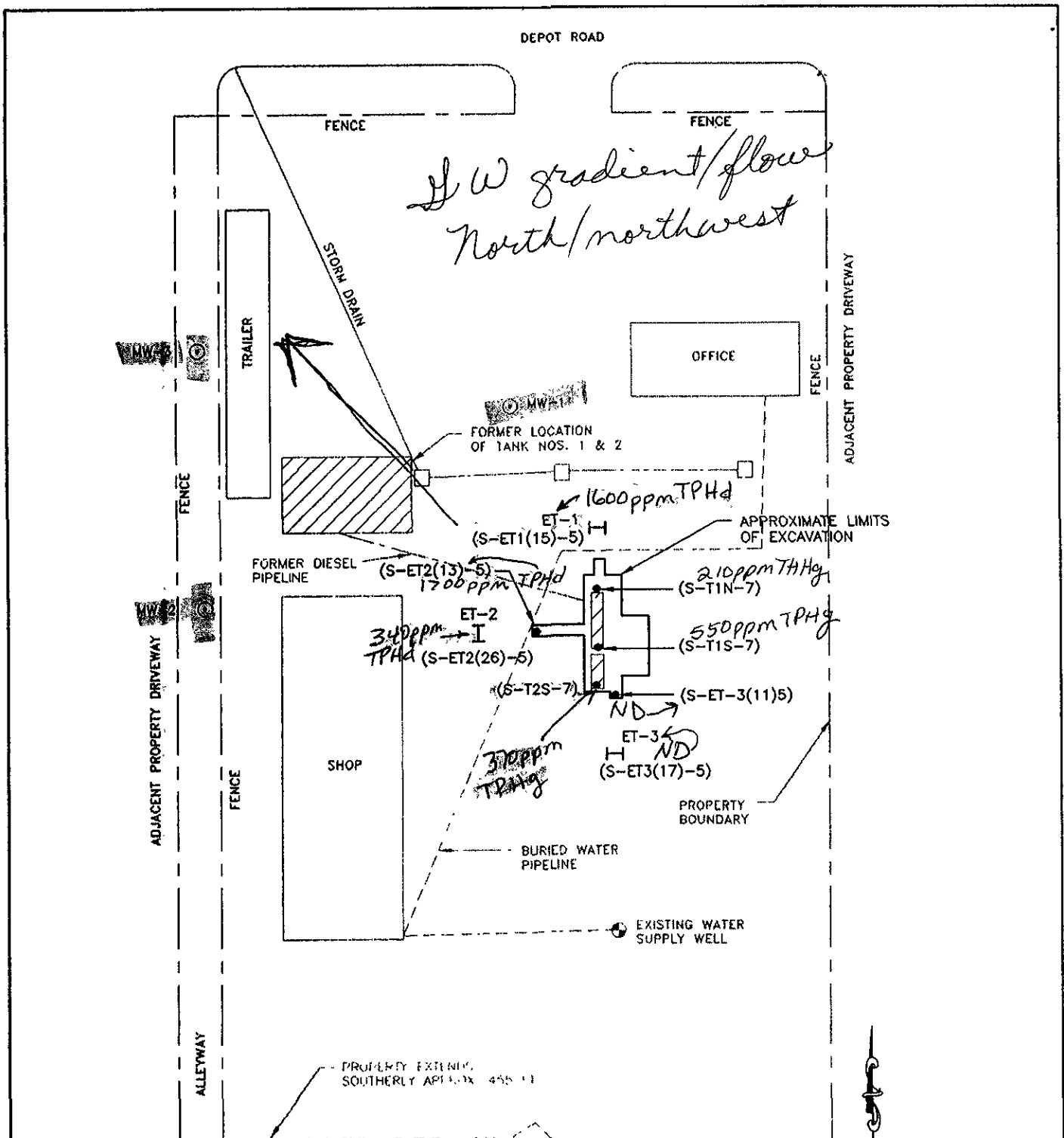


FIGURE 2
PROPOSED SAMPLING LOCATIONS
J & M INC./UST CLOSURE/CA

NOTE: Base map modified from Geoenvironmental and Geologic Services.



EXPLANATION:


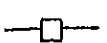
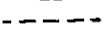


- NW-3  EXISTING GROUNDWATER MONITORING WELL
-  STORM DRAIN
-  BURIED WATER PIPELINE
-  ET-1 (S-ET1(15)-5) EXPLORATORY TRENCH AND (SAMPLE I.D.)
-  (S-T1N-7) EXCAVATION SOIL SAMPLE AND (SAMPLE I.D.)



FIGURE 3
EXCAVATION AND SOIL SAMPLING LOCATIONS
 J & M INC./UST CLOSURE/CA

NOTE: Base map modified from Geoenvironmental and Geologic Services.

FIGURES