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SITE INVESTIGATION WORK PLAN

SITE LOCATION:

**Oakland Truck Stop
1107 5th Street
Oakland, California**

PREPARED FOR:

**Mr. Reed Rinehart
Rinehart Distribution, Inc.
P.O. Box 725
Ukiah, California 95482**

SUBMITTED TO:

**Mr. Larry Seto
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W. A. CRAIG, INC. PROJECT # 3628

May 23, 2000

PROFESSIONAL CERTIFICATION

Site Investigation Workplan

Oakland Truck Stop
1107 5th Street
Oakland, California

Job No. 3628
May 23, 2000

This document has been prepared by the staff of W. A. Craig, Inc., under the professional supervision of the persons whose seals and signatures appear hereon. No warranty, either expressed or implied, is made as to the professional advice presented herein. The site descriptions contained in this document are based upon our current understanding of site conditions. These conditions are subject to change as W.A. Craig, Inc. evaluates additional information.

Opinions or conclusions presented in this document are professional opinions based solely upon a review of existing environmental data. We recognize that the limited scope of services performed in execution of this investigation may not be appropriate to satisfy the needs, or requirements of other state agencies, or of other users. Any use or reuse of this document or its findings, conclusions or recommendations presented herein is at the sole risk of the user.



William A. Craig, II, R.E.A.
Principal



Tim D. Cook, P.E.
Senior Engineer

1.0 INTRODUCTION

1.1 Site Location and Description

The Oakland Truck Stop ("the Site") is owned by Rinehart Distribution, Inc. (formerly Rino Pacific, Inc.) and is located at 1107 5th Street in Oakland, California. The Site is in a commercial and industrial district at the intersection of Adeline and 5th Streets (Figure 1). A service station building, two underground storage tanks, pump dispenser islands, and a weigh station currently occupy the Site. Redevelopment plans for the Site include expansion of the property to include the street portion of what is now 5th Street. The truck scale will be moved to the area that is presently 5th Street.

The Site topography is flat and is bounded on the north by the Interstate 880 overpass, on the west by Adeline Street, on the south by a restaurant and parking lot and on the east by Chestnut Street. The nearest surface water is the Oakland Estuary located approximately 2,400 feet south of the Site.

1.2 Background

The Site was developed as a truck stop approximately 40 years ago and has been in operation throughout this period. Three 10,000-gallon underground storage tanks (USTs) and one 8,000-gallon UST were formerly maintained at the Site. All four USTs were constructed of single-wall steel. Of the 10,000-gallon USTs, two contained diesel fuel and one contained mid-grade unleaded gasoline. The 8,000-gallon UST contained regular unleaded gasoline. Prior to the recent remodel of the Site, fuel product lines were constructed of single-wall fiberglass.

In mid-1995 an unauthorized release of gasoline occurred as a result of a leak in a product line. Product lines associated with this release were replaced as soon as the leak was discovered. Interim cleanup of the spill was performed by installing and operating two product recovery sumps in the vicinity of the release. The sumps recovered approximately 6.3 gallons of gasoline using a skimmer device and reduced the floating product thickness to a sheen on the water in the recovery wells. The water table fluctuates seasonally between 10 inches and 4 feet below grade.

Groundwater monitoring was performed on seven occasions from November 1996 through the most recent monitoring event on March 21, 2000. ~~The direction of groundwater flow during these events has varied from southwest to southeast.~~ However, the interpretations of flow directions are significantly biased by water levels measured in monitoring well MW-3. Monitoring well MW-3 is very slow to recover after purging, indicating it is not in hydrologic communication with the water-bearing zone. ~~Interpretation of the groundwater gradient is suspect and additional monitoring wells will be added during this site investigation to adequately characterize Site hydrologic conditions.~~

In March 1999, the four single-walled USTs were replaced with two 15,000-gallon double-walled fiberglass USTs. An interim remedial action was performed during UST replacement activities to remove the grossly contaminated soil and groundwater.

The following is a summary of interim remedial activities performed at the site by Trinity Excavating and Engineering, Inc. of Santa Rosa, California. The work was performed between February 8, 1999 and May 5, 1999.

2/8 through 2/10, 1999	Excavated to tops of tanks and rinsed three gasoline and one diesel underground fuel tanks
2/11/1999	Removed tanks and disposed offsite (observed by Fire Inspector)
3/3 & 3/4, 1999	Removed approximately 2,100 tons of contaminated soil from excavation bottom and sides before sampling as directed by Fire Inspector. Collected excavation and stockpile samples. Removed water from pit as needed. Stored approximately 33,000 gallons of contaminated water in temporary storage tanks.
2/24 through 5/19, 1999	Loaded, manifested and disposed of 2,000.5 tons of contaminated soil at the Forward non-hazardous disposal facility near Stockton, California.
2/1 through 5/6, 1999	Provided and placed approximately 1,700 tons of backfill.
5/3 through 5/5, 1999	Disposed of contaminated water at Seaport Environmental.

The lateral extent of hydrocarbon contamination was not determined prior to interim remedial activities. A Soil and Groundwater Investigation Workplan for additional site investigation, dated August 27, 1998 was submitted to and accepted by the Alameda County Department of Environmental Health Services (ACDEHS) but implementation of this work plan was postponed until the interim remedial activities were complete. Recently, the San Francisco Bay Regional Water Quality Control Board (RWQCB) implemented new health-risk based procedures and guidelines for site investigations at petroleum hydrocarbon sites. This workplan incorporates these procedures and guidelines and replaces the previously submitted work plan.

2.0 PROPOSED SCOPE OF WORK

The scope of services proposed herein will be performed to determine the presence and extent of petroleum hydrocarbons in soil and groundwater. The proposed scope of services includes the following:

- Prepare this Site Investigation Work Plan for submittal to the RWQCB and ACDEHS;
- Obtain appropriate regulatory permits and approvals;
- Obtain underground utility clearance through Underground Service Alert;
- Describe soils encountered in the borings on a boring log;
- Collect and analyze soil samples from each boring;
- Construct six additional monitoring wells to a depth of approximately 15 feet below grade level (bgl);

- Develop the six additional monitoring wells to ensure they are in hydraulic communication with the first water-bearing zone;
- Analyze soil and groundwater samples for total petroleum hydrocarbons as gasoline (TPH-g) and total petroleum hydrocarbons as diesel (TPH-d) by EPA method 8015 modified; for benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA method 8020; and for MtBE and other fuel oxygenates using EPA method 8260;
- Conduct a survey of domestic, municipal and industrial wells, as well as receiving surface water and sensitive environmental and human receptors, within specified radii of the Site; and
- Prepare Quarterly Groundwater Monitoring Reports to evaluate site conditions and make recommendations regarding corrective actions, if necessary.

3.0 FIELD PROCEDURES

Borings for soil sampling and the construction of monitoring wells will be situated in the locations shown on **Figure 2**. The purpose of these sample locations is to determine the presence and extent of petroleum hydrocarbons in Site soils and groundwater.

Monitoring wells MW-4, MW-5 and MW-6 will be located within or immediately adjacent to the former UST pit. ~~MW-4 will also replace the former monitoring well MW-2 that was destroyed during interim remedial activities.~~ MW-7 and MW-8 will be located east of the former source area to determine the extent and attenuation of hydrocarbon concentrations in groundwater in the vicinity of the pump dispenser islands. MW-9 will be located west (the assumed downgradient direction of MW-1). In the most recent sampling event on March 21, 2000, 4,800 ug/L of MtBE was detected in MW-1. This well is intended to provide information about the attenuation of MtBE in groundwater downgradient of MW-1.

3.1 Drilling Procedures

All soil borings will be drilled using a truck-mounted hollow-stem auger drill rig. A California Registered Geologist or a WAC field geologist under the direct supervision of a California Registered Geologist will log the borings. Drilling will cease approximately 10 feet below the first encountered water-bearing zone.

Borings will be continuously logged in the field using the unified soil classification system. The field geologist will observe significant changes in material penetrated, changes in drilling conditions, hydraulic pressure, and drilling action. The field geologist will observe and record lithologic changes, the relative moisture content of soils and note water-producing zones. This record will be used later to prepare a detailed boring log. Lithologic descriptions will include soil or rock type, color, grain, size, texture, hardness, degree of induration, carbonate content, presence of fossils, minerals and other materials (gypsum, hydrocarbons) and other pertinent information. All soil cuttings from the drilling operations will be stored on-site in 55-gallon, steel, DOT approve drums. These investigation-derived wastes will be characterized as hazardous or

non-hazardous based on the results of the investigation. Disposal of these wastes is not included in this scope of work.

3.2 Monitoring Well Construction

Monitoring wells will be constructed using four-inch, flush-threaded, Schedule-40 PVC well casing. The wells will be constructed through the hollow-stem augers, with materials placed from the bottom of the borehole to the ground surface. The screened interval of the well will be factory slotted with a slot size of 0.010 inches. The well screen will be installed to approximately 10-feet below the first encountered groundwater, or as conditions warrant. The screened section annulus will be packed with clean #2/12 graded sand to a level approximately one foot above the screened interval. Hydrated bentonite pellets will be placed above the sand as a sealing material. The well will be sealed from the bentonite seal to the ground surface using a Portland cement/bentonite grout mixture. No glues or other solvents will be used in the construction of the wells. The wells have not been designed to provide optimum flow but are intended to provide water samples that are representative of water quality in the first water-bearing zone.

The wellheads will be protected from vandalism using a locking expansion-plug cap and will be housed within traffic-rated boxes to protect the wells from traffic and surface water runoff. The well sealing material (grout) will be allowed to set for a period of 72 hours prior to development or sampling.

3.3 Well Development

Intermittent surging, bailing and pumping will be used to develop monitoring wells. Field parameters, including color, odor, free-phase liquid, turbidity, specific-conductance, temperature, and pH will be monitored during the development of the wells. Development will continue until field parameters stabilize and the water is relatively clear and free of silt and sand.

3.4 Groundwater Sample Collection

Water level measurements will be obtained from Site monitoring wells prior to sampling. The wells will be purged of a minimum of three well-casing volumes prior to sampling. The wells will be purged using a disposable polyethylene bailer. Should the well become completely evacuated during purging, samples will be collected after the well has recovered to 80 percent of its initial water level. Field parameters will be intermittently monitored during the purging of the well (as described in well development).

Groundwater samples will be decanted from the bailer into laboratory supplied containers, approved for the analyses required. The samples will be immediately placed in refrigerated storage for delivery to the laboratory. The samples will be labeled in such a manner as to maintain client confidentiality. Samples will be delivered under chain of custody control to an analytical laboratory that is certified by the State of California to perform the requested analyses.

3.5 Monitoring Well Surveying

All monitoring wells will be surveyed for elevation control by a licensed professional surveyor. The datum of the survey will be a permanent benchmark referencing mean sea level (msl). The top of well casing elevations will be accurate to within 0.01 foot. A permanent mark on the top of the well casing such as an indelible mark or notch will reference the surveyed point on the casing. All subsequent water level measurements will be tied to this reference point.

4.0 LABORATORY ANALYSIS

Soil and groundwater samples will be analyzed by McCampbell Analytical, Inc. for total petroleum hydrocarbons as gasoline (TPH-g) and total petroleum hydrocarbons as diesel (TPH-d) by EPA method 8015 modified; for benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA method 8020; and for MtBE and other fuel oxygenates using EPA method 8260. McCampbell Analytical is certified by the State of California to perform these analyses.

5.0 SENSITIVE RECEPTOR SURVEY

A Sensitive Receptor Survey will be conducted to identify potential contaminant pathways and sensitive receptors of petroleum hydrocarbon contamination in shallow soils and groundwater in the vicinity of the Site. An inventory of industrial, municipal and domestic water supply wells within 2,000 feet of the site will be conducted at the California Department of Water Resources, Central District (DWR) office in Sacramento, California. A door to door survey will be performed within 750 feet of the site to identify groundwater plume pathways and receptors, and 250 feet of the site to identify potential hydrocarbon vapor pathways and receptors.

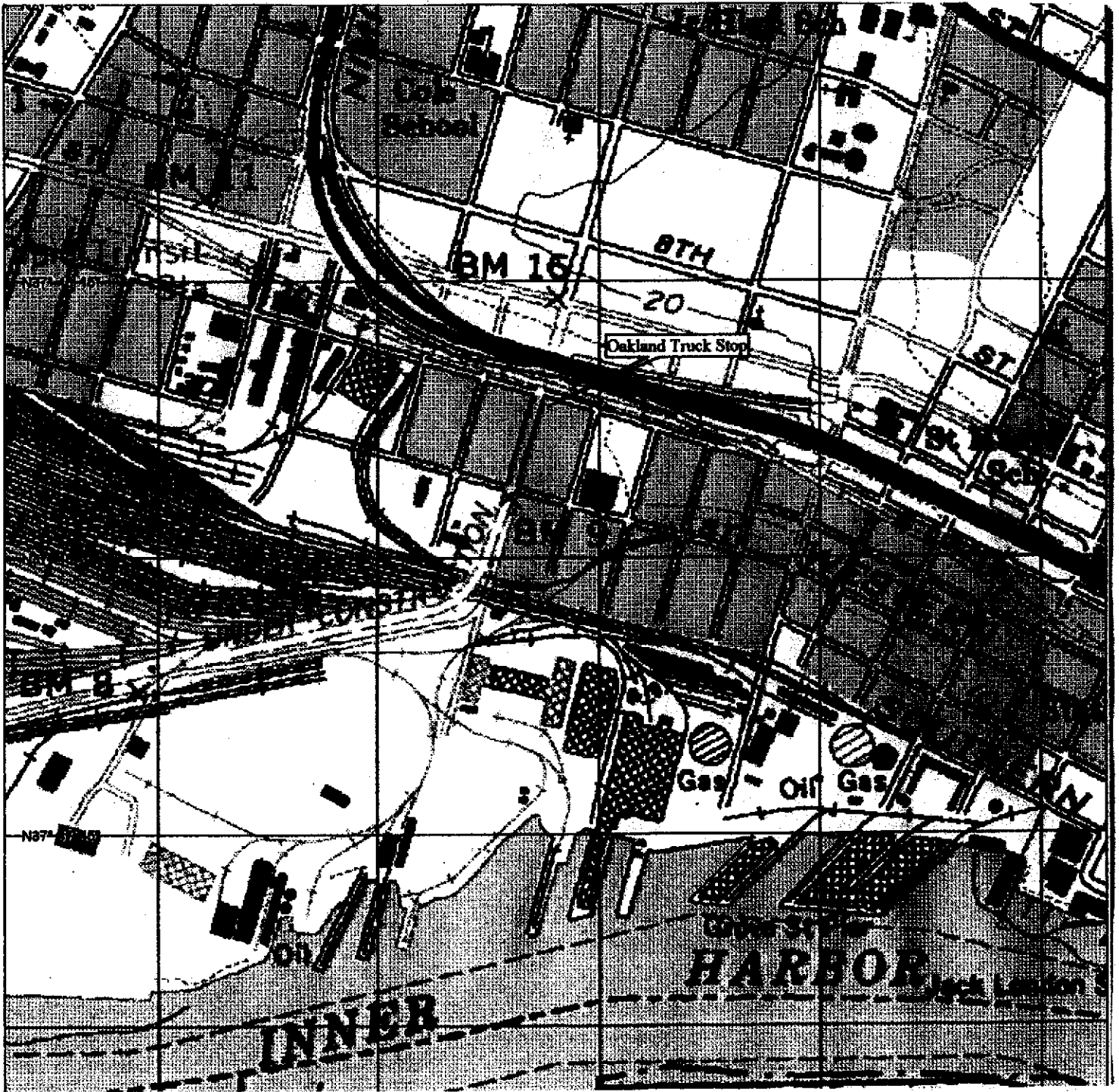
6.0 PRELIMINARY INVESTIGATION EVALUATION REPORT

A Preliminary Investigation Evaluation Report will be prepared and submitted to the ACDEHS and the RWQCB. The report will include a site history, figures identifying sample locations, drilling logs, laboratory analytical reports, a summary of all work performed, a tabulation of analytical results, conclusions and recommendations for additional investigation or remediation work, if necessary.

7.0 SCHEDULE

Approval of this work plan, obtaining well permits and scheduling of subcontractor services could be completed in approximately five weeks. The drilling, well installation, well development, and well sampling activities should be completed in approximately ten working days (allowing for 72 hours curing of the well sealant and sampling 48 hours after well development). The results of

soil sample analyses should be completed within 14 days of sample collection. Groundwater sample analytical results should be available approximately 10 days after sample collection. The results of the additional investigative work would be presented in a report approximately three weeks after completion of the receipt of the final laboratory analytical results. WAC estimates this scope of work could be completed in approximately 12 weeks, although additional time may be required for pre-approval of the investigation costs by the Underground Storage Tank Cleanup Fund.



Project No: 3628

May 23, 2000

Site Location Map
Oakland Truck Stop
 1107 5th Street
 Oakland, California

Figure 1

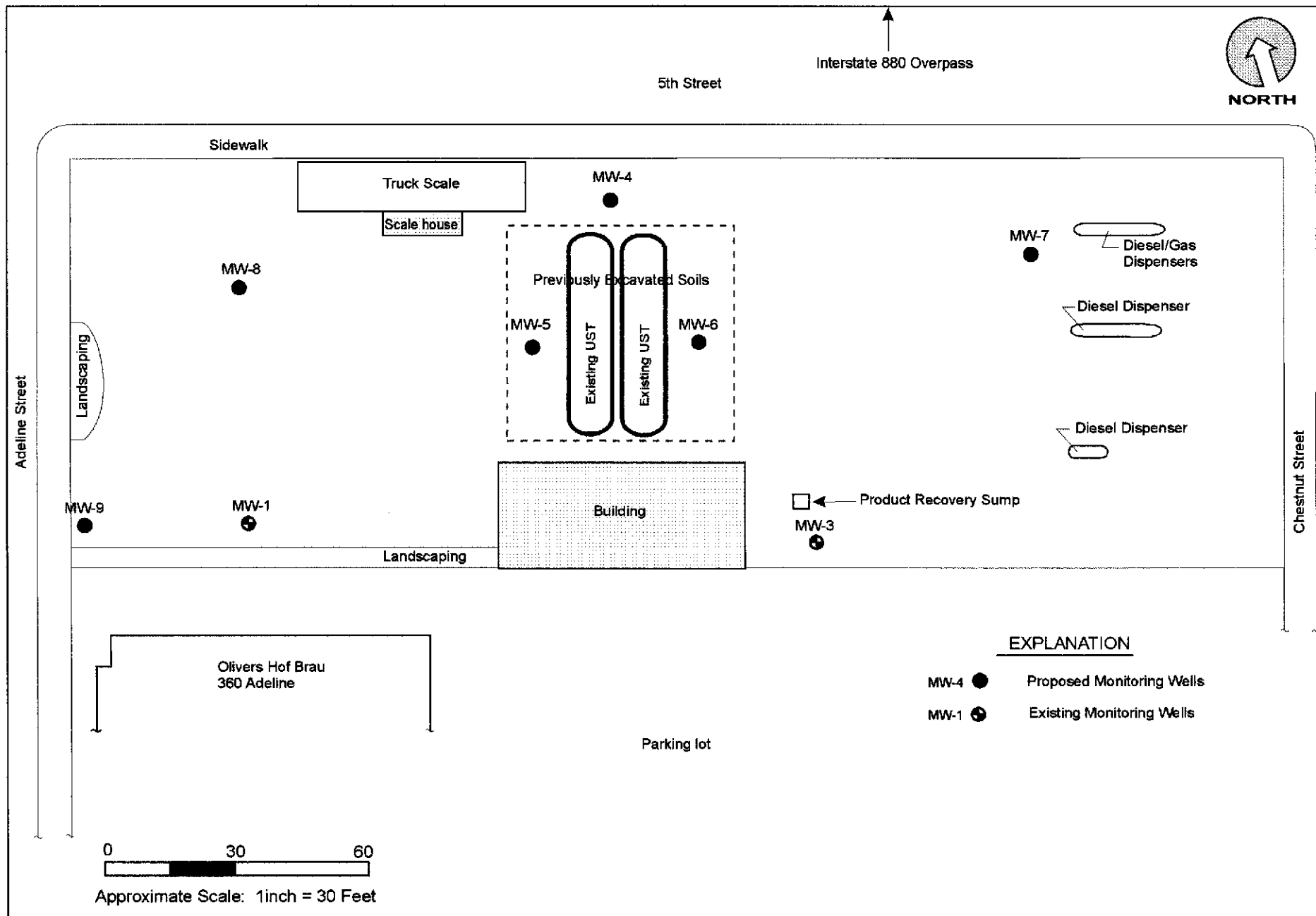


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Proposed Monitoring Well Locations
Oakland Truck Stop
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Figure 2