



MAJOR FACILITIES OFFICE
UNITED STATES POSTAL SERVICE
1407 UNION AVENUE
MEMPHIS TN 38166-0340

93 AUG -3 AM 10:58

July 29, 1993

3775

Ms. Jennifer Eberle
Hazardous Materials Specialist
Alameda County Health Care Services Agency
UST Local Oversight Program
80 Swan Way, Room 200
Oakland, CA 94621

Dear Ms. Eberle:

Subject: Workplan for the General Mail Facility, Oakland, California

As a follow up to our telephone conversation on Tuesday, July 27, 1993, I hereby request an extension of 30 days to file the workplan elements described in your correspondence dated June 9, 1993. This letter acknowledges your verbal approval of that July 27, 1993 request. The extension will give me the time required to finalize contractual arrangements with Geo/Resource Consultants, the firm I will use in completing the workplan and other necessary site investigation activities.

I appreciate your efforts on the U.S. Postal Service's behalf and look forward to working with you on this project. If you have any questions or need further information please contact me at (901) 722-7445.

Sincerely,

James L. Hanna
Environmental Specialist

cc: Pacific Team, MFO
Scott Ross, Env. Coord., Pacific Area Customer Services Office
Gary Floyd, Geo/Resource Consultants



93 AUG 27 AM 9:55

August 26, 1993
1708-003

Ms. Jennifer Eberle
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

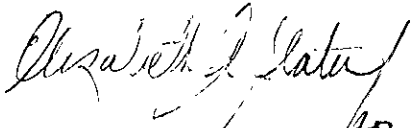
**RE: SITE CHARACTERIZATION WORK PLAN
U.S. POSTAL SERVICE VEHICLE MAINTENANCE FACILITY
1675 - 7TH STREET
OAKLAND, CALIFORNIA**


Dear Mr. Hanna:


Geo/Resource Consultants, Inc. (GRC) is pleased to submit this SITE CHARACTERIZATION WORK PLAN on behalf of the U.S. Postal Service Vehicle Maintenance Facility located at 1675 - 7th Street, Oakland, California.

If you have any questions or concerns regarding this work plan, or any other aspect of this project, please feel free to contact us. Thank you for your prompt handling of this matter.

Sincerely,
GEO/RESOURCE CONSULTANTS, INC.


Robert L. Nelson
Staff Geologist


Glenn S. Goodman
Manager of Remediation
Senior Hydrogeologist


Alan D. Tryhorn, C.E.G.
Senior Vice President

Enclosures

cc: GRC Project File
GRC Chron



93 AUG 27 AM 9:55

August 26, 1993
1708-003

Mr. Larry Hanna, Project Manager
UNITES STATES POSTAL SERVICE
Major Facilities Office
1407 Union Avenue
Memphis, TN 38166-0340

RE: SITE CHARACTERIZATION WORK PLAN
U.S. POSTAL SERVICE VEHICLE MAINTENANCE FACILITY
1675 - 7TH STREET
OAKLAND, CALIFORNIA

Dear Mr. Hanna:

Geo/Resource Consultants, Inc. (GRC) is pleased to submit this SITE CHARACTERIZATION WORK PLAN to the U.S. Postal Service Vehicle Maintenance Facility located at 1675 - 7th Street, Oakland, California. GRC will simultaneously submit a copy of the work plan to the Alameda County Department of Environmental Health (ACDEH) and to you.

If you have any questions or concerns regarding this work plan, or any other aspect of this project, please feel free to contact us.

Sincerely,
GEO/RESOURCE CONSULTANTS, INC.

Robert L. Nelson
Staff Geologist

Glenn S. Goodman
Manager of Remediation
Senior Hydrogeologist

Alan D. Tryhorn, C.E.G.
Senior Vice President

Enclosures

cc: Ms. Jennifer Eberle, ACDEH
GRC Project File
GRC Chron

EPD7:1708-WP



SITE CHARACTERIZATION WORKPLAN
UNITED STATES POSTAL SERVICE
VEHICLE MAINTENANCE FACILITY
OAKLAND, CALIFORNIA

PREPARED FOR:
UNITED STATES POST OFFICE
MAJOR FACILITIES OFFICE
MEMPHIS, TENNESSEE

PREPARED BY:
GEO/RESOURCE CONSULTANTS, INC.
505 BEACH STREET
SAN FRANCISCO, CALIFORNIA

AUGUST 26, 1993
JOB NUMBER: 1708-003

TABLE OF CONTENTS

	<u>PAGE</u>
1.0 INTRODUCTION	1
1.1 Objective	1
1.2 Study Site History	1
1.3 Regulatory Framework	3
2.0 FILED INVESTIGATION PROGRAM	4
2.1 Underground Utility Clearance	4
2.2 Soil Borings and Ground-Water Monitoring Well Rationale	4
2.3 Soil Boring Drilling and Sampling	5
2.4 Ground-water Monitoring Well Construction	6
2.5 Well Development	6
2.6 Well Purging and Ground-water Sampling	7
2.7 Well Elevation Surveying	8
2.8 Equipment Decontamination	8
2.9 Storage, Transportation and Disposal of Generated Wastes	8
2.10 Traffic Control	9
2.11 Health and Safety	9

3.0	LABORATORY ANALYSES PROGRAM	10
4.0	PRELIMINARY SITE CHARACTERIZATION REPORT PREPARATION	11
5.0	PROJECT SCHEDULE	12
6.0	REFERENCES	13

LIST OF FIGURES

Figure 1	Vicinity Map
Figure 2	Boring/Well Location Map
Figure 3	Well Construction Diagram

1.0 INTRODUCTION

1.1 Objective

The objective of the site characterization is to assess the source(s) and to define the vertical and lateral extent of petroleum hydrocarbons in soil and groundwater at the USPS Vehicle Maintenance Facility, at 1675 - 7th Street, Oakland, California (Site).

1.2 Study Site History

The study site is located on the south side of 7th Street between Peralta and Wood Streets in Oakland, California (See Figure 1).

In November, 1991, one 5,000-gallon gasoline underground storage tank (UST), two 10,000-gallon diesel USTs, the associated fuel piping, and a 750-gallon waste oil UST, were removed from the site. GRC personnel conducted UST removal observation activities and arranged for soil sampling during UST removal (GRC, April, 1992).

Ten soil samples were collected from the four UST excavations by R.S. Eagan Company (EAGAN) and submitted for laboratory analyses. Based on the laboratory data compiled by EAGAN, many of the soil samples analyzed indicated high concentrations (concentrations above 100 milligrams/kilogram; mg/kg or parts per million, ppm) of Total Petroleum Hydrocarbons as Diesel (TPH-D), Total Petroleum Hydrocarbons as Gasoline (TPH-G), and detectable concentrations of benzene, toluene, xylenes, and ethylbenzene (BTXE). Soil samples collected from the 5,000-gallon UST and the two 10,000-gallon UST excavations ranged in concentration of "Not Detected" (ND) to 2,500 ppm for TPH-G; and ranged in values of individual analyses of BTXE from ND to an upper limit of 130 ppm. Soil samples collected from the fuel piping excavation area ranged in concentration for TPH-D from 1.4 ppm to 7,900 ppm; TPH-G from 36 ppm to 610 ppm; and BTXE from ND to 170 ppm.

August 26, 1993

Page 2

1708-003

As a result of review of laboratory tests, and discussions with Mr. Dennis Byrnes of the ACDEH on November 8, 1991, ACDEH has requested that a groundwater and soil investigation be completed to satisfy the UST Closure Program. However, Mr. Byrnes stated that soil sample concentrations were not significant enough to warrant further investigation for the waste oil UST excavation (Personal conversation, Mr. Byrnes, November 13, 1991).

We don't have doc. of this tel con.

In June, 1992, an additional 10,000-gallon diesel UST was removed from an area near the northwest corner of the mail sorting building (See Figure 1). Soil and groundwater samples were collected at that time and laboratory results indicated that the samples collected from excavation sidewall soil did not contain analyzed constituents above reported detection limits (ND). TPH-D results from the soils stockpile sample (Composite 1/A-D) were reported to be 26 ppm and xylenes were reported to be 0.007 ppm. Benzene, toluene, and ethylbenzene were all reported to be not detected (ND). Groundwater laboratory results showed TPH-D to be present at 72,000 micrograms per liter (ug/L or parts per billion, ppb) and benzene and xylenes at 3.8 ppb and 12 ppb respectively. Toluene and ethylbenzene were not detected.

Because the concentrations detected in groundwater are above the action levels, the ACDEH has requested that a groundwater investigation be conducted at the site (June 9, 1993 letter from Ms. Jennifer Eberle, ACDEH). Additionally, Ms. Eberle stated that remaining soil contamination in the area of the two removed 10,000-gallon diesel USTs and piping (described in the April, 1992 report) should be addressed.

1.3 Regulatory Framework

The objective will be accomplished in accordance with the following regulations and guidelines:

- o Underground Tank Regulations, California Code of Regulations (CCR), Title 23 Waters, Chapter 16, Sections 2670, 2672, 2722;
- o The Leaking Underground Fuel Tank (LUFT) Manual, State of California Regional Water Quality Control Board (RWQCB);
- ✓ o Tri-Regional Board staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites. RWQCB, 1990;
- o Appendix A - Reports, Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites (1991);

Implementation of the site characterization will provide critical information regarding the environmental integrity of the soil and ground water at the site and may provide the basis for the development of a site mitigation program(s), if warranted.

2.0 FIELD INVESTIGATION

This section describes the procedures that will be used during the field investigation. The objective of these procedures is to investigate the potential presence of petroleum hydrocarbons in soil and groundwater and to minimize the potential for cross-contamination of samples.

In accordance with the guidelines and statutes listed in Section 1.4, all field work will be completed under the supervision of a California Registered Geologist.

2.1 Utility Clearance

Prior to utility clearance, all boring locations will be marked at the approximate locations shown on Figure 2. The locations will be marked on the ground surface using white paint. GRC will notify Underground Service Alert (USA) approximately 7 working days prior to drilling the borings. USA will notify pertinent utility companies to locate and mark their underground utilities at least 2 working days prior to drilling.

Prior to drilling, GRC will examine the proposed boring locations for marked utilities and to relocate borings that intersect or are within 5 feet of a marked utility. If necessary, proposed boring locations will be painted out and the new boring location will be marked using white paint. If resistance or obstruction is encountered during drilling which would be higher than expected from normal drilling conditions, the boring will be abandoned due to the suspected presence of underground utilities. The boring will be relocated approximately 5 feet from its initial location.

2.2 Site Characterization Rationale

GRC will drill 8 soil borings (MW-1 through MW-5 and B-6 through B-8) based on the location of previously identified concentrations of petroleum hydrocarbons in soil, depth to groundwater, and expected groundwater flow direction.

5 MWS
3 SBS

diesel (Tank 5)

? Four borings (MW-1 through MW-4) will be drilled near the two removed 10,000-gallon diesel USTs and completed as groundwater monitoring wells. MW-5 will be drilled near the removed 10,000-gallon gasoline UST near the mail sorting building, and completed as a groundwater monitoring well.

Three additional borings (B-6, B-7, and B-8) will be drilled to further characterize the extent of petroleum hydrocarbons in soil, near the previously removed 10,000 gallon tanks and the 5,000 gallon tank.

2.3 Soil Boring Drilling and Sampling

The soil borings will be drilled using a truck mounted drill rig equipped with 10-inch-diameter, continuous flight, hollow stem augers. The soil samples will be collected in three clean, 6-inch long, stainless steel sample tubes contained within an 18-inch long split barrel sampler. The sampler will be driven into the soil with a 140-pound, free-falling hammer. One sample tube will be retained for chemical analyses. ~~one per 50'~~

Three soil samples will be collected from each boring (with the exception of MW-5) and submitted for laboratory analyses. The samples will be collected at approximately 5-foot intervals to a depth of 15 feet bgs, which was the approximate depth that groundwater was measured in the excavations, for the newly installed USTs in November, 1991. *ok*

Soil boring logs will be prepared for each boring based on examination of the soil samples and drill cuttings obtained from the augers, and drilling conditions observed in the field. Soil will be classified according to the Unified Soil Classification System. Photoionization (HnU) meter readings on soil samples will be recorded on the Soil Boring Logs.

All sample tubes chosen for chemical analysis will be labeled and the ends covered with Teflon liners and plastic caps. The samples tubes will be sealed in individual plastic bags and stored in a cooler containing ice until delivery to the laboratory. Chain-of-Custody records will accompany the samples to the laboratory.

2.4 Groundwater Monitoring Well Construction

The monitoring wells will be constructed of 4.5-inch diameter, polyvinyl chloride (PVC) casing to facilitate their use as extraction wells if groundwater remediation is necessary. The monitoring wells will be installed to a depth of 25 feet below ground surface (bgs), with 0.02-inch slotted screen from approximately 10 feet to 25 feet bgs.

A PVC end cap will be placed over the lower end of the well screen and secured with clean stainless steel screws. A sand pack of Number 3 sand will be slowly poured into the annular space between the well bore and the PVC casing as augers are lifted from the well bore. Frequent depth measurements will be taken during placement of the sand pack to prevent "bridging" of the sand in the borehole. The top of the sand pack will be poured to approximately 1.5 feet above the top of the screen. A minimum 12-inch thick layer of bentonite pellets will be placed above the sand pack and hydrated with clean water prior to filling the remaining annular space with a cement-bentonite grout (approximately 5 percent bentonite). A locking water tight well cap and padlock will be connected to the top of the PVC well casing. A watertight well box will be set in concrete around the top of the well to protect it from surface traffic (Figure 3).

2.5 Well Development

The groundwater monitoring wells will be developed to enhance the hydraulic connection between the wells and the aquifer. The wells will be developed a minimum of 24 hours after installation, by alternating surging and bailing or pumping to remove fine sediment from within the sand pack and well casing and to remove fine sediment against the sand pack. The wells will be developed until the water is as free of suspended sediment as reasonably possible.

The turbidity of the ground water will be determined visually. Turbidity determinations and observations related to well recharge rates will be recorded on Well Development Logs.

2.6 Groundwater Sampling

GRC will inform the ACDEH at least 48 hours prior to the start of sampling. The wells will be allowed to equilibrate for a minimum of 24 hours following development. Prior to sampling a water level measurement will be taken from each well, with a chalked steel tape or electronic water level meter from a designated point on the top of the PVC casing. The water level measurement will be recorded to within 0.01-foot. A clean acrylic bailer will be used to collect a water sample to check for floating petroleum hydrocarbons ("free product").

To collect representative groundwater samples, each well will be purged of at least four casing volumes with a clean Teflon bailer. During purging the pH, conductivity, and temperature of the purged water will be measured and recorded at 2 to 5-gallon increments to monitor the stabilization of these groundwater parameters and insure the collection of a representative groundwater sample. When three consecutive measurements of each parameter have been obtained, that have less than a 10 percent variance of each parameter, the well will be considered stabilized. Other groundwater parameters such as turbidity, color, and odor will also be recorded during surging.

If the groundwater recharge rate is low and the well is "bailed dry" during bailing, the well will be allowed to recharge and bailed dry a second time. The well will be sampled when the water level rises to approximately 80% percent of its original height.

Well samples will be collected as soon as possible after purging by pouring groundwater directly from the same bailer used during purging into appropriate sample containers. In the case of Volatile Organic Analysis (VOA) vials, no headspace will be present inside the vials. Groundwater sample containers will be appropriately labeled and recorded on a Chain-of-Custody Record.

2.7 Well Elevation and Location Surveying, and Water Level Measurement

The elevation and location of each well will be surveyed by a California licensed surveyor. Prior to surveying, GRC will mark a designated point on the top of the PVC well casing. The designated point and the ground surface elevation of the well will be surveyed to within 0.01 feet, reference to mean sea level or City of Oakland datum. The well locations will be surveyed relative to nearby buildings and pertinent structures at the study area and to nearby survey monuments. GRC will measure depth to groundwater from the designated point to an accuracy of 0.01 feet prior to purging. From this data, groundwater elevations and flow directions will be calculated.

2.8 Equipment Decontamination

The following decontamination procedures will be used in order to maintain sample integrity and to prevent cross-contamination from occurring between sampling locations:

- o All sample containers for soil and ground-water sampling will be pre-cleaned prior to use in the field.
- o All sampling equipment will be cleaned with a non-phosphate detergent (e.g. Liqui-Nox) and rinsed twice with distilled water prior to use at a new sampling location. Sampling equipment includes split spoon samples, stainless steel sample tubes, sampling utensils, and clear acrylic and Teflon bailers.
- o Hollow stem augers and drill bits will be steam cleaned before use, between each drilling location and before leaving the site.

2.9 Storage, Transportation and Disposal of Generated Wastes

All soil cuttings, steam-cleaning water, development/purge water and associated materials generated during the field activities will be considered potentially hazardous wastes. The disposition of these materials will be determined based on the laboratory

follow up

analyses of representative samples. For this reason, all materials will be contained in 55-gallon drums, sealed, labeled as unclassified material, and temporarily stored on-site pending laboratory results. Following receipt of the laboratory results, GRC can either arrange for disposal of the materials or provide USPS with disposal options.

2.10 Traffic Control

Due to potential heavy USPS truck traffic in the area, extreme caution will be exercised regarding drill rigs and field personnel. At all boring locations, orange traffic cones and/or barrier tape will be placed around the drill rig to safeguard site personnel. GRC will schedule the drill rig so as to minimize disruption to USPS operations and will coordinate all activities with onsite USPS personnel. A 48 hour notification, prior to field work, will be given to the USPS local, Memphis Major Facilities Office and San Bruno, Pacific Area Representatives.

2.11 Health and Safety

Prior to implementing any field work, a site and hazard specific Site Safety Plan will be developed. The Safety Plan will be used by GRC and all subcontractors working on the site. The Plan will be written to satisfy OSHA 1910.20.

✓

3.0 LABORATORY ANALYSES PROGRAM

Each soil and groundwater sample will be submitted to a California certified analytical laboratory for the following suite of analyses:

TPH-Gasoline/BTXE ^{gas:} 5030 prep. by EPA Test Method 8015/~~8200~~ (602).
TPD-Diesel 3550 prep. soil + 3510 prep. water by EPA Test Method 8015

The soil and groundwater sample results will be submitted for a two week turn-around time schedule. Detection limits will be requested to meet RWQCB recommendations.



4.0 PRELIMINARY SITE CHARACTERIZATION
REPORT PREPARATION

GRC will prepare a report summarizing all field activities and results of laboratory and field analyses. GRC will prepare monitoring well logs, groundwater elevation contour maps, and contaminant concentration maps, as appropriate.

GRC will provide preliminary recommendations regarding remedial action alternatives. Following discussion with the ACDEH and the RWQCB and approval of the USPS, GRC will prepare a Remedial Action Plan for the site if enough data have been collected to delineate the extent and concentration of the petroleum hydrocarbons.

5.0 PROJECT SCHEDULE

GRC anticipates that this project will be completed approximately 12 weeks after approval of the Work Plan by the ACDEH. The anticipated schedule is as follows:

<u>Task</u>	<u>Cumulative Work Days For Completion</u>	<u>Anticipated Calendar Date</u>
Work Plan Approval*	0	9/10/93
Utility Clearance	5	9/17/93
Soil Boring/Wells	10	9/24/93
Well Development/Purge/Sample	15	10/01/93
Well Survey	15	10/01/93
Analytical Results	25	10/15/93
Drum Removal Proposal	40	11/05/93
Drum Removal	60	12/03/93
Draft Report	60	12/03/93

* Assume 2 weeks for regulatory review

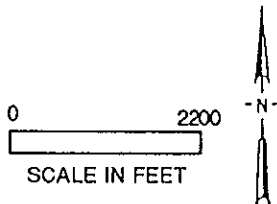
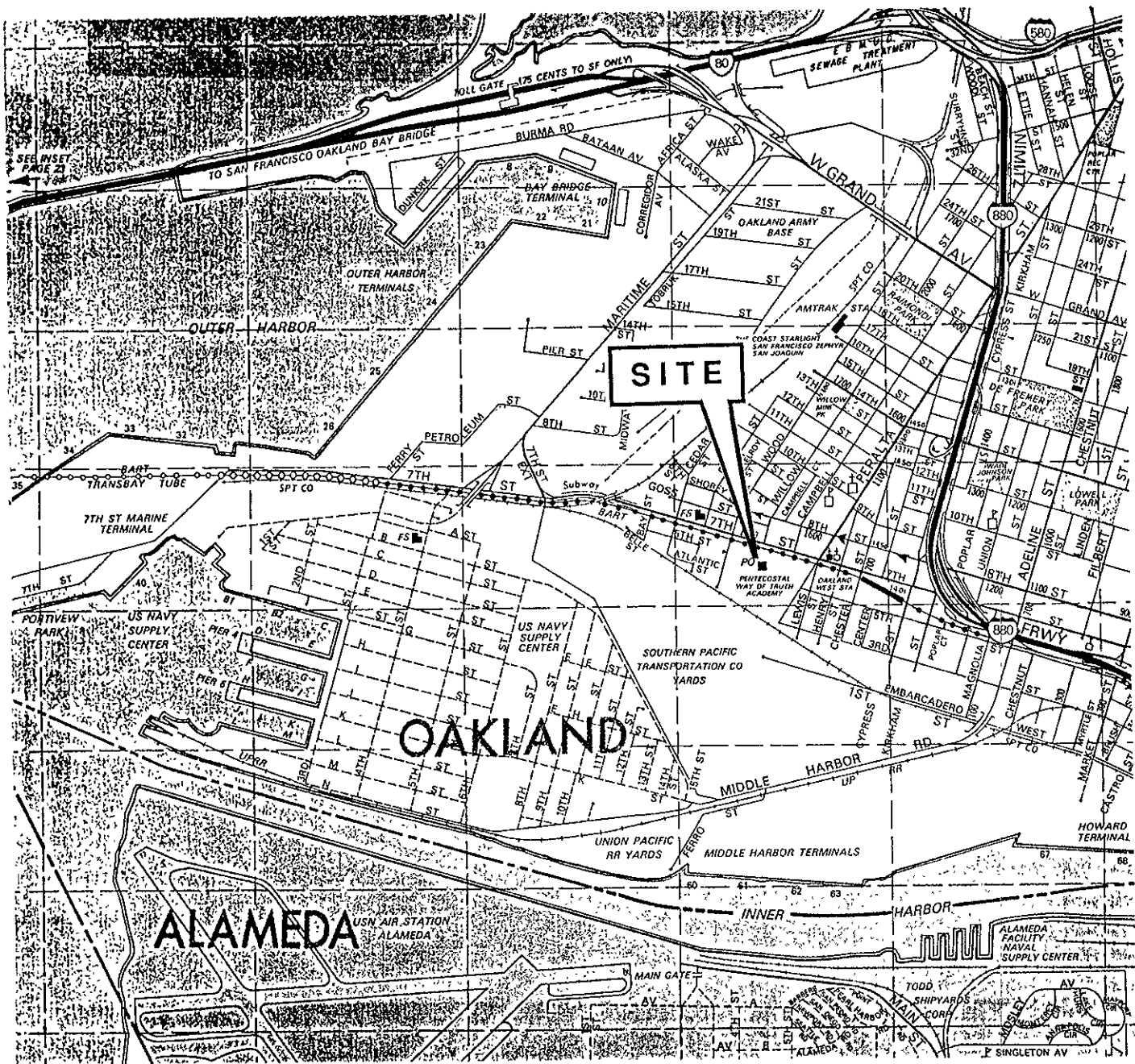
6.0 REFERENCES

Geo/Resource Consultants, Inc., 1992. Construction Observation of UST Activities, United States Postal Service, Oakland Main Post Office, 1675 7th Street, Oakland, California. April 23.

Geo/Resource Consultants, Inc., 1992. Supplemental Observation Letter, Underground Storage Tank (UST) program, U.S. Postal Service Vehicle Maintenance Facility, Oakland, California. September 17.

FIGURES





REFERENCE : Thomas Bros Maps, 1989



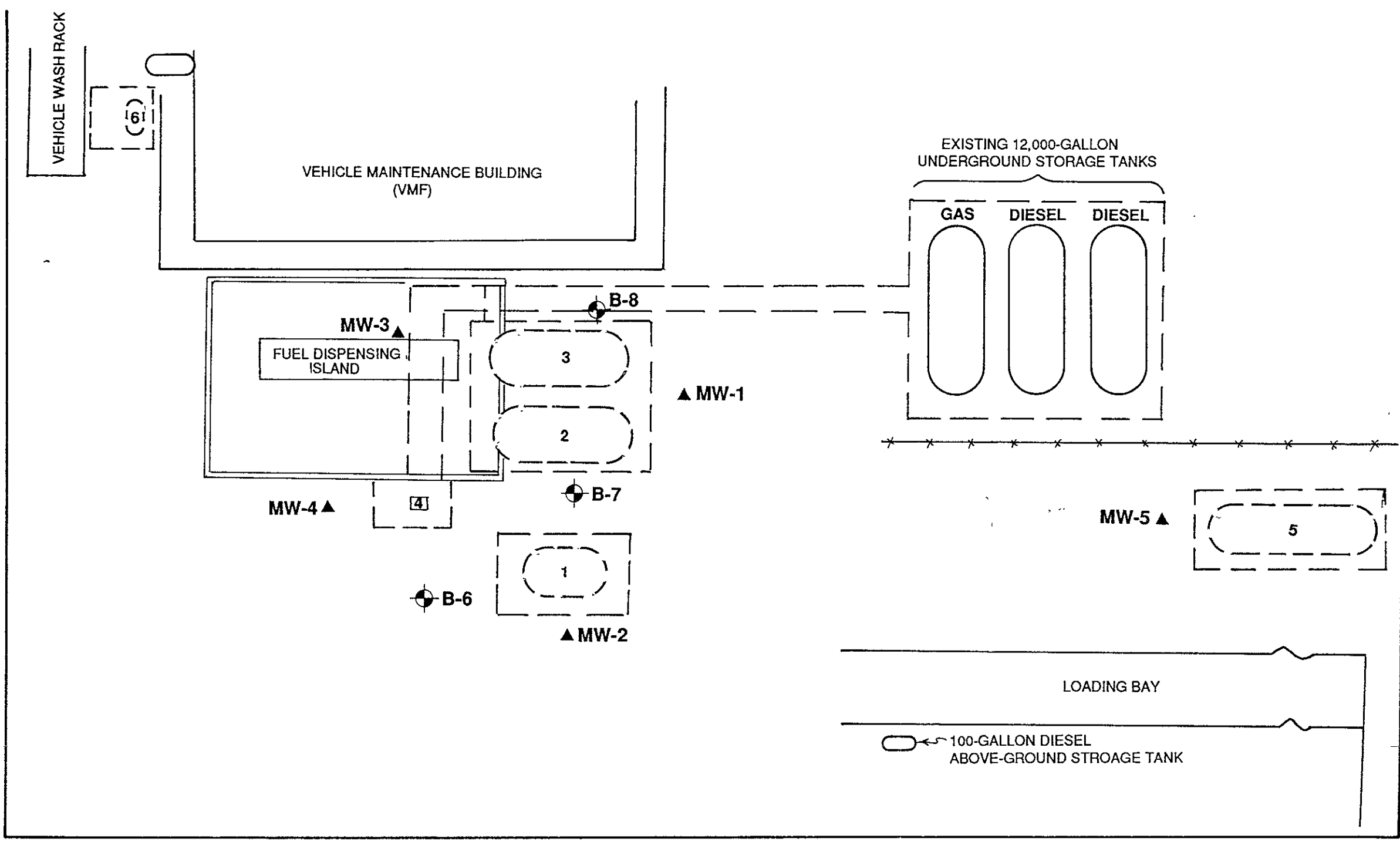
Geo/Resource Consultants, Inc.
 GEOLOGISTS / ENGINEERS / ENVIRONMENTAL SCIENTISTS
 505 BEACH STREET, SAN FRANCISCO, CALIFORNIA 94133

VICINITY MAP
 SITE CHARACTERIZATION WORKPLAN
 USPS - OAKLAND VMF
 OAKLAND, CALIFORNIA

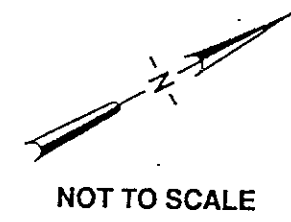
FIGURE


1

Job No. 1708-003 Appr. _____ Date 8/25/93



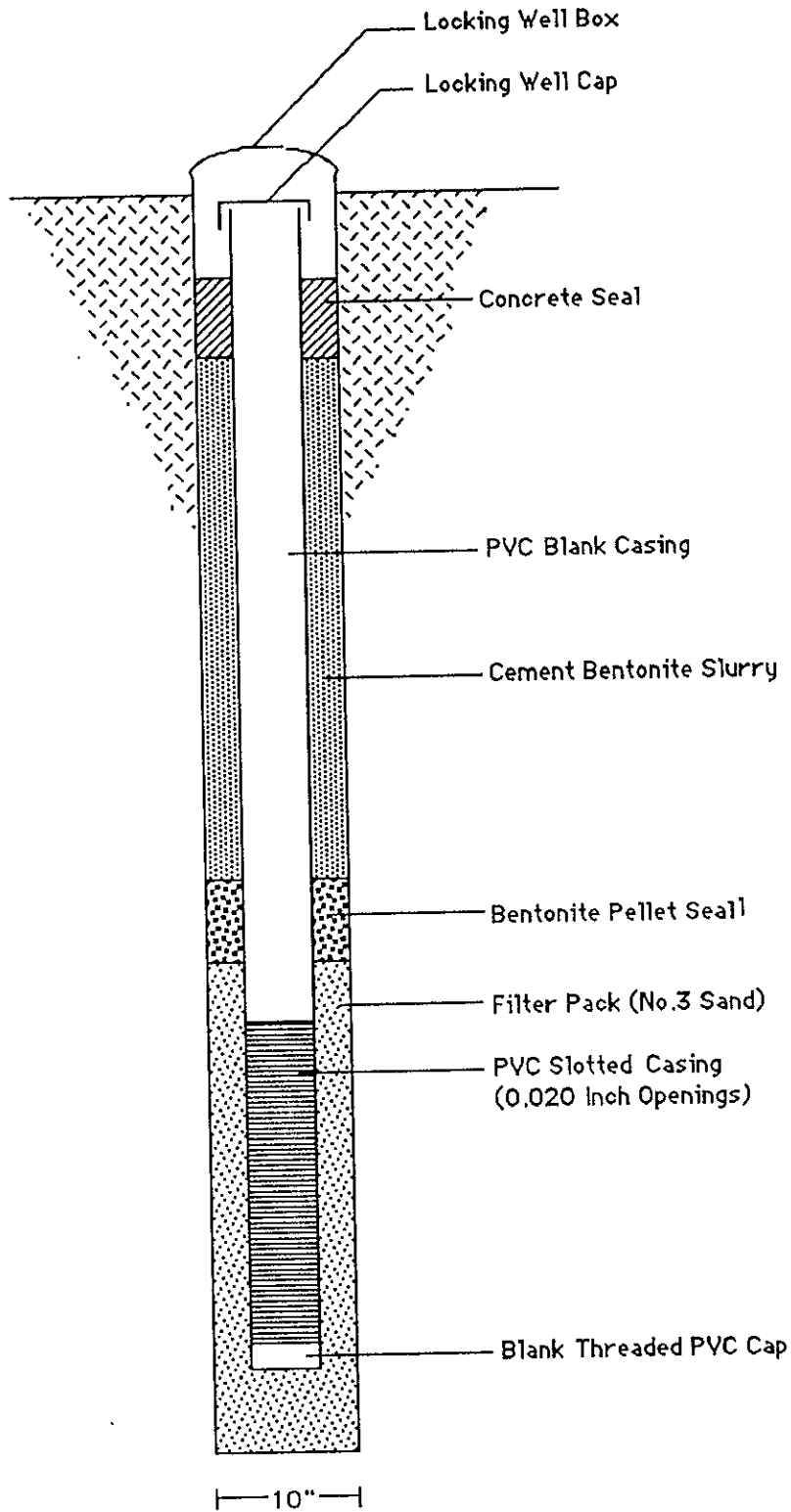
EXPLANATION	
	PROPOSED SOIL BORING LOCATION
	PROPOSED MONITORING WELL LOCATION
	LIMIT OF EXCAVATION
	REMOVED UNDERGROUND TANK
	TANK No.
1	5,000-GALLON GASOLINE
2	10,000-GALLON DIESEL
3	10,000-GALLON DIESEL
4	DEMOLISHED DIESEL FUEL DISPENSING ISLAND
5	10,000-GALLON DIESEL
6	750-GALLON WASTE OIL




Geo/Resource Consultants, Inc.
 GEOLOGISTS / ENGINEERS / ENVIRONMENTAL SCIENTISTS
 505 BEACH STREET, SAN FRANCISCO, CALIFORNIA 94133
 Job No. 1708-003 Appr. _____ Date 8/25/93

PROPOSED MONITORING WELL AND
 SOIL BORING LOCATIONS
 SITE CHARACTERIZATION WORKPLAN
 USPS - OAKLAND VMF
 OAKLAND, CALIFORNIA

FIGURE
2



NOTE : 4.5" Casing



GeoResource Consultants, Inc.
Geologists / Engineers / Environmental Scientists

Job No. 1708-003 Appr: _____ Date 8/25/93

**TYPICAL WELL CONSTRUCTION
DIAGRAM**
SITE CHARACTERIZATION WORKPLAN
USPS - OAKLAND YMF
OAKLAND, CALIFORNIA

Figure

3