WORKPLAN HAZARDOUS WASTE PRELIMINARY SITE INVESTIGATION TASK ORDER NUMBER 04-952137-ES CONTRACT NUMBER 43A0012

MATTOX ROAD AND FOOTHILL BLVD. HAYWARD, CALIFORNIA

prepared for

CALIFORNIA DEPARTMENT OF TRANSPORTATION District 4

P.O. Box 23660 Oakland, California

prepared by

Professional Service Industries, Inc.

1320 West Winton Avenue Hayward, California 94545 (510) 785-1111

> May 14, 1999 575-9G034

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STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION

Information provided in this Workplan, prepared by Professional Service Industries, Inc. (PSI), is intended exclusively for the use of Caltrans for the evaluation of subsurface conditions as it pertains to the subject site. The professional services provided have been performed in accordance with practices generally accepted by other geologists, hydrologists, hydrogeologists, engineers, and environmental scientists practicing in this field. No other warranty, either expressed or implied, is made. As with all subsurface investigations, there is no guarantee that the work conducted will identify any or all sources or locations of contamination.

PSI reserves the right to deviate from the proposed scope of services outlined in this Workplan as needed to obtain the required information. If such deviation is necessary, PSI will seek prior approval from the client and the regulatory agency overseeing this project.

This Workplan is issued with the understanding that Caltrans is responsible for ensuring that the information contained herein is brought to the attention of the appropriate regulatory agency. This Workplan has been reviewed by a geologist who is registered in the State of California and whose signature and license number appear below.

Frank R. Poss, R.E.A. Senior Hydrogeologist

Timothy R. O'Brien RG/CEG/CHG Senior Geologist

No. 1919

Certified
Engineering
Geologist

E OF CALL

1.0 INTRODUCTION

Professional Service Industries, Inc. (PSI) has been retained by the California Department of Transportation (Caltrans), under Task Order Number 04-952137-ES and Contract Number 43A0012, to prepare this Workplan to assess current soil and groundwater conditions at the property at the intersection of Mattox Road and Foothill Boulevard in Hayward, California (subject site; Figure 1).

The scope of work for this investigation includes:

- Drill 10 soil borings to collect soil and groundwater samples,
- Dig three trenches to identify whether USTs are present on the property,
- Chemical analyses of soil and groundwater samples; and
- Prepare a technical report describing the investigation and interpretation of the data generated.

1.1 PROJECT OBJECTIVE

The object of the project is to determine if USTs exist on site, and determine the concentrations of selected potentially hazardous constituents in soil and groundwater. Analytical results from the soil and groundwater investigation will be examined with respect to regulatory criteria and published guidelines. The purpose of this workplan is to define the scope of work and to describe the methodology to be utilized to complete the scope of work.

1.2 SITE HISTORY

Based on information supplied in the Caltrans Task Order, the site was formerly an Exxon gasoline station that ceased operation in the 1970s. It appears that the former underground storage tanks (USTs) were removed from the site in 1979. In a 1995 investigation conducted by Geocon Environmental Consultants (Geocon), soil samples were collected. The maximum concentration in the soil samples analyzed were the following:

Oil and Grease (O&G) Total Lead

7,200 ppm 2,400 ppm In a 1996 investigation conducted by International Technology, Corp (IT), soil samples were collected. The maximum concentration in the soil samples analyzed were the following:

Oil and Grease (O&G) Total Lead 480 ppm 92 ppm

Norcal Geophysical Consultants of Petaluma, California conducted a geophysical survey of the site to attempt to locate buried objects such as USTs or piping. Their geophysical survey identified three anomalies which may represent small USTs or large isolated metallic objects, such as utility vaults or utility corridors (Norcal, 1995).

2.0 PRE-FIELD ACTIVITIES

This section describes the tasks PSI will perform prior to initiating any field activities. These tasks include: 1) attending the Caltrans Task Order Meeting; 2) identifying borehole locations; 3) preparing the Pre-Work Site Visit Checklist; 4) locating any underground utility lines in conjunction with Underground Service Alert (USA); and 5) determining the Investigation Completion Schedule.

2.1 TASK ORDER MEETING

A Task Order Meeting was completed on May 3, 1999, with Mr. Frank Poss and Ms. Chris Zdunkiewicz of Caltrans in attendance. The primary purpose of the meeting was to familiarize PSI with site conditions that may impact field operations.

At the Task Order Meeting, the boring locations were determined and a Pre-Work Site Visit Checklist was completed. Topics specified in the Checklist included identification of borehole locations, trenching locations, confirmation of underground utility clearance, location of water/power supply sources, and storage areas for drill cuttings and soil generated during trenching.

2.2 HEALTH AND SAFETY PLAN

Prior to the commencement of field activities at the site, a site-specific Health and Safety Plan (HSP) will be developed in compliance with 29 CFR 1910.120, under the supervision of a Certified Industrial Hygienist. The HSP is designed to address the potential hazardous materials that may be encountered during field activities at the site. Further, the HSP will be designed to minimize the exposure to potentially hazardous materials and unsafe working conditions to on-site personnel.

2.3 UTILITY CLEARANCE

At least 48 hours prior to drilling activities, PSI will contact Underground Service Alert (USA) to identify utility lines that may underlie the areas of investigation.

3.0 SUBSURFACE INVESTIGATION

This section describes the methodology that will be implemented during the soil and groundwater investigation at the site. The objectives of the sampling procedures are to provide an accurate assessment of the current soil and groundwater conditions and to minimize the potential for cross-contamination during sampling operations.

3.1 SOIL BORINGS

Ten soil borings are scheduled to be drilled to investigate the soil and groundwater quality at the site. The boring locations are presented in Figure 2 and were selected by Caltrans. V&W Drilling of Rio Vista, California will provide the drilling services. The borings will be drilled by the Geoprobe direct push drilling technique. Soil samples will be collected at .15, 0.3, 0.9, 1.5, 3.0, and 4.5 meters (0.5, 1, 3, 5, 10, and 15 feet) below ground surface (bgs). Field work for drilling and soil sampling activities will be conducted in accordance with the field procedures described in Appendix A. Following drilling, the borings will be grouted according to State and Local requirements.

3.2 SOIL SAMPLING PROTOCOL

Soil samples will be collected by a PSI geologist working under the supervision of a State of California Registered Geologist. The samples will be collected in 0.46 meter (1.5-foot) long acetate tubes. Upon retrieval of the sampler, a representative soil sample will be preserved for chemical analyses.

The soil samples will be logged on chain-of-custody records and transported to Centrum Analytical of Redlands, California, a California Department of Health Services certified hazardous materials testing laboratory, following chain-of-custody protocol.

3.3 SOIL CLASSIFICATION

Soil will be described by a PSI geologist and recorded on a field boring log for each boring drilled. The data recorded on the logs will be based on examination of soil samples retrieved and drilling conditions observed in the field. Boring logs will include information regarding the location of the boring, type of sampler used, and geologic descriptions of materials encountered.

Soils will be classified according to the "Soil and Rock Logging Classification Manual" prepared by the State of California, Department of Transportation. Other information to be recorded on the logs will include indications of contamination and the occurrence of groundwater. Organic vapor analyzer (OVA) measurements for soil samples will be recorded on the field boring logs.

3.4 GRAB GROUNDWATER SAMPLING

Grab groundwater samples will be collected from each of the borings. Grab groundwater samples will be collected using disposable polyethylene tubing lowered through the drill stem. Groundwater samples will be collected using positive displacement and a check valve. Groundwater sampling will be conducted in accordance with the procedures described in Appendix A.

3.5 TRENCHING

PSI will utilize a back hoe to dig three trenches in the areas of the magnetic anomalies identified by Norcal during their geophysical investigation of the site (Appendix B). The locations of the planned trenches are presented on Figure 2. The trenching will be conducted in an attempt to determine the source of the anomalies. Following excavation, the excavated soil will be placed back into the trenches. Any additional soil will be stockpiled on site.

3.6 DECONTAMINATION PROCEDURES

Decontamination procedures will be implemented to maintain sample integrity and to prevent cross-contamination between sampling locations. All re-usable equipment will be cleaned with a non-phosphate detergent and rinsed twice with deionized water prior to use at a new sampling location. Sampling equipment includes:

- Stainless-steel sample barrel and tubes,
- Drilling equipment,
- Groundwater sampling equipment, and
- Sounders.

3.7 STORAGE AND DISPOSAL OF GENERATED WASTES

Water from equipment cleaning, well development, and well purging activities will be stored in individually labeled 55-gallon drums. Disposition of the water will be determined upon receipt of laboratory analytical results of the soil and water samples. PSI will arrange for the management and appropriate disposal of soil and water generated during the field activities under Contract 43A0012.

4.0 LABORATORY ANALYSIS PROGRAM

The soil and groundwater samples collected during this investigation will be submitted to Centrum Analytical, a State of California Department of Health Services certified hazardous waste laboratory. A summary of the types of analyses and analytical methods is presented below.

All soil and groundwater samples collected will be analyzed for the following:

- EPA Method 8015 modified TPH-G;
- EPA Method 8015 modified TPH-D:

EPA Method 1664 – Oil & Grease;
EPA Method 8260 – Volatile Organic Compounds (VOC), including fuel oxygenates, ethyl dibromide, and ethylene dichloride.

EPA Method 6010 - Total Lead & Subbr had for g.w. avalysis.

During groundwater sampling, the following parameters will be measured:

- pH (field measurement)
- Conductivity (field measurement)
- Temperature (field measurement)

5.0 FIELD QUALITY ASSURANCE/QUALITY CONTROL

The following equipment calibration procedure and field documentation procedures will be implemented by PSI field personnel.

5.1 SAMPLE IDENTIFICATION

Soil samples collected in the field will be labeled according to standard protocol, as outlined in Appendix A.

5.2 CHAIN-OF-CUSTODY PROCEDURES

Chain-of-custody records will be used to document sample handling and shipping procedures. Chain-of-custody records will trace the samples from collection, through any custody transfers to the analytical laboratory. Information recorded on the Chain-of-Custody records will include location of sample collection, sample identification, number, date and time of collection, number and type of sample containers, and analyses requested. The shipping conditions will also be described on the chain-of-custody records. The name of the sampler(s) as well as the name of the person relinquishing the samples will be documented. Chain-of-custody procedures are described in Appendix A.

5.3 FIELD INSTRUMENTS

An organic-vapor analyzer (OVA) will be used in the field for health and safety monitoring, as well as site assessment purposes. An OVA will be calibrated daily using a reference calibration gas. Calibration gas is pre-bottled by a laboratory supply house and has a listed calibration value in parts per million for each specific gas. The OVA will be used as an indicator of total petroleum hydrocarbons in soil samples and for health and safety purposes.

6.0 DATA MANAGEMENT

In accordance Contract 43A0012, a Daily Work Force Log will be completed by on-site personnel for each day in the field. The log will include the following items listed below:

- Task order number and contract number,
- Project name and location;
- Name, Title, and Company of person performing the work;
- Date work is being performed;
- Actual begin and end times of work;
- Description of work being performed;
- Additional notations, observations, or remarks to further characterize or clarify work being performed;
- Equipment utilized on site; and
- Change orders issued during site activities.

6.1 DATA STORAGE

Project correspondence, field notes, maps, and data will be filed within the main Project File at PSI's Hayward office. Chemical data will be entered onto a spreadsheet program for ease of organization, review, and presentation of data in the report. Hard copy files within the main Project File may include, but not be limited to:

- Basic Data: Soil boring logs, field procedures, forms, maps, analytical data.
- Project Field Logs: The project notebook and all field memorandums.
- Correspondence: All written correspondence and telephone conversation records.
- Data Presentation: All maps and tables generated from basic data analyses.
- Data Verification: Documentation that all tables, maps and texts using basic information have been reviewed.

7.0 SITE INVESTIGATION REPORT PREPARATION

Upon completion of the field activities described in this workplan, a draft report will be prepared presenting the investigative methodology implemented, findings, and conclusions for the subject site. The report will include the following elements:

- Title sheet.
- · Signature page,
- Table of contents.
 - Investigative summary,
 - Introductory narrative of the project,
 - File review Information,
 - Investigative methods,
 - · Investigative results and field observations,
 - Results of the Trenching
 - Data evaluation and discussion,
 - Graphs, Tables and Figures,
 - · Summary table (s) indicating laboratory results,
 - · Contaminant concentrations, analytical methods, and detection limits,
 - · Copies of original laboratory documentation,
 - · Field procedure forms, and chain-of-custody records,
 - Conclusions, and
 - Recommendations.

REFERENCES

Alameda County Health Care Agency, 1998, Investigations at the CalTrans site, November 16, 1998.

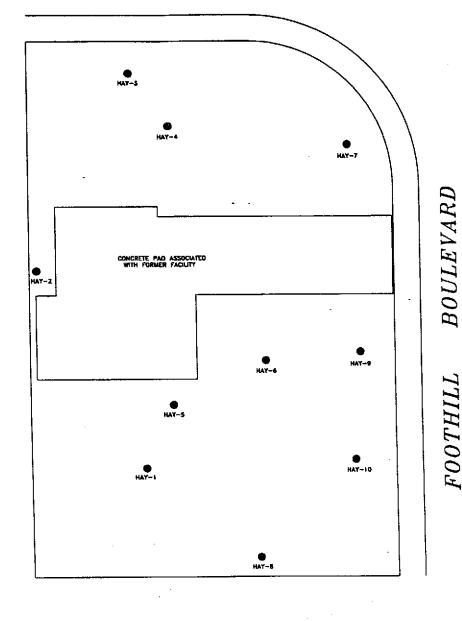
Caltrans, 1999, Task Order # 04-52137-ES, Hazardous Waste Preliminary Site Investigation, prepared for Caltrans, March 31,1999.

- Caltrans, 1999, Contract NO. 43A0012

Caltrans, 1996, Soil and Rock Logging Classification Manual (Field Guide), prepared for Office of Structural Foundations, August



MATTOXROAD



FOOTHILL



LEGEND

ENVIRONMENTAL CEOTECHNICAL CONSTRUCTION CONSULTING . ENGINEERING . TESTING

PROPOSED BORING LOCATIONS
STATE RIGHT-OF-WAY
MATTOX ROAD AND FOOTHILL BOULEVARD
HAYWARD, CALIFORNIA
PROJECT NUMBER: 575-9G034

DATE:

5/5/99

CKD BY:

FIGURE NO.: 2

FILE NO: 9G034-2A

DRAWN BY: S.BOWERS

APPENDIX A

FIELD PROCEDURES

APPENDIX A FIELD PROCEDURES

I. DRILLING OF SOIL BORINGS AND COLLECTION OF SOIL SAMPLES

The following procedures will be used for the drilling and sampling of the soil borings drilled at the site:

- 1. Drilling will be conducted by V&W Drilling under the supervision of PSI. Drilling equipment will be pressure washed at the beginning of the day and between soil borings.
 - 2. Prior to the commencement of drilling activities at the site, Underground Service Alert (USA) will be contacted to identify underground utilities in the areas that the borings will be located.
 - Boring logs for the soil borings drilled at the site will be prepared under the supervision of a State of California Registered Geologist. The soil cuttings observed during drilling will be described in accordance with the Unified Soil Classification System.
 - 4. Soil samples will be collected using a 1-inch diameter stainless steel sampler. When the boring has been advanced to the appropriate sampling depth, a 1-inch diameter sampler lined with 1-inch diameter acetate tubes, with a retractable tip will be placed in the open boring. When the sampler is advanced to the appropriate depth, the tip will be retracted and an undisturbed soil sample will be collected by pushing the sampler into the subsurface using a percussion hammer.
 - 5. Once the sampler has been retrieved the ends of the sample tube will be covered with Teflon sheets and capped with polyethylene end caps. The sample will be labeled and placed in a zip-lock bag in a chilled cooler pending delivery to the laboratory for analysis.
 - 6. Soil samples will be assigned identification numbers such as B1-0.9, where B1 indicates the parcel address, boring 1 and -0.9 indicates that the sample was collected at 0.9 meters bgs from boring 1 at that address. The samples will be labeled with the sampling designation, depth, date, client name, and project number.
 - 7. Soil samplers will be washed between sampling intervals with Alconox soap followed by two deionized-water rinses.

- 8. Chain-of-custody procedures using chain-of-custody forms will be used to document sample handling and transportation.
- 9. A Century 128 organic vapor analyzer (OVA) will be used to monitor volatile organic compounds (VOCs) in the ambient air during drilling at the site in accordance with the site health and safety plan. VOC concentrations in the soil will be measured and recorded on the borings logs for depths that soil samples were collected. VOCs in the soil will be measured at the sampling depths by partially filling a zip-loc bag with soil. The components of the soil are allowed to volatilize and fill the head space in the tube for approximately 30 minutes prior to inserting the OVA probe through one of the end caps and recording the measurements.
- 10. Soil cuttings and steam wash water generated during drilling activities at the site will be contained in Department of Transportation (DOT) approved 55-gallon drums. The drums will be labeled with the contents, date, well or boring number, client name, and project number.

II FIELD DOCUMENTATION OF SAMPLING PROCEDURES

The following outline describes the procedures adhered by PSI for proper sampling documentation.

- 1. Sampling procedures will be documented in a field notebook that will contain:
 - 1. Sample collection procedures
 - 2. Date and time of collection
 - 3. Date of shipping
 - 4. Sample collection location
 - 5. Sample identification number(s)
 - 6. Intended analysis
 - 7. Quality control samples
 - 8. Sample preservation
 - 9. Name of sampler
 - 10. Any pertinent observations

- 2. Samples will be labeled with the following information:
 - 1. Sample number
 - 2. Well number
 - 3. Date and time sample was collected
 - 4. Sampler's name
 - 5. Sample preservatives (if required)
- 3. The following is the sample designation system for the site:

For Borings, the samples will be labeled B-(Boring Number)-(Depth) (i.e. sample collected from boring 4 at 5 feet would be B4-5)

For groundwater samples (W) (Boring Number) (i.e. WB4)

- Handling of the samples will be recorded on a chain of custody form which shall include:
 - 1. Site name
 - 2. Signature of Collector
 - 3. Date and time of collection
 - 4. Sample identification number
 - 5. Number of containers in sample set
 - Description of sample and container
 - 7. Name and signature of persons, and the companies or agencies they represent, who are involved in the chain of possession
 - 8. Inclusive dates and times of possession
 - 9. Analyses to be completed

The following are procedures were implemented while performing well monitoring, well purging, and water sampling.

- 1. All equipment was washed prior to entering the well with an Alconox solution, followed by two tap water rinses and a deionized water rinse.
- Prior to purging the wells, depth-to-water was measured using an Solinst groundwater interface probe to an accuracy of approximately 0.01 foot. The measurements were made to the top of the well casing on the north side.

- 3. Monitoring wells at the site were prepared for sampling by purging the well of approximately 3 well volumes of water using a polyvinyl chloride (PVC) bailer.
- 4. Water samples were collected with a single-use Teflon bailer after the well had been purged and water in the well had equilibrated to approximately 80 percent of the static water level or 2 hours after well purging, whichever occurred first. The water collected was immediately decanted into laboratory-supplied vials and bottles. The containers were overfilled, capped, labeled, and placed in a chilled cooler prior to delivery to the laboratory for analysis.
- Chain-of-custody procedures, including chain-of-custody forms, were used to document water sample handling and transport from collection to delivery to the laboratory for analyses.
- 6. Groundwater samples were delivered to the State-certified hazardous waste laboratory within approximately 48-hours of collection.
- 7. Purged water was contained in a DOT approved 55-gallon drum. The drum was labeled with the contents, date, well number, client name, and project number.

III. GROUNDWATER SAMPLING

The following are procedures were implemented while performing well monitoring, well purging, and water sampling.

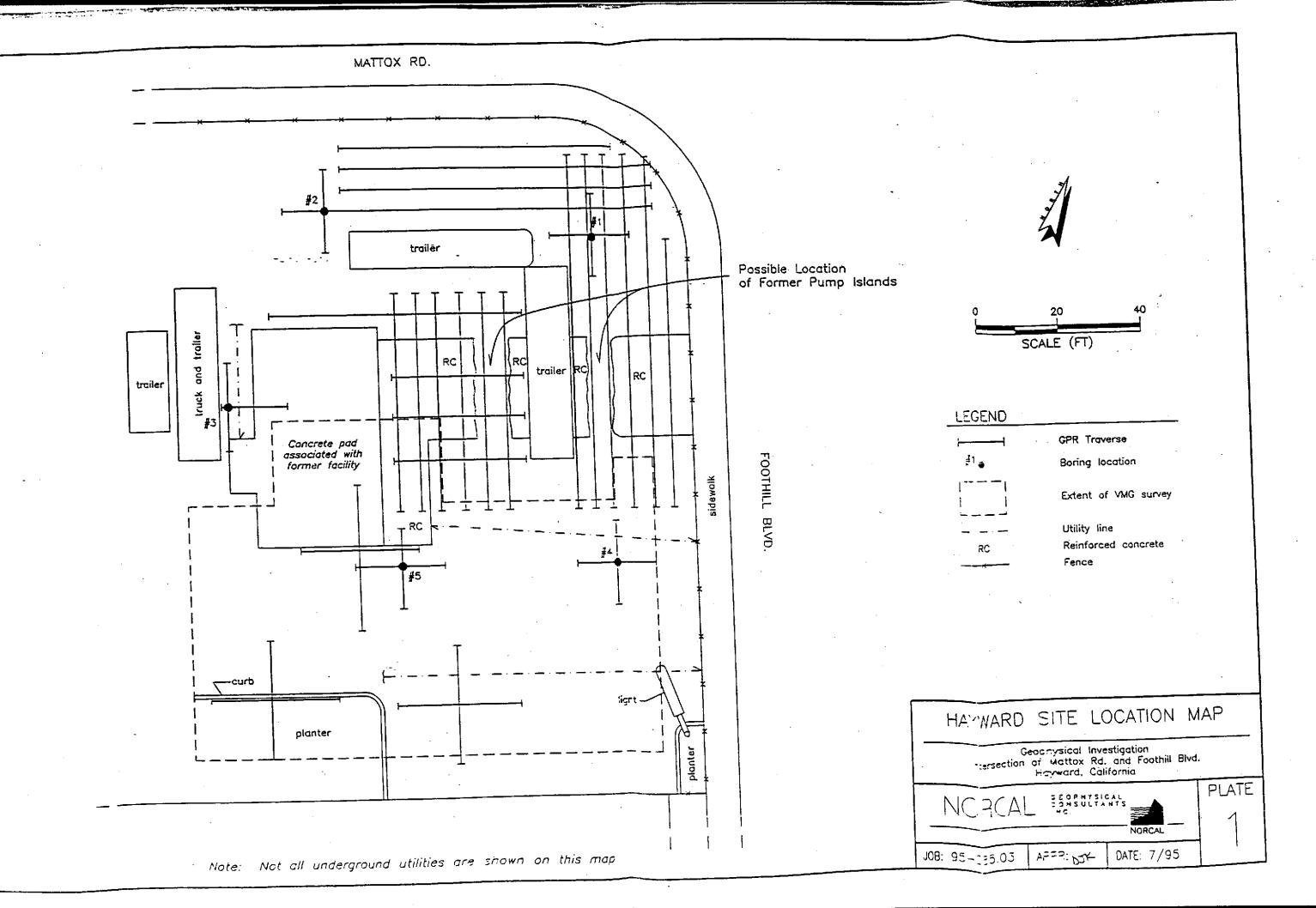
- 1. All equipment was washed prior to entering the well with an Alconox solution, followed by two tap water rinses and a deionized water rinse.
- 2. Prior to purging the wells, depth-to-water was measured using an Solinst groundwater interface probe to an accuracy of approximately 0.01 foot. The measurements were made to the top of the well casing on the north side.
- 3. Monitoring wells at the site were prepared for sampling by purging the well of approximately 3 well volumes of water using a polyvinyl chloride (PVC) bailer.
- 4. Water samples were collected with a single-use Teflon bailer after the well had been purged and water in the well had equilibrated to approximately 80 percent of the static water level or 2 hours after well purging, whichever occurred first. The water collected was immediately decanted into laboratory-supplied vials and

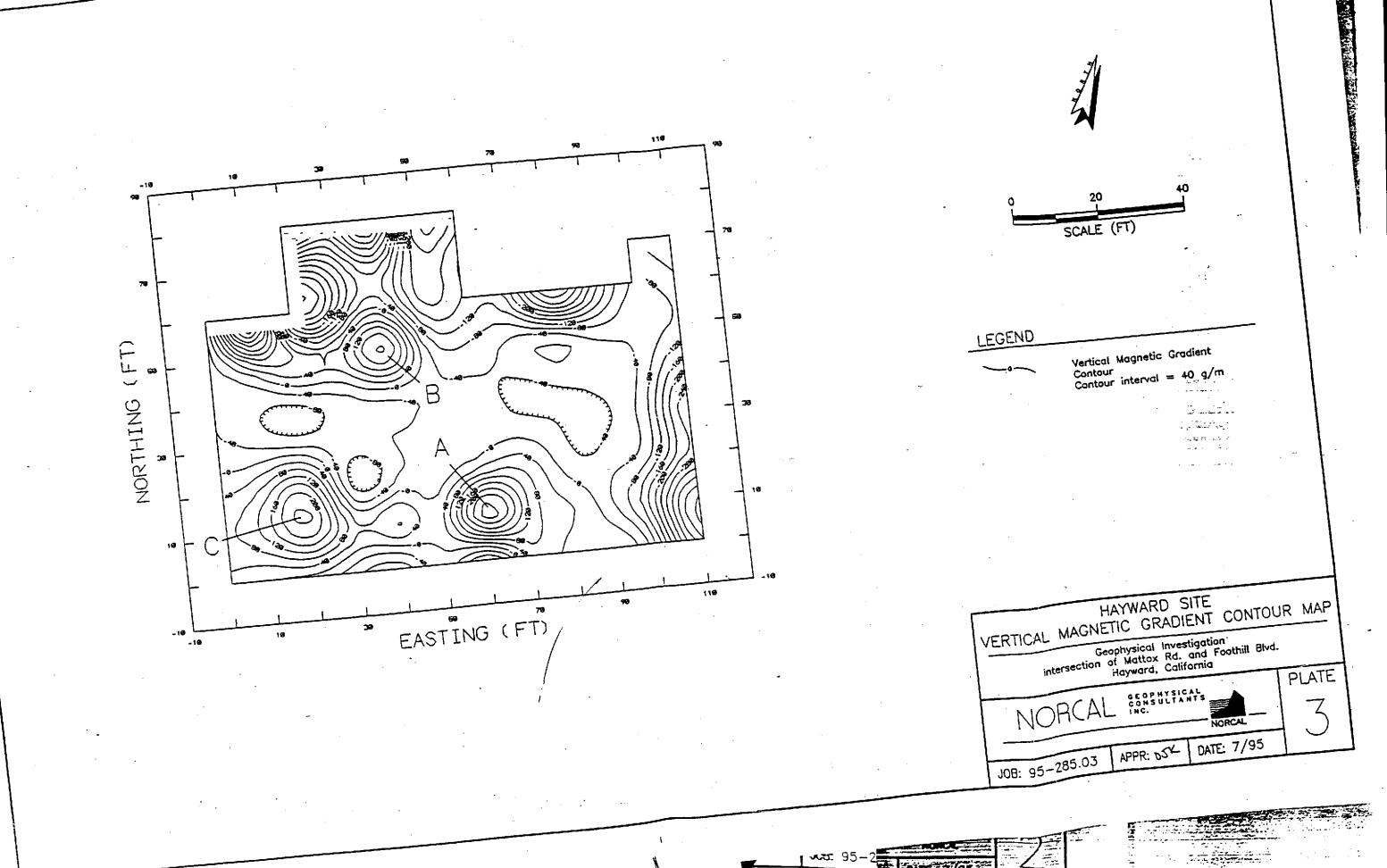
bottles. The containers were overfilled, capped, labeled, and placed in a chilled cooler prior to delivery to the laboratory for analysis.

- 5. Chain-of-custody procedures, including chain-of-custody forms, were used to document water sample handling and transport from collection to delivery to the laboratory for analyses.
- 6. Groundwater samples were delivered to the State-certified hazardous waste laboratory within approximately 48-hours of collection.
- 7. Purged water was contained in a DOT approved 55-gallon drum. The drum was labeled with the contents, date, well number, client name, and project number.

APPENDIX B

GEOPHYSICAL RESULTS





ALAMEDA COUNTY

HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES

1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 (510) 567-6700 (510) 337-9335 (FAX)

January 19, 1999

Ronald Moriguchi, Dist. Office Chief Calif. Department of Transportation P.O. Box 23660 Oakland, CA 94623-0660

STID: 6517 & 6591

Re:

Investigations at two Caltrans sites, located at the corner of Mattox Road and Foothill in

Hayward, CA, and 6th and Castro Street in Oakland, CA

Dear Mr. Moriguchi,

This office has received and read your letter, dated January 7, 1999, requesting an extension of the due date, from January 11, 1999 to March 31, 1999, for the submittal of a workplan for each of the two above referenced sites. This office will grant you this requested extension.

In response to your question, the State reimburses our office for overseeing investigations and cleanup related to sites that have had a release from petroleum underground storage tanks. Therefore, this office is reimbursed by the State for oversight of your 6th and Castro site in Oakland. However, the contaminants identified at the Mattox Road and Foothill site cannot definitely be related to releases from petroleum underground storage tanks, so this office must seek reimbursement for our oversight costs from the Responsible Parties, and not the State. The contaminants of concern at your Hayward site are Lead and Oil & Grease, and these constituents do not appear to be resulting from the former Exxon station tanks since analysis of samples collected from the site did not identify any gasoline or diesel constituents. Therefore, a deposit for this site is required for oversight costs. Please submit the requested \$500.00 deposit for the Hayward site prior to March 31, 1999.

As stated above, the workplans for the two above Caltrans sites will be submitted to this office by March 31, 1999. If you have any further questions, please contact me at (510) 567-6763.

Sincerely,

Juliet Shin

Hazardous Materials Specialist

Cc:

Chris Zdunkiewicz Caltrans, District 4

Environmental Engineering

P.O. Box 23660

Oakland, CA 94623-0660