

RO 225

January 7, 2004

Mr. Amir Gholami
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

**RE: QUARTERLY GROUNDWATER MONITORING WORKPLAN
TASK ORDER (TO) 04-987901-VV
CONTRACT 43A0078
FORMER HEGENBERGER MAINTENANCE YARD
OAKLAND, CALIFORNIA
PSI Project Number: 575-3G020**

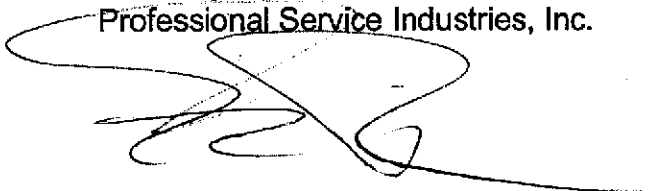
Alameda County
Environmental Health
JAN 09 2004

Dear Mr. Gholami:

Professional Service Industries, Inc. (PSI), is pleased to enclose a copy of the Workplan for Quarterly Groundwater Monitoring Program for the above referenced site. PSI refers you to the report for details.

If you have any questions regarding the report or any aspect of the project, please do not hesitate to call.

Sincerely,
Professional Service Industries, Inc.



Frank R. Poss
Senior Hydrogeologist

cc: Mr. Bahram Sazegar: Caltrans (2)

Enclosures

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Alameda County
JAN 09 2004
Environmental Health

**WORKPLAN
SEMI-ANNUAL GROUNDWATER
MONITORING
TASK ORDER NUMBER 04-987901-VV
CONTRACT NUMBER 43A0078**

**FORMER HEGENBERGER MAINTENANCE
STATION
OAKLAND, CALIFORNIA**

prepared for

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
District 4
111 Grand Avenue
Oakland, California 94612**

prepared by

**Professional Service Industries, Inc.
4703 Tidewater Avenue, Suite B
Oakland, California 94601
(510) 434-9200**

January 6, 2004
575-4G005

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STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION

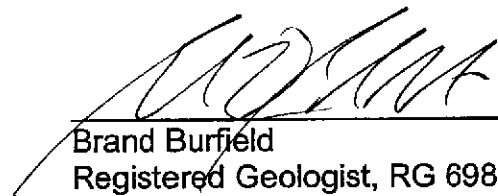
Information provided in this Workplan, prepared by Professional Service Industries, Inc. (PSI), is intended exclusively for the use of Caltrans for the evaluation of subsurface conditions as it pertains to the subject site. The professional services provided will be performed in accordance with practices 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 appears below.



Frank R. Poss
Senior Technical Professional



Brand Burfield
Registered Geologist, RG 6986

1.0 INTRODUCTION

Professional Service Industries, Inc. (PSI) has been retained by the California Department of Transportation (Caltrans), under Task Order Number 04-987901-VV and Contract Number 43A0078, to prepare this Workplan to perform semi-annual groundwater monitoring at 555 Hegenberger Road in the City of Oakland, California (subject site; Figure 1). The site is the former Hegenberger Maintenance Station.

The scope of work for this investigation includes:

- Collection of groundwater samples from five on-site monitoring wells,
- Chemical analysis of the groundwater samples, and
- Preparation of a technical report describing the investigation and interpretation of the data generated.

1.1 PROJECT OBJECTIVE

The objective of the project is to monitor the change in concentration over time of dissolved hydrocarbons in the groundwater at the site. Groundwater monitoring will be performed on a semi-annual basis according to established protocol until closure is obtained.

1.2 SITE BACKGROUND

In September 1994, four underground storage tanks (USTs) and the associated product piping and pump island were removed. The USTs consisted of two 2,000 gallon diesel USTs and two 6,500 gallon gasoline tanks. Over excavation was completed to remove, to the extent feasible, residual petroleum hydrocarbons impacting the soil. Soil sampling conducted following the completion of the excavation indicated elevated concentrations of petroleum hydrocarbons in the remaining soil.

A soil and groundwater investigation was completed in 1995 by Geocon Consultants Inc. to characterize the vertical and lateral extent of petroleum hydrocarbons in soil and groundwater. The investigation included the installation of 5 monitoring wells. The results indicated petroleum hydrocarbons remained in the soil and groundwater.

Subsequent quarterly groundwater monitoring at the site indicated that Total Petroleum Hydrocarbons as Motor Oil (TPH-MO) and TPH as oil and grease (TPH-OG) were not detected and therefore were discontinued from the monitoring program. TPH as Gasoline (TPH-G) and TPH as Diesel (TPH-D) have been detected in all of the monitoring wells at some point in the sampling process. Benzene has been detected in all of the monitoring wells and methyl tert butyl ether (MTBE) has been detected in all of the wells with the exception of MW-2.

When no consistent attenuation of the contaminant concentrations was reported, the Alameda County Department of Environmental Health Services (ACDEHS) authorized a change to a semi-annual monitoring program. The March 30, 2001 sampling event indicated that MTBE was no longer present above laboratory detection limits. As a result, in a letter dated August 8, 2001, the ACDEHS stated that testing for MTBE was no longer necessary. Additionally, in a letter dated December 19, 2002, the ACDEHS stated that testing for TPH-D was no longer necessary.

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) preparing the Pre-Work Site Visit Checklist; 3) preparing a Completion Schedule; and 4) preparing a Health and Safety Plan.

2.1 TASK ORDER MEETING

A Task Order Meeting will be completed on prior to groundwater monitoring. The primary purpose of the meeting will be to familiarize PSI with site conditions that may impact field operations.

At the Task Order Meeting, a Pre-Work Site Visit Checklist was completed. Topics specified in the checklist included identification of monitoring well location, and storage areas for purge water.

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.

3.0 GROUNDWATER SAMPLING

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

3.1 MONITORING WELL SAMPLING

Groundwater monitoring wells MW-1 through MW-5 (Figure 2) will be sampled for chemical analyses. Prior to sampling, the groundwater elevation will be measured from the top of each well casing. The monitoring well will be purged of a minimum of three well volumes until pH, conductivity, and temperature stabilizes. The purging will be completed by bailing or pumping. Samples for VOC analyses will be collected first. The groundwater samples will be collected according to PSI's standard protocol, presented in Appendix A.

Following collection of the groundwater sample, the samples will be logged on a chain-of-custody record and stored in an ice chest at or below 4 degrees Celsius. Sample preservatives will be utilized as instructed by the analytical laboratory. All transportation and handling of the groundwater sample will follow chain-of-custody protocol.

3.2 DECONTAMINATION PROCEDURES

Decontamination procedures will be implemented to maintain sample integrity and to avoid cross-contamination between sampling locations. All non-dedicated sampling 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:

- Groundwater sampling equipment, and
- Sounders.

3.3 STORAGE AND DISPOSAL OF GENERATED WASTE

Water from equipment cleaning 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 water samples. PSI will arrange for the management and appropriate disposal of water generated during the field activities under Contract 43A0078.

4.0 LABORATORY ANALYSIS PROGRAM

The groundwater samples collected during this investigation will be submitted to a State of California Department of Health Services certified analytical laboratory. The groundwater samples will be analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G) according to EPA Method 8015M, as well as Volatile Organic Compounds including oxygenates according to EPA Method 8260. The VOC analyses will not include Methyl Tertiary Butyl Ether (MTBE).

5.0 FIELD QUALITY ASSURANCE/QUALITY CONTROL

The following field documentation procedures will be implemented by PSI field personnel.

5.1 SAMPLE IDENTIFICATION

Groundwater samples collected in the field will be labeled according to standard protocol, as described 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 accompany 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.

6.0 DATA MANAGEMENT

In accordance with Contract 43A0078, on-site personnel will complete a Daily Work Field Log 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

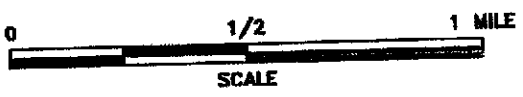
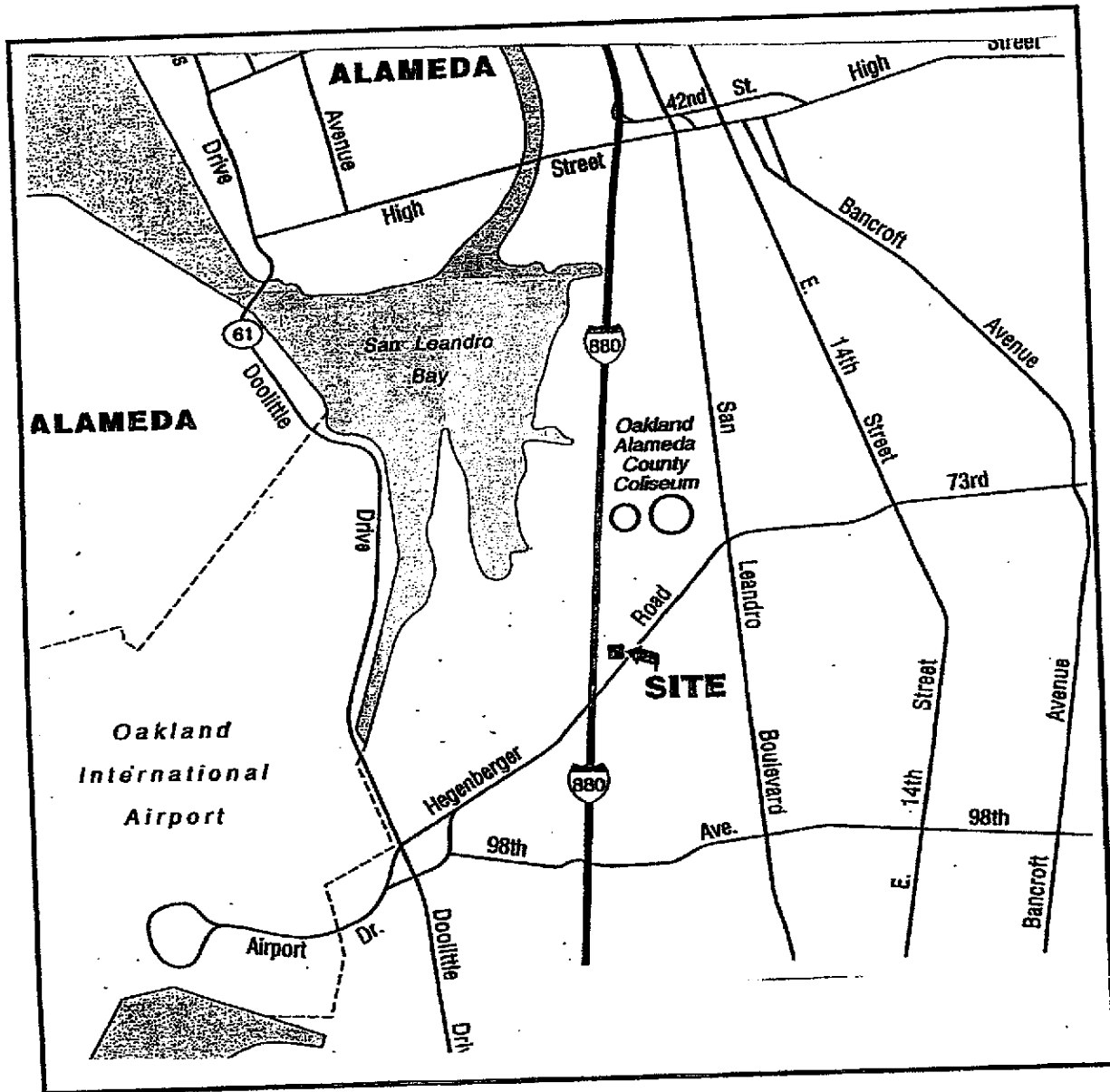
Project correspondence, field notes, maps, and data will be filed within the main Project File at PSI's Oakland office. Chemical data will be entered onto a spreadsheet program for ease of organization, review, and presentation in the report. Hard copy files within the main Project File may include, 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 SEMI-ANNUAL GROUNDWATER MONITORING REPORT PREPARATION

Upon completion of the field activities described in this workplan, a 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,
- Investigative methods,
- Investigative results and field observations,
- Data evaluation and discussion,
- 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.



Information To Build On Engineering • Consulting • Testing		4703 Tidewater Avenue, Suite B Oakland, California 94601 (510) 434-9200		
Project Name FORMER CALTRANS MAINTENANCE STATION 555 HEGENBERGER ROAD, OAKLAND, CA	Drawn By B.S.	Date 9/02	File No. 26020-01	1
Title SITE LOCATION MAP	Approved By F.P.	Project No. 575-26020		

General Motors
Corporation
Truck
Center
Facility

MW3

Asphalt

Asphalt

MW2

MW4

MW1

Approximate Limit of
Former UST Excavation

Former
Hegenberger
Maintenance
Station

Building (Demolished)

Canopy (Demolished)

MW5

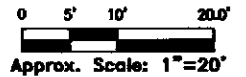
Approximate Limit of
Former Pump Island

Asphalt

LEGEND:

◆ LOCATION OF GROUNDWATER MONITORING WELL
GEOCON SEPTEMBER 1995

□ LOCATION OF FORMER UST



PSI Information
To Build On
Engineering • Consulting • Testing

4703 Tidewater Avenue, Suite B
Oakland, California 94601
(510) 434-9200

Project Name:
**FORMER HEGENBERGER MAINTENANCE STATION
555 HEGENBERGER ROAD, OAKLAND, CALIFORNIA**

Drawn By:
MC

Date:
1/04

File No.:
Figure 2

Figure No.:
2

Title:
SITE PLAN

Approved By:
F.P.

Project No.:
575-4C004

APPENDIX A

I FIELD PROCEDURES

The following procedures will be implemented while performing well monitoring, well purging, and water sampling:

1. All equipment will be 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 will be measured using a Solinst groundwater interface probe to an accuracy of approximately 0.01 foot. The measurements will be made to the top of the well casing on the north side.
3. Monitoring wells at the site will be prepared for sampling by purging the well of approximately 3 well volumes of water using a polyethylene bailer or electric pump.
4. During groundwater sampling the following measurements will be collected:
 - pH
 - Conductivity
 - Temperature
5. Water samples will be collected with a single-use polyethylene bailer or polyethylene tubing with check valve after the well has been purged of 3 volumes or 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 will be immediately decanted into laboratory-supplied vials and bottles. The containers will be overfilled, capped, labeled, and placed in a chilled cooler prior to delivery to the laboratory for analysis.
6. Chain-of-custody procedures, including chain-of-custody forms, will be used to document water sample handling and transport from collection to delivery to the laboratory for analyses.
7. Groundwater samples will be delivered to the State-certified analytical laboratory within approximately 24-hours of collection.
8. Purged water will be contained in a DOT approved 55-gallon drum. The drum will be labeled with the contents, date, well number, client name, and project number.

II FIELD DOCUMENTATION OF SAMPLING PROCEDURES

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

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. 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
 6. 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