W. A. CRAIG, INC.

Industrial and Environmental Contractor
P.O. Box 448
Napa, California 94559-0448
Contractor License # 455752

Phone: (707) 252-3353 **Fax: (707) 253-3385**

WORK PLAN
SOIL AND GROUNDWATER INVESTIGATION
GLASCOCK STREET WAREHOUSE
2901 GLASCOCK STREET
OAKLAND, CALIFORNIA
FOR
GLASCOCK STREET PROPERTY OWNERS

W. A. Craig, II, R.E.A. 0414

John H. Dailey, GE 256

REGISTERED PROFESSIONAL ENGINEER
JOHN H. DAILEY
No. 256
Exp. 3-31-96
GEOTECHNICAL
STATE OF CALIFORNIA

W. A. Craig, Inc., Project No. 3406
August 5, 1994

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Mr. Dennis Buran
Glascock Street Property Owners
c/o Buran Equipment Co. Profit Sharing Plan
P.O. Box 1833
San Leandro, California 94577

SUBJECT: Transmittal of Work Plan for Soil and Groundwater Investigation
Glascock Street Warehouse, 2901 Glascock Street, Oakland, California

Dear Mr. Buran:

W. A. Craig, Inc., is pleased to present the attached Work Plan for the performance of a soil and groundwater investigation at the above-referenced site. You have authorized W. A. Craig, Inc., to prepare this work plan for submittal to the Alameda County Heath Services Agency - Local Oversight Program (ACHSA). W. A. Craig, Inc., understands that you will forward copies of this Work Plan to the ACHSA and San Francisco Bay Regional Water Quality Control Board (RWQCB) for review. W. A. Craig, Inc., will be pleased to proceed with the proposed work with your authorization and following approval of the Work Plan by the agencies. Please call W. A. Craig, Inc., at your convenience if you have any questions.

Sincerely,
W. A. CRAIG, INC.

William A. Craig, II
Owner, R.E.A. 01414

WAC/JHD/jhd
Attachment: Work Plan

W. A. CRAIG, INC.

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WORK PLAN
SOIL AND GROUNDWATER INVESTIGATION
GLASCOCK STREET WAREHOUSE
2901 GLASCOCK STREET
OAKLAND, CALIFORNIA

1.0 INTRODUCTION

As requested, W. A. Craig, Inc. (WAC) is submitting this Work Plan for performing a soil and groundwater investigation at the subject site located at 2901 Glascock Street in Oakland, California. The general location of the site is shown on the Site Location Map, Plate 1. The investigation will be undertaken to evaluate the lateral extent of soil and groundwater contamination, if any, at the former underground storage tank (UST) excavations, and to develop recommendations for further investigation, if necessary. Our Work Plan is based on discussions with you; review of a letter from the Alameda County Health Care Services Agency - Local Oversight Program (ACHCSA), dated March 31, 1994; review of the tank closure report prepared by Pacific Rim Environmental, dated May 20, 1993; our proposal to you, dated June 1, 1994; a brief site visit; and experience on similar projects.

2.0 BACKGROUND

The subject site is located on the south side of Glascock Street and is bounded on the south by the Oakland Estuary. The property is comprised of a large warehouse and small strip of undeveloped land to its west. We understand that the warehouse was built in the 1920's. Two underground storage tanks (USTs) which previously contained fuel oil to run machinery in the warehouse were removed in February 1993. We understand that the tanks have been out of operation for approximately 30 years. The approximate location of the USTs within the warehouse is shown on Plate 2, Site Plan with Proposed Monitoring Well Locations.

On February 23, 1993 Pacific Rim Environmental removed and disposed of a 4000 gallon UST (Tank No. 1). The UST apparently had some corrosion but was generally in good

condition according to the tank closure report by Pacific Rim Environmental. A soil sample was collected from each end of the excavation at 18 inches below the tank bottom. One of the soil samples contained 1400 parts per million (ppm) Total Petroleum Hydrocarbons (TPH) as diesel and 1 ppm TPH as gasoline.

On February 26, 1993 Pacific Rim Environmental removed and disposed of the other UST (Tank No. 2), a 20,000 gallon UST. According to Pacific Rim Environmental, the UST experienced some corrosion but was intact. Four soil samples were collected from 24 inches below the bottom of the tank and four water samples were collected from the excavation pit for analyses. The four soil samples contained TPH as diesel ranging between 1200 ppm and 3800 ppm, between 390 ppm and 1900 ppm hydrocarbon oil and grease, and up to 490 parts per billion (ppm) ethylbenzene and 90 ppb total xylenes. The water collected from the excavation pit contained 16 ppm TPH as diesel and 26 ppm hydrocarbon oil and grease.

Pacific Rim Environmental subsequently performed overexcavation at both UST excavations, and monitored the excavated soils with an organic vapor analyzer (OVA). The excavation for Tank No. 1 was overexcavated to 8 feet wide, 27 feet long, and 10½ feet deep. Overexcavation was apparently ceased by Pacific Rim Environmental due to the potential of jeopardizing the building foundation. The excavation for Tank No. 2 was overexcavated to 25 feet wide, 32 feet long, and 12 feet deep. This overexcavation was also apparently ceased due to concern that further excavation might jeopardize the structural integrity of the building. Non-detect readings using the OVA meter was apparently never reached in either overexcavation.

3.0 EXCAVATION OF BORINGS AND SOIL SAMPLING PROCEDURES

The drilling will be performed under the technical direction of one of our engineers/geologists, who will classify the soils encountered, and maintain a continuous log of the borings and assist in obtaining samples of the soils encountered. All field work will be performed under the supervision of a California Registered Geotechnical Engineer. Soil samples will be taken at a minimum of every 5 feet, at any change in lithology, and at the soil/water interface.

Soil samples for all wells will be collected by driving a California type drive sampler, fitted with 6-inch brass liner tubes. For samples to be sent to the analytical laboratory, the brass sample tube will be capped on both ends with Teflon to cover the ends of the sampling tube, sealed with an air-tight polyethylene cap on each end, and taped to seal the caps. The samples will be labeled and placed in zip-lock bags, then immediately placed in a refrigerated ice chest for subsequent transport to the laboratory. Formal chain-of-custody records will be maintained for all samples.

What will be criteria for lab analysis?
Med @ at least 1 spl / boring

4.0 GROUNDWATER MONITORING WELL CONSTRUCTION DETAILS

Four monitoring wells will be installed at the site using hollow-stem flight auger techniques. A schematic cross-section of the proposed construction of the four wells is shown on Plate 3. One monitoring well will be installed adjacent to and south of (assumed down-gradient direction) of the Tank No. 1 excavation; another well will be installed adjacent to and south of the Tank No. 2 excavation; another well will be installed in the assumed up-gradient direction of the UST excavations, outside of the warehouse; and the fourth well will be installed in the assumed down-gradient direction between the UST excavations. The proposed locations of monitoring wells are shown on Plate 2, Site Plan with Proposed Monitoring Well Locations. The wells will be identified by the designations MW-1, MW-2, MW-3 and MW-4. The well identification number along with well type, well depth, casing diameter, perforated intervals, and etc., will be provided on an identification plate affixed to the interior surface of the security box. Monitoring well construction details are shown on Plate 3, Typical Monitoring Well Detail.

Prior to drilling, proposed boring locations will be cleared with Underground Service Alert (USA), and locations will be checked with the client to minimize the potential for drilling through underground utilities or obstructions.

Based on an anticipated groundwater depth of approximately 10 feet, it is anticipated that the wells will be drilled with an 8-inch O.D. hollow-stem auger to a depth of approximately 20 feet. The final choice of screened interval will be selected by the site engineer/geologist on the basis of field observations during drilling. The well casings and screens will be constructed with 2-inch diameter, Schedule 40, flush-joint, threaded PVC pipe; the PVC screens will consist of factory-milled 0.020" slots. The screens will be installed at the interval from approximately 5 feet to 20 feet below ground surface. A sand pack of clean water-washed Monterey #3 sand or equivalent will be placed adjacent to the entire screened interval and will be extended a recommended minimum distance of two feet above the top of the screen. The sand pack will be placed by carefully pouring sand down the annulus between the hollow stem and the well casing. The auger will be raised periodically and an auger flight removed to allow the sand to fill the annulus between the casing and the borehole wall.

A hydrometer/sieve analysis will be performed during the initial phase of the work to determine the appropriate sand filter pack and screen slot size if future monitoring wells are needed.

A minimum one-foot thick bentonite pellet seal will be placed above the sand pack in the same manner as the sand pack. The annulus above the bentonite seal will be grouted with a cement/bentonite grout; the bentonite content of the grout will not exceed five percent by weight. The grout will consist of clean water mixed with Portland cement. The grout will

also be placed in the same manner as the sand pack, or after the auger flights are entirely withdrawn from the borehole.

Well completions will consist of locking well caps and watertight "Christy" boxes with tamper deterrent bolts set at grade in concrete. After the concrete and cement/bentonite grout have set for a minimum of 48 hours, the wells will be developed by bailing and a combination of surging and slow mechanical pumping in order to clean the well and obtain representative formation water. A minimum of 24 hours after well development, a sample of ground water will be collected from each monitoring well for laboratory analyses.

In order to obtain accurate groundwater elevations for the purpose of establishing gradient, monitoring well elevations (relative to mean sea level) will be surveyed by a licensed surveyor to an accuracy of 0.01 feet.

Soil cuttings from the borings will be placed in 55-gallon drums and stored on-site. Auger rinsate and development water will also be stored on-site in 55-gallon drums; drummed water will be labeled with the source of the ground water. Appropriate disposal will of soil and water be based on contamination levels.

5.0 WELL DEVELOPMENT AND WATER SAMPLING

The monitoring wells will be developed by bailing and a combined pumping and water-surging technique. The wells will be subsequently pumped until the well is thoroughly developed and free of sand, silt and turbidity. Well development water will be stored in Department of Transportation (DOT) Type 17E, lined 55-gallon drums and temporarily stored at the site.

A single round of groundwater sampling will be conducted after the wells have re-equilibrated from development, resulting in the collection of five samples to be submitted to NET Pacific, Inc. for analysis; one sample each from MW-1, MW-2, MW-3, MW-4, and a blind duplicate (QA/QC sample).

The thickness of free product, if encountered, will be measured with a KECK Oil/Water Interface Meter prior to purging and sampling. The wells will be mechanically pumped until at least the volume of water withdrawn is equal to three well volumes or until the well is evacuated. If evacuated, the well will be allowed to recover to 80 percent of its initial water level prior to sample collection. To establish that the water samples are representative of the aquifer, periodic measurements for temperature, pH and specific conductance will be made. The sample will be collected with a Teflon bailer, only when the temperature, pH, and specific conductance reach a more or less constant value.

The Teflon bailer will be properly cleaned between uses with Alconex and deionized water to prevent cross contamination between wells. 40 ml glass vials with teflon-faced silicon septums will be utilized for low boiling hydrocarbon water samples, and 1 liter amber bottles will be used for high boiling hydrocarbon water samples.

In order to document the precision and accuracy of analytical data generated by the laboratory, a duplicate sample will be collected. This will require that a double volume of water be collected and preserved. The sample will then be divided into identical containers that are given different location identification names or sample numbers. The numbers will then be recorded in a field log book for later reference. Both samples will be submitted to the laboratory for identical analyses.

6.0 SAMPLE PRESERVATION, HOLDING TIMES, AND CONTAINERS

Water samples will be collected, preserved, and held per EPA requirements specified in the Federal Register 40 CFS Part 136, October 26, 1984, Volume 49, Number 209.

Soil samples will be collected, preserved, and held per specifications of EPA Test Methods for Evaluating Solid Waste SW-846, 2nd Edition, April 1984.

Sample container materials used are those specified with the aforementioned preservation/holding time procedures.

7.0 CHEMICAL ANALYSES

Laboratory analyses of both soil and ground water samples will be performed by NET Pacific, Inc., based upon the following methods:

The method of analyses to be used in measuring TPH as gasoline is taken from EPA Methods 5030 and 8020. The result for total low boiling hydrocarbons is calculated as gasoline and includes benzene, toluene, ethyl benzene and xylenes. The method to be used for measuring total extractable hydrocarbons (TEH) as diesel is taken from EPA Methods 3015/8015.

8.0 SITE SAFETY PLAN

A copy of our Site Safety Plan for this investigation is attached as Appendix A. We will review the Site Safety Plan with the drilling contractor prior to starting work at the site. We will also review the directions to the nearest hospital in case of an emergency.

9.0 ANTICIPATED SCHEDULE

We will schedule the driller following approval of our Work Plan, and we will notify the Alameda County ~~Health Care Services at least 48 hours prior to commencing our work~~ at the site. We anticipate being able to submit our report within 5 to 6 weeks following completion of the field work.

APPENDIX A

SITE SAFETY PLAN

SITE SAFETY PLAN
MONITORING WELL INSTALLATION

I General Information

Client:	Glascock Street Property Owners
Project No.:	3406
Project Manager:	William A. Craig, II
Site Health & Safety Manager:	John H. Dailey
Site Location:	Glascock Street Warehouse 2901 Glascock Street Oakland, California
Project Description:	Install four monitoring wells and collect soil and ground water samples for analysis of TPH as gasoline and BTEX and TPH as diesel by analytical laboratory.
Field Activities Date:	August/September 1994
Overall Hazard:	Low

II Site/Waste Characteristics

A. General Site Description/History

1. Types of hazardous materials anticipated - fuel oil
2. Waste characteristics - ignitable and volatile
3. Facility description - site plan with location of former underground tanks and proposed monitoring wells is shown on Plate 2.
4. Drill rig accessibility - site accessible, level site.

III Site Safety Work Plan

A. Site Information

1. Site Map - see Plate 2
2. Site secured - inside large warehouse w/ locked doors
3. Contaminants identified - fuel oil
4. Zones of contamination identified - in progress

B. Site Personnel

The Environmental Protection Agency (EPA) has specified protective clothing and equipment for various environmental response activities. Equipment to protect the body from contact with chemical hazards has been divided into four category levels A, B, C, and D, depending upon the level of hazard anticipated. Level A equipment is used when the highest level of protection is needed, down to Level D when minimum protection is needed. The chemical hazard with petroleum hydrocarbons is typically low. In general, Level D protection is all that is required. In case of high levels of contamination, project personnel will upgrade to Level C protection.

Personal protective equipment required for Level D protection includes coveralls, gloves, chemical resistant boots or shoes with steel toe and shank, safety glasses or chemical splash goggles, and a hard hat. Tyvex overalls and Solvex or equivalent gloves will be used if high levels (100-300 ppm) of petroleum hydrocarbons are detected with the organic vapor meter (Gastech). Normal work clothing and safety glasses will be worn for site assessment. Surgeon's gloves, neoprene boots, and safety glasses will be worn when sampling. Level C including the addition of NIOSH/MSHA approved air purifying respirator with organic vapor cartridges will be used if high levels of petroleum hydrocarbons are detected in the breathing zone with the Gastech.

In addition, a first aid kit, 10-pound fire extinguisher, and combustible gas indicator will be available on-site during performance of the work.

The Gastech will be used to monitor air in the breathing zone. Readings above 100 ppm (parts per million) are cause for concern, and we will proceed with caution. Continuous readings of 300 ppm above background in the breathing zone will indicate that air purifying respirators is required.
The Gastech will to be used continuously during all drilling. If more than 20

percent of the lower explosive limit (LEL), which is 1.4% for gasoline, is measured in the area of the excavation and/or borehole, work will proceed with caution. If more than 50 percent LEL is measured from the area of the work, a fan will be provided for ventilation of the work area.

C. Site Control Measures

Public access will be restricted for all site activities. All personnel will be familiar with site layout and emergency procedures. A site safety meeting will be conducted prior to commencement of work. No smoking or ignition sources will be permitted on site.

IV Emergency Information

A. General

If an injury occurs on site, take following action:

1. Get medical attention for the injured person immediately.
2. Notify John H. Dailey (Site Health & Safety Manager).
3. Document the circumstances surrounding the injury.

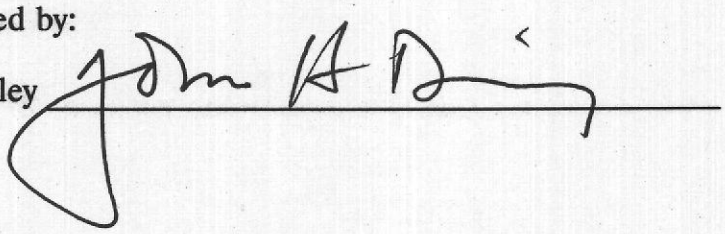
B. Local Emergency Contacts

1. Paramedics - 911
2. Utilities - USA Alert 1 (800) 642-2444
3. Alameda Hospital
   2070 Clinton Avenue
   Alameda, California
   - (510) 522-3700

   Directions: West on Glascock Street to 29th Street, left (south) on 29th Street which turns into Park Street in Alameda, south on Park Street to Clinton Avenue, right (west) on Clinton Avenue to hospital which is located on southwest corner of Clinton Avenue and Willow Street.
4. Ambulance - 911

5.	Fire Department	- 911
6.	Police Department	- 911
7.	John H. Dailey	- (707) 778-7978 - (707) 762-1152
	W. A. Craig	- (707) 252-3353 - (707) 255-6974

Plan prepared by:

John H. Dailey  Date 8/5/94