



TRANSMITTAL

TO Alameda County Department of Health
80 Swan Way, Room 200
Oakland, California 94621

DATE 2/5/90
VIA Fed Ex.
JOB NO. KE1179-1

ATTENTION Ario Levi

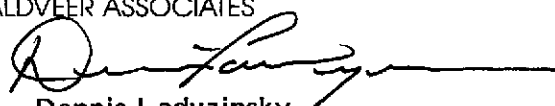
PROJECT 1829 Clement Avenue
Alameda, California

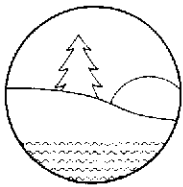
DESCRIPTION Copy of Health and Safety Plan for Drilling and Sampling Program

- ACTION
- As requested
 - For your review and comment
 - For your use
 - For your use: please return when finished
 - Other

Drilling Scheduled for 2/9 & 10/90
DMC

CC:

KALDVEER ASSOCIATES
By 
Dennis Laduzinsky



Environmental Health Consultants

P.O. Box 117910 Burlingame, CA 94011-7910

(415) 347-9205

January 31, 1990



Mr. Dennis Laduzinsky
Senior Engineering Geologist
Kaldveer Associates
425 Roland Way
Oakland, CA 94621

FEB 1 1990

Dear Mr. Laduzinsky;

Enclosed is the health and safety plan for your drilling program at Clement Avenue. I have incorporated the changes we discussed.

If you have any questions or require additional information, please feel free to contact me.

Respectfully,

Irene S. Fanelli, CIH
President

\kaldveer\clement.hsp

1.0 Introduction

This field health and safety plan covers activities to be conducted by Kaldveer Associates during the site investigation at the metals milling and etching shop at 1829 Clement Avenue in Alameda, California. The field activities will consist of drilling and sampling ten auger borings, along with the installation of three monitoring wells, if needed.

This plan is specifically designed as a practical approach to accomplishing the activities in light of the health hazards anticipated at the site. It is expected that site conditions may vary during the drilling operations. This plan may be upgraded/downgraded, as appropriate, in light of site conditions. All changes to this Health and Safety Plan must be approved by the site health and safety officer.

All on-site personnel, enforcement agency personnel, and visitors are expected to be familiar with, and comply with the provisions of this plan. The contractor will provide health and safety equipment for its employees only. All other personnel are expected to provide equal or greater levels of protection for themselves.

2.0 Key Personnel and Responsibilities

Project Manager - The project manager is responsible for the overall project management, including worker health and safety.

Site Engineer - The site engineer is responsible for oversight of the on-site activities including handling of hazardous materials. He is directly responsible for personnel compliance with the health and safety plan, and will act as the site safety officer. He will also be responsible for performance of the air monitoring.

Health and Safety Oversight - Review of health and safety activities will be provided by Environmental Health Consultants.

3.0 Chemical Hazards

The soil beneath the building at 1829 Clement Avenue has been found to contain elevated levels of cyanide, phenols, arsenic, chromium, lead, and other metals. In addition, the pH of the soil in several locations has been found to be low. The combination of low soil pH and the presence of cyanide makes the production of hydrogen cyanide gas (HCN) a possibility during drilling operations. Airborne cyanide salts, phenols or metals are not expected unless high dust concentrations are present. As conditions warrant, water spray will be utilized to minimize airborne dust levels.

HCN is a chemical asphyxiant, and acts by inactivating certain enzyme systems vital to the respiratory process. Airborne concentrations as low as 110 parts per million (ppm) may be fatal. The OSHA Permissible Exposure Limit (PEL) is a Short-Term Exposure Limit (STEL) of 4.7 ppm. HCN is directly absorbed through intact skin. It is expected that the greatest potential chemical hazard to site workers will be through direct contact with soils and groundwater. Such contact will be minimized.

4.0 Air Monitoring

Air monitoring for HCN during site activities will be accomplished through the use of Draeger colorimetric tubes. The Draeger tubes detect the presence of airborne cyanide constituents. Air is drawn through the tubes, and the airborne concentration is indicated by the length of the color change in the tube, judged against calibrated gradations on the side of the tube.

The site action level for cyanides, triggering an upgrade in respiratory protection to Level B, (supplied-air respirators), is a 3 ppm reading on a Draeger tube. If such a reading is found and verified, work will immediately be stopped, the area cleared, and work will proceed again only with Level B equipment.

5.0 Personal Protective Equipment

The minimum level of protection for site personnel includes:

Hardhat

Steel-toed chemical resistant PVC boots

During drilling and any other activities where skin contact is a potential exposure mechanism, poly-coated Tyvek coveralls or PVC rainsuits, and PVC boots and gloves will be utilized in addition to the minimum level noted above.

Chemical goggles/safety glasses will be worn to prevent eye contact via splash or dust, as necessary. This may include drilling and steam-cleaning operations.

All respiratory protection will be NIOSH/MSHA approved equipment. No air-purifying respirator is approved for HCN. Therefore, all respiratory protection for HCN will consist of supplied air respirators operated in the pressure-demand mode. Use of respiratory protection will be at the direction of the site safety officer, as a result of direct-reading monitoring. Respiratory protection may be necessary during operations such as drilling, when the production of HCN is a possibility. Respiratory protection for dust, including metals, will consist of half or full-face air-purifying respirators with high-efficiency filters. Use of protection for dust exposure will be necessary if airborne dust cannot be adequately suppressed through application of water spray.

Eyewash bottles will be maintained in the work area, along with the site first aid kit. In addition, a hose or other clean water source will be in the immediate work area in case of any skin contact. ABC fire extinguishers will be maintained in the support area and on the drill rig.

5.0 Emergency Procedures

The local response units for fire and paramedics will be contacted and be provided with the site health and safety plan.

Alameda Hospital emergency services will be notified of the site activities. Notification will be made of the possibility of cyanide exposure, and the potential for contaminated materials being present on the clothing or body of personnel brought to the facility. Verification will be made that the emergency services have amyl nitrite, the antidote for cyanide exposure.

Whenever possible, injured personnel will be decontaminated and/or moved to the support area as long as such procedures do not further compromise the health and safety of the individual.

On-site emergencies are expected to be restricted to potential fires and possible minor injuries to site personnel. On-site conditions are expected to be within the limits of measures which can be taken by on-site personnel. Any emergency which poses a potential threat to the public will be considered a situation requiring outside assistance from emergency response agencies. During any on-site emergency, work activities will cease until the emergency is brought under control. The emergency route to Alameda Hospital is attached as Figure 5-1.

6.0 Decontamination Procedures

6.1 Personal Decontamination

All disposable clothing will be deposited in containers on-site for off-site disposal. Wash tubs with soap and water and rinse tubs will be provided for decontamination of boots and gloves to be reused. Respirators will be cleaned with sanitizing wipes unless gross contamination requires heavier cleaning in separate wash and rinse tubs.

Soap and water will be available for personnel to wash up after work or if any skin contamination occurs during the work day. Workers will be encouraged to shower daily after work.

6.2 Equipment Decontamination

Any equipment that comes in contact with contaminated materials will be properly cleaned before leaving the site. Heavy construction equipment will be steam cleaned on a temporary decon pad. Smaller pieces of equipment will either be steam cleaned or washed in the same manner as contaminated personal protective equipment, i.e., with a brush and soapy water and rinse water.

6.3 Decontamination Materials

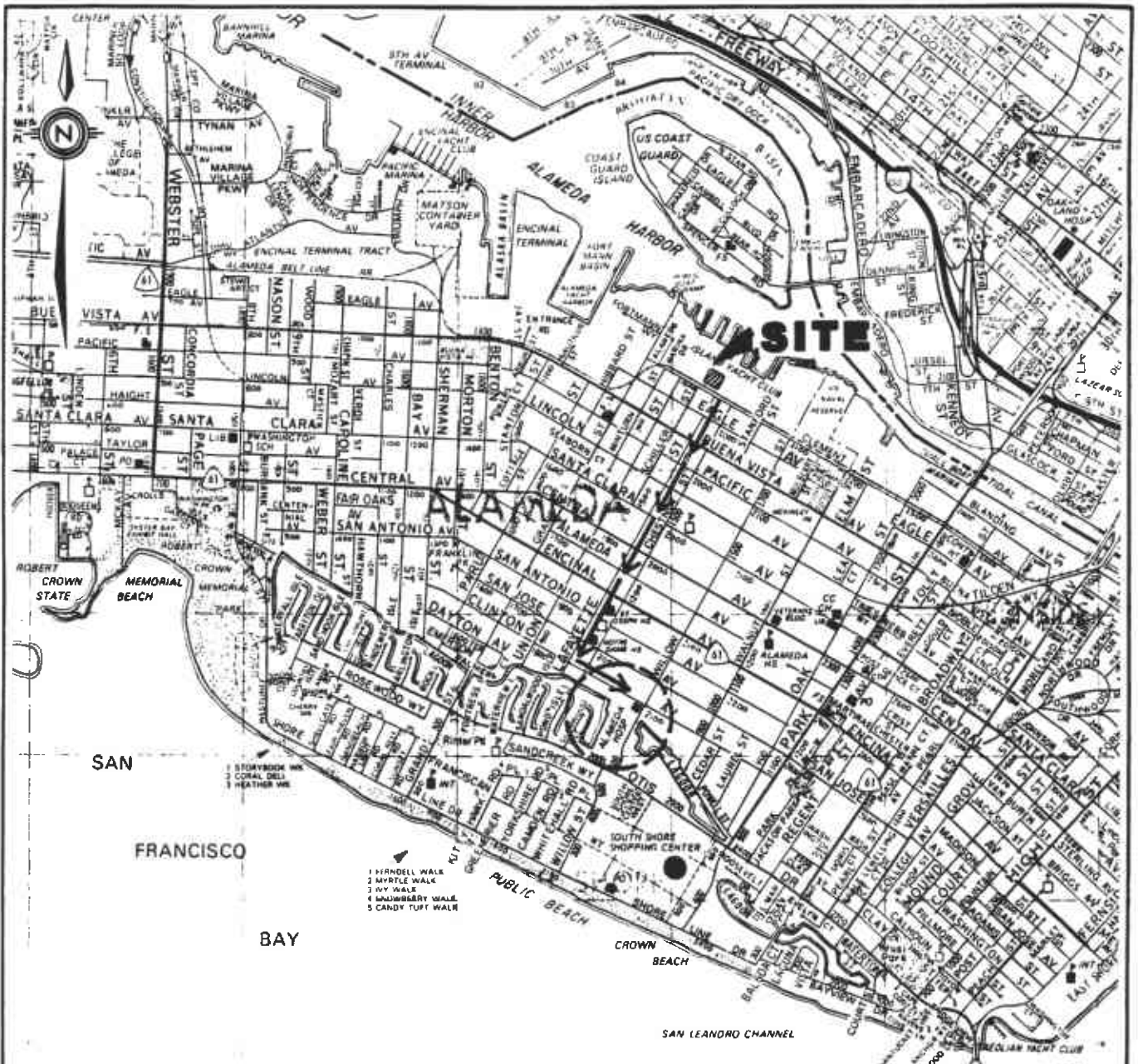
All decon water will be collected for off-site disposal or discharged to the sanitary sewer if within acceptable limits for discharge.

7.0 Training


All on-site personnel working in the exclusion zone will have the appropriate prior experience and training, in compliance with 29 CFR 1910.120. Such training includes the 40-hour basic training, 8-hour update training, and 8-hour supervisory training.

Project-specific training will be provided prior to start-up of onsite activities. This training will include the contents of this plan and the chemical hazards associated with handling cyanide.

On-site tailgate meetings will be held as appropriate. The site health and safety officer or onsite engineer will conduct these meetings. The meetings will be documented as part the daily field notes for the project.

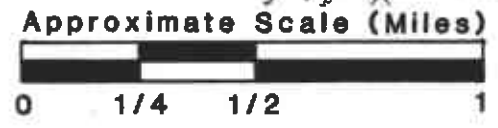


LEGEND

 Hospital Route
 Alameda Hospital
 2070 Clinton Avenue
 Alameda, California

EMERGENCY NOTIFICATION PROCEDURES

- ① Call 911
- ② Notify Hospital - 523-4357



Base: Provided by Thomas Brothers Map, 1989



Kaldveer Associates
 Geoscience Consultants
 A California Corporation

HOSPITAL ROUTE

1829 CLEMENT
 Alameda, California

PROJECT NO.	DATE	Figure 1
KE1179-1	January 1990	

BASED ON FINDINGS

- 1) RANDOM BORINGS THROUGHOUT REST OF BUILDING
- 2) ESTABLISH G.W. PLUM & IF ANY. SUBMIT WORK PLANS
- 3) ESTABLISH VERT & LAT. EXTENT OF SOIL CONTAMINATION TO PPM.
 - ARRANGEMENT OF CW IN PLACE IN EXCESS OF ARTICLE 11, CRITERIA FOR TOXICITY WILL REQUIRE OTHER CONSIDERATIONS
- 4) REMOVE, UNDER CONTRACT, SOILS WITH CW IN EXCESS OF PPM.
- 5) G.W. RECONSTRUCTION WILL BE REQUIRED FOR WASTEWATER W/ CW IN EXCESS 200 PPM.

EXPLAIN RATIONALE FOR GW WELL PLACEMENT

- THAT AVOIDS THE LONG TERM DUMPING & POSSIBLE DISCONTINUANCE OF DUMPING
- THAT AVOIDS THE TIDAL INFLUENCE IN PRESENT.

- 1) IF WANT TO LEAVE IN PLACE IN EXCESS OF 6PPM (6PPM = 4050 / KG FOR METALS FOR SOIL CONTAMINATION)
 - JUSTIFY BY
 - 1) SHOWING NOT TOXIC
 - 2) OBTAINING VARIANCE FROM STATE

REPORT

1) INITIAL FINDINGS & RECOMMENDATIONS

- ok to soils removal to 6" unless manifest

2) ADDITIONAL SOILS REMOVAL TO 6" PER REQUIRED WITH CONTINGENT SAMPLING

Q - WHAT TYPE OF CW INVOLVED?

→

3) TYPE OF CHROMIUM USED?

- WHY WASN'T CR⁶ TESTED FOR?

- WHY WASN'T SILE EFFECTIVE

4) WHY WERE PREVIOUS CHECKS FOR