

# CROSBY & OVERTON, INC.

## Environmental Management

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Oakland, California 94621  
FAX (415) 633-0759  
(415) 633-0336 ■ (800) 821-0424

91 MAR 21 PM 12:06

March 4, 1991

Harry Buettner  
Buettner and Hoyt  
13966 Tullock Road  
Jamestown, Ca 95327

RE: Monitoring well installation at 22117 Meekland Ave, Hayward, CA.

Dear Mr. Buettner:

Crosby & Overton, Inc is pleased to submit this proposal for the installation, development, and groundwater sampling of three (3) monitoring wells on your property located at 22117 Meekland Avenue in Hayward, California (Figure 1).

### BACKGROUND

On February 21, 1991 Crosby & Overton, Inc. re-excavated a previously backfilled, former waste oil tank pit (Figure 2), to remove fill and natural soils contaminated by waste oil. The backfilled pit had been covered by a 6 to 12 inch thick concrete slab. A 20 by 30 foot section of the concrete was cut and removed to facilitate the over-excavation of backfilled materials and the remaining contaminated soil. Completion of the over-excavation generated a total of 250 cubic yards of soil and backfill.

To determine the limits of the contaminated area, cut and pit face soils were field tested using an HNU photoionization detector (PID). To verify that all contaminated soil had been removed from the excavation, samples for laboratory analysis were taken from the walls and bottom of the excavation under the direction of Pamela Evans (Alameda County Health Agency). The samples were sent to Med-Tox Associates (a California State Certified Hazardous Materials laboratory) for analysis, under chain-of-custody documentation (copies attached), and analyzed for Total Oil and Grease (TOG), petroleum hydrocarbons as diesel (TPHd), and benzene, toluene, xylenes, and ethylbenzene (BTXE) [Method 5520 E,F; 3550 GCFID + BTXE].

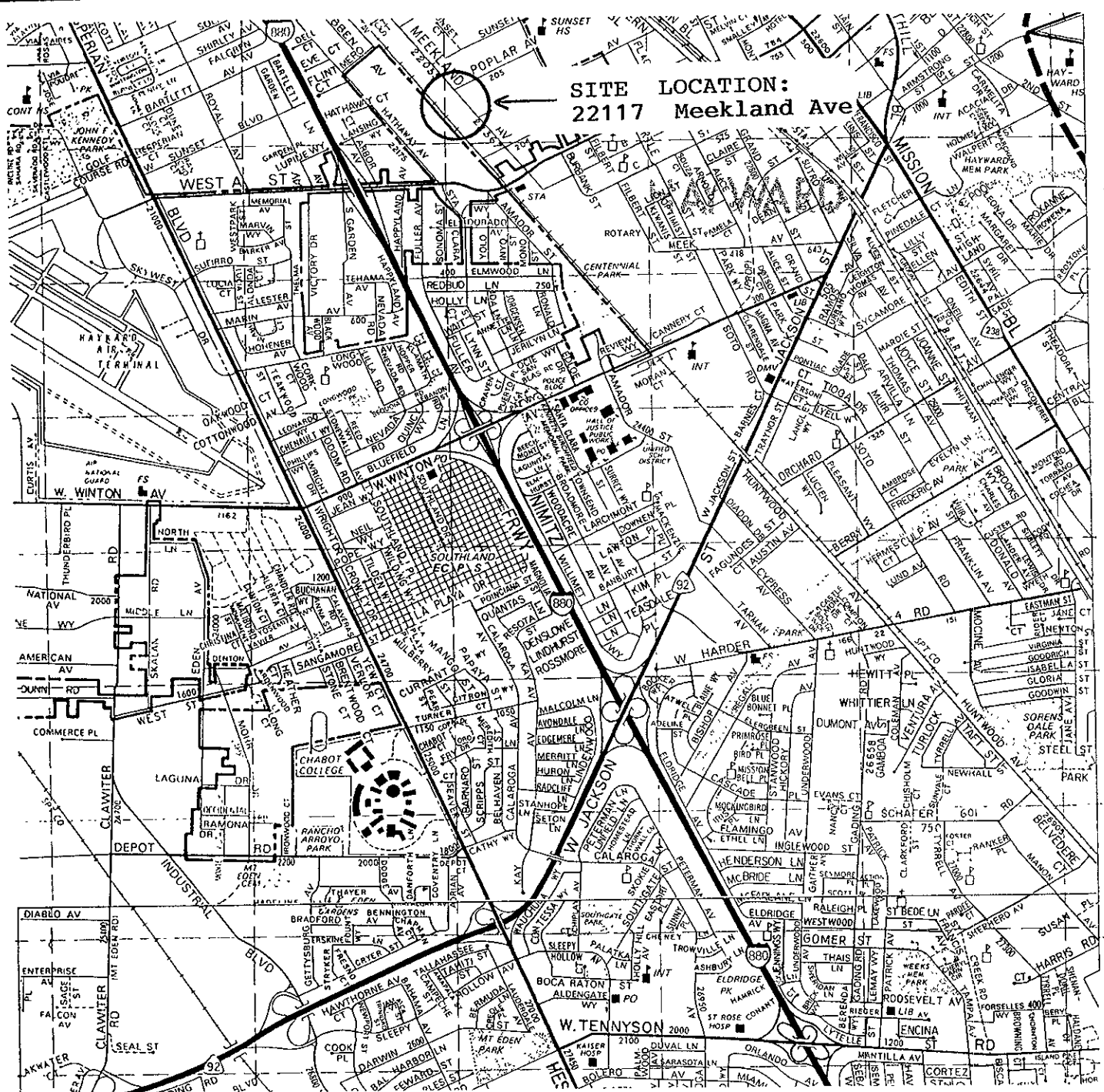


Figure 1



**CROSBY & OVERTON, INC.**  
 Environmental Management

22117 Meekland Ave.  
 Hayward, CA

DATE: 2/20/91

JOB NUMBER: 8205-S

DRAWN BY: MARK AYALA

### SITE DESCRIPTION

The site is located approximately 65 feet above sea level on the East Bay Plain Area, Alameda County (Figure 2). The general geology in this area is surficial (10-50 feet) Holocene alluvium (Qal) overlying older (Pleistocene) alluvium (Qoa). The younger alluvium is a moderately permeable, unconsolidated, moderately sorted, sand and silt unit, with coarse sand and gravels becoming abundant toward the fan heads and in narrow canyons. The older alluvium is a permeable, heterogeneous mixture of poorly consolidated to unconsolidated clay, silt, sand, and gravel. The Hayward Fault is located approximately two miles to the west. In general, the groundwater gradient for this area is westward towards the bay with minor local variations. Cf. Geohydrology and Groundwater-Quality Overview, East Bay Plain Area, Alameda County, Ca; 205 (J) Report; Alameda County Flood Control and Water Conservation District; June 1988.

### PROJECT OBJECTIVES/WORK OVERVIEW

Crosby & Overton, Inc. proposes to install three monitoring wells to establish:

- Impact, if any, of contaminated soil on local groundwater.
- Hydraulic gradient at this site.
- Local depth to aquifer (groundwater).
- Site lithology/soil characteristics.

The work will include the drilling, installation, and development of three monitoring wells at the proposed locations. After development, each well will be sampled and analyzed for Total Oil and Grease (TOG), TPH-Diesel, and benzene, toluene, xylenes, and ethylbenzene (BTXE). A report will be generated to summarize laboratory and field findings, and to present conclusions and recommendations. The proposed groundwater monitoring well locations are five feet from the north, south, and west edges of the excavation.

### GENERAL WORK PLAN

For each monitoring well, a 24 inch diameter hole will be cut through the concrete slab. A 10 inch diameter, continuous flight, hollow stem auger (HSA) will then be advanced in 5 foot sections. At every 5 feet below ground surface (BGS) samples will be taken using a California split-spoon sampler fitted with three (3) pre-cleaned two inch by six inch brass sleeves. After removing the sampler from the borehole, the middle brass sleeve will be

extracted, sealed with foil, Teflon end caps and duct tape. The sample will then be labelled, recorded, cooled on Blue Ice®; and sent to Med-Tox under chain-of-custody documentation for analysis. At least one borehole will be continuously cored and logged to provide a detailed record of the subsurface lithology and first water encounter.

Once groundwater is encountered (estimated at 40 ft BGS), initial measurements of depth will be recorded, and a sample will be taken from the saturated zone interface. Drilling will resume for an additional 20 feet into the aquifer (unless a 5 foot aquitard is encountered within this interval). The borehole will then be fitted with 20 feet of factory threaded, four inch schedule 40 PVC, 0.020 slotted well screen which has been end capped on the bottom. The remaining casing will be factory threaded, four inch, schedule 40 PVC blank extending from the top of the well screen to the ground surface. The annular space will then be filter packed with LS #3 sand from total depth to 1 to 2 feet above the screened interval. One to two feet of bentonite spacer will be placed above the filter pack. The remainder of the annular space will then be sanitary sealed by Portland neat cement via tremie pipe. The well casing will be fitted with a locking cap, and a Cristy box will be fixed in place, slightly above grade, over the top of the well to provide physical protection and divert any surface runoff water. Any variation from the preceding plan would be due to unforeseen subsurface conditions encountered during drilling.

During the well drilling operation, cut soils and soil samples will be monitored using a PID and a Gastech.

#### WELL DEVELOPMENT AND SAMPLING

Prior to development, the cement around the well will be allowed to set a minimum of 72 hours. The initial well depth will be measured using an interface probe. To develop, the well will be repeatedly surged and overpumped until discharged water appears to be free of sediment, and temperature, pH, and electrical conductivity have stabilized.

During the development operation, three casing volumes of water will be removed. After the well has recovered,  $\geq 80\%$ , groundwater will be sampled using a new, disposable, polyethylene bailer. The samples will be slowly drained into 3 new, VOA vials and capped with all headspace removed. Two 950 ml amber bottles will also be filled. The samples will be labelled, chilled, and transported under chain-of-custody documentation to Med-Tox (a California State Certified Hazardous Materials laboratory), for analysis. All discharged waters and drill cuttings from this project will be

drummed in DOT 17-H drums while awaiting analysis. The drums will be properly disposed of dependent on the analytic results.

REPORTAGE/DOCUMENTATION

All phases of work will be supervised by a Crosby & Overton, Inc. Geologist. As the work progresses it will be recorded and logged, both by hand and pictorially. The data will be compiled and summarized in a report after completion of the work.

The property owner will be responsible for forwarding copies of the report to these agencies:

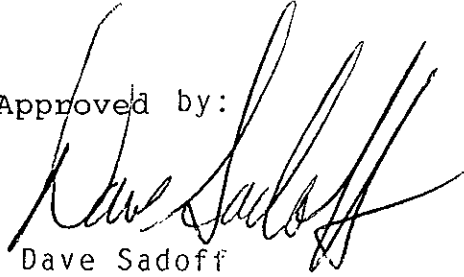
- 1) Alameda County Health Agency  
80 Swan Way Rm 200  
Oakland, Ca 94621  
Attn: Pamela J. Evans
  
- 2) San Francisco Bay Regional Water Quality Control Board  
1800 Harrison Street Suite 700  
Oakland, Ca 94621  
Attn: Richard Hiatt

Sincerely,



Matthew H. Walraven  
Staff Geologist

Approved by:

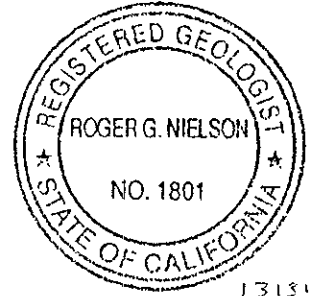


Dave Sadoff  
Environmental  
Geologist

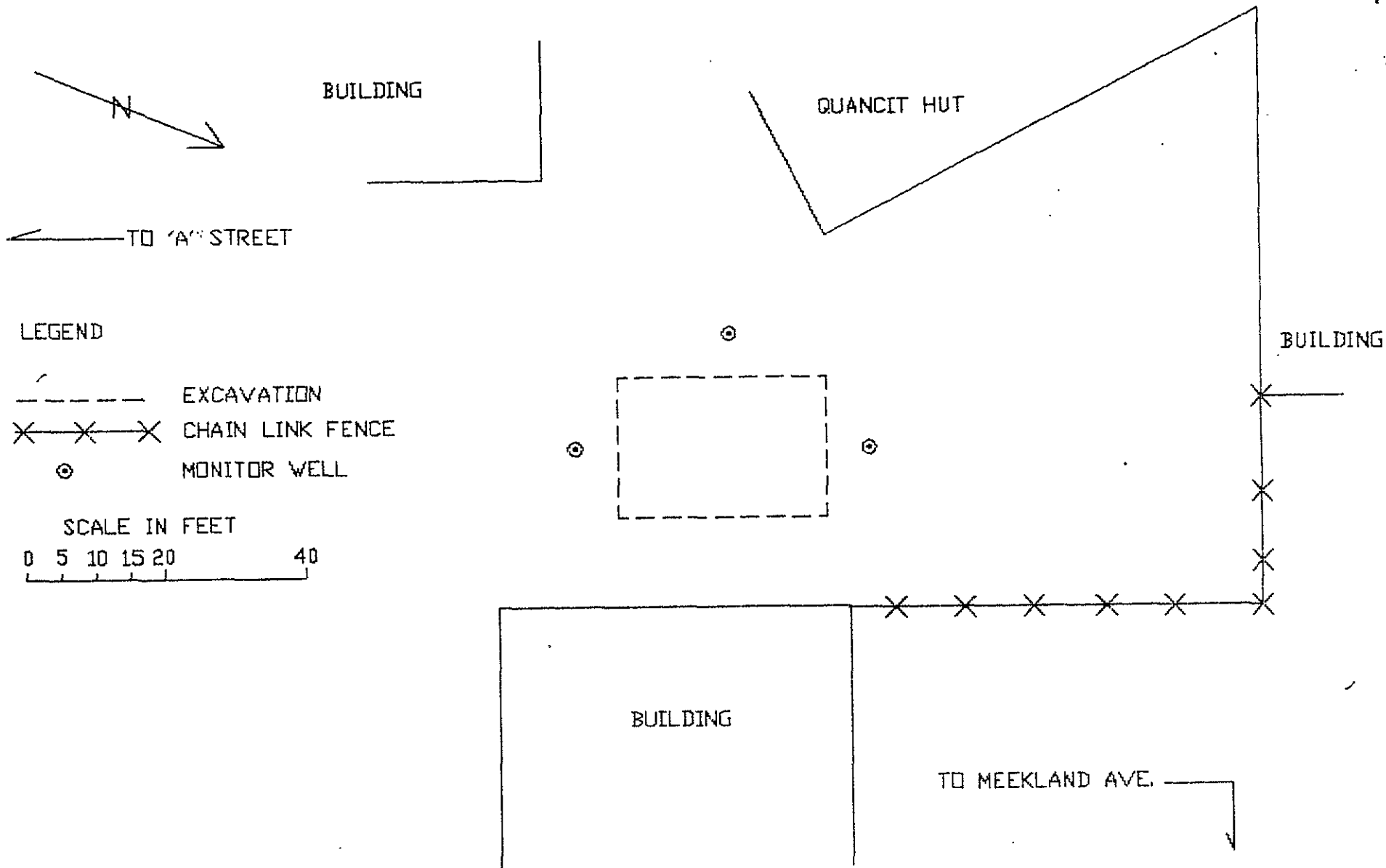
Reviewed by:



Roger Nielson  
California  
Registered  
Geologist #1801



13131



**CROSBY & OVERTON, INC.**  
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VINCE HOYTT  
 22117 Meekland Ave.  
 Hayward, CA

Figure 2

DATE: 3/5/91

JOB NUMBER: 8205-S

DRAWN BY: M.S.A.