

Reviewed on 9/5/95 by CHeech



Underground Contamination Investigations, Groundwater Consultants, Environmental Engineering

**REPORT OF
SUBSURFACE INVESTIGATION**

**VINCENT ROOFING COMPANY
2181 Dunn Road
Hayward, CA**

July 12, 1995

TABLE OF CONTENTS

I. INTRODUCTION 1

II. SITE DESCRIPTION 4

 Regional Hydrogeology 4

 On-Site Hydrogeology 6

 Site Description 6

III. FIELD WORK: "HYDROPUNCH" SAMPLING 7

 Groundwater Sampling Locations 7

 Groundwater Sampling Plan 7

 Hole Sealing 9

 Equipment Decontamination 9

IV. RESULTS OF WATER LEVEL MEASUREMENTS 10

 Elevation Survey 10

 Shallow Groundwater Flow Direction 10

 Shallow Water Table Hydraulic Gradient 10

V. SHALLOW GROUNDWATER SAMPLING RESULTS 13

 Laboratory Analysis 13

 Analytical Results 13

VI. SUMMARY 15

ATTACHMENT A -- Background Data.

ATTACHMENT B -- "Hydropunch" Field Notes.

ATTACHMENT C -- Survey Data.

ATTACHMENT D -- Analytical Results.

I. INTRODUCTION

The site location is Vincent Roofing Company located at 2181 Dunn Road in Hayward, California. In conjunction with the roofing contractor operation, a 6,000-gallon underground Gasoline tank has historically been present at the site. In August, 1994, the underground storage tank was removed. At the present time, an above-ground Con-Vault fuel storage tank operates at the site. The location of the site is shown in Figure 1.

A map of the site showing the layout of the facility, along with the location of the previous underground tank excavation is shown in Figure 2. At the time of the removal, Gasoline was found to be present in the native soil beneath the tank at concentrations of up to 260 mg/Kg (ppm). In addition, trace amounts of Ethylbenzene, Xylenes and Lead were discovered to be present in the native soil at this same location.

Shallow groundwater was found to be present in the tank pit during the excavation. No detectable concentrations of TPH as Gasoline, Benzene, Toluene, Ethylbenzene or Xylenes were present in the "grab" groundwater sample collected at the time of the tank excavation.

This subsurface investigation was conducted in response to a request by the Alameda County Environmental Health Department to conduct further investigation at the site. All work was performed in accordance with Hageman-Aguilar's "Proposed Workplan for Subsurface Investigation", dated May 15, 1995, and the Workplan Addendum, dated June 1, 1995. Background data regarding the site, including correspondence, is included in Attachment A.

SAN FRANCISCO BAY

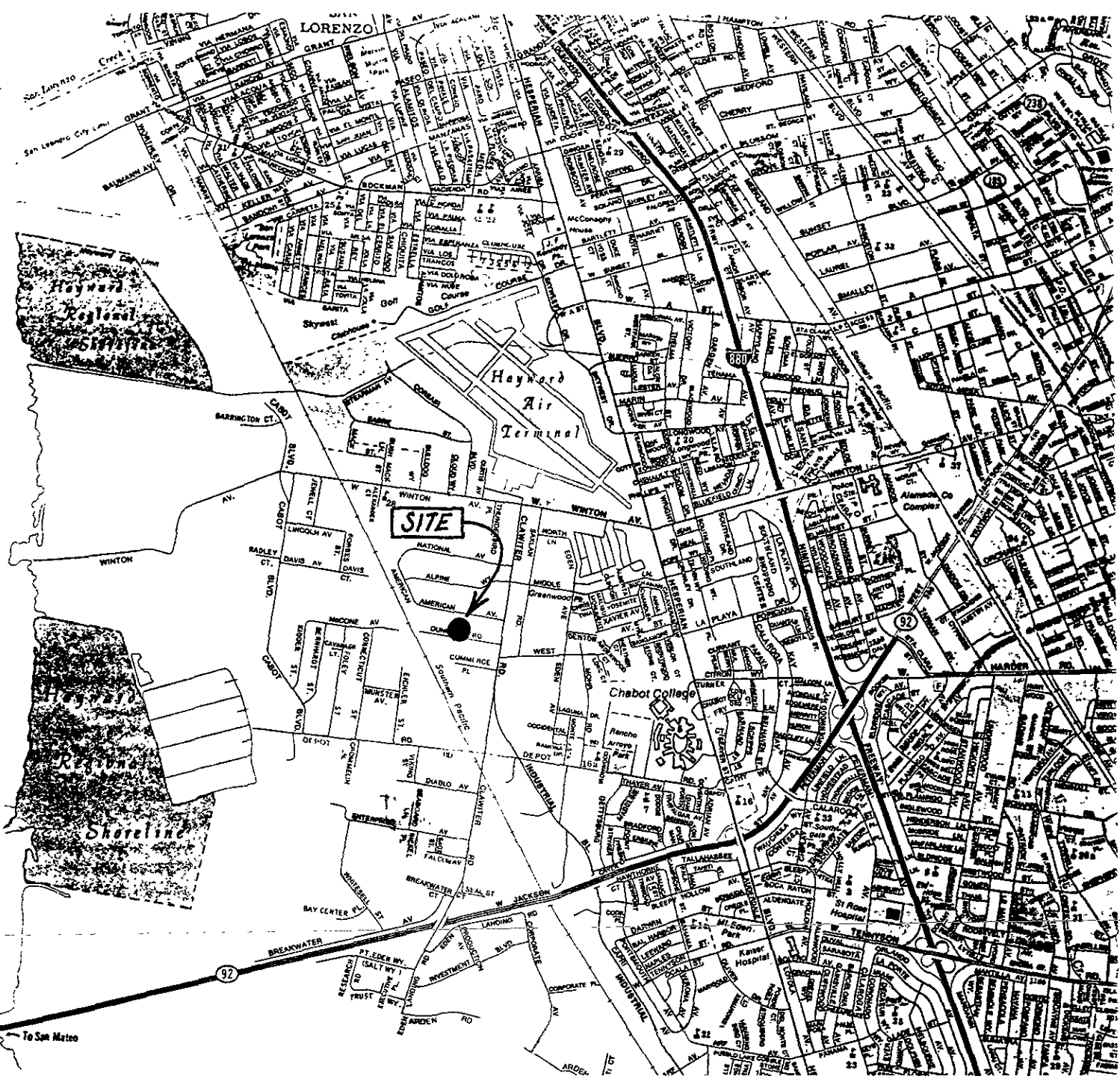
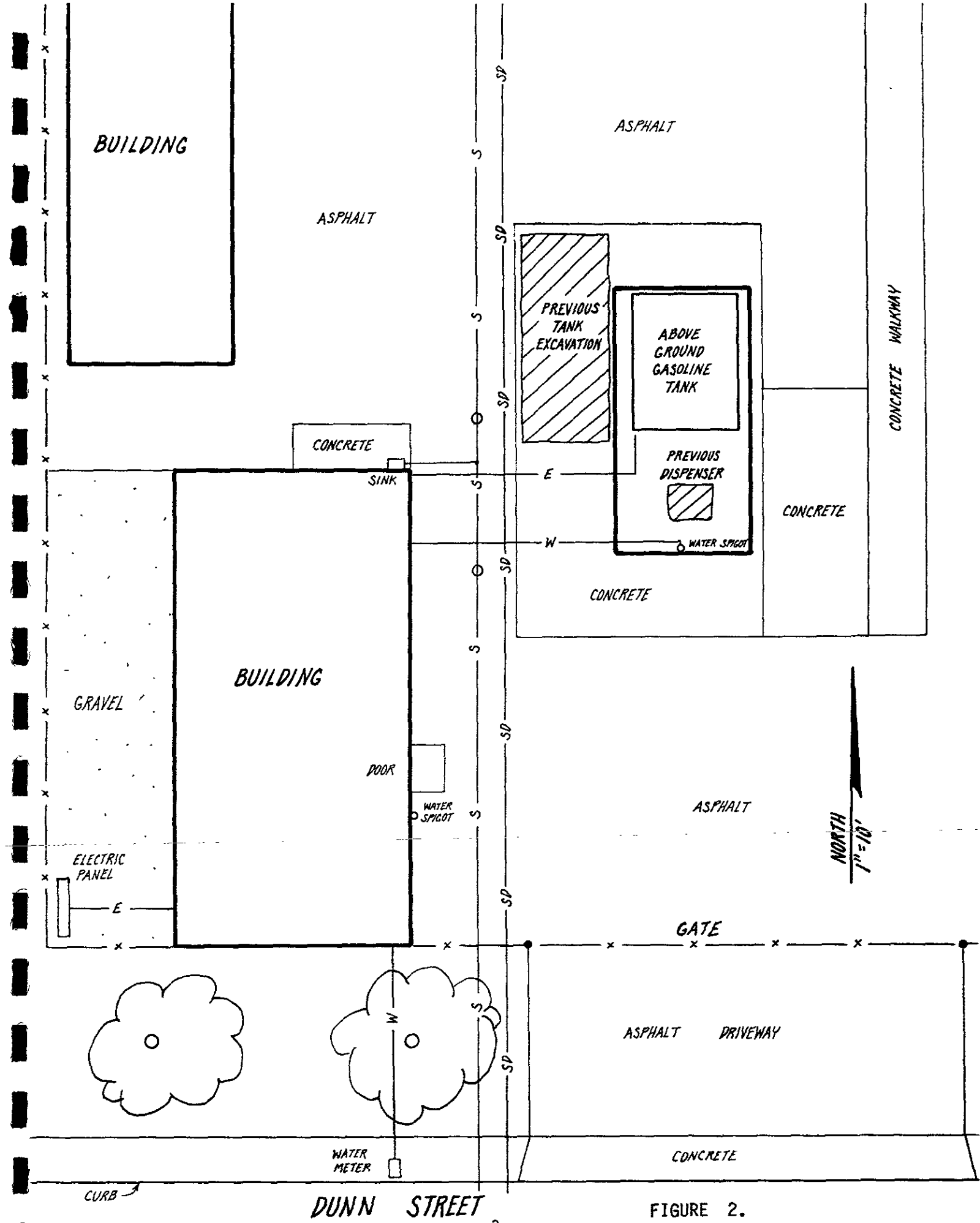


FIGURE 1.
Site Location Map.



DUNN STREET

FIGURE 2.
Site Map.

II. SITE DESCRIPTION

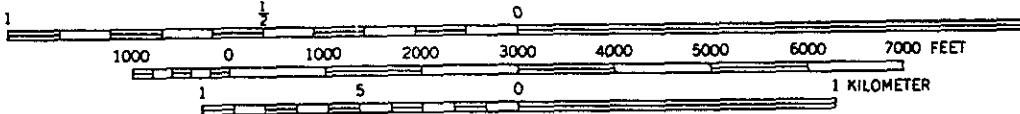
Regional Hydrogeology

A regional topographic map is presented as Figure 3. The site is located on a low-lying bay plain, relatively close to San Francisco Bay. The soils in the vicinity of the site consist of Quaternary Alluvium overlying much deeper bedrock that likely to consist of Franciscan sandstone and siltstone (Geologic Map of California, San Francisco Sheet, State of California, Division of Mines and Geology, 1980). Due to its close proximity to San Francisco Bay, this area may have previously been marshland that was artificially filled.

Based upon the surface topography, as well as the various hydrologic features shown on the vicinity map, the regional shallow groundwater can be expected to flow from the hills of eastern Hayward (area of recharge) and move westward toward San Francisco Bay (area of discharge). The locations of the Hayward Shoreline Canal and Mt Eden Creek may cause the apparent regional groundwater flow direction to be deflected somewhat south of a truly western direction.

In terms of location of the site with respect to various surface water bodies, 1) a surface storm drain is located approximately 900 feet south of the site, 2) the City of Hayward sewage oxidation ponds are located approximately 1 mile west of the site, 3) the Hayward Shoreline Canal is located approximately 1.2 miles to the southwest of the site, and 4) salt evaporators are located approximately 2 miles to the south of the site. The established shoreline of San Francisco Bay is located approximately 2 miles to the west of the site.

SCALE 1:24000



CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 5 FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929



FIGURE 3. Topographic Map.

On-Site Hydrogeology

The shallow groundwater beneath the site is expected occur within lean clay that is interbedded with fine- to medium-grained saturated sand layers. The static shallow water table was found to be at approximately 9 feet below ground surface during the subsurface investigation.

The shallow groundwater in the vicinity of the subject site can be expected to flow in the southwesterly direction. This assumed shallow groundwater flow direction appears to be consistent with data collected from other sites in the vicinity of the subject site, and appears to be consistent with the presence of Hayward Shoreline Canal to the southwest.

Site Description

A map of the site is shown in Figure 2. This map shows the layout of the facility, along with the locations of the previous tank excavation. At the present time, approximately one-half of the site is paved with asphalt or concrete. Imported gravel covers the remainder of the site. The former tank excavation location is capped with concrete pavement and an above-ground fuel storage tank with spill containment wall.

III. FIELD WORK: "HYDROPUNCH" SAMPLING

Groundwater Sampling Locations

The actual "hydropunch" groundwater sampling locations are shown in Figure 4. The locations were selected based upon 1) the presumed shallow groundwater flow direction, 2) estimated locations of the previous underground tank and associated product dispenser, and 3) what was believed to be good spacing between data points in order to achieve reasonable plume definitions of any contaminants that may be present in the shallow groundwater.

It should be noted that "hydropunch" probe HP-4 was installed only for the collection of water elevation data.

Groundwater Sampling

The groundwater sampling program was conducted on June 26, 1995. The "hydropunch" work was conducted by Environmental Control Associates, Aptos, California. At each "hydropunch" location, a 6-foot long decontaminated 3/4-inch I.D. perforated galvanized steel probe pipe with 5-foot long connecting sections was pneumatically driven to a total depth of approximately 15 below ground surface.

At locations HP-1, HP-2 and HP-3, groundwater samples were collected using a decontaminated stainless steel bailer. The water samples were placed inside 40 mL VOA vials free of any headspace. The samples were immediately placed on ice and delivered under chain-of-custody to the laboratory at the end of the workday.

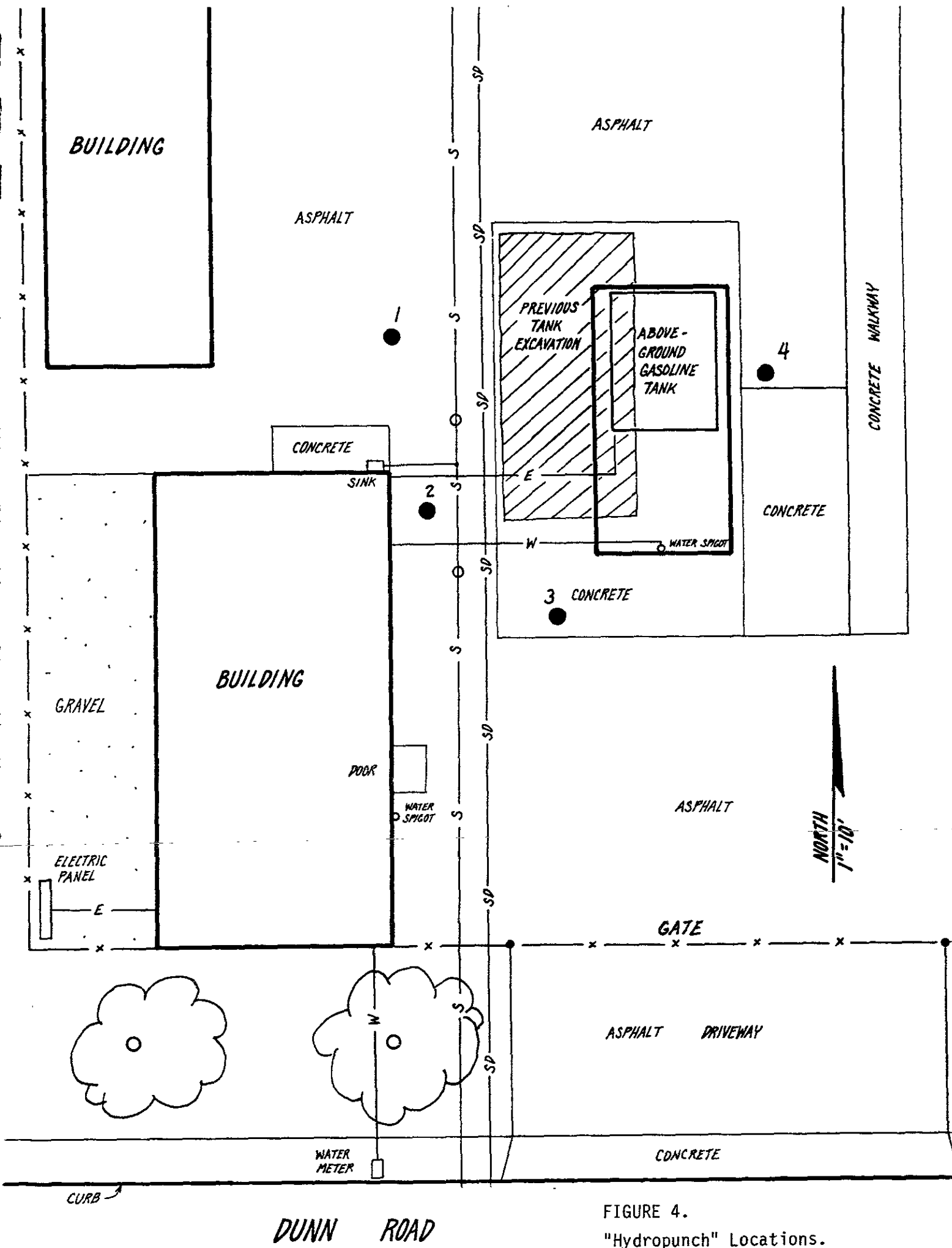


FIGURE 4.
"Hydropunch" Locations.

Field notes for the "hydropunch" sampling are included in Attachment B.

Hole Sealing

Following the completion of the groundwater sampling operation, each "hydropunch" hole was filled with neat cement grout.

Equipment Decontamination

Prior to the installation of each temporary probe, all equipment had been previously steam-cleaned off-site at the Environmental Control Associates equipment yard in Aptos, California.

IV. RESULTS OF WATER LEVEL MEASUREMENTS

Elevation Survey

In order to determine shallow groundwater flow direction, Hageman-Aguiar, Inc., surveyed the elevations of the top of each "hydropunch" probe. The top of each temporary metal probe was surveyed within 0.01 feet of an arbitrary benchmark of 100.00, set as the top of "hydropunch" probe HP-2. Survey data are included in Attachment C.

Shallow Groundwater Flow Direction

The shallow water table elevation measurements for June 26, 1995, are shown in Table 1. Figure 5 presents a contour map for the shallow groundwater table beneath the site. As shown in this figure, the shallow groundwater beneath the site appears to flow in a southwesterly direction.

Shallow Water Table Hydraulic Gradient

Figure 5 presents the contour map for the shallow groundwater table beneath the site. As shown in this figure, the shallow groundwater table beneath the site appears to be relatively flat, with a calculated hydraulic gradient of $dH/dL = 0.01'/6.8' = 0.0014$.

TABLE 1.
Shallow Water Table Elevations
June 26, 1995

Well	Top of Metal Pipe Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)
HP-1	99.39	9.36	90.03
HP-2	100.00	9.99	90.01
HP-3	99.20	9.18	90.02
HP-4	99.51	9.45	90.06

Based upon arbitrary Bench Mark of 100.00 set at HP-2
Top of Temporary Metal Pipe

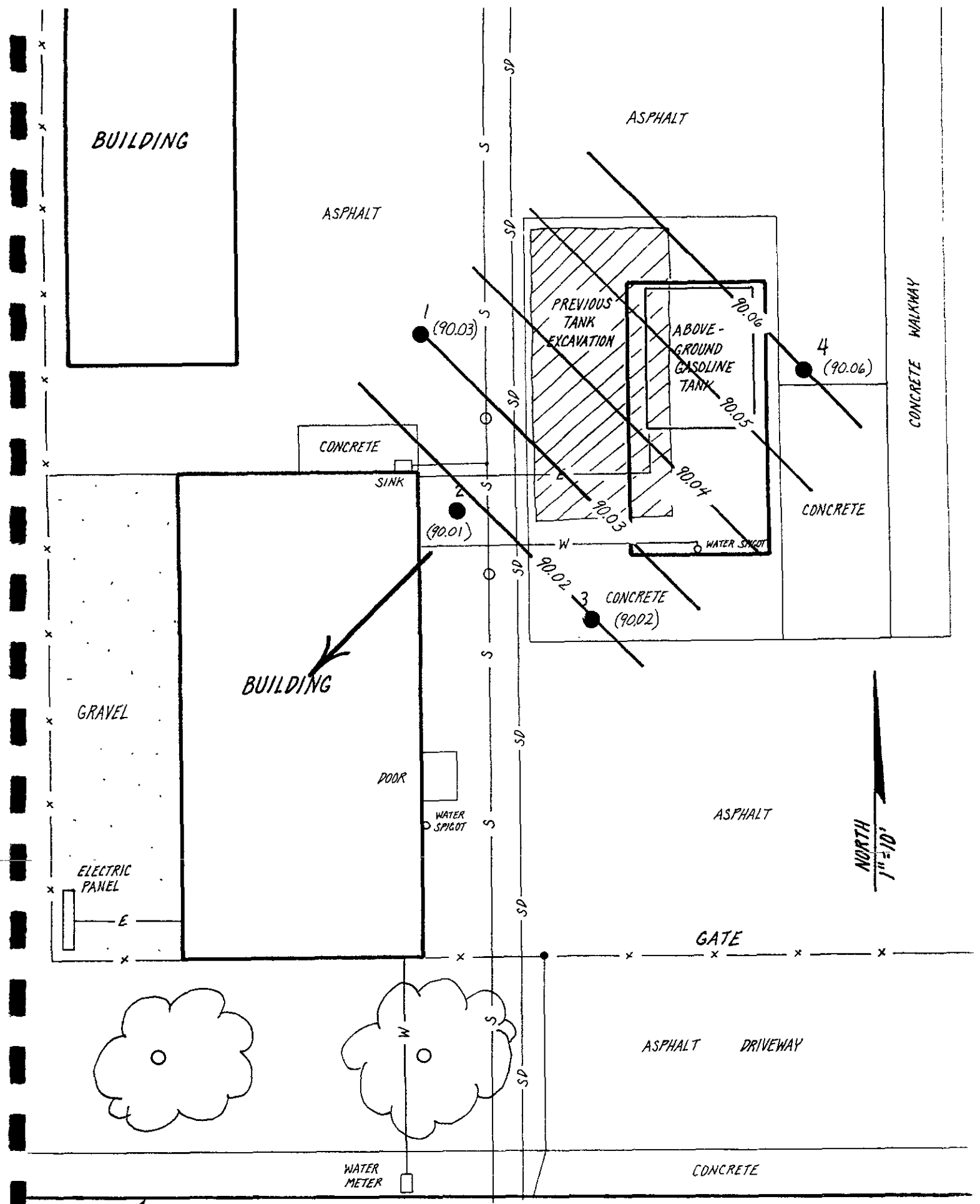


FIGURE 5. Shallow Groundwater Table Contour Map, measured June 26, 1995.

V. SHALLOW GROUNDWATER SAMPLING RESULTS

Laboratory Analysis

All analyses were conducted by a California State DOHS certified laboratory in accordance with EPA recommended procedures (Priority Environmental Labs, Milpitas, CA). All Groundwater samples were analyzed for:

- 1) total petroleum hydrocarbons as Gasoline (EPA method 8015).
- 2) Benzene, Toluene, Ethylbenzene, and Total Xylenes (EPA method 602).

Analytical Results

Table 2 presents the results of the laboratory analysis of the groundwater samples collected from the three "hydropunch" locations HP-1, HP-2 and HP-3.

As shown in Table 2, no detectable concentrations of either Gasoline, Benzene, Toluene, Ethylbenzene or Total Xylenes were found in any of the shallow "grab" groundwater samples collected from the temporary "hydropunch" probe locations HP-1, HP-2 and HP-3.

A copy of the laboratory certificate for the water sample analyses are included in Attachment D.

TABLE 2.

**Shallow "Grab" Groundwater Sampling Results
Collected on June 26, 1995**

Sampling Location	TPH as Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
HP-1	ND	ND	ND	ND	ND
HP-2	ND	ND	ND	ND	ND
HP-3	ND	ND	ND	ND	ND
Detection	50	0.5	0.5	0.5	0.5

ND = Not Detected

VI. SUMMARY

1. Shallow groundwater is present beneath the site at a depth of approximately 9 feet below the ground surface.
2. The data indicate that the shallow groundwater flow was in the southwesterly direction at the time of the subsurface investigation.
3. No detectable concentrations of either Gasoline, Benzene, Toluene, Ethylbenzene or Total Xylenes were found in any of the "grab" groundwater samples collected from the three "hydropunch" locations HP-1, HP-2 and HP-3.

ATTACHMENT A

BACKGROUND DATA

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program

StId 3031

March 7, 1995

ALAMEDA COUNTY-ENV. HEALTH DEPT.
ENVIRONMENTAL PROTECTION DIV.
1131 HARBOR BAY PKWY., #250
ALAMEDA CA 94502-6577
(510)567-6700

Clyde E. Vincent
Vincent Roofing company
2181 Dunn Road
Hayward, CA 94545

Subject: Required investigations at Vincent Roofing Co. located
at 2181 Dunn Rd., Hayward, CA

Dear Mr. Vincent:

On October 28, 1994, the Alameda County Department of Environmental Health, sent you a letter requiring that you submit a Preliminary Site Assessment work plan to determine the vertical and lateral extent of soil and ground water contamination from past releases from the former underground storage tank (UST) at the subject site. A copy of that letter is enclosed for your review.

Analytical results of a sidewall soil sample collected from the former tank pit identified 260 parts per million (ppm) Total Petroleum Hydrocarbons as gasoline (TPHg) and trace amounts of ethylbenzene, xylenes, and lead. Guidelines established by the California Regional Water Quality Control Board require that ground water investigations be conducted when there is evidence to indicate that a release from an UST will impact or may have impacted the ground water. Per our conversation this morning, a preliminary soil and ground water survey in the location where the contamination was found would be advisable before considering well installation and/or placement.

You requested a list of consultants that perform site assessments. Attached are two lists of consultants that have worked within Alameda County. As stated on the lists, this is not an endorsement nor is it a complete list of consultants qualified to perform the environmental investigations required at the site. You are encouraged to look in the phone book under Environmental Consultants, Hazardous Materials and Waste Consultants, Tanks Abandoned, Well Drilling, Geologist, Geotechnical Engineers, etc.; obtain recommendations from those who have had similar work performed; and if necessary, obtain multiple bids.

Vincent
Re: 2181 Dunn Rd.
March 7, 1995
Page 2 of 2

This is a formal request for a work plan pursuant to Section 2722 (c) (d) of Title 23 California Code of Regulations. Please submit the workplan to this office on or before April 10, 1995. Any extensions of the stated deadlines, or modifications of the required tasks, must be confirmed in writing by either this agency or RWQCB.

If you have questions or comments, please call me at (510)567-6755.

Sincerely,



Amy Leech
Hazardous Materials Specialist

ATTACHMENTS

cc: Gordon Coleman - Files (ALL)

ALAMEDA COUNTY
HEALTH SERVICES DEPARTMENT
Hazardous Materials Division
30 Swan Way, Rm. 200
Oakland, CA 94612
510/271-4320

October 28, 1994

Mr. Clyde E. Vincent
Vincent Roofing Company
2181 Dunn Road
Hayward, CA 94545

STID 3031

Re: Required investigations at Vincent Roofing Co., located at
2181 Dunn Road, Hayward, California

Dear Mr. Vincent,

This office has reviewed Kaprealin Engineering, Inc.'s (KEI) report, dated September 6, 1994, documenting the tank removal work conducted out at the above site. Based on the sample analysis results, 260 parts per million (ppm) Total Petroleum Hydrocarbons (TPHg) and traces of ethylbenzene, xylenes, and lead were identified in a sidewall sample collected from the former tank pit.

Guidelines established by the California Regional Water Quality Control Board (RWQCB) require that ground water investigations be conducted when there is evidence to indicate that a release from an UST will impact or may have impacted the ground water.

Although the "grab" ground water sample collected from the tank pit did not identify any contaminants, the Regional Water Quality Control Board's (RWQCB) guidelines state that ground water shall be monitored for a minimum of four quarters to assure that contaminants from the soil are not leaching into and impacting the ground water. This would require that a permanent monitoring well be installed adjacent to the tank pit at the site.

You are required to conduct a Preliminary Site Assessment (PSA), in accordance with RWQCB's Staff Recommendations for the Initial Evaluation and Investigation of Underground Tanks. The PSA must be consistent with requirements set forth in Article 11 of Title 23, California Code of Regulations. The major elements of such an investigation are summarized in the attached Appendix A. The major elements of the guidelines include, but are not limited to, the following:

- o One permanent ground water monitoring well must be installed within 10 feet of the observed soil contamination, oriented in the confirmed downgradient direction relative to groundwater flow.

Mr. Clyde E. Vincent
Re: 2181 Dunn Rd.
October 28, 1994
Page 2 of 3

- o Subsequent to the installation of the monitoring wells, ground water samples are to be collected and analyzed quarterly.

This Department will oversee the assessment and remediation of your site. Our oversight will include the review of and comment on work proposals and technical guidance on appropriate investigative approaches and monitoring schedules. The issuance of well drilling permits, however, will be through the Alameda County Flood Control and Water Conservation District, Zone 7, in Pleasanton. The RWQCB may choose to take over as lead agency if it is determined, following the completion of the initial assessment, that there has been a substantial impact to ground water.

The PSA proposal is due within 60 days of the date of this letter. Once the proposal is approved, field work should commence within 60 days. A report must be submitted within 45 days after the completion of this phase of work at the site. Subsequent reports are to be submitted quarterly until this site qualifies for final RWQCB "sign-off".

The referenced initial and quarterly reports must describe the status of the investigation and must include, among others, the following elements:

- o ~~Details and results of all work performed during the designated period of time: records of field observations and data, boring and well construction logs, water level data, chain-of-custody forms, laboratory results for all samples collected and analyzed, tabulations of free product thicknesses and dissolved fractions, etc.~~
- o Status of ground water contamination characterization.
- o Interpretations of results: free and dissolved product plume definition maps for each target component, geologic cross sections, etc.
- o Recommendations or plans for additional investigative work or remediation.

Please be advised that this is a formal request for a work plan pursuant to Section 2722 (c) (d) of Title 23 California Code of

Mr. Clyde E. Vincent
Re: 2181 Dunn Road
October 28, 1994
Page 3 of 3

Regulations. Any extensions of the stated deadlines, or modifications of the required tasks, must be confirmed in writing by either this agency or RWQCB.

If you have any questions or comments, please contact me at (510) 567-6763.

Sincerely,



Juliet Shin
Senior Hazardous Materials Specialist

ATTACHMENT

cc: Edgar Howell

ATTACHMENT B

"HYDROPUNCH" FIELD NOTES

FIELD NOTES
HAGEMAN-AGUIAR
JERRY AARONS
6/26/95

VINCENT ROOFING
2181 DUNN ROAD
HAYWARD, CA

page 1 of 1

SUBSURFACE INVESTIGATION - "GRAB" GROUNDWATER SAMPLING

<u>TIME</u>	
10:40	ARRIVED AT SITE - MET WITH ED VINCENT, OWNER
10:45	GARY AGUIAR ARRIVED - MARKED HP LOCATIONS
10:47	ENVIRONMENTAL CONTROL ASSOC. CREW ARRIVED
11:00	ECA SET-UP ON HP-3 LOCATION - BEGAN DRIVE
11:22	COMPLETED DRIVE TO 15' DEPTH @ HP-3
11:30	COLLECTED WATER SAMPLE IN HP-3
11:31	ECA CREW BEGAN DRIVE ON HP-1 LOCATION
11:48	ECA COMPLETED DRIVE TO 15' @ HP-1 LOCATION
11:52	COLLECTED WATER SAMPLE IN HP-1
11:55	ECA CREW BEGAN DRIVE ON HP-2 LOCATION
12:11	ECA COMPLETED DRIVE TO 15' @ HP-2
12:25	COLLECTED WATER SAMPLE IN HP-2
12:25-12:45	LUNCH BREAK
12:55	ECA CREW BEGAN DRIVE ON HP-4 LOCATION
13:05	ECA COMPLETED DRIVE TO 15' @ HP-4
13:05-13:25	H-A TOOK MEASUREMENTS OF DEPTH TO WATER IN HP PIPES - SURVEYED "HYDRO-PUNCH" PROBE ELEVATIONS (TOP OF METAL PIPES)
13:25-14:00	ECA CREW PULLED TEMPORARY "HYDRO-PUNCH" PROBE PIPES AND GROUTED HOLES
14:05	ECA AND HAGEMAN-AGUIAR LEFT SITE

ATTACHMENT C

SURVEY DATA

(64)

JUNE 27, 1995

GARY AGUIAR

GERARD AARONS

SOKKIA C3, AUTO LEVEL

TOPD ROD

SUNNY, WARM

VINCENT ROOFING

2181 DUNN ROAD

HAYWARD, CA

TEMPORARY HYDROPUNCH

PROBE ELEVATIONS

STN	BS	HI	FS	ELEV
HP-2				100.00
	3.65	103.65		
HP-1			4.26	99.39
HP-3			4.45	99.20
HP-4			4.14	99.51
HP-2			3.65	100.00

(65)

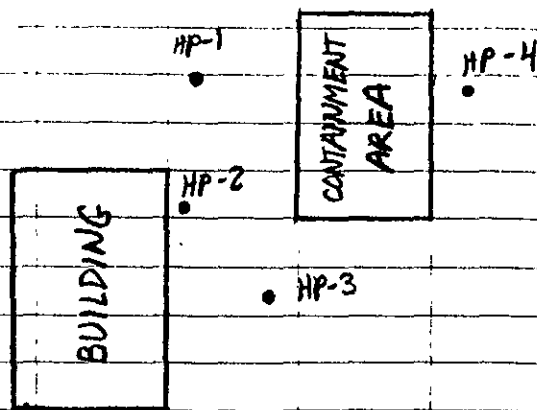
TOP OF METAL PIPE, SET AT 100.00'

TOP OF METAL PIPE

TOP OF METAL PIPE

TOP OF METAL PIPE

BENCHMARK



DUNW ROAD

ATTACHMENT D

ANALYTICAL RESULTS



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

June 27, 1995

PEL # 9506085

HAGEMAN - AGUIAR, INC.

Attn: Gerald Aarons

Re: Three water samples for Gasoline/BTEX analysis.

Project name: Vincent Roofing

Project location: 2181 Dunn Rd., - Hayward, CA.

Date sampled: June 26, 1995

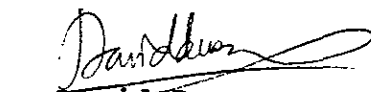
Date submitted: June 26, 1995

Date extracted: June 26-27, 1995

Date analyzed: June 26-27, 1995

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)
HP-1	N.D.	N.D.	N.D.	N.D.	N.D.
HP-2	N.D.	N.D.	N.D.	N.D.	N.D.
HP-3	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	84.4%	84.0%	85.1%	90.5%	84.1%
Detection limit	50	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602


David Duong
Laboratory Director

