

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

July 21, 2004

Mr. Jeffrey Hunt
Plywood Lumber & Sales
1618 28th St.
Oakland, CA 94608

Dear Mr. Hunt:

Subject: Fuel Leak Site Case Closure For Plywood & Lumber Sales, 4050 Horton Street, Emeryville, California, 94608; Case No. RO0000328; Underground Storage Tank Cleanup Fund No. 002394

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Residual soil and groundwater pollution remains in place at your site. Up to 1,100 ppb TPHG, 600 ppb TPHD, 60 ppb benzene remain in groundwater at this site. Up to 0.27 ppm benzene and 0.0022 ppm 1,2-dichloroethane remain in soils at this site.

If you have any questions, please call Roseanna Garcia – La Grille at (510) 777-2149. Thank you.

Sincerely,

Donna L. Drogos, P.E.
LOP and Toxics Program Manager

Enclosures.

- 1 Remedial Action Completion Certificate
- 2 Case Closure Summary

cc:

Ms. Betty Graham (w/enc)
SF- Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Mr. Toru Okamoto (w/enc)
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Mr. Ignacio Dayrit (w/enc)
City of Emeryville, Planning Department
1333 Park Avenue
Emeryville, CA 94608

R. Garica – La Grille (w/orig enc), D. Drogos (w/enc)

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Dear Mr. Hunt:

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This letter confirms the completion of a site investigation and remedial action for the underground storage tank(s) formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25299.37 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung
Director
Alameda County Environmental Health

CALIFORNIA DEPARTMENT OF WATER
 MAY - 5 2004
 B6

CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM

I. AGENCY INFORMATION

Date: May 3, 2004

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6762
Responsible Staff Person: Eva Chu	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Alameda County

Site Facility Name: Plywood and Lumber Sales		JUN 8 2004
Site Facility Address: 4050 Horton Street, Emeryville, CA 94608		
RB Case No.: ---	Local Case No.: 4255	LOP Case No.: RO0000328
URF Filing Date: 01/14/1992	SWEEPS No.: ---	APN: 049-0617-016-02
Responsible Parties	Addresses	Phone Numbers
Plywood Lumber & Sales c/o Jeffrey Hunt	1618 28 th Street Oakland, CA 94608	510/547-7257

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	1,000	Gasoline	Removed	12/10/1990
	Piping		Removed	12/10/1990

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: UST had holes and was collapsing at time of removal		
Site characterization complete? Yes No	Date Approved By Oversight Agency: ----	
Monitoring wells installed? No	Number: N/A	Proper screened interval? N/A
Highest GW Depth Below Ground Surface: 8.38' based on MW-18, well nearest to former UST	Lowest Depth: 10.09' (MW-18)	Flow Direction: westerly
Most Sensitive Current Use: Potential Drinking Water Source		

Summary of production Wells in Vicinity: No drinking water wells identified within 2 miles of the site	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: San Francisco Bay is 2 miles west of site
Off-Site Beneficial Use (Impacts/Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	1-1000 gal UST	Erickson Inc, 225 Parr Blvd, Richmond, CA	12/10/1990
Piping	Not reported	Erickson Inc, 225 Parr Blvd, Richmond, CA	12/10/1990
Free Product	1000 gal	Allied Oil, Alviso, CA	12/10/1990
Soil	500 cy	B & J Landfill in Vacaville, CA	Jun-Jul 1994
Groundwater	Not reported	---	---

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
 (Please see Attachments 1-3 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before ¹	After ²	Before ³	After ⁴
TPH (Gas)	530	<1	200,000	1,100
TPH (Diesel)	57	<1	19,000	600
Oil & Grease	177	<50	6,400	NA
Benzene	53	.27	11,000	60
Toluene	51	<.005	10,000	19
Ethyl Benzene	5.5	.008	<.5	19
Xylene	17	.011	4,800	34
Heavy Metals: Lead/Chromium*	761/30.5*	5.9/76*	680/122*	<3/56,000*
MTBE (if not analyzed, explain below)	NA	<.005	NA	<5.0
Other (8240/8270)	.0022**	.0022**	***	***

Notes:

* Cadmium, nickel, and zinc also detected at 1.3, 46.6, and 431 ppm, respectively, in soil samples. No groundwater data for Cd, Ni, or Zn. The SF-RWQCB is providing chromium/lead regulatory oversight for the plume originating at 1401 Park Street, which appears to be the source of these contaminants. Case closure from ACEH applies only to the petroleum hydrocarbon plumes.

** 1,2-Dichloroethane.

*** See attached tables for analytical results of chlorinated compounds detected in groundwater. These compounds are from an off site source.

Site History and Description of Corrective Actions

UST Removal - In December 10, 1990, a 1000-gallon UST was removed. Free product was noted to be floating on groundwater in the tank pit at 6.5 feet bgs. A soil sample was collected from the capillary fringe (6 feet bgs) at each end of the tank (sample Za1 and Za2). A grab groundwater samples was also collected. Each sample was analyzed for TPHg, TPHd, TOG, BTEX, HVOCS, and 5 metals (Cd, Cr, Pb, Ni, Zn). Groundwater was pumped from the tank pit prior to backfilling.

Up to 68ppm TPHg, 44ppm TPHd, 177ppm TOG, 2.2, 1.6, 0.25, and 1.10ppm BTEX, respectively, was detected in the soil samples. Groundwater contained 200,000ppb TPHg, 19,000ppb TPHd, and 11,000ppb benzene. Trace levels of 1,2-DCE (.0022ppm) was also found in soil.

continued.....

Soil and Water Investigation – Between June 1992 and June 1993, 15 test borings were drilled at the site to depths ranging from 9.5 to 15.5 feet bgs. Soil samples were collected at various depths. Up to 530ppm TPHg, 5.3ppm benzene, and 761ppm lead and 421 ppm zinc were detected in the 6 feet bgs soil samples.

Petroleum hydrocarbon and lead-contaminated soil was excavated from the site in June 1994. Approximately 130 tons of lead-contaminated soil and 600 tons of hydrocarbon-contaminated soil were excavated. Bottom and sidewall confirmation soil samples (#7, #9 through 21 and #26-27) were obtained at 6 to 7 feet bgs. One soil sample was collected at 9 feet bgs (#28) after additional excavation. A maximum of 0.27ppm benzene remain in soil (beneath the sidewalk/street) at 7 to 9 feet bgs. Toluene, ethyl-benzene and xylenes were below laboratory detection limits.

In January 1996, a soil boring (B-16) was advanced within 15 feet and west of the former UST. Soil at 8 feet bgs contained 0.06ppm benzene. A grab groundwater sample from the boring contained 1,100 ppb TPHg, 60ppb benzene, 190ppb TCE and 56,000ppb Cr. It appears that HVOCs and Cr in groundwater is associated with the Electro-Coatings plume (located at 1401 Park Street), where the RWQCB is the lead oversight agency

In October 2003, additional soil borings (SS#1 through SS#4) were advanced to 15 feet bgs at the site. Boring SS#4 did not have sufficient groundwater for a grab groundwater sample to be collected. Soil, water, and soil vapor samples were collected from SS#1 through SS#3 to demonstrate that hexavalent Cr was migrating to the subject site from an offsite source, and that residual benzene in soil and groundwater did not pose a risk to human health. Soil analytical results revealed up to 79ppm TPHg and 0.057ppm benzene in soil from boring SS#1 at 5 feet bgs. These constituents were not detected in the 10 feet bgs sample. Grab groundwater samples from the three boreholes all contained hexavalent Cr at concentrations ranging from 6,600 to 14,000ppb, in addition to TCE and PCE.

All soil vapor constituents detected, with the exception of 114 ug/m³ benzene, were below the RWWQB's Environmental Screening Level.

Monitoring Well Installation – No groundwater monitoring wells were installed at the site for the petroleum hydrocarbon release. However, Electro-Plating Coating installed two wells, MW-18 and MW-18A, for the investigation of HVOC and Cr contamination. These wells are within 40 feet of the former UST. Groundwater from these wells was not been analyzed for TPH but was analyzed for VOCs. No BTEX constituents were detected in the groundwater samples.

Site Geology and Hydrogeology – The site is underlain within 2 feet of fill. Beneath the fill and extending to the maximum depth explored, were stiff silty clays and medium dense clayey sands. The clayey sands contained varying amounts of clay with occasional gravel. The soils exhibited very low permeability. Groundwater tends to flow to the west (based on groundwater flow direction obtained from the adjacent Electro-Coatings facility).

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes No		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes No		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions		
Site Management Requirements None		
Should corrective action be reviewed if land use changes? No		
Monitoring Wells Decommissioned N/A	Number Decommissioned N/A	Number Retained N/A
List Enforcement Actions Taken None		
List Enforcement Actions Rescinded None		

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:


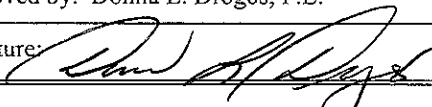
Residual benzene vapor concentrations in soil (114 ug/m3) exceed the RWQCB's ESL. The consultant RT Hicks determined that when compared with the Johnson and Ettinger model for soil vapor intrusion to an indoor residential scenario, then human health risk did not exceed 1.6E-06.

The SF-RWQCB is the lead agency providing oversight for cleanup of hexavalent chromium and HVOCs in groundwater.

Conclusion:

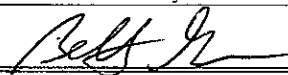
Alameda County Environmental Health staff believes that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment. ACEH staff recommend closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Eva Chu	Title: Hazardous Materials Specialist
Signature: 	Date: 5/3/04
Approved by: Donna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature: 	Date: 05/03/04

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

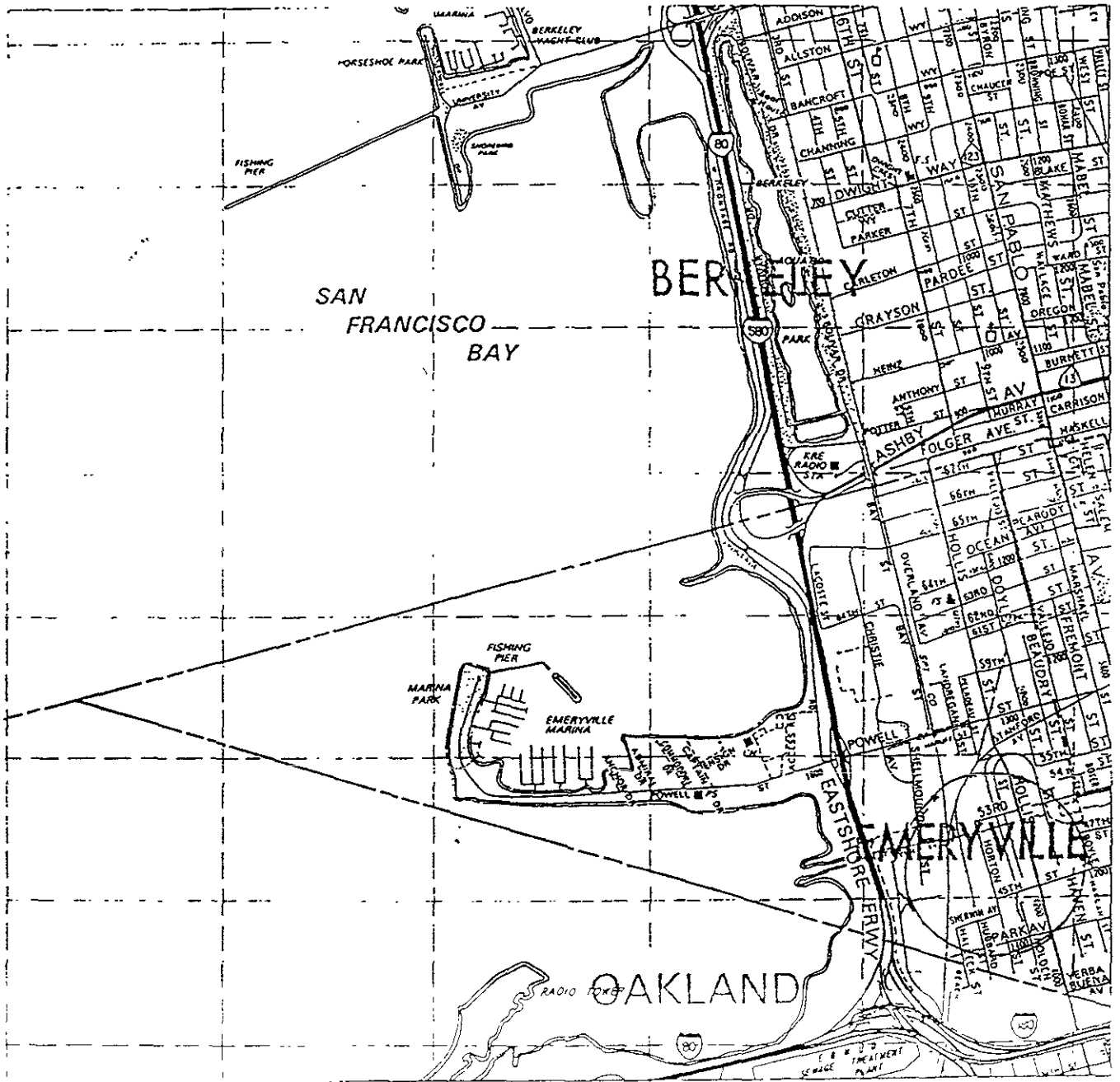
Regional Board Staff Name: Betty Graham	Title: Associate Water Resources Control Engineer
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB:
Signature: 	Date: 6/21/04

Attachments:

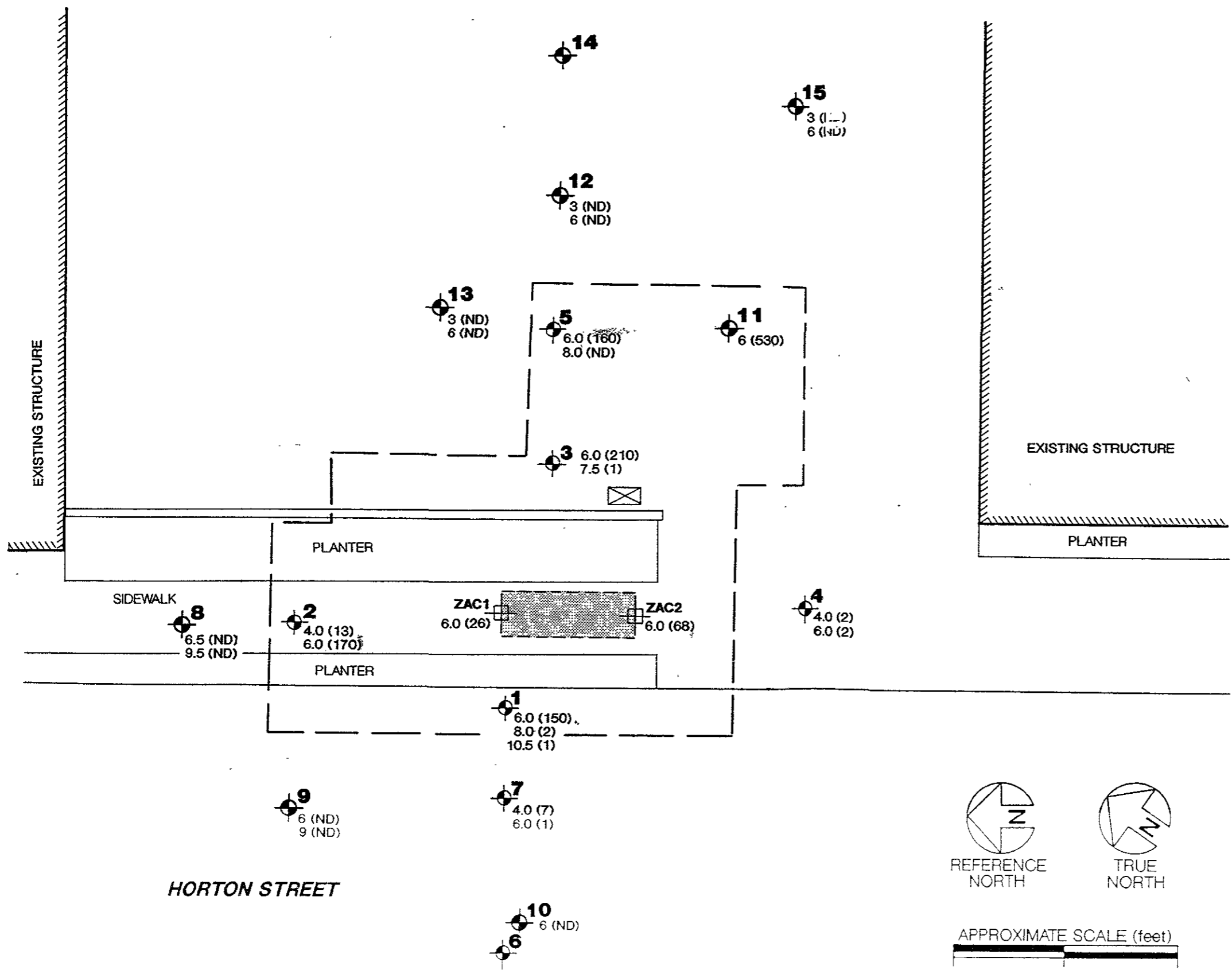
1. Site Vicinity Map
2. Site Plan with Sampling Locations, 1992 to 1996 (2pp)
3. Soil Analytical Data, 1990 to 1992 (2pp)
4. Grab Groundwater Analytical Results from Tank Pit, 1990 (2pp)
5. Confirmation Soil Analytical Results from 1994 Excavation
6. Groundwater Analytical Results from Soil Boring B-16 and Monitoring Well
7. Site Plan with Soil Vapor Sample Locations
8. Soil, Groundwater, and Air Analytical Results from 2003 Investigation (5pp)
9. Piezometric Surface Contour Map
10. Soil Boring Logs (9pp)

This document is the official CASE CLOSURE LETTER and is dated by electronic signature as per the official site file.

PLYWOOD LUMBER AND SALES
4050 HORTON STREET
EMERYVILLE, CA



North
|



ZACCOR SOIL SAMPLE LOCATION FOLLOWING TANK REMOVAL

TEST BORING

APPROXIMATE LOCATION OF FORMER TANK

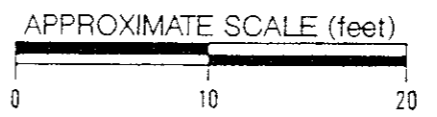
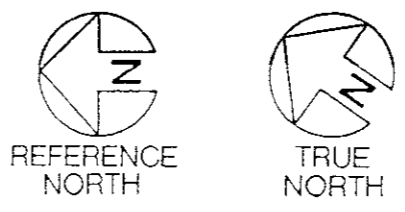
APPROXIMATE EXTENT OF GASOLINE CONTAMINATION, >10mg/kg

6.0 (50)

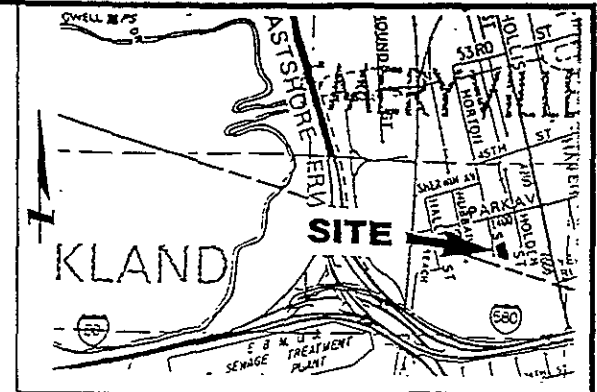
GASOLINE CONCENTRATION (mg/kg)

DEPTH (feet)

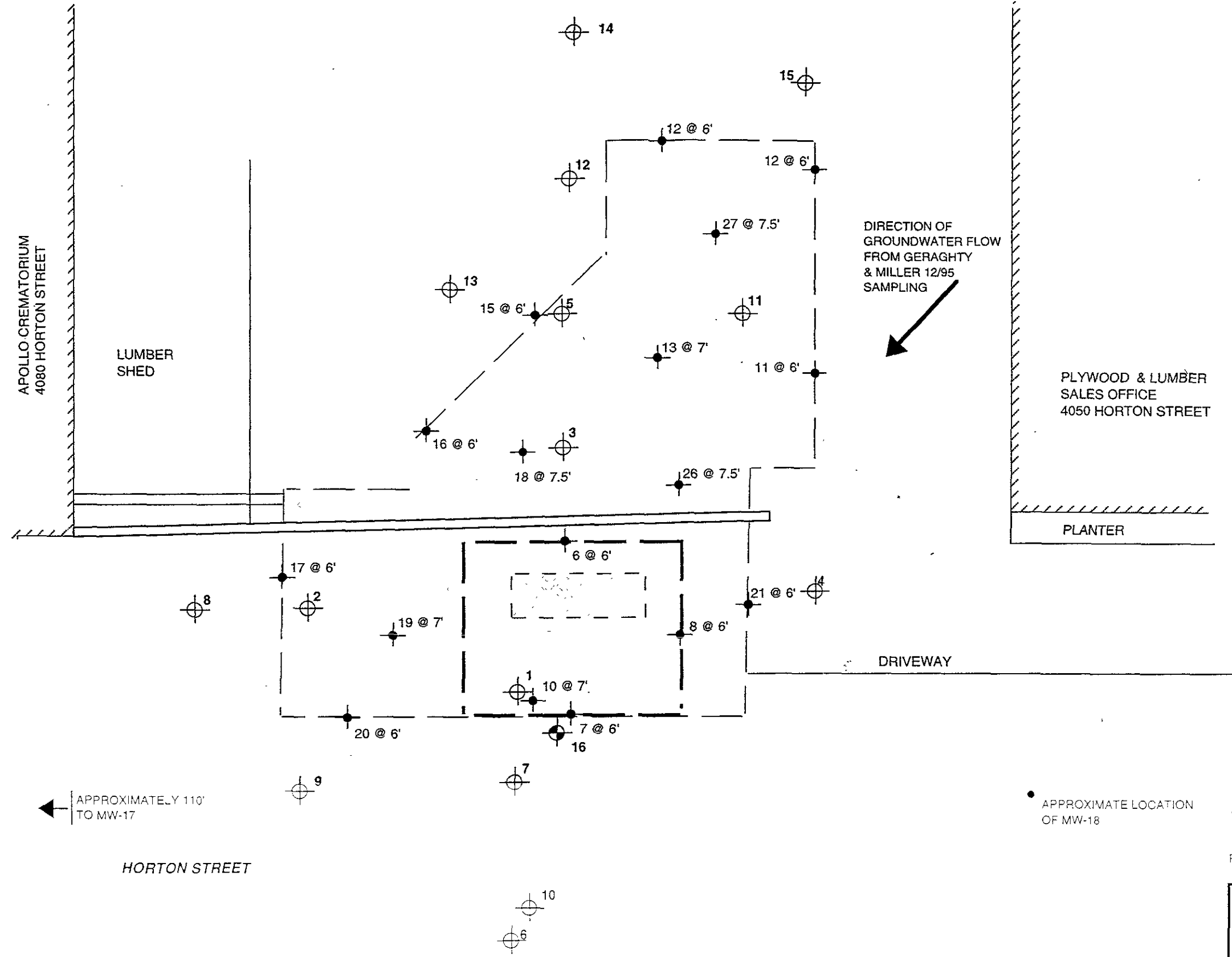
ND NOT DETECTED



GASOLINE CONCENTRATIONS IN SOIL		
4050 HORTON STREET - EMERYVILLE, CA		
JOB NUMBER	DATE	APPROVED
851.001	8/23/93	<i>ME</i>
Subsurface Consultants		PLATE 12



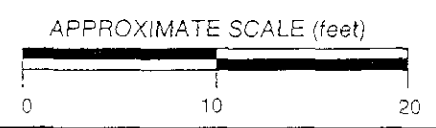
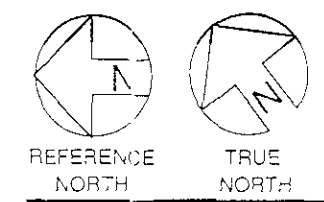
VICINITY MAP



EXPLANATION	
	CONFIRMATION SAMPLE 6/94
	TEST BORING 6/92
	TEST BORING 1/95 1/96
	APPROXIMATE LOCATION OF FORMER TANK EXCAVATION TO 9' DEEP
	APPROXIMATE EXTENT OF LEAD CONTAMINATED SOIL EXCAVATION TO 7' DEEP
	APPROXIMATE EXTENT OF GASOLINE CONTAMINATED SOIL EXCAVATION TO 7.5' DEEP
	26 @ 7.5' SAMPLE DEPTH IN FEET
	SAMPLE NUMBER

← APPROXIMATELY 110' TO MW-17

● APPROXIMATE LOCATION OF MW-18



SITE PLAN		
2080 HORTON STREET EMERYVILLE, CALIFORNIA		PLATE 1
PROJECT NUMBER 851.002	DATE 1/29/96	APPROVED <i>[Signature]</i>

Subsurface Consultants

Table 1
Hydrocarbon Concentrations in Soil

Boring	Depth (feet)	Oil and Grease (mg/kg) ³	TEH ¹ (mg/kg)	TVH ² (mg/kg)	Benzene (ug/kg) ⁴	Toluene (ug/kg)	Ethyl-Benzene (ug/kg)	Xylene (ug/kg)
Zac 1 ⁶	6.0	177	<10	26	2200	1600	310	540
Zac 2	6.0	<30	44	68	130	240	450	1100
1	6.0	<60	<30	150	5300	5100	5500	17000
1	8.0	<50	<1	2	43	15	7	15
1	10.5	<50	<1	1	30	24	<5	9
2	4.0	<50	3	13	<250 ⁵	29	180	220
2	6.0	<50	34	170	<400	420	1300	1500
3	6.0	170	57	210	570	<400	2100	950
3	7.5	<50	<1	1	<5	6	<5	5
4	4.0	<50	<1	2	14	5	<5	9
4	6.0	<50	<1	2	14	<5	<5	6
5	6.0	<50	4	160	<200	490	630	<200
5	8.0	<50	<1	<1	<5	11	<5	<5
7	4.0	<50	7	7	120	68	4	270
7	6.0	<50	<1	1	270	28	<5	12
8	6.5	---	<1	<1	<5	<5	<5	<5
8	9.5	---	---	<1	---	---	---	---
9	6	---	<1	<1	<5	<5	<5	<5
9	9	---	---	<1	---	---	---	---
10	6	---	---	<1	<5	<5	<5	<5
11	6	---	---	530	---	---	---	---
12	3	---	---	<1	---	---	---	---
12	6	---	---	<1	<5	<5	<5	<5
13	3	---	---	<1	---	---	---	---
13	6	---	---	<1	<5	<5	<5	<5
15	3	---	---	<1	---	---	---	---
15	6	---	---	<1	<5	<5	<5	<5

¹ TEH = Total extractable hydrocarbons, as diesel
² TVH = Total volatile hydrocarbons, as gasoline
³ mg/kg = milligrams per kilogram
⁴ ug/kg = micrograms per kilogram
⁵ Test not requested
⁶ Samples obtained by Zaccor, Inc. following tank removal

**Table 2
Heavy Metal Concentrations in Soil**

<u>Boring</u>	<u>Depth (feet)</u>	<u>Cadmium (mg/kg)¹</u>	<u>Chromium (total) (mg/kg)</u>	<u>Lead (mg/kg)</u>	<u>Nickel (mg/kg)</u>	<u>Zinc (mg/kg)</u>
Zac 1	6.0	0.34	28.1	61	46.6	179
Zac 2	6.0	<0.25	30.5	6.6	27.9	29.1
1	6.0	1.3	33.3	76.1	44.7	421
2	4.0	0.32	36.8	5	35.0	37
3	6.0	<0.25	33.1	5	30.6	171
4	4.0	<0.25	36.6	4	32.3	45
5	6.0	<0.25	36.0	3	28.5	30

**Table 3
Volatile Organic Chemical Concentrations in Soil**

<u>Boring</u>	<u>Depth (feet)</u>	<u>1,2 DCA² (ug/kg)³</u>	<u>EPA 8010 Chemicals (mg/kg)</u>
Zac 1	6.0	<50	ND ⁴
Zac 2	6.0	2.2	ND
1	6.0	<250	ND
2	4.0	<10	ND
3	6.0	<250	ND
4	4.0	<5	ND
5	6.0	<25	ND

¹ mg/kg = milligrams per kilogram

² 1,2-dichloroethane

³ micrograms per kilograms

⁴ not detected above the reporting limits

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anamatrix W.O.: 9012085
Matrix : WATER
Date Sampled : 12/10/90

Project Number : Z0121090M1
Date Released : 12/27/90

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# #3	Sample I.D.# 12B1217B
Benzene	0.5	11000	ND
Toluene	0.5	10000	ND
Ethylbenzene	0.5	ND	ND
Total Xylenes	0.5	4800	ND
TPH as Gasoline	50	200000	ND
% Surrogate Recovery		123%	97%
Instrument I.D.		HP12	HP12
Date Analyzed		12/17/90	12/17/90
RLMF		2500	1

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.
- RLMF - Reporting Limit Multiplication Factor.
Anamatrix control limits for surrogate recovery are 50-150%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst [Signature] 12-27-90
Date

Supervisor [Signature] 12-27-90
Date

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 601/8010
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : Z0121090M1 #3
 Matrix : WATER
 Date sampled : 12/10/90
 Date analyzed: 12/17/90
 Dilution : 100

Anamatrix I.D. : 9012085-03
 Analyst : *AK*
 Supervisor : *CS*
 Date released : 12/27/90
 Instrument ID : HP24

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	100	ND
74-83-9	* Bromomethane	50	ND
75-71-8	* Dichlorodifluoromethane	100	ND
75-01-4	* Vinyl Chloride	50	ND
75-00-3	* Chloroethane	50	ND
75-09-2	* Methylene Chloride	50	ND
75-69-4	* Trichlorofluoromethane	50	ND
75-35-4	* 1,1-Dichloroethene	50	ND
75-34-3	* 1,1-Dichloroethane	50	ND
156-59-2	# Cis-1,2-Dichloroethene	50	ND
156-60-5	* Trans-1,2-Dichloroethene	50	ND
67-66-3	* Chloroform	50	ND
76-13-1	# Trichlorotrifluoroethane	50	ND
107-06-2	* 1,2-Dichloroethane	50	ND
71-55-6	* 1,1,1-Trichloroethane	50	ND
56-23-5	* Carbon Tetrachloride	50	ND
75-27-4	* Bromodichloromethane	50	ND
78-87-5	* 1,2-Dichloropropane	50	ND
10061-02-6	* Trans-1,3-Dichloropropene	50	ND
79-01-6	* Trichloroethene	50	ND
124-48-1	* Dibromochloromethane	50	ND
79-00-5	* 1,1,2-Trichloroethane	50	ND
10061-01-5	* cis-1,3-Dichloropropene	50	ND
110-75-8	* 2-Chloroethylvinylether	100	ND
75-25-2	* Bromoform	50	ND
127-18-4	* Tetrachloroethene	50	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	50	ND
108-90-7	* Chlorobenzene	50	ND
95-50-1	* 1,2-Dichlorobenzene	100	ND
541-73-1	* 1,3-Dichlorobenzene	100	ND
106-46-7	* 1,4-Dichlorobenzene	100	ND
% Surrogate Recovery		51-136%	105%

180

ND : Not detected at or above the practical quantitation limit for the method.
 * A 601/8010 approved compound (Federal Register, 10/26/84).
 # A compound added by Anamatrix, Inc.

**Table 1.
Petroleum Hydrocarbon Contaminant Concentrations in Soil**

Sample	Depth (feet)	O & G (mg/kg)	TEH (mg/kg)	TVH (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl Benzene (µg/kg)	Total Xylenes (µg/kg)	Total Lead (mg/kg)	STLC Lead (µg/l)	TCLP Lead (µg/l)
--------	--------------	---------------	-------------	-------------	-----------------	-----------------	-----------------------	-----------------------	--------------------	------------------	------------------

Excavation Samples

7	6	<50	<1	<1	<5	<5	<5	<5	<5	-	-
9*	7	<50	12	49	31	27	150	180	<5	-	-
10	7	<50	<1	<1	<5	<5	<5	<5	<5	-	-
11	6	<50	<1	<1	<5	<5	<5	<5	-	-	-
12	6	<50	<1	<1	<5	<5	<5	<5	-	-	-
13	7	<50	<1	<1	<5	<5	<5	<5	-	-	-
14	6	<50	<1	<1	<5	<5	<5	<5	-	-	-
15	6	<50	<1	<1	<5	<5	<5	<5	-	-	-
16	6	<50	<1	<1	<5	<5	<5	<5	-	-	-
17	6	<50	<1	<1	<5	<5	<5	<5	-	-	-
18	7.5	<50	<1	<1	85	<5	8	<5	-	-	-
19	7	<50	<1	<1	<5	<5	<5	11	-	-	-
20	6	<50	<1	<1	<5	<5	<5	<5	-	-	-
21	6	<50	<1	<1	<5	<5	<5	<5	-	-	-
26	7.5	<50	<1	<1	<5	<5	<5	<5	-	-	-
27	7.5	<50	<1	<1	<5	<5	<5	<5	-	-	-
28	9	50	<1	<1	44	<5	<5	<5	-	-	-

Stockpile Samples

Composite 1		-	-	17	64	39	140	230	390	22,000	1,100
Composite 2		-	-	<1	<5	<5	<5	<5	24	-	-
5	6	-	-	-	-	-	-	-	<5	-	-
6	6	-	-	-	-	-	-	-	63	-	-
8	6	-	-	-	-	-	-	-	<5	-	-

O & G = Oil & Grease

TEH = Total Extractable Hydrocarbons, as kerosene

TVH = Total Volatile Hydrocarbons

mg/kg = Milligrams per kilogram

µg/kg = Micrograms per kilogram

Composite 1 = Composite of Samples 1, 2, 3 and 4

Composite 2 = Composite of Samples 22, 23, 24 and 25

* = Subsequently removed by supplemental excavation

STLC = Soluble Threshold Limit Concentration

TCLP = Toxicity Characteristic Leaching Potential

Table 2
Chemical Concentrations in Groundwater

<u>Sample</u>	<u>Date</u>	<u>O&G</u> <u>(mg/l)</u>	<u>TPH-d</u> <u>(ug/l)</u>	<u>TPH-g</u> <u>(ug/l)</u>	<u>Benzene</u> <u>(ug/l)</u>	<u>Toluene</u> <u>(ug/l)</u>	<u>Ethyl-</u> <u>benzene</u> <u>(ug/l)</u>	<u>Xylene</u> <u>(ug/l)</u>	<u>PCE</u> <u>(ug/l)</u>	<u>TCE</u> <u>(ug/l)</u>	<u>1,1-DCE</u> <u>(ug/l)</u>	<u>cis-</u> <u>1,2-DCE</u> <u>(ug/l)</u>	<u>trans-</u> <u>1,2-DCE</u> <u>(ug/l)</u>	<u>1,1,1-TCA</u> <u>(ug/l)</u>	<u>Acetone</u> <u>(ug/l)</u>	<u>2-</u> <u>Butanone</u> <u>(ug/l)</u>	<u>Dissolved**</u> <u>Chromium</u> <u>(ug/l)</u>	<u>Dissolved**</u> <u>Lead</u> <u>(ug/l)</u>
<u>2080 Horton Street Investigation</u>																		
B-16	Jan-96	<5	600*	1100	60	19	19	34	8.5	190	8.1	23	14	7	15	8.3	56,000	<3
<u>Electro-Coatings Investigation</u>																		
MW-17	Dec-95	NA	NA	NA	NA	NA	NA	NA	13	360	38	24	<10	<10	NA	NA	160,000	NA
MW-18	Dec-95	NA	NA	NA	NA	NA	NA	NA	<10	280	<10	18	<10	<10	NA	NA	20,000	NA

Notes.

O&G = Oil and grease, SMWW 17 5520 EF

TPH-d = Total petroleum hydrocarbons as diesel, EPA 8015 modified

TPH-g = Total petroleum hydrocarbons as gasoline, EPA 8015 modified

PCE = Tetrachloroethene

TCE = Trichloroethene

1,1-DCE = 1,1-Dichloroethene

cis-1,2-DCE = cis-1,2-Dichloroethene

trans-1,2-DCE = trans-1,2-Dichloroethene

1,1,1-TCA = 1,1,1-Trichloroethane

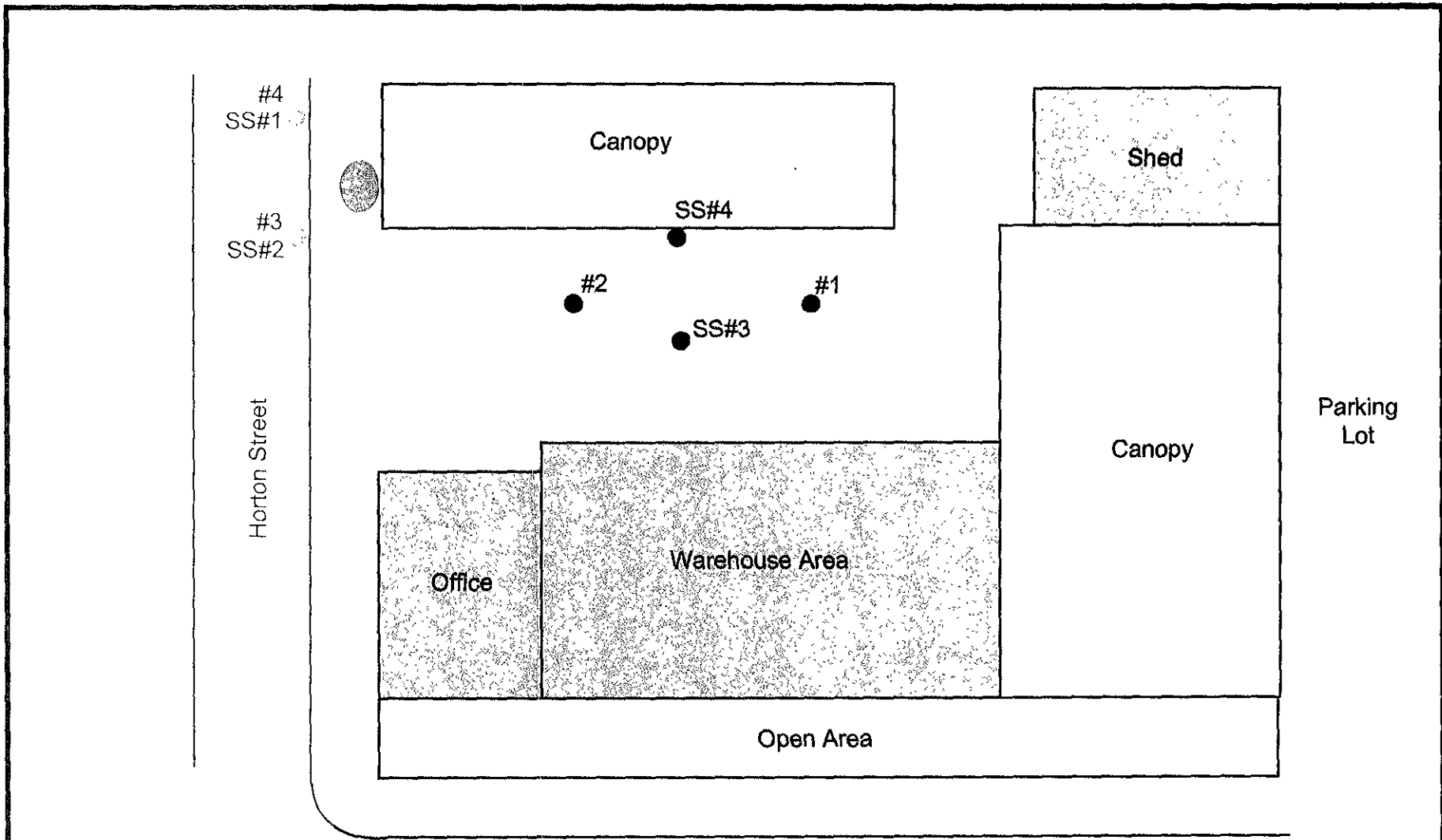
ug/l = micrograms per liter

NA = Not analyzed

<0.5 = Analyte not detected above the stated laboratory reporting limit

* = Sample exhibits fuel pattern which does not resemble standard

** = Sample was filtered by the laboratory prior to analysis



Legend	
●	Boring Locations
○	Former UST Location

R T. HICKS CONSULTANTS, LTD. 901 Rio Grande Blvd. NW Suite F-142 Albuquerque, NM 87104 505.266.5004 Fax 505.268.0745	PALS - 4050 Horton St. UST Closure	Plate 1
	Soil Boring Location Map	April 2004

Soil - ug/Kg		RL	ESL		
SS#1-5ft	Gasoline C7-C12 (mg/Kg)	79	1.9	100	
	Benzene	57	23	44	
	Toluene	62	23	2900	
	Ethylbenzene	890	250	3300	
	m,p-xylenes	1200	23	1500 not available	
	o-Xylene	43	23		
	Isopropylbenzene	210	23		
	Propylbenzene	810	23		
	1, 3, 5-Trimethylbenzene	2400	250		
	1, 2, 4-Trimethylbenzene	7900	250		
	sec-Butylbenzene	100	23		
	para-Isopropyl Toluene	51	23		
	n-Butylbenzene	450	23		
	Naphthalene	1700	250		4200
	Hexavalent Chromium	ND	50		1800
	MTBE	ND	23		23
SS#1-10ft	Gasoline C7-C12 (mg/Kg)	ND	1		100
	Methylene Chloride	58	19		77
	Hexavalent Chromium	2800	1200	1800	
	MTBE	ND	4.6	23	
	Benzene	ND	4.6	44	
	Toluene	ND	4.6	2900	
	Ethylbenzene	ND	4.6	3300	
	m, p-xylenes	ND	4.6	1500	
	o-xylene	ND	4.6	4200	
	Naphthalene	ND	4.6	4200	
SS#1-15ft	Gasoline C7-C12 (mg/Kg)	ND	1	100	
	Methylene Chloride	170	20	77	
	Hexavalent Chromium	6500	240	1800	
	MTBE	ND	5	23	
	Benzene	ND	5	44	
	Toluene	ND	5	2900	
	Ethylbenzene	ND	5	3300	
	m, p-xylenes	ND	5	1500	
	o-xylene	ND	5	4200	
	Naphthalene	ND	5	4200	

SS#2-5ft	Gasoline C7-C12 (mg/Kg)	ND	1	100
	Methylene Chloride	63	19	77
	Hexavalent Chromium	ND	50	1800
	MTBE	ND	4.6	23
	Benzene	ND	4.6	44
	Toluene	ND	4.6	2900
	Ethylbenzene	ND	4.6	3300
	m, p-xylenes	ND	4.6	1500
	o -xylene	ND	4.6	
	Naphthalene	ND	4.6	4200
	SS#2-10ft	Gasoline C7-C12 (mg/Kg)	ND	1
Methylene Chloride		59	19	77
Hexavalent Chromium		900	50	1800
MTBE		ND	4.8	23
Benzene		ND	4.8	44
Toluene		ND	4.8	2900
Ethylbenzene		ND	4.8	3300
m, p-xylenes		ND	4.8	1500
o -xylene		ND	4.8	
Naphthalene		ND	4.8	4200
SS#2-15ft		Gasoline C7-C12 (mg/Kg)	ND	1
	Methylene Chloride	75	20	77
	Hexavalent Chromium	2800	160	1804
	MTBE	ND	4.9	23
	Benzene	ND	4.9	44
	Toluene	ND	4.9	2900
	Ethylbenzene	ND	4.9	3300
	m, p-xylenes	ND	4.9	1500
	o -xylene	ND	4.9	
	Naphthalene	ND	4.9	4200
	SS#3-5ft	Gasoline C7-C12 (mg/Kg)	ND	1
Acetone		24	19	235
Methylene Chloride		74	19	77
Hexavalent Chromium		ND	0.05	1804
MTBE		ND	4.8	23
Benzene		ND	4.8	44
Toluene		ND	4.8	2900
Ethylbenzene		ND	4.8	3300
m, p-xylenes		ND	4.8	1500
o -xylene		ND	4.8	
Naphthalene		ND	4.8	4200
SS#3-10ft	Gasoline C7-C12 (mg/Kg)	ND	1	100
	Methylene Chloride	89	18	77
	Hexavalent Chromium	4100	120	1804

MTBE	ND	4.5	23
Benzene	ND	4.5	44
Toluene	ND	4.5	2900
Ethylbenzene	ND	4.5	3300
m, p-xylenes	ND	4.5	1500
o-xylene	ND	4.5	
Naphthalene	ND	4.5	4200

Sample	Analyte	Result	RL	ESL
Water ug/L				
SS1	Gasoline C7-C12	110	50	100
SS1	trans-1, 2-Dichloroethene	6.5	5	10
SS1	cis-1, 2-Dichloropropane	31	5	6
SS1	Trichloroethene	98	5	5
SS1	Tetrachloroethene	7.7	5	5
SS1	Hexavalent Chromium	9900	240	11
SS1	MTBE	ND	5	5
SS1	Benzene	ND	5	1
SS1	Toluene	ND	5	4
SS1	Ethylbenzene	ND	5	3
SS1	m, p-xylenes	ND	5	1.3
SS1	o-xylene	ND	5	1.3
SS1	Naphthalene	ND	5	2.1
SS2	Gasoline C7-C12	ND	50	100
SS2	trans-1, 2-Dichloroethene	6	5	10
SS2	cis-1, 2-Dichloropropane	26	5	6
SS2	Trichloroethene	68	5	5
SS2	Tetrachloroethene	7.2	5	5
SS2	Hexavalent Chromium	14000	240	11
SS2	MTBE	ND	5	5
SS2	Benzene	ND	5	1
SS2	Toluene	ND	5	4
SS2	Ethylbenzene	ND	5	3
SS2	m, p-xylenes	ND	5	1.3
SS2	o-xylene	ND	5	1.3
SS2	Naphthalene	ND	5	2.1
SS3	trans-1, 2-Dichloroethene	8.8	5	10
SS3	cis-1, 2-Dichloroethene	32	5	6
SS3	Trichloroethene	36	5	5
SS3	Hexavalent Chromium	6600	240	11
SS3	MTBE	ND	5	5
SS3	Benzene	ND	5	1
SS3	Toluene	ND	5	4
SS3	Ethylbenzene	ND	5	3
SS3	m, p-xylenes	ND	5	1.3
SS3	o-xylene	ND	5	1.3
SS3	Naphthalene	ND	5	2.1

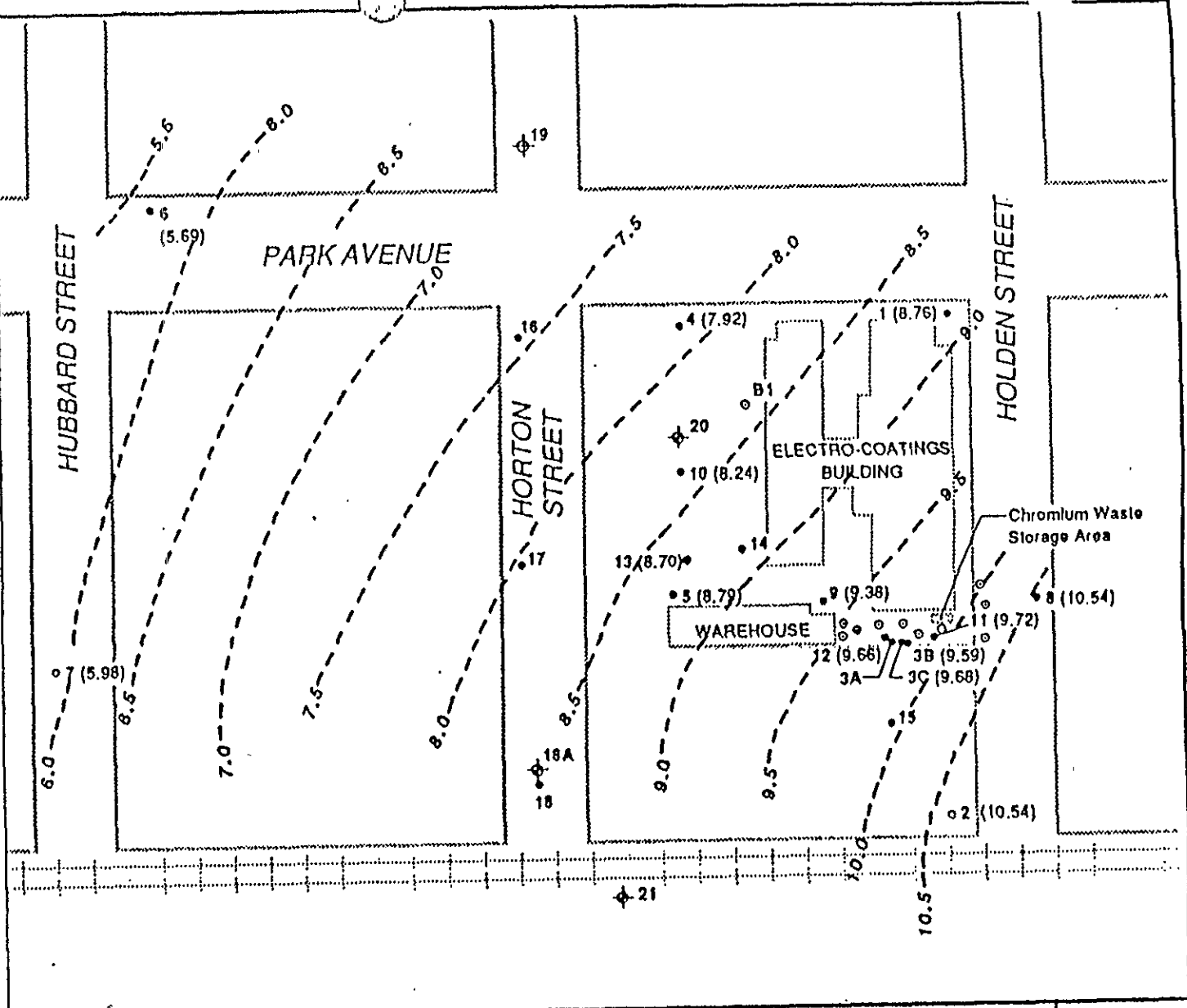
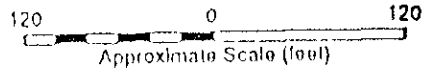
AIR SAMPLES

Sample	Analyte	Result	ESL
Air ug/m ³			
#1	Dichlorodifluoromethane	2.5	
	Chloromethane	1.04	1352
	m, p-Xylene	177	20857
	o-xylene	66.7	
	Toluene	115	83429
	Benzene	19.8	84
	Ethylbenzene	110	2212
	Methyl-t-butyl ether	27.9	9359
#2	Dichlorodifluoromethane	2.5	
	Chloromethane	1.04	1352
	m, p-Xylene	221	20857
	o-xylene	50.8	
	Toluene	82	83429
	Benzene	114	84
	Ethylbenzene	86.6	2212
	Methyl-t-butyl ether	9.17	9359
#3	Dichlorodifluoromethane	2.5	
	m, p-Xylene	398	20857
	o-xylene	57.4	
	Toluene	73.2	83429
	Ethylbenzene	265	2212
	Methyl-t-butyl ether	8.8	9359
#4	Chloromethane	2.4	1352
	m, p-Xylene	287	20857
	o-xylene	132	
	Toluene	460	83429
	Ethylbenzene	309	2212

LEGEND

- ELECTRO-COATINGS, INC., PROPERTY LINE
- 1 WELLS INSTALLED BY PREVIOUS INVESTIGATORS
- ◊ 20 WELLS INSTALLED BY KLEINFELDER AS OF 1985
- 2 WELLS INSTALLED BY PREVIOUS INVESTIGATORS THAT COULD NOT BE LOCATED AS OF FEBRUARY 1991
- ◊ 19 WELLS INSTALLED BY KLEINFELDER THAT COULD NOT BE LOCATED AS OF FEBRUARY 1991
- B1 SOIL BORING
- (5.90) GROUND WATER SURFACE ELEVATION (feet)
- - - 6.5 GROUND WATER SURFACE ELEVATION CONTOUR (feet)

NOTE: Ground water elevations are based on an arbitrary survey datum



INFERRED PIEZOMETRIC SURFACE CONTOUR MAP FOR SHALLOW WATER BEARING ZONE, JANUARY 1981

ELECTRO-COATINGS, INC.
1401 PARK AVENUE
EMERYVILLE, CALIFORNIA

DRAFTED BY: L. Sue/L. Lalman DATE: 4-17-91

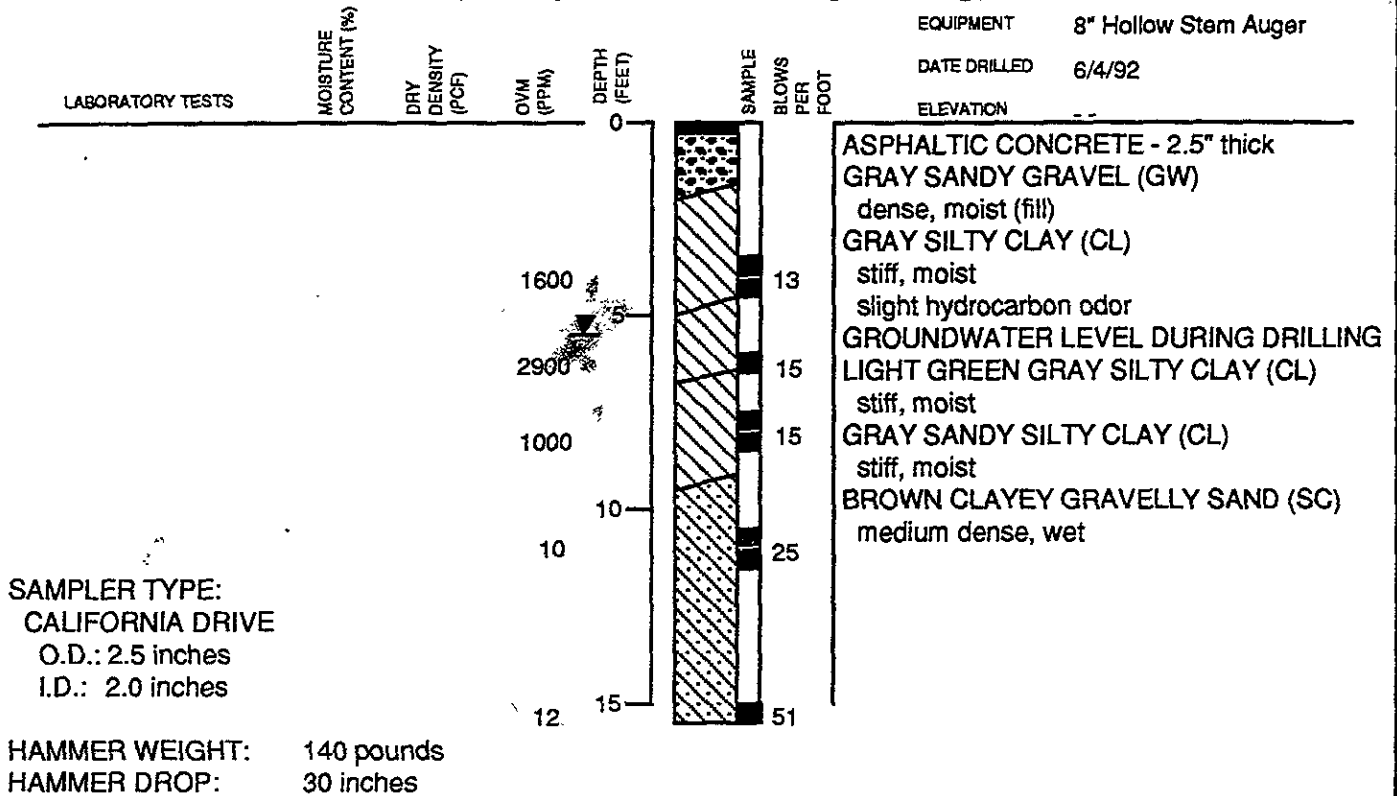
CHECKED BY: J. Romlo DATE: 4-23-91

PROJECT NO. 10-2200-01

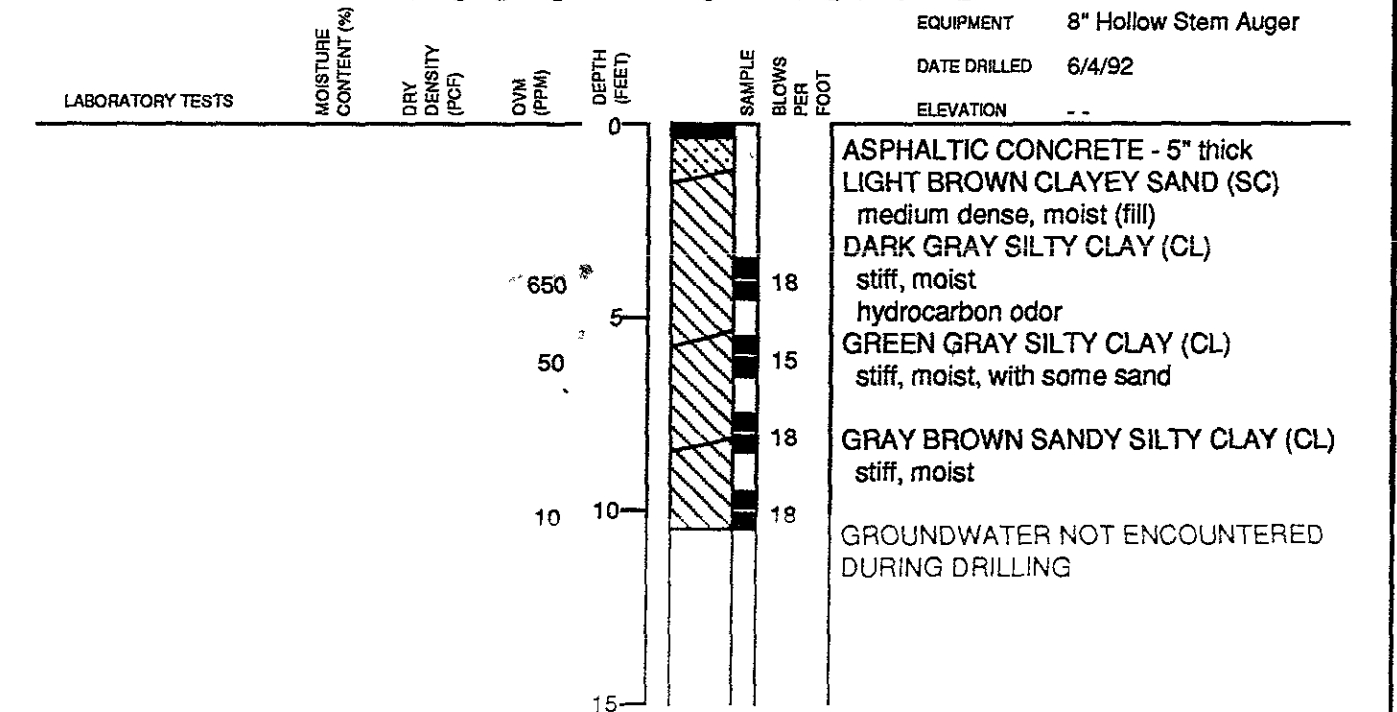
PLATE

6

LOG OF TEST BORING 1



LOG OF TEST BORING 2



Subsurface Consultants

4050 HORTON STREET - EMERYVILLE, CA

PLATE

JOB NUMBER
851.001

DATE
6/24/92

APPROVED
mc

2

LOG OF TEST BORING 3

EQUIPMENT 8" Hollow Stem Auger

DATE DRILLED 6/4/92

ELEVATION --

LABORATORY TESTS

MOISTURE
CONTENT (%)

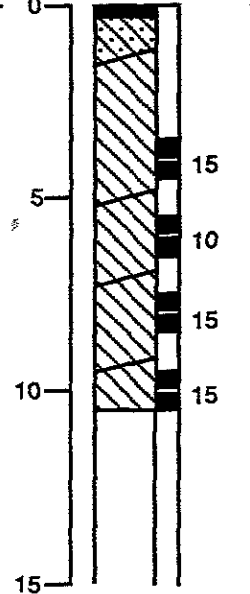
DRY
DENSITY
(PCF)

OVN
(PPM)

DEPTH
(FEET)

SAMPLE

BLOWS
PER
FOOT



ASPHALTIC CONCRETE - 4" thick
 LIGHT BROWN CLAYEY SAND (SC)
medium dense, moist (fill)
 strong hydrocarbon odor
 BLACK SILTY CLAY (CL)
stiff, moist
 GRAY SILTY CLAY (CL)
stiff, moist
 MOTTLED GRAY SILTY CLAY (CL)
stiff, moist
 slight hydrocarbon odor
 MOTTLED BROWN GRAY SANDY SILTY
 CLAY (CL)
stiff, moist

GROUNDWATER NOT ENCOUNTERED
 DURING DRILLING

LOG OF TEST BORING 4

EQUIPMENT 8" Hollow Stem Auger

DATE DRILLED 6/4/92

ELEVATION --

LABORATORY TESTS

MOISTURE
CONTENT (%)

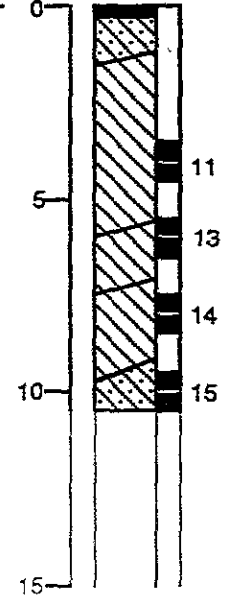
DRY
DENSITY
(PCF)

OVN
(PPM)

DEPTH
(FEET)

SAMPLE

BLOWS
PER
FOOT



CONCRETE SLAB - 3" thick
 LIGHT BROWN CLAYEY SAND (SC)
medium dense, moist (fill)
 BLACK SILTY CLAY (CL)
stiff, moist
 slight hydrocarbon odor
 DARK GRAY SILTY CLAY (CL)
stiff, moist
 GREEN GRAY SILTY CLAY (CL)
stiff, moist, with some fine sand
 LIGHT BROWN CLAYEY SAND (SC)
medium dense, moist, with some gravels

GROUNDWATER NOT ENCOUNTERED
 DURING DRILLING

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JOB NUMBER
851.001

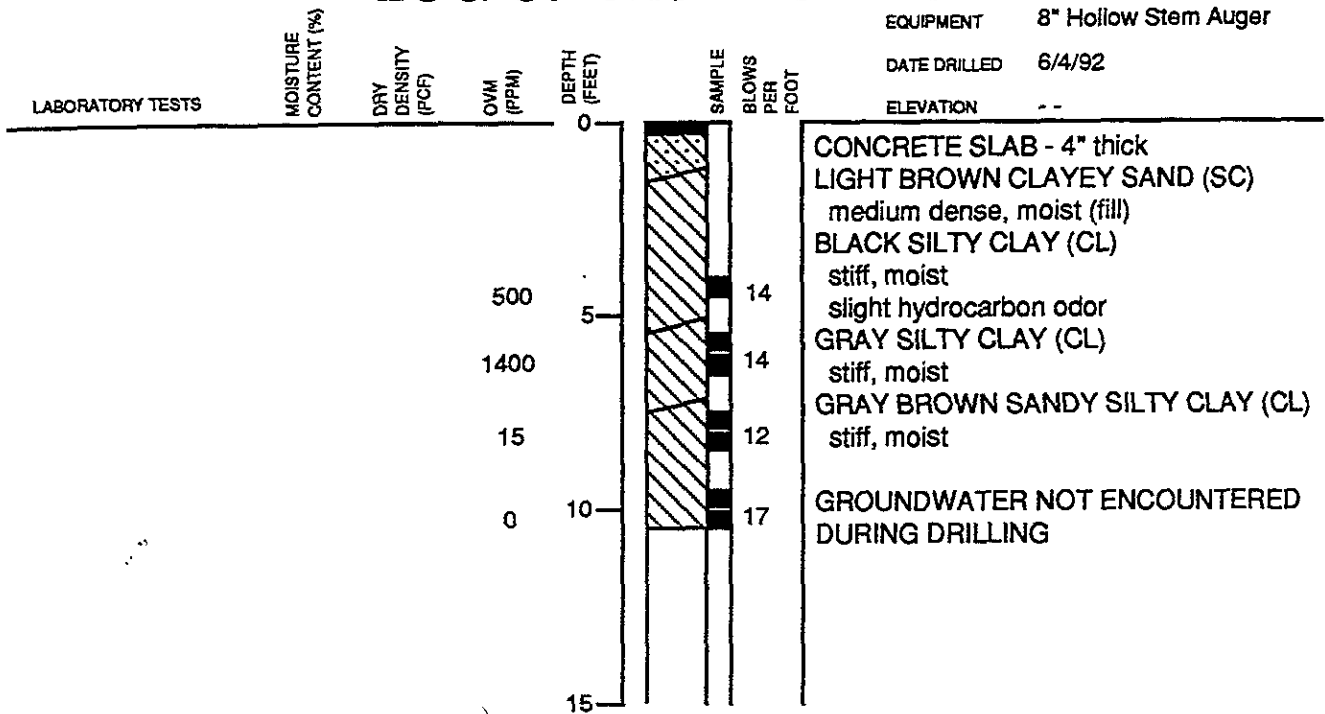
DATE
6/24/92

APPROVED
me

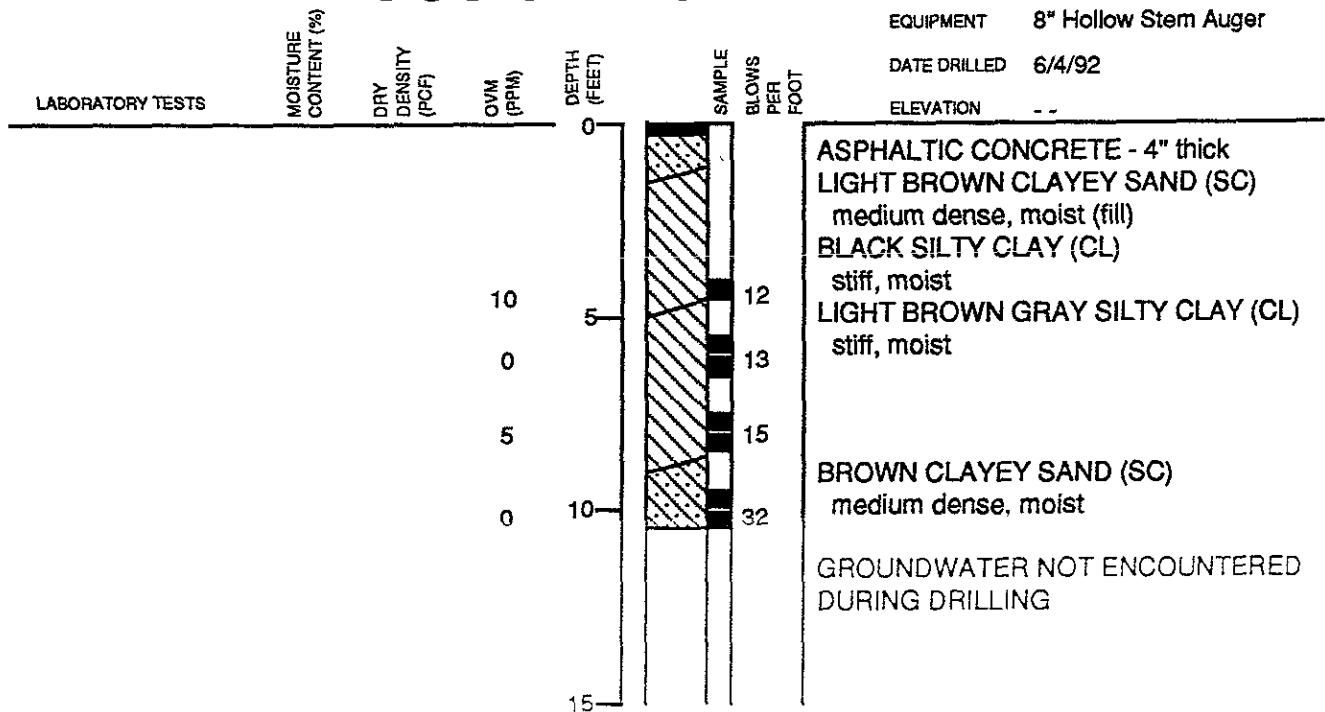
PLATE

3

LOG OF TEST BORING 5



LOG OF TEST BORING 6



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4050 HORTON STREET - EMERYVILLE, CA

JOB NUMBER
851.001

DATE
6/24/92

APPROVED
MC

PLATE

4

LOG OF TEST BORING 7

EQUIPMENT 8" Hollow Stem Auger

DATE DRILLED 6/4/92

ELEVATION --

LABORATORY TESTS

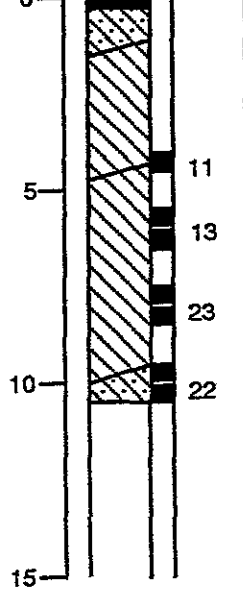
MOISTURE
CONTENT (%)

DRY
DENSITY
(PCF)

OMV
(PPM)

DEPTH
(FEET)

SAMPLE
BLOWS
PER
FOOT



ASPHALTIC CONCRETE - 4" thick
LIGHT BROWN CLAYEY SAND (SC)
medium dense, moist (fill)

BLACK SILTY CLAY (CL)
stiff, moist

GRAY BROWN SILTY CLAY (CL)
stiff, moist

BROWN CLAYEY GRAVELLY SAND (SC)
medium dense, moist

GROUNDWATER NOT ENCOUNTERED
DURING DRILLING

Subsurface Consultants

4050 HORTON STREET - EMERYVILLE, CA

JOB NUMBER
851.001

DATE
6/24/92

APPROVED
uc

PLATE

5

LOG OF TEST BORING 8

EQUIPMENT 8" Hollow Stem Auger

DATE DRILLED 6/18.93

ELEVATION --

LABORATORY TESTS

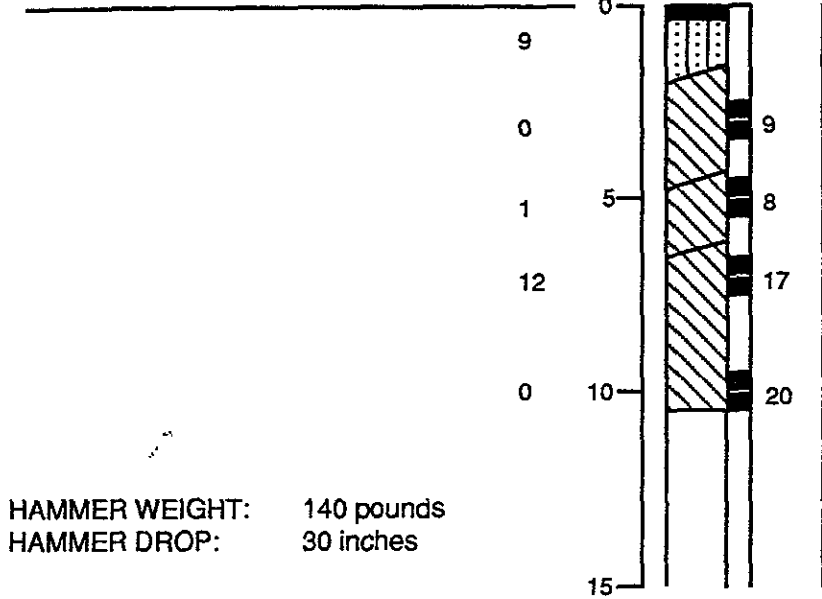
MOISTURE
CONTENT (%)

DRY
DENSITY
(PCF)

OVM
(PPM)

DEPTH
(FEET)

SAMPLE
BLOWS
PER
FOOT



CONCRETE SLAB - 5" thick
 LIGHT BROWN CLAYEY SAND (SM)
 medium dense, moist (fill)
 BLACK SILTY CLAY (CL)
 stiff, moist
 GRAY SILTY CLAY (CL)
 stiff, moist
 MOTTLED BROWN AND GRAY SILTY CLAY (CL)
 stiff, moist
 Boring backfilled with cement grout
 GROUNDWATER NOT ENCOUNTERED
 DURING DRILLING

HAMMER WEIGHT: 140 pounds
 HAMMER DROP: 30 inches

LOG OF TEST BORING 9

EQUIPMENT 8" Hollow Stem Auger

DATE DRILLED 6/18.93

ELEVATION --

LABORATORY TESTS

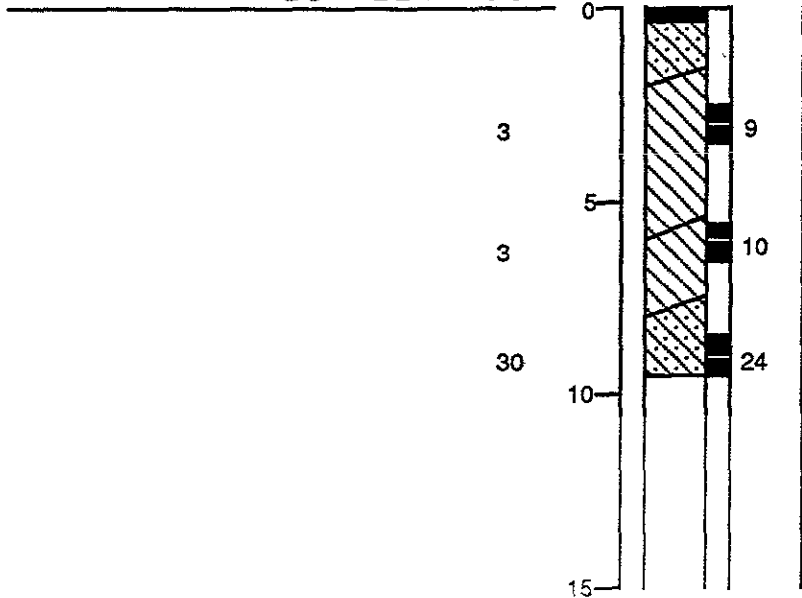
MOISTURE
CONTENT (%)

DRY
DENSITY
(PCF)

OVM
(PPM)

DEPTH
(FEET)

SAMPLE
BLOWS
PER
FOOT



ASPHALTIC CONCRETE - 4" thick
 LIGHT BROWN CLAYEY SAND (SC)
 medium dense, moist (fill)
 BLACK SILTY CLAY (CL)
 medium stiff, moist
 GRAY SILTY CLAY (CL)
 stiff, moist
 BROWN CLAYEY GRAVELLY SAND (SC)
 medium dense, moist
 Boring backfilled with cement grout
 GROUNDWATER NOT ENCOUNTERED
 DURING DRILLING

Subsurface Consultants

4050 HORTON STREET - EMERYVILLE, CA

PLATE

JOB NUMBER

DATE

APPROVED

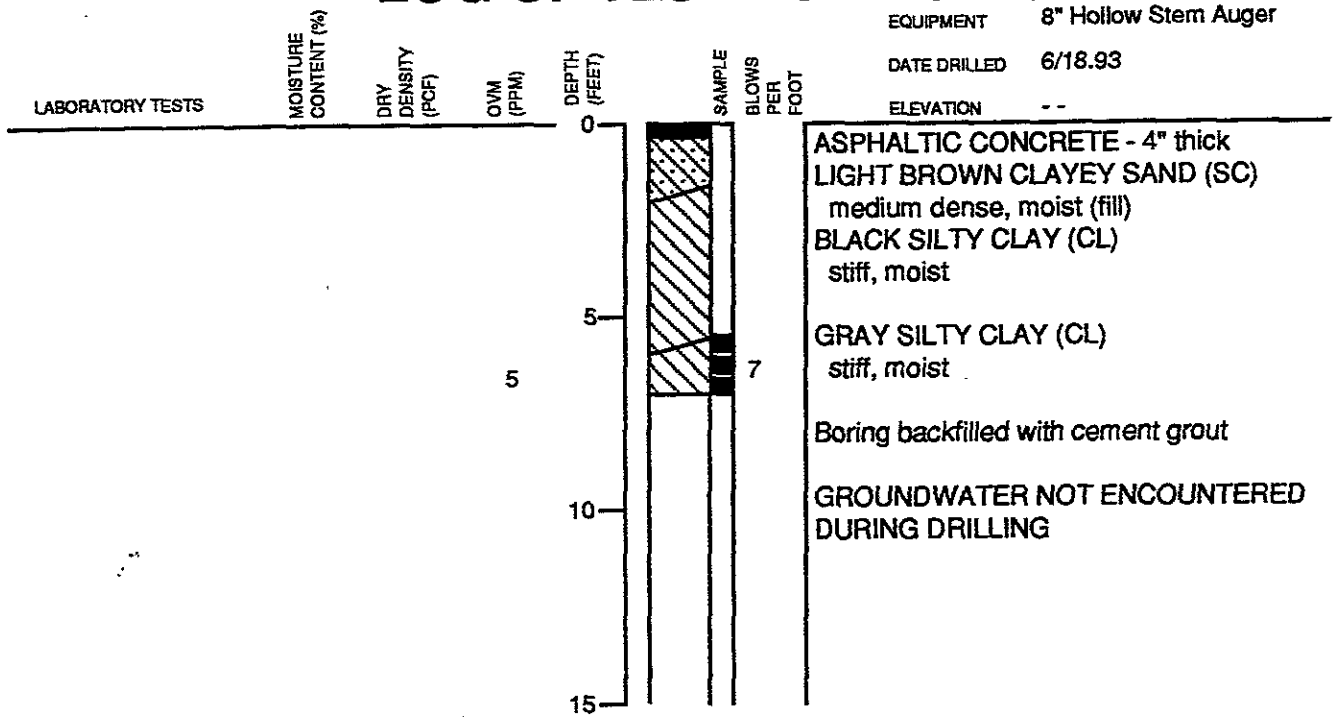
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6/21/93

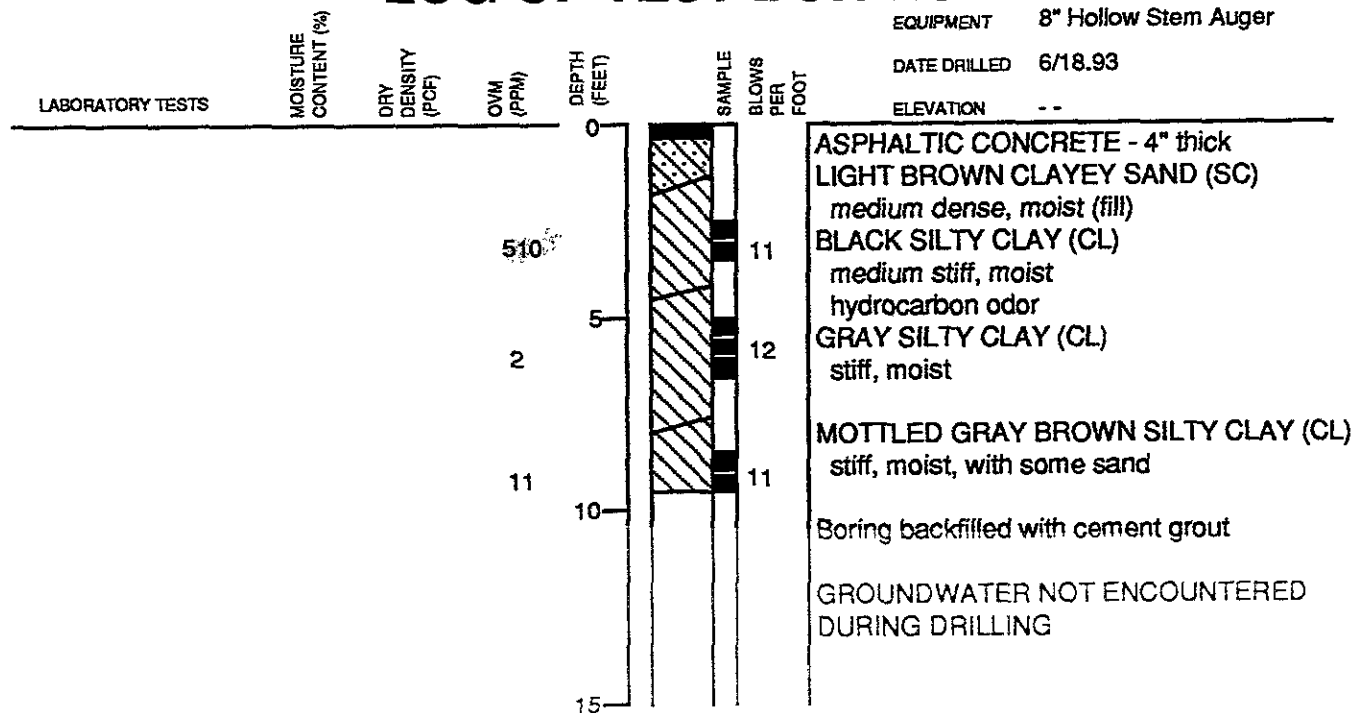
MC

6

LOG OF TEST BORING 10



LOG OF TEST BORING 11



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4050 HORTON STREET - EMERYVILLE, CA

PLATE

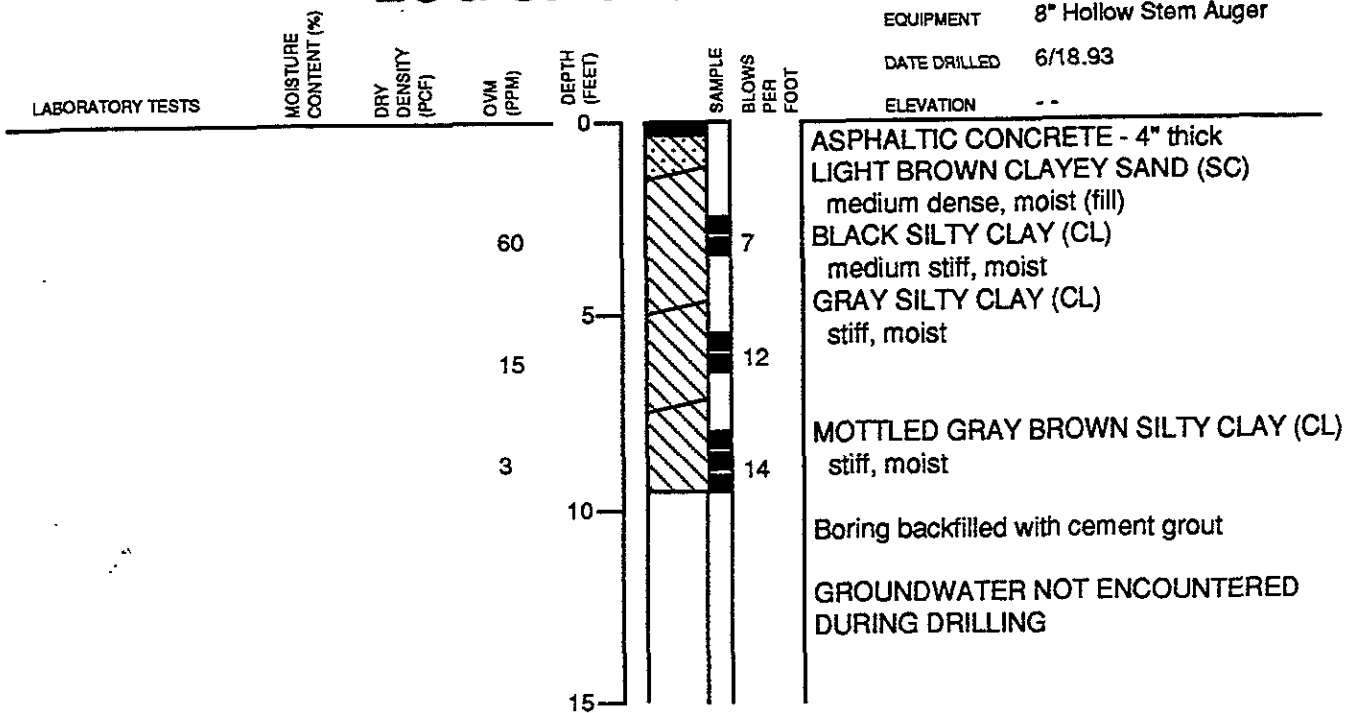
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DATE
6/21/93

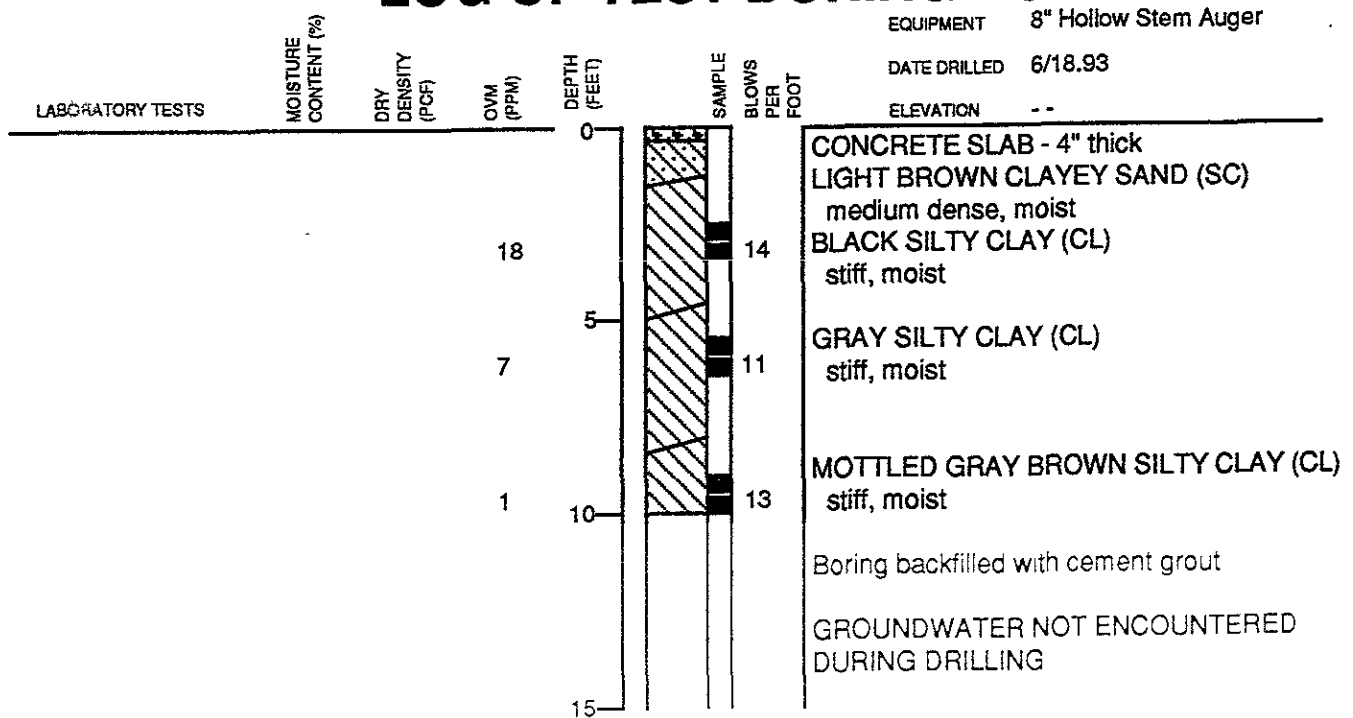
APPROVED
MC

7

LOG OF TEST BORING 12



LOG OF TEST BORING 13



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4050 HORTON STREET - EMERYVILLE, CA

PLATE

JOB NUMBER
851.001

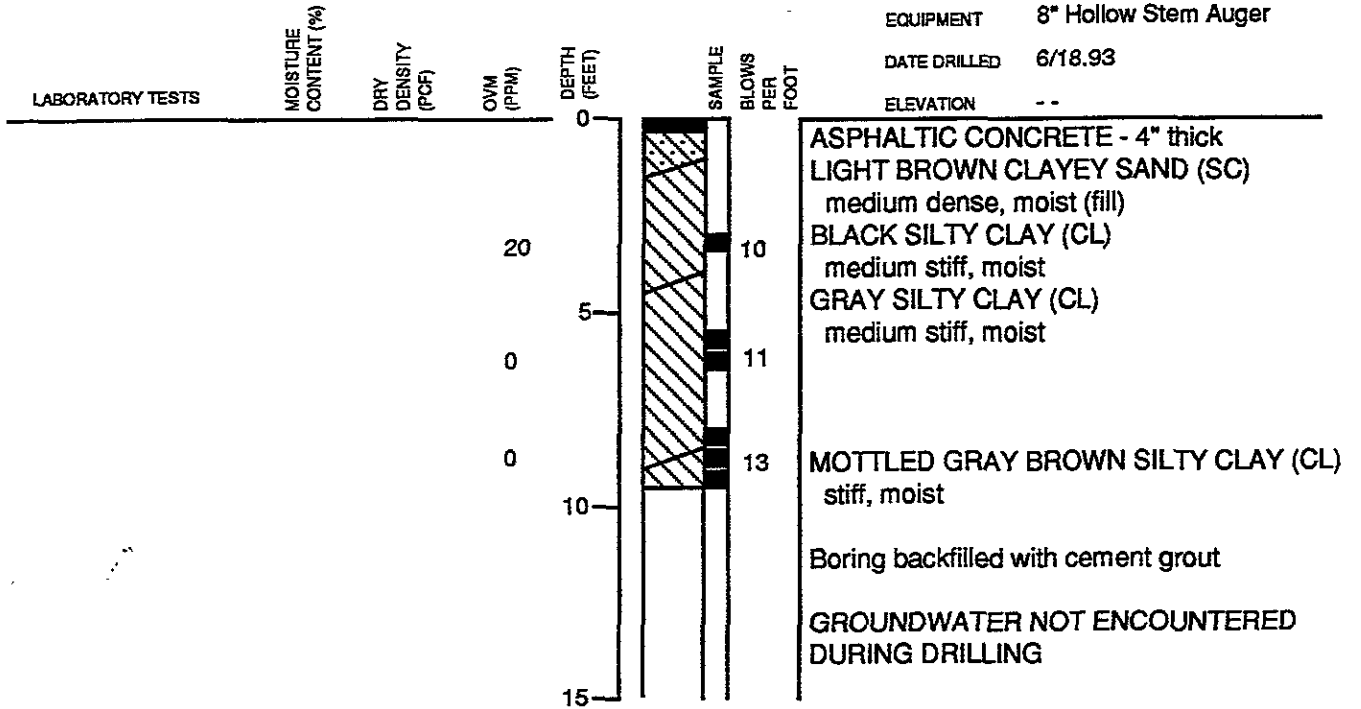
DATE
6/21/93

APPROVED
MC

8

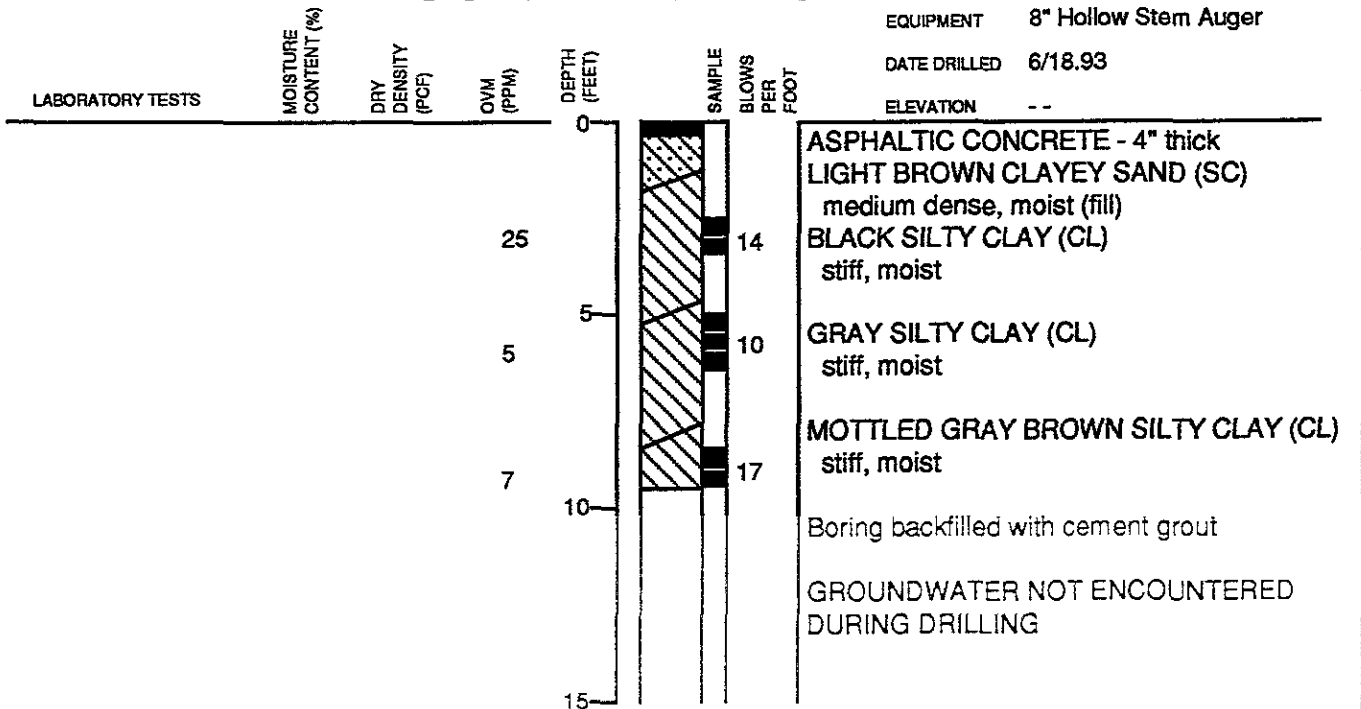
LOG OF TEST BORING 14

EQUIPMENT 8" Hollow Stem Auger
 DATE DRILLED 6/18.93
 ELEVATION --



LOG OF TEST BORING 15

EQUIPMENT 8" Hollow Stem Auger
 DATE DRILLED 6/18.93
 ELEVATION --



Subsurface Consultants

4050 HORTON STREET - EMERYVILLE, CA

JOB NUMBER
851.001

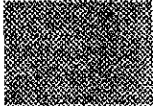
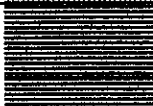
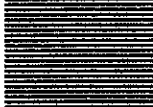
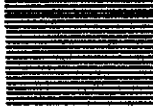
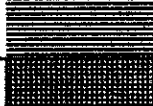
DATE
6/21/93

APPROVED
Mc

PLATE

9

Logger:	Michelle Hunter	Client:	PALS	Well ID: SS-2
Driller:	Precision Sampling	Project Name:	UST Investigation	
Drilling Method:	Geoprobe	Location:	4050 Horton Street	
Start Date:			Emeryville, CA	
End Date:			Alameda County	
Notes:				

Depth (feet)	Geoprobe		Description	Lithology	Comments
0.0			Ashalt Cap, Base Coarse		
1.0			sand, gravel, brown, gray		
2.0					
3.0					
4.0					
5.0			clay, dark grey, blue		stiff plastic
6.0					
7.0					
8.0			clay, sand, gravel, brown, grey		lighter gray with brown
9.0					
10.0			gravel, sand, clay, rust, brown		
11.0					
12.0					
13.0			clay, sand, gray, brown		wet rust streaks
14.0					
15.0					
16.0					

R.T. Hicks Consultants, Ltd 901 Rio Grande NW Albuquerque, NM 87104 505-266-5004 Fax: 505-266-0745	Plywood and Lumber Sales	Plate 4
	UST Investigation	October 2003

Logger:	Michelle Hunter	Client:	PALS	Well ID: SS-3
Driller:	Precision Sampling			
Drilling Method:	Geoprobe	Project Name:		
Start Date:		UST Investigation		
End Date:		Location:		
Notes:		4050 Horton Street Emeryville, CA Alameda County		

Depth (feet)	Geoprobe		Description	Lithology	Comments
0.0			Ashalt Cap, Base Coarse		
1.0			clay, gravel, sand, grey,brown		streaks of rust, blue, black
2.0					
3.0					
4.0					
5.0			clay, sand, gravel, grey,brown		
6.0					
7.0					
8.0			clay, grey		streaks of white sand
9.0			clay, sand, brown		streaks of white sand, gravel lenses
10.0					
			clay, brown		

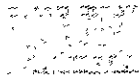
R.T. Hicks Consultants, Ltd 901 Rio Grande NW Albuquerque, NM 87104 505-266-5004 Fax: 505-266-0745	Plywood and Lumber Sales	Plate 5
	UST Investigation	October 2003

Logger:	Michelle Hunter	Client:	PALS	Well ID: SS-4
Driller:	Precision Sampling			
Drilling Method:	Geoprobe	Project Name:		
Start Date:		UST Investigation		
End Date:		Location:		
Notes:		4050 Horton Street Emeryville, CA Alameda County		

Depth (feet)	Geoprobe	Description	Lithology	Comments
0 0		Ashalt Cap, Base Coarse		
1 0		clay, gravel, sand, rust		some gray-blue clay at 3 feet
2 0				
3 0		clay, black		
4 0				
5 0		clay, black, blue		
6 0				
7 0		clay, sand, grey		streaks of white sand
8 0		clay, gravel, gray, brown		streaks of white sand, gravel lenses
9 0		clay, sand, gravel, brown		rust colored streaks
10 0				

R.T. Hicks Consultants, Ltd 901 Rio Grande NW Albuquerque, NM 87104 505-266-5004 Fax: 505-266-0745	Plywood and Lumber Sales	Plate 6
	UST Investigation	October 2003

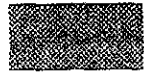
Well Log Legend



Sand



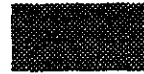
Clay



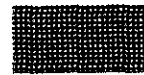
Sand/Gravel



Clay, Gravel, Sand



Cobble



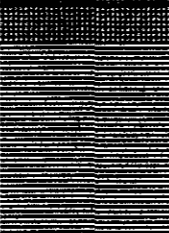
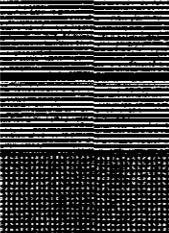



Clay, Sand, Gravel



Asphalt Cap/Base Course

Logger:	Michel Hunter	Client:	PALS	Well ID: SS-1
Driller:	Precision Sampling			
Drilling Method:	Geoprobe	Project Name:		
Start Date:		UST Investigation		
End Date:		Location:		
Notes:	4050 Horton Street Emeryville, CA Alameda County			

Depth (feet)	Geoprobe		Description	Lithology	Comments
0.0			Ashalt Cap, Base Coarse		
1.0			sand, gravel, brown, gray		
2.0					
3.0					
4.0					
5.0			clay, dark grey, blue		stiff plastic clay hydrocarbon smell white pebbles
6.0					
7.0			clay, sand, brown		
8.0					
9.0					
10.0			clay, very little gravel, brown, grey		no hydrocarbon smell
11.0					
12.0					
13.0					
14.0			clay, sand, gravel, brown, gray		wet
15.0					
16.0					

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	UST Investigation	October 2003

SOIL BORING LOG SS-