

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY
DAVID J. KEARS, Agency Director

Ro# 970

Alameda County CC4580
Environmental Protection Services
1131 Harbor Bay Parkway, Room 250
Alameda CA 94502-6577

June 20, 1996

STID 2697

REMEDIAL ACTION COMPLETION CERTIFICATION

Mr. David Berg
Hudson I.C.S.
400 Hudson Lane
San Leandro, CA 94577

RE: HUDSON I.C.S., 400 HUDSON LANE, SAN LEANDRO

Dear Mr. Berg:

This letter confirms the completion of site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Enclosed is the Case Closure Summary for the referenced site for your records.

Based upon the available information, including current land use, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground storage tank release is required. We understand, however, that the Hudson site will still be subject to oversight by Cal EPA's Department of Toxic Substances Control (DTSC) with respect to the central San Leandro solvent investigation.

This notice is issued pursuant to a regulation contained in Title 23, California Code of Regulations, Division 3, Chapter 16, Section 2721(e). If changes in land use, structural configuration, or site activities are proposed such that more conservative exposure scenarios should be evaluated, the owner must promptly notify this agency.

Please contact Scott Seery at (510) 567-6783 if you have any questions regarding this matter.

Sincerely,

A handwritten signature in cursive script that reads "Mee Ling Tung".

Mee Ling Tung
Director of Environmental Health Services

enclosure

Mr. Berg
RE: Hudson I.C.S. UST case closure
June 20, 1996
Page 2 of 2

cc: Gordon Coleman, Acting Chief, Env. Protection Division
Kevin Graves, RWQCB
Mike Harper, SWRCB
Mike Bakaldin, San Leandro Fire Department
Jacinto Soto, DTSC Region 2, 700 Heinz Ave., Ste. 200
Berkeley, CA 94710

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CALIFORNIA REGIONAL WATER

ENVIRONMENTAL PROTECTION QUALITY CONTROL BOARD
JUN 07 1996
166

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: 05/17/96

Agency name: Alameda County-EPD Address: 1131 Harbor Bay Pkwy #250
City/State/Zip: Alameda, CA 94502 Phone: (510) 567-6700
Responsible staff person: Scott Seery Title: Sr. Haz. Materials Spec.

II. CASE INFORMATION

Site facility name: Hudson I.C.S.
Site facility address: 400 Hudson Lane, San Leandro 94577
RB LUSTIS Case No: N/A Local Case No./LOP Case No.: 2697
URF filing date: 10/15/90; 05/30/91; 08/06/91 SWEEPS No: N/A

<u>Responsible Parties:</u>	<u>Addresses:</u>	<u>Phone Numbers:</u>
David Berg	P.O. Box 2338	(510) 351-5872
Hudson I.C.S.	San Leandro, CA 94577	

<u>Tank No:</u>	<u>Size in gal.:</u>	<u>Contents:</u>	<u>Closed in-place or removed?:</u>	<u>Date:</u>
1	10,000 gallon	diesel	removed	05/23/91
2	1000 "	gasoline	"	02/23/87
3	UNK	diesel	"	1974

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: piping leaks

Site characterization complete? YES

Date approved by oversight agency:

Monitoring Wells installed? YES Number: 5

Proper screened interval? YES

Highest GW depth below ground surface: 17.95' Lowest depth: 28.77'

Flow direction: SW

Most sensitive current use: industrial

Are drinking water wells affected? NO Aquifer name: San Leandro cone

Is surface water affected? NO Nearest affected SW name: NA

Off-site beneficial use impacts (addresses/locations): NONE

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ENVIRONMENTAL PROTECTION

Leaking Underground Fuel Storage Tank Program

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)

Report(s) on file? YES Where is report filed? Alameda County
1131 Harbor Bay Pkwy
Alameda CA 94502

Treatment and Disposal of Affected Material:

<u>Material</u>	<u>Amount</u> (include units)	<u>Action (Treatment</u> <u>or Disposal w/destination)</u>	<u>Date</u>
Tank	1000 gal.	<u>Disposal</u> - H&H Ship Service San Francisco, CA	02/23/87
	10,000 "	<u>Disposal</u> - Erickson Richmond, CA	05/23/91
	UNK CAPACITY	UNK	1974
Piping	UNK		
Free Product	NA		
Soil	2500 yds ³	<u>Treatment/on-site reuse</u>	1992 - 1993
Groundwater			
Barrels			

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	Before ¹	After ²	Before	After
TPH (Gas)	<250	0.22	470	310
TPH (Diesel)	5000	652	5800	130
Benzene	0.055	0.002	2.0	ND
Toluene	<0.05	<0.01	ND	"
Xylene	1.7	0.048	"	"
Ethylbenzene	0.86	0.007	"	"
Other: HVOC ³	NA	NA	[SEE Note 3]	

- Note: 1) "Before" soil data are from initial samples collected from the base of the 10,000 gallon diesel UST pit @ 15' BG during its May 1991 closure.
- 2) "After" soil data are a compilation of results from sidewall samples collected @ depths ranging from 21 - 24' BG after overexcavation of the UST pit during the 1991 closure.
- 3) Several HVOC compounds have been detected historically in ground water since the 1988 well installations. See attached data table showing accumulative HVOC sampling results.

Comments (Depth of Remediation, etc.):

The record indicates as many as three (3) USTs were previously in service at this site at various times in the past. A 1000 gallon gasoline UST was

Leaking Underground Fuel Storage Tank Program

reportedly removed from this site in February 1987. Laboratory data indicate the absence of detectable target compounds in soil samples collected during the closure of this tank.

It has also been reported that a single diesel UST of unknown size and age was removed from the site during 1974. Documentation regarding this tank or its closure have not been made available. It has been reported that this "unknown" tank was replaced by the 10,000 gallon diesel UST (although it was not installed in the exact same location) that is the primary focus of this case closure.

The 10,000 gallon diesel tank was removed during May 1991. Product piping appeared to be leaking based on reported pipe insulation degradation, the appearance of free diesel fuel near piping joints and surrounding backfill media, and fuel odors.

Initial soil samples (UST-1, -2, and -3) were collected below the tank invert from the base of the UST pit @ a depth of 15' BG. Up to 5000 ppm TPH-D and 0.055 ppm benzene was identified in initial samples. As a result, overexcavation of the UST pit ensued in several stages over the course of the following ~3 months. Final excavation depth was approximately 26' BG at which point GW was reached. Final sidewall samples, collected at depths ranging from 21 - 24' BG, revealed up to 652 ppm residual TPH-D and 0.002 ppm benzene.

A HC "sheen" was reportedly observed on the surface of GW entering the excavation. No GW samples were apparently collected since previous data from a pre-existing monitoring well, MW-2, were available. Well MW-2 was ultimately destroyed during overexcavation activities as it was located within the area where native material was removed.

Overexcavation work generated a soil pile of ~2500 yds³ which was stockpiled on-site. In order to determine baseline concentrations and the presence or absence of HVOCs in stockpiled material, 10 samples were collected at various depths and analyzed for HVOC, TPH-D and BTEX. No HVOC or BTEX were identified in submitted samples.

Soil was placed into two treatment cells to facilitate "landfarming" activities occurring between March 1992 and July 1993. This treatment was employed to reduce latent diesel concentrations to levels consistent with the (then) current RWQCB policy for reintroduction of said material to the site of origin. ACDEH, after review of documents indicating the project's success, allowed reintroduction of the treated material at grade at the site in September 1993.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Undetermined

Leaking Underground Fuel Storage Tank Program

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Undetermined

Does corrective action protect public health for current land use? YES
Site management requirements: NA

Should corrective action be reviewed if land use changes? YES

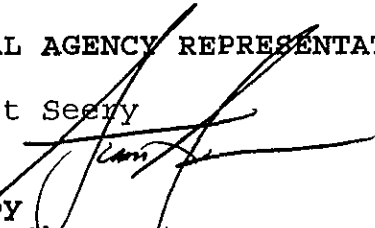
Monitoring wells Decommissioned: YES

Number Decommissioned: 1 Number Retained: 4


List enforcement actions taken: NONE

List enforcement actions rescinded: NONE

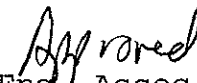
V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Scott Seery Title: Sr. Haz Mat Specialist
Signature:  Date: 6/4/96

Reviewed by
Name: Eva Chu Title: Haz Mat Specialist
Signature:  Date: 5/20/96

Name: Tom Peacock Title: Supervising Haz Mat Specialist
Signature:  Date: 6-3-96

VI. RWQCB NOTIFICATION

Date Submitted to RB: 6/4/96 RB Response: 
RWQCB Staff Name: Kevin Graves Title: San. Eng. Assoc. Date:

 6/14/96

VII. ADDITIONAL COMMENTS, DATA, ETC.

During June 1988, five (5) soil borings were drilled at the site as part of a Phase I/II investigation. Four of the borings were advanced beyond first GW and converted to monitoring wells MW-1 through MW-4. Two borings (SB-1 and MW-2) were emplaced in proximity to the diesel UST. GW was encountered at ~20 - 25' BG in each boring. Soil collected from borings SB-1 and MW-2 during auger advancement identified up to 238 ppm TPH-D at depths consistent with the reported presence of first GW.

GW samples collected during July 1988 revealed up to 5800 ug/l TPH-D and 2.0 ug/l benzene in well MW-2. In addition, a variety of HVOCs were also identified in sampled GW at elevated concentrations, including TCE, PCE and 1,2-DCE, among others. The highest HVOC concentrations were detected in water sampled from MW-2.

Leaking Underground Fuel Storage Tank Program

No reported sampling of any of the wells at this site occurred between July 1988 and August 1990.

During September 1990, three (3) additional soil borings (B-1, -2, and -3) were drilled at the site near the (then) current) UST complex and, in the case of boring B-1, near the former location of the diesel UST removed in 1974. Each boring was continuously cored and drilled to an approximate depth of 30' BG. Soil samples were retained at 5' intervals for laboratory analysis. GW, reached at ~25' BG, was "grab" sampled through augers in borings B-1 and -2, only. All samples were analyzed for TPH and BTEX.

Up to 12,000 ug/l TPH-D and 540 ug/l benzene were detected in the grab water samples collected from borings B-2 and -1, respectively. In addition, soil collected at the 10' depth in each boring revealed up to only 1.6 ppm TPH-D with no detectable BTEX in boring B-3. Up to 270 ppm TPH-D and 0.041 ppm total xylenes were detected in the 25' sample in borings B-2 and -1, respectively. The 25' samples appear to reflect GW conditions near the UST complex as GW was reached at this approximate depth.

In conjunction with the emplacement of soil borings, monitoring well MW-2 was also sampled during August and November 1990. Although free-phase (FP) product was not observed during the August event, measurable FP was detected while purging the well during the November event. Up to 230 ug/l TPH-D and BTEX were detected in water sampled from MW-2 during the August event. Up to 200 ug/l TPH-G, 41,000 ug/l TPH-D, and no BTEX were detected during the November event.

Following the May 1991 closure of the remaining 10,000 gallon diesel UST, three additional soil borings (BN-1, -2, and -3) were advanced during July 1991 just beyond the northern flank of the final UST excavation. This work was performed to assess the limits of latent soil contamination to the north of the former UST complex. Sampling occurred in this fashion as a result of a high-pressure fire protection water main exposed along a portion of the north wall of the final excavation. Up to 66 ppm TPH-D and no BTEX were identified in boring BN-1 at the 19' sampling depth.

As indicated previously, wells MW-1, -2, -3, and -4 were sampled initially in July 1988, and not again until August 1990. Well MW-2, destroyed during the 1991 UST closure, was replaced by well MW-5 in June 1992. During the course of the UST investigation a regular sampling program was not implemented until 1993 when, starting in May of that year, the sampling program embarked on a quarterly schedule. During some of this time, Hudson employees (rather than the consultant) gauged GW depths; sampling, however, was still performed by the consultant. Well MW-1, located some 700+ feet upgradient of the former UST complex, had not been sampled since August 1992 during the course of the UST investigation. The last reported event occurred during June 1995 at which time only wells MW-4 and -5 were sampled.

Leaking Underground Fuel Storage Tank Program

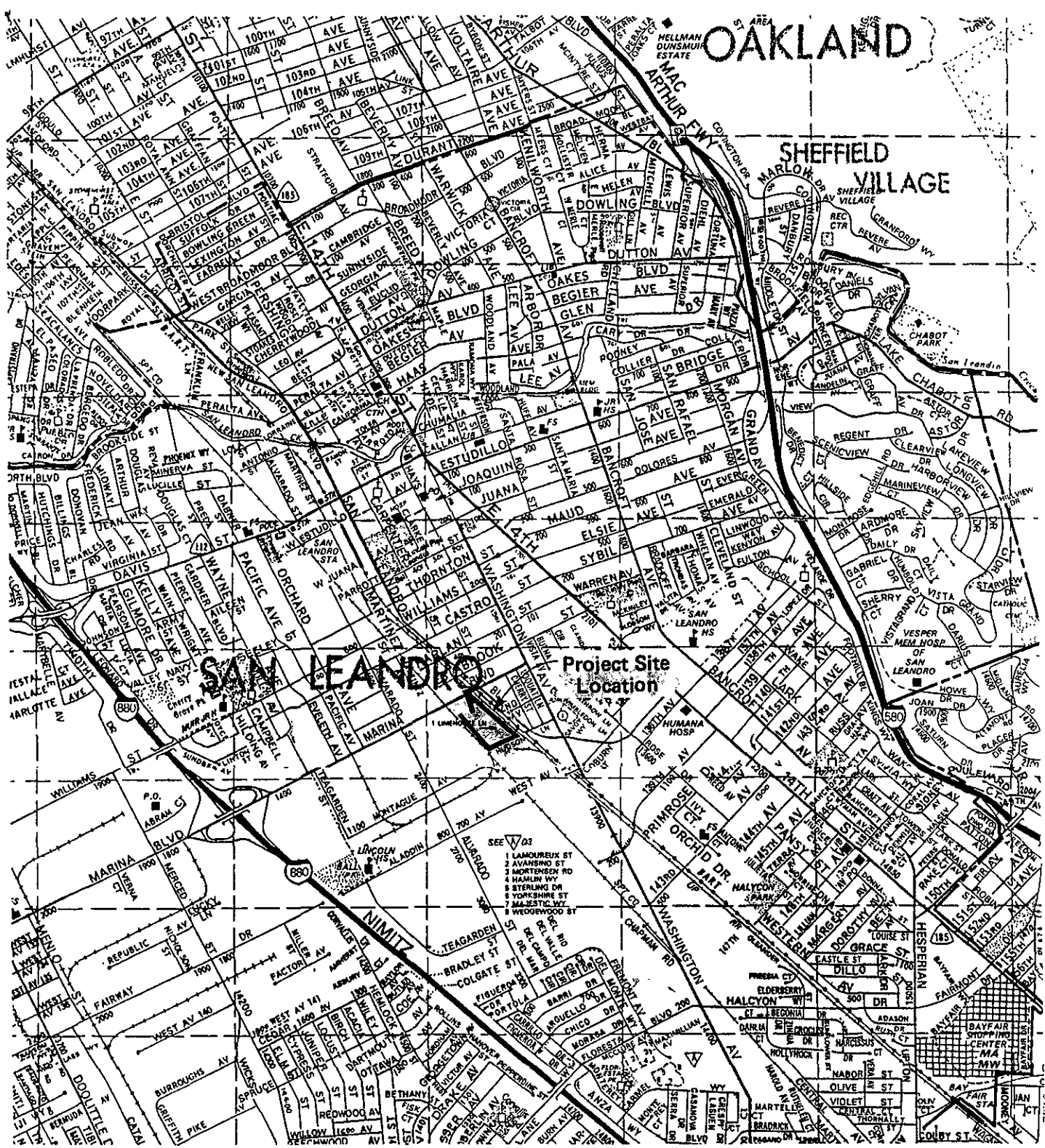
Ground water flow has historically ranged between SSW and SW.

The highest concentrations of fuel compounds (100,000 ug/l TPH-D and 2.0 ug/l benzene) have been detected in water sampled from wells MW-2 and -5, directly adjacent to the former UST complex. In addition, a "floating hydrocarbon layer" was reportedly observed in well MW-2 prior to the November 1990 sampling event, the only such report. The only wells located downgradient of either (former) well MW-2 or -5 are wells MW-3 and -4. Both MW-3 and -4 are located ~400' away from the source area on this approximate 16 acre site.

No detectable fuel compounds have been identified in water sampled from well MW-3 between 1988 and 1994. Low ppm-range TPH-G "hits" have been identified in water sampled historically from MW-4, although it is unclear if the gasoline-range hits are consistent with the gasoline standard, or whether the elevated HVOC concentrations (\leq 1100 ug/l TCE) found in water sampled from this well have contributed to the GC response in the boiling range of gasoline.

Based on data generated between 1988 and 1995, the fuel plume appears isolated to the general area of the former UST complex, and certainly to this site.

(Note: Contemporaneous with the UST investigation, Hudson has also been identified as a potential responsible party (PRP) during Cal EPA DTSC's investigation into the presence of HVOC plumes in ground water underlying central San Leandro. According to DTSC, the highest concentrations of DCE (and isomers) has been found in ground water sampled historically from former well MW-2. Well MW-2, as well as the former UST complex, was located directly downgradient of a former unlined "paraffin pond" and trench system used in the past by Hudson. As of summer 1995, DTSC professed their belief that Hudson was the most likely source for the noted DCE contamination. Hence, well sampling for the presence of HVOC will continue after "case closure" is granted for the UST investigation.)



Kennedy/Jenks/Chilton

Hudson I.C.S.
San Leandro, CA

Site Location Map

K/J/C 900070
December 1990

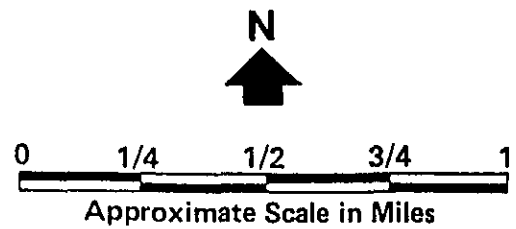


Figure 1

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS — PETROLEUM HYDROCARBONS AND PURGEABLE AROMATICS^(a)
 1995 GROUNDWATER MONITORING PROGRAM
 Hudson, I.C.S., San Leandro, California
 K/J 900070.30-G-92

Page 1 of 3

Monitoring Well No.	Sample Collection Date	Total Petroleum Hydrocarbons (mg/L)		Benzene (µg/L)	Toluene (µg/L)	Total Xylenes (µg/L)	Ethylbenzene (µg/L)
		As Diesel	As Gasoline				
	State MCL ^(b)	NE ^(c)	NE	1	150	1,750	700
MW-1	7/1/88 ^(b)	NA ^(c)	NA	<0.5	<0.5	<0.5	<0.5
	8/30/90	NA	NA	NA	NA	NA	NA
	11/5/90	NC ^(d)	NC	NC	NC	NC	NC
	3/21/91	<0.05	<0.03	<0.3	<0.3	<0.3	<0.3
	1/30/92	<0.05	NA	<0.5	<0.5	<0.5	<0.5
	6/17/92	<0.05	NA	<0.5	<0.5	<0.5	<0.5
	8/25/92	NC	NC	NC	NC	NC	NC
	12/10/92	NA	NA	NA	NA	NA	NA
	5/11/93	NA	NA	NA	NA	NA	NA
	9/22/93	NA	NA	NA	NA	NA	NA
	1/3/94	NA	NA	NA	NA	NA	NA
	3/31/94	NA	NA	NA	NA	NA	NA
6/6/95	NA	NA	NA	NA	NA	NA	
MW-2 ^(e)	7/1/88 ^(b)	5.8	NA	2	<0.5	<0.5	<0.5
	8/30/90	0.23 ^(f) (0.23) ^(f)	<0.05 (<0.05)	<2 (<2)	<2 (<2)	<2 (<2)	<2 (<2)
	11/5/90	41 (41)	0.20 (0.20)	<1 (<1)	<1 (<1)	<3 (<3)	<1 (<1)
	3/21/91 ^(g)	29 (35)	15 (9.2)	<30 (<30)	<30 (<30)	<30 (<30)	<30 (<30)
		54	<0.05	<0.5	<0.5	0.9	<0.5

Historic GW data

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS — PETROLEUM HYDROCARBONS AND PURGEABLE AROMATICS^(a)
 1995 GROUNDWATER MONITORING PROGRAM
 Hudson, I.C.S., San Leandro, California
 K/J 900070.30-G-92

Page 2 of 3

Monitoring Well No.	Sample Collection Date	Total Petroleum Hydrocarbons (mg/L)		Benzene (µg/L)	Toluene (µg/L)	Total Xylenes (µg/L)	Ethylbenzene (µg/L)
		As Diesel	As Gasoline	1	150	1,750	700
	State MCL^(b)	NE^(d)	NE	1	150	1,750	700
MW-3	7/1/88 ^(b)	NA	NA	<0.5	<0.5	<0.5	<0.5
	8/30/90	NA	NA	NA	NA	NA	NA
	11/5/90	NC	NC	NC	NC	NC	NC
	3/21/91	<0.05	<0.03	<0.3	<0.3	<0.3	<0.3
	1/30/92	<0.05	NA	<0.5	<0.5	<0.5	<0.5
	6/17/92	<0.05	NA	<0.5	<0.5	<0.5	<0.5
	8/25/92	<0.05	NA	<0.5	<0.5	<0.5	<0.5
	12/10/92	<0.05	NA	<0.5	<0.5	<0.5	<0.5
	5/11/93	<0.05	NA	<0.3	<0.3	<0.9	<0.3
	9/22/93	<0.05	NA	<0.3	<0.3	<0.9	<0.3
	1/3/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	3/31/94	<0.05	NA	<0.5	<0.5	<0.5	<0.5
6/6/95	NA	NA	NA	NA	NA	NA	
MW-4	7/1/88 ^(b)	NA	NA	<0.5	<0.5	<0.5	<0.5
	8/30/90	NA	NA	NA	NA	NA	NA
	11/5/90	NC	NC	NC	NC	NC	NC
	3/21/91	<0.05	0.46	<0.3	<0.3	<0.3	<0.3
	1/30/92	<0.05 (<0.05)	NA	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (<0.5)
	6/17/92	<0.05	NA	<0.5	<0.5	<0.5	<0.5
	8/25/92	<0.05 (<0.05)	NA	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (<0.5)
	12/10/92	<0.05 (<0.05)	NA	<5 (<5)	<5 (<5)	<5 (<5)	<5 (<5)
	5/11/93	<0.05	NA	<0.3	<0.3	<0.9	<0.3
	9/22/93	<0.05	0.27	<0.3	<0.3	<0.9	<0.9
	1/3/94	<0.05	0.28	<0.5	0.9	<0.5	<0.5
	3/31/94	<0.05	0.32	<0.5	<0.5	<0.5	<0.5
6/6/95	NA	0.31	<0.5	<0.5	<0.5	<0.5	

TABLE 3

HISTORICAL GROUNDWATER ANALYTICAL RESULTS — PETROLEUM HYDROCARBONS AND PURGEABLE AROMATICS^(a)
 1995 GROUNDWATER MONITORING PROGRAM
 Hudson, I.C.S., San Leandro, California
 K/J 900070.30-G-92

Monitoring Well No.	Sample Collection Date	Total Petroleum Hydrocarbons (mg/L)		Benzene (µg/L)	Toluene (µg/L)	Total Xylenes (µg/L)	Ethylbenzene (µg/L)
		As Diesel	As Gasoline	1	150	1,750	700
	State MCL^(b)	NE⁽ⁱ⁾	NE	1	150	1,750	700
MW-5 ^(h)	6/17/92	14	NA	<0.5	<0.5	<0.5	<0.5
	8/25/92	100 (25)	NA	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (0.5)	<0.5 (<0.5)
	12/10/92	1.9	NA	<0.5	<0.5	<0.5	<0.5
	5/11/93	0.35 (0.28)	NA	1.1 (1.1)	<0.3 (<0.3)	0.9 (<0.9)	<0.3 (<0.3)
	9/22/93	0.53 (0.57)	0.30 (0.27)	0.8 (0.8)	0.6 (0.6)	1.6 (1.3)	0.3 (0.3)
	1/3/94	0.62 (0.35)	<0.05 (0.066)	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (<0.5)
	3/31/94	0.17 (0.29)	0.12 (0.08)	1.8 (1.5)	1.0 (0.9)	1.3 (0.7)	<0.5 (0.7)
	6/6/95	0.13 (0.10)	<0.05	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (<0.5)

Notes:

- (a) Analytical Methods:
 Diesel and gasoline - Modified EPA Method 8015
 Benzene, Toluene, Total Xylenes, Ethylbenzene - EPA Method 8020
- (b) Groundwater samples collected by Harding Lawson Associates.
- (c) NA = Not Analyzed.
- (d) NC = No Sample Collected.
- (e) MW-2 was destroyed during excavation work in 1991.
- (f) Indicates results of field duplicate sample.
- (g) Groundwater samples collected 3/21/91 were analyzed by Sequoia Analytical. Pacific Environmental Laboratory analyzed a split sample collected from MW-2 on 3/21/91.
- (h) MW-5 was installed in June 1992 as replacement well for MW-2.
- (i) State MCL = State of California Maximum Contaminant Level. California Code of Regulations, Title 26, Section 64444.5.
- (j) NE = Not Established. No MCL has been established for this compound.

TABLE 4

HISTORICAL GROUNDWATER ANALYTICAL RESULTS — PURGEABLE HALOCARBONS^(a)
 1995 GROUNDWATER MONITORING PROGRAM
 Hudson, I.C.S., San Leandro, California
 (All concentrations, µg/L [ppb])
 K/J 900070.30-G-92

Monitoring Well	Sample Collection Date	TCE	PCE	1,1,2 DCE	1,1,2 DCE	1,1 DCA	1,1 DCE	1,1,1 TCA	1,1,2 TCA	1,2 DCA	VC	Chloroform
	State MCL ^(b)	5	5	6	10	5	6	200	32	0.5	0.5	100 ^(b)
MW-1	7/1/88 ^(c)	11	1.7	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	1
	8/30/90	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	3/21/91	11	1.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
	1/30/92	14	3	<1	<1	<1	<1	<1	<1	<5	<1	<1
	12/10/92	5.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	5/11/93	6.9	2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
	9/22/93	7.2	2.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
	1/3/94	<0.5	1.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
	3/31/94	6.2	1.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/95	8.5	2.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.5
MW-2 ^(c)	7/1/88 ^(c)	67 (47) ^(c)	24 (22)	<0.5 (<0.5)	85 (99)	6.7 (7.0)	4.8 (0.5)	0.5 (0.5)	<0.5	3.4 (3.6)	2.7 (6.0)	<0.5 (<0.5)
	8/30/90	380 (400)	120 (130)	1200 (1300)	<5 (<5)	<5 (<5)	<5 (<5)	<5 (<5)	<5	<5 (<5)	<5 (<5)	<5 (<5)
	3/21/91 ^(c)	270 (230)	<200 (<200)	880 (960)	<200 (<200)	<200 (<200)	<200 (<200)	<200 (<200)	<200 (<200)	<200 (<200)	<400 (<400)	<200 (<200)
		280	65	780	10	5	5	<1	<1	4	6	<1
MW-3	7/1/88 ^(c)	3.4	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	8/30/90	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	3/21/91	0.88	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
	1/30/92	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	12/10/92	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	5/11/93	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
	9/22/93	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
	1/3/94	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
	3/31/94	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/95	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-4	7/1/88 ^(c)	137	11	<0.5	0.8	6.0	14	3	0.1	<0.5	<0.5	4.2
	8/30/90	1000	12	20	<5	<5	<5	<5	<5	<5	<5	<5
	3/21/91	1000	<40	<40	<40	<40	<40	<40	<40	<40	<80	<40
	1/30/92	1100 (1100)	23 (20)	33 (34)	<5	<5	<5	<5	<5	<40	<5	<5
	12/10/92	750 (760)	<5 (<5)	<5 (<5)	<5 (<5)	<5 (<5)	<5 (<5)	<5 (<5)	<5 (<5)	13 (12)	<5 (<5)	<5 (<5)
	5/11/93	720	15	12	3.9	2.2	4.8	0.9	0.8	<0.5	<1	2.4
	9/22/93	750	17	15	<5	<5	<5	<5	<5	<5	<10	<5
	1/3/94	630	10	10	2.9	2.0	3.7	0.6	<0.5	<0.5	<1	2.8
	3/31/94	620	14	12	3.1	1.8	6.1	<0.5	<0.5	<0.5	<0.5	3.2
	6/6/95	750	16	15	3	<0.5	4.2	<0.5	<0.5	<0.5	<0.5	17
MW-5 ^(c)	12/10/92	95	25	390	<5	<5	<5	<5	<5	<5	<5	<5
	5/11/93	99 (99)	16 (15)	310 (320)	3.9 (3.9)	8.1 (8.1)	4.1 (3.7)	<0.5 (<0.5)	<0.5 (<0.5)	1.4 (1.4)	45 (41)	<0.5 (<0.5)
	9/22/93	81 (99)	17 (17)	400 (510)	<0.5 (<0.5)	13 (12)	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (<0.5)	80 (75)	<0.5 (<0.5)
	1/3/94	58 (61)	9.8 (8.4)	440 (440)	5.2 (4.7)	13 (11)	3.6 (2.8)	<0.5 (<0.5)	<0.5 (<0.5)	1.1 (1.4)	19 (45)	<0.5 (<0.5)
	3/31/94	61 (47)	11 (8.6)	350 (320)	4.4 (4.2)	10 (11)	3.0 (3.2)	<0.5 (<0.5)	<0.5 (<0.5)	0.7 (0.6)	33 (39)	<0.5 (<0.5)
	6/6/95	23 (21)	2.2 (2.1)	210 (220)	4.1 (4.4)	5.6 (5.6)	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (<0.5)	<0.5 (<0.5)	40 (40)	<0.5 (<0.5)

TABLE 4

HISTORICAL GROUNDWATER ANALYTICAL RESULTS — PURGEABLE HALOCARBONS^(a)
1995 GROUNDWATER MONITORING PROGRAM
Hudson, I.C.S., San Leandro, California
(All concentrations, µg/L [ppb])
K/J 900070.30-G-92

Notes:

- (a) Only those compounds detected are presented in Table 4. Refer to laboratory analysis reports for a complete list of analytes. TCE = trichloroethylene; PCE = Tetrachloroethylene; c-1,2 DCE = cis-1,2 Dichloroethylene; t-1,2 DCE = trans-1,2-Dichloroethylene; 1,1 DCA = 1,1 Dichloroethane; 1,1 DCE = 1,1 Dichloroethylene; 1,1,1 TCA = 1,1,1 Trichloroethane; 1,1,2 TCA = 1,1,2 Trichloroethane; 1,2 DCA = 1,2 Dichloroethane; VC = vinyl chloride.
- (b) Groundwater samples collected by Harding Lawson Associates for analysis using EPA Method 624.
- (c) () Indicates a field duplicate sample.
- (d) Groundwater samples collected 3/21/91 were analyzed by Sequoia Analytical. Pacific Environmental Laboratory analyzed a split sample collected from Well MW-2 on 3/21/91 using EPA Method 601.
- (e) MW-2 destroyed during excavation work in 1991.
- (f) MW-5 installed during June 1992 as a replacement well for MW-2.
- (g) State MCL = State of California Maximum Contaminant Level. California Code of Regulations, Title 26, Section 64444.5.
- (h) MCL cited for chloroform applies to total trihalomethanes (sum of bromoform, chloroform, bromodichloromethane, and dibromochloromethane).

Table 1. Analytical Results for Soil Samples
 (all results in micrograms per kilogram¹ [$\mu\text{g}/\text{kg}$])

Boring Number:	SB-1	SB-1	MW-2	MW-2
Sample Depth (ft.):	10.0-10.5	20.0-20.5	20.0-20.5	25.0-25.5
Sample Number:	SB-1-3	SB-1-5	MW-2-5	MW-2-6
<u>Analytical Parameter</u>				
Benzene	ND(0.5)	ND(0.5)	ND(100)	ND(50)
Toluene	ND(0.5)	1.1	ND(100)	ND(50)
Ethylbenzene	ND(0.5)	ND(0.5)	ND(100)	ND(50)
Xylene	ND(0.5)	ND(0.5)	ND(100)	ND(50)
TPH (Light Fraction)	ND(50)	350	48,000	110,000
TPH (Heavy Fraction ²)	ND(10,000)	ND(10,000)	223,000	238,000

ND = Not detected at the stated detection limit.

¹ Equivalent to parts per billion (ppb).

² Quantified as diesel.

Table 2. Detected Volatile Organic Compounds and Total Petroleum Hydrocarbons in Ground-Water Samples
(all results in micrograms per liter¹ [$\mu\text{g}/\text{l}$])

Well Number:	MW-1	MW-2	MW-2 (dup) ²	MW-3	MW-4
Sample Number:	26RPB2	26RPB4	26RPB5	26RPB3	26RPB1
<u>Analytical Parameter</u>					
Vinyl Chloride	ND(0.5)	2.7	6.0	ND(0.5)	ND(0.5)
1,1-Dichloroethene	ND(0.5)	4.8	0.5	ND(0.5)	14
trans-1,2-Dichloroethene (1,2-DCE)	ND(0.5)	85	99	ND(0.5)	0.8
1,1-Dichloroethane	ND(0.5)	6.7	7.0	ND(0.5)	6.0
Chloroform	1.0	ND(0.5)	ND(0.5)	ND(0.5)	4.2
1,1,1-Trichloroethane	1.1	0.5	0.5	ND(0.5)	3.0
1,2-Dichloroethane	ND(0.5)	3.4	3.6	ND(0.5)	ND(0.5)
Benzene	ND(0.5)	2.0	2.0	ND(0.5)	ND(0.5)
Trichloroethene (TCE)	11	67	47	3.4	137
Tetrachloroethene (PCE)	1.7	24	22	1.6	11
TPH (Light Fraction)	NA	470	NA	NA	NA
TPH (Heavy Fraction ³)	NA	5,800	NA	NA	NA

ND = Not detected at the stated detection limit.

NA = Not analyzed.

¹ Approximately equivalent to parts per billion (ppb).

² Field duplicate sample submitted blind to the laboratory.

³ Quantified as diesel.

Attachment to Kennedy/Jenks/Chilton's
Letter to Mr. Robert Hanscom
Dated 10 December 1990

TABLE 2

ANALYTICAL RESULTS OF SAMPLES COLLECTED 20 SEPTEMBER 1990
HUDSON I.C.S.
FUEL TANK AREA
K/J/C 900070.00-G-93

SAMPLE NO.	TYPE	DEPTH (ft)	PETROLEUM HYDROCARBONS		EPA METHOD 8020			
			VOLATILE	SEMIVOLATILE	BENZENE	TOLUENE	XYLENE	ETHYLBENZENE
B-1-B ¹	Soil	10	<0.05 mg/kg	<1 mg/kg	<1 ug/kg	<1 ug/kg	<1 ug/kg	<1 ug/kg
B-2-B ²	Soil	10	<0.05 mg/kg	<1 mg/kg	<1 ug/kg	<1 ug/kg	<1 ug/kg	<1 ug/kg
B-3-B ³	Soil	10	<0.05 mg/kg	1.6 mg/kg	<1 ug/kg	<1 ug/kg	<1 ug/kg	<1 ug/kg
B-1-E	Soil	25	<25 mg/kg	190 mg/kg	<1 ug/kg	<1 ug/kg	41 ug/kg	10 ug/kg
B-2-E	Soil	25	<25 mg/kg	270 mg/kg	<1 ug/kg	<1 ug/kg	4 ug/kg	1 ug/kg
B-3-E	Soil	25	<1 mg/kg	<1 mg/kg	<1 ug/kg	<1 ug/kg	<1 ug/kg	<1 ug/kg
B-1	Water	(Grab)	<250 mg/L	1.6 mg/L	540 ug/L	<1 ug/L	5 ug/L	2 ug/L
B-2	Water	(Grab)	<1.25 mg/L	12 mg/L	240 ug/L	<1 ug/L	27 ug/L	9 ug/L

NOTES:

- ¹B-1 - Boring drilled approximately 25 feet downgradient of existing tank.
²B-2 - Boring drilled approximately 10 feet downgradient of existing tank.
³B-3 - Boring drilled 40 feet east of soil boring B-1.

why detection so high?

TABLE 1

ANALYTICAL RESULTS¹
 FUEL TANK EXCAVATION SOIL SAMPLES
 HUDSON, I.C.S. - SAN LEANDRO, CALIFORNIA
 K/J 900070.10-G-95

SAMPLE NO.	DATE COLLECTED	SAMPLE COLLECTION DEPTH (FT)	TOTAL PETROLEUM HYDROCARBONS (mg/kg)		BENZENE (ug/kg)	TOLUENE (ug/kg)	TOTAL XYLENES (ug/kg)	ETHYLBENZENE (ug/kg)
			AS DIESEL	AS GASOLINE				
UST-1	05/23/91	15	5000	<250	55	<50	<50	530
UST-2	05/23/91	15	4900	<250	<200	<200	1700	760
UST-3	05/23/91	15	3800	<250	<200	<200	1720	860
EXC-1	05/24/91	21	4200	<125	<50	<50	1110	260
EXC-2	05/24/91	20	440	<50	<5	<5	21	<5
SWW-1	06/05/91	18	NA ²	NA	NA	NA	NA	NA
SWW-2	06/07/91	23	240	0.06	<1	<1	<1	<1
SWW-3	06/07/91	23	1300	0.12	2	<1	29	13
SWW-4	06/13/91	24	1000	<0.5	<10	<10	<10	17
SWW-5	06/24/91	23	NA	NA	NA	NA	NA	NA
SWW-6	06/26/91	24	74	<0.05	<1	<1	7	<1
SWW-7	06/26/91	24	110	<0.05	<1	<1	<1	<1
SWS-1	06/07/91	21	110	0.08	<1	<1	<1	3
SWS-2	06/07/91	21	190	<0.05	<1	<1	<1	<1
SWS-3	06/13/91	24	750	<0.5	<10	<10	<10	13
SWS-4	06/26/91	23	530	<0.05	2	<1	48	<1

initial (removed) }
 initial over-excitation (removed) }
 2nd over-excitation (removed) }
 ?
 final }
 removed -
 final -
 removed -
 final -

1991 UST closure

TABLE 1

ANALYTICAL RESULTS¹
 FUEL TANK EXCAVATION SOIL SAMPLES
 HUDSON, I.C.S. - SAN LEANDRO, CALIFORNIA
 K/J 900070.10-G-95

SAMPLE NO.	DATE COLLECTED	SAMPLE COLLECTION DEPTH (FT)	TOTAL PETROLEUM HYDROCARBONS (mg/kg)		BENZENE (ug/kg)	TOLUENE (ug/kg)	TOTAL XYLENES (ug/kg)	ETHYLBENZENE (ug/kg)
			AS DIESEL	AS GASOLINE				
SWS-8	08/26/91	26	175	NA	<1	<1	<60	<1
SWS-9	08/26/91	25	50	<0.5	<1	<1	<1	<1
SWS-10	08/29/91	24	<1	NA	<1	<1	<1	<1
SWE-1	08/29/91	23	NA	NA	NA	NA	NA	NA
SWE-2	09/03/91	22	<1	<0.05	<1	<1	<1	<1
SWN-1	06/04/91	5.5	<1	<0.05	<10	<10	<10	<10
SWN-2	06/26/91	24	39	<0.05	<1	<1	<1	<1
SWN-3	08/22/91	25	652	NA	<1	<1	<35	<1
SWN-4	08/28/91	24	245	NA	<5	<5	<75	<5
SWN-5	09/03/91	22	<1	0.22	<1	<1	17	7

NOTES:

- Analytical Methods:
 Diesel - Modified EPA Method 8015
 Gasoline - California LUFT Manual Method
 Benzene, Toluene, Total Xylenes, Ethylbenzene - EPA Method 8020
- NA = Not Analyzed.

TABLE 2

ANALYTICAL RESULTS¹
 NORTH WALL SOIL BORING SAMPLES
 COLLECTED 31 JULY 1991
 HUDSON, I.C.S. - SAN LEANDRO, CALIFORNIA
 K/J 900070.10-G-95

SAMPLE NO.	SAMPLE COLLECTION DEPTH (FT)	TOTAL PETROLEUM HYDROCARBONS (AS DIESEL) (mg/kg)	BENZENE (ug/kg)	TOLUENE (ug/kg)	TOTAL XYLENES (ug/kg)	ETHYLBENZENE (ug/kg)
BN-1-A	19	66	<1	<1	<1	<1
BN-1-B	24	30	<1	<1	<1	<1
BN-2-A	19	<1	<1	<1	<1	<1
BN-2-B	24	<1	<1	<1	<1	<1
BN-3-A	19	<1	<1	<1	<1	<1
BN-3-B	24	37	<1	<1	<1	<1

Notes:

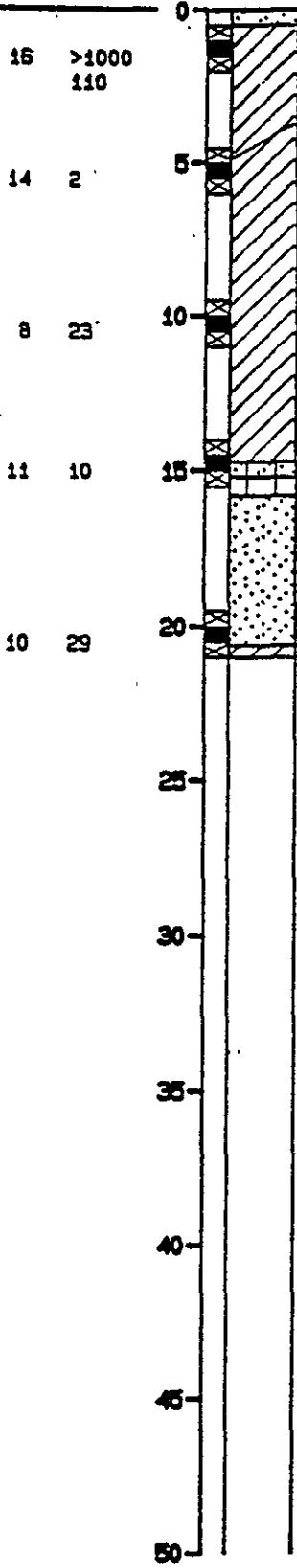
- Analytical Methods:
 Diesel - Modified EPA Method 8015
 Benzene, Toluene, Total Xylenes, Ethylbenzene - EPA Method 8020

ENVIRONMENTAL PROTECTION
GROUND SURFACE

96 MAY 16 PM 12:57

Blows/foot
OVA (ppm)
Depth (ft)
Sample

Equipment 8" Hollow Stem Auger
Elevation ~45 ft Date 6/29/88



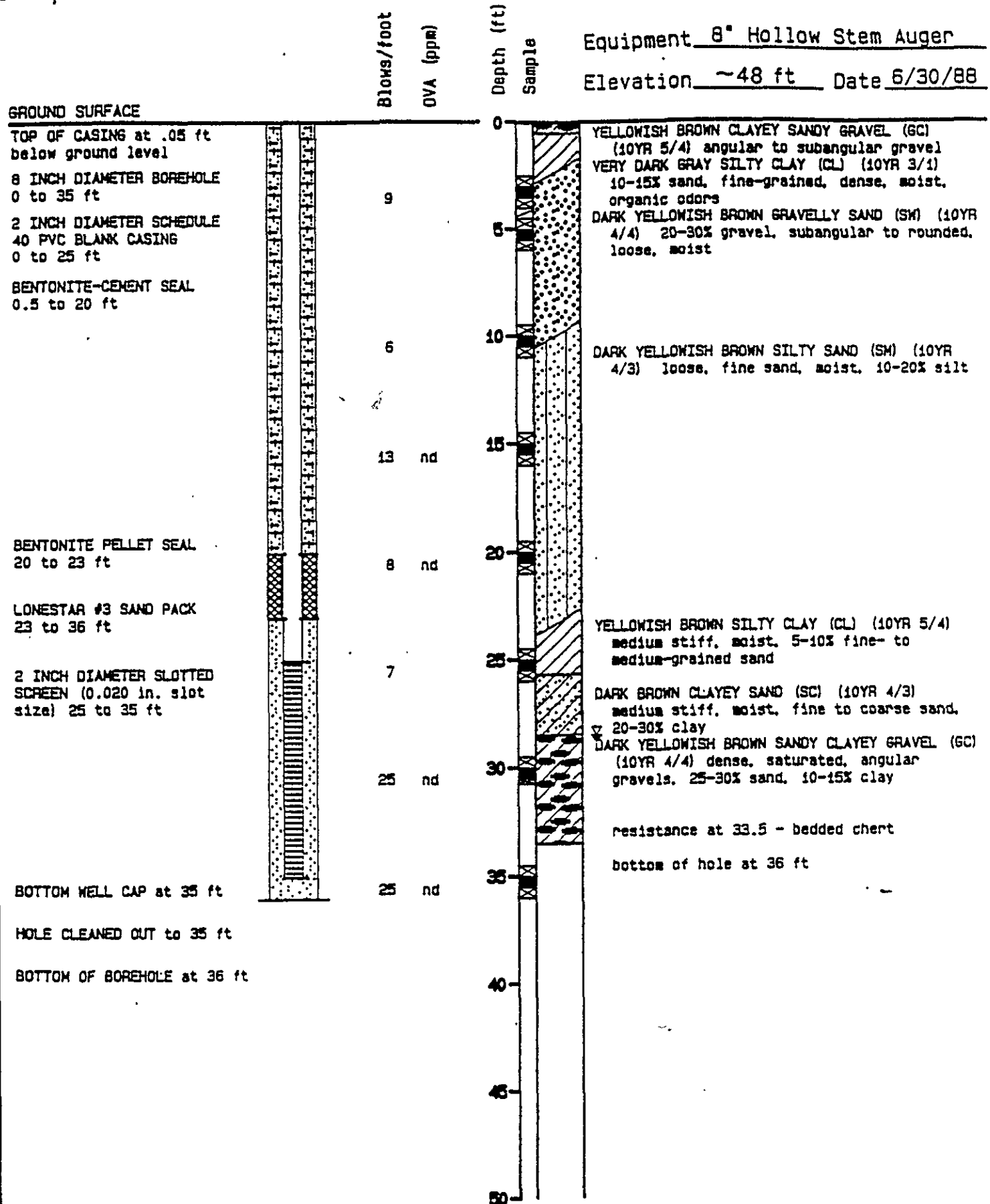
DARK BROWN SAND (SP) (10YR 3/3) loose, slightly moist, fine- to medium-grained
 DARK BROWN SANDY CLAY (CL) (7.5YR 3/2) medium stiff, slightly moist, plastic, 10-20% very fine to medium sand, slight hydrocarbon odor
 DARK GRAYISH BROWN SILTY CLAY (CL) (2.5Y 3/2) medium stiff, moist, plastic, mottled black, light hydrocarbon odor
 no hydrocarbon odors
 DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 3/4) medium dense, moist, fine-grained, 20-25% silt, no hydrocarbon odors
 OLIVE-BROWN SANDY SILT (ML) (2.5Y 4/4) medium stiff, moderate plastic, 5-25% very fine sand, no hydrocarbon odors
 OLIVE-BROWN SAND (SP) (2.5Y 4/4) medium dense, moist, 5% fine sand, no hydrocarbon odors
 OLIVE-BROWN SILTY CLAY (CL) (2.5Y 4/4) medium stiff, moist, trace decomposed organics
 bottom of hole at 21 ft



Harding Lawson Associates
Engineers and Geoscientists

Log of Boring SB-1
Hudson Property
San Leandro, California

PLATE
2



Equipment 8" Hollow Stem Auger
 Elevation ~48 ft Date 6/30/88

GROUND SURFACE

TOP OF CASING at .05 ft below ground level

8 INCH DIAMETER BOREHOLE 0 to 35 ft

2 INCH DIAMETER SCHEDULE 40 PVC BLANK CASING 0 to 25 ft

BENTONITE-CEMENT SEAL 0.5 to 20 ft

BENTONITE PELLET SEAL 20 to 23 ft

LONESTAR #3 SAND PACK 23 to 36 ft

2 INCH DIAMETER SLOTTED SCREEN (0.020 in. slot size) 25 to 35 ft

BOTTOM WELL CAP at 35 ft

HOLE CLEANED OUT to 35 ft

BOTTOM OF BOREHOLE at 36 ft



Harding Lawson Associates
 Engineers and Geoscientists

Log of Boring and Well Completion Detail MW-1
 Hudson Property
 San Leandro, California

Equipment 8" Hollow Stem Auger
 Elevation ~45 ft Date 6/29/88

GROUND SURFACE

TOP OF CASING at .05 ft below ground level
 8 INCH DIAMETER BOREHOLE 0 to 41 ft
 2 INCH DIAMETER SCHEDULE 40 PVC BLANK CASING 0 to 23 ft
 BENTONITE-CEMENT SEAL 0.5 to 20.5 ft
 BENTONITE PELLET SEAL 20.5 to 22 ft
 LONESTAR #3 SAND PACK 22 to 36 ft
 2 INCH DIAMETER SLOTTED SCREEN (0.020 in. slot size) 23 to 33 ft
 BOTTOM WELL CAP at 33 ft
 HOLE CLEANED OUT to 36 ft
 BOTTOM OF BOREHOLE at 41 ft

Blows/foot	OVA (ppm)	Depth (ft)	Sample
22		0	
16	90	5	
16	40	10	
13		15	
10		20	
8	60	25	
9	nd	30	
16	nd	35	
17	nd	40	
		45	
		50	

DARK YELLOWISH BROWN CLAYEY SANDY GRAVEL (GC) (10YR 4/6) dense, dry, fine gravels, angular to subangular, 30-40% medium to coarse sand, 10% clay
 BLACK SILTY CLAY (CL) (5Y 2.5/1) stiff, dry, large wood fragments color change
 DARK BROWN SANDY CLAY (CL) (10YR 3/3) dense, slightly moist, 10% fine- to medium-grained sand
 DARK YELLOWISH BROWN SILTY SAND (SH) (10YR 4/4) moist, medium dense, fine-grained sand, trace medium to coarse sand, 15-20% silt
 DARK YELLOWISH BROWN SILTY CLAY (CL) (10YR 4/4) medium stiff, moist, sparse mottling (black)
 OLIVE-GRAY CLAY (CH) (5Y 4/2) medium stiff, moist, highly plastic, mottled olive (5Y 4/3)
 OLIVE-GRAY CLAYEY SAND (SC) (5Y 4/1) loose, wet, 40-50% clay, very fine to fine sand, strong hydrocarbon odor
 VERY DARK GRAYISH BROWN SANDY CLAY (CL) (10YR 3/2) medium stiff, moist, 10-15% very fine to medium sand, low to moderate plasticity
 BROWN CLAYEY SAND (SC) (10YR 5/3) loose, saturated, 30-40% clay
 BROWN SANDY CLAY (CL) (10YR 5/3) medium stiff, very moist, 20-25% very fine sand
 increased sand at 34.5 ft
 bottom of hole at 41 ft



Harding Lawson Associates
 Engineers and Geoscientists

Log of Boring and Well Completion Detail MW-2
 Hudson Property
 San Leandro, California

Equipment 8" Hollow Stem Auger

Elevation ~41 ft Date 6/30/88

GROUND SURFACE

TOP OF CASING at 0.5 ft below ground level

8 INCH DIAMETER BOREHOLE 0 to 39.5 ft

2 INCH DIAMETER SCHEDULE 40 PVC BLANK CASING 0 to 29.5 ft

BENTONITE-CEMENT SEAL 0.5 to 26 ft

BENTONITE PELLET SEAL 26 to 28 ft

LONESTAR #3 SAND PACK 28 to 39.5 ft

2 INCH DIAMETER SLOTTED SCREEN (0.020 in. slot size) 29.5 to 39.5 ft

BOTTOM WELL CAP at 39.5 ft

HOLE CLEANED OUT to 39.5 ft

BOTTOM OF BOREHOLE at 41 ft

Blows/foot

OVA (ppm)

Depth (ft)

Sample



28 nd

17 nd

16

9 nd

6 nd

8

8

11 nd

14

0

5

10

15

20

28

30

38

40

45

50

DARK YELLOWISH BROWN SAND (SW) (10YR 3/6) medium dense, dry, very fine to coarse sand, subrounded to rounded

VERY DARK GRAYISH BROWN SANDY CLAY (CL) (10YR 3/2) stiff, moist, very fine-grained sand, low to moderate plastic, 10-20% sand color change to dark yellowish brown (10YR 3/4) increased sand content (30-40%)

LIGHT OLIVE-BROWN GRAVELLY SAND (SW) (2.5Y 5/6) very dense, slightly moist, very fine to coarse sand grains, 10-15% gravels, angular to subrounded

LIGHT OLIVE-BROWN CLAYEY SILT (ML) (2.5Y 5/4) medium stiff, moist

LIGHT OLIVE-BROWN SILTY SAND (SM) (2.5Y 5/4) medium dense, moist, 25-35% silt

DARK YELLOWISH BROWN GRAVELLY SAND (SW) (10YR 4/6) medium dense, moist, very fine to coarse sand, 10-15% gravels sand lenses

LIGHT OLIVE-BROWN SILTY CLAY (CL) (2.5Y 5/4) soft to medium stiff, very moist, trace mottling

LIGHT BROWN CLAYEY SAND (SC) (2.5Y 5/4) medium dense, moist, 30-40% clay

LIGHT OLIVE-BROWN SAND (SP) (2.5Y 5/4) medium dense, saturated

LIGHT OLIVE-BROWN SANDY CLAY (CL) (2.5Y 5/4) medium dense, moist, 20-30% very fine- to medium-grained sand

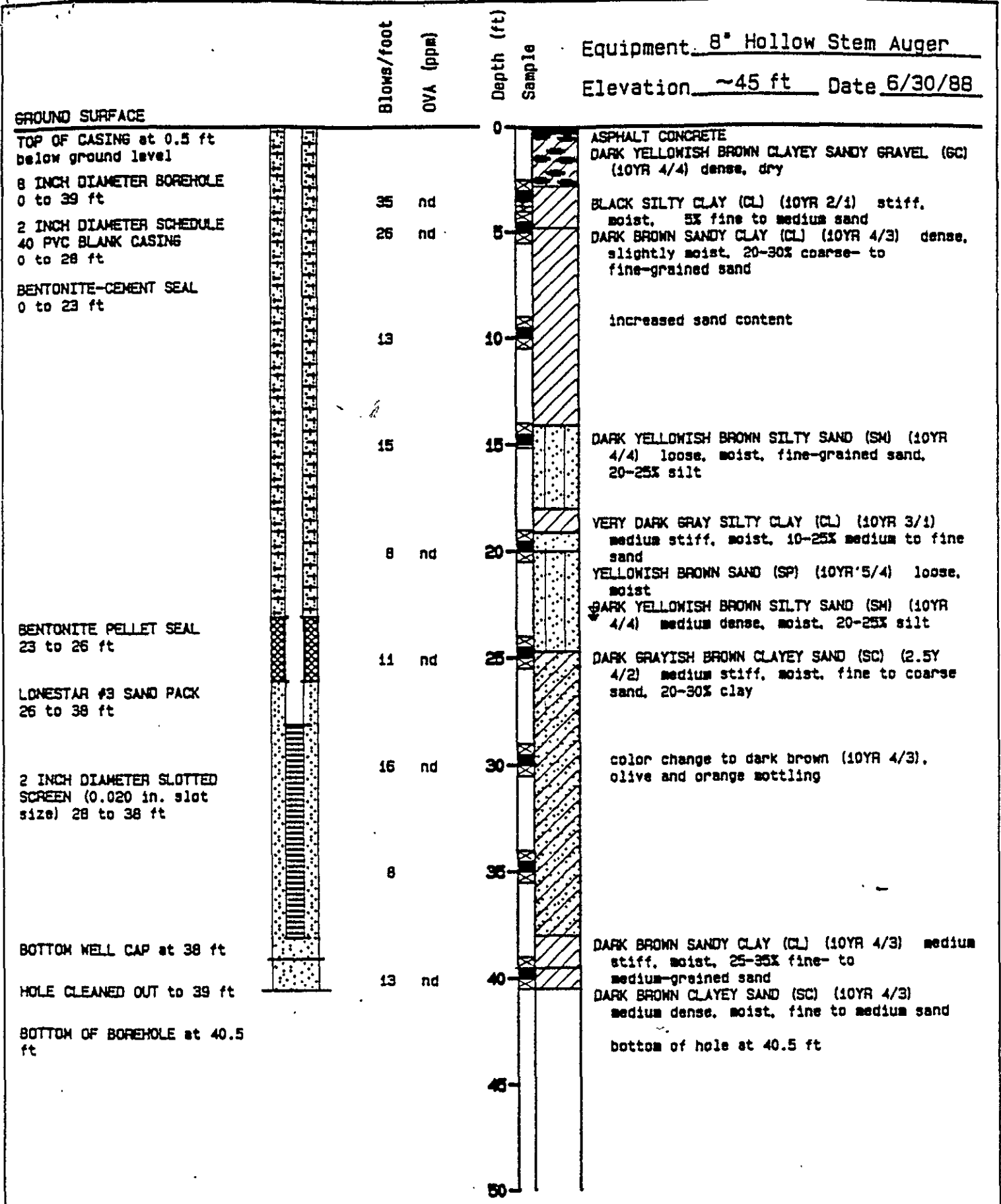
bottom of hole at 41 ft



Harding Lawson Associates
Engineers and Geoscientists

Log of Boring and Well Completion Detail MN-3
Hudson Property
San Leandro, California

PLATE
5



Equipment 8" Hollow Stem Auger
 Elevation ~45 ft Date 6/30/88

GROUND SURFACE
 TOP OF CASING at 0.5 ft below ground level
 8 INCH DIAMETER BOREHOLE 0 to 39 ft
 2 INCH DIAMETER SCHEDULE 40 PVC BLANK CASING 0 to 28 ft
 BENTONITE-CEMENT SEAL 0 to 23 ft

BENTONITE PELLET SEAL 23 to 26 ft

LDNESTAR #3 SAND PACK 26 to 39 ft

2 INCH DIAMETER SLOTTED SCREEN (0.020 in. slot size) 28 to 38 ft

BOTTOM WELL CAP at 38 ft

HOLE CLEANED OUT to 39 ft

BOTTOM OF BOREHOLE at 40.5 ft



Harding Lawson Associates
 Engineers and Geoscientists

Log of Boring and Well Completion Detail MW-4
 Hudson Property
 San Leandro, California

BORING LOCATION HUDSON ICS 400 HUDSON LN. SAN LEANDRO, CA.			Boring/Well Name B-1		
DRILLING COMPANY SPECTRUM EXPLORATION			DRILLER DOUG SHEARER		
DRILLING METHOD (S) HOLLOW STEM AUGERS			DRILL BIT (S) SIZE: 6-INCH O.D.		
ISOLATION CASING N/A			ELEVATION AND DATUM		TOTAL DEPTH 31.5
BLANK CASING N/A			DATE STARTED 9/20/90		DATE COMPLETED 9/20/90
PERFORATED CASING N/A			STATIC WATER ELEVATION 26.5		
SIZE AND TYPE OF FILTER PACK N/A			LOGGED BY P. McLOUD		
SEAL N/A			SAMPLING METHODS CONTINUOUS CORING SPLIT SPOON		WELL COMPLETION <input type="checkbox"/> SURFACE HOUSING <input type="checkbox"/> STOVE PIPE _____ FT
GROUT PORTLAND CEMENT/BENTONITE (3-5%)			FROM 0 TO 31.5 FT		

SAMPLES			Depth (ft)	OVM (ppm)	WELL CONSTRUCTION	USCS LOG	Lithology	Color	SAMPLE DESCRIPTION and DRILLING REMARKS
Type No.	Recovery (Feet)	Per. Resist (Ohms/ft)							
						(FILL)			GRAYISH ORANGE SLIGHTLY MOIST MEDIUM TO COARSE SAND W/ FINE TO MEDIUM GRAVEL (FILL)
A	1.0	3 7 10	5	0	CEMENT/BENTONITE GROUT	CL	5 YR 3/4		FINE SANDY SILTY CLAY MEDIUM BROWN, VERY STIFF, LOW-MEDIUM PLASTICITY, SLIGHTLY MOIST TO MOIST.
B	1.5	3 6 7	10	0		CL	5 YR 3/2		LEAN CLAY W/TRACE COARSE SAND GRAYISH BROWN, STIFF, LOW PLASTICITY, MOIST.
C	1.5	3 4 6	15	0		CL	10 YR 4/2		LEAN CLAY TRACE FINE TO MEDIUM GRAVEL DARK YELLOWISH BROWN, MEDIUM STIFF, HIGH PLASTICITY, MOIST.
D	0.5	2 3 5	20	107		SM	5 Y 5/2		SILTY FINE TO MEDIUM SAND - LIGHT OLIVE GRAY, MOIST, MODERATE PETROLEUM ODORS.
						GH	10 GY 5/2		SILTY CLAY W/LITTLE FINE SAND AND TRACE MEDIUM SAND GRAYISH GREEN, MEDIUM STIFF, HIGH PLASTICITY, MOIST.
						CL	5 Y 3/2		FINE SANDY SILTY CLAY W/TRACE MEDIUM SAND SLIGHT ODOR GRAYISH OLIVE, MEDIUM HIGH PLASTICITY, MOIST.
E	1.0	2 4 6	25	154		CL/SM	5 Y 3/2		FINE SANDY SILTY CLAY TO SILTY FINE TO MEDIUM SAND SLIGHT ODOR, GRAYISH OLIVE, MEDIUM STIFF, LOW TO MEDIUM PLASTICITY, VERY MOIST.
						CL	10 YR 4/2		FINE SANDY SILTY CLAY W/LITTLE MEDIUM SAND AND TRACE MEDIUM GRAVEL - DARK YELLOWISH BROWN, LOW PLASTICITY, MOIST.
F	1.0	2 3 3	30	11					FINE SANDY SILTY CLAY W/LITTLE MEDIUM SAND MOTTLED MEDIUM PLASTICITY, VERY MOIST. SLIGHT ODOR.

BOTTOM OF BORING AT 31.5 FT.

FINE SANDY SILTY CLAY W/LITTLE MEDIUM SAND AND TRACE COARSE SAND
LOW PLASTICITY, SLIGHTLY MOIST TO MOIST. SLIGHT ODOR.

Boring & Well Construction Log

Kennedy/Jenks/Chilton

BORING LOCATION HUDSON ICS 400 HUDSON LN. SAN LEANDRO, CA.				Boring/Well Name B-2	
DRILLING COMPANY SPECTRUM EXPLORATION		DRILLER DOUG SHEARER		Project Name SUBSURFACE INV.	
DRILLING METHOD (S) HOLLOW STEM AUGER		DRILL BIT (S) SIZE 6-INCH O.D.		Project Number 900070.00	
ISOLATION CASING N/A		FROM TO FT		ELEVATION AND DATUM TOTAL DEPTH 31.5	
BLANK CASING N/A		FROM TO FT		DATE STARTED 9/20/90 DATE COMPLETED 9/20/90	
PERFORATED CASING N/A		FROM TO FT		STATIC WATER ELEVATION NOT MEASURED	
SIZE AND TYPE OF FILTER PACK N/A		FROM TO FT		LOGGED BY P. McLOUD	
SEAL N/A		FROM TO FT		SAMPLING METHODS CONTINUOUS CORING SPLIT METHOD	
GROUT PORTLAND CEMENT/BENTONITE (3-5%)		FROM TO FT 0 31.5		WELL COMPLETION <input type="checkbox"/> SURFACE HOUSING <input type="checkbox"/> STOVE PIPE _____ FT	

SAMPLES			Depth (Ft)	OVM (ppm)	WELL CONSTRUCTION	USCS LOG	Lithology	Color	SAMPLE DESCRIPTION and DRILLING REMARKS
Type No.	Recovery (Feet)	Pen. Resist Blows/6in							
						(FILL)			YELLOWISH BROWN ALMOST FINE TO COARSE SAND FINE TO MEDIUM GRAVEL (FILL)
A	.75	3 5 6	5	0		CL	5 YR 3/2 10 YR 4/2		FINE SANDY SILTY CLAY GRAYISH BROWN, LOW PLASTICITY, SLIGHTLY MOIST. FINE TO MEDIUM SANDY SILTY CLAY - DARK YELLOWISH BROWN, STIFF, LOW PLASTICITY, SLIGHTLY MOIST.
B	1.0	2 4 7	10	6	CEMENT/BENTONITE GROUT	SM/GM	5 YR 3/2		SILTY FINE TO MEDIUM SAND W/FINE GRAVEL DARK YELLOWISH BROWN, SLIGHTLY MOIST.
						CL	5 YR 3/2		FINE SANDY SILTY CLAY W/LITTLE MEDIUM SAND AND TRACE OF COARSE GRAVEL - GRAYISH BROWN, STIFF, MEDIUM PLASTICITY, SLIGHTLY MOIST TO MOIST.
C	.5	4 4 6	15	0		CL/SM	10 YR 5/4		FINE SANDY SILTY CLAY TO SILTY FINE TO MEDIUM SAND MEDIUM YELLOWISH BROWN, LOW PLASTICITY, MOIST.
						SM			SILTY FINE TO MEDIUM SAND W/TRACE COARSE SAND MEDIUM YELLOWISH BROWN, LOOSE, MOIST.
D	1.0	1 2 2	20	122		CL	10 YR 7/4 10 Y 4/2		FINE SANDY SILTY CLAY W/TRACE OF MEDIUM SAND GRAYISH ORANGE, MEDIUM PLASTICITY, MOIST, SLIGHTLY ODOR. FINE SANDY SILTY CLAY W/LITTLE MEDIUM SAND GRAYISH OLIVE, MEDIUM PLASTICITY, MOIST, MODERATE ODOR.
						CH			FINE SANDY SILTY CLAY GRAYISH OLIVE, SOFT, HIGH PLASTICITY, MOIST, MODERATE ODOR.
E	1.5	1 3 5	25	120		CL	10 Y 4/2 10 YR 4/2		FINE SANDY SILTY CLAY W/TRACE OF MEDIUM SAND GRAYISH OLIVE, MEDIUM STIFFNESS, MEDIUM PLASTICITY, MOIST, MODERATE ODOR. FINE TO MEDIUM SANDY SILTY CLAY W/TRACE OF COARSE SAND - DARK YELLOWISH BROWN, MEDIUM PLASTICITY, MOIST, SLIGHT ODOR.
F	1.0	3 4 5	30	15	WET BELOW 28.5 FT.	CL			FINE SANDY SILTY CLAY W/LITTLE MEDIUM SAND MEDIUM STIFFNESS, HIGH PLASTICITY, WET.

BOTTOM OF BORING AT 31.5 FT.

BORING LOCATION HUDSON IGS 400 HUDSON LN. SAN LEANDRO, CA			Boring/Well Name B-3		
DRILLING COMPANY SPECTRUM EXPLORATION			DRILLER DOUG SHEARER		
DRILLING METHOD (S) HOLLOW STEM AUGERS			DRILL BIT (S) SIZE: 6-INCH O.D.		
ISOLATION CASING N/A			ELEVATION AND DATUM		
BLANK CASING N/A			DATE STARTED 9/20/90		
PERFORATED CASING N/A			DATE COMPLETED 9/20/90		
SIZE AND TYPE OF FILTER PACK N/A			STATIC WATER ELEVATION NOT MEASURED		
SEAL N/A			LOGGED BY P. McLOUD		
GROUT PORTLAND CEMENT/BENTONITE (3-5%)			SAMPLING METHODS CONTINUOUS CORING SPLIT SPOON		
			WELL COMPLETION <input type="checkbox"/> SURFACE HOUSING <input type="checkbox"/> STOVE PIPE _____ FT		

SAMPLES			Depth (Ft)	OMV (ppm)	WELL CONSTRUCTION	USCS LOG	Lithology	Color	SAMPLE DESCRIPTION and DRILLING REMARKS
Type No.	Recovery (Feet)	Pen. Resist. (Blows/6h)							
									(FILL) - YELLOWISH BROWN AND GRAY, FINE TO COARSE SAND AND MEDIUM GRAVEL.
						(FILL)		5 YR 3/2	(FILL) - GRAYISH BROWN, LOW PLASTICITY, MOIST, FINE SANDY SILTY CLAY.
A	1.0	4 7 10	5	9.7				10 YR 4/2	FINE SANDY SILTY CLAY W/LITTLE MEDIUM SAND DARK YELLOWISH BROWN, VERY STIFF, LOW PLASTICITY, SLIGHTLY MOIST.
B	1.5	4 6 8	10	9.7	CEMENT/ BENTONITE GROUP	CL		10 YR 5/4 5 YR 3/4	SILTY FINE SAND W/TRACE OF MEDIUM SAND 4-INCH LENS OF MEDIUM YELLOWISH BROWN, SLIGHTLY MOIST AT 14 FT. FINE SANDY SILTY CLAY MODERATE BROWN, STIFF, LOW PLASTICITY, SLIGHTLY MOIST TO MOIST.
C	1.0	2 6 7	15	21.3				10 YR 5/4	SILTY FINE SANDY CLAY W/TRACE OF MEDIUM SAND MEDIUM YELLOWISH BROWN, STIFF, MEDIUM PLASTICITY, SLIGHTLY MOIST TO MOIST. FINE SANDY SILTY CLAY TO SILTY FINE SAND MEDIUM YELLOWISH BROWN, MEDIUM STIFFNESS, MEDIUM PLASTICITY, SLIGHTLY MOIST TO MOIST.
D	1.0	1 2 4	20	18.2		CH		10 YR 5/4	FAT SILTY CLAY W/FINE SILTY SAND MODERATE YELLOWISH BROWN, MEDIUM STIFFNESS, MEDIUM TO HIGH PLASTICITY, MOIST.
						CL		10 YR 5/4	FINE SANDY SILTY CLAY W/TRACE OF MEDIUM SAND MEDIUM YELLOWISH BROWN, STIFF, MEDIUM TO HIGH PLASTICITY, MOIST.
						CL/SP		10 YR 5/4	SILTY FINE SANDY CLAY TO SILTY FINE SAND MEDIUM TO HIGH PLASTICITY, MOIST.
E	1.0	1 4 6	25	6.6		CL/CH		10 YR 5/4	FINE SANDY SILTY CLAY W/TRACE OF MEDIUM SAND MEDIUM STIFFNESS, MEDIUM TO HIGH PLASTICITY, MOIST.
								10 YR 4/2	FINE SANDY SILTY CLAY W/LITTLE MEDIUM SAND DARK YELLOWISH BROWN, MEDIUM STIFFNESS, MEDIUM PLASTICITY, MOIST, MOTTLED.
F	.75	2 3 4	30	8.8	WET BELOW 28.5 FT.	CL		10 YR 4/2	FINE SANDY SILTY CLAY DARK YELLOWISH BROWN, MEDIUM STIFFNESS, MEDIUM TO HIGH PLASTICITY, WET, MOTTLED.

BOTTOM OF BORING
AT 31.5 FT.

BORING LOCATION HUDSON I.C.S. - 400 HUDSON LANE, SAN LEANDRO, CALIFORNIA		Boring/Well Name MW-5	
DRILLING COMPANY KVILHAUG WELL DRILLING		DRILLER R. FURLOW	
DRILLING METHOD(S) HOLLOW STEM AUGER		DRILL BIT(S) SIZE 12-in. O.D.	
ISOLATION CASING NA		FROM TO FT.	
BLANK CASING 4-in. SCHEDULE 40 PVC		FROM TO FT. 0.5 24.0	
PERFORATED CASING 4 in. SCHEDULE 40 PVC - 0.020-in. slot size		FROM TO FT. 24.0 34.0	
SIZE AND TYPE OF FILTER PACK LONESTAR SAND NO. 3		FROM TO FT. 22.0 34.0	
SEAL BENTONITE PELLETS - 0.25-in.		FROM TO FT. 21.0 22.0	
GROUT PORTLAND CEMENT/BENTONITE 5%		FROM TO FT. 0.75 21.0	
ELEVATION AND DATUM 45.065		TOTAL DEPTH 34.0 FT.	
DATE STARTED 6/1/92		DATE COMPLETED 6/1/92	
STATIC WATER ELEVATION 18.6'ASL		NORTHING	
LOGGED BY P. McLOUD		EASTING	
SAMPLING METHODS SPLIT SPOON		WELL COMPLETION <input checked="" type="checkbox"/> SURFACE HOUSING <input type="checkbox"/> STAND PIPE _____ FT.	

SAMPLES			Drill Depth (Feet)	WELL CONSTRUCTION	USCS Log	Lithology	Color	SAMPLE DESCRIPTION and DRILLING REMARKS
Type & No.	Recovery (Feet)	Penetr. Resist. Blows/ft						
<p>LOCKING WELL CAP</p> <p>4-in. SCHEDULE 40 PVC SOLID CASING</p> <p>CEMENT GROUT</p> <p>BENTONITE SEAL</p> <p>SAND FILTER PACK</p> <p>FIRST ENCOUNTERED GROUNDWATER AT 27.5 FT.</p> <p>4-in. SCHEDULE 40 PVC WELL SCREEN 0.02-in. SLOT</p> <p>BOTTOM CAP</p> <p>BOTTOM OF BORING AT 34.0 FT.</p>								
A	1.5	4 12 32	5		FILL (CL)	5YR 4/4 5YR 2/2		ASPHALT
B	1.5	12 20 30	10		FILL (ML)	10YR 2/2		LEAN CLAY WITH SAND: MODERATE TO DUSKY BROWN, SLIGHTLY MOIST, SILTY CLAY WITH LITTLE MEDIUM TO COARSE SAND AND TRACE OF FINE GRAVEL, HARD, LOW PLASTICITY
C	1.0	18 22 20	15		FILL (ML)	10YR 2/2		SILT WITH SAND: DUSKY YELLOWISH BROWN, DRY, SILT WITH FINE SAND AND TRACE OF COARSE SAND AND FINE GRAVEL, LOW PLASTICITY
D	1.0	12 20 25	20		FILL (CL)	5YR 3/2		SILT WITH SAND: DUSKY YELLOWISH BROWN, DRY, SILT WITH TRACE OF MEDIUM SAND, LITTLE COARSE SAND AND FINE GRAVEL, LOW PLASTICITY
E	1.5	5 10 18	25		MH	N4		LEAN CLAY: MEDIUM DARK GRAY, MOIST, SILTY CLAY, MEDIUM TO HIGH PLASTICITY, SLIGHT ODOR. OVM = 53 ppm
F	1.5	6 8 10	30		MH	10YR 5/4		MEDIUM YELLOW BROWN, WET, HIGH PLASTICITY, MODERATE ODOR, SHEEN ON SPLIT SPOON. OVM = 42 ppm
								MONITORING WELL MW-5 INSTALLED UPON COMPLETION OF BORING

BORING LOCATION HUDSON I.C.S. - 400 HUDSON LANE, SAN LEANDRO, CALIFORNIA		Boring/Well Name MW-5
DRILLING COMPANY KVILHAUG WELL DRILLING	DRILLER R. FURLOW	Project Name HUDSON I.C.S.
DRILLING METHOD(S) HOLLOW STEM AUGER	DRILL BIT(S) SIZE 12-in. O.D.	Project Number 900070.30
ISOLATION CASING NA	FROM -- TO -- FT.	ELEVATION AND DATUM 45.065
BLANK CASING 4-in. SCHEDULE 40 PVC	FROM 0.5 TO 24.0 FT.	TOTAL DEPTH 34.0 FT.
PERFORATED CASING 4 in. SCHEDULE 40 PVC - 0.020-in. slot size	FROM 24.0 TO 34.0 FT.	DATE STARTED 6/1/92
SIZE AND TYPE OF FILTER PACK LONESTAR SAND NO. 3	FROM 22.0 TO 34.0 FT.	DATE COMPLETED 6/1/92
SEAL BENTONITE PELLETS - 0.25-in.	FROM 21.0 TO 22.0 FT.	STATIC WATER ELEVATION 18.6'ASL
GROUT PORTLAND CEMENT/BENTONITE 5%	FROM 0.75 TO 21.0 FT.	NORTHING
		LOGGED BY P. McLOUD
		EASTING
		SAMPLING METHODS SPLIT SPOON
		WELL COMPLETION <input checked="" type="checkbox"/> SURFACE HOUSING <input type="checkbox"/> STAND PIPE _____ FT.

SAMPLES			Drill Depth (Feet)	WELL CONSTRUCTION	USCS Log	Lithology	Color	SAMPLE DESCRIPTION and DRILLING REMARKS
Type & No.	Recovery (Feet)	Penetr. Resist. Blows/ft						
<p style="text-align: center;">Water tight well enclosure</p>								
				LOCKING WELL CAP				ASPHALT
A	1.5	4 12 32	5	4-in. SCHEDULE 40 PVC SOLID CASING	FILL (CL)	5YR 4/4 5YR 2/2		LEAN CLAY WITH SAND: MODERATE TO DUSKY BROWN, SLIGHTLY MOIST, SILTY CLAY WITH LITTLE MEDIUM TO COARSE SAND AND TRACE OF FINE GRAVEL, HARD, LOW PLASTICITY
B	1.5	12 20 30	10	CEMENT GROUT	FILL (ML)	10YR 2/2		SILT WITH SAND: DUSKY YELLOWISH BROWN, DRY, SILT WITH FINE SAND AND TRACE OF COARSE SAND AND FINE GRAVEL, LOW PLASTICITY
C	1.0	18 22 20	15		FILL (ML)	10YR 2/2		SILT WITH SAND: DUSKY YELLOWISH BROWN, DRY, SILT WITH TRACE OF MEDIUM SAND, LITTLE COARSE SAND AND FINE GRAVEL, LOW PLASTICITY
D	1.0	12 20 25	20	BENTONITE SEAL	FILL (CL)	5YR 3/2		LEAN CLAY WITH SAND: GRAYISH BROWN, SLIGHTLY MOIST, SILTY CLAY WITH TRACE OF MEDIUM SAND AND LITTLE COARSE SAND, LOW PLASTICITY
E	1.5	5 10 18	25	SAND FILTER PACK				
				FIRST ENCOUNTERED GROUNDWATER AT 27.5 FT.	MH	N4		LEAN CLAY: MEDIUM DARK GRAY, MOIST, SILTY CLAY, MEDIUM TO HIGH PLASTICITY, SLIGHT ODOR OVM = 53 ppm
F	1.5	6 8 10	30	4-in. SCHEDULE 40 PVC WELL SCREEN 0.02-in. SLOT	MH	10YR 5/4		MEDIUM YELLOW BROWN, WET, HIGH PLASTICITY, MODERATE ODOR, SHEEN ON SPLIT SPOON OVM = 42 ppm
				BOTTOM CAP				
				BOTTOM OF	MONITORING WELL MW-5 INSTALLED UPON			

WESTERN PACIFIC RAILROAD AND BART RIGHT OF WAY

SURFACE IMPOUNDMENT

Underground Diesel Fuel Tank

SB-1

MW-2

STORAGE YARD

PLANT

STORAGE YARD

STORAGE SHED




MW-3

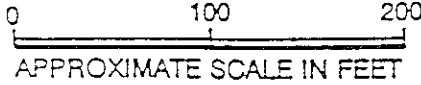
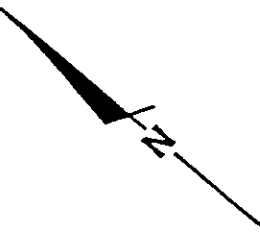
PARKING

MW-4


SOUTHERN PACIFIC TRANSPORTATION RIGHT OF WAY

LEGEND

-  Ground-water Monitoring Well
-  Soil Boring
-  Property Boundary



Reference:
Boundary and Topographic Survey
for the Hudson Lumber Company
by the Murray-McCormick
Environmental Group,
September 1973, Revised November 1982.

 **Harding Lawson Associates**
Engineers and Geoscientists

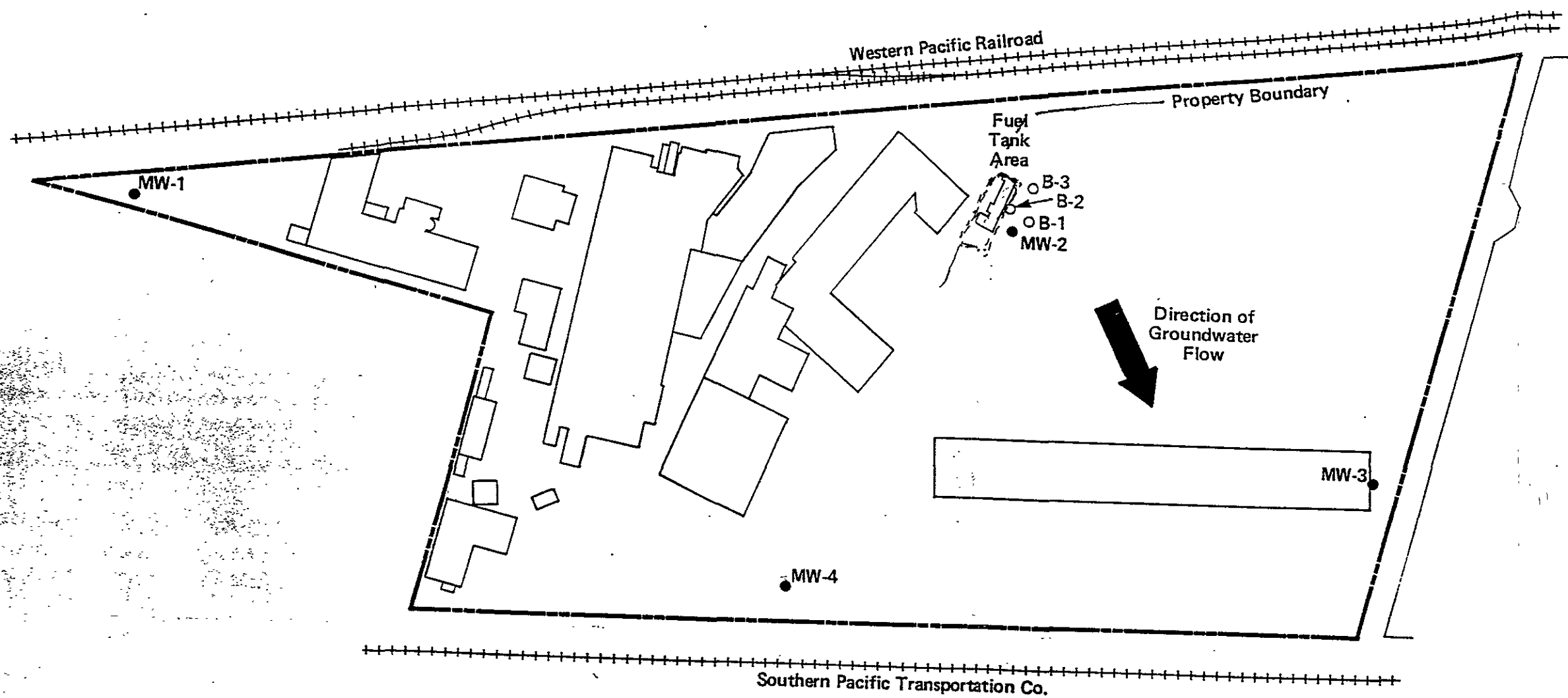
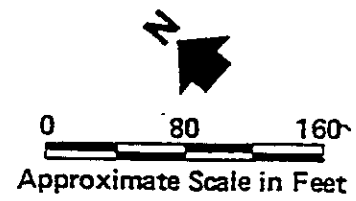
Site Plan
Environmental Audit
Hudson Property
San Leandro, California

PLATE

1

DRAWN AM	JOB NUMBER 18720,005.02	APPROVED <i>RSL</i>	DATE 7/88	REVISED	DATE
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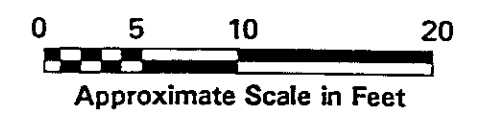
109483



- Legend:**
- B-1 Soil Boring Location
 - MW-1 Monitoring Well Location

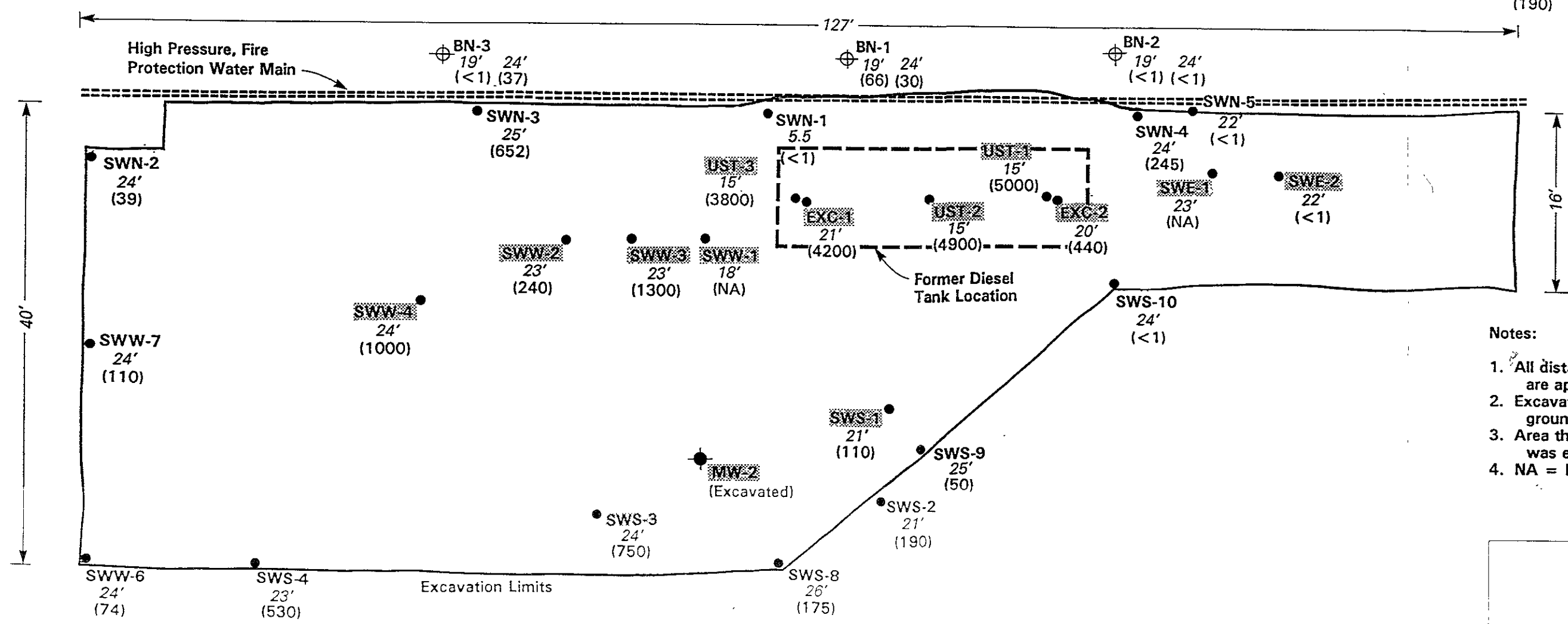
Kennedy/Jenks/Chilton
 Hudson I.C.S.
 San Leandro, CA
 Soil Boring and
 Monitoring Well Locations
 K/J/C 900070
 December 1990

Figure 2



Legend:

- SWN-2 Sample Location and Number
- EXC-1 Soil Sample from Area that was Excavated
- ⊕ BN-1 Boring Location Drilled 31 July 1991
- MW-2 Groundwater Monitoring Well
- 24' Depth in Feet Below Ground Surface
- (190) Diesel Concentration, mg/kg



Notes:

1. All distances and sample locations are approximate.
2. Excavation depth is 26 feet below ground surface.
3. Area that sample was taken from was excavated.
4. NA = Not Analyzed.

Kennedy/Jenks Consultants

Hudson I.C.S.
San Leandro, CA

Soil Sample Location Map
Excavation Area

K/J 900070.10
October 1991

Figure 3