



June 22, 2000

STID 4075

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

REMEDIAL ACTION COMPLETION CERTIFICATION

Kaiser Foundation Health Plan
Attn: Mr. Bob Gold
1950 Franklin Street
Oakland, California 94612

RE: Kaiser Mosswood Building, 3505 Broadway, Oakland, California 94612

Dear Mr. Gold:

This letter confirms the completion of a site investigation and corrective action for the underground storage tanks 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 tanks 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 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 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, Environmental Health Services

- c: Chuck Headlee, RWQCB
Allan Patton, SWRCB (w/attachment – Case Summary)
Leroy Griffin, Oakland Fire Services Agency (w/attachment – Case Summary)
SH/files

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



June 22, 2000

Kaiser Foundation Health Plan
Attn: Mr. Bob Gold
1950 Franklin Street
Oakland, California 94612

ENVIRONMENTAL HEALTH SERVICES

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

**RE: Fuel Leak Site Case Closure – Kaiser Mosswood Building (STID 4075)
3505 Broadway, Oakland, California 94612**

Dear Mr. Gold:

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 Services, Local Oversight Program 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:

- Six thousand four hundred parts per million (ppm) Total Petroleum Hydrocarbon (TPH) as Gasoline, 82 ppm benzene, 480 ppm toluene, 140 ppm ethylbenzene, and 730 ppm xylene remain in the soil at the site.
- Prior to any construction activity and/ or change in land use at the site, a risk management plan, which may include risk assessment, must be submitted and approved by this agency.

If you have any questions, please contact me at (510) 567-6780. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Susan L. Hugo".

Susan L. Hugo, Hazardous Materials Specialist

Enclosures:

1. Case Closure Letter
2. Case Closure Summary

c: Leroy Griffin, Oakland Fire Department, 1605 Martin Luther King Jr. Way, Oakland, CA 94612
SH/ files

ENVIRONMENTAL PROTECTION

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

00 JAN 27 PM 2: 25

CALIFORNIA REGIONAL WATER

JAN 24 2000

QUALITY CONTROL BOARD

I. AGENCY INFORMATION

Date: December 7, 1999

Agency Name: Alameda County-HazMat
City/State/ Zip: Alameda, CA 94502
Responsible Staff Person: Susan L. Hugo

Address: 1131 Harbor Bay Parkway
Phone: (510) 567-6700
Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Kaiser Mosswood Building
Site Facility Address: 3505 Broadway, Oakland, CA 94612
RB LUSTIS Case No.: N/A
URF Filing Date: 1/3/91

Local Case No./ LOP Case No. 4075
SWEEPS No.: N/A

Responsible Parties:

Addresses:

Phone Numbers:

Kaiser Foundation
Health Plan
Attn: Mr. Rick Andrews

1950 Franklin Street
Oakland, California 94612

(510) 559-5430

Tank No:	Size in gal.	Contents:	Closed in-place or removed?:	Date:
1	5000	Gasoline	Removed	6/8/92
2	7000	Gasoline	Removed	6/8/92
3	500	Waste Oil	Removed	5/19/92

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Leaking pump**
Date approved by oversight agency:
Number: **Six (6)**
Highest GW depth below ground surface: **10.16'**
Flow direction: **Generally to the east southeast**
Are drinking water wells affected? **NO**
Is surface water affected? **NO**
Off-site beneficial use impacts (address / location): **Unknown**
Report (s) on file? **YES**
Where is report (s) filed? **Alameda County, 1131 Harbor Bay Parkway, Alameda, CA 94502**

Site characterization complete: **YES**
Monitoring wells installed? **YES**
Proper screened interval? **YES**
Lowest depth: **18.05'**
Most sensitive current use: **Commercial**
Aquifer Name: **NA**
Nearest affected SW name: **NA**

Treatment and Disposal of Affected Materials:

Materials	Amount (Include Units)	Action (Treatment /or Disposal w/ Destination)	Date
Tank	1- 5000 gallon	Disposed at Erikson, Richmond, CA	6/8/92
	1- 7000 gallon	Disposed at Erikson, Richmond, CA	6/8/92
	1-500 gallon	Disposed at H&H, San Francisco, CA	5/19/92
Soil	25 yards	Aerated, used as fill	
	144 yards	Disposed at Vasco Road Landfill, Livermore, CA	12/11-16/99
Product /water	206 gallons product/ water	Recycled at Evergreen Oil Co., Newark, CA	

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program
Page 2 of 4

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	Before*	After**	Before***	After****
TPH gasoline	(14,000)	6,400	800	ND
TPH diesel		<1	-	-
TPH Oil & Grease		<1	-	-
Benzene	(750)	82	110	ND
Toluene	(820)	480	53	ND
Ethylbenzene	(150)	140	9	ND
Xylene	(630)	730	110	ND
MTBE			-	ND
Metals	See additional comments, data section.			

*Results of the soil gas samples conducted in 1989 after a reported release from the leaking pump;
(concentrations in ug/L)

** Soil sample (TN-E) collected from the bottom of the gasoline UST excavation at approximately 18.5 feet
bgs. on 6/11/92.

*** Water sample collected from LF-5R on 6/12/92 following well installation.

**** Represents water sample collected from wells LF-2, LF-3, LF-4 & LF-5R.

Comments (Depth of Remediation, etc.): See "Additional Comments" section.

IV. CLOSURE

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

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: **An acceptable Risk Management Plan is required prior to any construction
activity at the site.**

Should corrective action be reviewed if land use changes ? **YES**

Monitoring wells Decommissioned : **Two monitoring wells (LF-1 & LF-5) were closed prior to UST removals;
Remaining wells will be decommissioned pending sign-off by RWQCB**

Number Decommissioned: **Two (2)**

Number Retained: **Four (4)**

List enforcement actions taken: **NA**

List enforcement actions rescinded: **NA**

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program
Page 3 of 4

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Susan L. Hugo Title: Hazardous Materials Specialist
Signature: *Susan L. Hugo* Date: 1/14/00

Reviewed by:

Name: Don Hwang Title: Hazardous Materials Specialist
Signature: *Don Hwang* Date: 1/11/00

Name: Thomas Peacock Title: Manager, LOP Program
Signature: *Thomas Peacock* Date: 1-14-00

VI. RWQCB NOTIFICATION

Date Submitted to RB: 1/18/2000 RB Response: *concur*

RWQCB Staff Name: Chuck Headlee Title: Associate Engineering Geologist
Signature: *Chuck Headlee* Date: 1/25/00

VII. ADDITIONAL COMMENTS, DATA, ETC.

The subject site is located on the northwest side of Broadway, immediately northeast of Highway 580 overpass in Oakland, California. The property is occupied by a multi-story building currently used as offices and parking garage.

In February 1989, Kaiser discovered a leak in the pumping mechanism controlling the flow from two underground storage tanks (USTs) which stored 5,000 gallons and 7,000 gallons of gasoline at the site. Gasoline was observed seeping out of a weephole in a transformer vault within the basement of the building. The product was contained and cleaned up by Crosby & Overton Environmental. The faulty pump was repaired on February 14, 1989 by Bay Counties Service Station Repair Co.

In June 1989, a soil gas investigation was conducted to assess the extent of contamination in the vicinity of the underground storage tanks and the underground utility vault. Soil gas samples were collected at approximately 9 to 10 feet below ground surface (bgs) from ten on site locations around the tanks and the vault (see Figure 2 and Table 1). Soil gas investigation detected petroleum hydrocarbons in the vicinity of the tanks and the vaults. These results were used to determine the locations of groundwater monitoring wells.

In September 1989, groundwater monitoring well LF-1 was installed adjacent to and within the backfill of the underground storage tanks. Monitoring wells LF-2 and LF-3 were installed along Broadway in November 1989. In December 1990, monitoring well LF-5 was installed in the fuel tank cavity to expedite removal of free product from groundwater.

The product recovery program (hand bailing on a weekly basis) was initiated in October 1990. The product recovery program was expanded in December 1990 when an additional extraction well (LF-5) was installed within

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program
Page 4 of 4

the limits of the tank excavation backfill. A total of 206 gallons of product /water was recovered from the site.

Soil samples collected from the borings at 8.0 feet to 27.5 feet during the installation of monitoring wells LF-1 to LF-4 indicated very low concentration of petroleum hydrocarbons (see Table 2).

The two gasoline containing USTs located underneath the sidewalk / entrance to parking garage were removed from a common pit in June 1992. Prior to USTs removal, excavation sheet pilings were installed because of the close proximity of the two gasoline USTs to the building's foundation, the street and the Caltrans easement. The excavation sheet pilings were installed to a depth of 25 feet bgs and were approximately 25 feet by 25 feet in plan dimension. Contaminated soil was excavated from the gasoline tank pit up to a depth of 18 feet bgs. Deeper excavation was not feasible due to the engineering limits of the sheet piles used to support the excavation walls. Confirmation soil samples were collected from the floor of the excavation at about 18 feet bgs (see Table 3). Approximately 275 cubic yards of contaminated soil was removed from the former tank area.

The waste oil tank located just inside the garage was removed in May 1992. Soil sample collected from the bottom of the excavation showed non-detect for TPH gasoline, TPH diesel, oil & grease, benzene, toluene, ethyl benzene, xylene, volatile organic compounds by EPA 8240 and chlorinated solvents by EPA 8010. However, some metals (chromium, nickel, lead & zinc) were found (see Table 2) at what appeared to be background concentrations.

Groundwater monitoring has been conducted at the site from 1991 to 1998 (see Table 4). Petroleum hydrocarbon has not been detected in the wells since 1995 with the exception of well LF-2 (detected 170 ppb TPH gasoline and 3.8 ppb benzene on 3/6/95 but has been non detect after this monitoring period).

This site is recommended for case closure as a low risk soil/groundwater case for the following rationale:

- 1) Aggressive source removal has occurred at the site. The USTs were removed in 1992. Limited overexcavation was conducted around the former gasoline tank area and confirmation samples showed residual soil contamination left at the site which can not be removed due to physical constraint. Approximately 206 gallons of product /water was removed from wells LF-1 and LF-5. The source area and ongoing sources have been removed to the extent feasible.
- 2) The site has been adequately characterized. Soil gas survey conducted in 1989 following the reported release showed that the contamination is limited in the area of the tanks and the utility vault. The USTs were removed and verification soil samples were collected indicating residual soil contamination at the bottom of the excavation which can not be removed due to physical constraint. Groundwater monitoring has been conducted and showed no detectable level of dissolved petroleum hydrocarbon. The extent of soil and groundwater contamination appeared to be adequately defined.
- 3) The dissolved petroleum hydrocarbon plume appears to decrease since 1989 and generally has not been detected in the wells since 1995.
- 4) No water wells, deeper drinking water wells, surface water or other sensitive receptors are likely to be impacted.
- 5) The site does not appear to present a significant risk to human health and the environment. Confirmation soil samples collected after overexcavation of the tank area revealed maximum benzene concentration of 82 ppm which exceed the ASTM RBCA CA- modified Tier 1 RBSL value (1.325 ppm) for a 1E-05 (1 in 100,000) excess cancer risk for the exposure pathway "Soil -Volatilization to Outdoor Air", for a commercial / industrial receptor scenario. However, the residual soil contamination left at site is at 18 feet bgs. and topped with clean fill and covered with concrete. Therefore, this exposure pathway is in reality incomplete and the site does not appear to present a significant risk.

TABLE 1

Summary of Analytical Results
 Soil Gas Investigation
 Kaiser Mosswood Building
 3505 Broadway
 Oakland, California

Sample No.	TPH as gas (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Xylenes (ug/L)	Recovery
SG-1 8'	1,800	85	94	36	210	S
SG-2 9'	45	1.4	2.0	0.6	3.7	Q
SG-3 9'	4,500	230	240	9.0	35	S
SG-4 9'	8,300	430	510	90	35	M
SG-5 10'	14,000	750	820	150	630	Q
SG-6 8.5'	12,000	710	650	71	260	M
SG-7 9'	10,000	660	530	16	50	Q
SG-8 9'	60	3.0	3.3	0.6	1.6	M
SG-9 9'	<10	0.3	0.3	<0.1	<0.1	M
SG-10 10'	1,600	58	100	7.5	28	S

NOTES:

- TPH = Total Petroleum Hydrocarbons
- Q = Quick recovery
- M = Moderate recovery
- S = Slow recovery

TABLE 2 - SUMMARY OF RESULTS OF SOIL SAMPLING
 KAISER MOSSWOOD BUILDING
 3505 BROADWAY, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-229

BORING ID	DEPTH (feet)	TPH-G (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	LAB
LF-1	8 to 8.5	--- 0.200	0.004 ---	0.003 ---	ND<0.001 ---	0.004 ---	M-T
LF-1	27.0 to 27.5	--- 1.300	0.037 ---	0.120 ---	0.025 ---	0.120 ---	M-T
LF-2	9.0 to 9.5	--- 8.00	0.11 ---	0.260 ---	0.059 ---	0.330 ---	M-T
LF-2	14.0 to 14.5	3.900	0.31	0.770	0.077	0.670	M-T
LF-3	12.0 to 12.5	--- 0.600	0.003 ---	0.017 ---	ND<0.001 ---	ND<0.003 ---	M-T

ABBREVIATIONS:

TPH-G Total petroleum hydrocarbons as gasoline
 B Benzene
 T Toluene
 E Ethylbenzene
 X Total xylenes
 ND Not detected above reported detection limit
 mg/kg Milligrams per kilogram
 M-T Med-Tox Associates, Inc.

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TABLE 3
ANALYTICAL RESULTS FOR SOIL SAMPLES
KAISER HOSWOOD BUILDING
3505 BROADWAY, OAKLAND, CALIFORNIA
(Concentrations expressed in parts per million [ppm])

Sample ID	Sampling Date	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Total Xylenes	Oil & Grease	Chlorinated Hydrocarbons	Volatile Organics	Cadmium	Chromium	Nickel	Total Lead	Zinc
Product Line (to Dispenser)															
PL-1	21-May-92	<0.2	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	8	NA
PL-2	21-May-92	<0.2	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	9	NA
PL-3	11-Jun-92	<0.2	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	9	NA
PL-4	08-Jun-92	<0.2	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	6	NA
PL-5	08-Jun-92	<0.2	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	6	NA
Remote Fill															
RF	20-May-92	<0.2	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	85	NA
Gasoline Tank Excavation (Midline, Between Tanks)															
TE-M-8	21-May-92	120	NA	<0.005	0.014	<0.005	1.6	NA	NA	NA	NA	NA	NA	5	NA
Gasoline UST Excavation (Floor of Excavation)															
TS-E	11-Jun-92	240	NA	2.6	12	4.4	24	NA	NA	NA	NA	NA	NA	8	NA
TS-W	11-Jun-92	2.5	NA	0.32	0.3	0.035	0.47	NA	NA	NA	NA	NA	NA	<5	NA
TN-E	11-Jun-92	6400	NA	82	480	140	730	NA	NA	NA	NA	NA	NA	<5	NA
TN-W	11-Jun-92	4.1	NA	<0.005	0.017	0.01	0.04	NA	NA	NA	NA	NA	NA	<5	NA
Waste-Oil UST Excavation (Floor of Excavation)															
WO-B	19-May-92	<0.2	<1	<0.005	<0.005	<0.005	<0.005	<1	<1	<0.005	<2	81	50	11	32
Stockpiled Soil from Gasoline UST Excavation (Before Aeration)															
SP-NP-1 (1)	08-Jun-92	<0.2	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	7	NA
SP-NP-2 (1)	08-Jun-92	<0.2	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	7	NA
SP-NP-3 (1)	12-Jun-92	<0.2	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	8	NA
SP-PA (2)	08-Jun-92	1400	NA	3.6	38	19	100	NA	NA	NA	NA	NA	NA	16	NA
SP-PA-M (2)	10-Jun-92	180	NA	0.76	7	27	15	NA	NA	NA	NA	NA	NA	6	NA
Stockpiled Soil from Waste-Oil UST Excavation															
SP	19-May-92	<0.2	63	<0.005	<0.005	<0.005	<0.005	520	450	<0.005	<2	38	45	19	31
SP-R	08-Jun-92	<0.2	<1	<0.005	<0.005	<0.005	<0.005	1100	770	<0.005	<2	31	35	16	29
WO-R1	23-Jul-92	<0.2	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	5	NA
WO-R	14-Oct-92	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA	NA
Stockpiled Soil from Gasoline UST Excavation (After Aeration)															
Soil 1 (3)	01-Dec-92	1	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	0.2	NA
Soil 2 (3)	09-Dec-92	29	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	0.1	NA

TABLE 4- SUMMARY OF RESULTS OF GROUND WATER MONITORING AND SAMPLING
 KAISER MOSSWOOD BUILDING
 3505 BROADWAY, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-229

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	LAB
LF-1	03/01/91	98.38	16.87	0.50	81.89	--	--	--	--	--	--	--
LF-1	06/14/91	98.38	16.88	0.43	81.82	--	--	--	--	--	--	--
LF-1	08/13/91	98.38	18.05	2.38	82.12	--	--	--	--	--	--	--
LF-1 (c)	11/11/91	98.38	18.03	0.15	80.46	--	--	--	--	--	--	--
LF-2	11/01/89	96.85	--	--	--	200	17	50	1	18	--	BCA
LF-2	10/01/90	96.85	--	--	--	910	240	20	9	420	--	BCA
LF-2	03/01/91	96.85	15.00	--	81.85	230	100	7.1	3.8	35	--	BCA
LF-2 (d)	03/01/91	96.85	--	--	--	230	110	6.5	4.1	37	--	BCA
LF-2	05/17/91	96.85	--	--	--	510	160	9.5	5.8	20	--	BCA
LF-2 (d)	05/17/91	96.85	--	--	--	500	160	9.4	5.8	20	--	BCA
LF-2	06/14/91	96.85	15.25	--	81.60	310	35	6.4	3.2	41	--	BCA
LF-2 (d)	06/14/91	96.85	--	--	--	330	37	7	3.7	47	--	BCA
LF-2	08/13/91	96.85	15.18	--	81.67	800	280	33	38	100	--	BCA
LF-2 (d)	08/13/91	96.85	--	--	--	570	210	22	28	72	--	BCA
LF-2	11/11/91	96.85	16.23	--	80.62	--	--	--	--	--	--	--
LF-2	11/28/91	96.85	--	--	--	800	280	17	34	12	--	BCA
LF-2 (d)	11/28/91	96.85	--	--	--	570	250	14	31	11	--	BCA
LF-2	03/10/92	96.85	13.40	--	83.45	--	--	--	--	--	--	--
LF-2	03/27/92	96.85	--	--	--	250	270	19	18	71	--	BCA
LF-2 (d)	03/27/92	96.85	--	--	--	290	320	23	22	85	--	BCA
LF-2	06/19/92	96.85	14.82	--	82.03	1200	280	24	36	41	--	BCA
LF-2	09/09/92	96.85	15.42	--	81.43	420	81	3.3	1.7	5.9	--	BCA
LF-2	12/02/92	96.85	15.34	--	81.51	580	120	4	2.8	6.9	--	BCA
LF-2	06/28/93	96.85	13.69	--	83.16	600	77	2	28	4	--	AEN
LF-2	12/07/93	96.85	14.61	--	82.24	400	22	1	15	ND<2	--	AEN
LF-2	08/19/94	96.85	14.57	--	82.28	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	MCA
LF-2	03/06/95	96.85	11.09	--	85.76	170	3.8	ND<0.5	3.3	ND<0.5	--	MCA
LF-2	12/13/95	96.85	13.62	--	83.23	ND<50	ND<0.5	ND<0.5	ND<0.5	0.96	--	MCA
QC-1 (e)	12/13/95	--	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	0.91	--	MCA
LF-2	06/09/98	96.85	9.42	--	87.43	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	MCA
QC-1 (e)	06/09/98	--	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	MCA

TABLE 4 - SUMMARY OF RESULTS OF GROUND WATER MONITORING AND SAMPLING
 KAISER MOSSWOOD BUILDING
 3505 BROADWAY, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-229

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	LAB
LF-3	11/01/89	95.96	---	---	---	ND<100	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	MT
LF-3	10/01/90	95.96	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-3	03/01/91	95.96	13.99	---	81.97	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-3	06/14/91	95.96	14.00	---	81.96	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-3	08/13/91	95.96	15.18	---	80.78	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-3	11/11/91	95.96	15.63	---	80.33	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-3	03/10/92	95.96	12.66	---	83.30	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-3	06/19/92	95.96	14.10	---	81.86	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-3	09/09/92	95.96	14.83	---	81.13	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-3	12/02/92	95.96	14.90	---	81.06	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-3	06/28/93	95.96	13.16	---	82.80	ND<50	20	ND<0.5	ND<0.5	ND<0.2	---	AEN
LF-3	12/07/93	95.96	14.56	---	81.40	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.2	---	AEN
LF-3	08/19/94	95.96	14.14	---	81.82	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	MCA
LF-3	03/06/95	95.96	10.57	---	85.39	ND<50	ND<0.5	0.75	ND<0.5	ND<0.5	---	MCA
LF-3	12/13/95	95.96	13.14	---	82.82	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	MCA
LF-3	06/09/98	95.96	9.11	---	86.85	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	MCA
LF-4	10/01/90	99.35	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-4	03/01/91	99.35	11.39	---	87.96	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-4	04/01/91	99.35	---	---	---	ND<50	ND<0.3	0.7	0.3	1.8	---	BCA
LF-4	05/17/91	99.35	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-4	06/14/91	99.35	11.87	---	87.48	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-4	08/13/91	99.35	12.26	---	87.09	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-4	11/11/91	99.35	12.30	---	87.05	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-4	11/28/91	99.35	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-4	03/10/92	99.35	10.66	---	88.69	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-4	03/27/92	99.35	---	---	---	ND<50	ND<0.5	0.6	ND<0.5	ND<0.5	---	BCA
LF-4	06/19/92	99.35	12.22	---	87.13	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-4	09/09/92	99.35	12.88	---	86.47	---	---	---	---	---	---	---
LF-4	12/02/92	99.35	13.02	---	86.33	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	BCA
LF-4	06/28/93	99.35	11.87	---	87.48	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	AEN
LF-4	12/07/93	99.35	12.63	---	86.72	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	AEN
LF-4	08/19/94	99.35	12.47	---	86.88	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	MCA
LF-4	03/06/95	99.35	10.16	---	89.19	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	MCA
LF-4	12/13/95	99.35	12.66	---	86.69	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	MCA
LF-4	06/09/98	99.35	8.77	---	90.58	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	MCA

TABLE 4 SUMMARY OF RESULTS OF GROUND WATER MONITORING AND SAMPLING
KAISER MOSSWOOD BUILDING
3505 BROADWAY, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-229

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	LAB
LF-5	03/01/91	97.53	15.98	0.29	81.77	---	---	---	---	---	---	---
LF-5	06/14/91	97.53	15.89	0.52	82.03	---	---	---	---	---	---	---
LF-5	08/13/91	97.53	16.17	1.04	82.14	---	---	---	---	---	---	---
LF-5 (c)	11/11/91	97.53	17.18	0.10	80.43	---	---	---	---	---	---	---
LF-5R	06/19/92	98.68	---	---	---	790	100	52	9	1	---	BCA
LF-5R (d)	06/19/92	98.68	---	---	---	800	110	53	9.2	110	---	BCA
LF-5R	09/09/92	98.68	15.13	---	83.55	---	---	---	---	---	---	---
LF-5R	12/02/92	98.68	14.68	---	84.00	244	30	18	5.1	28	---	BCA
LF-5R (d)	12/02/92	98.68	---	---	---	240	30	18	5.1	28	---	BCA
LF-5R	06/28/93	98.68	12.61	---	86.07	ND<0.5	0.5	ND<0.5	ND<0.5	ND<0.5	---	AEN
LF-5R (d)	06/28/93	98.68	---	---	---	ND<0.5	0.5	ND<0.5	ND<0.5	ND<0.5	---	AEN
LF-5R	12/07/93	98.68	13.86	---	84.82	100	11	5	3	7	---	AEN
LF-5R (d)	12/07/93	98.68	---	---	---	100	10	6	4	8	---	AEN
LF-5R	08/19/94	98.68	13.17	---	85.51	1800	45	3.2	43	3.8	---	MCA
QC-1 (e)	08/19/94	98.68	---	---	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	MCA
LF-5R	03/06/95	98.68	10.52	---	88.16	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	MCA
QC-1 (e)	03/06/95	---	---	---	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	MCA
LF-5R	12/13/95	98.68	13.06	---	85.62	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	MCA
LF-5R	06/09/98	98.68	9.06	---	89.62	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	MCA
QC-2 (f)	08/19/94	---	---	---	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	MCA
QC-2 (f)	03/06/95	---	---	---	---	ND<0.5	ND<0.5	0.75	ND<0.5	ND<0.5	---	MCA
QC-2 (f)	12/13/95	---	---	---	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	MCA

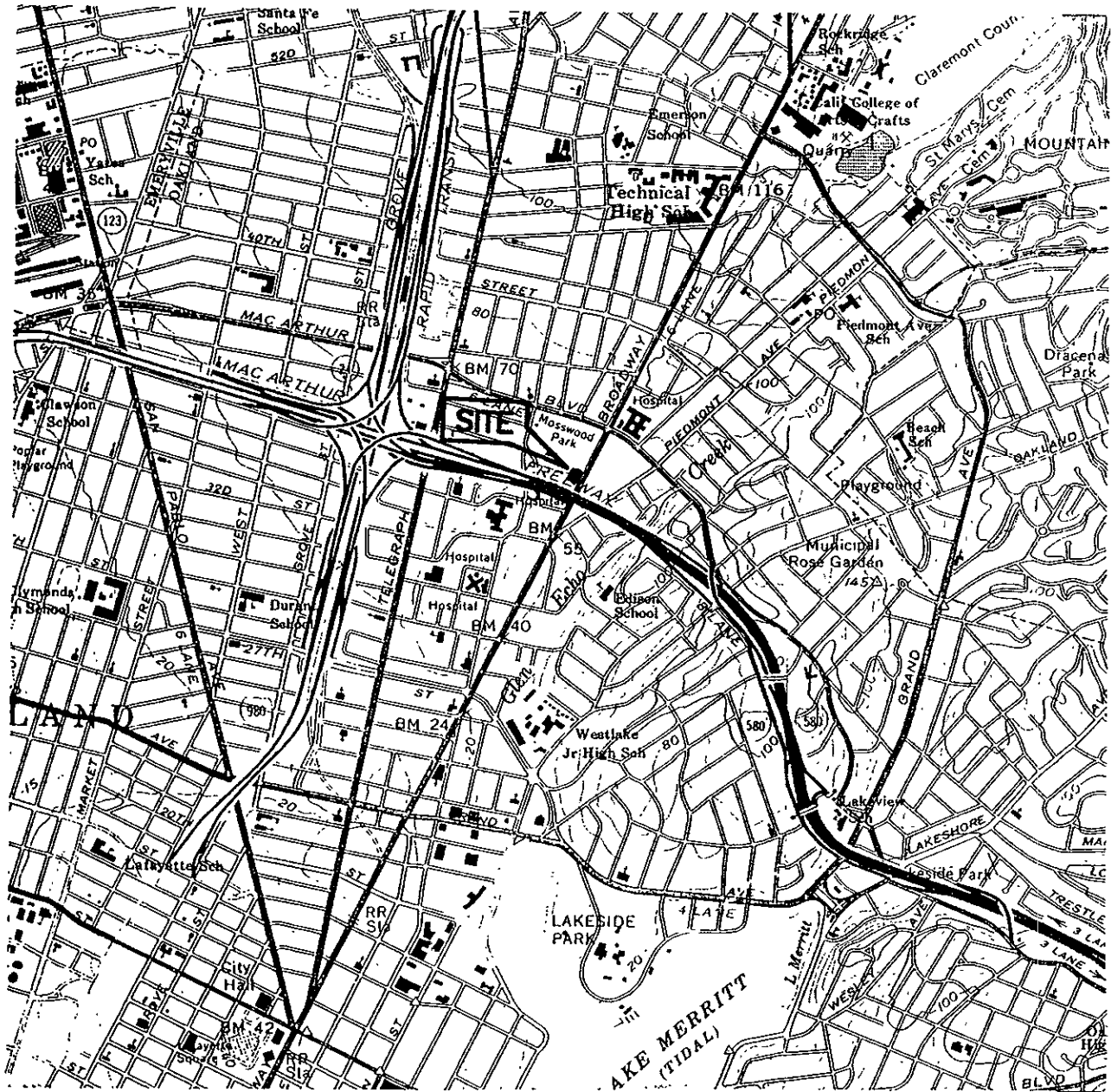
ABBREVIATIONS:

TPH-G Total petroleum hydrocarbons as gasoline
 B Benzene
 T Toluene
 E Ethylbenzene
 X Total xylenes
 ND Not detected above reported detection limit
 --- Not analyzed/applicable/measured
 ug/l Micrograms per liter
 BCA BC Analytical Laboratory
 AEN American Environmental Network
 MT Med-Tox Associates Laboratory
 MCA McCampbell Analytical, Inc.

NOTES:

(a) Casing elevations relative to an arbitrary datum of 100.00 feet at the foundation of an adjacent building.
 (b) Groundwater elevations in feet above mean sea level.
 (c) Well abandoned February 3, 1992.
 (d) Duplicate.
 (e) Blind duplicate.
 (f) Travel blank.

F:\02\10-229\10-229GW.WQ2



SOURCE:
 USGS MAP, OAKLAND EAST AND OAKLAND
 WEST QUADRANGLES. 7.5 MINUTE SERIES. 1959.
 PHOTOREVISED 1980.

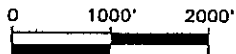


FIGURE 1

SITE VICINITY MAP

KAISER MOSSWOOD BUILDING
 3505 BROADWAY
 OAKLAND, CALIFORNIA

PROJECT NO. 10-229



ALISTO ENGINEERING GROUP
 WALNUT CREEK, CALIFORNIA

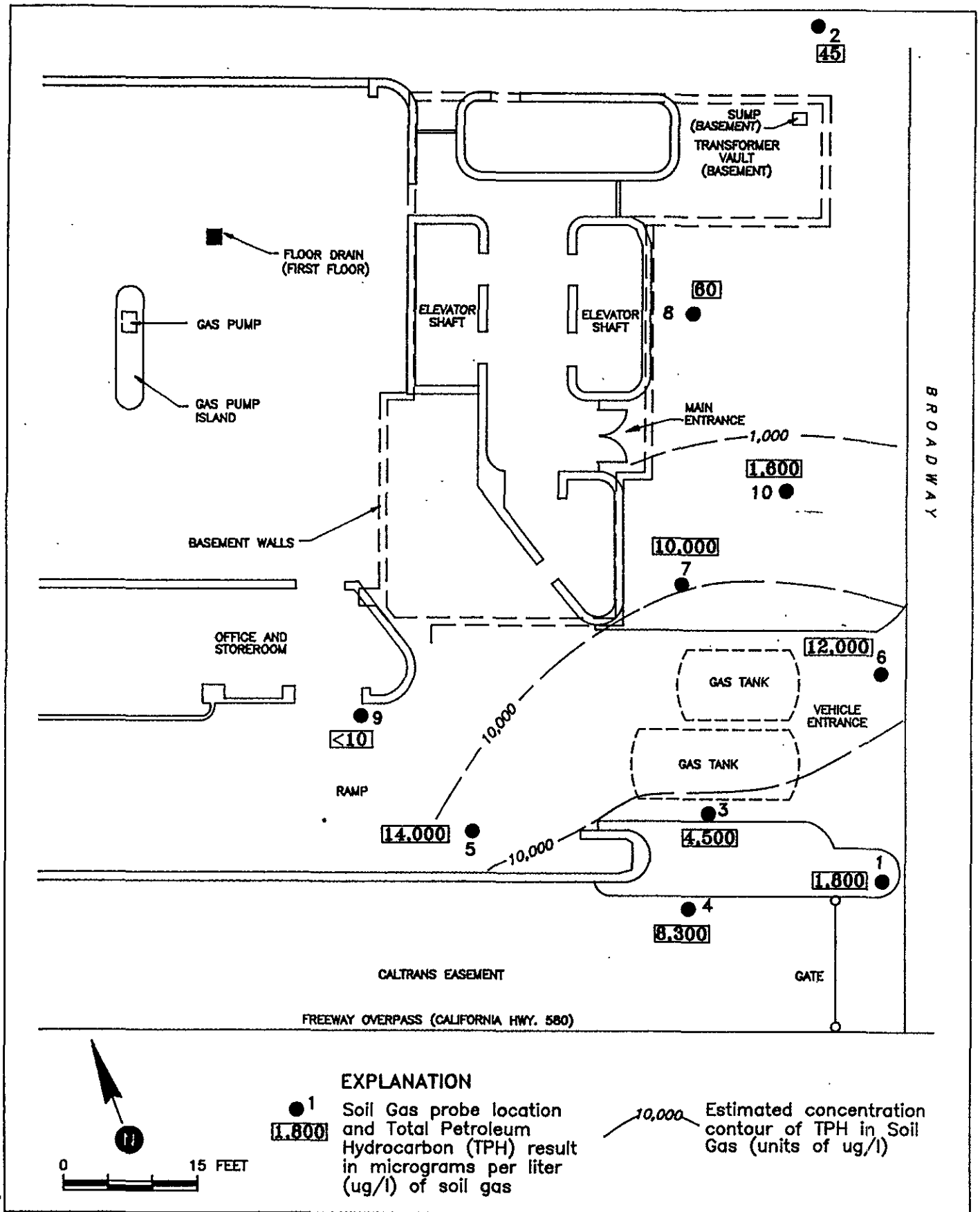
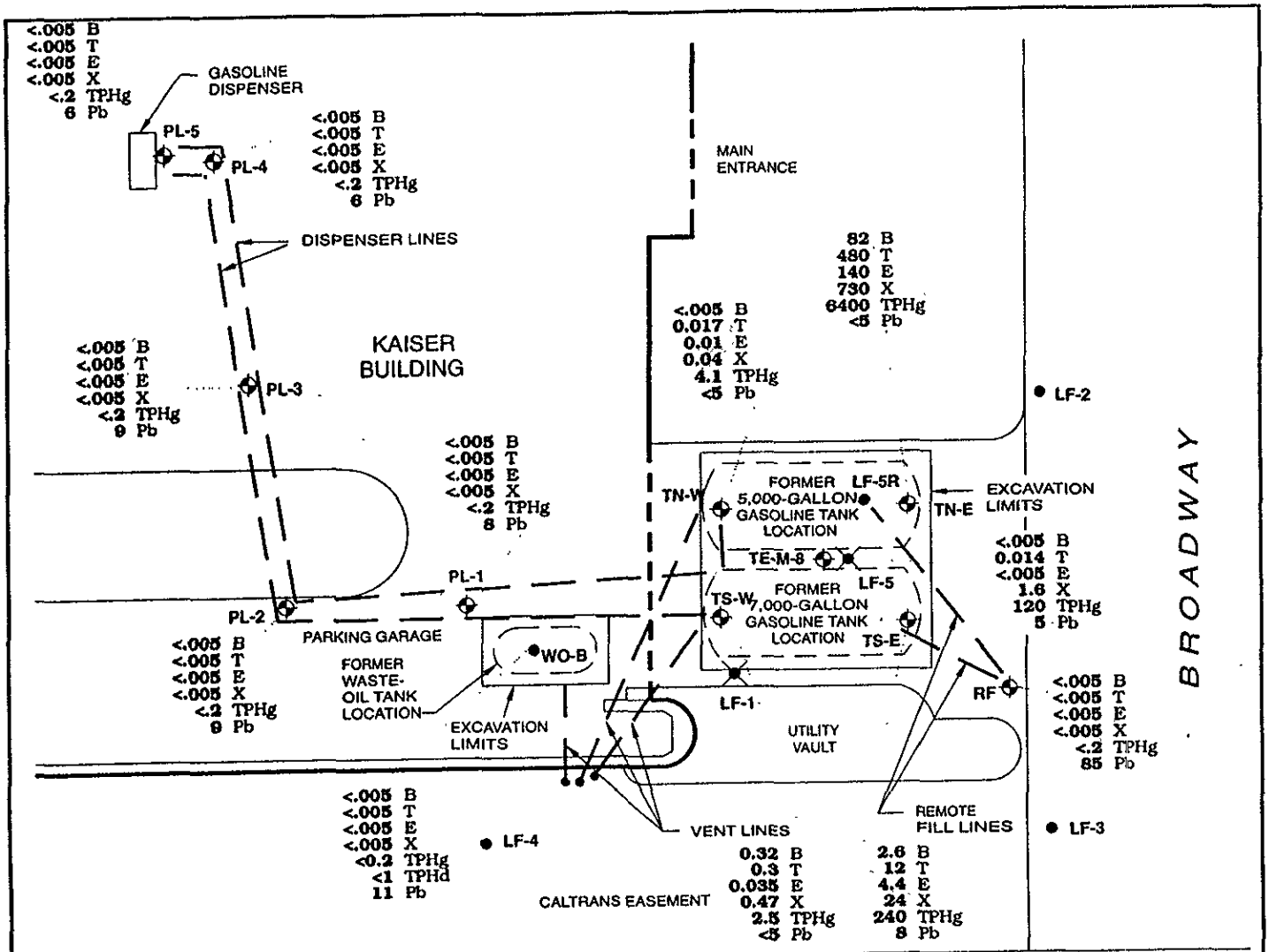


Figure 2 : SITE PLAN WITH SOIL GAS PROBE LOCATIONS AND RESULTS



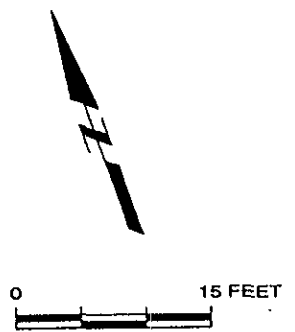
← FREeway OVERPASS (CALIFORNIA HWY. 580) →

EXPLANATION

- Ground-water monitoring well location
- ⊕ Soil sampling location
- ✕ Former ground-water monitoring well location
- Product piping

NOTE:
See Table 2 for further analytical results

<.005 B Benzene
<.005 T Toluene
<.005 E Ethylbenzene
<.005 X Xylenes
<0.2 TPHg Total petroleum hydrocarbons as gasoline
<1 TPHd Total petroleum hydrocarbons as diesel
11 Pb Lead
— Chemical compound
— Concentration (ppm)

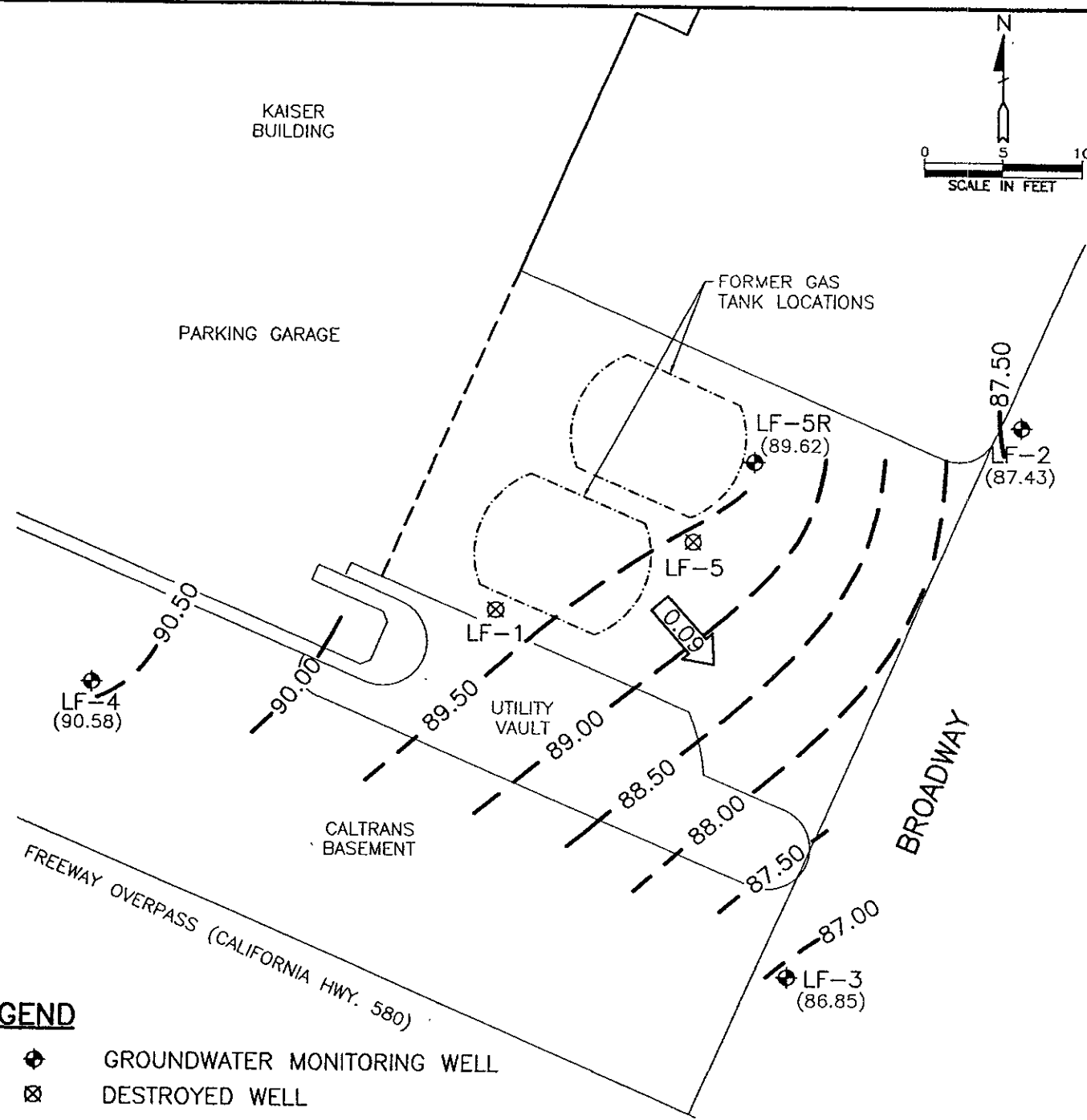
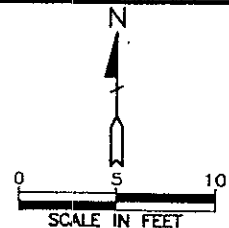


KAISER
Analytical Data for In Situ Soil Samples



Figure 3

1547C001.CDR 052699



LEGEND

- ⊕ GROUNDWATER MONITORING WELL
- ⊗ DESTROYED WELL
- (86.85) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 87.50 — GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL—0.50 FOOT)
- ← 0.09 → CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

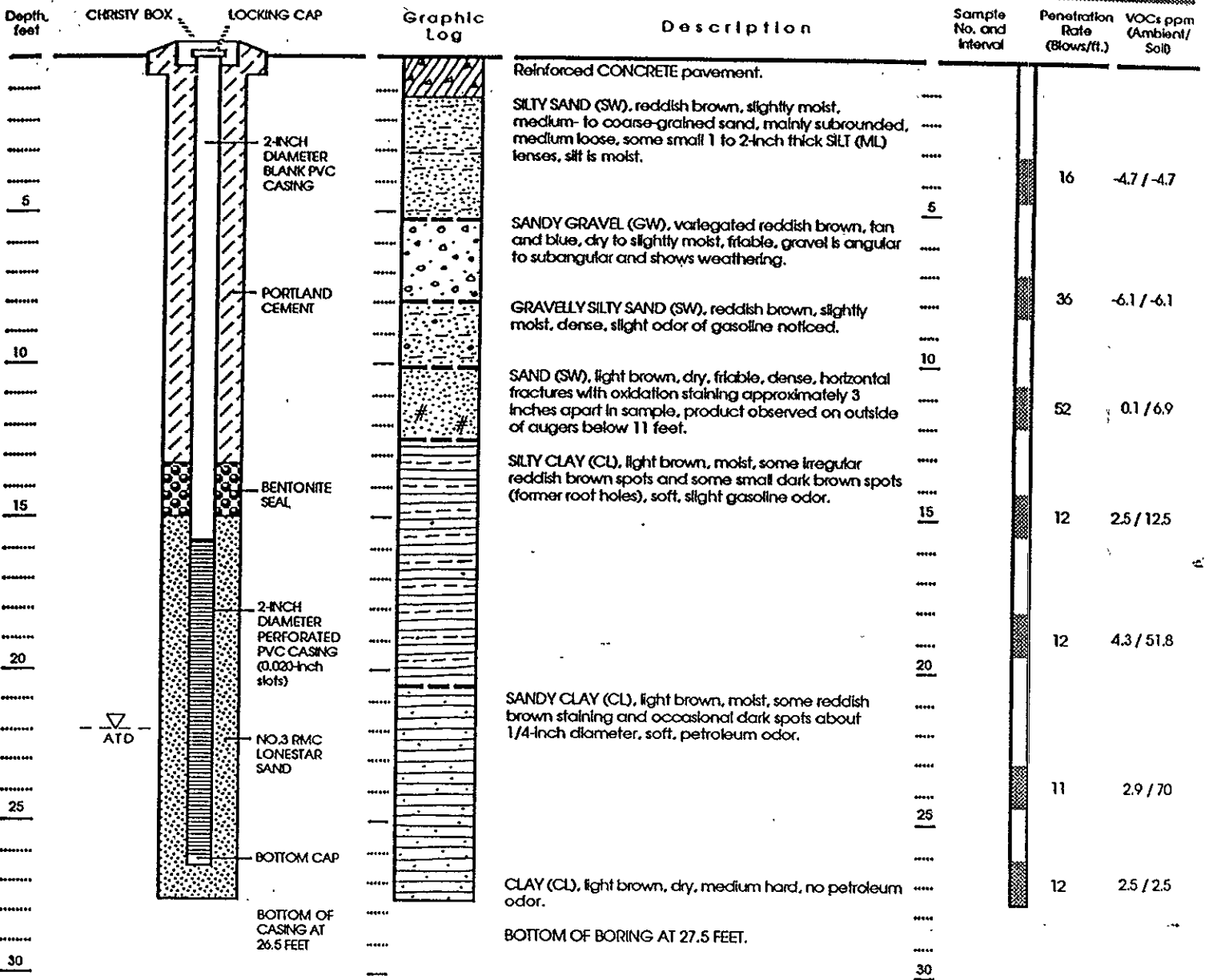
NOTE:
 Potentiometric groundwater elevation contours were generated with Quicksurf using the Kriging method with a spherical variogram on a triangulated grid surface.

FIGURE 4
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP
 JUNE 9, 1998
 KAISER MOSSWOOD BUILDING
 3505 BROADWAY
 OAKLAND, CALIFORNIA
 PROJECT NO. 10-229



WELL CONSTRUCTION

LITHOLOGY



Well Permit No. 89505

Date well drilled: 30 September 1989

Date water level measured:

Well elevation: 98.405 feet

LF Geologist: John Sturman

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Modified California Sampler
- ATD At Time of Drilling

Approved by: *[Signature]* RG 4605

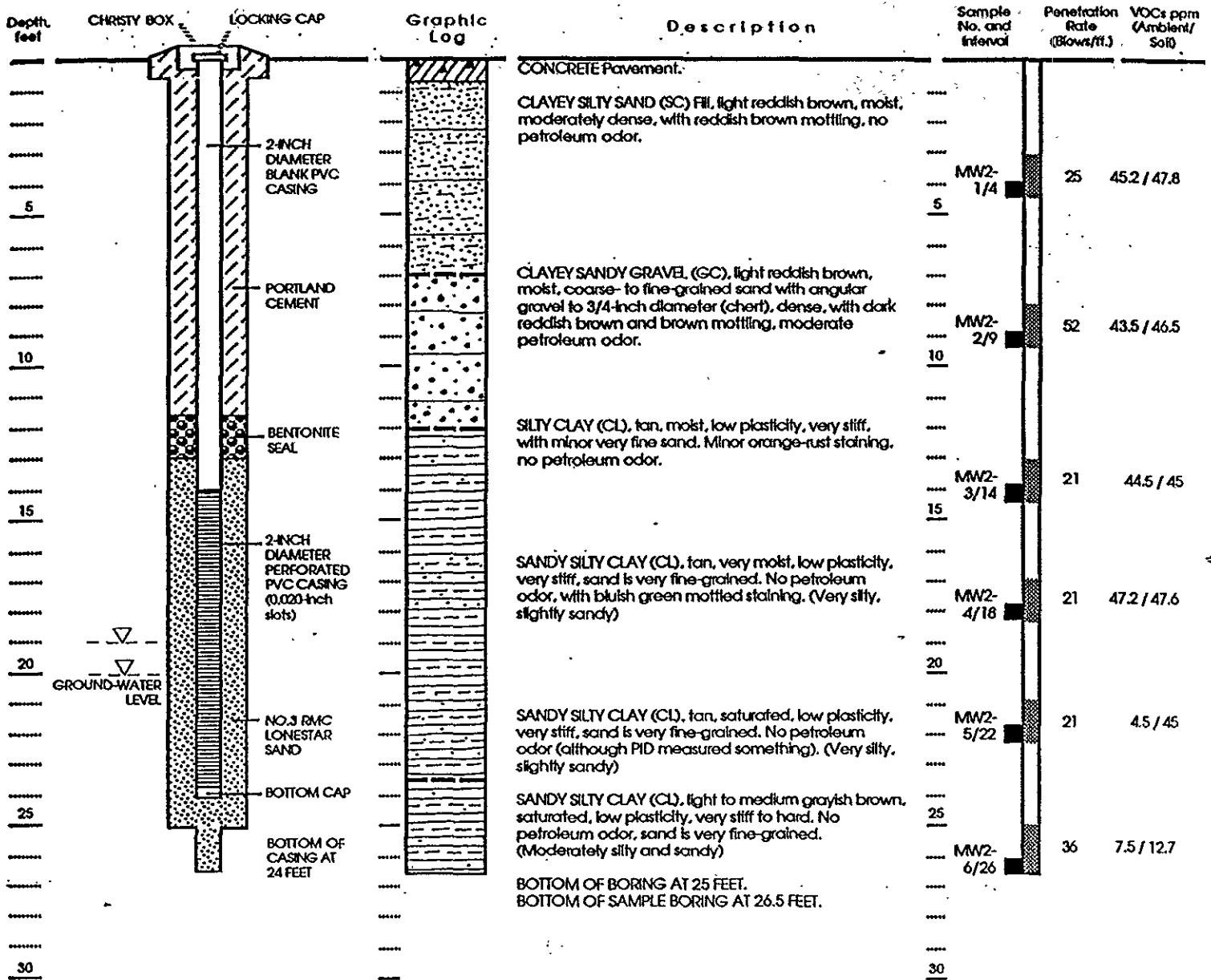
Figure 5 : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-17

Project No. 1547

LEVINE•FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

WELL CONSTRUCTION

LITHOLOGY



Well Permit No. 89505







Date well drilled: 6 November 1989

Date water level measured:

Well elevation: 96.875 feet

LF Geologist: Julie Sharp

EXPLANATION

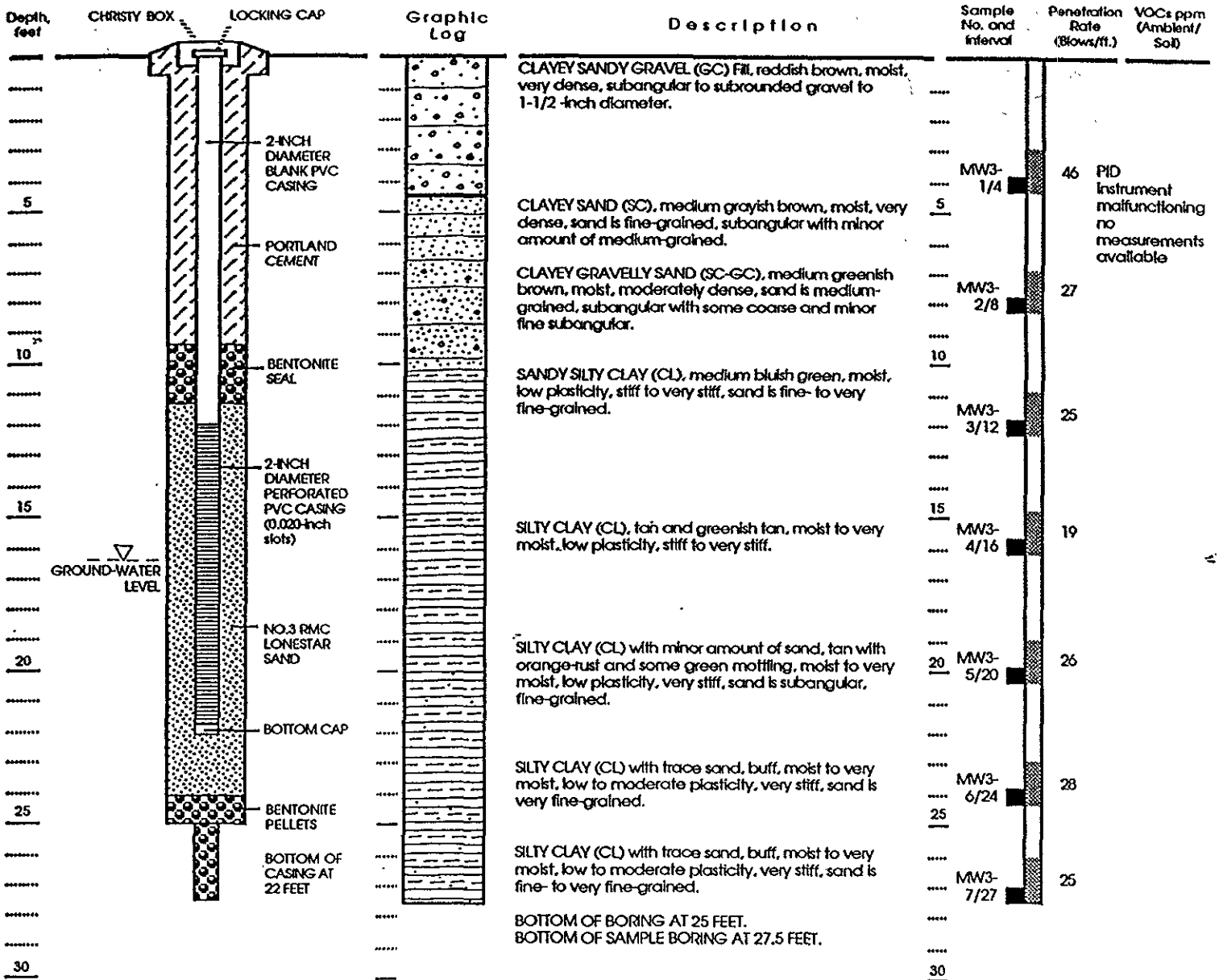
-  Clay
-  Silt
-  Sand
-  Gravel
-  Modified California Sampler
-  Sample retained for analysis

Approved by: *[Signature]*
R.G. 4605

Figure 6 : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-2

WELL CONSTRUCTION

LITHOLOGY



Well Permit No. 89505

Date well drilled: 6 November 1989

Date water level measured:

Well elevation: 95.980 feet

LF Geologist: Julie Sharp

EXPLANATION

- Clay
- Silt
- Sand
- Gravel
- Modified California Sampler
- Sample retained for analysis

Approved by: *Jhal*
RG 4605

Figure 7 : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-3

WELL CONSTRUCTION

LITHOLOGY

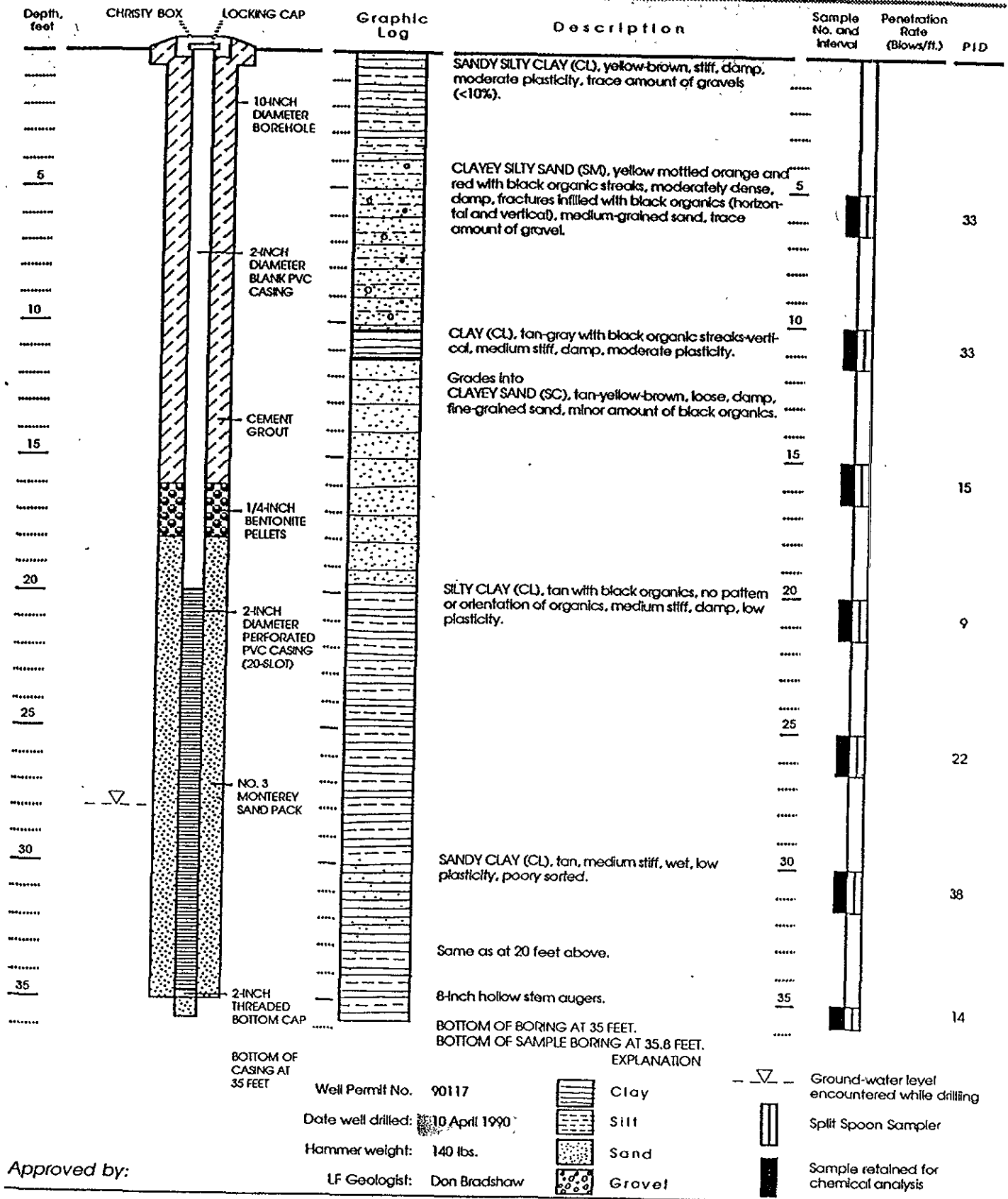
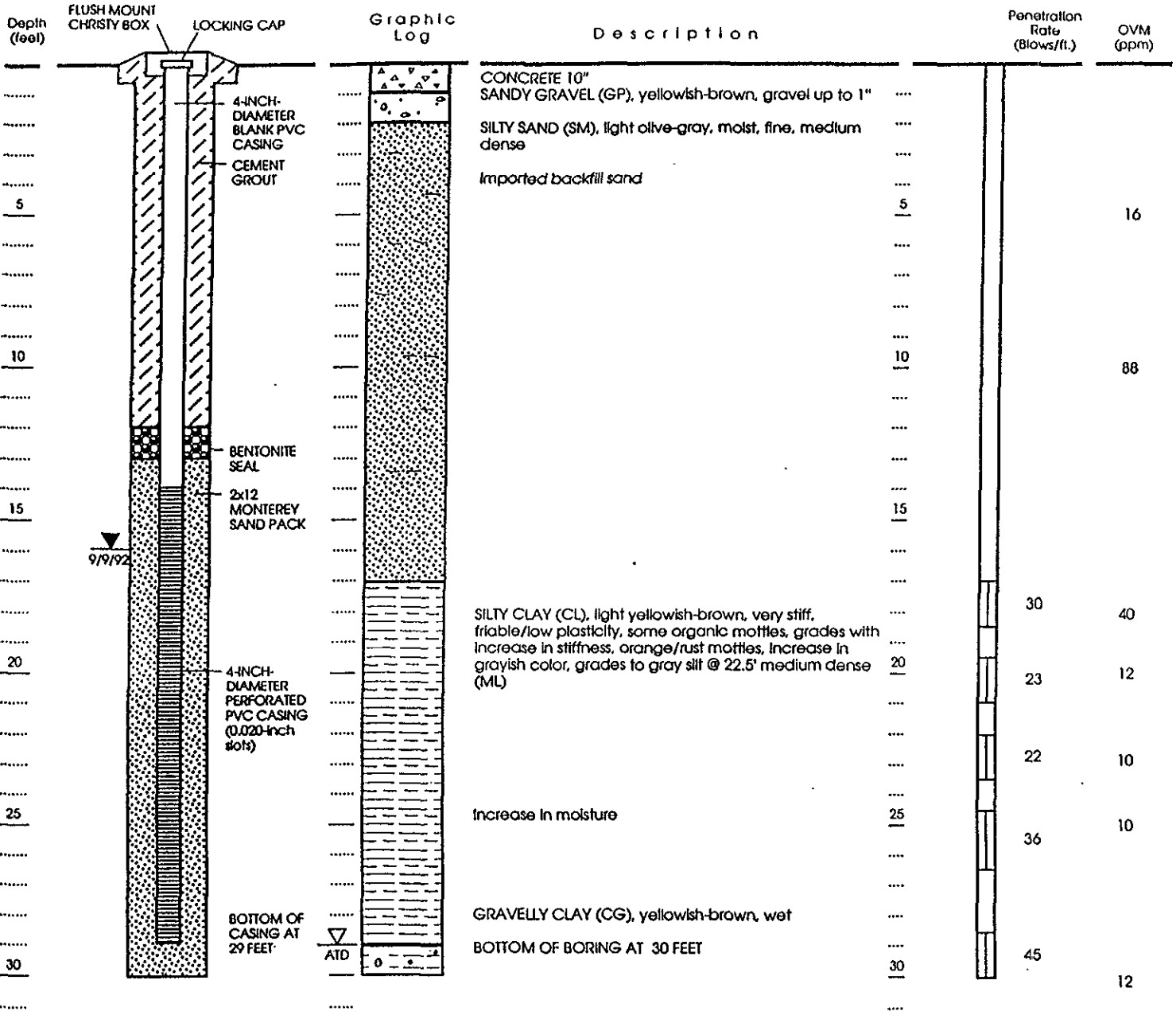


Figure 8 : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-4

WELL CONSTRUCTION

LITHOLOGY

SAMPLE DATA



EXPLANATION

- Clay
- Silt
- Sand
- Gravel

Well Permit No.: 92411
 Date well drilled: August 27, 1992
 Well elevation (relative): 98.68
 Sampling method: 5' Core Split Spoon
 Hammer weight: 140 lbs.
 LF Geologist: Ron Goloubow

- Split-Spoon Sampler
- ATD Water level at time of drilling
- OVM Organic vapor meter reading in parts per million (ppm)

WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF5-R