ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

Alameda County CC4580
Environmental Health Services
1131 Harbor Bay Pkwy., #250
Alameda CA 94502-6577
(510)567-6700 FAX(510)337-9335

REMEDIAL ACTION COMPLETION CERTIFICATION

StID 3949 - 4550 East Ave, Livermore, CA

June 4, 1996

Mr. Ken Ross
City of Livermore
3589 Pacific Ave
Livermore, CA 94550

Dear Mr. Ross:

This letter confirms the completion of site investigation and remedial action for the three former underground storage tanks (2-1,000 and 1-2,000 gallon tanks) removed from the above site on June 6, 1988. Enclosed is the Case Closure Summary for the referenced site for your records.

Based upon the available information, including the 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 tank release is required.

This notice is issued pursuant to a regulation contained in Title 23, Division 3, Chapter 16, Section 2721(e) of the California Code of Regulations. Please contact Ms. Eva Chu at (510) 567-6700 if you have any questions regarding this matter.

Very truly yours,

Mee Ling Tung, Director

cc: Chief, Division of Environmental Protection
Kevin Graves, RWQCB
Lori Casias, SWRCB (with attachment)
Danielle Stefani, LFD
files (fire#1.4)

01-0624

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION **Date: April 29, 1996**

Agency name: **Alameda County-HazMat** Address: **1131 Harbor Bay Pkwy**
City/State/Zip: **Alameda, CA 94502** Phone: **(510) 567-6700**
Responsible staff person: **Eva Chu** Title: **Hazardous Materials Spec.**

II. CASE INFORMATION

Site facility name: **Livermore Fire Station #1**
Site facility address: **4550 East Ave, Livermore, CA 94550**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **3949**
URF filing date: **11/15/88** SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
City of Livermore Attn. Ken Ross	3589 Pacific Ave Livermore, CA 94550	

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	1,000	Diesel	Removed	6/6/88
2	1,000	Gasoline	"	"
3	2,000	Waste Oil	"	"

ENVIRONMENTAL PROTECTION
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III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Unknown**
Site characterization complete? **YES**
Date approved by oversight agency: **4/18/96**
Monitoring Wells installed? **No** Number:
Proper screened interval? **NA**
Highest GW depth below ground surface: **Unknown, however, 1st encountered groundwater in investigative borings was at 28' bg**
Flow direction: **Regional groundwater flows to NW**
Most sensitive current use: **Fire station**
Are drinking water wells affected? **No** Aquifer name: **Mocho Subbasin**
Is surface water affected? **No** Nearest affected SW name: **NA**
Off-site beneficial use impacts (addresses/locations): **None**

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

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal w/destination)	Date
Tank	2 USTs	H & H to Sanitary Land Fill, S.F.	6/11/88
	1 UST	H & H to Levin Metals, Richmond	6/11/88
Rinseate	250 gal	H & H in San Francisco	6/6/88
Soil	20 cy	Chem Waste Mgmt, Kettleman City	7/16/88

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm) Before	Soil (ppm) After	Water (ppb) Before	Water (ppb) After
TPH (Gas)	ND		ND	
TPH (Diesel)	ND		ND	
Benzene	ND		ND	
Toluene	ND		1.2	
Ethylbenzene	ND		ND	
Xylenes	ND		3.2	
Oil & Grease	75		ND	
Heavy metals	Cd,Cr,Pb,Ni,Zn	ND,73,7,200,49	ND,2,100,ND,8,000,1,400	
Other Cl-HCs	ND			
Other TPH-MO	ND		ND	

Comments (Depth of Remediation, etc.):

See Section VII, Additional Comments, etc...

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: **None**

Should corrective action be reviewed if land use changes? **YES**
Monitoring wells Decommissioned: **NA**
Number Decommissioned: **NA** Number Retained: **NA**
List enforcement actions taken: **None**

List enforcement actions rescinded: **NA**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Eva Chu** Title: **Haz Mat Specialist**

Signature: Eva Chu Date: 5/20/96

Reviewed by

Name: **Amy Leech** Title: **Haz Mat Specialist**

Signature: Amy Leech Date: 4/29/96

Name: **Thomas Peacock** Title: **Supervisor**

Signature: Thomas Peacock Date: 5-17-96

VI. RWQCB NOTIFICATION

Date Submitted to RB: 5/20/96 RB Response: Approved

RWQCB Staff Name: **Kevin Graves** Title: **AWRCE**

Signature: Kevin Graves Date: 5/29/96

VII. ADDITIONAL COMMENTS, DATA, ETC.

On June 6, 1988 three USTs (1-1K F/G diesel; 1-1K F/G gasoline; and 1-2K steel waste oil tanks) were removed. The gasoline and diesel tanks were in a common pit; the waste oil at the NE portion of the site. Following removal of the USTs shallow soil and obviously stained soils (approximately 20 cy) were excavated. Soil samples collected from native soil at 17.5' bg beneath the waste oil tank exhibited up to 75 ppm TOG and ND for TPH-D, TPH-G, BTEX and Cl-HCs. A single soil sample taken below both the gasoline and diesel USTs at 11.5' depth did not identify TPH-G or TPH-D constituents. (See Figs 1, 2, and 3, Table1.)

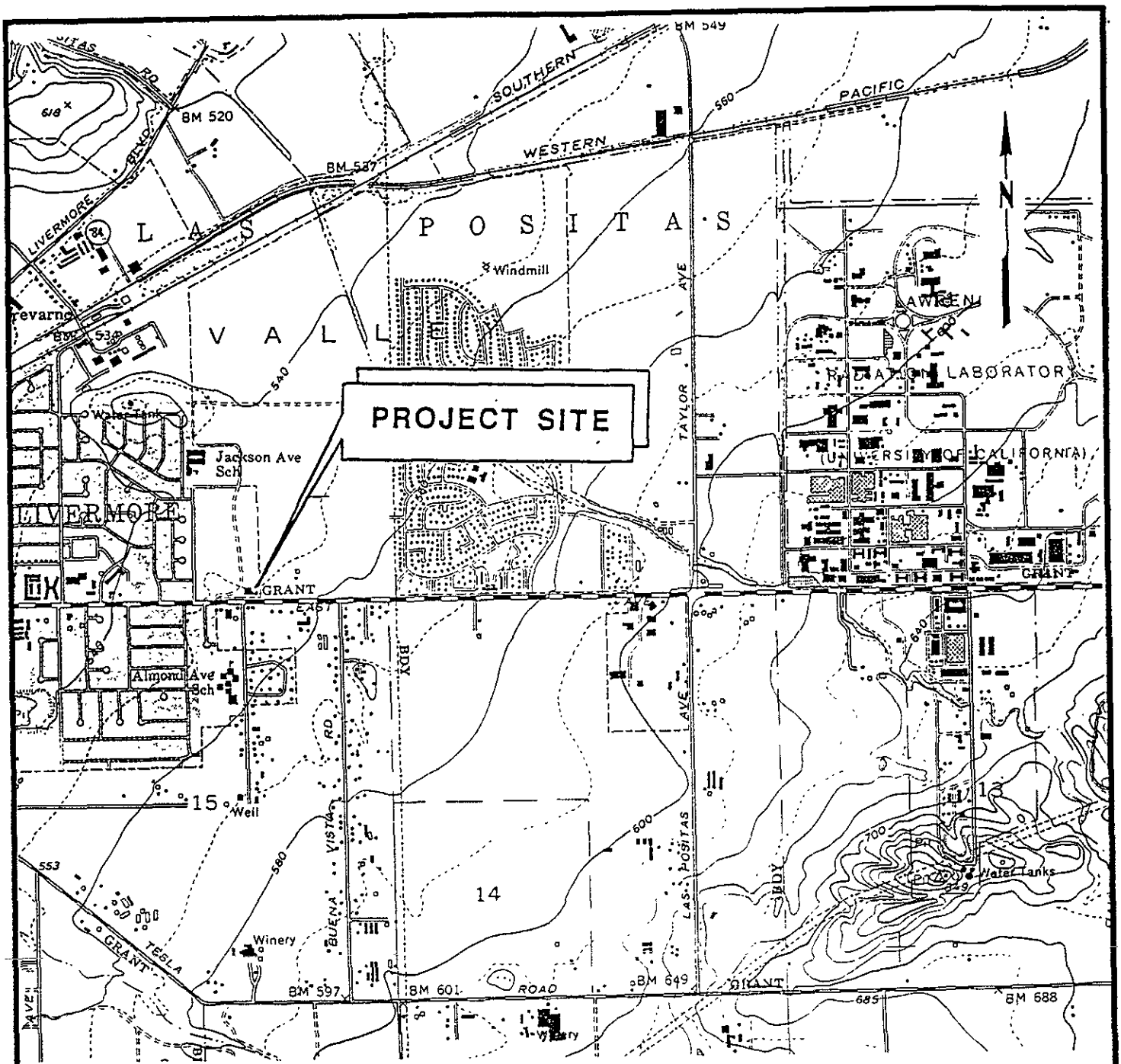
In October 1995 two investigative borings (IB-1 was located within 10' and in the presumed downgradient direction (based on regional gw flow direction) of the former waste oil excavation; IB-2 was within 10' and downgradient of the former gasoline/diesel tank excavation) were advanced to first encountered groundwater at approximately 28' bgs. A total of six soil samples (3/boring) and 2 "grab" groundwater samples (1/boring) were collected and analyzed for TPH-G, TPH-D, and BTEX. In addition, samples from IB-1 were analyzed for TOG and the five metals Cd, Cr, Pb, Ni, and Zn. No detectable hydrocarbon constituents were reported in soil samples collected. Groundwater samples did not reveal hydrocarbons constituents except for trace levels of toluene and xylenes. Groundwater from IB-1 contained 2.1, 8.0, and 1.4 ppm Cr, Ni, and Zn, respectively. However, these levels may be elevated with respect to true groundwater quality due to the presence of suspended solids in the unfiltered grab sample. It is

also possible these are geogenic levels, as hydrocarbon constituens were not identified from soils collected at 5, 10, and 25' depths. (See Fig 4, Table 2.)

It does not appear the fuel release has impacted groundwater quality beneath the site. Permanent monitoring wells are not warranted.

fire#1.3

Figs



DESIGNED BY:	CHECKED BY:	**FIGURE 1**	DATE:	FIGURE:
DRAWN BY:	SCALE:	**SITE VICINITY MAP**	CENTURY WEST ENGINEERING	
DWG. NO.:		**CWEC: 20549-001-01**		

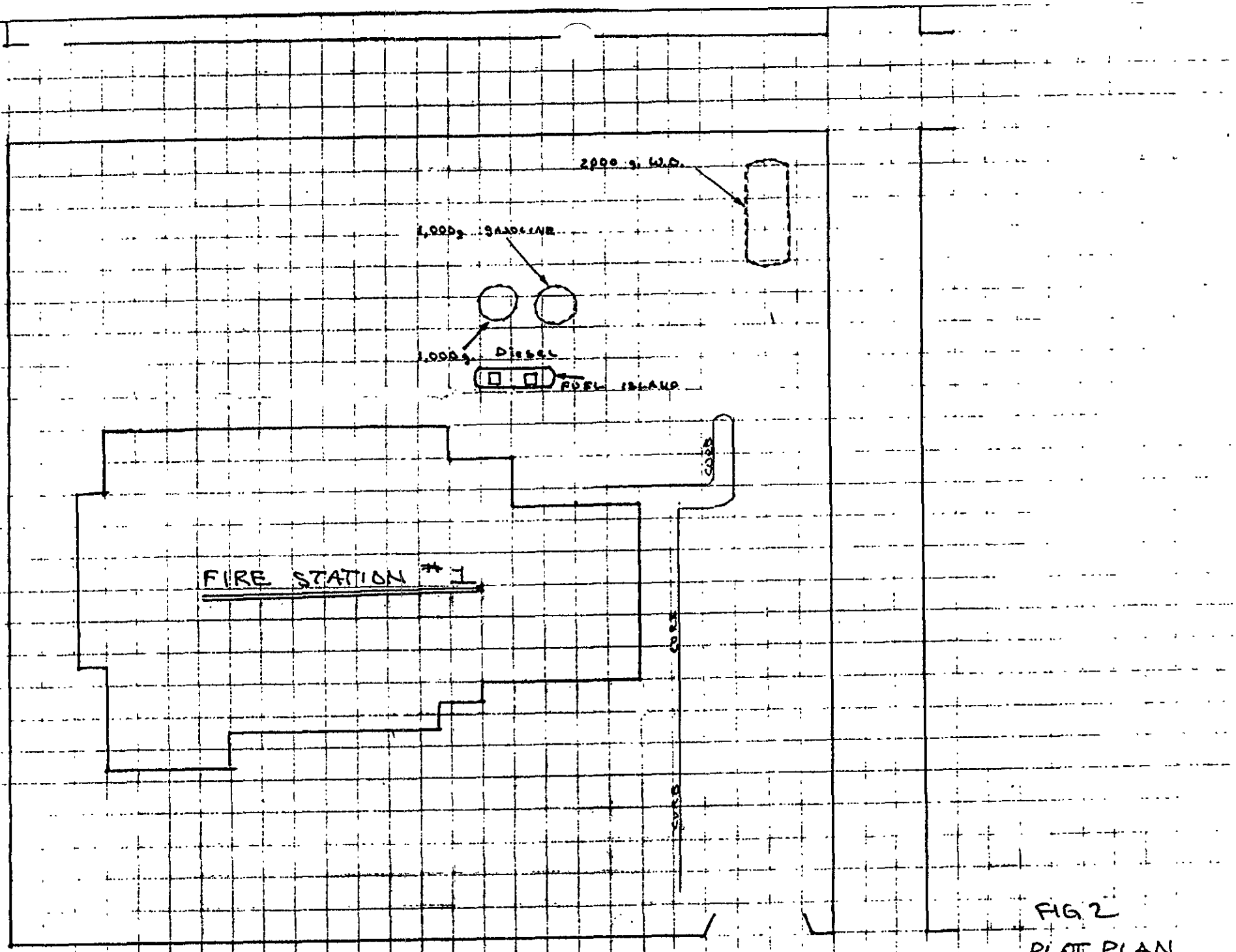


FIG 2
PLOT PLAN
FIRE STATION #
4550 EAST AVE

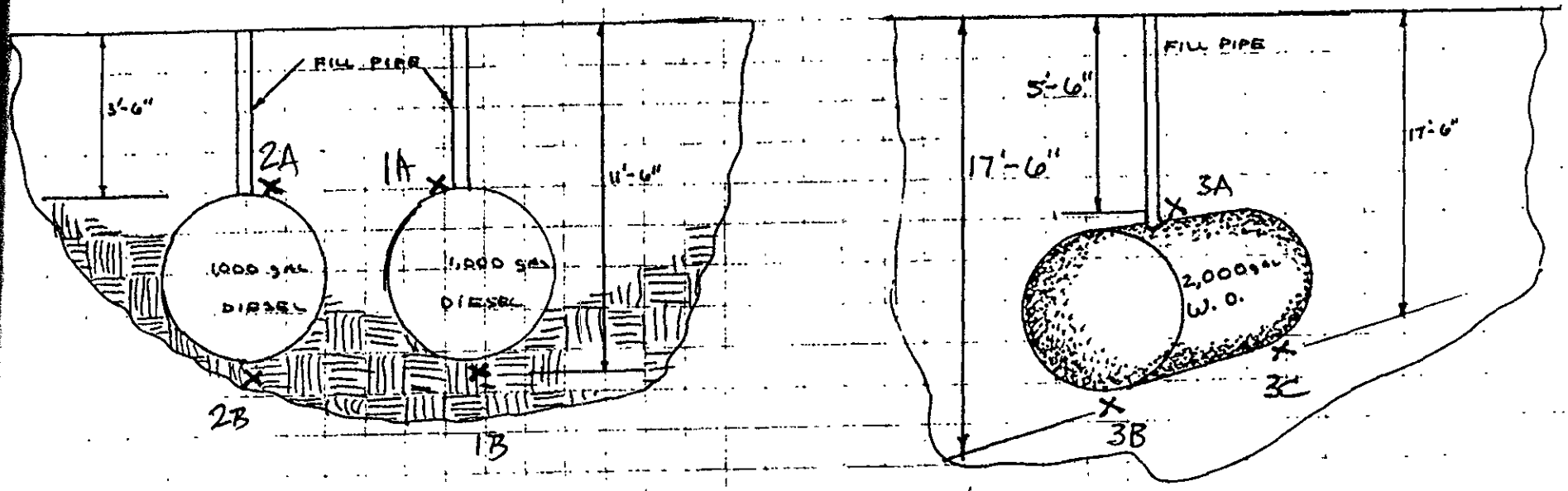
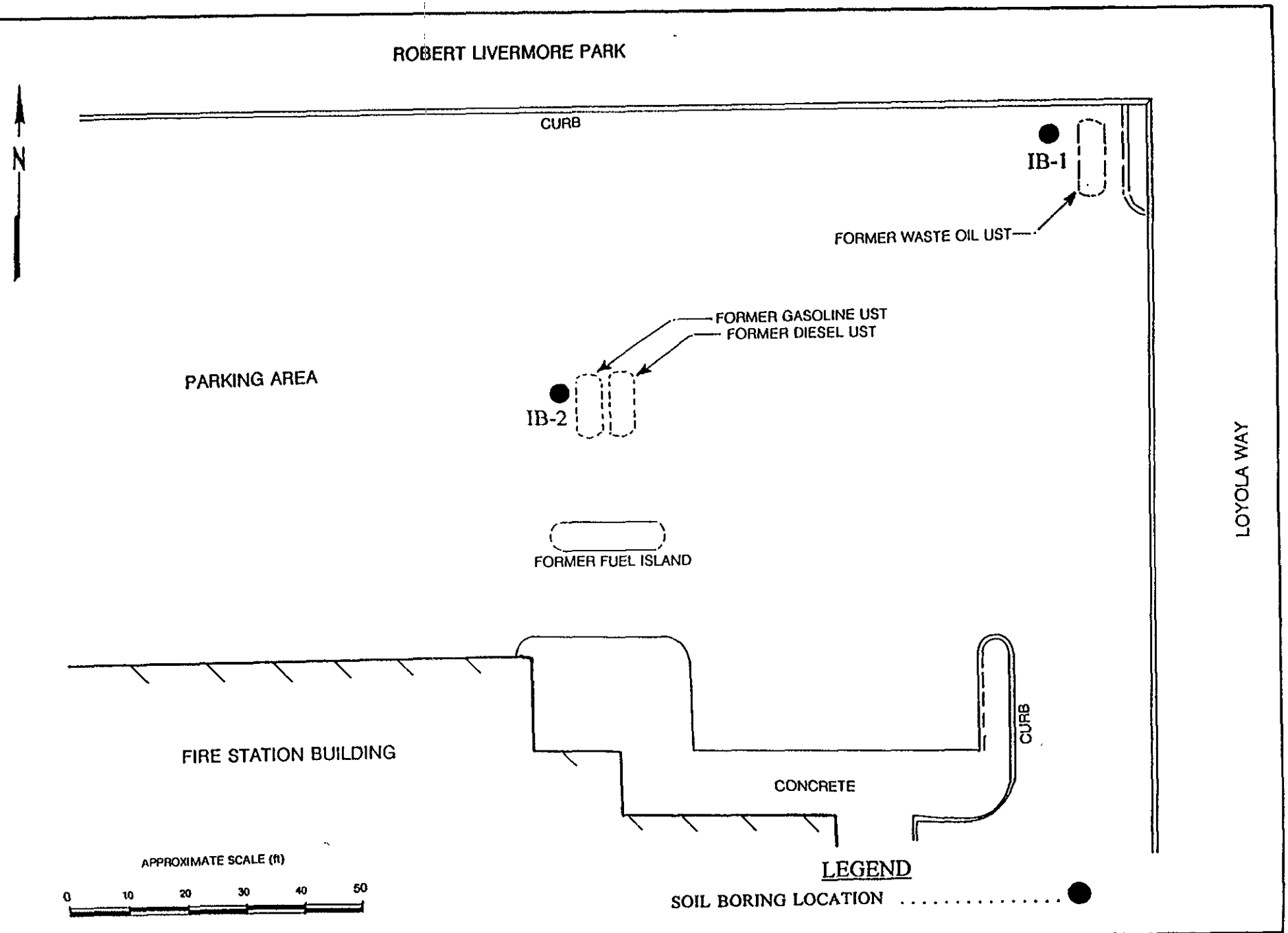


FIG 3

SOIL SAMPLES
FIRE STATION #1
4650 EAST AVE



DESIGNED BY :	DATE :	CENTURY WEST ENGINEERING	FIGURE # 4 SITE PLAN FIRE STATION NO. 1	DRAWING NO.
DRAWN BY :	SCALE :			SHEET NO.
CHECKED BY :	SEC. :			
DRAWING NO. :				

TABLES

TABLE 1

DATE: 6/15/88
LOG NO.: 6034 and 6052
DATE SAMPLED: 6/1/88 and 6/6/88
DATE RECEIVED: 6/2/88 and 6/7/88
PAGE: Six

below detection

Sample Type: Soil

Method and Constituent	Units	1-B Concentration	1-B Detection Limit
DHS Method:			
Total Petroleum Hydrocarbons as Diesel	ug/kg	< 2,000	2,000
Modified EPA Method 8020:			
Benzene	ug/kg	< 10	10
Toluene	ug/kg	< 10	10
Xylenes	ug/kg	< 20	20
Ethyl Benzene	ug/kg	< 10	10

cont. Table 1

DATE: 6/15/88
LOG NO.: 6034 and 6052
DATE SAMPLED: 6/1/88 and 6/6/88
DATE RECEIVED: 6/2/88 and 6/7/88
PAGE: Seven

below limit

Sample Type: Soil

Method and Constituent	Units	2-B Concentration	2-B Detection Limit
DHS Method:			
Total Petroleum Hydrocarbons as Gasoline	ug/kg	< 500	500
Modified EPA Method 8020:			
Benzene	ug/kg	< 10	10
Toluene	ug/kg	< 10	10
Xylenes	ug/kg	< 20	20
Ethyl Benzene	ug/kg	< 10	10

cont. Table 1

DATE: 6/15/88
LOG NO.: 6034 and 6052
DATE SAMPLED: 6/1/88 and 6/6/88
DATE RECEIVED: 6/2/88 and 6/7/88
PAGE: Eight

below WO limit

Sample Type: Soil

Method and Constituent	Units	3-B Concentration	3-B Detection Limit	3-C Concentration	3-C Detection Limit
DHS Method:					
Total Petroleum Hydrocarbons as Diesel	ug/kg	< 2,000	2,000	< 2,000	2,000
Standard Method 503E, Hydrocarbons:					
Oil and Grease	ug/kg	75,000	10,000	29,000	10,000

cont. Table 1

DATE: 6/15/88
LOG NO.: 6034 and 6052
DATE SAMPLED: 6/1/88 and 6/6/88
DATE RECEIVED: 6/2/88 and 6/7/88
PAGE: Nine

Sample Type: Soil

Method and Constituent	Units	3-B Concentration	3-B Detection Limit	3-C Concentration	3-C Detection Limit
EPA Method 8010:					
Benzyl chloride	ug/kg	< 30	30	< 30	30
Bis (2-chloroethoxy) methane	ug/kg	< 30	30	< 30	30
Bis (2-chloroisopropyl) ether	ug/kg	< 30	30	< 30	30
Bromobenzene	ug/kg	< 30	30	< 30	30
Bromodichloromethane	ug/kg	< 30	30	< 30	30
Bromoform	ug/kg	< 30	30	< 30	30
Bromomethane	ug/kg	< 30	30	< 30	30
Carbon tetrachloride	ug/kg	< 30	30	< 30	30
Chloracetaldehyde	ug/kg	< 30	30	< 30	30
Chloral	ug/kg	< 30	30	< 30	30
Chlorobenzene	ug/kg	< 30	30	< 30	30
Chloroethane	ug/kg	< 30	30	< 30	30
Chloroform	ug/kg	< 30	30	< 30	30
1-Chlorohexane	ug/kg	< 30	30	< 30	30
2-Chloroethyl vinyl ether	ug/kg	< 30	30	< 30	30
Chloromethane	ug/kg	< 30	30	< 30	30
Chloromethyl methyl ether	ug/kg	< 30	30	< 30	30
Chlorotoluene	ug/kg	< 30	30	< 30	30
Dibromochloromethane	ug/kg	< 30	30	< 30	30
Dibromomethane	ug/kg	< 30	30	< 30	30
1,2-Dichlorobenzene	ug/kg	< 30	30	< 30	30
1,3-Dichlorobenzene	ug/kg	< 30	30	< 30	30
1,4-Dichlorobenzene	ug/kg	< 30	30	< 30	30

cont. Table 1

DATE: 6/15/88
LOG NO.: 6034 and 6052
DATE SAMPLED: 6/1/88 and 6/6/88
DATE RECEIVED: 6/2/88 and 6/7/88
PAGE: Ten

Sample Type: Soil

Method and Constituent	Units	3-B Concentration	3-B Detection Limit	3-C Concentration	3-C Detection Limit
EPA Method 8010 (Continued):					
Dichlorodifluoromethane	ug/kg	< 30	30	< 30	30
1,1-Dichloroethane	ug/kg	< 30	30	< 30	30
1,2-Dichloroethane	ug/kg	< 30	30	< 30	30
1,1-Dichloroethylene	ug/kg	< 30	30	< 30	30
trans-1,2-Dichloroethylene	ug/kg	< 30	30	< 30	30
Dichloromethane	ug/kg	< 30	30	< 30	30
1,2-Dichloropropane	ug/kg	< 30	30	< 30	30
1,3-Dichloropropylene	ug/kg	< 30	30	< 30	30
1,1,2,2-Tetrachloroethane	ug/kg	< 30	30	< 30	30
1,1,1,2-Tetrachloroethane	ug/kg	< 30	30	< 30	30
Tetrachloroethylene	ug/kg	< 30	30	< 30	30
1,1,1-Trichloroethane	ug/kg	< 30	30	< 30	30
1,1,2-Trichloroethane	ug/kg	< 30	30	< 30	30
Trichloroethylene	ug/kg	< 30	30	< 30	30
Trichlorofluoromethane	ug/kg	< 30	30	< 30	30
Trichloropropane	ug/kg	< 30	30	< 30	30
Vinyl chloride	ug/kg	< 30	30	< 30	30

(cont. Table 1)

DATE: 6/15/88
LOG NO.: 6034 and 6052
DATE SAMPLED: 6/1/88 and 6/6/88
DATE RECEIVED: 6/2/88 and 6/7/88
PAGE: Eleven

Sample Type: Soil

Method and Constituent	Units	3-B Concentration	3-B Detection Limit	3-C Concentration	3-C Detection Limit
EPA Method 8020:					
Benzene	ug/kg	< 300	300	< 300	300
Chlorobenzene	ug/kg	< 300	300	< 300	300
1,2-Dichlorobenzene	ug/kg	< 400	400	< 400	400
1,3-Dichlorobenzene	ug/kg	< 300	300	< 300	300
1,4-Dichlorobenzene	ug/kg	< 500	500	< 500	500
Ethyl benzene	ug/kg	< 400	400	< 400	400
Toluene	ug/kg	< 300	300	< 300	300
Xylenes	ug/kg	< 500	500	< 500	500

Hugh R. McLean
Supervisory Chemist

HRM:vls

Table 2
SUMMARY OF ANALYTICAL RESULTS
Fire Station No. 1 UST Site

Sample ID	Sample Depth	HYDROCARBONS (Concentration - ppm) TOG[1]	TPH-MO	TPH-D	TPH-G	B	T	E	X	METALS SCAN (Concentration - ppm) Cd	Cr	Pb	Ni	Zn
		Soil Samples												
IB-1.1	5.0 ft	ND(50)[2]	ND(100)	ND(1)	ND(1)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.25)	73	6.0	200	49
IB-1.2	10.0 ft	ND(50)	ND(100)	ND(1)	ND(1)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.25)	54	7.0	160	49
IB-1.4	25.0 ft	ND(50)	ND(100)	ND(1)	ND(1)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.25)	20	5.2	81	24
IB-2.1	5.0 ft	--[3]	ND(100)	ND(1)	ND(1)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	--	--	--	--	--
IB-2.2	10.0 ft	--	ND(100)	ND(1)	ND(1)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	--	--	--	--	--
IB-2.4	27.0 ft	--	ND(100)	ND(1)	ND(1)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	--	--	--	--	--
		Ground Water Samples												
IB-1W	--	ND(5.0)	ND(0.50)	ND(0.05)	ND(0.05)	ND(.0005)	0.0012	ND(.0005)	0.0032	ND(0.05)[4]	2.1[4]	ND(0.5)[4]	8.0[4]	1.4[4]
IB-2W	--	--	ND(0.50)	ND(0.05)	ND(0.05)	ND(.0005)	ND(.0005)	ND(.0005)	ND(.0005)	--	--	--	--	--
MCL[5]	--	--[6]	--	--	--	0.001	--	0.68	1.75	0.01	0.05	0.05	--[7]	5.0

Notes:

1 - Total oil and grease (TOG). Non-polar results isolate petroleum hydrocarbons.
2 - Not detected above the value expressed in the parentheses.
3 - Not analyzed for this analyte.
4 - Laboratory report states: *"Raised detection Limit due to matrix interferences."*
5 - California Department of Health Services Maximum Contaminant Levels (MCLs) for safe drinking water (data from East Bay Mud, *Annual Water Quality Report*, 1993).
6 - MCLs not available for solutions.
7 - MCL not available.

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