



DEPARTMENT OF ENVIRONMENTAL HEALTH  
1131 Harbor Bay Parkway  
Alameda, CA 94502-6577  
(510) 567-6777

**REMEDIAL ACTION COMPLETION CERTIFICATION**

StID 3742 - 1746 13th Street, Oakland, CA *94607*

December 7, 1995

Mr. Bruce Taylor  
Estate of Everett Taylor  
275 Kailua Rd  
Kailua, HI 96734

Mr. Laurence Sausa  
Mr. Michael McCracken  
1746 13th Street  
Oakland, CA 94607

Dear Messrs. Taylor, Sausa, and McCracken:

This letter confirms the completion of site investigation and remedial action for the three former underground storage tanks (2-2,000 and 1-1,000 gallon tanks) removed from the above site on February 6, 1989. 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,

Jun Makishima, Interim Director

cc: Chief, Division of Environmental Protection  
Kevin Graves, RWQCB  
Mike Harper, SWRCB (with attachment)  
Jennifer Eberle, ACDEH  
files (taylor.3)

**CASE CLOSURE SUMMARY**  
**Leaking Underground Fuel Storage Tank Program**

**I. AGENCY INFORMATION**

Date: August 4, 1995

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: Taylor Roof Structure  
Site facility address: 1746 13th Street, Oakland 94607  
RB LUSTIS Case No: N/A      Local Case No./LOP Case No.: 3742  
URF filing date: 2/14/89      SWEEPS No: N/A

Responsible Parties:      Addresses:      Phone Numbers:

1. Bruce Taylor, Estate of Everett Taylor  
275 Kailua Rd, Kailua HI 96734
2. Laurence Sausa and Michael McCracken  
1746 13th Street, Oakland 94607

<u>Tank No:</u>	<u>Size in gal.:</u>	<u>Contents:</u>	<u>Closed in-place or removed?:</u>	<u>Date:</u>
1	2,000	Gasoline	Removed	2/6/89
2	2,000	Diesel	Removed	2/6/89
3	1,000	Waste Oil	Removed	2/6/89

**III. RELEASE AND SITE CHARACTERIZATION INFORMATION**

Cause and type of release: Unknown  
Site characterization complete? YES  
Date approved by oversight agency: 6/6/95  
Monitoring Wells installed? Yes      Number: 4  
Proper screened interval? Yes, 3 to 24' bgs  
Highest GW depth below ground surface: 3.13'      Lowest depth: 5.28' in MW-4  
Flow direction: N, NW at approximately .004 ft/ft  
Most sensitive current use: Residential  
Are drinking water wells affected? No      Aquifer name: Merritt Sand  
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:**

<u>Material</u>	<u>Amount (include units)</u>	<u>Action (Treatment or Disposal w/destination)</u>	<u>Date</u>
Tank Piping Free Product Soil	3 USTs	H & H Shipping in San Francisco	2/6/89
	181 tons	BJ Landfill in Vacaville	5/1994
	318 cy	BJ Landfill in Vacaville	11/1994
Groundwater Barrels	9,200 gallon	Gibson Env. in Bakersfield	5/1994

**Maximum Documented Contaminant Concentrations - - Before and After Cleanup**

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	1,900	ND	2,100	ND
TPH (Diesel)	ND	NA	330	NA
Benzene	3.0	ND	230	ND
Toluene	1.7	ND	13	ND
Ethylbenzene	9.6	ND	21	ND
Xylenes	50	ND	61	ND
Oil & Grease	2,300 <sup>1</sup>	86	6 <sup>2</sup>	ND
Heavy metals Zinc	4,400 <sup>1</sup>		ND	
Other Naphthalene	.81 <sup>1</sup>			

NOTE: 1 From Waste Oil pit  
2 From hydropunch HP-8

**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? **YES**  
 Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? **YES**  
 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: 1  
 Number Decommissioned: 1 Number Retained: 3  
 List enforcement actions taken: 2NOV in 9/29/89  
 List enforcement actions rescinded: NOV, in compliance

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Eva Chu Title: Haz Mat Specialist

Signature: *Eva Chu* Date: 8/4/95

Reviewed by

Name: Jennifer Eberle Title: Haz Mat Specialist

Signature: *J Eberle* Date: 8-4-95

Name: Barney Chan Title: Haz Mat Specialist

Signature: *Barney Chan* Date: 8/4/95

VI. RWQCB NOTIFICATION

Date Submitted to RB: 8/8/95

RB Response: *Approved*

RWQCB Staff Name: Kevin Graves

Title: AWRCE

Signature: *K Graves* Date: 8/11/95

VII. ADDITIONAL COMMENTS, DATA, ETC.

On February 6, 1989 three USTs were removed (2K gasoline and 2K diesel in a common pit near 15th and Wood Sts.; 1K waste oil near 14th and Wood Sts.). Initial soil samples collected from the gasoline/diesel pit exhibited up to 1,900 ppm TPH-G, ND for TPH-D, 3.0, 1.7, 9.6, and 50 ppm BTEX, respectively. Soil samples from the waste oil pit (at an unknown depth) detected up to 2,300 ppm TOG, 4,400 ppm Zn and .81 ppm naphthalene. (See Fig 1, and Tables 1 and 2)

In February 1990 the gas/diesel pit was overexcavated, removing from 2 to 6' of soil from the perimeter of the excavation (approximately 50 cy). One pit bottom and 4 sidewall soil samples were collected. See Fig 2. Up to 13,000 ppm TPH-G, and 33, 430, 340, and 1,500 ppm BTEX, respectively, were detected from the NW and SW walls. (See Table 3) During this investigation, three temporary piezometers (P-1, 2, and 3) and three soil borings (SB-1, 2, and 3) were advanced around the fuel pit to delineate the extent of soil contamination and to determine groundwater flow direction. Soil samples collected from borings P3, SB2 and SB3 did not detect petroleum hydrocarbons. Soil samples were not analyzed from borings P1 and P2.

The waste oil pit was not overexcavated at this time. But, four sidewall and two pit bottom samples were collected. See Fig 2. Up to 86 ppm TOG, and low to ND levels of TPH-G and BTEX were detected from the pit bottom. Sidewall samples collected did not detect elevated levels of contaminants. (See Table 3A)

On April 2, 1990 two monitoring wells (MW-1 and 2) were installed, one downgradient from the gas/diesel pit (MW-1), and one downgradient from the w.o. pit (MW-2). See Fig 3. Soil samples collected from the borings did not detect TPH-G or BTEX. (See Table 4) Groundwater from MW-1 detected 2,100 ppb TPH-G, 330 ppb TPH-D, 230, 13, 21, and 61 ppb BTEX, respectively. Well MW-2 did not detect the above constituents, nor did it detect zinc. See Table 8.

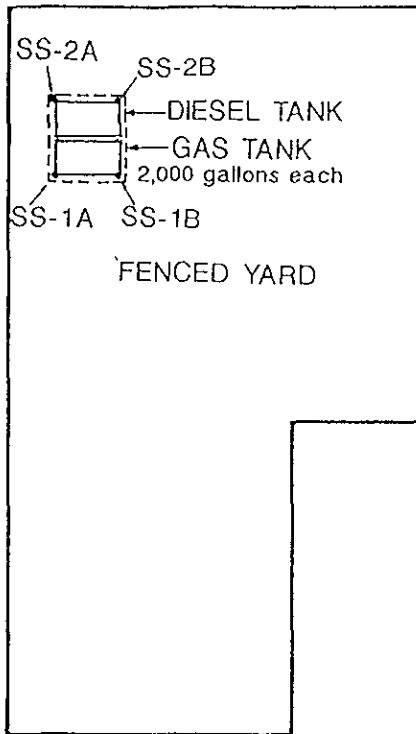
In August 1990 additional overexcavation of the gas/diesel pit removed most of the contaminated soil, except along Wood Street. Up to 17,000 ppm TPH-G was detected in the SW corner of the excavation. In addition, a black oily substance was observed seeping from the excavation at the NE corner, at approximately 2 to 3' above the groundwater level. Up to 72,000 mg/l TOG was detected in a water sample collected. Note, that a report documenting the August 1990 investigation is not available. Information is extracted from the text of subsequent reports and from field notes.

Between March 20th and May 28, 1991 several borings were advanced along and across Wood Street, and along 15th Street. See Fig. 3. Soil and grab groundwater samples were collected. Elevated levels of hydrocarbons in soil and groundwater were detected in HP-7 and HP-8, nearest the excavation pit. Monitoring well MW-3 was also installed upgradient from the pit. (See Tables 5 and 6)

In April 1994 additional impacted soil from around subsurface utilities and within Wood Street were removed. See Fig 4. Well MW-1 was destroyed. Confirmatory soil samples collected (TR1 thru TR10) did not detect TPH-G or BTEX. See Table 7. However, the northern corner of the final excavation pit detected 1,000 ppm TOG (TR5). Monitoring well MW-4 was installed north and downgradient of the pit. Prior to backfilling, approximately 9,200 gallons of water was pumped from the excavation. A grab groundwater sample detected 120 ppb TPH-G. Other constituents were not detected.

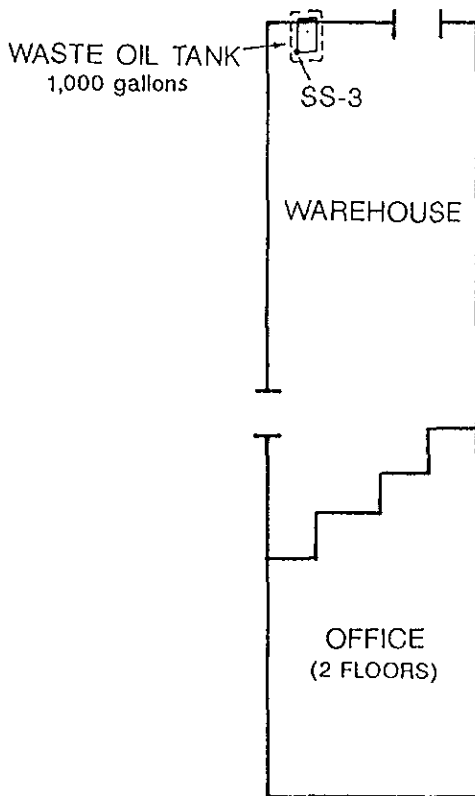
Well MW-4, downgradient from the gas/diesel pit has been sampled for four consecutive quarters (6/94 to 3/95) without detecting TPH-G, BTE, or TOG. Up to .6 ppm xylenes were detected once. Well MW-2, downgradient from the waste oil pit has also been monitored for four consecutive quarters without detecting constituents sought. (See Table 8) It appears soil removal was effective in preventing migration of contamination to groundwater. Groundwater does not appear to be significantly impacted by the fuel release. Continued groundwater sampling is not warranted.

15th Street



Wood Street

14th Street



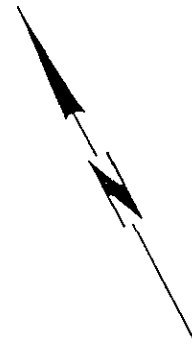
13th Street

LEGEND

SS-2A• Soil Sample Location

□ Excavated Tank

□ Limits of Excavation



0 25 50 feet  
SCALE

Tank and Soil Sample Locations

**ATT**

Aqua Terra Technologies  
Consulting Engineers  
& Scientists

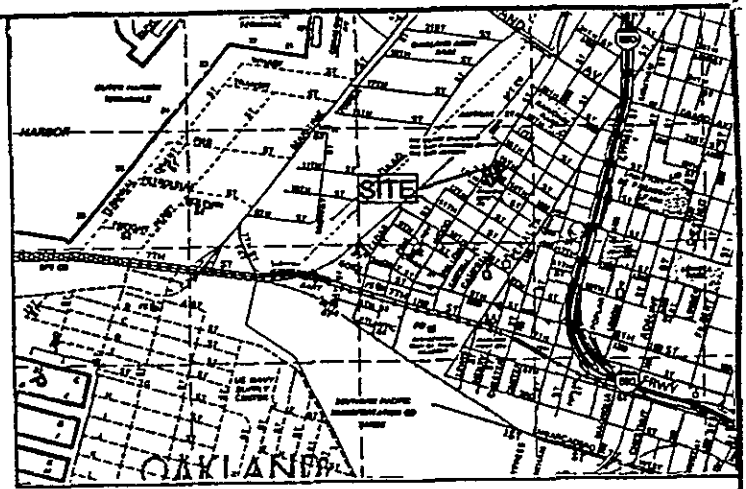
Valva Realty - Oakland

JOB NUMBER  
8106

DATE  
2/89

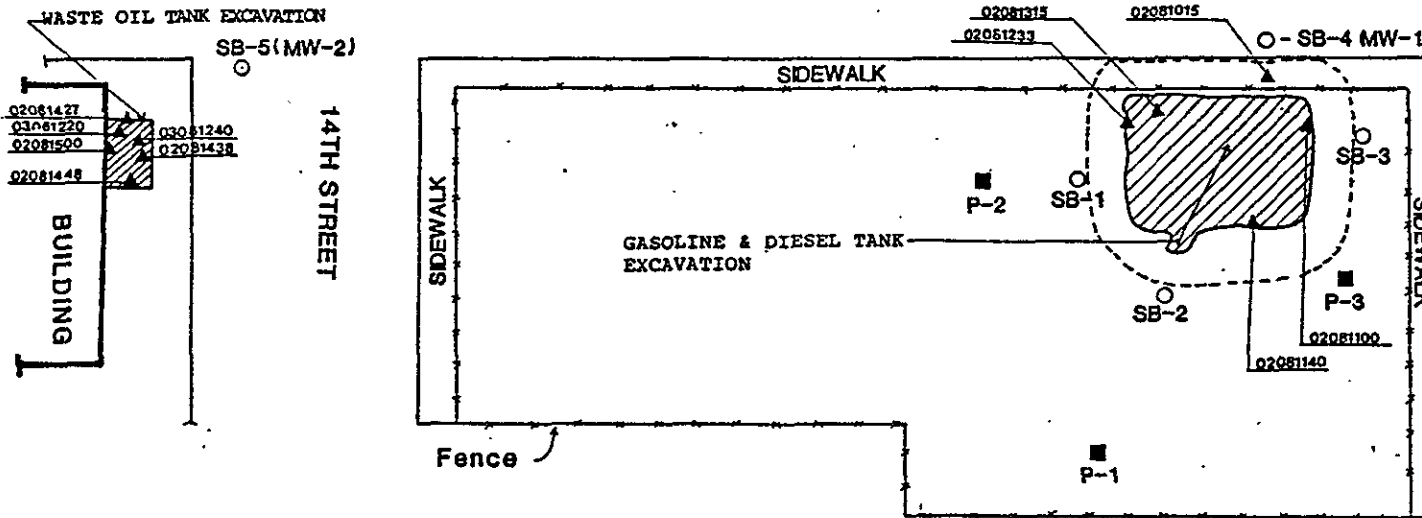
PLATE

*41*



VICINITY MAP

WOOD STREET



- LEGEND:**
- - P-1 TO P-3, PIEZOMETER WELLS INSTALLED BY BSK & ASSOCIATES DATE 2/13/90.
  - - SB-1 (MW-1) SOIL BORINGS BY BSK & ASSOCIATES.
  - ▲ - APPROXIMATE LOCATIONS OF SOIL SAMPLES OBTAINED BY RSI
  - ▨ - APPROXIMATE LOCATION OF EXCAVATION.
  - - - ESTIMATED LIMIT OF CONTAMINATED SOIL.

FIGURE 1



**RS**

REMEDIATION SERVICES, INC.

TITLE: SOIL SAMPLE LOCATIONS

TAYLOR ROOF STRUCTURES

1769 13th STREET

REV.

OAKLAND, CALIFORNIA

JOB NO. R90001

SCALE: AS SHOWN

DATE:

DRAWN BY: EDU

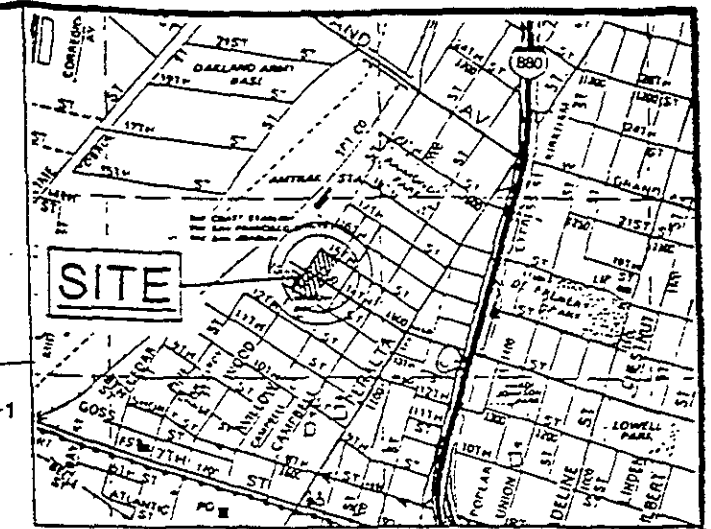
CKD. BY:

APVD. BY:

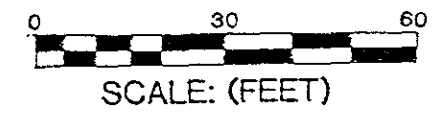
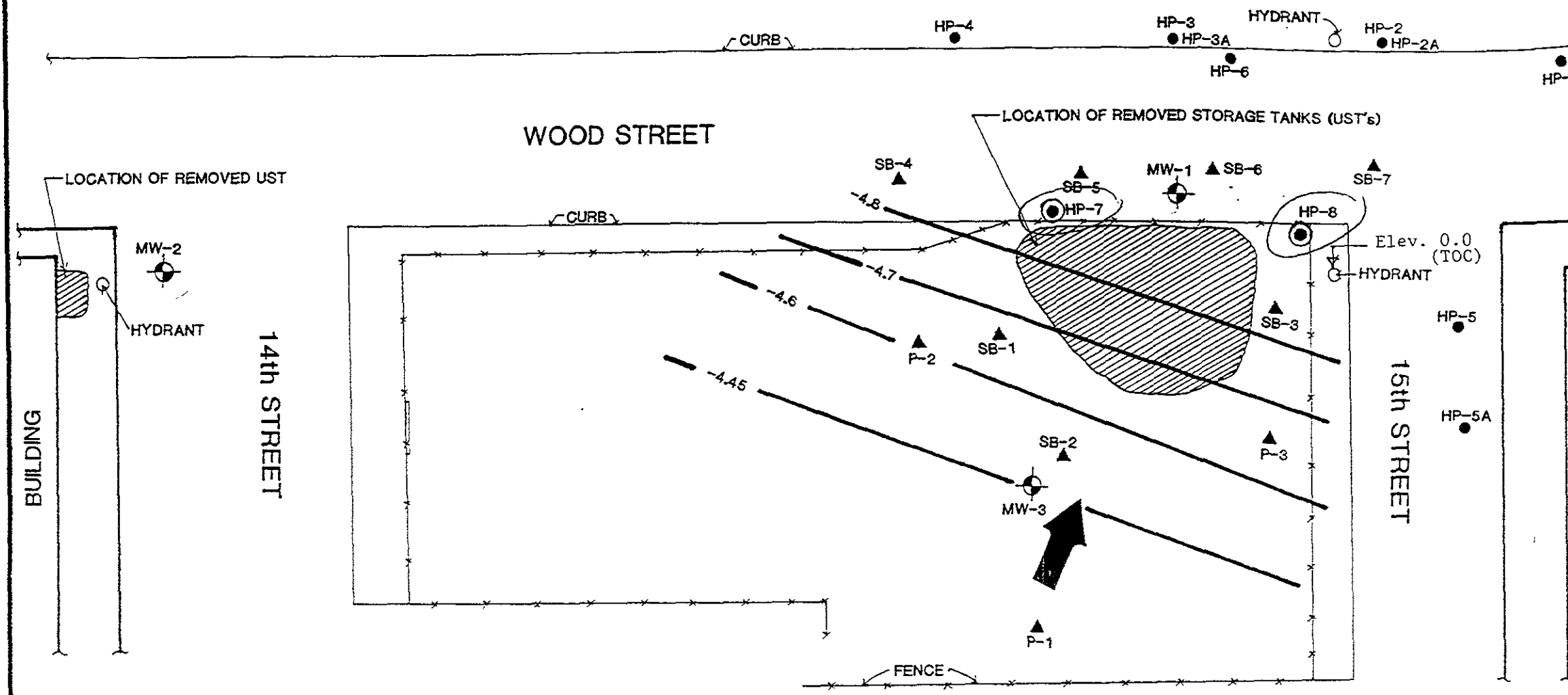
DATE: 3-23-90

DATE:






DATE:




VICINITY MAP



**LEGEND:**

- 
 Denotes Approximate location and number of monitoring wells  
 MW-1 and MW-2, installed February 1990  
 MW-3, installed April 1991
- 
 Denotes approximate location and number of soil borings and piezometers  
 P-1 through P-3 and SB-1 through SB-3, drilled February 1990  
 SB-4 through SB-7, drilled April 1991
- 
 Denotes approximate location of Hydropunch borings, drilled between March and May, 1991
- 
 Denotes approximate groundwater flow direction (04/25/91)
- 
 Denotes line of equal elevation of groundwater relative to curb height at hydrant, elevation 0.0 (T.O.C.)

<b>SITE PLAN</b>	
SUPPLEMENTAL SUBSURFACE INVESTIGATION UST UNAUTHORIZED RELEASE SITE TAYLOR ROOF STRUCTURES, INC. WOOD STREET BETWEEN 14TH AND 15TH STREETS OAKLAND, CALIFORNIA	
BSK Job No. P90031 June 1991 FIGURE: 3	





MW-4

1,000

15TH STREET

TR9 TR10

TR5

T2

T1

MW-1

TR3

TR4

Existing Pit

TR7

TR8

MW-3

Fence

WOOD STREET

Sidewalk

hits (TOE)

LEGEND

Existing Pit



Limits of Excavation



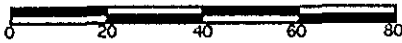
Sample Locations



Monitoring Well



FEET



Scale: 1" = 40'

MW-2



14TH STREET

Figure 4  
Excavation Limits  
Taylor Roof Structures  
Oakland, CA

September 23, 1994

Drawn By: MCK

Table 1. Soil Analytical Results, Gasoline and Diesel Tank Soil Samples<sup>a</sup>  
1769 13th Street, Oakland, CA

	<u>Gasoline Tank</u>		<u>Diesel Tank</u>	
	SS-1A	SS-1B	SS-2A	SS-2B
	(mg/Kg)		(mg/Kg)	
TPH gasoline	520	1,900 ✓	NA <sup>b</sup>	NA
TPH diesel	NA	NA	ND <sup>c</sup>	ND
TPH waste oil	NA	NA	38	ND
Benzene	ND	3.0	NA	NA
Toluene	ND	1.7	NA	NA
Ethylbenzene	3.3	9.6	NA	NA
Xylene	26	50	NA	NA

- a. Analytical results from Med-Tox Laboratories, refer to Attachment E
- b. Not analyzed
- c. None detected, laboratory detection limits are reported in Attachment E

Table 2. Soil Analytical Results, Waste Oil Soil  
 Samples (SS-3)<sup>a</sup>  
 Valva Realty, Oakland, CA

Constituent	SS-3 (mg/Kg)
TPH gasoline	160
TPH diesel	ND <sup>b</sup>
TPH waste oil	1,200
Benzene	0.13
Toluene	0.97
Ethylbenzene	0.53
Xylene	3.20
Total Oil and Grease	2,300
Purgeable Halocarbons (EPA Method 8010)	ND
PCB	ND
Naphthalene	0.81
Pb	28
Cd	3.2
Cr	27
Zn	4,400

- a. Analytical results from Med-Tox Laboratories refer to Attachment E
- b. None detected, refer to Attachment E for laboratory detection limits

2-8-90

TABLE #3

SOIL SAMPLE RESULTS FOR  
GASOLINE AND DIESEL TANK EXCAVATION  
(results mg/kg)

	SAMPLE ID # 02081015	SAMPLE ID # 02081100	SAMPLE ID # 02081140	SAMPLE ID # 02081233	SAMPLE ID # 02081315	SAMPLE ID # P-3	SAMPLE ID # SB-2	SAMPLE ID # SB-3	DLR
LOCATION	NW SIDEWALL ✓	NE SIDEWALL ✓	SE SIDEWALL ✓	BOTTOM OF EXCAVATION	SW SIDEWALL ✓	SOIL BORING	SOIL BORING	SOIL BORING	
DEPTH IN FEET	-5.0	5.8	5.0	11.0	5.0	4.5	5.5	5.5	
Benzene	33	ND	1.7	ND	ND	ND	ND	ND	0.02
Toluene	430	ND	11	0.04	100	ND	ND	ND	0.02
Ethylbenzene	340	ND	9.2	ND	170	ND	ND	ND	0.02
Total Xylene Isomers	1,500	ND	54	0.10	1,200	ND	ND	ND	0.02
Total Petroleum Hydrocarbon - Gas	12,000	ND	2,300	ND	13,000	ND	ND	ND	10
Total Petroleum Hydrocarbons - Diesel	--	--	--	--	--	--	--	ND	10

ND - Not Detected

-- Not Analyzed

DLR - Detection Limit for the Purposes of Reporting

TABLE ~~24~~ 3A

SOIL SAMPLE RESULTS FOR  
WASTE OIL TANK EXCAVATION  
(results mg/kg)

	SAMPLE ID # 02081427	SAMPLE ID # 02081438	SAMPLE ID # 02081448	SAMPLE ID # 02081500	SAMPLE ID # 03061220	SAMPLE ID # 03061240	DLR
LOCATION	NW SIDEWALL	NE SIDEWALL	SE SIDEWALL	SW SIDEWALL	BOTTOM OF EXCAVATION	BOTTOM OF EXCAVATION	
DEPTH IN FEET	5.0	5.5	6.0	5.5	8.0	8.0	
Benzene	ND	ND	ND	ND	ND	ND	0.02
Toluene	ND	0.02	ND	ND	ND	.08	0.02
Ethylbenzene	ND	0.03	ND	ND	ND	.44	0.02
Total Xylene Isomers	ND	0.06	ND	ND	ND	1.7	0.02
Total Petroleum Hydrocarbons - Gas	ND	ND	ND	ND	ND	ND	10
Oil and Grease	ND*	ND*	BDL*	ND*	86	42	10
Zinc	13	18	12	12	64	370	5

ND - Not Detected

BDL - Below Detectable Limit

DLR - Detection Limit for the Purpose of Reporting

\*DLR - 100mg/kg for these samples only

TABLE ~~2~~ 4  
ANALYTICAL RESULTS OF SOIL SAMPLES  
(mg/kg)

	MW-1	MW-2
BENZENE	ND	ND
TOLUENE	ND	ND
ETHYLBENZENE	ND	ND
XYLENE	ND	ND
TPHgas	ND	ND

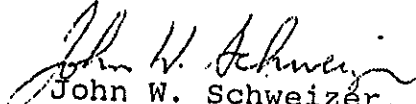
ND - None Detected

The results presented in Table 2 are consistent with previous data which indicate that soil contamination is confined to within the immediate vicinity of the tank excavations. (Please refer to our April 5 report.) Accordingly, we recommend that the contaminated soils be removed by excavation as discussed in our April 5, 1990 report. A formal proposal and fee estimate for doing this work, including fee estimates for the different soil treatment and disposal options, is presently being prepared and will be submitted to you as quickly as possible.

We trust this information meets your present needs. Please call if you have questions.

Sincerely,

REMEDICATION SERVICES, INC.

  
John W. Schweizer, P.E.  
Manager

RDF:lc

Enclosure: BSK and Associates' April 27, 1990 Report  
cc: Mr. Michael McCracken

TABLE ~~IX~~ 5

SUMMARY OF CHEMICAL TEST RESULTS: SOIL SAMPLES

All units in mg/kg (ppm)

Sample Designation	TVH	DL	B	DL	T	DL	X	DL	E	DL	TPH	DL	TOG	DL	Pb	DL
HP-1 at 4-1/2'	ND	10	ND	0.02	ND	0.02	ND	0.02	ND	0.02	--	--	--	--	--	--
HP-3 at 4-1/2'	ND	10	ND	0.02	ND	0.02	ND	0.02	ND	0.02	--	--	--	--	--	--
HP-4 at 4-1/2'	ND	10	ND	0.02	ND	0.02	ND	0.02	ND	0.02	--	--	--	--	--	--
HP-5 at 4-1/2'	ND	10	ND	0.02	ND	0.02	ND	0.02	ND	0.02	--	--	ND	20	--	--
HP-5A at 5'	ND	10	ND	0.02	ND	0.02	ND	0.02	ND	0.02	--	--	--	--	--	--
MW-3 at 4-1/2'	ND	10	ND	0.02	ND	0.02	ND	0.02	ND	0.02	--	--	--	--	ND	0.1
SB-4 at 4-1/2'	ND	10	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	10	--	--	--	--
HP-7 at 4-1/2'	ND	10	ND	0.2	ND	0.2	ND	0.2	ND	0.2	--	--	--	--	--	--
HP-8 at 4'	510	100	ND	0.2	1	0.2	16	0.2	3	0.2	--	--	ND	20	--	--

TVH: Total Volatile Hydrocarbons as Gasoline

B: Benzene

T: Toluene

X: Xylene

E: Ethylbenzene

TPH: Total Petroleum Hydrocarbons as Diesel

TOG: Total Oil and Grease

Pb: Total Lead by California Assessment Manual Analyses Method

DL: Detection Limits

ND: None Detected

--: Not Tested

*where are SB 5-7?*

TABLE ~~PC~~ 6

SUMMARY OF CHEMICAL TEST RESULTS: WATER SAMPLES

All units ug/l (ppb) unless otherwise shown

Sample Designation (Action Level)*	TVH --	DL	B (1)	DL	T (100)	DL	X (1750)	DL	E (680)	DL	TOG	DL
HP-1	200	50	ND	0.5	ND	0.5	ND	0.5	1.0	0.5	--	--
HP-2	ND	50	ND	0.5	ND	0.5	ND	0.5	ND	0.5	--	--
HP-3	ND	50	ND	0.5	ND	0.5	ND	0.5	ND	0.5	--	--
HP-4	ND	50	ND	0.5	ND	0.5	ND	0.5	ND	0.5	--	--
HP-5	ND	50	ND	0.5	ND	0.5	ND	0.5	ND	0.5	--	--
HP-5A	ND	50	ND	0.5	ND	0.5	ND	0.5	ND	0.5	--	--
MW-3	ND	50	ND	0.5	ND	0.5	ND	0.5	ND	0.5	--	--
MW-1**	1200	500	350	5.0	25	5.0	60	5.0	48	5.0	--	--
HP-2A	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	--	--
HP-3A	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	--	--
HP-7	1900	0.5	ND	0.5	4	0.5	5	0.5	6	0.5	--	--
HP-8	64,000	5000	1500	50	2800	50	11,000	50	2700	50	6ppm	1ppm

TVH: Total Volatile Hydrocarbons as Gasoline  
 B: Benzene  
 T: Toluene  
 X: Xylene  
 E: Ethylbenzene  
 TOG: Total Oil and Grease  
 DL: Detection Limits  
 ND: None Detected  
 -: Not Tested

Action Levels for BTXE: California DHS Recommended  
 Action Levels, January, 1991

MW-1\*\*: Sampled by RS personnel on 3/27/91



### 3.4 Sample Collection

Soil samples were collected from the excavation during soil removal. Ms. Jennifer Eberle, Inspector for Alameda County Health Care Services Agency witnessed the sampling. Samples T1 through T10 were collected from the corners of each trench excavation. The samples were submitted to ChromaLab, an EPA accredited laboratory for analysis of Total Petroleum Hydrocarbons (TPH) as gasoline with Benzene, Toluene, ethylbenzene, and Total Xylenes (BTEX) and Total Oil and Grease.

Results of the sample analysis are summarized in Table 1.

Table 1 - Soil Sample Results

Sample Number	Depth (feet)	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	E. benzene (ppm)	Xylene (ppm)	O & G (ppm)
4-28-94 TR1	7	<1.0	<0.005	<0.005	<0.005	<0.005	<50
TR2	8	<1.0	<0.005	<0.005	<0.005	<0.005	<50
5-2-94 TR3	6.5	<1.0	<0.005	<0.005	<0.005	<0.005	<50
TR4	6.5	<1.0	<0.005	<0.005	<0.005	<0.005	<50
TR5	6.5	<1.0	<0.005	<0.005	<0.005	<0.005	1,000
TR6	NA	NA	NA	NA	NA	NA	NA
5-4-94 TR7	6.5	<1.0	<0.005	<0.005	<0.005	<0.005	<50
TR8	6.5	<1.0	<0.005	<0.005	<0.005	<0.005	<50
5-12-94 TR9	6.5	<1.0	<0.005	<0.005	<0.005	<0.005	62
TR10	6.5	<1.0	<0.005	<0.005	<0.005	<0.005	<50

Notes: TPH = Total Petroleum Hydrocarbons  
ppm = parts per million  
E. Benzene = Ethylbenzene  
NA = not analyzed

Laboratory analytical results with chain of custody forms are attached in Appendix D. Sample locations are illustrated on Figure 3.

### 3.5 Excavation Water

Groundwater was encountered within the existing excavation. The depth to groundwater was approximately 6 to 7 feet below ground surface. Prior to excavation, one grab groundwater sample (TR-PIT-1) was collected from the original open pit on April 13, 1994. The grab groundwater sample was submitted for analysis of TPH as gasoline with BTEX, TPH as diesel, Total Oil and Grease and Total lead. Results of the analysis indicated detectable levels of unknown hydrocarbons in the range of diesel quantified as diesel. Other constituents were reported as below detectable levels. Copies of the analytical results with chain of custody form are attached in Appendix E.

3  
**TABLE 8 - Sample Results - Groundwater**

Sample No.	Date Sampled	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	E.benzene (ug/L)	Xylenes (ug/L)	O&G (mg/L)
MW-1	04/02/90	2100	230	13	21	61	NA
	12/20/90	250	10	<0.5	<0.5	<0.5	NA
	03/27/91	1200	350	25	48	60	NA
	06/27/91	190	1	1	2	9	NA
	Distroyed						
MW-2	04/02/90	<50	<0.5	<0.5	<0.5	<0.5	NA
	12/20/90	<50	<0.5	<0.5	<0.5	<0.5	NA
	03/27/91	<50	<0.5	<0.5	<0.5	<0.5	NA
	06/27/91	<50	<0.5<0.	<0.5	<0.5	<0.5	NA
	06/20/94	<50	5	<0.5	<0.5	<0.5	<1.0
	09/22/94	<50<5	<0.5	<0.5	<0.5	0.5	<1.0
	12/22/94	0	<0.5	<0.5	<0.5	<0.5	<1.0
	03/20/95	<50 ✓	<0.5 ✓	<0.5 ✓	<0.5 ✓	<0.5 ✓	<1.0 ✓
MW-3	03/27/91	<50	<0.5	<0.5	<0.5	<0.5	NA
	06/27/91	<50	<0.5	<0.5	<0.5	<0.5	NA
	06/20/94	<50	<0.5	<0.5	<0.5	<0.5	<1.0
	09/22/94	<50	<0.5	<0.5	<0.5	<0.5	<1.0
	12/22/94	<50	<0.5	<0.5	<0.5	<0.5	2.6
	03/20/95	<50 ✓	<0.5 ✓	<0.5 ✓	<0.5 ✓	<0.5 ✓	<1.0 ✓
MW-4	06/20/94	<50	<0.5	<0.5	<0.5	<0.5	<1.0
	09/22/94	<50	<0.5	<0.5	<0.5	0.6	<1.0
	12/22/94	<50	<0.5	<0.5	<0.5	<0.5	<1.0
	03/20/95	<50 ✓	<0.5 ✓	<0.5 ✓	<0.5 ✓	<0.5 ✓	<1.0 ✓

Notes: TPHg = Total Petroleum Hydrocarbons as gasoline  
 E.Benzene = Ethylbenzene; O&G = Total Oil and Grease  
 ug/L = Parts Per Billion  
 NA = not analyzed  
 < = less than detection limit indicated

## 7.0 EXTENT OF HYDROCARBONS PRESENCE IN SOIL AND GROUNDWATER

### 7.1 Hydrocarbon Concentrations in Soil

During overexcavation and remedial action, nine soil samples were collected from the excavation and analyzed for TPHg with benzene, toluene, ethylbenzene, and total xylenes (BTEX), and Total Oil and Grease. Results of the analysis indicated detectable levels of total Oil and Grease reported in the samples collected from the northern corner of the excavation. Detectable levels of TPHg with BTEX were not reported in the verification soil samples analyzed.

Soil sampling from boring MW-4 indicated below detectable levels of constituents. Groundwater sampling from the monitoring wells on-site (MW-2, MW-3, and MW-4) indicated below