

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY
DAVID J. KEARS, Agency Director

REMEDIAL ACTION COMPLETION CERTIFICATION

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

November 12, 1997

Mr. Mark Tortorich
General Services Administration, Property Development Division
450 Golden Gate
3rd Floor, West
San Francisco, CA 94102

STID: 3617

RE: Oakland Federal Building, 1305 Clay Street, Oakland, CA 94612

Dear Mr. Tortorich:

This letter confirms the completion of a site investigation and remedial 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, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Section 2721(e) of Title 23 of the California Code of Regulations.

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

Sincerely,

Mee Ling Tung
Director of Environmental Health Services

cc: Chief, Hazardous Materials Division - files
Larry Seto, ACDEH
Kevin Graves, RWQCB
Lori Casias, SWRCB (w/ Case Closure Summary)
Leroy Griffin, Oakland Fire

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November 12, 1997

Mr. Mark Tortorich
GSA, Property Development Division
450 Golden Gate
3rd Floor, West
San Francisco, CA 94102
STID: 3617

Re: Oakland Federal Building, 1305 Clay Street, Oakland, CA 94612

Dear Mr. Tortorich:

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 Protection Division 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.

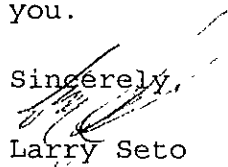
SITE INVESTIGATION AND CLEANUP SUMMARY

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

- o Groundwater samples from the most recent sampling contained up to 56 ppb TPH (Diesel) and 110 ppb TPH (Motor oil).

If you have any questions, please contact me at (510)567-6774. Thank you.

Sincerely,


Larry Seto
Senior Hazardous Materials Specialist

cc: Leroy Griffin, Oakland Fire
Larry Seto, Environmental Health

Enclosures:

1. Case Closure Letter
2. Case Closure Summary

01-1071

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: July 15, 1996

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

II. CASE INFORMATION

Site facility name: Oakland Federal Building
Site facility address: 1305 Clay Street, Oakland, CA 94612
RB LUSTIS Case No: N/A Local Case No./LOP Case No.: 3617
URF filing date: 1/24/91 and 4/22/91 SWEEPS No: N/A

Responsible Parties: Addresses: Phone Numbers:
Don Bednarz, c/o General Services Administration, Region 9, 525 Market Street, San Francisco, CA 94105-2799

<u>Tank No:</u>	<u>Size in gal.:</u>	<u>Contents:</u>	<u>Closed in-place or removed?:</u>	<u>Date:</u>
#1	250	gasoline*	removed	1/28/91
#2	4000	heating oil**	removed	1/22/91

*Jefferson Street Tank
**14th Street Tank

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: Unknown
Site characterization complete? YES
Date approved by oversight agency: 1/27/93
Monitoring Wells installed? Yes Number: one (1)
Proper screened interval? Unk, MW-1 screened from 25' to 40' bgs
Highest GW depth below ground surface: 25.02 (4/28/95)
Lowest depth: 26.62 (1/9/95)
Flow direction: presumed northwest from measurements of previous on- and off-site wells.
Most sensitive current use: residential/commercial
Are drinking water wells affected? No Aquifer name: N/A
Is surface water affected? No Nearest affected SW name: N/A
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

ENVIRONMENTAL PROTECTION
AUG 22 PM 2:20

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>
Tanks	1 x 250-gallon 1 x 4000-gallon	Disposal/Erickson Richmond, CA	1/28/91
Piping			
Free Product			
Soil	31,000 yd3	Disposal/Forward Landfill, Stockton, CA	3/16 to 6/30/90
	2,000 yd3	Disposal/Durham Road Landfill Fremont, CA	6/26 & 6/27/90
	12 yd3	Disposal/ BFI Vasco Road Landfill Livermore, CA	3/91
	130 yd3	Disposal/BFI Vasco Road Landfill Livermore, CA	4/25/91
Groundwater			
Barrels			
Tank contents	285 gallons	Recycling/Gibson Oil, Redwood City, CA	1/21/91

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

<u>Contaminant</u>	<u>Soil (ppm)</u>		<u>Water (ppb)</u>	
	<u>Before</u>	<u>After</u>	<u>Before</u>	<u>After</u>
TPH (Gas)	<0.5*	<0.5***	<50	<50
TPH (Diesel)	700**		<50	56
TPH (Motor oil)			980	110
Benzene	0.009*	<0.005***	<5	<5
Toluene	0.010*	<0.005***	<5	<5
Ethyl benzene	<0.005	<0.005***	<5	<5
Xylenes	<0.005	<0.005***	<5	<5
Oil & Grease	2700**			
Heavy metals			1	2
Other				

* Soil sample (TNK-1) was collected on 1/18/91 from soil containing the spilled fluid from the Jefferson Street UST. Soil sample TNK-2 was non-detect

** Samples were collected on 1/28/91 from beneath the 14th Street heating oil UST. No BTEX components exceeding the detection limits of 5 ppb were reported in any of the three samples (TNK-6, TNK-7 and TNK-8).

*** Closure soil sample (TNK-3) was collected on 1/21/91 from soil remaining beneath the area where approximately 10-15 gallons of a gasoline/water mixture had spilled.

¹ The metals cadmium, chromium, lead, nickel and zinc were detected at concentrations of 0.0159, 3.57, 1.07, 6.08 and 2.46 ppm, respectively, from groundwater hydropunch sample HP-30, at a depth of approximately 30 feet.

² Of the five metals tested for, only chromium at a concentration of 14 ppb was detected in the groundwater sample collected from MW-1 for the 10/24/95 sampling event.

Comments (Depth of Remediation, etc.):

The FTE Group prepared Phase I and Phase II Environmental Site Assessments for this site in May and June 1989. The purpose of the Phase II work was to investigate soil and groundwater conditions by advancing fourteen (14) soil borings, with three (3) of the borings subsequently converted to groundwater monitoring wells MW-1, MW-2 and MW-3 (see Figure 1). Groundwater levels at the time of drilling were estimated to be between 24 and 28 feet below ground surface (bgs). Soil samples were collected at 5 foot intervals in the monitoring well borings, beginning at a depth of five (5) feet and terminating at the water table. Soil samples were collected from the borings at depths varying from 5 to 12 feet bgs in the fill and/or below the fill materials. The soil samples were screened in the field for odors and/or with a portable "TIP" gas analyzer. Soil samples from boring SB-9 were also screened with the "TIP" gas analyzer, and since no reading was obtained, samples from this boring were not submitted to the laboratory for analysis. Seventeen (17) out of the twenty-six (26) soil samples and three (3) groundwater samples were analyzed for total petroleum hydrocarbons as gasoline, diesel and motor oil (TPHg, TPHd and TPHmo), volatile organic compounds (VOCs) and Title 22 Cam metals. Partial laboratory results for the soil and groundwater analyses for the FPE Phase II site assessment are summarized in Table 1.

Laboratory analysis of soil and groundwater samples taken from the site of the proposed Oakland Federal Building in early 1989 indicated that the site contained soil with elevated concentrations of petroleum hydrocarbons (primarily diesel fuel, and oil and grease) and lead. A total of sixty-eight (68) borings were drilled at this site: 1) The 11 borings and three (3) monitoring wells drilled by the FPE Group; 2) Six (6) geotechnical borings drilled by Woodward-Clyde Consultants (WCC) in 1986; 3) Nine (9) geotechnical borings drilled by WCC in 1987; 4) Fifteen geotechnical borings drilled by WCC in 1987; 5) Twenty-four (24) environmental borings drilled by WCC in 1989. In addition, eight (8) test pits were excavated by WCC on October 2, 1989 in order to investigate the stratification of fill within the basement cavities in more detail. The approximate locations of these sixty-eight borings and eight test pits are shown in Figure 2.

Between March 16 and June 30, 1990, approximately 31,000 bulk yards of soil was hauled to the Forward Landfill in Stockton, California. The soil was temporarily stored at the Forward Landfill while permits were obtained to perform a bioremediation program to reduce petroleum hydrocarbon concentrations in the soil prior to final disposal at Forward Landfill. Implementation of the bioremediation program was approved by the California Regional Water Quality Control Board (RWQCB), Central Valley Region on July 9, 1990 and bioremediation operations began shortly afterward.

In May 1990, approximately 2000 cubic yards of soil contaminated with gasoline was excavated from the area beneath the former gasoline station. This soil was aerated on-site to reduce petroleum hydrocarbon concentrations to less than 100 parts per million (ppm) and disposed of at Durham Road Landfill in Fremont, California.

On June 5, 1990, verification sampling was initiated which included collecting twenty (20) soil samples collected from ten (10) soil borings (CLS1 through CLS10-See Figure 3). Laboratory analysis of the twenty soil samples found non-detectable concentrations of TPHg, TPHd and TPHmo (detection limits 5 mg/kg, 10 mg/kg and 25 mg/kg, respectively).

Jefferson Street Tank. This tank was removed in January 28, 1991. This tank initially lay beneath the sidewalk on the east side of Jefferson Street, and was dislodged by backhoe operations during construction activities. The tank rolled down an approximately five (5) foot slope, coming to rest with the 3 to 4 inch opening on the top of the tank facing upward. The tank was full to within 4 to 5 inches of the top of the tank with a fluid which

appeared to be water, with a faint smell of gasoline and rust. As the tank rolled down the slope, approximately 10 to 15 gallons of liquid spilled from the tank onto the underlying soil. Approximately two cubic yards of this soil was removed and confirmation samples of this soil was taken from beneath the previous location of this tank and from beneath the area where the spill occurred. These samples were analyzed as non-detect for TPHg and BTEX.

14th Street Tank. This tank was removed on January 28, 1991. This tank, measuring 22 feet long and 3.5 feet in diameter, was found to contain an approximately six-inch-thick layer of black, heavy, high viscosity heating oil (bunker-type) in the tank bottom, along with internal heat exchanger piping. The tank appeared to be sound with minimal corrosion with no visible evidence of any punctures or holes through which leakage may have occurred. The existing contamination was in the form of a three-foot-thick horizontal layer of black discoloration of the orange-brown native silty clayey sand soil. WCC collected three soil samples (TNK-6, TNK-7 and TNK-8) beneath the 14th Street tank. Analytical results for these three samples identified concentrations of Oil & Grease (O&G) at 2700 ppm, 2400 ppm and less than 50 ppm, respectively. The concentrations of diesel in the samples were reported to be 180 ppm, 700 ppm and less than 10 ppm, respectively. No BTEX components exceeding the detection limits of 5 ppb were reported in any of the three samples. Over-excavation activities resulted in the removal of approximately 10 cubic yards of soil. Three confirmation samples collected from the over-excavated pit were found to contain non-detectable levels of BTEX, O&G and TPHd.

Four discrete samples (14-TK-ST-1 through 4) were collected from approximately 12 cubic yards of stockpiled soil. Analytical results of these composited soil samples indicated 750 ppm TPHd and 650 ppm of O&G. No detectable levels of BTEX were found in the composite samples.

On April 8, 1991, ongoing excavation for building construction on the site uncovered soil containing petroleum hydrocarbons in a area adjacent to 12th Street. On April 8 and 9, 1991, approximately 130 cubic yards of soil were removed. After removal of all accessible discolored soil, three discrete confirmatory soil samples (SS1, SS2 and SS3) were collected from the discolored, gray zone beneath 12th Street. In addition, two confirmatory soil samples were collected from each of the other three sides of the excavation (ES1 and ES2, NS1 and NS2, and WS1 and WS2). Two soil samples (B1 and B2) were collected from the bottom of the excavation at a depth of approximately 7' below grade and two confirmatory soil samples (B3 and B4) were collected from the bottom after completion of the excavation. The analytical results of the soil samples are summarized as follows:

The concentration of TPH-bearing soil found in soil samples SS1 through SS3 are as follows:

- gasoline - 230 ppm to 1200 ppm
- diesel - 900 ppm to 4400 ppm
- oil and grease - 1600 ppm to 3700 ppm
- benzene - less than the detection limit of 5.0 ppb
- toluene - 7 ppb to 110 ppb
- ethyl benzene - 180 ppb to 810 ppb
- total xylenes - 87 ppb to 550 ppb

No gasoline, diesel, oil and grease, or BTEX compounds were reported in the confirmatory soils samples ES1, ES2, NS1, NS2, WS1, WS2, B3 and B4, which exceeded the detection limits of 1.0 ppm, 1.0 ppm, 10 ppm and 5 ppb, respectively. No EPA Method 8010 compounds (chlorinated volatile organics) were reported exceeded the detection limit of 5 ppb.

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: **Yes**
Number Decommissioned: **four (4)** Number Retained: **one, pending closure**
List enforcement actions taken: **none**
List enforcement actions rescinded: **none**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Dale Klettke** Title: **Hazardous Materials Specialist**

Signature: *Dale Klettke* Date: *7/22/96*

Reviewed by

Name: **Madhulla Logan** Title: **Hazardous Materials Specialist**

Signature: *Madhulla Logan* Date: *7/30/96*

Name: **Thomas Peacock** Title: **Supervising HazMat Specialist**

Signature: *Thomas Peacock* Date: *7-23-96*

VI. RWQCB NOTIFICATION

Date Submitted to RB: RB Response: *Approved*

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

Signature: *Kevin Graves* Date: *8/19/96*

VII. ADDITIONAL COMMENTS, DATA, ETC.

Monitoring wells MW-1, MW-2 and MW-3 were installed in May 1989. Monitoring well MW-3 was installed in the northwest corner of the site approximately 40 feet west and in the general down gradient direction of the former location of the heating oil tank. Groundwater monitoring conducted in May 1989 resulted in no detectable levels of TPHg, BTEX or O&G. Groundwater monitoring conducted in February 1990 resulted in no detectable levels of TPHg, TPHd or lead. BTEX was detected at concentrations ranging from 0.6 ppb to 12 ppb for the February 1990 sampling event. Because of the detection of BTEX, and additional sample of groundwater from MW-3 was analyzed in March 1990, resulting in non-detectable levels of TPHg and BTEX (See Figure 5).

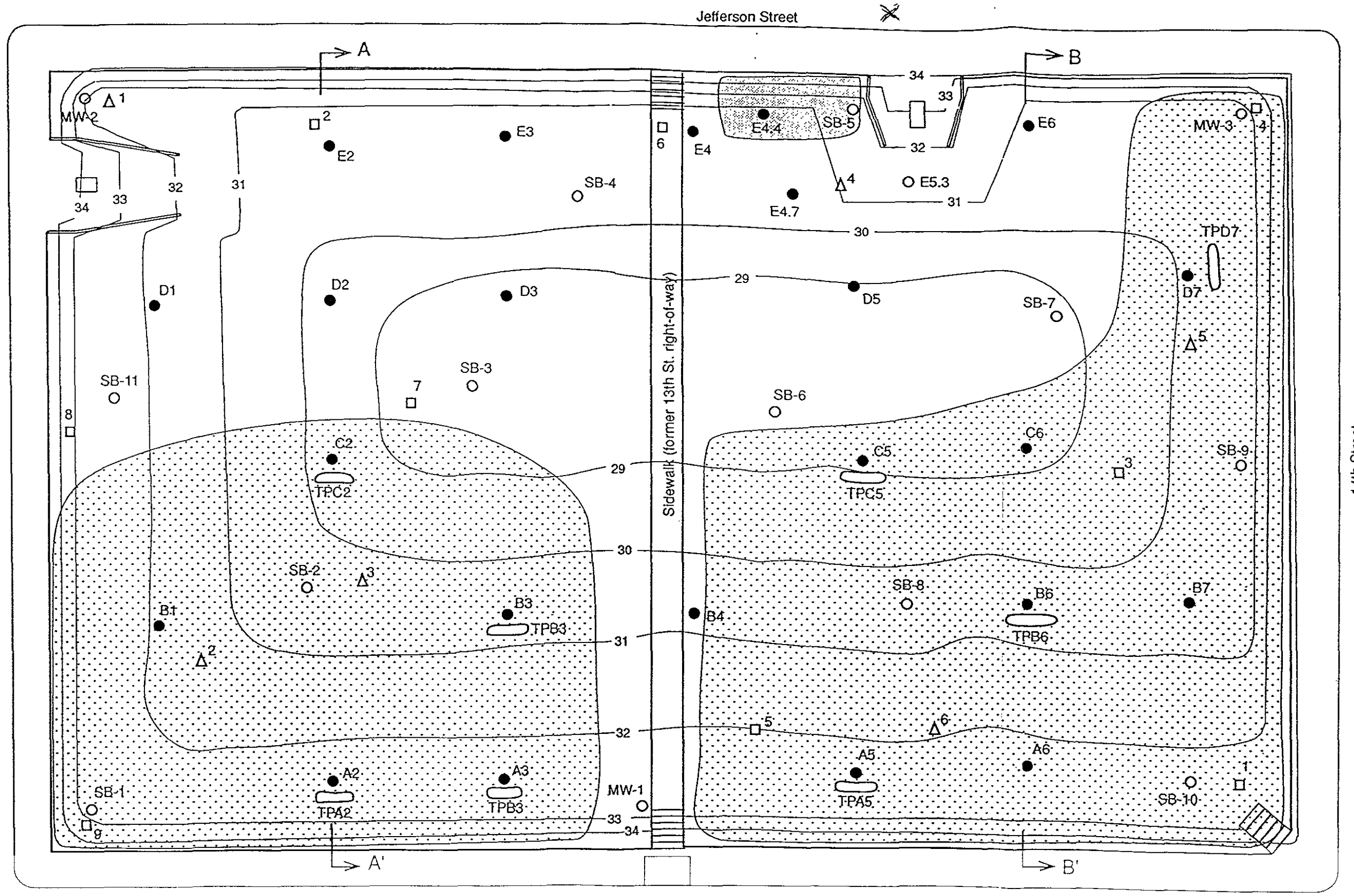
On March 20, 1990, groundwater monitoring well MW-52 was installed by Subsurface Consultants, Inc. (SCI) in Jefferson Street immediately down gradient from the gasoline hotspot excavation as shown in Figure 5. Sampling and analysis of groundwater from this well has occurred in April, October and December 1990, and

March 1991. No TPHg or BTEX has been detected in any of the groundwater samples collected from MW-52 exceeding the detection limits of 50 ppb and 0.5 ppb, respectively.

Groundwater monitoring well MW-1 was installed to determine whether soil contamination found directly beneath the heating oil storage tank had affected groundwater quality at this site. Monitoring well MW-1 was initially sampled on January 10, 1995 and a hydropunch sample (HP-1) was collected on December 15, 1994 at locations shown in Figure 7. The groundwater sample collected from HP-1 detected 980 ppb-TPHmo and 8 ppb-chloroform. Groundwater sampling events for monitoring well MW-1 were conducted on 12/15/94, 4/28/95, 7/28/95 and 10/24/95. Results of groundwater analyses for monitoring well MW-1 are summarized in Table 3.

This site qualifies for case closure as a "Low Risk Soils Case" for the following reasons:

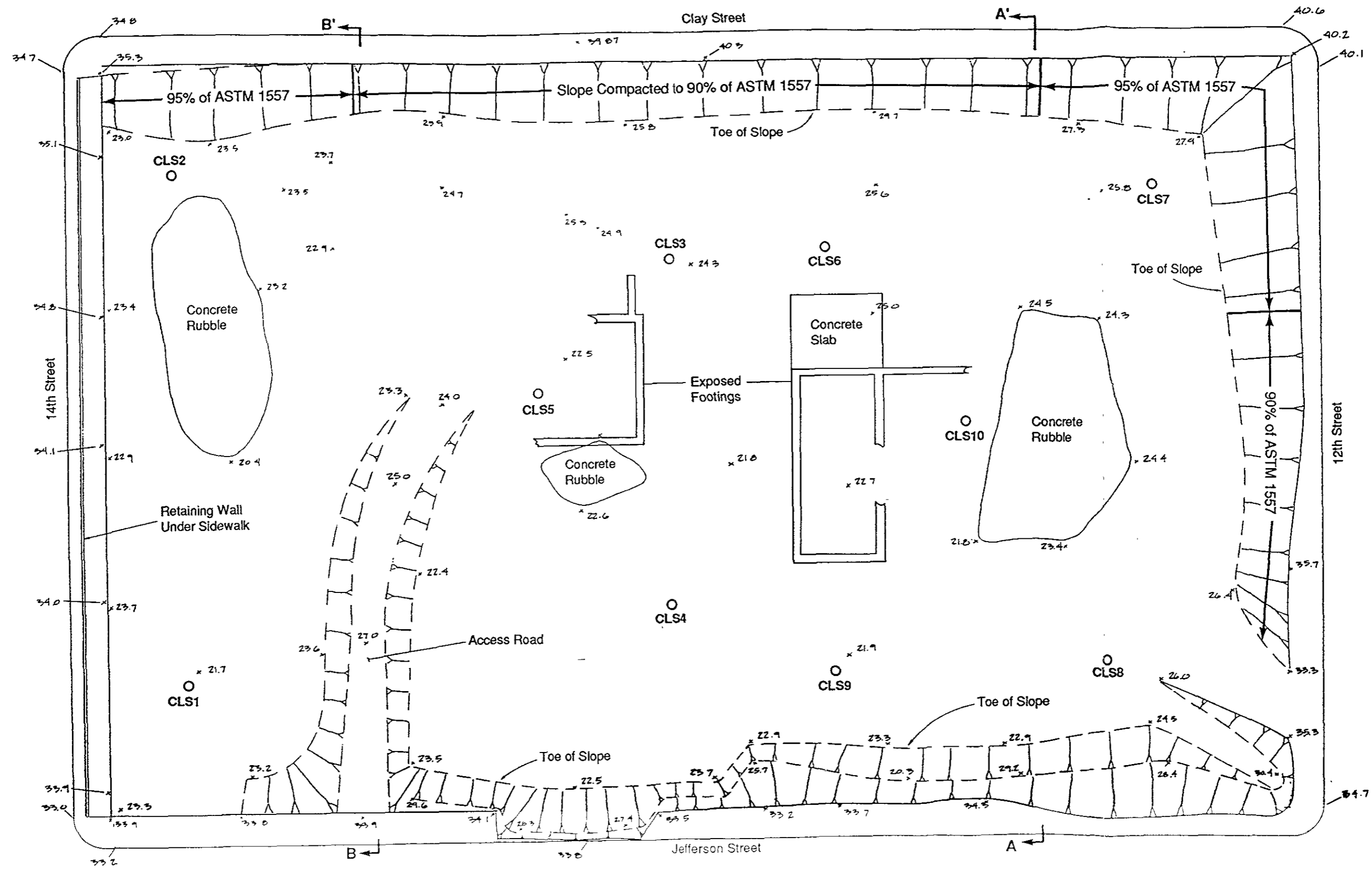
- a) The source has been sufficiently removed or has been remediated. *Soil contamination remaining in place extends horizontally under 12th Street for 2.5 to 3.5 feet and vertically from approximately 19 to 2 feet below 12th Street, approximately 5 feet above groundwater. The estimated quantity of TPH-impacted soil remaining under 12th Street is approximately eight cubic yards. (See Figures 8 and 9).*
- b) The site has been adequately characterized. *Laboratory analysis of soil and groundwater samples collected during the numerous investigations documents that the previous release is very small in extent and is limited to soils remaining in place under 12th Street.*
- c) Little or no groundwater impact currently exists and no contaminants are found at levels above established MCLs or other applicable water quality objectives. *BTEX was detected only in monitoring well MW-3 at concentrations of 0.6 ppb, 12 ppb, 1.2 ppb and 11 ppb, respectively, for the 2/8/90 sampling event.*
- d) No water walls, deeper drinking water wells, surface water or other sensitive receptors are likely to be impacted. *The contamination appears to be localized on site, and does not appear to have affected the quality of groundwater underlying the site.*
- e) The site presents no significant risk to human health or the environment. *All detected petroleum hydrocarbon concentrations are below the primary drinking water MCLs. The contamination appears to be localized and is not migrating off-site at concentrations which would pose a risk to human health or the environment.*



EXPLANATION

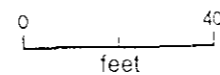
- WCC Environmental Borings - 1989
- FPE Group Soil Borings - 1989
- WCC Geotechnical Borings - 1987
- △ WCC Geotechnical Borings - 1986
- MW FPE Group Monitoring Well - 1989
- WCC Test Pits - 1989
- ▨ Contaminated Fill Area
- ▨ Area of Soil Containing Gasoline

Project No. 90C0070A	GSA Cleanup II	OAKLAND FEDERAL BUILDING SITE INITIAL CONFIGURATION AND SAMPLING LOCATIONS	Figure 2
Woodward-Clyde Consultants			



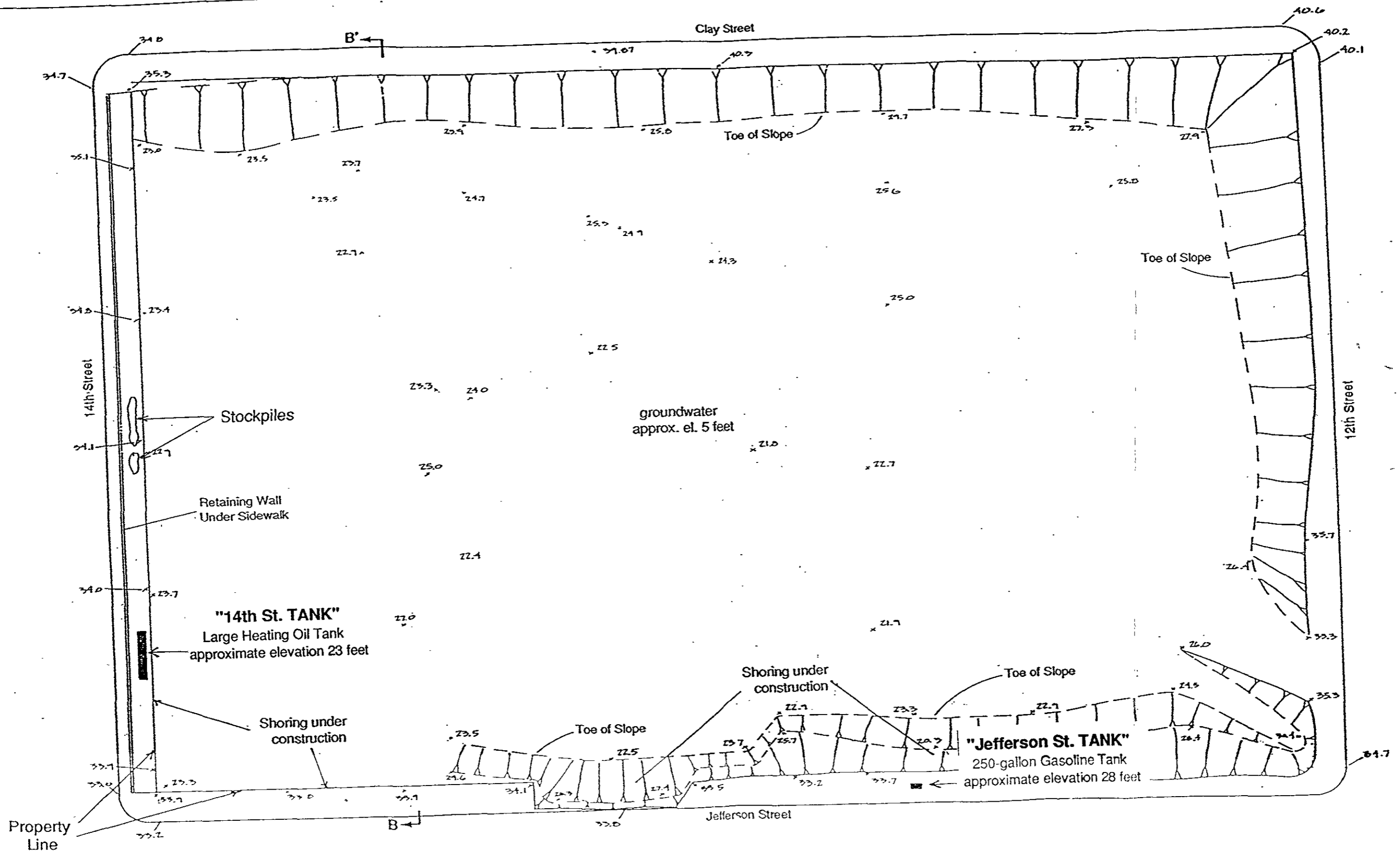
EXPLANATION

○ Closure Soil Borings, WCC - June 1990



Topography by Geo-Topo Surveys, Inc 6-10-90

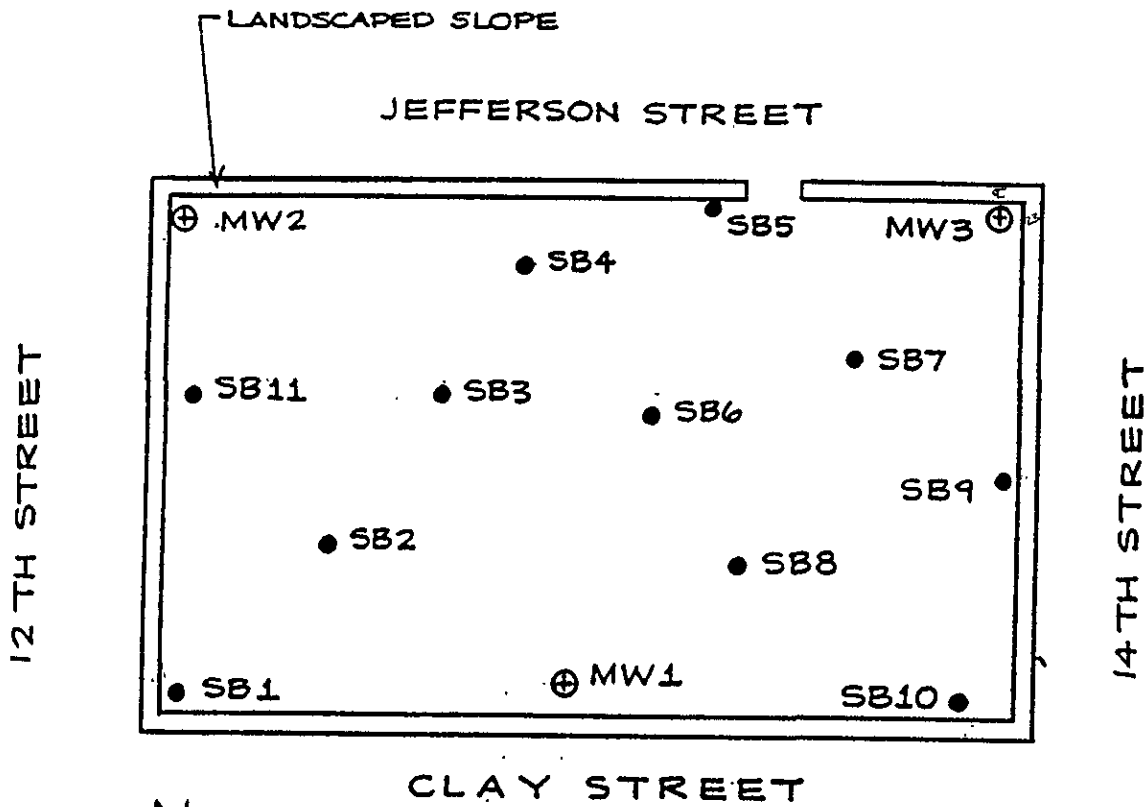
Project No. 90C0070A	GSA Cleanup II	END-OF-PROJECT CONDITIONS AND CLOSURE SAMPLING LOCATIONS	Figure 3
Woodward-Clyde Consultants			



Topography by Geo-Topo Surveys, Inc. 6-10-90

Project No. 90C0070A	GSA Cleanup II	Tank Locations
Woodward-Clyde Consultants		

FIGURE 4



LEGEND

- MW1
- ⊕ - MONITORING WELLS
- SB6
- - SOIL BORINGS

SCALE 1"=100'	<h1 style="margin: 0;">SITE PLAN</h1> <h2 style="margin: 0;">FIGURE 1</h2>	PROJ. NO. 895040
DATE		DRAWING NUMBER
DRAWN ELS	The FPE Group <small>CONSULTANTS</small>	SHEET 1 OF 1
APPROVED		

TABLE 1

Soil Samples

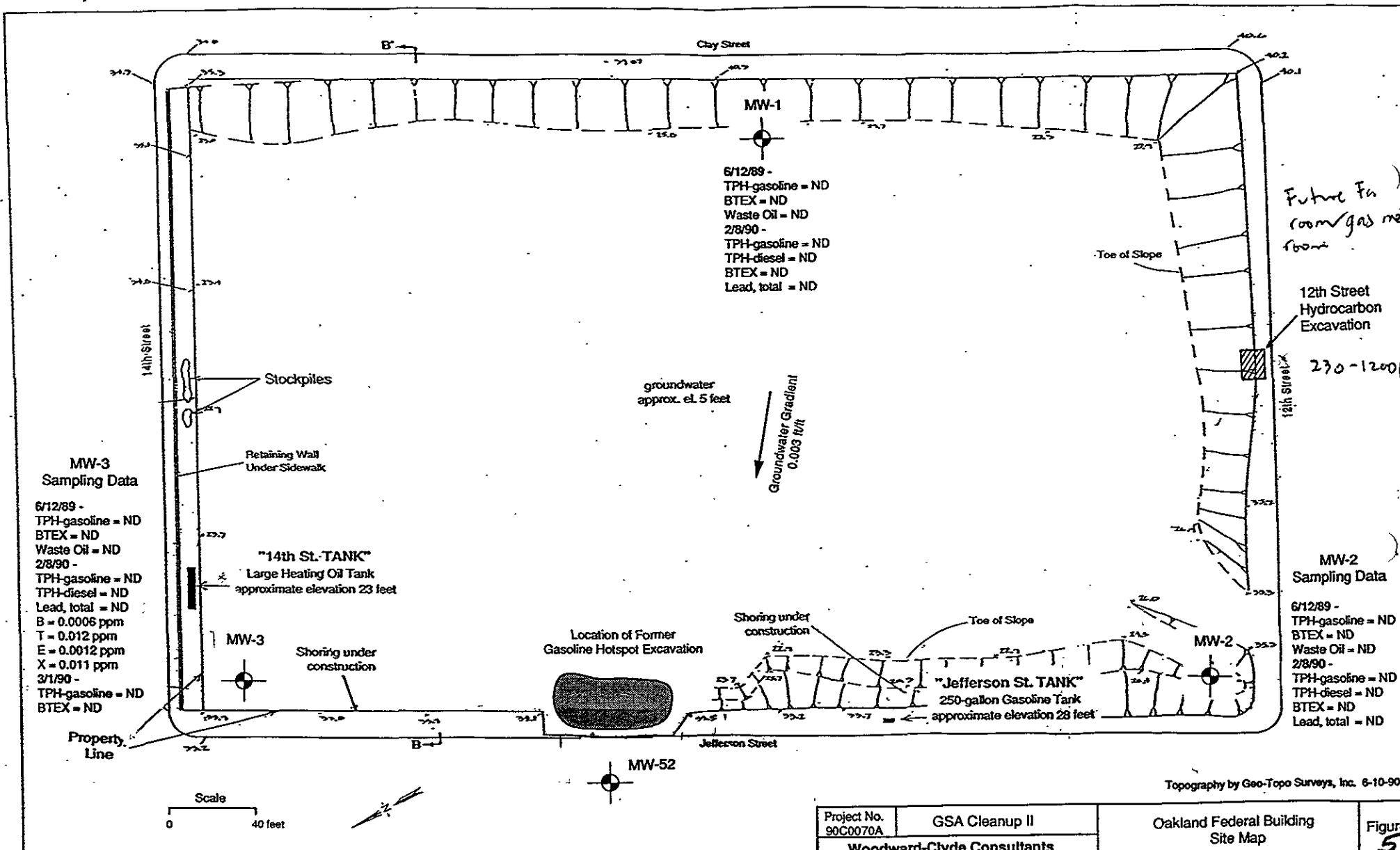
All results are expressed in milligrams per kilogram (mg/kg)

Sample #	TPHg	TPHd	TPHmo
SB-1	<1.0	<10	550
SB-2	<1.0	<10	1200
SB-3	<1.0	54	<30
SB-4	<1.0	54	<30
SB-5	4500	350	<30
SB5-2	840	190	200
SB-6	<1.0	36	<30
SB-7	<1.0	35	<30
SB-8	<1.0	<10	150
SB-9	Samples not analyzed		
SB-10	9.0	41	300
SB10-11	<1.0	47	<30
MWS1-01	<1.0	<10	<30
MWS1-02	<1.0	<10	<30
MWS1-03	<1.0	<10	<30
MWS1-04	<1.0	<10	<30
MWS2-04	<1.0	35	<30
MWS3-03	<1.0	44	<30

Water samples

MW-1	<0.05	<0.5	<5
MW-2	<0.05	<0.5	<5
MW-3	<0.05	<0.5	<5

3-3.5

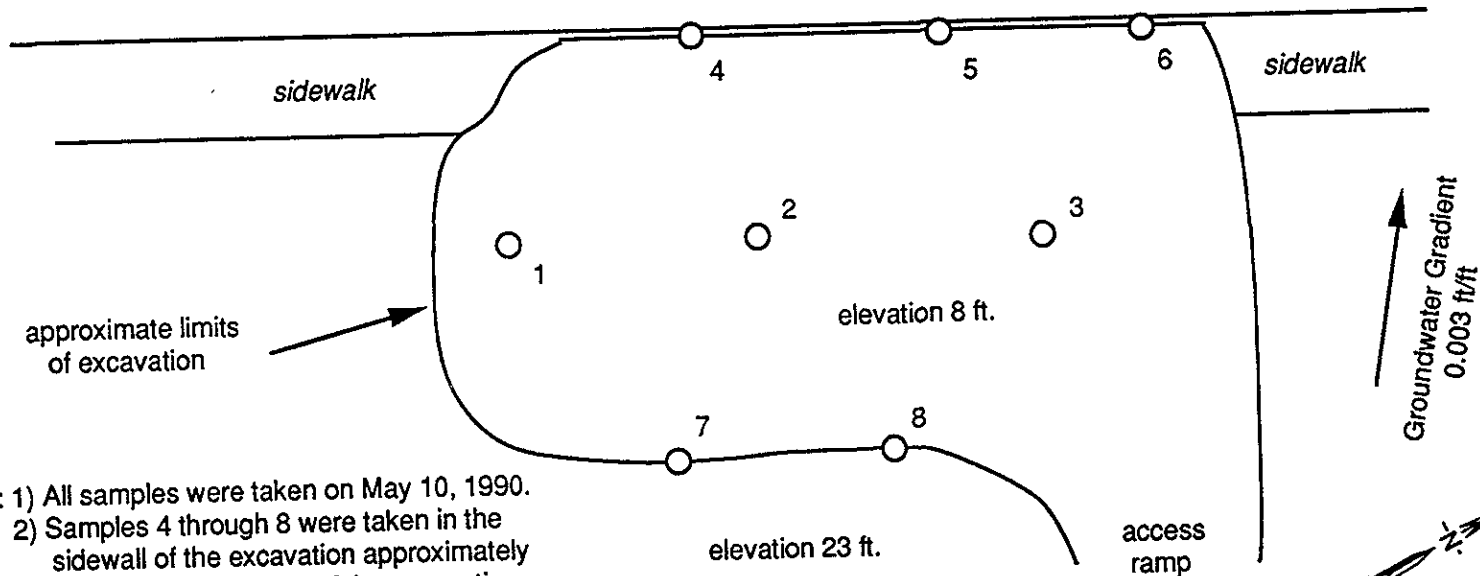


Project No. 90C0070A	GSA Cleanup II	Oakland Federal Building Site Map	Figure 5
Woodward-Clyde Consultants			



MW-52, installed and monitored by
Subsurface Consultants, Inc.

Jefferson Street
elevation 33.5 feet



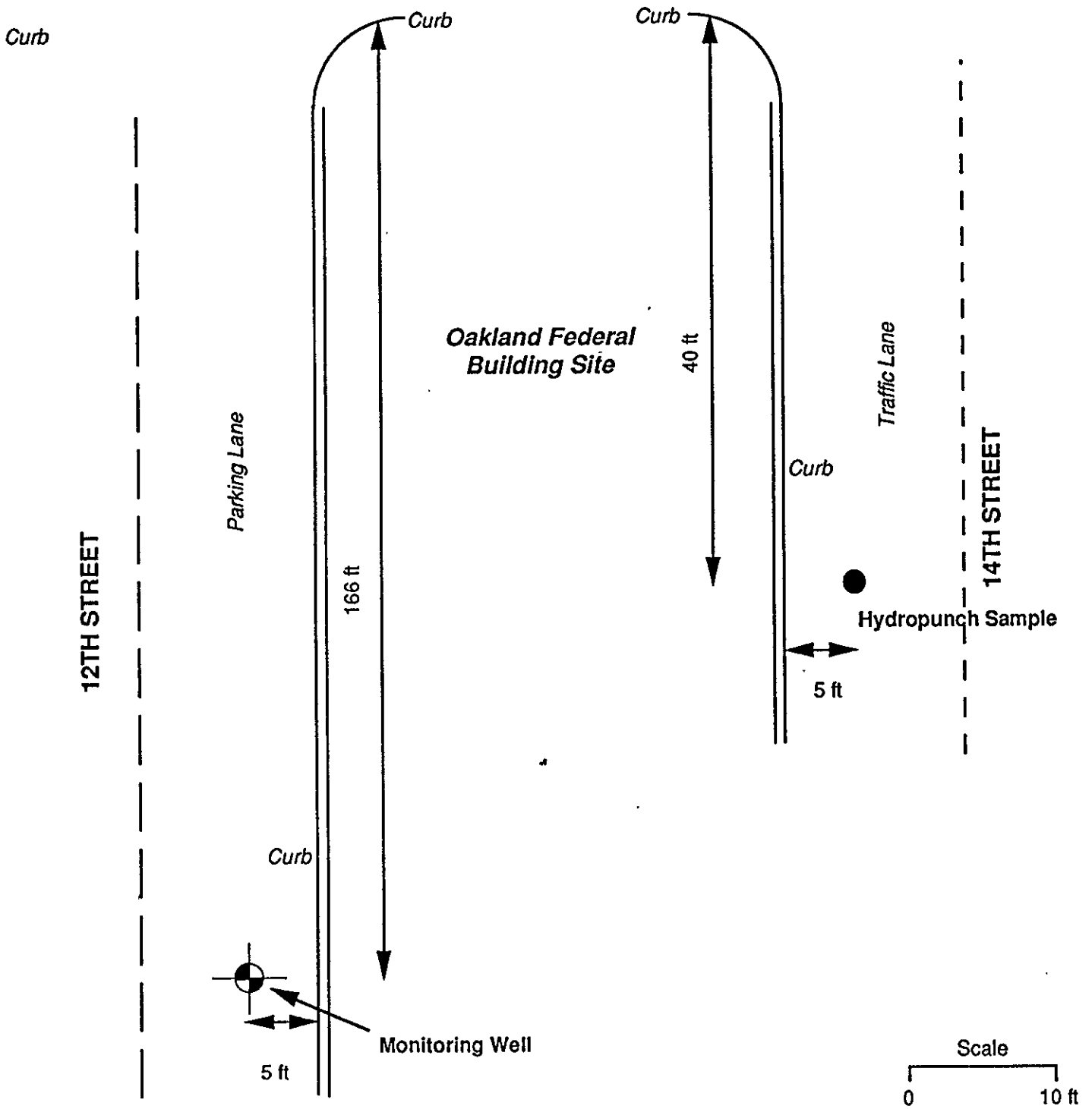
- notes: 1) All samples were taken on May 10, 1990.
 2) Samples 4 through 8 were taken in the sidewall of the excavation approximately 3 feet above the base of the excavation in the zone of maximum soil discoloration.
 3) Chemical analysis of the samples detected no total petroleum hydrocarbons, benzene, ethyl benzene, toluene, or xylenes.
 4) Elevations are approximate and are based on the City of Oakland datum.

Legend:
○ Sample location

Approximate Scale: 1' = 20'
0 20 feet

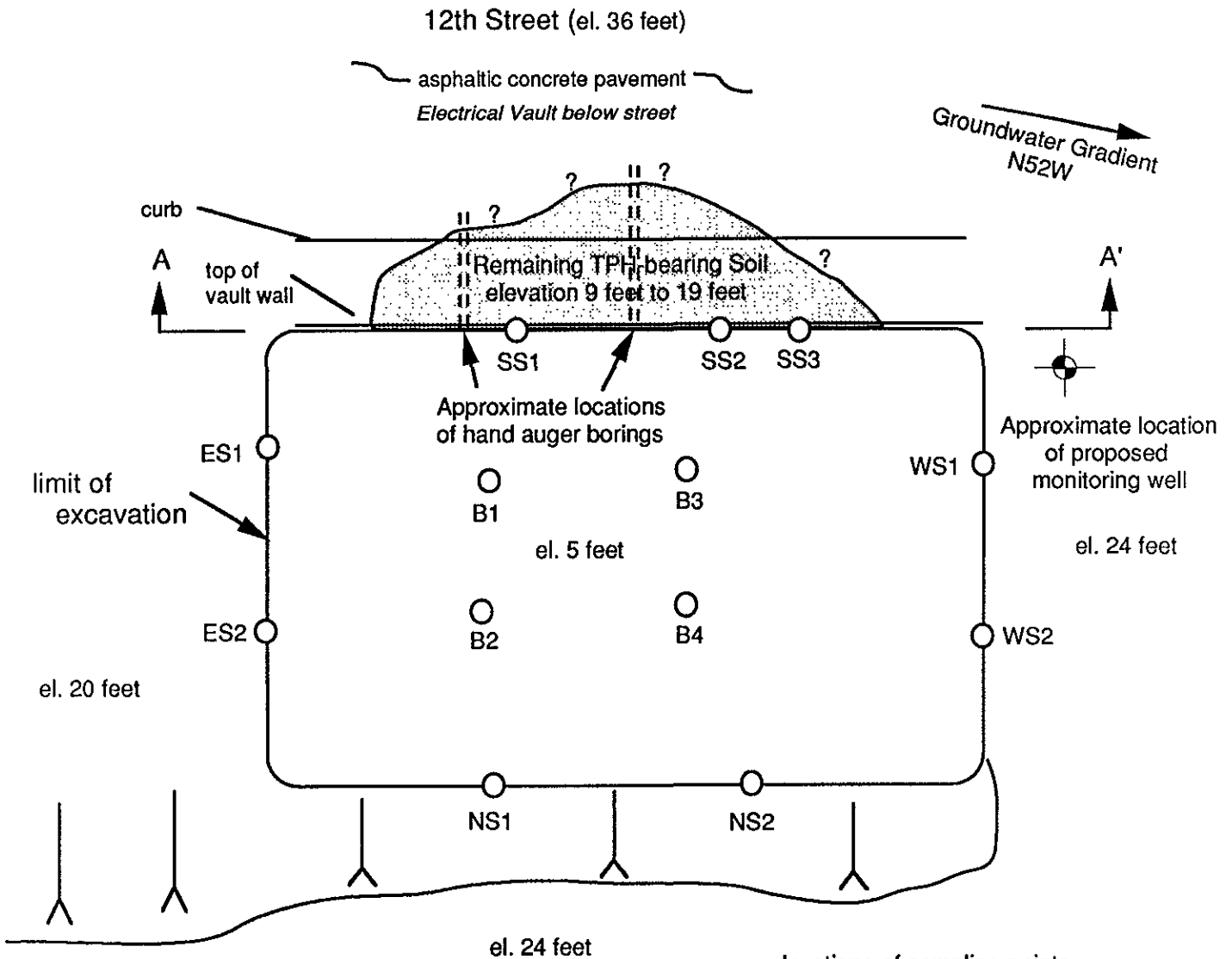
Project No. 90C0070A	GSA Cleanup II	Oakland Federal Building Gasoline Hotspot Excavation	Figure # 6
Woodward-Clyde Consultants			

JEFFERSON STREET



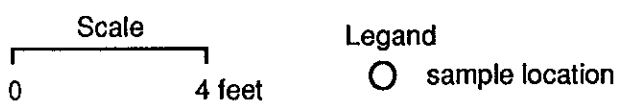
Project No. 92C0075A	GSA	Monitoring Well and Hydropunch Locations	Figure 7
Woodward-Clyde Consultants			

Plan View of Excavation



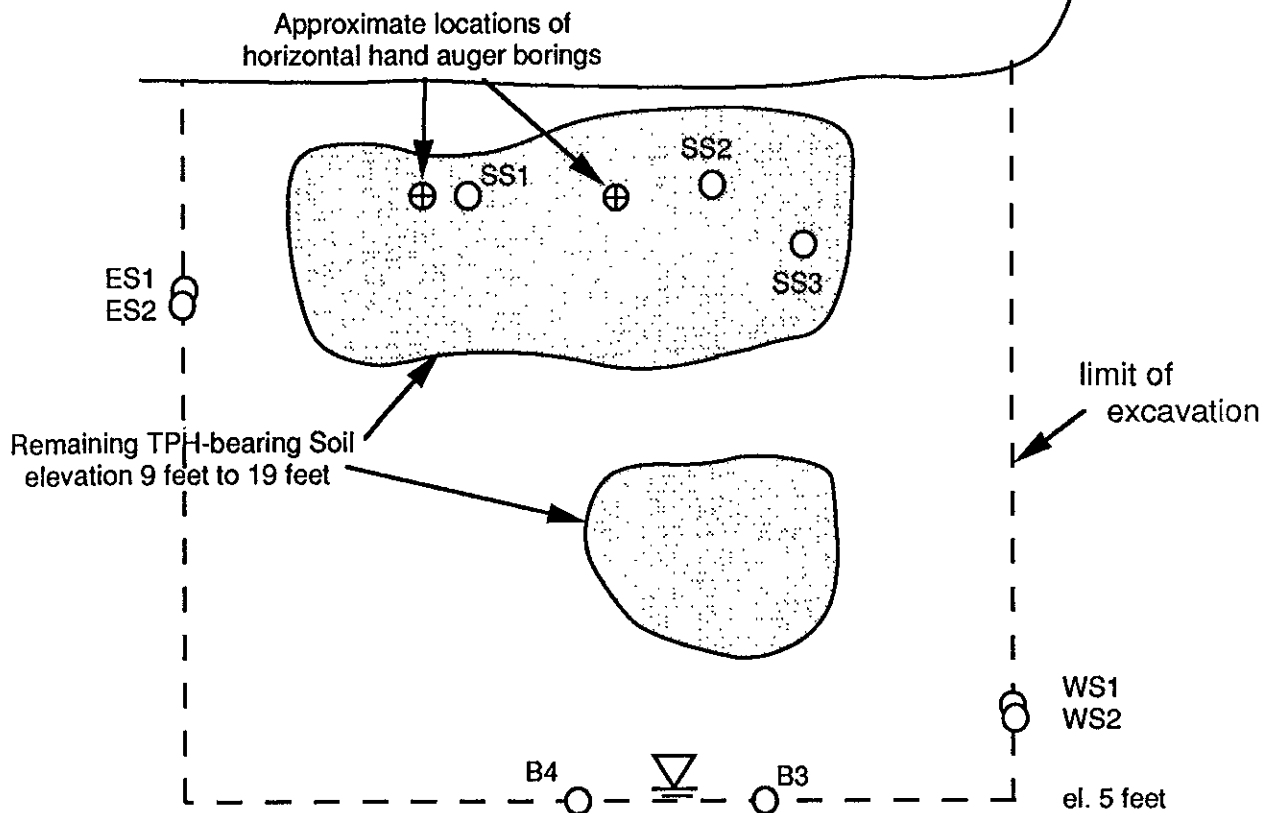
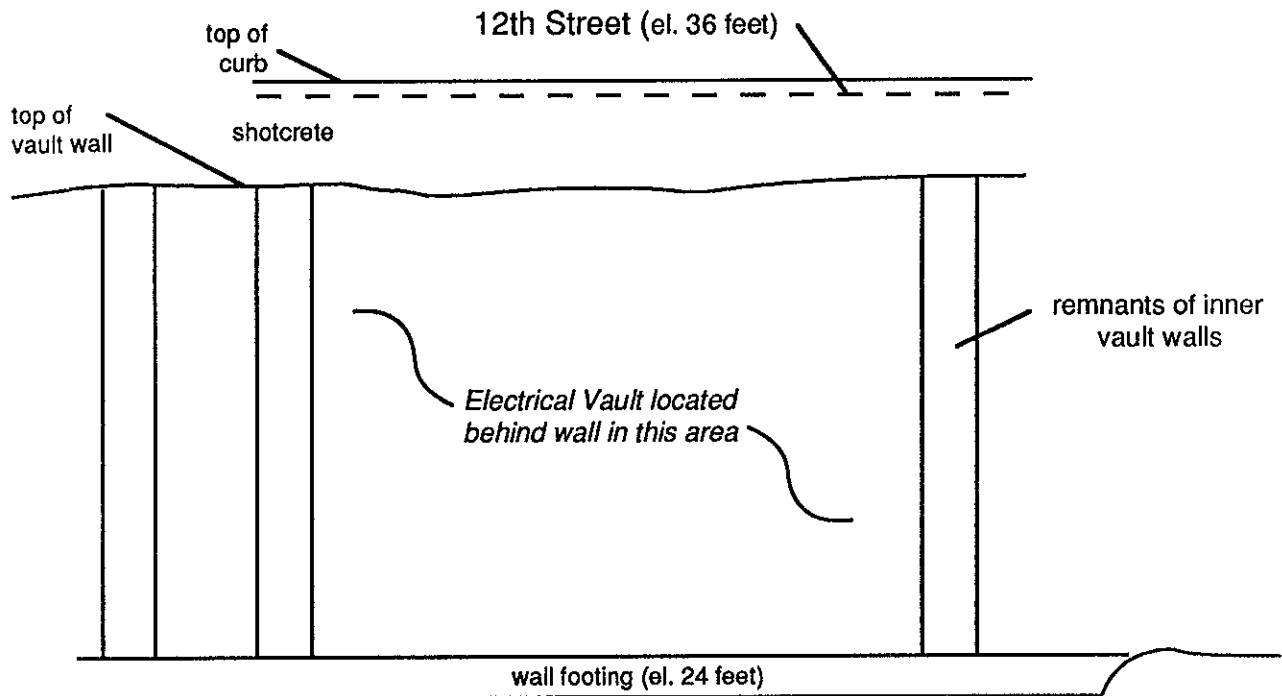
note: 1) all elevations and sampling locations are approximate
 2) all elevations relative to City of Oakland Datum (C.O.O.D.)

elevations of sampling points
 SS1, 2, and 3 - elevation 17 feet to 20 feet
 ES1 and 2, NS1 - elevation 14 feet
 WS1 and 2, NS2 - elevation 7 feet
 B1 and 2 - elevation 13 feet
 B3 and 4 - elevation 5 feet

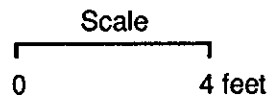


Project No. 90C0070A	GSA Cleanup II	Plan View - Excavation of Soil Containing TPH Along 12th Street	Figure 8
Woodward-Clyde Consultants			

Elevation of South Wall of Excavation



note: 1) all elevations and sampling locations are approximate
 2) all elevations relative to City of Oakland Datum (C.O.O.D.)



Legend
 ○ sample location

Project No. 90C0070A	GSA Cleanup II	Elevation A-A' - Excavation of Soil Containing TPH Along 12th Street	Figure 9
Woodward-Clyde Consultants			

Table 2 Summary of Soil Samples Relating to Underground Storage Tank Removal,
Oakland Federal Building Site

Sample No.	Date Sampled	Location*	Analytical Result
TNK-1	1/18/91	initial sample of contaminated soil from under Tank 1	gasoline = ND benzene = 9 ppb toluene = 10 ppb ethylbenzene, xylene = ND
TNK-2	1/18/91	under original location of Tank 1	gasoline, BTEX = ND
TNK-3	1/21/91	closure under Tank 1	gasoline, BTEX = ND
TNK-5	1/24/91	survey sample, Tank 2	diesel = 140 ppm, BTEX = ND
TNK-6	1/28/91	survey sample, Tank 2	oil & grease = 2700 ppm diesel = 180 ppm BTEX = ND
TNK-7	1/28/91	survey sample, Tank 2	oil & grease = 2400 ppm diesel = 700 ppm BTEX = ND
TNK-8	1/28/91	survey sample, Tank 2	oil & grease, diesel, BTEX = ND
J-TK-ST-1,2,3,4 (composite)	1/28/91	stockpile of excavated soil from beneath Tank 1	gasoline = ND BTEX = ND organic lead = ND
14-TK-C-1	1/31/91	closure under Tank 2	oil & grease, diesel, BTEX = ND
14-TK-C-2	1/31/91	closure under Tank 2	oil & grease, diesel, BTEX = ND
14-TK-C-3	1/31/91	closure under Tank 2	oil & grease, diesel, BTEX = ND
14-TK-ST-1,2,3,4 (composite)	1/31/91	stockpile of excavated soil from beneath Tank 2	diesel = 750 ppm BTEX = ND oil & grease = 650 ppm

* tank on Jefferson Street = Tank 1
tank on 14th Street = Tank 2

Table 3

Summary of Analytical Results, Groundwater Samples,
Monitoring Well MW-1, Oakland Federal Building (1)

Analyte	EPA Method	MW-1 12/15/94	MW1-2 4/28/95	MW1-3 7/28/95	MW1-4 10/24/95	Detection Limit	MCL (2)
Organics	8240						
Benzene		ND	ND	ND	ND	0.005	0.001
Toluene		ND	ND	ND	ND	0.005	0.15
Ethyl Benzene		ND	ND	ND	ND	0.005	0.7
Total Xylenes		ND	ND	ND	ND	0.005	1.75
Chlorform		ND	ND	ND	ND	0.005	6
TPH-gasoline	8015	ND	ND	ND	ND	0.05	
TPH-diesel	8015	ND	ND	ND	0.056 (3)	0.05	
TPH-motor oil	8015	0.3	0.17	0.17	0.11 (4)	0.05	
Metals	6010						
Cadmium		0.0098 (5)	ND	ND	ND	0.005	0.005
Chromium		2.225 (5)	0.0122	0.0221	0.014	0.01	0.05
Lead		0.319 (5)	ND	ND	ND	0.04	
Nickel		2.81 (5)	ND	ND	ND	0.04	0.1'
Zinc		1.68 (5)	0.0234	0.0253	ND	0.02	

Notes:

- 1) Results reported as mg/L (parts-per-million)
- 2) MCL = maximum contaminant level allowed by State of California in drinking water.
Shown where regulatory levels exist.
- 3) Concentration due to presence of a combination of diesel and discrete peaks not indicative of diesel fuel.
- 4) Concentration due to presence of a combination of Motor oil and discrete peaks not indicative of motor oil.
- 5) Groundwater samples not filtered prior to analysis. Results probably due to soil particles in sample.

PROJECT NAME

KMD PHASE II

LOCATION - PARKING LOT AT CLAY AND 12TH STREETS, OAKLAND

GEOLOGIST CINDA C. MacKINNON, R.G. (#4316)

BORING NO: MW 1

DRILLING METHODS: 8 1/2" HSA

DRILLER: ENSCO

TIM COLLETT

DEPTH	SAMPLE RECOVERY	BLOWS	DESCRIPTION	USCS	GRAPHIC SYMBOL	WELL CONSTR.
0			ASPHALT			CHRISTY BOX
			BROWN SANDY CLAY MOIST	CL		2" DIAMETER BLANK PVC CASING
5	01 13/21 /33	18"	LIGHT BROWN SILTY SAND WITH CLAY; RED BROWN STAINS; VERY DENSE, VERY MOIST			GROUT
10	02 12/13 /14	18"	INCREASING CLAY ↓	SM		
15	03 15/26 /32	18"	BROWN TO RED BROWN SAND, MEDIUM TO FINE GRAINED, WITH SILT AND MINOR CLAY, VERY DENSE; MOIST			BENTONITE PELLETS
20	04 12/23 /35		OLIVE-GREY, FINE GRAINED, SAND, MINOR SILT, VERY DENSE; MOIST			# 2/12 LONESTAR SAND
25	STP 25/38 /X		▽ 24'			0.2" PVC SCREEN
30			TOTAL DEPTH 30'			

STP - STANDARD PENETROMETER (GEOLOGIC SAMPLE)

SCALE	BORING LOG	PROJ. NO. 895040
DATE 5-15-89		DRAWING NUMBER
RAWN ELS		
APPROVED	The FPE Group CONSULTANTS	SHEET 1 OF 1

PROJECT NAME

KMD PHASE II

LOCATION PARKING LOT AT 12TH AND JEFFERSON STREETS, OAKLAND

GEOLOGIST CINDA C. MacKINNON, R.G. (#4316)

BORING NO: MW2

DRILLING METHODS: 8" HSA

DRILLER: ENSCO

TIM COLLETT

DEPTH	SAMPLE	RECOVERY	BLOWS	DESCRIPTION	USCS	GRAPHIC SYMBOL	WELL CONSTRUCTION
0				3" ASPHALT / 4" GRAVEL BASE			CHRISTY BOX 2" DIAMETER BLANK PVC CASING GROUT BENTONITE PELLETS #2/12 LONESTAR SAND
				BROWN, FINE GRAINED CLAYEY SAND WITH RUBBLE SLIGHTLY MOIST.			
5	01	2/16 /26	18"	LIGHT BROWN TO OLIVE FINE GRAINED CLAYEY SAND; RED BROWN LENS AT 5-7' WITH LESS CLAY EXCEPT AS OLIVE MOTTLING, MOIST			
10	02	21/30 /30	18"	RED BROWN MOTTLING	SC		
15	03	15/16 /19	17"				
20	04	15/29 /42	18"	RED-BROWN SILTY SAND FINE GRAINED; DENSE; MOIST			
25	05	20/32 /44	18"	BECOMES OLIVE-GREY IN COLOR BY 25' WITH OCCASIONAL CLAYEY STRINGERS	SM		
30		22/43 /X					

REMARKS SOIL SAMPLE 04 SENT TO LABORATORY

SCALE

DATE 5-17-89

RAWN ELS

APPROVED

BORING LOG**The FPE Group**

CONSULTANTS

PROJ. NO. 895040

DRAWING NUMBER

SHEET 1 OF 2

PROJECT NAME

KMD PHASE II

LOCATION: PARKING LOT AT 12TH AND JEFFERSON STREETS, OAKLAND

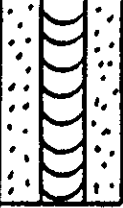
GEOLOGIST CINDA C. MacKINNON, R.G. (#4316)

BORING NO: MW2

DRILLING METHODS: 8" HSA

DRILLER: ENSCO

TIM COLLETT

DEPTH	SAMPLE RECOVERY	BLOWS	DESCRIPTION	USCS GRAPHIC SYMBOL	WELL CONSTRUCTION
35		NA		SM	

SCALE
 DATE 5-17-89
 DRAWN ELS
 APPROVED

BORING LOG

The FPE Group
CONSULTANTS

PROJ. NO. 895040
 DRAWING NUMBER
 SHEET 2 OF

LOCATION **PARKING LOT AT 12TH AND JEFFERSON STREETS, OAKLAND**

GEOLOGIST **CINDA C. MacKINNON, R.G. (#4316)**

BORING NO: **MW3**

DRILLING METHODS: **8 1/2" HSA - B - 53 RIG**

DRILLER: **ENSCO**

TIM COLLETT

DEPTH	SAMPLE	RECOVERY	BLOWS	DESCRIPTION	USCS	GRAPHIC SYMBOL	WELL CONSTRUCTION
0				3" ASPHALT / 4" GRAVEL BASE			CHRISTY BOX
				BROWN CLAYEY SAND; MOIST	SC		
5	01		2 1/2 / 4	YELLOW - BROWN CLAYEY SAND MOSTLY FINE - GRAINED; MOIST			2" DIAMETER PVC CASING
10	02		10 / 14 / 21	INCREASED CLAY CONTENT			GROUT
15	03		12 / 30 / 30	RED - BROWN STAINS; VERY DENSE.			BENTONITE PELLETS
20	04		14 / 16 / 20	OLIVE - GREY, FINE TO MEDIUM GRAINED SILTY SAND WITH CLAY; MOIST.	SM		#2 / 12 SAND
25	STP		19 / 32 / 30+	▽ ~ 24'	SM		.02 PVC SCREEN
30	STP		10 / 11 / 28+	BOTTOM OF BORING 31'			

REMARKS **SOIL SAMPLE 03 WAS SENT TO LABORATORY**
STP = STANDARD PENETROMETER (GEOLOGIC SAMPLE)

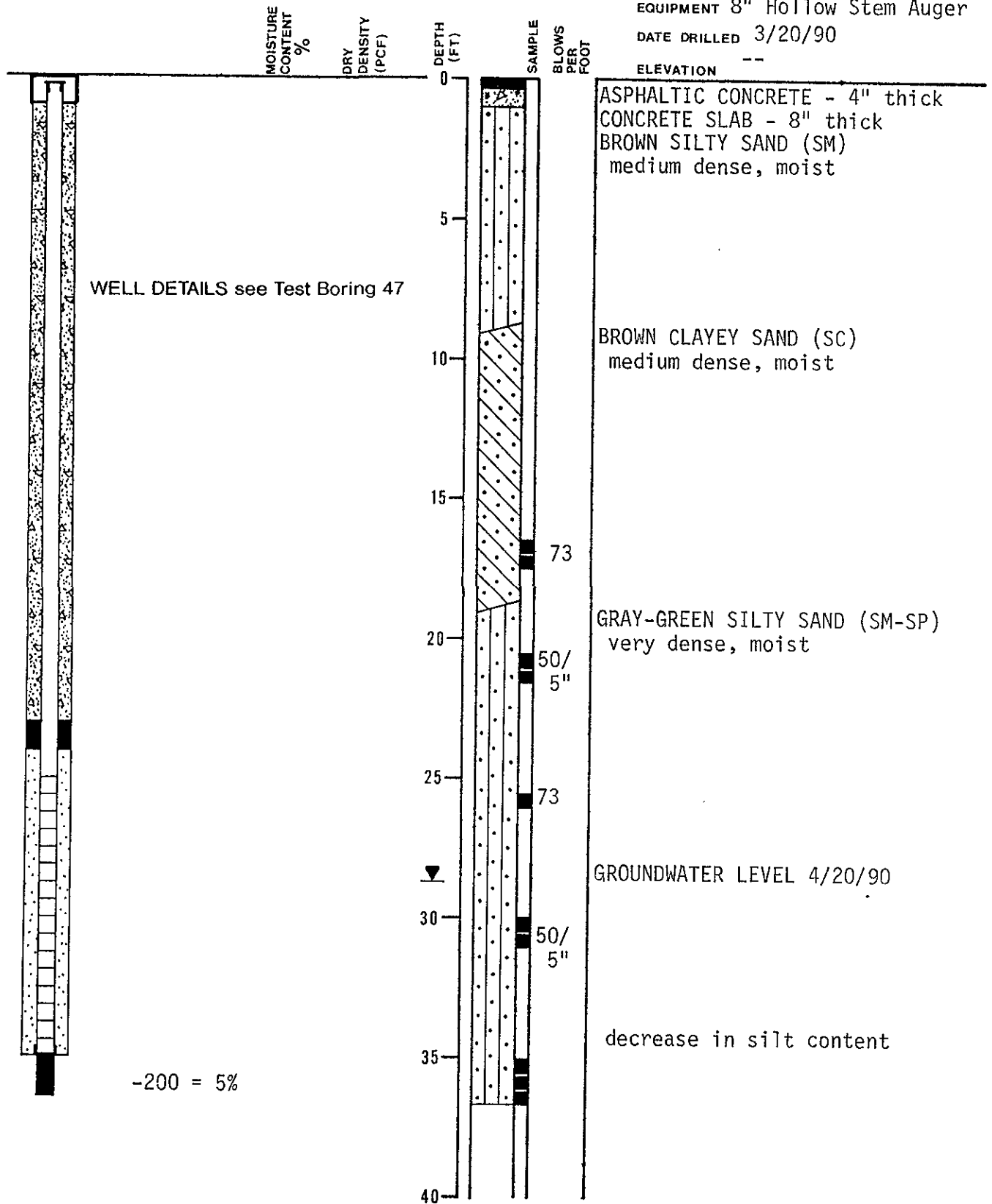
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DATE 5-16-89		DRAWING NUMBER
DRAWN ELS		
APPROVED		The FPE Group CONSULTANTS

LOG OF TEST BORING 52

EQUIPMENT 8" Hollow Stem Auger

DATE DRILLED 3/20/90

ELEVATION --



Subsurface Consultants

13th & JEFFERSON - OAKLAND, CA

JOB NUMBER

DATE

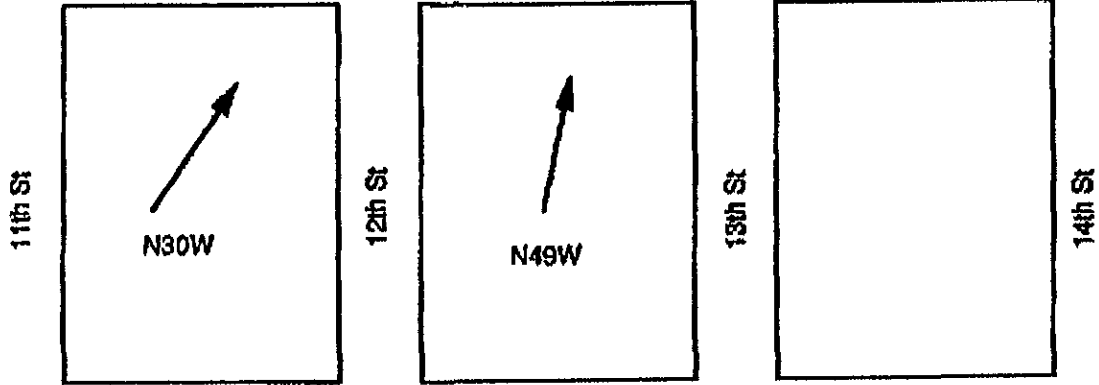
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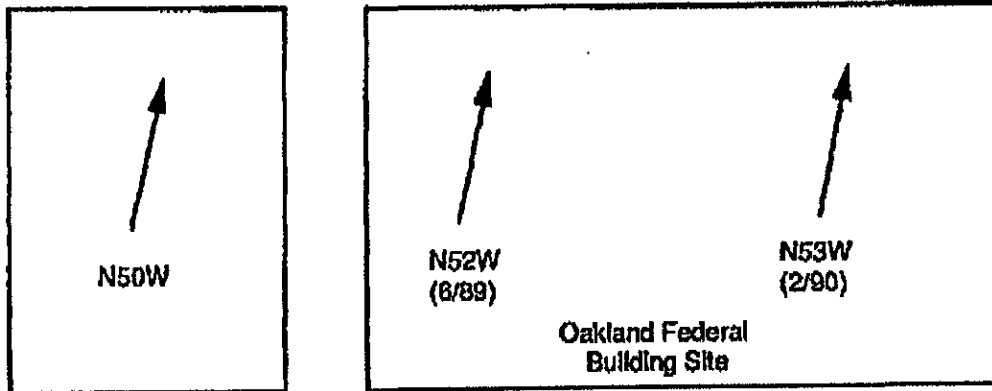
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PLATE

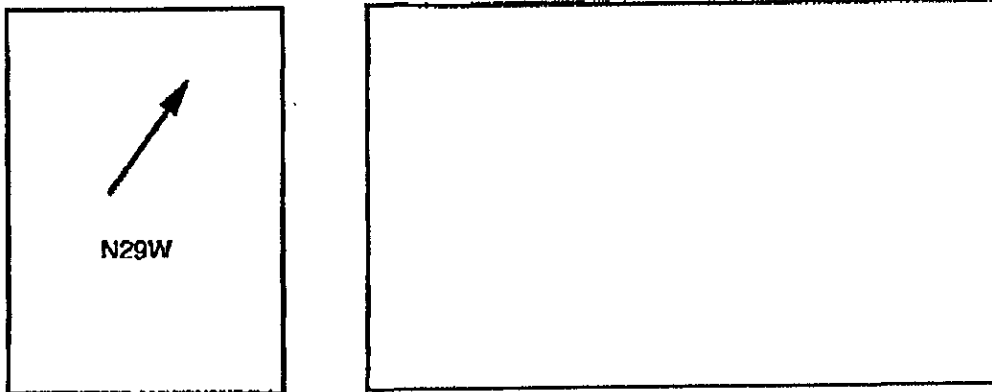
Martin Luther King, Jr. Way



Jefferson St.



Clay Street



Broadway



		<p>Groundwater Flow Directions - City Center, Oakland</p>	
<p>Woodward-Clyde Consultants</p>			