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

Alameda County Environmental Health Div.
Mail Code: 430-4580
Environmental Protection Services
1131 Harbor Bay Parkway, Room 250
Alameda CA 94502-6577

August 5, 1996
STID 3706

REMEDIAL ACTION COMPLETION CERTIFICATION

Attn: Greg Shepherd
Southern Pacific Transportation Co.
One Market Plaza, Room 1007
San Francisco CA 94105

RE: Former Southern Pacific Transportation Co. Site, Automotive and Work Equipment Dept and Systems Shop, 721 Cedar St., Oakland CA 94607

Dear Mr. Shepherd,

This letter confirms the completion of site investigation and remedial action for the 1,500-gallon gasoline underground storage tank (UST) at the above referenced site. Based on the available information 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 at this time.** Please be aware that this does not free present or future landowners or operators from cleanup responsibilities in the event that new information indicates a pollutant problem on the site or originating from the site.

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. Attached is a copy of the Case Closure Summary, which was reviewed and approved by this agency and the Regional Water Quality Control Board (RWQCB). If you have any questions regarding this letter, please contact Jennifer Eberle at (510) 567-6700, ext. 6761.

Very truly yours,

Mee Ling Tung, Director

cc: Acting Chief, Environmental Protection Division
Kevin Graves, RWQCB
Lori Casias, SWRCB (with attachment)
Dave Deaner, SWRCB, UST Cleanup Fund Program
James Ackerman, Terranext, PO Box 24374, Oakland CA 94623-1374
Carl Taylor, Terranext, 9838 Old Placerville Rd., Suite 100, Sacramento CA 95827-3559
Jennifer Eberle (3 copies)

LOP/Completion
je.3706clos.let
enclosure (clos sum)

01-1411

ENVIRONMENTAL PROTECTION
96 JUN 18 PM 2:29

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: 5/6/96

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

II. CASE INFORMATION

Site facility name: **Southern Pacific Transportation Co. Site, Automotive and Work Equipment (A&WE) Dept and Systems Shop**
Site facility address: **721 Cedar St., Oakland CA 94607**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **3706**
URF filing date: 1/11/88 SWEEPS No: **N/A**

Responsible Parties: **Addresses:** **Phone Numbers:**
Attn: Greg Shepherd, Southern Pacific Transportation Co., One Market Plaza, Rm 1007, San Francisco CA 94105

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	1,500	gasoline	removed	Jan 1988

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: unknown
Site characterization complete? YES
Date approved by oversight agency: 5/7/96
Monitoring Wells installed? YES Number: 5 (including previously destroyed wells)
Proper screened interval? YES. MW1 was screened 0.5' below the water table (due to the high water table), while MW2 and MW3 were screened 2' above the water table. But the screening in MW1 may be a moot issue, because this well is cross or upgradient. Information is not available regarding the well construction of former well A-1.
Highest Groundwater Elevation (GWE): 2.47' MSL (MW2 on 8/10/95)
Lowest GWE: 6.04' MSL (MW1 on 2/7/96)
Flow direction: fluctuates SE to SW; generally flows E-SE, which makes MW2 the downgradient well.
Most sensitive current use: industrial
Are drinking water wells affected? NO Aquifer name:
Is surface water affected? NO Nearest affected SW name:
Off-site beneficial use impacts (addresses/locations): unknown

Leaking Underground Fuel Storage Tank Program

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

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment of Disposal w/destination)	Date
Tank	1,500 gal	sent to a scrap metal yard	January 1988
Piping		presumably also sent to a scap metal yard, Jan 1988	
Free Product		unknown	
Soil		unknown	
Groundwater		unknown	

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)
Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	Before*	After**	Before#	After##
TPH (Gas)	5,000	ND	2,500	ND
TPH (Diesel)	NA	NA	NA	NA
Benzene	220	ND	300	ND
Toluene	580	ND	480	ND
Xylene	990	ND	430	ND
Ethylbenzene	NA	ND	80	ND
Lead	60.5	NA	NA	ND

Comments (Depth of Remediation, etc.):
*Before soil samples are from the tank pit during tank removal on 1/11/88. See Table 1.
**After soil samples are from the final overexcavation project, conducted on 8/24/95. See Figure 4 and Table 4.
#Before water results are from former well A-1.
##After water results are from the 3 remaining wells, MW1, MW2, and MW3.

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: NA

Should corrective action be reviewed if land use changes? YES
Monitoring wells Decommisioned: When we get RWQCB signoff
Number Decommisioned: Number Retained:
List enforcement actions taken: none
List enforcement actions rescinded: none

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Jennifer Eberle Title: Hazardous Materials Specialist
Signature: J Eberle Date: 5-16-96

Reviewed by
Name: Amy Leech Title: Hazardous Materials Specialist
Signature: A Leech Date: 5-20-96

Name: Tom Peacock Title: Manager
Signature: Tom Peacock Date: 5-30-96

VI. RWQCB NOTIFICATION

Date Submitted to RB: 6-3-96 RB Response: Approved
RWQCB Staff Name: Kevin Graves Title: AWRCE Date:
K Graves 6/14/96

VII. ADDITIONAL COMMENTS, DATA, ETC.

In January 1988, Canonie reportedly removed a 1,500-gallon gasoline UST, which Canonie referred to as Tank B. This project was documented in a Canonie report titled "Final Site Report, UST Removal, Southern Pacific Transportation Co., Oakland CA," dated 6/28/88. This report apparently documented several SP "Oakland" sites, rather each site separately. Portions of this report are included in Alameda County's file; see attachments toTerranext's 5/16/96 transmittal.

According to the Canonie report, two 0.25-inch diameter holes were observed in the bottom of the tank, and "contamination was visible below the tank." Soil samples collected beneath the UST contained up to 5,000 ppm TVPH (TPH-g), 220 ppm benzene, 580 ppm toluene, and 990 ppm xylenes and 60.5 ppm total lead. **See Figures 1, 2, 2a, and Table 1.** The UST was reportedly cleaned and transported to a scrap metal yard. Hazardous Waste Manifests for removed USTs were not in wide use at the time.

The preceding information was taken from **a)** page 2 of the report titled "Phase II Soil Investigation, Southern Pacific Transportation Co., 721 Cedar St. Property, Oakland, CA," dated 12/8/92, **b)** page 3 of the report titled "Soil Remediation and Ground Water Investigation Workplan, Southern Pacific Transportation Co., 721 Cedar St. Property, Oakland, CA," dated 12/27/93, and **c)** the "Final Site Report, UST Removal," prepared by Canonie, dated 6/28/88, as found attached to Terranext's 5/16/96 transmittal.

Industrial Compliance (IC) performed a Phase II investigation, and presented the results in a report titled "Phase II Investigation, Southern Pacific Transportation Co., Oakland and Desert Yards, Oakland CA," dated 12/19/91. This report was once included in Alameda County's file, but has since disappeared. (See Alameda County's letter dated 4/7/92.) Four exploratory borings were drilled (A-1 through A-4), and boring A-1 was converted into a groundwater monitoring well located in the former UST pit. **See Figure 3.**

Soil samples were collected from Borings A-1 through A-4. Borings A-2, A-3, and A-4 were ND for TPHg and BTEX. Soil results collected at 5'bgs from boring A-1 indicated 3,400 ppm TVPH as gasoline, 0.77 ppm benzene, 0.35 ppm toluene, 6.5 ppm ethylbenzene, and 37 ppm xylenes. Impacted soil was observed from 1.5'bgs down to the water table at 10.5'bgs. Groundwater samples contained 2,500 ppb TVPH as gasoline, 300 ppb benzene, 480 ppb toluene, 80 ppb ethylbenzene, and 430 ppb xylenes. (See Alameda County's letter dated 4/7/92.) **See Table 2.**

IC performed a supplemental Phase II investigation in October 1992. Two borings (A-5 and A-6) were drilled beneath the slab in the Systems Shop. **See Figure 3.** The borings were ND for TPHg, TPHd, and BTEX, except 0.49 ppm toluene in A-5 at 7'bgs. **See Table 2.**

A meeting ensued on 3/21/94 with IC, Southern Pacific, Alameda County, and Ravi Arulanatham, the staff toxicologist for the RWQCB. Dr. Arulanatham set the soil cleanup and reuse goals as 100 ppm TPHg and 4.6 ppm benzene; the benzene concentration was based on the US EPA's Fourth Quarter 1993 Preliminary Remediation Goals (PRGs). The DTSC is also using the PRGs specific for the Cypress Freeway Re-alignment Project, as per a memo from the State's Office of Scientific Affairs, addressed to Barbara Cook of the DTSC, dated 7/22/93. The PRG range for benzene in soil is listed in this memo as 3.5 to 31 ppm.

Monitoring well A-1 was resampled on 9/6/94 before being abandoned on 9/15/94. Well abandonment was necessary to prepare for soil remediation. Results indicated 16,000 ppb TPHg and 3,400 ppb benzene. **See Table 3.**

The former UST pit was overexcavated and resampled on 9/21/94, in the presence of Jennifer Eberle from Alameda County. Eight soil samples (samples 1-8) were collected at 6'bgs. The excavation ceased at the edge of the Systems Shop. The analytical results were transmitted in a letter from IC dated 12/14/94. The maximum soil concentrations were as follows: 5,800 ppm TPHg, 51 ppm benzene, 220 ppm toluene, 120 ppm ethylbenzene, and 470 ppm xylenes (SSW-3). **See Figure 4 and Table 4.** Of the 8 soil samples, six exceeded the soil cleanup goal of 100 ppm TPH, and 2 exceeded the soil cleanup goal of 4.6 ppm benzene. Approximately 700 yd3 of soil were excavated during this phase.

The former UST pit was again overexcavated and resampled on 10/18/94, in the presence of Barney Chan from Alameda County. Nine soil samples (samples 9-17) were collected at 5 and 6'bgs. The analytical results were transmitted in a letter from IC dated 12/14/94. The soil concentrations were ND TPHg and ND BTEX for each sample. **See Figure 4 and Table 4.** Approximately 800 yd3 of soil were excavated during this phase.

The stockpiled soil was subsequently aerated under AQMD guidelines. The A&WE/Systems Shop was demolished in July and August 1995, in preparation for the I-880 freeway realignment project.

On 8/24/95, Jennifer Eberle of Alameda County was present onsite for soil sampling from an excavation below the recently demolished Systems Shop. Four samples were collected at 6'bgs (SW1 through SW4). The sampling locations of all three excavations are depicted on **Figure 4.** Results indicated ND TPHg and ND in all 4 samples; **See Table 4.** Approximately 200 yd3 of impacted soil were removed.

The excavated soil was stockpiled and aerated onsite. Confirmation sampling indicated that TPHg and BTEX are mostly ND, or at very low concentrations. Maximum concentrations were 2.4 ppm TPH and 0.0066 ppm benzene. These concentrations were well below the soil reuse goals of 100 TPH and 4.6 ppm benzene. The soil is presently stored at the SP stockpile area awaiting use a backfill as part of the I-880 freeway realignment project.

Three groundwater monitoring wells (MW1 through MW3) were installed adjacent to the excavation in March 1995. Soil was analyzed in each boring for total lead (TTLC), due to the elevated concentrations of lead (>10 times the STLC) during tank removal, and the absence of lead sampling from soil overexcavation samples. There was no need to analyze petroleum hydrocarbons since the previous overexcavation removed all detectable traces of contamination. Total lead results were 9.5 ppm, ND, and 6.5 ppm for MW1, MW2, and MW3, respectively. These results are well below ten times the STLC, or 50 ppm. This concentration is used as a guideline for further investigation.

Groundwater flowed SE at 0.007 ft/ft in 5/95, E-SE at 0.020 ft/ft in 8/95, S-SW at 0.002 ft/ft in 11/95, and E-SE at 0.024 ft/ft in 2/96. In general, gw flows E-SE, which makes MW2 the downgradient well. **See Figures 5, 6, 7, and 8.** Groundwater results indicate ND TPHg, ND BTEX, and ND soluble lead in all three wells (MW1, MW2, and MW3) for ALL four quarters they were sampled. **See Table 5.** Therefore, there is no groundwater threat to either the environment or to human health.

This UST case should be closed because 1) all residual soil contamination has been removed and aerated to acceptable concentrations, 2) groundwater has been ND for all constituents analyzed for four consecutive quarters, 3) there is no human health threat, and 4) there is no environmental threat.

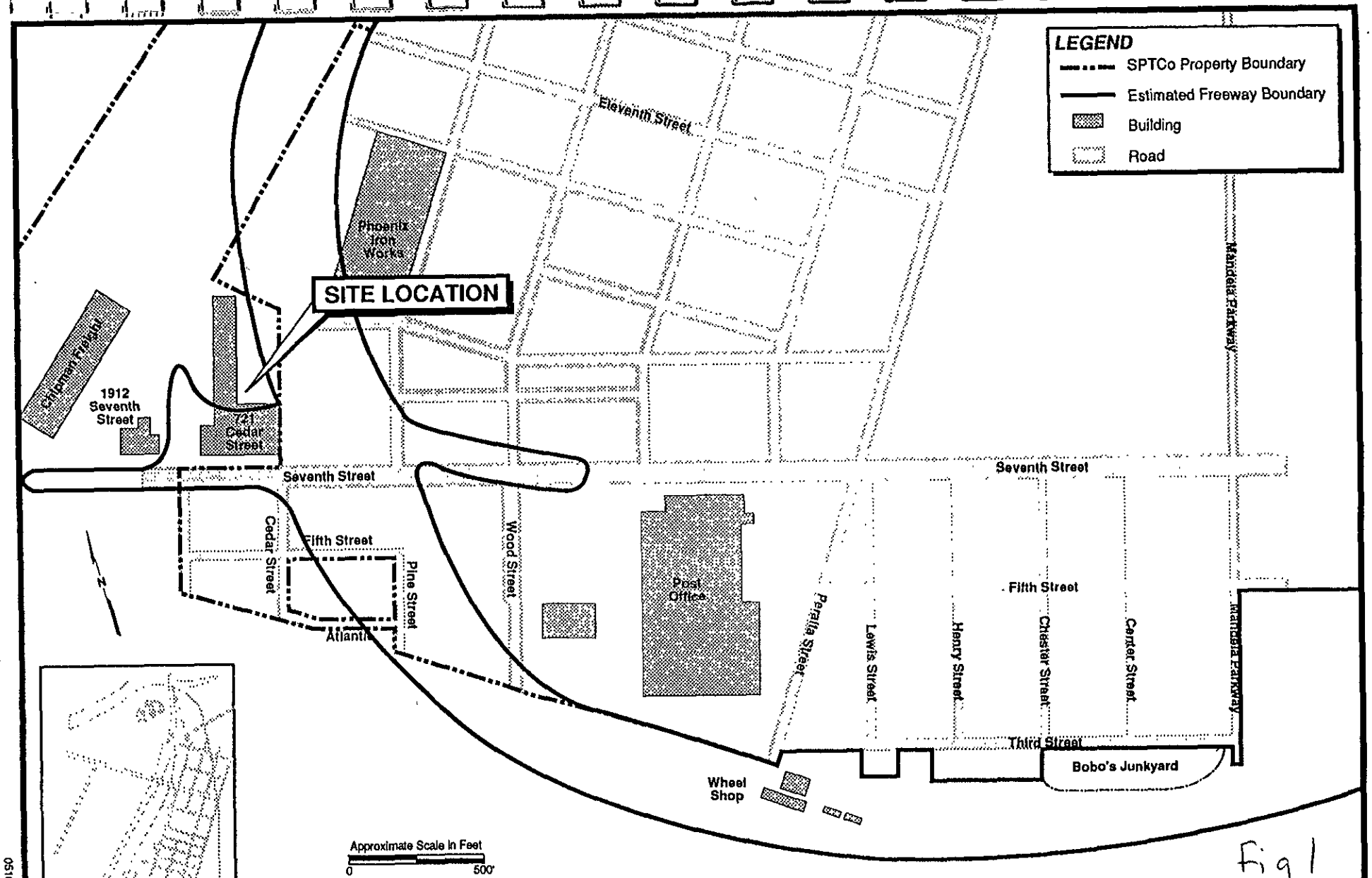


Fig 1

Industrial Compliance
A Subsidiary of SP Environmental Systems, Inc.

Project No.:	05100550	Date:	10/21/93
Drawn By:	Patti Decker	Checked By:	James G. Jensen

SITE LAYOUT MAP
SOUTHERN PACIFIC TRANSPORTATION COMPANY
721 CEDAR STREET
OAKLAND, CALIFORNIA

Figure: 2
Page No.: 4
Scale: as shown

05100550 Fig 02/dsk 227/SI WP 1093

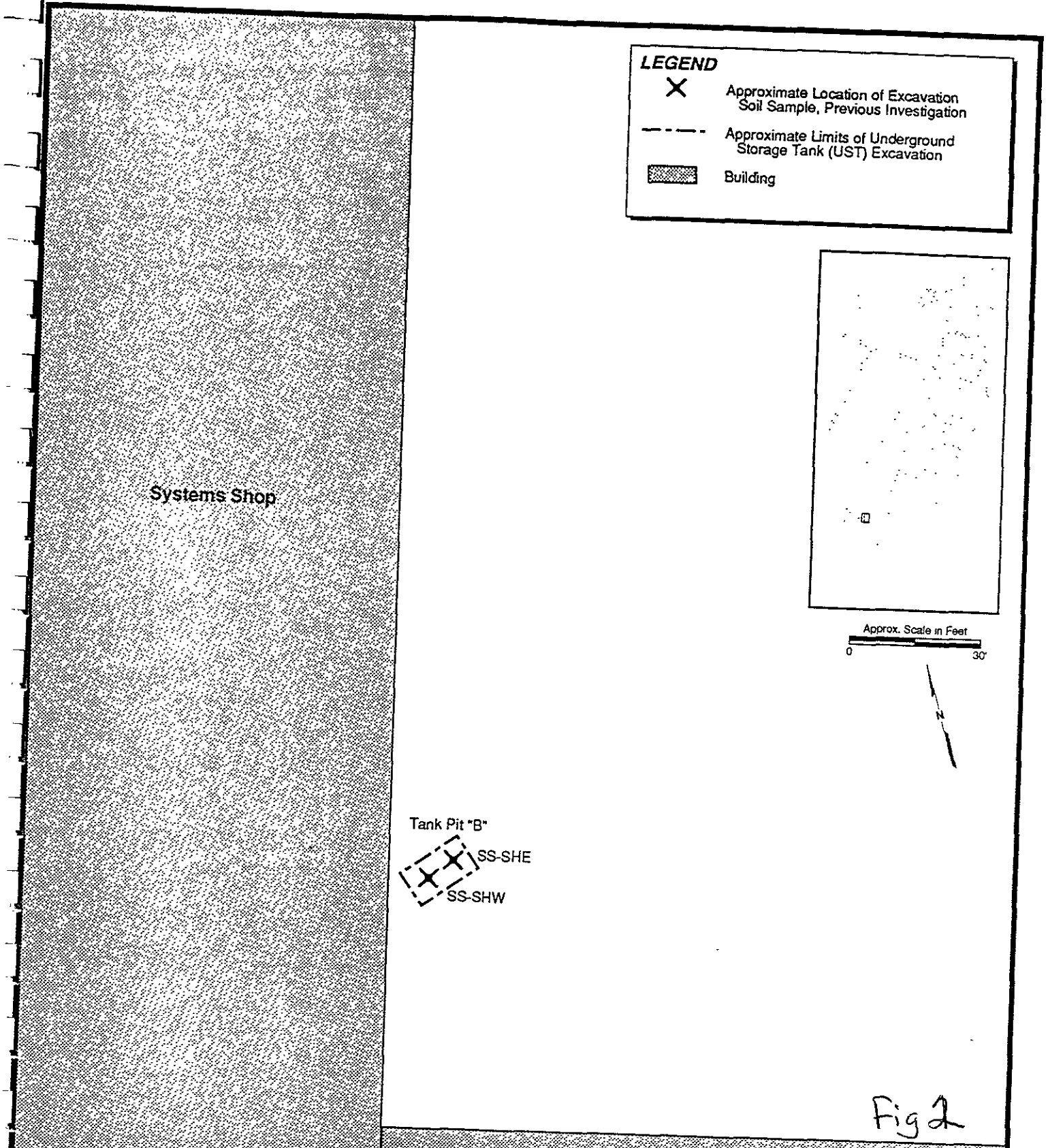


Fig 2

Industrial Compliance

A Subsidiary of SP Environmental Systems, Inc.

LOCATION OF UST EXCAVATION AND SOIL SAMPLES PREVIOUS INVESTIGATION OF JANUARY, 1988 SOUTHERN PACIFIC TRANSPORTATION COMPANY 721 CEDAR STREET OAKLAND, CALIFORNIA

Project No.: 05100550	Date: 10/21/93	Figure: 2	
Drawn By: Dennis Hollenberg	Checked By: James G. Jensen	Page No.: 5	
		Scale: as shown	

05100550 Fig 03/disk 227/St WP 1093

113525

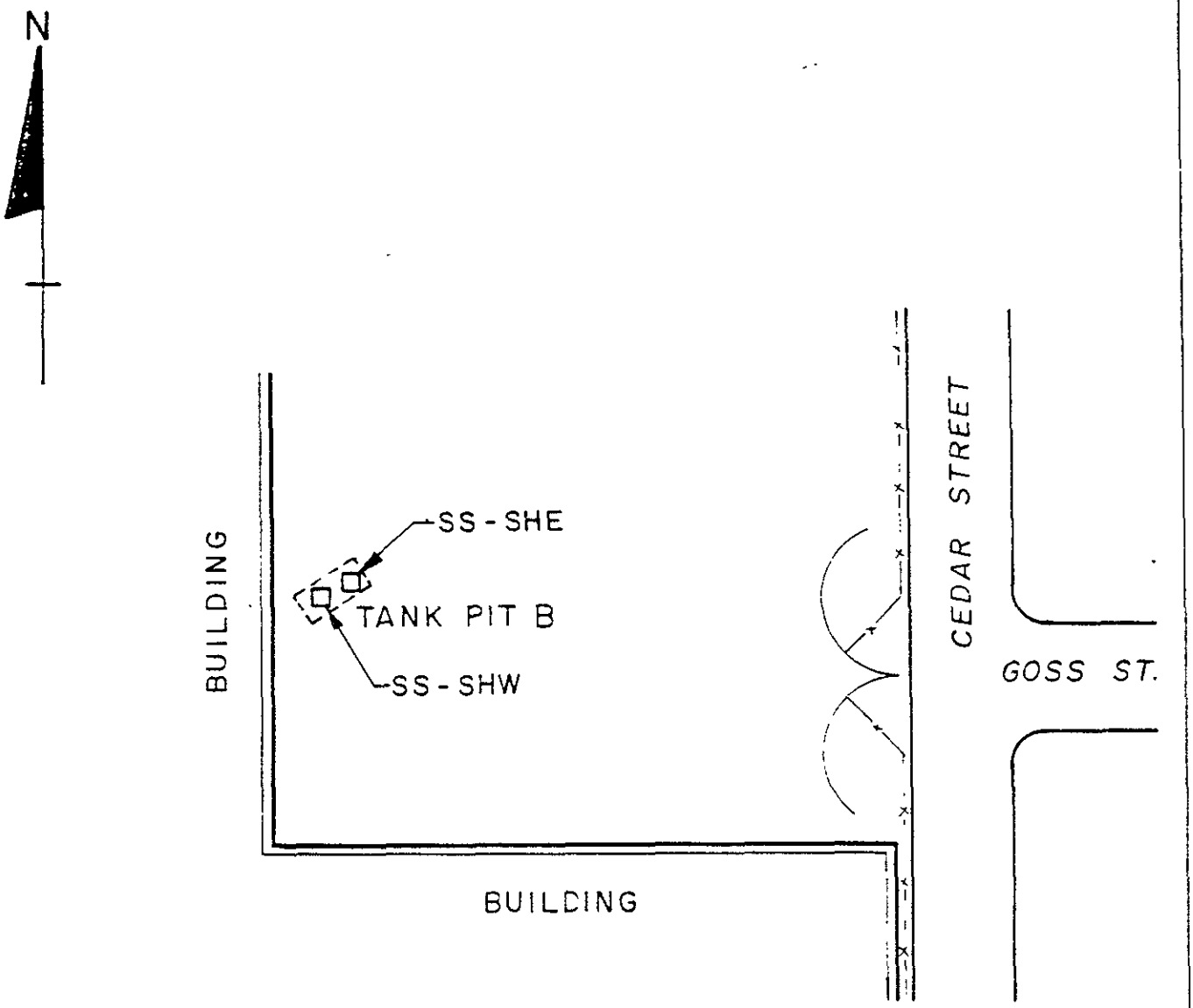


Fig 2a.

SCALE

40 0 40 FEET

OAKLAND FACILITY
SYSTEMS SHOP SITE PLAN
OAKLAND, CALIFORNIA
PREPARED FOR
SOUTHERN PACIFIC
TRANSPORTATION COMPANY

SF 538253

LEGEND:

- FENCE
- LIMITS OF EXCAVATION
- SOIL SAMPLE LOCATION

CanonieEnvironmental

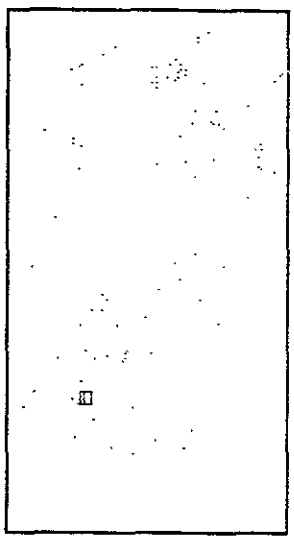
DATE: 2-17-88	~~FIGURE 4~~	DRAWING NUMBER 87-055-A175
SCALE NTS		

REVISIONS	NO.	DATE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
RESPONSE TO COMMENTS	1	6-10-88	BJH 2-17-88			87-055-A175

2105100580

LEGEND

- Approximate Location of Monitoring Well, Previous Investigation of December, 1991
- Approximate Location of Soil Boring, Previous Investigation of December, 1991
- Approximate Location of Soil Boring, Previous Investigation of October, 1992
- Approximate Limits of UST Excavation
- Building



Approx. Scale in Feet
0 30'

N

Systems Shop

A-3

A-6

A-5

Tank Pit "B"

A-1

A-4

A-2

A & WE Shop

Fig 3

Industrial Compliance
A Subsidiary of SP Environmental Systems, Inc.

LOCATION OF SOIL BORINGS AND MONITORING WELL PREVIOUS INVESTIGATIONS OF DECEMBER, 1991, AND OCTOBER, 1992
SOUTHERN PACIFIC TRANSPORTATION COMPANY
721 CEDAR STREET
OAKLAND, CALIFORNIA

Figure:

Page No.: 7

Scale: as shown

Project No.: 05100550	Date: 10/21/93
Drawn By: Dennis Hollenberg	Checked By: James G. Jensen

05100550 Fig 04/disk 227/SI WP 1093

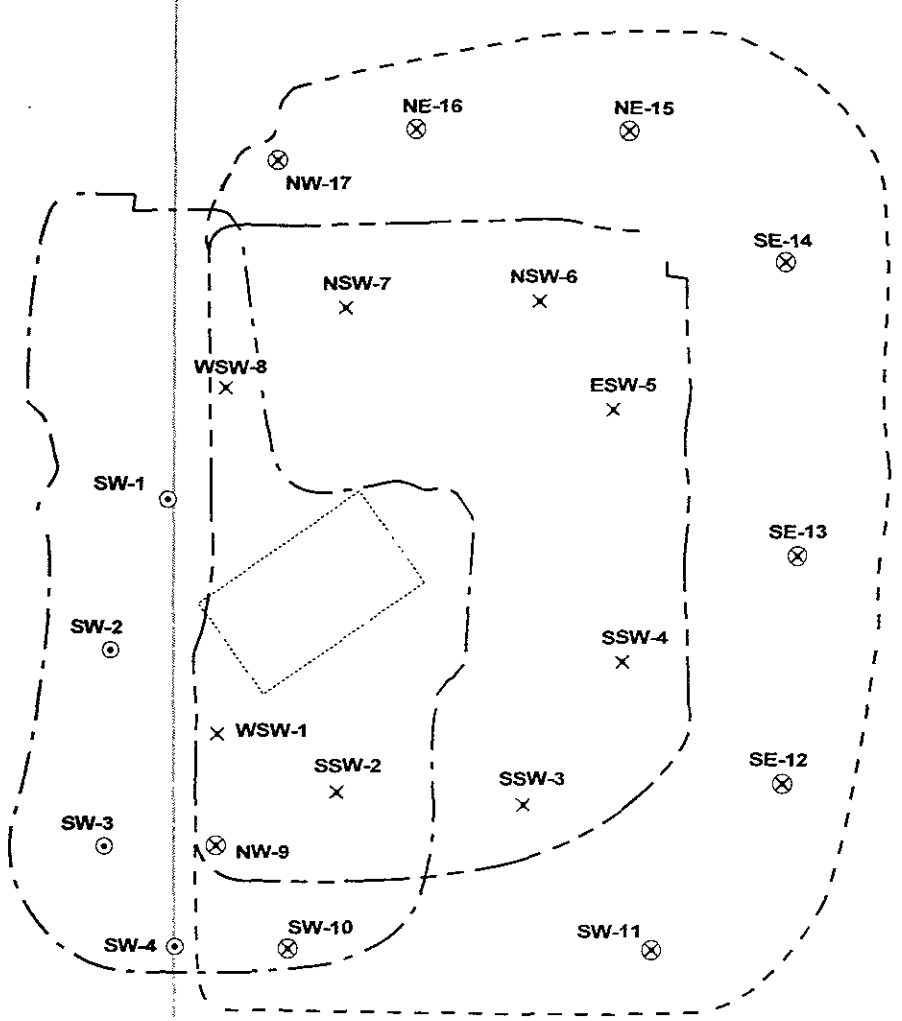
LEGEND

MW-1 ⊕	Approximate Location of Monitoring Well
WSW-1 ×	Approximate Location of Confirmation Sample Taken September 21, 1994
NW-9 ⊗	Approximate Location of Confirmation Sample Taken October 18, 1994
SW-1 ⊙	Approximate Location of Confirmation Sample Taken August 24, 1995
▱	Aproximate Limits of Original UST Excavation (January, 1988)
——— – –	Aproximate Limits of Excavation (September 21, 1994)
– – – – –	Approximate Limits of Excavation (October 18, 1994, Backfilled February 24, 1995)
——— · ———	Approximate Limits of Excavation (August 24, 1995)
▭	Building

15 7.5 0 15

APPROXIMATE SCALE (FEET)

N



Former Location of
A & WE/Systems Shop

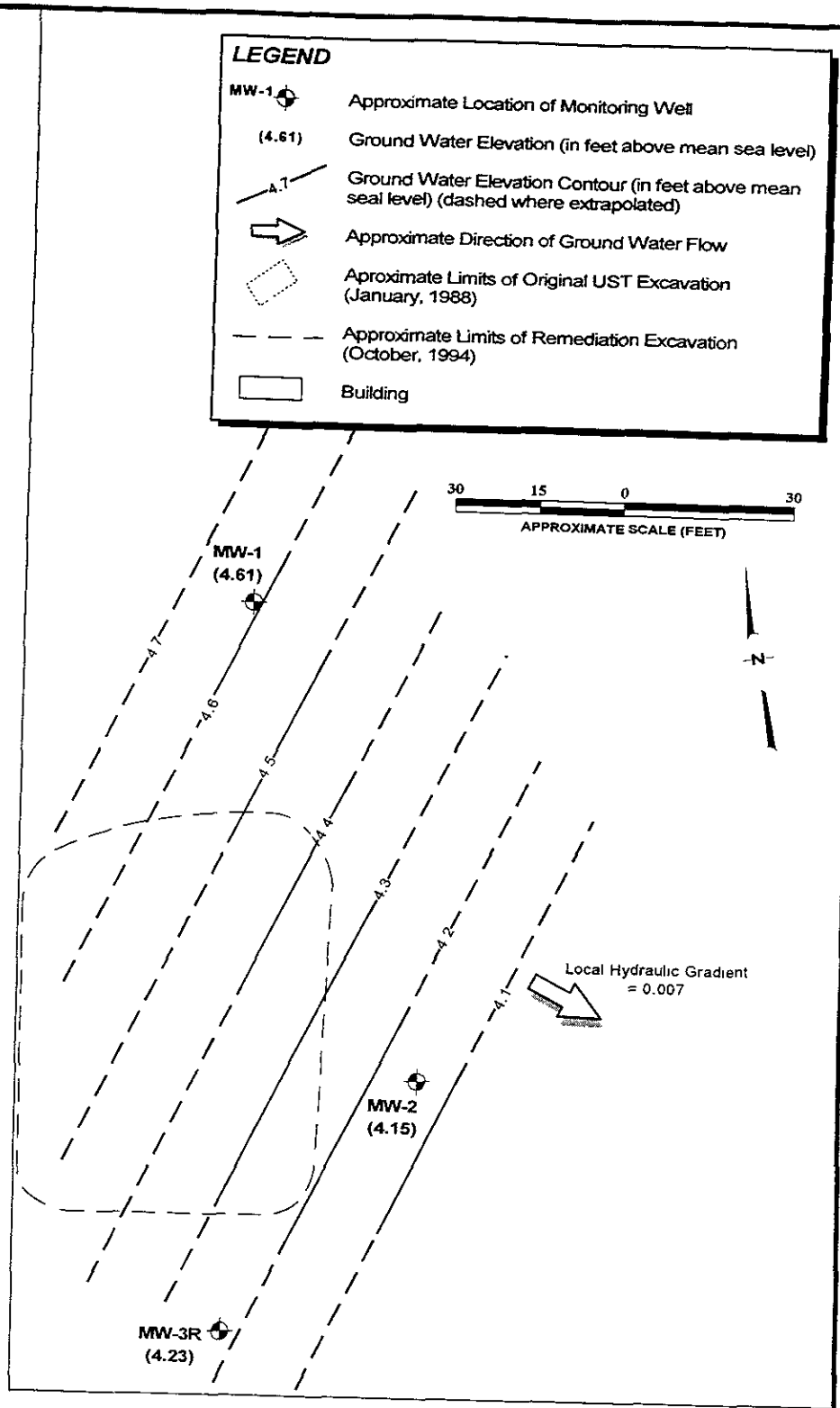
Fig 4

Project No.: 05100550	Figure No: 4
Scale: As Above	Page No 12
File No.: D1000154	Drawn By: Patti Decker
Date 02/27/96	Approved By: Richard Bateman

TerraNext

EXTENT OF EXCAVATION AND LOCATION OF CONFIRMATION SOIL SAMPLES

SOUTHERN PACIFIC TRANSPORTATION COMPANY
721 CEDAR STREET
OAKLAND, CALIFORNIA



Former Location of
A & WE/Systems Shop

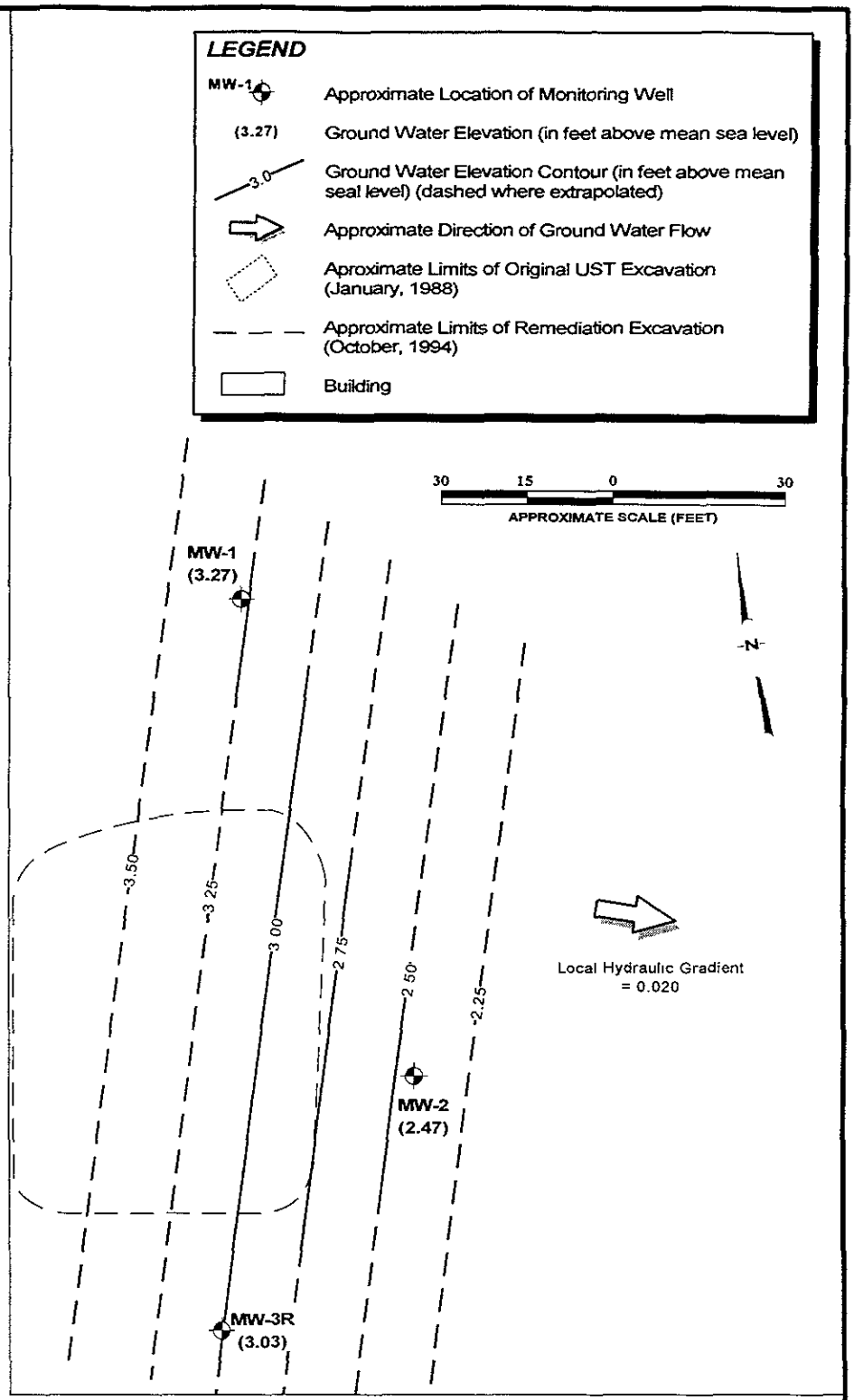
Fig 5

Project No.: 05100550	Figure No: 11
Scale: As Above	Page No.: 39
File No.: D1000149	Drawn By: Patti Decker
Date: 02/22/96	Approved By: Richard Bateman

TerraNext

CONTOUR MAP OF GROUND WATER ELEVATION

MAY, 1995
SOUTHERN PACIFIC TRANSPORTATION COMPANY
721 CEDAR STREET
OAKLAND, CALIFORNIA



Former Location of
A & WE/Systems Shop

Fig 6

Project No.: 05100550	Figure No 12	TerraNext	CONTOUR MAP OF GROUND WATER ELEVATION
Scale: As Above	Page No. 40		AUGUST, 1995
File No.: D1000150	Drawn By: Patti Decker		SOUTHERN PACIFIC TRANSPORTATION COMPANY
Date: 02/22/96	Approved By Richard Bateman		721 CEDAR STREET OAKLAND, CALIFORNIA

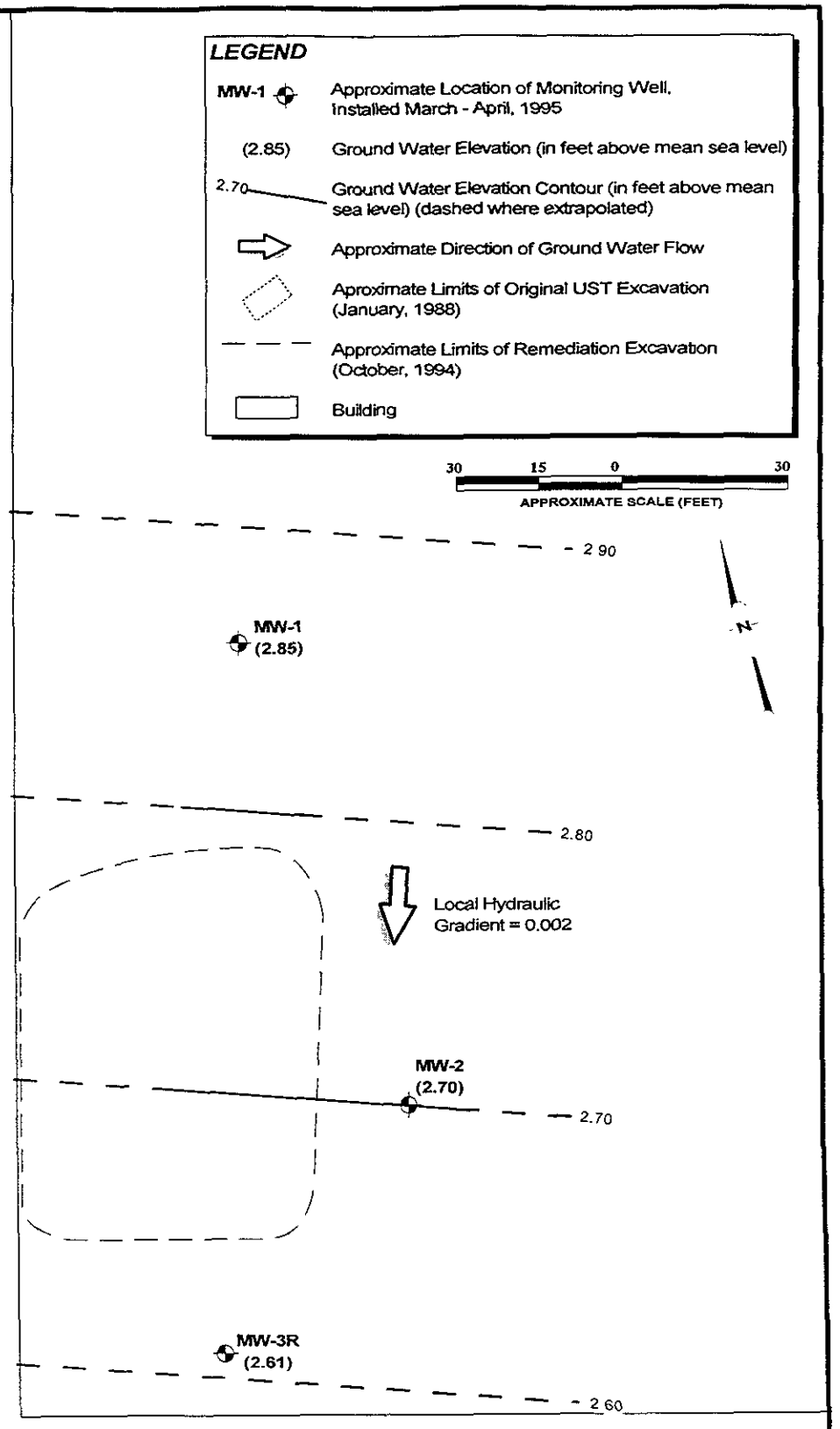


Fig 7

Project No.: 05100550	Figure No 13
Scale: As Above	Page No . 41
File No.: D1000155	Drawn By Patti Decker
Date: 02/20/96	Approved By: Richard Bateman

TerraNext

CONTOUR MAP OF GROUND WATER ELEVATION

NOVEMBER, 1995
SOUTHERN PACIFIC TRANSPORTATION COMPANY
721 CEDAR STREET
OAKLAND, CALIFORNIA

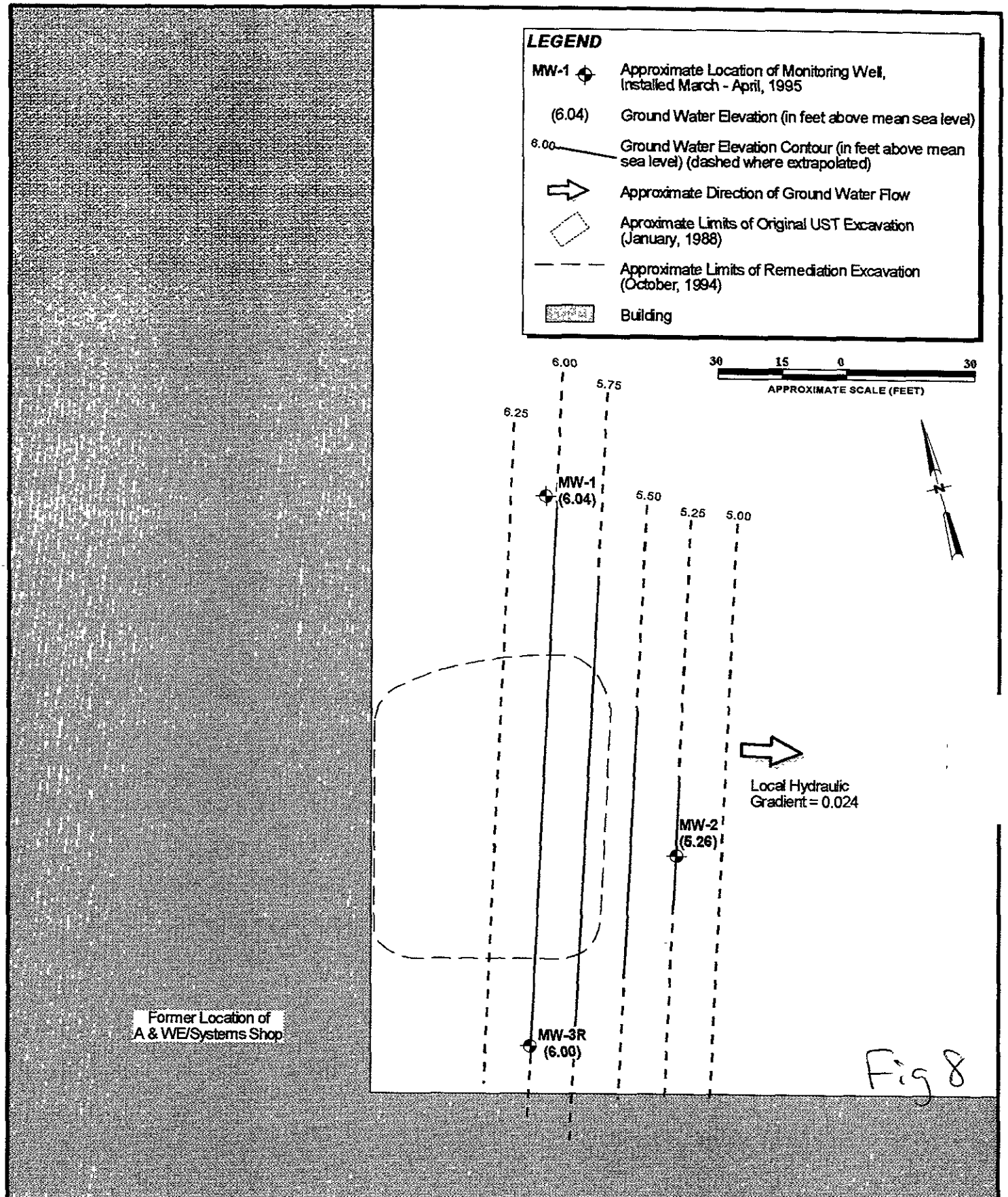


Fig 8

Project No.: 05100550	Figure No: 3
Scale: As Above	Page No.: 9
File Name.: D2000277	Drawn By: Patti Decker
Date: 03/28/96	Approved By: Richard Bateman

TerraNext

CONTOUR MAP OF GROUND WATER ELEVATION

FEBRUARY, 1996
SOUTHERN PACIFIC TRANSPORTATION COMPANY
721 CEDAR STREET
OAKLAND, CALIFORNIA

TABLE 1
ANALYTICAL RESULTS
TANK B EXCAVATION - SOIL SAMPLES
PREVIOUS INVESTIGATION OF JANUARY, 1988

Sample ID[a]	Date Sampled	TVPH[b] (mg/kg)	Benzene[b] (mg/kg)	Toluene[b] (mg/kg)	Xylene[b] (mg/kg)	Total Lead[c] (mg/kg)	Ethylene dibromide[b] (mg/kg)
SS-SHE[d]	01/11/88	400	<20	<20	110	55.3	<2
SS-SHW[d]	01/11/88	5,000	220 *	580	960	60.5	<20

a See Figure 3 for approximate sample locations.

b Total volatile petroleum hydrocarbons (TVPH), benzene, toluene, and xylene analyzed by EPA Method 8020.

c Total lead analyzed by EPA Method 6010.

d Soil samples collected from bottom of the excavation.

< Analyte was not detected at or above the method detection limit as listed.

mg/kg Milligrams per kilogram, approximately equal to parts per million (ppm).

* 4.4% benzene - gasoline

TABLE 2
ANALYTICAL RESULTS
BOREHOLE SOIL SAMPLES
PREVIOUS INVESTIGATIONS OF DECEMBER, 1991 AND OCTOBER, 1992

Soil Boring Number[a]	Date Sampled	Sample Depth (feet)	Total Petroleum Hydrocarbons[b] (mg/kg)			Volatile Organic Compounds[b] (mg/kg)				Ethylene dibromide[b] (mg/kg)	1,2-Dichloroethane[b] (mg/kg)
			Gasoline	Diesel	TPH[c]	Benzene	Toluene	Ethylbenzene	Xylenes		
A-1	12/13/91	5	–	–	3,400[d]	<0.5	<0.5	6.5	37	<0.5	<0.5
		10	–	–	3.8[e]	0.77	0.35	0.090	0.31	0.013	<0.001
A-2	12/13/91	5	–	–	<0.1	0.002	0.002	<0.001	0.002	<0.001	<0.001
		10	–	–	<0.1	0.007	<0.001	0.002	<0.001	<0.001	0.081
A-3	12/13/91	5	–	–	<0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
		10	–	–	<0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
A-4	12/13/91	5	–	–	<0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
		10	–	–	<0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
A-5	10/19/92	4.5	<0.5	<0.5	–	<0.005	<0.02	<0.005	<0.005	<0.005	<0.005
		7	<0.5	<0.5	–	<0.005	0.49	<0.005	<0.005	<0.005	<0.005
A-6	10/19/92	4.5	<0.5	<0.5	–	<0.005	<0.02	<0.005	<0.005	<0.005	<0.005
		7	<0.5	<0.5	–	<0.005	<0.02	<0.005	<0.005	<0.005	<0.005

under bldg.

a See Figure 4 for approximate locations of boreholes.

b Analyzed by Cal DHS Draft TPH (modified) and EPA Method 8260.

c Total petroleum hydrocarbons (TPH) (as gasoline, diesel 2, jet fuel, kerosene, Stoddard solvent, and crude oil).

d TPH in this sample identified as light petroleum distillate.

e TPH in this sample identified as weathered gasoline.

< Analyte was not detected at or above the method detection limit as listed.

mg/kg Milligrams per kilogram, approximately equal to parts per million (ppm).

TABLE 3
ANALYTICAL RESULTS
GROUND WATER FROM ORIGINAL MONITORING WELL

Monitoring Well[a]	Date Sampled	Total Petroleum Hydrocarbons[b] µg/L)		Volatile Organic Compounds[c] (µg/L)				Ethylene dibromide[d] (µg/L)	1,2-Dichloroethane[d] (µg/L)	Soluble Lead[e] (mg/L)
		Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Xylenes			
A-1	12/14/91	2,500	<50	300	480	80	430	<0.5	<0.5	NA
	09/06/94	16,000	NA	3,400	430	120	380	NA	NA	<0.01
Cal DHS MCLs[f]		NE	NE	1	150	700	1,750	0.05	0.5	0.015[g]

a See Figure 3 for approximate location of monitoring well. Monitoring well A-1 was abandoned on September 15, 1995 prior to excavation of impacted soil.

b December 14, 1991 sample analyzed by EPA Method 8260, September 6, 1994 sample analyzed by EPA Method 8015M

c December 14, 1991 sample analyzed by EPA Method 8260, September 6, 1994 sample analyzed by EPA Method 8020.

d Analyzed for as part of EPA Method 8260 (December 14, 1991 sample) and were not constituents of concern.

e Analyzed by EPA Method 6010.

f California Department of Health Services (DHS) Maximum Contaminant Levels (MCLs) for drinking water (California RWQCB, July, 1995, Compilation of Water Quality Goals).

g U.S. Environmental Protection Agency MCL for drinking water (California RWQCB, July, 1995, Compilation of Water Quality Goals).

µg/L Micrograms per liter

mg/L Milligrams per liter

< Symbol indicates constituent not detected above the reporting limit as listed.

NA Not analyzed

NE Not established

TABLE 4
ANALYTICAL RESULTS
CONFIRMATION SOIL SAMPLES

Sample Designation[a]	Date Sampled	Sample Depth (feet bgs)	Total Petroleum Hydrocarbons as Gasoline[b] (mg/kg)	Volatile Organic Compounds[c] (mg/kg)			
				Benzene	Toluene	Ethylbenzene	Xylenes
WSW-1	09/21/94	6.0	**860**	**1.3**	**13**	**11**	**53**
SSW-2	09/21/94	6.0	**3,700**	**19**	**150**	**61**	**330**
SSW-3	09/21/94	6.0	**5,800**	**51**	**220**	**120**	**470**
SSW-4	09/21/94	6.0	**2,000**	**0.99**	**26**	**28**	**140**
ESW-5	09/21/94	6 0	**1,400**	**3.7**	**38**	**20**	**120**
NSW-6	09/21/94	6.0	**240**	<2.0	<2.0	**2.4**	**14**
NSW-7	09/21/94	6.0	**3.0**	<0.005	**0.006**	**0.017**	**0.098**
WSW-8	09/21/94	6.0	**64**	<0.13	**1.0**	**0.9**	**4.9**
9-NW	10/18/94	5.0	<1.0	<0.005	<0.005	<0.005	<0.005
10-SW	10/18/94	5.0	<1.0	<0.005	<0.005	<0.005	<0.005
11-SW	10/18/94	6.0	<1.0	<0 005	<0.005	<0.005	<0.005
12-SE	10/18/94	6.0	<1.0	<0.005	<0.005	<0.005	<0.005
13-SE	10/18/94	6.0	<1.0	<0.005	<0.005	<0.005	<0.005
14-SE	10/18/94	6.0	<1.0	<0.005	<0.005	<0.005	<0.005
15-SE	10/18/94	6.0	<1.0	<0.005	<0.005	<0.005	<0.005
16-SE	10/18/94	6.0	<1.0	<0.005	<0.005	<0.005	<0.005
17-NW	10/18/94	6.0	<1.0	<0.005	<0.005	<0.005	<0.005
SW-1	08/24/95	6.0	<1.0	<0.005	<0 005	<0.005	<0.005
SW-2	08/24/95	6.0	<1.0	<0.005	<0.005	<0.005	<0.005
SW-3	08/24/95	6.0	<1.0	<0.005	<0.005	<0.005	<0.005
SW-4	08/24/95	6.0	<1.0	<0.005	<0.005	<0.005	<0.005
Soil Cleanup Objectives			100	4.6	NE	NE	NE

a See Figure 4 for approximate locations of samples.

b Samples collected September 9, 1994 analyzed for total volatile hydrocarbons as gasoline by California Department of Health Services Method/LUFT Manual October 1989; samples collected on October 18, 1994 and August 24, 1995 analyzed for total petroleum hydrocarbons as gasoline by EPA Method 8015.

c Volatile organic compounds analyzed by EPA Method 8020.

bgs Below ground surface

mg/kg Milligrams per kilogram

< Symbol indicates constituents were not detected at or above the reporting limits as noted.

NE Cleanup objective not established.

TABLE 5
GROUND WATER ANALYTICAL RESULTS

Well Location[a]	Date Sampled	Total Petroleum Hydrocarbons[b] µg/L)	Volatile Organic Compounds[c] (µg/L)				Soluble Lead[d] (mg/L)
		Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	
A-1	12/14/91	2,500	300	480	80	430	NA
	09/06/94	16,000	3,400	430	120	380	<0.01
MW-1	05/09/95	<50	<0.5	<0.5	<0.5	<0.5	<0.01
	08/10/95	<50	<0.5	<0.5	<0.5	<0.5	<0.01
	11/10/95	<50	<0.5	<0.5	<0.5	<0.5	<0.005
	02/07/96	<50	<0.5	<0.5	<0.5	<0.5	NA
MW-2	05/09/95	<50	<0.5	<0.5	<0.5	<0.5	<0 01
	08/10/95	<50	<0.5	<0.5	<0.5	<0.5	<0.01
	11/10/95	<50	<0.5	<0.5	<0.5	<0.5	<0 005
	02/07/96	<50	<0.5	<0 5	<0.5	<0.5	NA
MW-3R	05/09/95	<50	<0.5	<0.5	<0.5	<0.5	<0.01
	08/10/95	<50	<0.5	<0.5	<0.5	<0.5	<0.01
	11/10/95	<50	<0.5	<0.5	<0 5	<0.5	<0.005
	02/07/96	<50	<0.5	<0.5	<0.5	<0.5	NA
Duplicate (MW-1D)	02/07/96	<50	<0.5	<0.5	<0.5	<0.5	NA
Equipment Blank	02/07/96	<50	<0.5	0.64	<0.5	<0.5	NA
Trip Blank	02/07/96	<50	<0.5	<0.5	<0.5	<0.5	NA
Cal DHS MCLs[e]		NE	1	150	700	1,750	0.015[f]

a See Figure 2 for approximate location of monitoring wells. Monitoring well A-1 was abandoned on September 15, 1995 prior to excavation of impacted soil.

b Analyzed by EPA Method 8015 Modified (December 14, 1991 sample from A-1 analyzed by EPA Method 8260).

c Analyzed by EPA Method 8020 (December 14, 1991 sample from A-1 analyzed by EPA Method 8260).

d Analyzed by EPA Method 6010.

e California Department of Health Services(DHS) Maximum Contaminant Levels (MCLs) for drinking water (California RWQCB, July, 1995, Compilation of Water Quality Goals).

f U.S. Environmental Protection Agency MCL for drinking water (California RWQCB, July, 1995, Compilation of Water Quality Goals).

µg/L Micrograms per liter

mg/L Milligrams per liter

< Symbol indicates constituent not detected above the reporting limit as listed.

NA Not analyzed (soluble lead was deleted from the suite of analysis this quarter by agreement with Alameda County).

NE Not established.