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April 22, 1994

IC Project Nos. 05100535

Ms. Jennifer Eberle  
Alameda County Health Care Services Agency  
Department of Environmental Health  
Division of Hazardous Materials  
80 Swan Way, Room 350  
Oakland, California 94621

VIA OVERNIGHT MAIL

**Re: Submittal of Revised Soil Remediation and Ground Water Investigation Workplan  
Southern Pacific Transportation Company  
1399 Wood Street - Oakland, California**

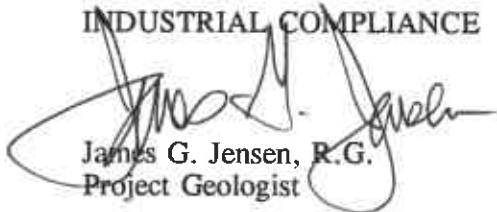
Dear Ms. Eberle:

Industrial Compliance (IC), on behalf of Southern Pacific Transportation Company (SPTCo), has prepared the attached revised soil remediation and ground water investigation workplan for the SPTCo property located at 1399 Wood Street, Oakland, California. This workplan was revised in response to the Alameda County Health Care Services Agency, Department of Environmental Health - Division of Hazardous Materials (Alameda County) letter dated April 4, 1994 (letter entitled: *1399 Wood Street, Oakland, California*) and IC's responses to Alameda County's comments (IC letter dated March 29, 1994, letter entitled: *Comments from Alameda County Health Care Services Agency, Soil Remediation and Ground Water Investigation Workplan*). It is IC's understanding that this workplan can be implemented as presented. IC anticipates initiating the field activities as outlined in the attached workplan during the week of May 15, 1994.

Please note that the attached workplan replaces the previously submitted workplan dated March 1, 1994. Therefore, IC requests that Alameda County either return or destroy the March 1, 1994 workplan. If you should have any further questions regarding this information, or if you would like to discuss this in greater detail, please do not hesitate to contact the undersigned at your earliest convenience at (916) 369-8971.

Sincerely,

INDUSTRIAL COMPLIANCE

  
James G. Jensen, R.G.  
Project Geologist

  
Mark S. Dockum, C.E.G.  
Project Manager

JGJ/MSD/ekw

Attachment

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Ms. Jennifer Eberle  
April 22, 1994  
Page 2

cc: Mr. John Moe, Southern Pacific Transportation Company (with attachment)  
Mr. Darrell Maxey, Oakland Program Office, Southern Pacific Transportation Company  
(with attachment)





**Industrial Compliance**

9719 Lincoln Village Drive, Suite 310 Sacramento, CA 95827 916/369-8971 FAX 916/369-8370

**REVISED  
SOIL REMEDIATION AND GROUND WATER  
INVESTIGATION WORKPLAN**

**Southern Pacific Transportation Company  
1399 Wood Street  
Oakland, California**

**IC Project No. 05100535**

**Prepared For:**

**Southern Pacific Transportation Company  
One Market Plaza  
San Francisco, CA 94105**

**April 21, 1994**

*Dedicated to solving your environmental problems.*

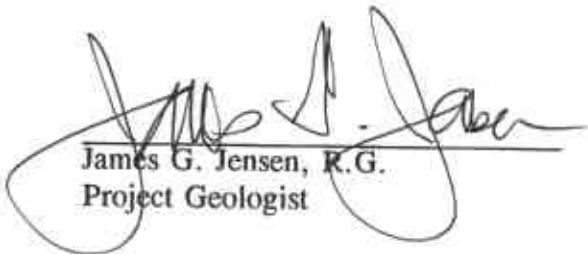
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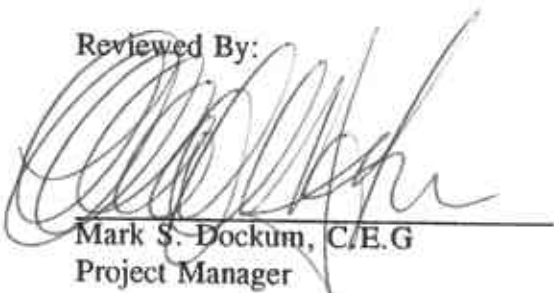
**REVISED  
SOIL REMEDIATION AND GROUND WATER  
INVESTIGATION WORKPLAN**

**Southern Pacific Transportation Company  
1399 Wood Street  
Oakland, California**

Prepared By:

  
James G. Jensen, R.G.  
Project Geologist

Reviewed By:

  
Mark S. Dockum, C.E.G.  
Project Manager



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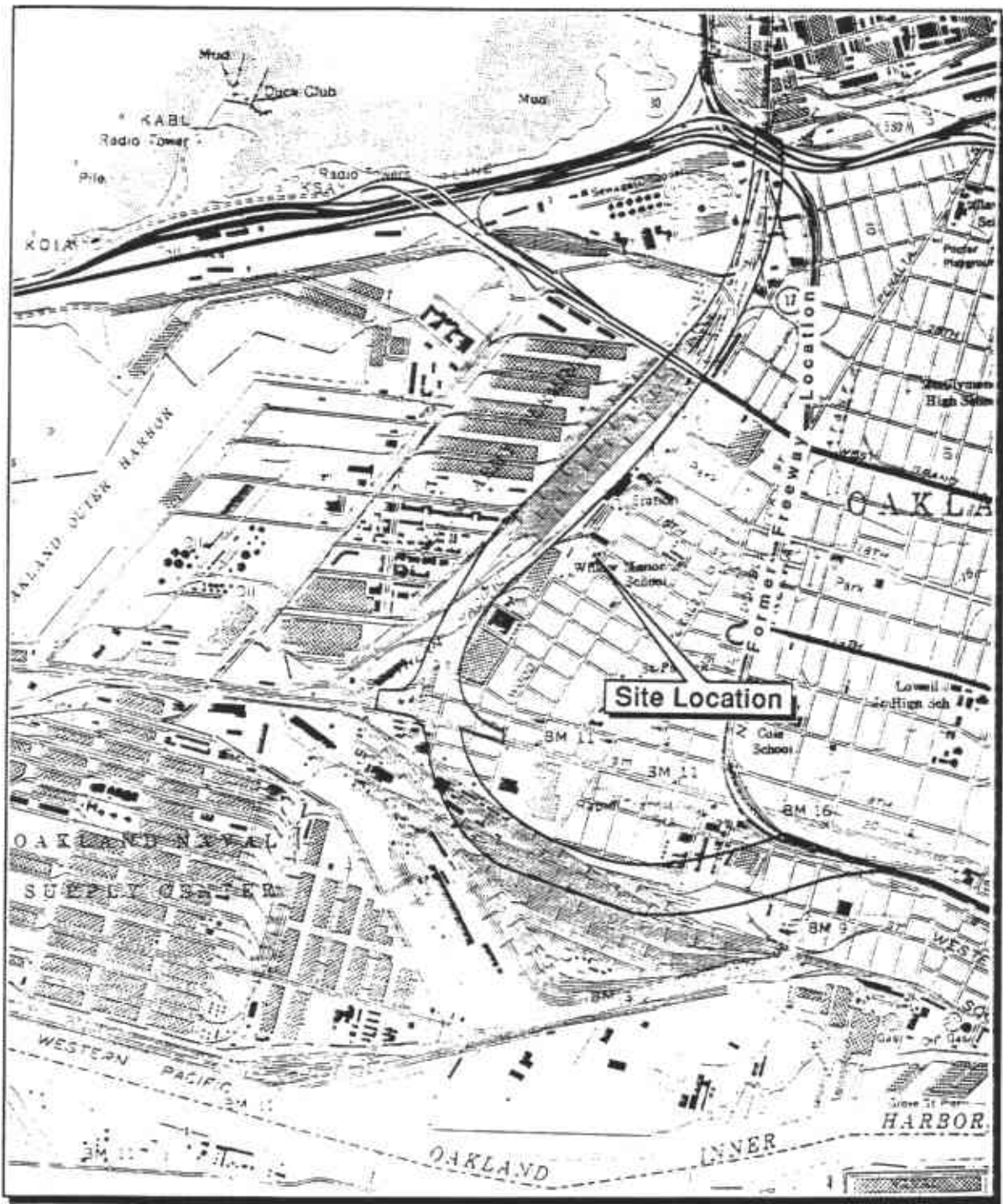
**APPENDICES**

Appendix A	EBMUD Wastewater Discharge Permit	
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## 1.0 INTRODUCTION

This workplan for the Southern Pacific Transportation Company (SPTCo) property at 1399 Wood Street in Oakland, California (see Figure 1) has been prepared by Industrial Compliance (IC) following completion of the preliminary soil investigation. This workplan includes recommendations for soil remediation and a ground water investigation and is being submitted in response to two letters from the Alameda County Health Care Services Agency (dated April 28, 1992 and June 23, 1992, entitled: *Southern Pacific Site, 1399 Wood Street, Oakland, California 94607*, and *Southern Pacific Trans. Co., 1399 Wood Street, Oakland, California, 94607*, respectively). The site formerly had 3 underground fuel storage tanks.



Approximate Scale in Feet  
 0 2000

**Figure 1**  
**Site Location Map**  
 Southern Pacific Transportation Company  
 1399 Wood Street  
 Oakland, California

Reference:  
 USGS 7.5 Minute Topographic Map  
 Oakland West Quadrangle  
 California



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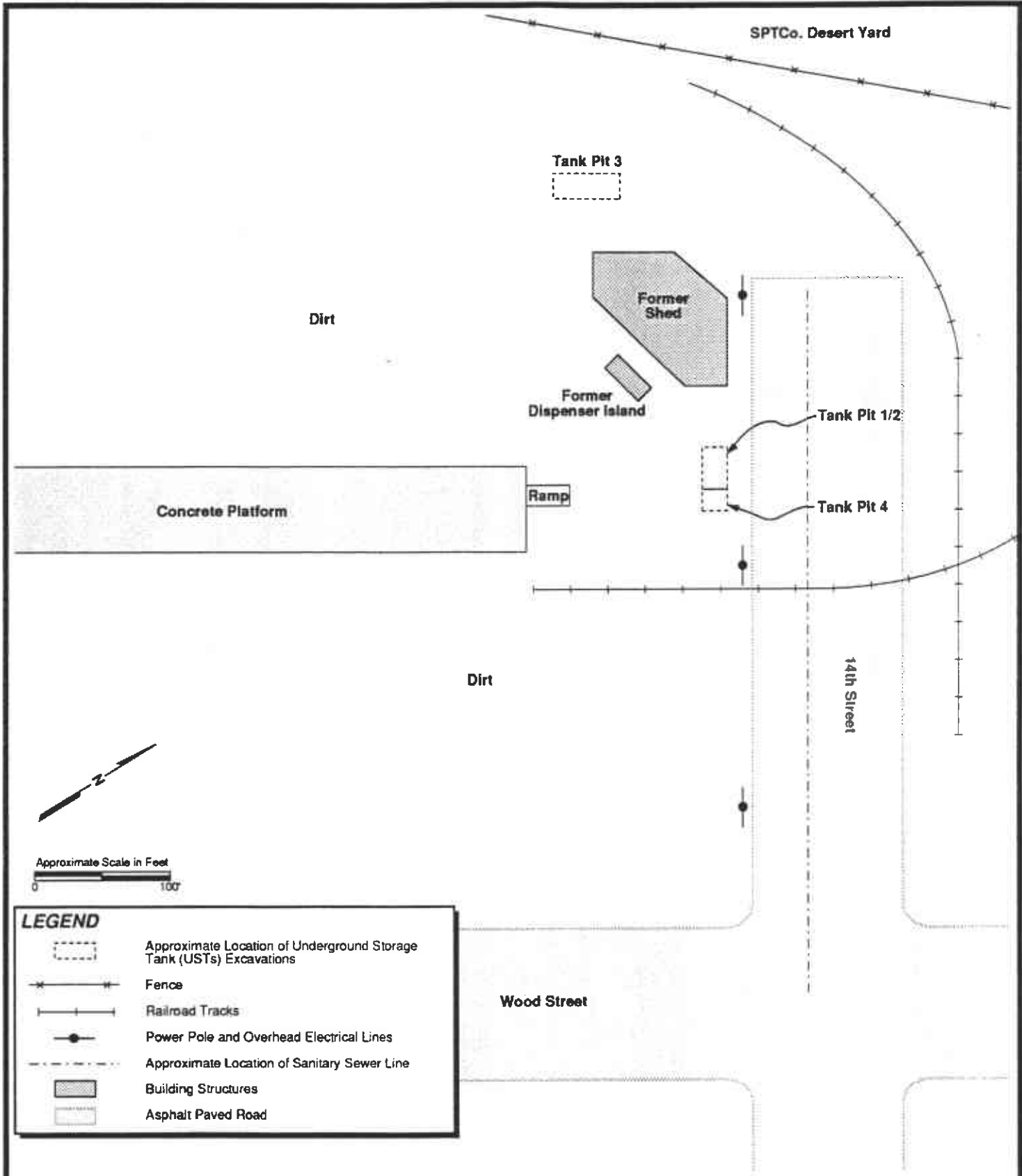
## 2.0 BACKGROUND

The site is located at 1399 Wood Street in Oakland, California (see Figure 2).

In September, 1989, Canonie Environmental Services Corporation (Canonie) removed 3 underground storage tanks (USTs), the fuel dispensing island, and associated piping from the site. Canonie referenced the USTs as Tank 1/2, Tank 3, and Tank 4 (see Figure 2). Tank 1/2 was a 12,000-gallon, split-compartment diesel-gasoline UST; Tank 3 was a 7,300-gallon diesel UST; and Tank 4 was a 550-gallon waste oil UST. The procedures and results of this work were presented in a Canonie report dated December 18, 1989 (report entitled: *Final Site Report, Underground Storage Tank Removal, Southern Pacific Transportation Company, Oakland, California*).

A total of 5 soil samples were collected from the 3 excavations and 1 soil sample was collected from the fuel dispenser location. Laboratory analyses performed on these soil samples identified maximum concentrations of 6,500 parts per million (ppm) of total extractable petroleum hydrocarbons (TEPH), 360 ppm of total volatile petroleum hydrocarbons (TVPH), 6.7 ppm of benzene, 31 ppm of toluene, 40 ppm of ethylbenzene, 230 ppm of xylenes, 37 ppm of polychlorinated biphenyls (PCBs), 9.9 ppm of total lead, and 0.99 ppm of bis(2-ethylhexyl)phthalate. The locations of the soil samples collected are shown on Figure 3. The results of laboratory analyses for the soil samples are summarized on Table 1.

Two grab ground water samples were collected from the base of the excavation of Tank 1/2. Laboratory analyses performed on these ground water samples identified maximum concentrations of 330 ppm of TEPH, 2.7 ppm of toluene, 1.1 ppm of ethylbenzene, and 5.1 ppm of xylenes. No concentrations of PCBs were identified at or above the method detection limit. One grab ground water sample was collected from the base of the excavation at



**LEGEND**

- Approximate Location of Underground Storage Tank (USTs) Excavations
- Fence
- Railroad Tracks
- Power Pole and Overhead Electrical Lines
- Approximate Location of Sanitary Sewer Line
- Building Structures
- Asphalt Paved Road

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Project No.: **05100535**      Date: **03/01/94**

Drawn By: **Patti Decker**      Checked By: **James G. Jensen**

**SITE LAYOUT MAP**  
**SOUTHERN PACIFIC TRANSPORTATION COMPANY**  
**1399 WOOD STREET**  
**OAKLAND, CALIFORNIA**

Figure:	<b>2</b>
Page:	<b>4</b>
Scale:	<b>as shown</b>

SPTCo. Desert Yard

Stockpile 2

50W-T3-8

50S-T3-5W

Tank Pit 3

50S-T3-6E



Approximate Scale in Feet



**LEGEND**



Approximate Location of Excavation Samples



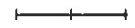
Stockpiled Soil



Approximate Location of Underground Storage Tank (USTs) Excavations



Fence



Railroad Tracks



Power Pole and Overhead Electrical Lines



Approximate Location of Sanitary Sewer Line



Building Structures



Asphalt Paved Road

Former Shed

50S-1A-3.5

Former Dispenser Island

Tank Pit 1/2

50S-T1/2-7SW

50W-T1/2-8

50S-T1/2-6SE

50W-Pit 1

50S-T4-8

Tank Pit 4

14th Street

Concrete Platform

Ramp

Stockpile 1



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**LOCATION OF UNDERGROUND STORAGE TANK  
EXCAVATION SAMPLES  
PREVIOUS INVESTIGATION OF SEPTEMBER, 1989  
SOUTHERN PACIFIC TRANSPORTATION COMPANY  
1399 WOOD STREET  
OAKLAND, CALIFORNIA**

Project No.: 05100535

Date: 03/01/94

Drawn By: Patti Decker

Checked By: James G. Jensen

Figure:  
3

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TABLE 1  
ANALYTICAL RESULTS  
UNDERGROUND STORAGE TANK EXCAVATIONS - SOIL SAMPLES  
PREVIOUS INVESTIGATION OF SEPTEMBER, 1989

Sample Location	Sample ID <sup>a</sup>	Date Collected	Sample Depth (feet)	TEPH <sup>b</sup> (mg/kg)	TVPH <sup>c</sup> (mg/kg)	O & G <sup>d</sup> (mg/kg)	Benzene <sup>e</sup> (mg/kg)	Toluene <sup>e</sup> (mg/kg)	Ethylbenzene <sup>e</sup> (mg/kg)	Xylenes <sup>e</sup> (mg/kg)	PCBs <sup>f</sup> (mg/kg)	Metals <sup>g</sup> (mg/kg)			VOCs <sup>h</sup> (mg/kg)	SVOCs <sup>i</sup> (mg/kg)
												Cr	Pb	Zn		
Tank Pit 1/2	50S-T1/2-7SW	09-14-89	7	NA	360	NA	0.84	1.4	2.8	9.6	NA	NA	NA	NA	NA	NA
	50S-T1/2-6SE		6	6,500	NA	NA	6.7	31	40	230	NA	NA	NA	NA	NA	NA
Tank Pit 3	50S-T3-5W	09-14-89	5	210	NA	NA	<0.025	<0.025	<0.025	<0.025	NA	NA	NA	NA	NA	NA
	50S-T3-6E		6	210	NA	NA	<0.025	<0.025	<0.025	0.21	NA	NA	NA	NA	NA	NA
Tank Pit 4	50S-T4-8	09-14-89	8	<10	<1.0	<500	<0.025	<0.025	<0.025	0.064	37	36	9.9	56	BDL	0.99 <sup>j</sup>
Dispenser Island	50S-1A-3.5	09-14-89	3.5	4,900	180	NA	6.1	24	37	170	NA	NA	NA	NA	NA	NA
Tank Pit 1/2 Stockpile	50S-SP1/2-COMP1	09-15-89	Comp <sup>k</sup>	1,300	630	NA	<0.25	4.7	12	27	NA	NA	NA	NA	NA	NA
	50S-SP1/2-COMP2		Comp <sup>k</sup>	830	180	NA	0.49	3.5	1.7	25	NA	NA	NA	NA	NA	NA
Tank Pit 3 Stockpile	50S-SP3-COMP1	09-15-89	Comp <sup>k</sup>	3,100	NA	NA	<0.025	<0.025	<0.025	0.37	NA	NA	NA	NA	NA	NA

a See Figure 3 for approximate sample locations.

b Total extractable petroleum hydrocarbons (TEPH) analyzed by EPA Method 8015.

c Total volatile petroleum hydrocarbons (TVPH) analyzed by EPA Method 8015.

d Oil and grease (O & G) analyzed by EPA Method 9071.

e Benzene, toluene, ethylbenzene, and xylenes (BTEX) analyzed by EPA Method 8020.

f Polychlorinated biphenyls (PCBs) analyzed by EPA Method 8080.

g Metals analyzed by EPA Method 6010.

h Volatile organic compounds (VOCs) analyzed by EPA Method 8240.

i Semivolatile organic compounds (SVOCs) analyzed by EPA Method 8270.

j Concentration of bis(2-ethylhexyl)phthalate, the only SVOC constituent identified at or above analytical method detection limits.

k Composited soil sample.

BDL All constituents were at or below method detection limits.

NA Not analyzed

< Indicates the analyte was not detected at a concentration at or above the method detection limit as listed.

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

Tank 3. Laboratory analyses performed on this sample identified xylenes as the only constituent present at a concentration of 0.0013 ppm. The locations of the ground water samples collected are shown on Figure 3. The results of laboratory analyses for the ground water samples are summarized on Table 2.

Canonie reported approximately 200 cubic yards (cy) of soil was generated from the UST excavations and this soil was placed into 2 stockpiles on the site (see Figure 3). Stockpile 1 contained soil removed from Tank 1/2, Tank 4, and the fuel dispenser and piping excavations. Stockpile 2 contained soil removed from the Tank 3 excavation. Two composite soil samples were collected from Stockpile 1. Laboratory analyses performed on these 2 soil samples identified maximum concentrations of 1,300 ppm of TEPH, 630 ppm of TVPH, 0.49 ppm of benzene, 4.7 ppm of toluene, 12 ppm of ethylbenzene, and 27 ppm of xylenes. One composite soil sample was collected from stockpile 2. Laboratory analyses performed on this soil sample identified maximum concentrations of 3,100 ppm of TEPH and 0.37 ppm of xylenes. Both stockpiles were left onsite. All excavated areas were backfilled with clean imported fill and compacted. The results of laboratory analyses for the composite soil samples collected from the 2 stockpiles are summarized on Table 1.

The Alameda County Health Care Services Agency (the County), in a letter dated April 28, 1992, requested SPTCo to forward a copy of Canonie's 1989 investigation report and to provide a workplan for a soil and ground water investigation of the site. In response to the County's request, IC, on behalf of SPTCo, prepared a workplan dated June 11, 1992 (workplan entitled: *Preliminary Soil Investigation Workplan, Southern Pacific Transportation Company, 1399 Wood Street, Oakland, California*). The workplan proposed drilling 10 soil boreholes to assess the lateral and vertical extent of petroleum hydrocarbon-impacted soil at the site. IC further proposed postponing the ground water investigation until any potential soil remediation was complete.

**TABLE 2**  
**ANALYTICAL RESULTS**  
**UNDERGROUND STORAGE TANK EXCAVATIONS - GRAB GROUND WATER SAMPLES**  
**PREVIOUS INVESTIGATION OF SEPTEMBER, 1989**

Sample Location	Sample ID <sup>a</sup>	Date Collected	Sample Depth (feet)	TEPH <sup>b</sup> (mg/L)	TVPH <sup>c</sup> (mg/L)	Benzene <sup>d</sup> (mg/L)	Toluene <sup>d</sup> (mg/L)	Ethylbenzene <sup>d</sup> (mg/L)	Xylenes <sup>d</sup> (mg/L)	PCBs <sup>e</sup> (mg/L)
Tank Pit 1/2	50W-T1/2-8	09-15-89	8	330	<2.0	<0.05	2.7	1.1	5.1	NA
	50W-Pit 1	10-16-89	8	NA	NA	NA	NA	NA	NA	<0.01
Tank Pit 3	50W-T3-8	09-15-89	8	<2.5	NA	<0.0005	<0.0005	<0.0005	0.0013	NA

a See Figure 3 for approximate sample locations.

b Total extractable petroleum hydrocarbons (TEPH) analyzed by EPA Method 8015.

c Total volatile petroleum hydrocarbons (TVPH) analyzed by EPA Method 8015.

d Benzene, toluene, ethylbenzene, and xylenes (BTEX) analyzed by EPA Method 602.

e Polychlorinated biphenyls (PCBs) analyzed by EPA Method 8080.

NA Not analyzed.

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

mg/L Milligrams per liter, approximately equal to parts per million (ppm).

The County approved the workplan in a letter dated June 23, 1992. The County additionally requested SPTCo to address the issues of PCB-impacted soil and the disposition of the 2 soil stockpiles still located on site.

In October, 1992, IC conducted a preliminary soil investigation at the site. The results of the investigation were presented in IC's report dated January 17, 1994 (report entitled: *Preliminary Soil Investigation Report, Southern Pacific Transportation Company, 1399 Wood Street, Oakland, California*). As part of this investigation, 11 borings (A-1 through A-11) were drilled. Figure 4 shows the approximate location of the soil borings relative to the existing structures and UST excavations at the site. Total petroleum hydrocarbons as gasoline (TPH-G), TPH as diesel (TPH-D), and benzene, toluene, ethylbenzene, and xylenes (BTEX) were not identified at or above the method detection limits in soil samples collected from 5 of the 11 borings (A-2, A-4, A-6, A-7, and A-8). PCBs were not identified at or above the method detection limits in the soil sample collected from A-9, drilled at Tank 4, the former location of the waste oil UST. TPH-G was identified in soil samples collected from 3 of the 11 borings at concentrations ranging from 1.5 parts per million (ppm) to 5,000 ppm. TPH-D was identified in soil samples collected from 4 of the 11 borings at concentrations ranging from 0.7 ppm to 19 ppm. The results of laboratory analyses for the soil samples are summarized on Table 3. Figure 5 is a chemical distribution map for constituents identified in soil samples during all investigations conducted at the site. The approximate lateral extent of TPH-G- and TPH-D-impacted soil has been estimated as shown on Figures 6 and 7, respectively.

In April, 1993, IC collected 8 soil samples from the 2 stockpiles to characterize the soil prior to disposition of the stockpiles. Figure 4 shows the approximate location of the stockpile soil samples. The soil samples were composited by the laboratory into 3 composite soil samples. The results of these field activities were presented in IC's report dated January 17, 1994 (report entitled: *Preliminary Soil Investigation Report, Southern Pacific Transportation*

SPTCo. Desert Yard

Stockpile 2

A-3 ●

A-1 ●

Tank Pit 3

A-2 ●

Former Shed

Former Dispenser Island

A-4 ●

A-10 ●

14th Street

Tank Pit 1/2

A-5 ●

A-11 ●

Tank Pit 4

A-6 ●

Stockpile 1

A-9 ●

A-7 ●

A-8 ●

Concrete Platform

Ramp

**LEGEND**

- A-1 ● Approximate Location of Soil Boring
- X Approximate Location of Stockpile Soil Samples
- Stockpiled Soil
- Approximate Location of Underground Storage Tank (USTs) Excavation
- Fence
- Railroad Tracks
- Power Pole and Overhead Electrical Lines
- Approximate Location of Sanitary Sewer Line
- Building Structures
- Asphalt Paved Road

Approximate Scale in Feet  
0 50



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Project No.: 05100535

Date: 03/01/94

Drawn By: Patti Decker

Checked By: James G. Jensen

**LOCATION OF SOIL BORINGS AND STOCKPILE SOIL SAMPLES  
PREVIOUS INVESTIGATION OF OCTOBER, 1992  
SOUTHERN PACIFIC TRANSPORTATION COMPANY  
1399 WOOD STREET  
OAKLAND, CALIFORNIA**

Figure: 4

Page: 10

Scale: as shown



TABLE 3  
ANALYTICAL RESULTS  
SOIL BORING SOIL SAMPLES  
PREVIOUS INVESTIGATION OF OCTOBER, 1992

Soil Boring Number <sup>a</sup>	Date Collected	Sample Depth (feet)	TPH <sup>b</sup> (mg/kg)		Volatile Organic Compounds <sup>c</sup> (mg/kg)				PCBs <sup>d</sup> (mg/kg)
			Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	
A-1	10-22-92	2-2.5	<0.5	<0.5	<0.005	<0.01	<0.005	<0.005	NA
	10-22-92	5-5.5	<0.5	1.4	<0.005	<0.01	<0.005	<0.005	NA
A-2	10-22-92	4-4.5	<0.5	<0.5	<0.005	<0.01	<0.005	<0.005	NA
	10-22-92	5.5-6	<0.5	<0.5	<0.005	<0.01	<0.005	<0.005	NA
A-3	10-22-92	5.5-6	<0.5	0.7	<0.005	<0.01	<0.005	<0.005	NA
A-4	10-22-92	5-5.5	<0.5	<0.5	<0.005	<0.01	<0.005	<0.005	NA
A-5	10-22-92	3.5-4	5,000 <sup>e</sup>	<50 <sup>f</sup>	3.9	6.9	28	150	NA
	10-22-92	5-5.5	11	<0.5	0.62	0.1	0.49	1.3	NA
A-6	10-22-92	5-5.5	<0.5	<0.5	<0.005	<0.01	<0.005	<0.005	NA
A-7	10-23-92	5-5.5	<0.5	<0.5	<0.005	<0.01	<0.005	<0.005	NA
A-8	10-23-92	5-5.5	<0.5	<0.5	<0.005	<0.01	<0.005	<0.005	NA
A-9	10-23-92	5-5.5	9.0 <sup>e</sup>	19	0.016	<0.01	0.050	0.22	<0.1 <sup>f</sup>
A-10	10-23-92	2.5-3	<0.5	<0.5	<0.005	<0.01	<0.005	<0.005	NA
	10-23-92	4.5-5	1.5 <sup>e</sup>	4.3	<0.005	<0.01	0.008	0.029	NA

a See Figure 4 for approximate boring locations.

b Total petroleum hydrocarbons (TPH) analyzed by EPA Method 8260 Modified.

c Analyzed by EPA Method 8260 Modified.

d Polychlorinated biphenyls (PCBs) analyzed by EPA Method 8080.

e TPH in this sample identified as weathered gasoline.

f High concentration of some analytes caused the sample to be run diluted resulting in raised method detection limits for analytes.

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

NA Not analyzed.

< Indicates the analyte was not detected at a concentration at or above the method detection limit as listed.

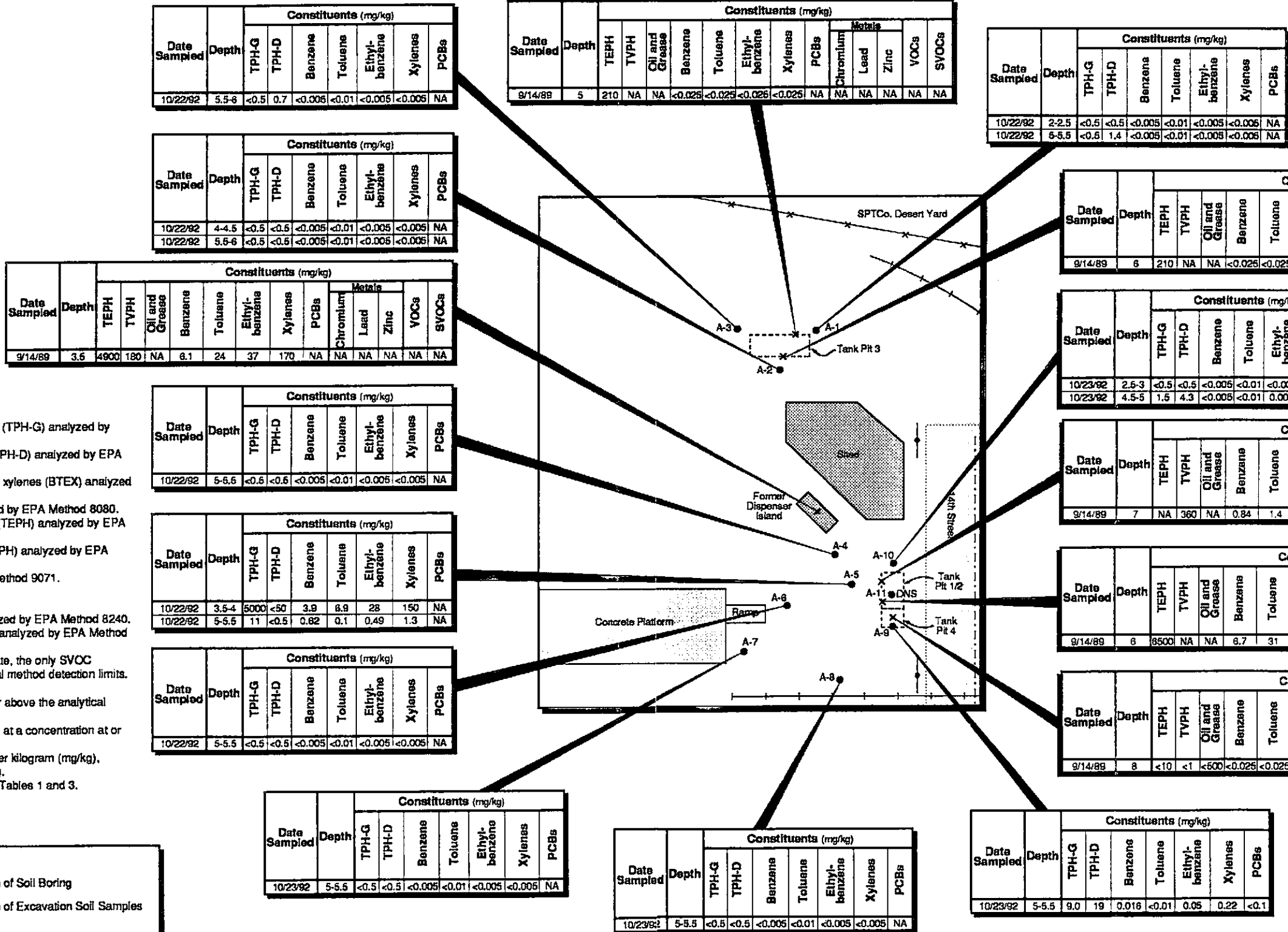
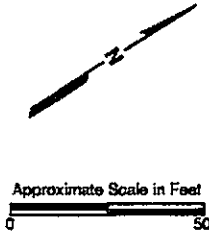


**NOTES:**

- Depth in feet below ground surface.
- Total petroleum hydrocarbons as gasoline (TPH-G) analyzed by EPA Method 8260 modified.
- Total petroleum hydrocarbons as diesel (TPH-D) analyzed by EPA Method 8260 modified.
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyzed by EPA Method 8260 modified.
- Polychlorinated biphenyls (PCBs) analyzed by EPA Method 8080.
- Total extractable petroleum hydrocarbons (TEPH) analyzed by EPA Method 8015.
- Total volatile petroleum hydrocarbons (TVPH) analyzed by EPA Method 8015.
- Oil and grease (O&G) analyzed by EPA Method 9071.
- BTEX analyzed by EPA Method 8020.
- Metals analyzed by EPA Method 6010.
- Volatile organic compounds (VOCs) analyzed by EPA Method 8240.
- Semi-volatile organic compounds (SVOCs) analyzed by EPA Method 8270.
- Concentration of bis (2-ethylhexyl)phthalate, the only SVOC constituent identified at or above the analytical method detection limits.
- NA = Not analyzed
- BDL = no constituents were identified at or above the analytical method detection limits.
- < = Indicates the analyte was not detected at a concentration at or above the method detection limits as noted.
- All sample results reported in milligrams per kilogram (mg/kg), approximately equal to parts per million (ppm).
- Laboratory analytical data summarized on Tables 1 and 3.

**LEGEND**

- A-1 ● Approximate Location of Soil Boring
- x Approximate Location of Excavation Soil Samples
- DNS Did Not Sample
- Approximate Location of Underground Storage Tank (USTs) Excavation
- Fence
- Railroad Tracks
- Power Pole and Overhead Electrical Lines
- Approximate Location of Sanitary Sewer Line
- Building
- Asphalt Paved Road



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**CHEMICAL DISTRIBUTION MAP FOR CONSTITUENTS IN SOIL SAMPLES IDENTIFIED DURING SITE INVESTIGATIONS SOUTHERN PACIFIC TRANSPORTATION COMPANY**  
1399 WOOD STREET  
OAKLAND, CALIFORNIA

Figure: **5**  
Page No.: **12**  
Scale: as shown

Project No.: 05100535      Date: 03/01/94

Drawn By: Patti Decker      Checked By: James G. Jensen

A-3  
<0.5

A-1  
<0.5

A-2  
<0.5

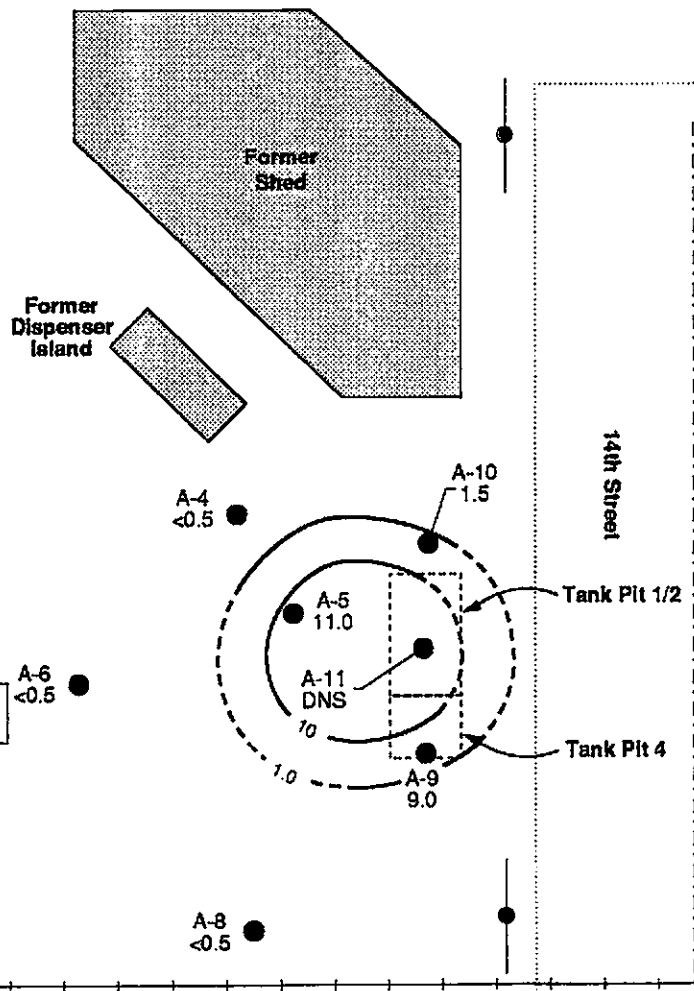
Tank Pit 3



Approximate Scale in Feet  
0 50

**LEGEND**

- A-1 ● Approximate Location of Soil Boring
- 1.4 Concentration of Total Petroleum Hydrocarbons (TPH) (in parts per million)
- 1.0 Approximate Extent of TPH-Impacted Soil (dashed where inferred)
- DNS Did Not Sample
- Approximate Location of Underground Storage Tank (USTs) Excavation
- x-x-x- Fence
- |-|-| Railroad Tracks
- Power Pole and Overhead Electrical Lines
- - - - - Approximate Location of Sanitary Sewer Line
- ▨ Building Structures
- ▭ Asphalt Paved Road



Concrete Platform

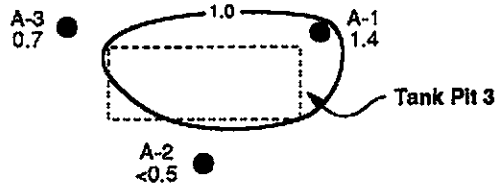
Ramp

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**LATERAL EXTENT OF TPH AS GASOLINE IN SOIL SAMPLES AT 5 FEET BGS SOUTHERN PACIFIC TRANSPORTATION COMPANY 1399 WOOD STREET OAKLAND, CALIFORNIA**

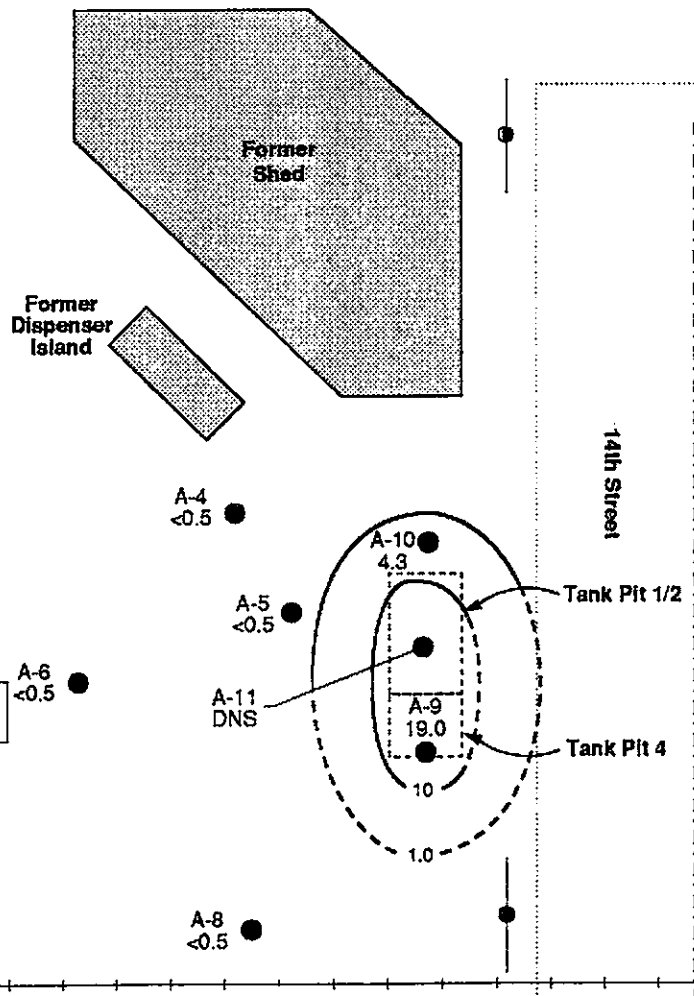
Project No.: 05100535 Date: 03/01/94  
Drawn By: Patti Decker Checked By: James G. Jensen

Figure:	6
Page:	13
Scale:	as shown



**LEGEND**

- A-1 ● Approximate Location of Soil Boring
- 4.3 Concentration of Total Petroleum Hydrocarbons (TPH) (in parts per million)
- 1.0 Approximate Extent of TPH-Impacted Soil (dashed where inferred)
- DNS Did Not Sample
- Approximate Location of Underground Storage Tank (USTs) Excavation
- x-x- Fence
- +— Railroad Tracks
- Power Pole and Overhead Electrical Lines
- - - - - Approximate Location of Sanitary Sewer Line
- ▨ Building Structures
- ▭ Asphalt Paved Road



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**LATERAL EXTENT OF TPH AS DIESEL IN SOIL SAMPLES AT 5 FEET BGS SOUTHERN PACIFIC TRANSPORTATION COMPANY 1399 WOOD STREET OAKLAND, CALIFORNIA**

Project No.: 05100535 Date: 03/01/94  
 Drawn By: Patti Decker Checked By: James G. Jensen

Figure: 7  
 Page: 14  
 Scale: as shown

*Company, 1399 Wood Street, Oakland, California*). IC supervised the removal and disposition of approximately 300 cubic yards (cy) of stockpiled soils, investigation derived residuals, and miscellaneous debris from the site. Based on the concentrations of petroleum hydrocarbons and metals in the composite soil samples collected from the 2 stockpiles, the stockpiled soils were transported to the Chemical Waste Management landfill at Kettleman Hills, California. The results of laboratory analyses for the composite soil samples are summarized on Table 4.

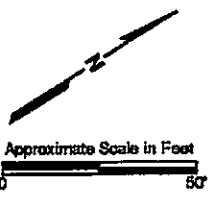
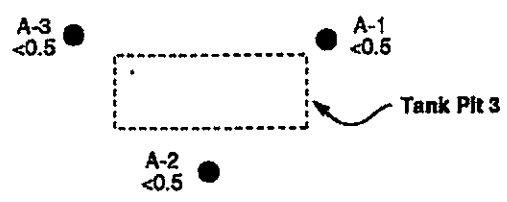
Based on the results of the October, 1992 soil investigation, IC submitted a workplan to Alameda County (workplan dated March 1, 1994 and entitled: *Soil Remediation and Ground Water Investigation Workplan*). This workplan recommended:

- \* soil cleanup objectives of 100 ppm for TPH and 18 ppm for benzene;
- \* excavation of the apparent impacted soil, and
- \* ground water investigation.

Comments were received from Alameda County in a letter dated March 3, 1994 (letter entitled: *1399 Wood Street, Oakland, California*). These comments were addressed in a meeting on March 21, 1994 between representatives of Alameda County and SPTCo and in a letter from IC to Alameda County (letter dated March 29, 1994, letter entitled: *Comments from Alameda County Health Care Services Agency, Soil Remediation and Ground Water Investigation Workplan*).

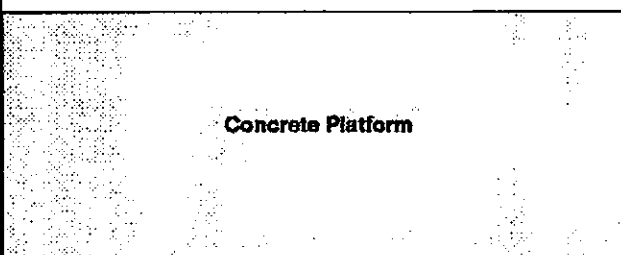
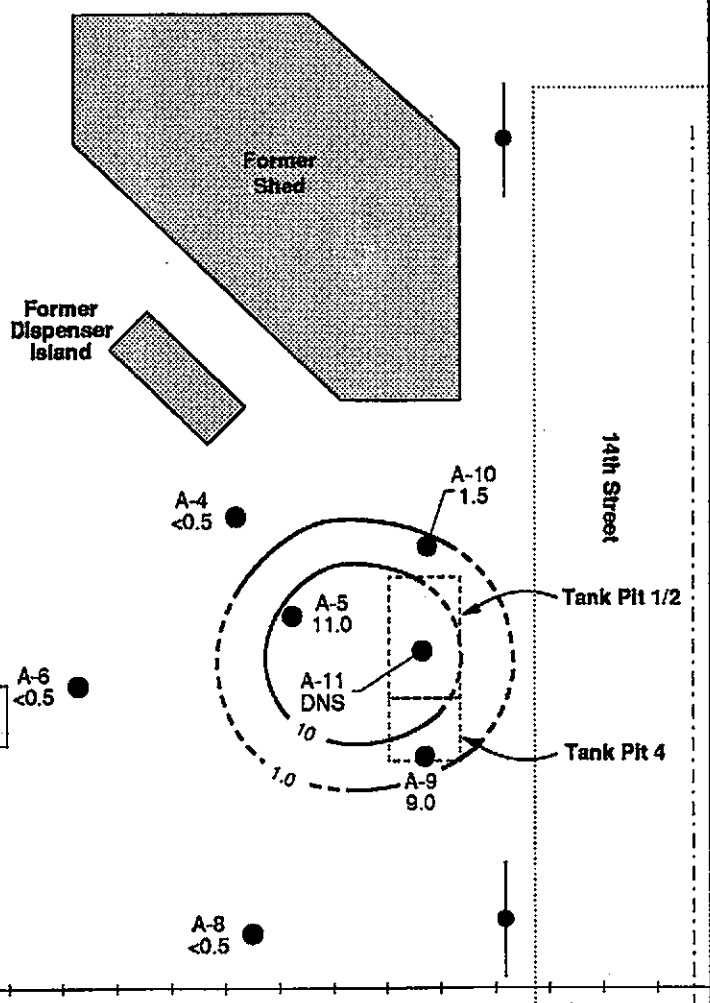
IC has prepared this revised workplan in accordance with a letter from Alameda County dated April 4, 1994 (letter entitled: *1399 Wood Street, Oakland, California 94607*). This revised workplan incorporates the recommendations requested by Alameda County in the above listed correspondence. The revised workplan recommends:





**LEGEND**

- A-1 ● Approximate Location of Soil Boring
- 1.4 Concentration of Total Petroleum Hydrocarbons (TPH) (in parts per million)
- 1.0 Approximate Extent of TPH-Impacted Soil (dashed where inferred)
- DNS Did Not Sample
- Approximate Location of Underground Storage Tank (USTs) Excavation
- Fence
- Railroad Tracks
- Power Pole and Overhead Electrical Lines
- Approximate Location of Sanitary Sewer Line
- Building Structures
- Asphalt Paved Road



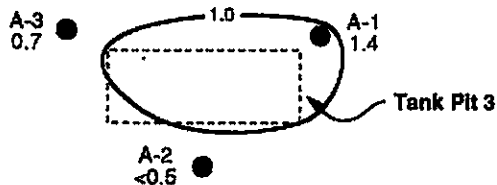
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Project No.: 05100535      Date: 03/01/94

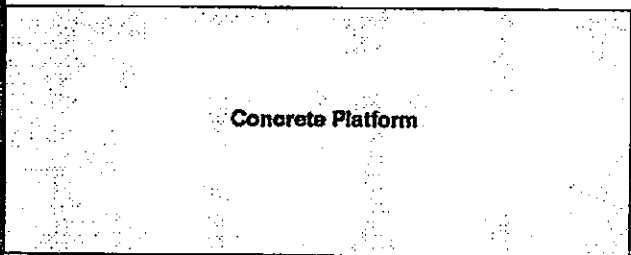
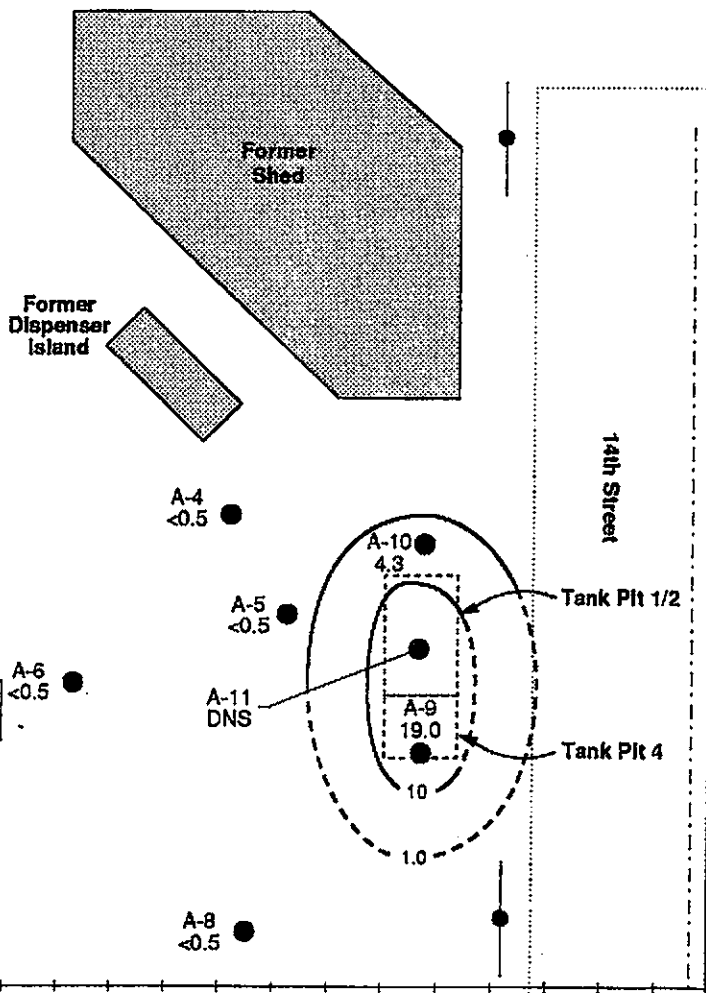
Drawn By: Patti Decker      Checked By: James G. Jensen

**LATERAL EXTENT OF TPH AS GASOLINE IN SOIL SAMPLES AT 5 FEET BGS SOUTHERN PACIFIC TRANSPORTATION COMPANY 1399 WOOD STREET OAKLAND, CALIFORNIA**

Figure:	6
Page:	13
Scale:	as shown



LEGEND	
A-1 ●	Approximate Location of Soil Boring
4.3	Concentration of Total Petroleum Hydrocarbons (TPH) (in parts per million)
1.0	Approximate Extent of TPH-Impacted Soil (dashed where inferred)
DNS	Did Not Sample
[Dashed Box]	Approximate Location of Underground Storage Tank (UST's) Excavation
—x—x—	Fence
— — —	Railroad Tracks
—●—	Power Pole and Overhead Electrical Lines
- - - -	Approximate Location of Sanitary Sewer Line
[Hatched Box]	Building Structures
[Dotted Box]	Asphalt Paved Road



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**LATERAL EXTENT OF TPH AS DIESEL IN SOIL SAMPLES AT 5 FEET BGS SOUTHERN PACIFIC TRANSPORTATION COMPANY 1399 WOOD STREET OAKLAND, CALIFORNIA**

Project No.: 05100535	Date: 03/01/94
Drawn By: Patti Decker	Checked By: James G. Jensen

Figure: 7
Page: 14
Scale: as shown

*Company, 1399 Wood Street, Oakland, California*). IC supervised the removal and disposition of approximately 300 cubic yards (cy) of stockpiled soils, investigation derived residuals, and miscellaneous debris from the site. Based on the concentrations of petroleum hydrocarbons and metals in the composite soil samples collected from the 2 stockpiles, the stockpiled soils were transported to the Chemical Waste Management landfill at Kettleman Hills, California. The results of laboratory analyses for the composite soil samples are summarized on Table 4.

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- \* excavation of the apparent impacted soil, and
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**TABLE 4**  
**ANALYTICAL RESULTS**  
**COMPOSITE SOIL SAMPLES FROM STOCKPILED SOIL**  
**PREVIOUS FIELD ACTIVITIES OF APRIL, 1993**

Sample ID <sup>a</sup>	Date Collected	Total Petroleum Hydrocarbons (mg/kg)				Benzene <sup>d</sup> (mg/kg)	Toluene <sup>d</sup> (mg/kg)	Ethylbenzene <sup>d</sup> (mg/kg)	Total Xylenes <sup>d</sup> (mg/kg)	HVOCs <sup>e</sup> (mg/kg)	SVOCs <sup>f</sup> (mg/kg)	Metals <sup>g</sup> (mg/kg)									STLC Lead <sup>h</sup> (mg/L)	
		Gasoline <sup>b</sup>	Hydrocarbon Mixture <sup>b</sup>	Diesel <sup>c</sup>	Hydrocarbon Mixture <sup>c</sup>							Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Nickel		Zinc
Stockpile 1: Composite 22516 - 22519	03-29-93	<1.0	<1.0	<150 <sup>i</sup>	940 <sup>j</sup>	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	132	NA	NA	NA	8.1
Stockpile 2: Composite 22520 - 22523	03-29-93	<1.0	<1.0	<15 <sup>i</sup>	49 <sup>k</sup>	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	60.6	NA	NA	NA	3.5
Stockpile 1 and 2: Composite 22516 - 22523	03-29-93	NA	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	<10	155	<0.5	45.5	6.1	90.5	118	0.19	40.6	171	8.1

a See Figure 4 for approximate sample locations.

b Analyzed by EPA Method 5030/GC/FID.

c Analyzed by Method TPH-D-Triregional.

d Benzene, toluene, ethylbenzene and total xylenes (BTEX) analyzed by EPA Method 8020.

e Halogenated volatile organic compounds (HVOCs) analyzed by EPA Method 8010.

f Semivolatile volatile organic compounds (SVOCs) analyzed by EPA Method 8270.

g Metals analyzed by EPA Method 6010, except for mercury which was analyzed by EPA Method 7471.

h Soluble Threshold Limit Concentration (STLC) lead analyzed by STLC - Method 6010 using citrate buffer leachate.

i High concentration of some analytes caused the sample to be run diluted resulting in raised method detection limits for analytes.

j Hydrocarbon pattern present in this sample elutes in the range between C-11 and C-24.

k Hydrocarbon pattern present in this sample elutes in the range between C-11 past C-30.

BDL All constituents were at or below analytical method detection limits.

NA Not analyzed.

< Indicates the analyte was not detected at a concentration at or above the method detection limit as listed.

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

mg/L Milligrams per liter, approximately equal to parts per million (ppm).



- \* soil cleanup and reuse objectives of 100 ppm for TPH and 4.6 ppm for [REDACTED]
- \* excavation of the apparent impacted soil, and
- \* ground water investigation.



### 3.0 SOIL CONSTITUENT CONCENTRATION CLEANUP LEVEL GUIDELINES

As per IC's letter to Alameda County dated March 29, 1994 (letter entitled: *Comments from Alameda County Health Care Services Agency, Soil Remediation and Ground Water Investigation Workplan*), the recommended soil action levels are 100 ppm for TPH and 4.6 ppm for benzene. The benzene cleanup objective concentration is based on the U.S. EPA's Fourth Quarter 1993 Preliminary <sup>Remediation</sup> Reduction Goals (PRGs) for initial soil cleanup goals.<sup>1</sup> These soil action levels will be used as the site soil cleanup and reuse objectives.

The volume of impacted soil with hydrocarbon concentrations greater than 100 ppm is estimated to be 190 cy, distributed as follows:

- \* Tank 1/2 and 4: 90 cy
- \* Tank 3: 70 cy
- \* Former dispenser island: 30 cy

---

1. U.S. EPA, November 1, 1993, Region IX Preliminary Remediation Goals (PRGs) Fourth Quarter 1993.

#### 4.0 PROPOSED SCOPE OF WORK

The following tasks are proposed for the remediation of the hydrocarbon-impacted soil at the site: Task 1) Soil Excavation and Disposition; Task 2) Monitoring Well Installation, Development, and Sampling; Task 3) Preparation of a Summary Report; and Task 4) Quarterly Ground Water Sampling. The following sections present the procedures to be followed for each task.











##### 4.1 Task 1 - Soil Excavation and Disposition

It is proposed to excavate the impacted soil with a TPH concentration greater than 100 ppm and a benzene concentration greater than 4.6 ppm from the previous locations of Tank 1/2/Tank 4, Tank 3, and the former dispenser island (see Figure 8). Soil from each excavation will be separately stockpiled.

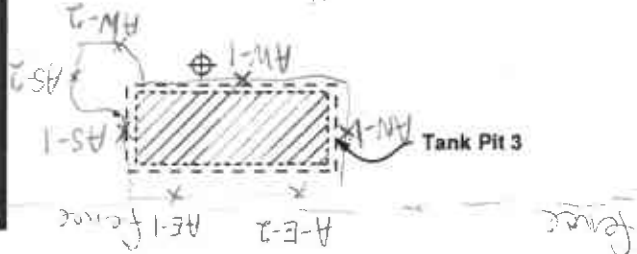
The soil lying above the impacted soil which has no observable characteristics of being impacted (odor and/or discoloration) and which does not register a positive reading with a portable photoionization detector (PID) will be excavated and stockpiled. The apparent impacted soil will be excavated, characterized, and appropriately handled as discussed in Section 4.1.1. Confirmation samples will be collected from the side walls and base of each excavation at a frequency of approximately 1 sample per 20 linear feet. Approximately 40 confirmation samples in total will be collected. Soil from an appropriate depth and location within the excavation will be collected in the bucket of the excavator and soil samples will be collected from soil retained within the bucket. The IC field representative will drive a 2-inch by 6-inch precleaned brass tube into the undisturbed soil with a mallet. The sample tube will be removed from the soil and the ends will be covered with Teflon sheeting and tight-fitting plastic endcaps. The sample will be labelled, placed in a resealable plastic bag, and stored in a cooled ice chest for transport to a California state-certified analytical laboratory. A chain-

SPTCo. Desert Yard

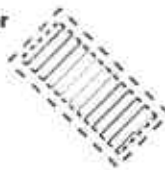
**LEGEND**

-  Approximate Location of Proposed Monitoring Well
-  Approximate Limits of Proposed Excavation
-  Approximate Limits of Previous Excavations
-  Estimated Hydraulic Gradient Based on Local Hydrogeology and Proximity to San Francisco Bay
-  Fence
-  Railroad Tracks
-  Power Pole and Overhead Electrical Lines
-  Approximate Location of Sanitary Sewer Line
-  Building Structures
-  Asphalt Paved Road

*Handwritten notes:*  
 S-23-94 samples (excavation) at ~ 2' logs (gw at ~ 3' logs)  
 S. Decker II



Former Dispenser Island



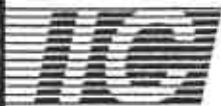
14th Street

Tank Pit 1/2

Tank Pit 4

Concrete Platform

Ramp



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**PROPOSED LOCATIONS OF GROUND WATER MONITORING WELLS TO BE INSTALLED SOUTHERN PACIFIC TRANSPORTATION COMPANY 1399 WOOD STREET OAKLAND, CALIFORNIA**

Project No.: 05100269

Date: 03/25/94

Drawn By: **Patl Decker**

Checked By: **James G. Jensen**

Figure:

8

Page:

20

Scale:

as shown

of-custody form will be completed for all samples collected and will accompany these samples to the laboratory. These samples will be analyzed on an expedited 24-hour turn-around-time since excavation equipment will be on standby until results of confirmation samples have been received. Confirmation samples from the excavation of Tank Pit 1/2/Tank Pit 4 will be analyzed for TPH-G, TPH-D, and BTEX using EPA Method 8260 Modified and for PCBs using EPA Method 8080. Confirmation samples from the excavation at Tank Pit 3 will be analyzed for TPH-D and BTEX using EPA Method 8260 Modified. Confirmation samples from the excavation at the former fuel dispenser location will be analyzed for TPH-G, TPH-D, and BTEX using EPA Method 8260 Modified. Temporary fencing will be placed around the perimeter of the open excavations until the results of the excavation confirmation samples have been received and the excavation backfilled. If the confirmation samples indicate TPH and benzene concentrations in the soil are below the soil action levels, then the open excavation pit will be backfilled with the previously removed non-impacted soil and with clean imported soil and compacted by wheel-rolling with a loader.

#### 4.1.1 Soil Stockpile Sampling and Analytical Methods

Soil samples will be collected by digging approximately 2 feet into each of the 3 stockpiles with a clean shovel. The soil from this depth will be packed into a precleaned 2-inch by 6-inch brass tube. The ends of the brass tube will immediately be covered with Teflon sheeting and tight-fitting plastic endcaps. The sample will be labelled, placed in a resealable plastic bag, and stored in a cooled ice chest for transport to a California state-certified analytical laboratory. A chain-of-custody form will be completed for all samples collected and will accompany these samples to the laboratory.

Six soil samples will be collected from the apparent non-impacted soil stockpile. Two composite samples will be prepared by the laboratory and submitted for laboratory analysis

for TPH-G, TPH-D, and BTEX by EPA Method 8260 Modified. These samples will be analyzed on an expedited 24-hour turnaround time. If the analytical results identify concentrations of TPH less than or equal to 100 ppm and benzene less than or equal to 4.6 ppm, this non-impacted soil will be used to partially backfill the excavation.

Characterization samples from the apparent impacted soil stockpiles will be collected at a frequency of one composite sample per 50 cubic yards of material and analyzed as follows:

- \* Tank Pit 1/2/Tank Pit 4 excavation soil samples will be analyzed for:
  - \* 8-RCRA metals using EPA 6000/7000 Series Methodology
  - \* Volatile organic compounds (VOCs) using EPA Methods 8010 and (8020 or 8240)
  - \* TPH-D and TPH-G using EPA Method 8260 Modified
  - \* PCBs using EPA Method 8080
- \* Fuel dispenser island excavation soil samples will be analyzed for:
  - \* 8-RCRA metals using EPA 6000/7000 Series Methodology
  - \* VOCs using EPA Methods 8010 and 8020 or 8240
  - \* TPH-D and TPH-G using EPA Method 8260 Modified
- \* Tank Pit 3 excavation soil samples will be analyzed for:

- \* 8-RCRA metals using EPA 6000/7000 Series Methodology
- \* VOCs using EPA Methods 8010 and 8020 or 8240
- \* TPH-D using EPA Method 8260 Modified

After the soil has been characterized, a decision will be made as to the appropriate disposition of the soil based on the constituent concentrations in the soil samples. IC recommends the following options for disposition of the excavated soil:

- \* If TPH and benzene concentrations are equal to or below 100 ppm and 4.6 ppm, respectively, and the 8-RCRA metals and PCB concentrations are equal to or below 10 times the Soluble Threshold Limit Concentration (STLC) values, onsite disposition of the soil is recommended.
- \* If any of the 8-RCRA metals concentrations exceed 10 times the STLC values, the California Waste Extraction Test should be run.
- \* If TPH and benzene concentrations exceed 100 ppm and 4.6 ppm, respectively, and no metals concentrations exceed the STLC values, onsite remediation of the soil is recommended.
- \* If the PCBs concentration exceeds 50 ppm or if any metals concentrations exceed the STLC values, then disposition of the soil to an appropriate disposal facility will be determined.





## 4.2 Task 2 - Monitoring Well Installation, Development, and Sampling

Three monitoring wells will be installed in the locations proposed on Figure 8 to assess the lateral extent of impacted ground water. The procedures for installing, developing, and sampling the wells follow.

### 4.2.1 Ground Water Monitoring Well Installation

Borings for the monitoring wells will be drilled to an approximate depth of 15 feet bgs with a truck mounted drill-rig equipped with 6- or 8-inch (nominal outside diameter) hollow-stem augers. A core barrel sampler will be inserted within the hollow stem of the lead auger to provide a continuous core of each 5-foot interval. Each cored section will be examined and logged by an IC geologist for monitoring well construction purposes.

After the boring has been drilled and logged, the 8-inch diameter augers will be retracted and the boring re-drilled with 10-inch diameter hollow-stem augers for the purpose of constructing monitoring wells.

The wells will be constructed of 4-inch inside diameter, Schedule 40 polyvinyl chloride (PVC) casing. Ten feet of slotted (0.020 inch factory cut) 4-inch PVC well screen will be installed from the bottom of the boring (approximately 15 feet bgs) to approximately 2 feet above the water table (estimated to be 5 feet bgs) as measured during the time of drilling, with 4-inch PVC blank casing in the upper portion of the well. The artificial filter pack will consist of a 1C sand or equivalent. The sand will be added down the hollow stem of the drilling augers (between the inner annulus of the augers and the PVC casing) until there is approximately 4 feet of sand within the augers. At this time, the augers will be extracted at 1- to 2-foot intervals which will allow the sand to flow out of the augers, between the PVC well screen and the boring wall. This process will continue until a sand pack has been



emplaced approximately 2 feet above the slotted casing. A 2-foot thick bentonite seal, consisting of ¼-inch bentonite pellets, will be placed above the filter pack and hydrated with 2 to 3 gallons of potable water. The remaining annular space will be filled with a cement/bentonite grout consisting of approximately 2 pounds of powdered bentonite (measured in the field), 6.5 to 7 gallons of water obtained from the site, and 94 pounds (1 bag) of portland cement. The bentonite will be added to the water and allowed to hydrate by circulating the mixture through a grout pump or mixing apparatus. The cement will then be added to the bentonite/water mixture and mixed thoroughly. The cement/bentonite mixture will be emplaced between the inner annulus of the augers and the PVC casing. The augers will be filled to capacity with the cement/bentonite grout and extracted at 1- to 2-foot intervals, following which additional grout will be added to fill the annulus until the grout is at the original ground surface. The well will be finished with a water-tight, locking well cap housed within a flush-mounted traffic box.

After completion of the monitoring wells, the wells will be surveyed by a licensed surveyor. The top of the well casing will be marked on each well and the surveyor will assess the elevation of the top of each well casing in relation to mean sea level and will measure horizontal distances between all monitoring wells.

The residuals generated from the drilling and well installation will be stored in 55-gallon Department of Transportation (DOT) approved drums appropriate for the storage and transportation of hazardous wastes. The drums will be labeled and a drum inventory will be compiled containing the date generated, contents, and the boring from which the contents originated for each drum.

After soil residuals have been characterized, the drummed soil from the borings will be appropriately handled.



#### 4.2.2 Ground Water Monitoring Well Development

After well installation is completed and the well seals have set for a minimum of 24 hours [as per the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) standards for construction of monitoring wells as described in Draft Scientific and Technical Standards for Hazardous Waste Sites, Chapter 8 - Technical Standards for the Design and Construction of Monitoring Wells and Piezometers at Hazardous Waste Sites, Section 3.1.2.2 - Annular Grout Seal (State of California, DTSC, August 1990), the wells will be developed.] The depth to ground water will be measured in each monitoring well and the well volume calculated. Development initially will be performed by using a bailer to remove coarse sediments that may have entered the well, after which a 4-inch surge block will be inserted into the casing. Surging will be performed by raising and lowering the surge block across the saturated portion of the screen approximately 20 times. The surge block will then be removed and the bailer will be used to remove coarse sediments. After surging, a submersible or surface pump will be used to remove approximately 5 to 10 well volumes. Conductivity, pH, and temperature measurements will be monitored until these parameters have stabilized. These parameters will be judged to have stabilized when 3 consecutive readings show:

*This was added*

- \* < 10 percent change in conductivity;
- \* < 10 percent unit change in pH; and
- \* < 10 percent change in temperature.

Each well will be considered developed when the parameters have stabilized and the water flows clear or when 10 well volumes have been removed (whichever is the lesser amount).

#### 4.2.3 Ground Water Sampling



Ground water samples will be collected after 24 hours following monitoring well development, and quarterly thereafter, for a period of 1 year. The depth to ground water and the total depth of the well will be measured in each monitoring well. This information will be used to calculate the well volume. Prior to sample collection, each well will be purged to ensure that the water sample obtained from the well is representative of the formation water. Each well will be purged until the total quantity of water removed is approximately 3 times the saturated volume in the well. Conductivity, pH, and temperature will be measured during purging. If parameters have not stabilized after 3 well volumes have been removed, an additional 2 well volumes (for a total of 5 well volumes) will be removed and the well sampled.

After purging, each monitoring well will be allowed to recharge to its approximate original water level prior to sample collection. After recharge, a ground water sample will be collected with a clean acrylic bailer or a new, disposable polyethylene bailer. The water sample from the bailer will be transferred to clean, appropriately preserved laboratory-supplied glass containers.

The samples will be labelled and stored in a cooled ice chest until delivery to the analytical laboratory. A chain-of-custody document will be completed for the collected samples and will accompany these samples to the laboratory. The ground water samples will be analyzed for TPH-G, TPH-D, and BTEX using EPA Method 8260 Modified. In addition, the ground water samples collected at the first ground water sampling event will be analyzed for PCBs using EPA Method 8080. If PCBs are not detected, then PCBs will not be analyzed for at future sampling events.

Development and purge water from all monitoring wells will be stored in 55-gallon DOT-approved drums appropriate for the storage and transportation of hazardous liquids. The drums will be labeled and a drum inventory will be compiled containing the date generated,



contents, and the monitoring well from which the contents originated for each drum. It is proposed to dispose of this water at the SPTCo wastewater treatment facility located on the West Oakland Yard. East Bay Municipal Utility District (EBMUD) will be notified by SPTCo prior to disposal of purge/development water into the SPTCo treatment plant. A copy of the wastewater discharge permit, issued by EBMUD, is included as Appendix A. ✓

*added*

#### 4.2.4 Quality Assurance/Quality Control (QA/QC)

As part of the QA/QC procedures for the first round of ground water sampling, the following will be submitted to the laboratory for analysis in addition to the ground water samples.

- \* One field blank prepared in the field using deionized water transferred through decontaminated well sampling equipment.
- \* One trip blank consisting of deionized water prepared in the laboratory, transported to the sampling location (in the ice chest to be used for the transport of all samples), and transported back to the laboratory along with the other ground water samples.
- \* One duplicate sample collected from 1 of the wells being sampled.

#### 4.3 Task 3 - Preparation of a Summary Report

Approximately 8 weeks after field work is completed, a summary report will be prepared and submitted to Alameda County. This report will include field procedures, analytical results from soil remediation, analytical results from soil borings, and analytical results from the ground water monitoring wells. Provided the soil action levels outlined in Section 3.0 are met, the soil remediation of the 1399 Wood Street property will be considered complete.



#### 4.4 Task 4 - Quarterly Ground Water Sampling

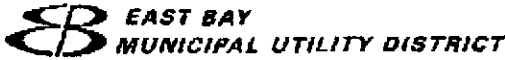
The ground water monitoring wells will be sampled on a quarterly basis for a period of 1 year, at which time continued monitoring will be evaluated. The wells will be sampled using the same protocol described in Section 4.2.3, Task 2.

A report will be prepared after each sampling event and submitted to the appropriate regulatory agencies.



**APPENDIX A**  
**EBMUD WASTEWATER DISCHARGE PERMIT**





MICHAEL J. WALLIS  
DIRECTOR OF WASTEWATER

**CERTIFIED MAIL**  
(Return Receipt Requested)  
Certified Mail No. 374 487 274

August 6, 1993

Mr. James Diel  
Manager of Environmental Field Operations  
Southern Pacific Transportation Company  
1600 Vernon Street  
Roseville, CA 94678

**J.E. DIEL**  
**AUG 13 1993**  
SOUTHERN PACIFIC LINES  
ENVIRONMENTAL AFFAIRS

Dear Mr. Diel:

Re: Wastewater Discharge Permit (Account No. 023-00161)

Enclosed is the Wastewater Discharge Permit for your facility, effective July 1, 1993, through July 1, 1994. Please read the Permit Terms and Conditions and the attached Standard Provisions and Reporting Requirements. You are responsible for complying with all Permit conditions and requirements.

Southern Pacific Transportation Company shall report to the Source Control Division any changes, either permanent or temporary, to the premise or operation that significantly affect either the volume or quality of wastewater discharged or deviate from the Terms and Conditions under which this Permit is granted.

If you have any questions regarding this matter, please contact Robert Newman of the Source Control Division at (510) 287-1641.

Sincerely,

JOSEPH G. DAMAS, JR.  
Manager of Source Control

JGD:RDN:llg

sc3a.119\_93

Enclosures



CERTIFIED MAIL  
(Return Receipt Requested)  
Certified Mail No. 374 487 274

August 6, 1993

Mr. James Diel  
Manager of Environmental Field Operations  
Southern Pacific Transportation Company  
1600 Vernon Street  
Roseville, CA 94678

J.E. DIEL

AUG 13 1993

SOUTHERN PACIFIC LINES  
ENVIRONMENTAL AFFAIRS

Dear Mr. Diel:

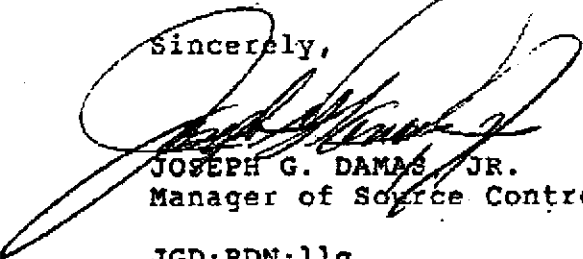
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Sincerely,



JOSEPH G. DAMAS JR.  
Manager of Source Control

JGD:RDN:llg

sc3a.119\_93

Enclosures



Business Name Southern Pacific Transportation Co.

# Water Balance / Strength Summary

**PURPOSE:** This information will enable EBMUD to evaluate the volumes, source(s) and strengths of wastewater discharged to the community sewer.

Permit Number

**023-00161**

**WATER USE AND DISPOSITION:** Show on a separate sheet the method and calculations used to determine the quantities shown in the table.

Figures are:  gallons per calendar day  gallons per working day Number of working days per year \_\_\_\_\_

WATER USE	WATER SUPPLY FROM:			WASTEWATER DISCHARGED TO:						
	EBMUD	OTHER (1)	CODE	SIDE SEWER (gal/day)				OTHER (2)		
	gal/day	gal/day		No. 1	No. 2	No. 3	No. 4	gal/day	CODE	
Sanitary	5,842				5,842					
Processes										
Boiler										
Cooling	938			844				94	c	
Washing	13,648			12,283				1,365	c	
Irrigation										
Product										
Stormwater										
Other (3)	62,051							62,051	b	
Subtotal	82,479			13,127	5,842			63,510		

EBMUD AND OTHER SUPPLY TOTAL **82,479**

ALL SIDE SEWERS TOTAL **18,969**

**NOTES:**

1. Enter the quantity and the appropriate code letter indicating the source:  
a. Well b. Creek c. Stormwater d. Reclaimed Water e. Raw Materials.
2. Enter the quantity and appropriate code letter indicating the discharge point:  
a. Stormdrain b. Rail, Truck, Barge c. Evaporation d. Product
3. Describe Other: Filling of AMTRAK cars, cabooses, and business cars.

**SANITARY DISCHARGE:** Please use the following data from the Uniform Plumbing Code, 1985, to determine sanitary wastewater volumes.

- Field service employees - 5 gallons per employee per day
- Office employees - 20 gallons per employee per day
- Production employees - 25 gallons per employee per day
- Production employees with showers - 35 gallons per employee per day

Include the effect that seasonal and weekend staffing changes may have on determining average volumes.

**AVERAGE WASTEWATER STRENGTH:** Data base must be attached, average self-monitoring and EBMUD data.

CODE	SIDE SEWER (mg/L)			
	No. 1	No. 2	No. 3	No. 4
TSS	323	190		
	42	270		



# WASTEWATER DISCHARGE PERMIT APPLICATION

PERMIT NUMBER  
023-00161

**APPLICANT BUSINESS NAME**

Southern Pacific Transportation Company

**ADDRESS OF PREMISE DISCHARGING WASTEWATER**

515 Bay Street

STREET ADDRESS

Oakland

CITY

94607

ZIP CODE

**BUSINESS MAILING ADDRESS**

One Market Plaza, Room 1007

STREET ADDRESS

San Francisco

CITY

94105

ZIP CODE

**CHIEF EXECUTIVE OFFICER**

D. M. Mohan

NAME

President

TITLE

One Market Plaza

STREET ADDRESS

San Francisco

CITY

94105

ZIP CODE

**PERSON TO BE CONTACTED ABOUT THIS APPLICATION**

James E. Diel

NAME

Mgr Env Field Operations (916) 789-5184

TITLE

PHONE

**PERSON TO BE CONTACTED IN EVENT OF EMERGENCY**

Steve B. Strickland

NAME

(916)789-5214

DAY PHONE

(303)634-2793

NIGHT PHONE

**DOCUMENTATION TO BE RETURNED WITH THE PERMIT APPLICATION:**

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> PROCESS DESCRIPTION        | <input type="checkbox"/> DESCRIPTION OF TREATMENT SYSTEM                                    |
| <input checked="" type="checkbox"/> WATER BALANCE CALCULATIONS | <input checked="" type="checkbox"/> SELF-MONITORING METHOD                                  |
| <input type="checkbox"/> WASTEWATER STRENGTH DATA BASE         | <input checked="" type="checkbox"/> SPILL PREVENTION AND CONTAINMENT PLAN                   |
| <input checked="" type="checkbox"/> SCHEMATIC FLOW DIAGRAM     | <input type="checkbox"/> A LIST OF ALL ENVIRONMENTAL PERMITS<br>(E.G. Air, Hazardous Waste) |
| <input checked="" type="checkbox"/> BUILDING LAYOUT PLAN       | <input type="checkbox"/> OTHER _____<br>SPECIFY   |

**PROVISIONS**

Applicant will comply with the EBMUD Wastewater Control Ordinance and all applicable rules and regulations.

Applicant will report to EBMUD, Wastewater Department any changes, permanent or temporary, to the premise or operations that significantly change the quality or volume of the wastewater discharge or deviation from the terms and conditions under which this permit is granted.

**CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that the qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

James E. Diel

NAME (See certification requirements on reverse)

SIGNATURE

Mgr of Environmental Field Operations

TITLE

July 14, 1993

DATE



SPTCo  
BUSINESS NAME

# Process Description

<b>PURPOSE</b> - The Process Description is intended to provide a description of the primary business activities and the substances which may enter into the wastewater from the business activity.	<b>EBMUD USE</b>	
	Permit Number	023-00161
<b>BUSINESS ACTIVITY</b>	Business Classification Code	
Railroad equipment repair, servicing, and cleaning.	4011	

TYPE OF PRODUCT OR BRAND NAME	QUANTITIES	
	Past Calendar Year	Estimated This Year
Locomotives Serviced/Fueled	7/day	7/day
Locomotives Repaired	3/day	3/day
Freight Cars Repaired/Serviced	33/day	33/day
Passenger Cars Cleaned/Serviced/Repaired	25/day	30/day

PROCESS DESCRIPTION <small>List all wastewater generating operations</small>	CHARACTERISTICS <small>List all substances that may be discharged to the sewer.</small>
Example: Rinsewater from electroplating bath	Cr, Cu, Ni, Zn
Example: Washdown of milk filling area	fatty acids, milk
Detergents, steam and water are used for cleaning railroad rolling stock.	Diesel Fuel #2
Wastewater goes through primary treatment prior to discharge to POTW. Service and fueling areas also drain to pre-treatment.	Lubricating oils
	Greases
	Mild Alkaline Cleaner (SP-2001)
	Phosphoric Acid Cleaner (FO-577)

**DISCHARGE PERIOD**

a. Time of day from 7:00am to 3:00pm

b. Days of the week as needed

**BATCH DISCHARGE(S)**

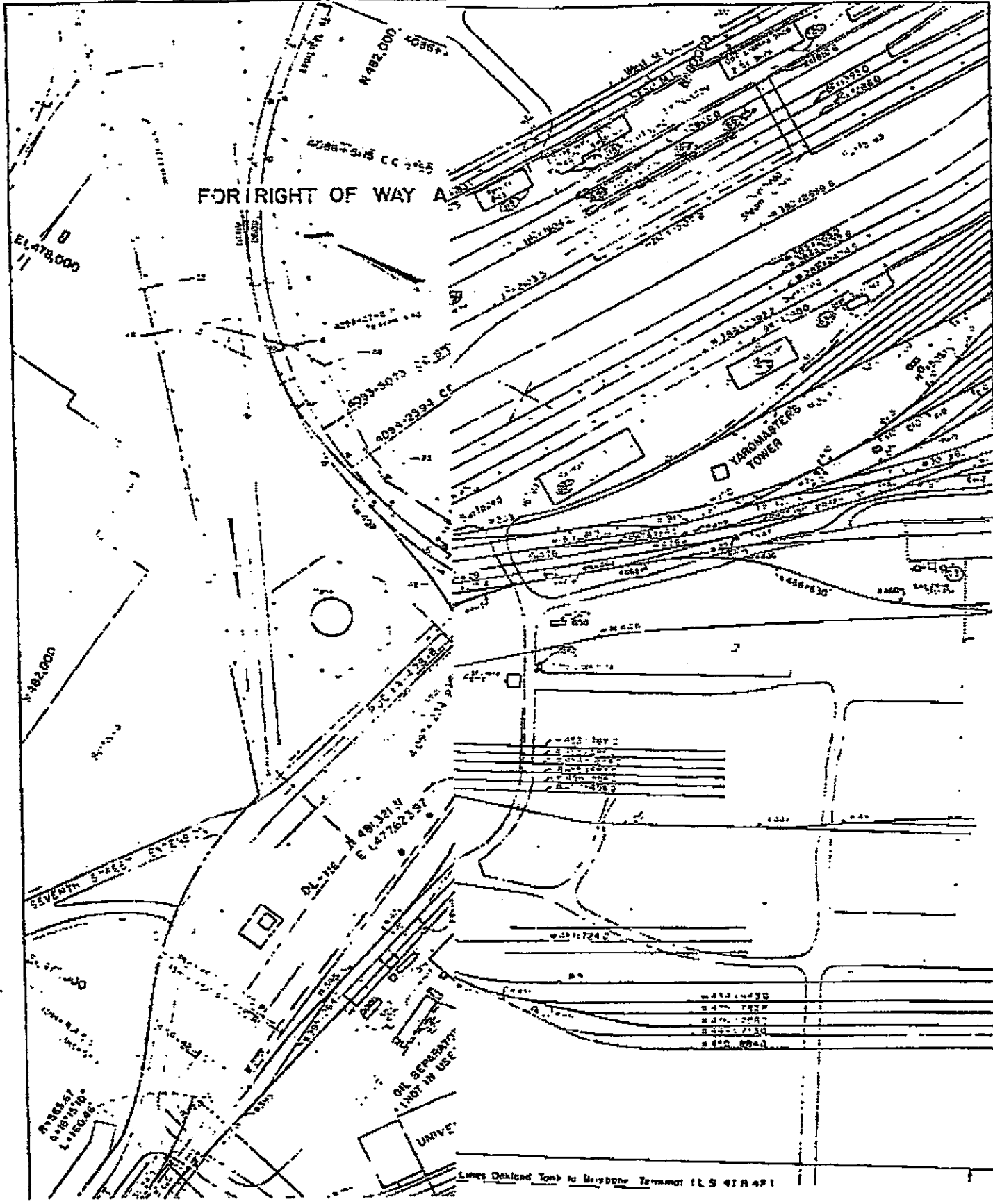
a. Day(s) of the week \_\_\_\_\_ b. Time(s) of the day \_\_\_\_\_

c. Volume discharged \_\_\_\_\_ d. Rate of discharge \_\_\_\_\_

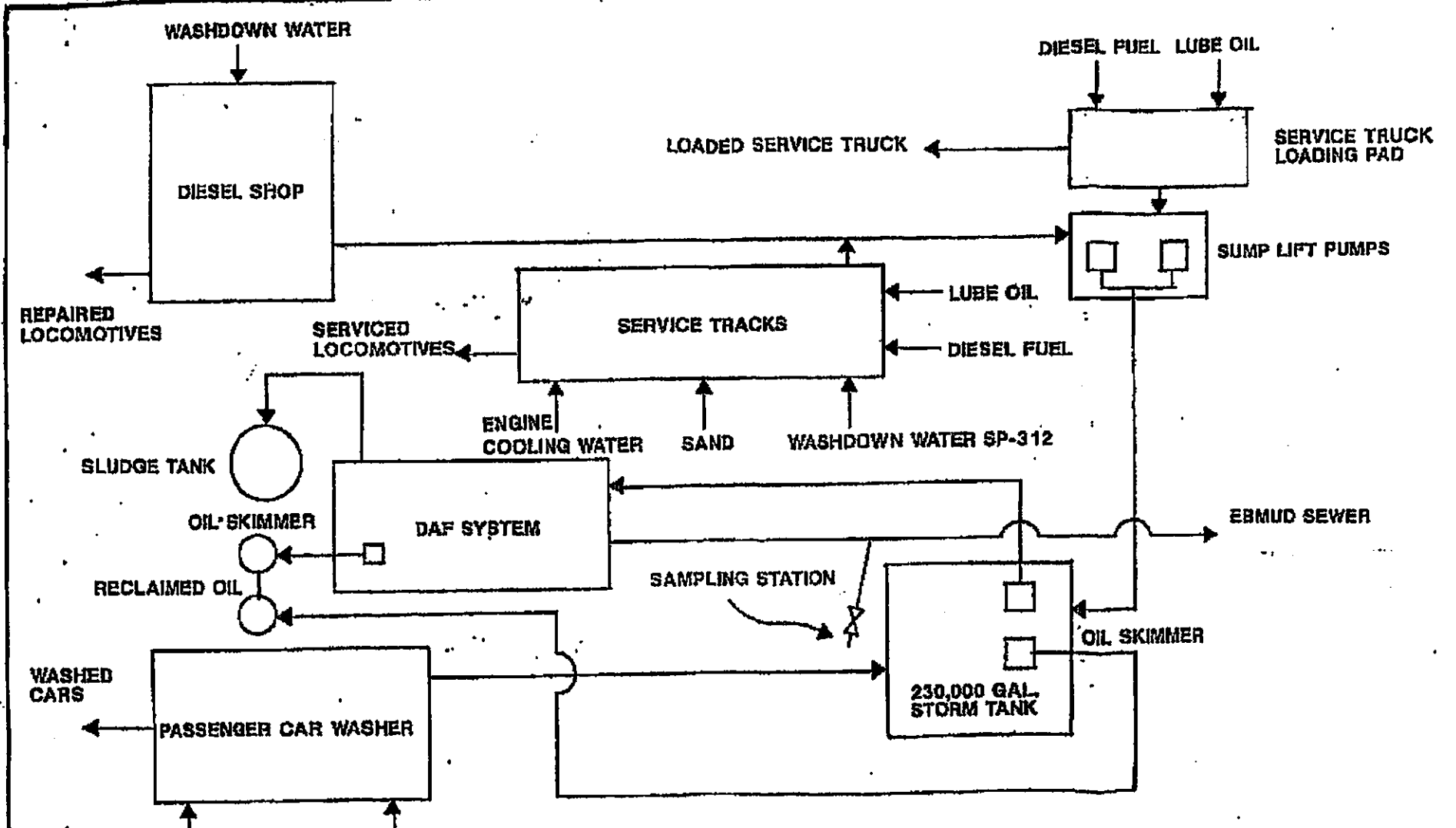
**OTHER WASTES** - List the type and volume of liquid waste and sludges removed from the premises by means other than the community sewer.

WASTE REMOVED BY <small>(Name, address and State Transporter ID No.)</small>	TYPE OF WASTE <small>(Example: alkaline cleaners, organic solvents, treatment sludge)</small>	WASTE ID. No.	VOLUME <small>(liters/gal)/mo</small>
PRC Patterson 13331 N. Hwy 33 Patterson, CA 95363 Transporter ID- 206622	Scrap oil	221	3231gal mo.

SD-31 • 2/88



FILE 9 34 9:57 FROM WHERESERVICE CHK



**SP ENVIRONMENTAL SYSTEMS**

PROJECT NO.: \_\_\_\_\_ DATE: JUNE 30 1992

DRAWN BY: KOCHANEK CHECKED BY: \_\_\_\_\_

**OAKLAND RAILYARD SCHEMATIC FLOW DIAGRAM**

FILE 9 34



# WASTEWATER DISCHARGE PERMIT

Terms and Conditions

SOUTHERN PACIFIC TRANSPORTATION COMPANY

Account No. 023-00161

Page 1

## GENERAL CONDITIONS

- I. SOUTHERN PACIFIC TRANSPORTATION COMPANY shall comply with all items of the attached STANDARD PROVISIONS AND REPORTING REQUIREMENTS, 11/92 revision.
- II. SOUTHERN PACIFIC TRANSPORTATION COMPANY shall practice waste minimization techniques to reduce or eliminate pollutants released from the facility. Wastes remaining should be recycled whenever possible.
- III. SOUTHERN PACIFIC TRANSPORTATION COMPANY shall review its waste generating process and practices to identify waste minimization opportunities such as:
  - o Improved operating practices,
  - o Material substitution,
  - o Product substitution, and
  - o Technology and process modification.

Documentation of the identified waste minimization opportunities shall be maintained at the facility and updated periodically to reflect any actions implemented to minimize wastes. The documentation must be made available for review upon request. Documentation that has been required by another agency will be acceptable.

## COMPLIANCE REQUIREMENTS

- I. SOUTHERN PACIFIC TRANSPORTATION COMPANY shall maintain a current accidental spill prevention plan to eliminate or minimize the potential for an accidental discharge of pollutants into the sanitary sewer system. The spill plan shall contain a response procedure which is posted in the work areas where spills are most likely to occur. The response procedure shall be according to Section B paragraph I. of the STANDARD PROVISIONS AND REPORTING REQUIREMENTS, rev. 11/92.
- II. Southern Pacific Transportation Company shall maintain offhaul reports that include copies of uniform hazardous waste manifests, documenting the quantity and types of hazardous wastes removed to a proper disposal site. These reports shall be made available to EBMUD upon request.

## REPORTING REQUIREMENTS

- I. Southern Pacific Transportation Company shall submit a report to the District summarizing wastewater discharged from the wastewater treatment unit from July 1, 1992 to June 30, 1993. The report shall be submitted to the District by September 1, 1993.

80-307201

EAST BAY MUNICIPAL UTILITY DISTRICT



# WASTEWATER DISCHARGE PERMIT

## Terms and Conditions

SOUTHERN PACIFIC TRANSPORTATION COMPANY  
Account No. 023-00161  
Page 2

### WASTEWATER DISCHARGE LIMITATIONS

Southern Pacific Transportation Company shall not discharge wastewater from a side sewer into the community sewer if the strength of the wastewater exceeds the following limits:

REGULATED PARAMETER	DAILY MAXIMUM
Arsenic	2 ng/L
Cadmium	1 ng/L
Chlorinated Hydrocarbons (Total Identifiable)	0.5 ng/L
Chromium	2 ng/L
Copper	5 ng/L
Cyanide	5 ng/L
Iron	100 ng/L
Lead	2 ng/L
Mercury	0.05 ng/L
Nickel	5 ng/L
Oil and Grease	100 ng/L
Phenolic compounds	100 ng/L
Silver	1 ng/L
Zinc	5 ng/L
pH (not less than)	5.5 S.U.
Temperature	150 °F

14827008





# WASTEWATER DISCHARGE PERMIT

Terms and Conditions

SOUTHERN PACIFIC TRANSPORTATION COMPANY  
Account No. 023-00161  
Page 3

## SELF-MONITORING REPORTING REQUIREMENTS

- I. SOUTHERN PACIFIC TRANSPORTATION COMPANY shall obtain representative samples of the wastewater discharge. The sampling shall be performed according to the frequency outlined below and according to the methods and requirements found in STANDARD PROVISIONS AND REPORTING REQUIREMENTS, 11/92 revision.
- II. The Self-monitoring Report shall:
  1. Meet signatory requirements.
  2. Include the laboratory results.
  3. Include the chain-of-custody documentation.
  4. Provide effluent meter readings at the start and stop of the composite sample period, the date and time meter was read, and the total number of gallons discharged to the side sewer.
- III. The sampling location shall be the sampling valve on the effluent line between the treatment unit and side sewer. The sampling location shall be referred to as Side Sewer No. 1.
- IV. Sample the discharge to Side Sewer No. 1 and submit a Self-monitoring Report within thirty days of sampling, on one representative operating day during the weeks indicated below:
  1. September 20, 1993
  2. December 6, 1993
  3. February 21, 1994
  4. May 3, 1994
- V. Parameters to be monitored and sample types shall be:
  1. CODF - time composite sample.
  2. TSS - time composite sample.
  3. Oil and Grease (Total Recoverable) - grab sample.
- VI. Time composite samples shall consist of a composite of equal volume hourly grab samples obtained during the discharge period. Grab sample for oil and grease shall be obtained during the discharge period.
- VII. All samples must be obtained using containers, collection methods, preservation techniques, holding times and analytical methods set forth in 40 CFR Part 136, except for the 8000 series methods, which are found in U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Test Methods for Evaluating Solid Waste, SW-846.

80-50728H

EAST BAY MUNICIPAL UTILITY DISTRICT



# WASTEWATER DISCHARGE PERMIT

Terms and Conditions

SOUTHERN PACIFIC TRANSPORTATION COMPANY  
 Account No. 023-00161  
 Page 4

## CALCULATION OF WASTEWATER DISPOSAL SERVICE CHARGES

Total Suspended Solids (TSS) = \$0.211 /pound  
 Chemical Oxygen Demand-Filtered (CODF) = \$0.124 /pound  
 Volume = \$0.299 /hundred cubic feet (\$/Ccf)

Step 1: Convert concentrations of TSS and CODF to \$/Ccf for each side sewer.  
 The concentration multiplied by 0.00624 and rate/pound equals \$/Ccf.  
 The side sewer rate is the sum of TSS + CODF + Volume.

	Side Sewer 1		Side Sewer 2	
	mg/L	\$/Ccf	mg/L	\$/Ccf
TSS	42	0.055	270	0.355
CODF	323	0.250	190	0.147
Volume		0.299		0.299
Side sewer rate		\$0.604		\$0.802

Step 2: Determine the rate to be applied to each water meter. The meter rate is the sum of the individual side sewer contributions.

Rate for	Side Sewer 1		Side Sewer 2		Total
Side Sewer	0.604	\$/Ccf	0.802	\$/Ccf	for meter
Meter No.	%	\$/Ccf	%	\$/Ccf	\$/Ccf
01495006	42.0%	0.254	58.0%	0.465	0.719
01455174	0.0%	0.000	100.0%	0.802	0.802
01246338	100.0%	0.604	0.0%	0.000	0.604
02564940	100.0%	0.604	0.0%	0.000	0.604

Step 3: Wastewater Charges are found by multiplying the metered volume by the percent discharged, plus any fixed volume, all multiplied by the rate.

Account Number	Meter Number	Units	Conversion Factor	Percent Discharged	Fixed Volume Ccf/month	Meter Rate \$/Ccf
023-00161	01495006	Ccf	1.0	60.0%	0	0.719
023-00371	01455174	Ccf	1.0	3.9%	0	0.802
023-00391	01246338	Ccf	1.0	90.0%	40	0.604
023-00421	02564940	Ccf	1.0	90.0%	0	0.604

80-007 891



# WASTEWATER DISCHARGE PERMIT

Terms and Conditions

SOUTHERN PACIFIC TRANSPORTATION COMPANY

Account No. 023-00161

Page 5

## MONITORING and TESTING CHARGES

Total EBMUD Inspections Per Year: 4 @ \$510.00 each = \$2,040.00 /year

Total Analyses Per Year:

Parameter	Tests per year	Charge per test	Total Charge per year
pH	4	\$23.00	\$92.00
TSS	4	\$23.00	\$92.00
CODP	4	\$30.00	\$120.00
Oil & Grease (IR)	4	\$115.00	\$460.00
EPA 624	2	\$156.00	\$312.00
Metals	2	\$111.00	\$222.00

Monitoring and Testing Charge = \$3,338.00 /year  
\$278.17 /month



# WASTEWATER DISCHARGE PERMIT

## Terms and Conditions

SOUTHERN PACIFIC TRANSPORTATION COMPANY  
Account No. 023-00161  
Page No. 6

### FEES AND WASTEWATER CHARGES

The following fees and charges are due when billed by the District:

Permit Fee	\$2,260.00
Monthly Monitoring Charges	\$278.17

### WASTEWATER DISPOSAL SERVICE CHARGE

Account Number	Meter Number	Units	Conversion Factor	Percent Discharged	Fixed Volume Ccf/month	Meter Rate \$/Ccf
023-00161	01495006	Ccf	1.0	60.0%	0	\$0.719
023-00371	01455174	Ccf	1.0	3.9%	0	\$0.802
023-00391	01246338	Ccf	1.0	90.0%	40	\$0.604
023-00421	02564940	Ccf	1.0	90.0%	0	\$0.604

This Permit may be amended to include changes to rates and charges which may be established by the District during the term of this Permit.

### AVERAGE WASTEWATER DISCHARGE \*

LAST 12 MONTHS	PRECEDING 12 - 24 MONTHS
18,969	58,420

\* Gallons per calendar day.

### AUTHORIZATION

The above named Applicant is hereby authorized to discharge wastewater to the community sewer, subject to said Applicant's compliance with EBMUD Wastewater Control Ordinance, compliance conditions, reporting requirements and billing conditions.

Effective Date: July 1, 1993

Expiration Date: July 1, 1994

*[Signature]*  
MANAGER, WASTEWATER DEPARTMENT

DATE

EAST BAY MUNICIPAL UTILITY DISTRICT

30-502291

Samples may be obtained either manually using a glass jar or automatically using any one of a number of automatic sampling devices available for such purposes. For both the waste strength characterization and self-monitoring reports, samples must be composited over a discharge day, preserved, and analyzed by a laboratory approved by the California State Department of Public Health, unless otherwise specified by EBMUD.

#### Compositing

Composites are samples obtained by mixing together equal volumes of two or more individual samples taken by hand or taken by automatic samplers which are obtained at fixed, periodic time intervals over the period of wastewater discharge for each day. The maximum time interval between samples is every hour for a waste strength characterization and every two hours for self-monitoring reports.

#### Preservation

The District will inform you of the tests which must be run for your discharge. For self-monitoring reports, the tests are specified in Part 6.7 of your Permit. For the waste strength characterization, you will be advised of the information needed when the application is transmitted to you.

All samples must be refrigerated at 4°C (39°F) until the specified tests are run. In addition, if samples are not analyzed within 24 hours, you must determine and use the proper preservation methods in order to have an acceptable sample for analysis.

A commercial laboratory may provide you with assistance by providing sampling containers and if necessary preservatives and preservation advice.

The following points must be considered while sampling:

- 1) Because of preservation requirements, it may be necessary to obtain more than one composite sample for each day.
- 2) If hand grabs are taken, the sample bottle/jar should be thoroughly washed, rinsed, and dried between samples, or a separate bottle should be used.
- 3) Oil and grease analysis should be run on a grab sample (not a composite) taken in a glass bottle or jar and obtained at a time during the discharge period acceptable to EBMUD.
- 4) If pH monitoring is required, a pH reading should be taken immediately for each grab sample which is used to make up the composite, and the individual readings should be reported.
- 5) Contact the laboratory which will analyze your samples to determine how much sample volume is necessary for each test. Generally, one liter or quart of sample is sufficient.
- 6) Use caution when handling any preservation solutions.

WCS:dm-6/17/81