

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



SENT
02-03-06

January 27, 2006

Mr. Mike Grant
Union Pacific Railroad
49 Stevenson Street, Suite 1050
San Francisco, CA 94105

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

Dear Mr. Grant:

Subject: Fuel Leak Site Case Closure; Southern Pacific Transportation Company, 1450 Sherwin Avenue, Emeryville, CA; Case No. RO0000441

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

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

- Residual concentrations of up to 28,000 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons as Bunker C fuel remain in soil at the site.
- Residual concentrations of up to 6,100 micrograms per liter ($\mu\text{g/L}$) of total petroleum hydrocarbons as Bunker C fuel remain in groundwater at the site.
- The residual contamination is present at less than 10 feet below ground surface and consists of longer chain petroleum hydrocarbons that are likely to be recalcitrant and remain in soils for a long period of time but are relatively immobile and insoluble.
- The site is to be re-evaluated due to nuisance and odor concerns if land use changes in the future.

If you have any questions, please call Jerry Wickham at (510) 567-6791. Thank you.

Sincerely,

Donna L. Drogos, P.E.
LOP and Toxics Program Manager

Enclosures:

1. Remedial Action Completion Certificate
2. Case Closure Summary

cc:

Ms. Cherie McCaulou (w/enc)
SF- Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Mr. Toru Okamoto (w/enc)
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Mr. Ignacio Dayrit
City of Emeryville
1333 Park Avenue
Emeryville, CA 94608-3517

Ms. Debbie Lind
Environmental Resources Management
1777 Botelho Drive, Suite 260
Walnut Creek, CA 94596

Jerry Wickham (w/orig enc), D. Drogos (w/enc), R. Garcia (w/enc)

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REMEDIAL ACTION COMPLETION CERTIFICATE

Dear Mr. Grant:

Subject: Fuel Leak Site Case Closure; Southern Pacific Transportation Company, 1450 Sherwin Avenue, Emeryville, CA; Case No. RO0000441

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25299.37 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code.

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

Sincerely,

Mee Ling Tung
Director
Alameda County Environmental Health

**CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM**

I. AGENCY INFORMATION

Date: January 18, 2006

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6791
Responsible Staff Person: Jerry Wickham	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Southern Pacific Transportation Company		
Site Facility Address: 1450 Sherwin Avenue, Emeryville, CA 94608		
RB Case No.: 01-2037	Local Case No.: 5016	LOP Case No.: RO0000441
URF Filing Date: 09/01/94	SWEEPS No.: ---	APN: 049-1041-006-00
Responsible Parties	Addresses	Phone Numbers
Mike Grant	Union Pacific Railroad, 49 Stevenson Street, Suite 1050, San Francisco, CA 94105	415-541-7021

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1 through 3	6,500 gallons	Bunker C fuel	Removed	August 3, 1994
4	5,725 gallons	Bunker C fuel	Removed	August 3, 1994
5 and 6	270 gallons	Motor oil	Removed	July 18 to August 2, 1995
Piping			Removed	August 3, 1994; no piping reported for motor oil tanks

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Unknown. No holes or cracks observed during removal of the four Bunker C tanks. No report of observations for two motor oil tanks.	
Site characterization complete? Yes	Date Approved By Oversight Agency: ----

Monitoring wells installed? Yes; as part of investigation for adjacent Sherwin Williams site	Number: 6	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 3.6 feet	Lowest Depth: 8'	Flow Direction: North to Northwest at 0.005
Most Sensitive Current Use: Discharge to surface water		

Summary of Production Wells in Vicinity:	
Based on a well survey conducted for the adjacent Sherwin Williams property (1450 Sherwin Avenue), the nearest water supply well is approximately 450 feet east of the site and was drilled to a depth of 260 feet on the Sherwin Williams facility. The well is abandoned but it is unknown if the well was properly decommissioned. The next nearest well is an irrigation well drilled to a depth of 487 feet and located approximately 600 feet south of the site. No water supply wells are located downgradient of the site.	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: Temescal Creek is approximately 400 feet north of the site.
Off-Site Beneficial Use Impacts (Addresses/Locations): No	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	6 tanks	Transported to H&H Ship Service Company	August 3, 1994
Piping	15 cubic yards	Transported by railroad to East Carbon Disposal Landfill, Utah	August 3, 1994 for Bunker C tanks; no piping observed on motor oil tanks
Free Product	30,450 gallons of Bunker C and water	Transported by tanker to Enviropur West, 13331 N. Highway 33, Patterson, CA 95363	July 25 to July 27, 1994
Soil	250 cubic yards	Transported by railroad to East Carbon Disposal Landfill, Utah	August 1994
Groundwater	30,450 gallons of Bunker C and water	Transported by tanker to Enviropur West, 13331 N. Highway 33, Patterson, CA 95363	July 25 to July 27, 1994

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
 (Please see Attachments 1 through 5 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	18	18	150(1)	150(1)
TPH (Diesel)	4,400	4,400	6,100(2)	6,100(2)
TPH (Bunker C)	28,000	28,000	6,100(1)	6,100(1)
TPH (Motor Oil)	1,700	1,400	<590	<590
Oil & Grease	<5	<5	Not Analyzed	Not Analyzed
Benzene	<0.005	<0.005	1.2	1.2
Toluene	<0.005	<0.005	0.8	0.8
Ethylbenzene	<0.005	<0.005	<0.005	<0.005
Xylenes	<0.005	<0.005	2.4	2.4
Heavy Metals	33(3)	33(3)	28(4)	28(4)
MTBE	Not Analyzed	Not Analyzed	<0.002(5)	<0.002(5)
Other (8240/8270)	1.4(6)	1.4(6)	<1(7)	<1(7)

- (1) Detected in grab groundwater sample from tank pit excavation; concentrations may not be representative of petroleum hydrocarbons in dissolved phase.
- (2) Silica gel cleanup was not performed on this sample. TPH as diesel concentrations were typically significantly lower after silica gel cleanup of groundwater samples.
- (3) Chromium = 33 mg/kg; cadmium = <1 mg/kg; and lead = 6.7 mg/kg.
- (4) Lead = 28 µg/L; cadmium = <5 µg/L; and chromium = <10 µg/L.
- (5) No other fuel oxygenates analyzed.
- (6) Phenanthrene = 1.4 mg/kg; fluoranthene = 0.99 mg/kg; pyrene = 0.75 mg/kg; acenaphthene = 0.54 mg/kg; fluorene = 0.43 mg/kg; anthracene = 0.37 mg/kg. No other VOCs or SVOCs detected.
- (7) No SVOCs or VOCs other than BTEX detected.

Site History and Description of Corrective Actions:

According to Southern Pacific Transportation Company (SPTC) records, a fuel and water station was constructed at the site in 1930 to service steam locomotives. The station included a 17,000-gallon water tank, a pump house, and four USTs containing Bunker C fuel. It is not known when the station was abandoned or demolished. On January 28, 1994, contractors grading an access road to the adjacent Sherwin Williams plant encountered a UST containing highly viscous petroleum between the Sherwin Williams property and the SPTC railroad tracks. Subsequent excavation of the site found four former 6,500-gallon railcar tankers that were converted to USTs and interconnected with piping.

In July 1994, using steam, 30,450 gallons of Bunker C mixed with water was removed from the tanks. An additional 250 cubic yards of soil was excavated from soil around the tanks. Due to physical constraints of the railroad tracks to the west and a concrete slab and slurry wall to the east, the excavation could not be expanded further. Eight confirmation soil samples and two grab groundwater samples were collected from the excavation. Based on observations and the results of the confirmation samples, soil containing Bunker C was left in place on all sides of the excavation with the highest concentrations detected in the eastern sidewall of the excavation.

In July 1995 during construction of a bentonite slurry wall along the western boundary of the Sherwin Williams property (1450 Sherwin Avenue), two additional USTs were encountered. Product samples from the tanks were analyzed and the product was characterized as motor oil. VOCs, metals, and PCBs were not identified as chemicals of concern in the product. After the tanks were removed, approximately 5 cubic yards of discolored soil was excavated. The extent of excavation was limited by the railroad tracks to the west and the bentonite slurry wall to the east. The floor of the excavation was approximately 5 feet below ground surface. Field observations and the results of confirmation soil sampling indicate that TPH-impacted soil remains in place on the north, west, and south sides of the excavation with the highest concentrations in the west sidewall. Both excavations were backfilled with clean fill and covered with asphalt or railroad ballast.

Several phases of soil and groundwater investigation have been conducted since 1989 for the Sherwin Williams facility, which is immediately east of the site. These investigations have found that soil and groundwater on the Sherwin Williams facility were impacted by volatile organic compounds (VOCs), TPH, and arsenic. Thirteen monitoring wells have been installed in the shallow aquifer as part of the investigations. One monitoring well is located between the four former Bunker C tanks and two motor oil tanks. The five remaining monitoring wells are downgradient or crossgradient from the former tanks. Groundwater monitoring for the Sherwin Williams site is under regulatory oversight of the San Francisco Regional Water Quality Control Board. Monitoring data from these wells have been incorporated into the investigation of the USTs on the SPTC property. The Sherwin Williams facility is upgradient from the SPTC UST site and is likely a contributing source of petroleum hydrocarbons in groundwater to the SPTC site. A bentonite slurry wall was constructed along the western boundary of the Sherwin Williams property to reduce downgradient contaminant migration.

TPH as diesel has been detected in grab groundwater samples collected during the 1994 tank removal and during ongoing groundwater monitoring using monitoring wells LF-11, LF-20, LF-21, LF-23, LF-24, and LF-25. Most of the analytical results for TPH as diesel have not matched the diesel chromatographic pattern. In addition, analyses of the samples after silica gel cleanup detected lower concentrations of TPH as diesel (not detected to 180 µg/L). Silica gel cleanup generally removes polar compounds, which may not be petroleum hydrocarbons. TPH as motor oil was not detected in groundwater.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes No		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes No		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
Site Management Requirements: Case closure for the fuel leak site is granted for commercial land use. If a change in land use to residential or other conservative scenario occurs at this property, Alameda County Environmental Health must be notified and the case needs to be re-evaluated. The site has been entered into the City of Emeryville's OSIRIS (One Stop Interactive Resource Information System) Map Server.		
Should corrective action be reviewed if land use changes? Yes		
Was a deed restriction or deed notification filed? No		Date Recorded: --
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 6
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: None		

V. ADDITIONAL COMMENTS, DATA, ETC.

<p>Considerations and/or Variances:</p> <p>Overexcavation of contaminated soils during tank removals at the site was limited due to physical constraints of the railroad tracks to the west and a slurry wall to the east. Therefore, residual soil and groundwater contamination by Bunker C fuel and motor oil remains at the site. Residual soil contamination is present in soil less than 10 feet below ground surface. The residual contamination consists of longer chain petroleum hydrocarbons that are likely to be recalcitrant and remain in soils for a long period of time but are relatively immobile and insoluble. Therefore, the petroleum hydrocarbons are not likely to migrate from the site. The residual contamination is currently capped by asphalt, gravel, or railroad ballast. Due to the residual heavy hydrocarbons, the site should be re-evaluated due to nuisance and odor concerns if land use changes.</p> <p>Conclusion:</p> <p>Alameda County Environmental Health staff believe that the low levels of residual contamination at the site do not pose a significant threat to water resources, public health and safety, and the environment based upon the information in our files to date. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site.</p>

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Jerry Wickham	Title: Hazardous Materials Specialist
Signature: <i>Jerry Wickham</i>	Date: 01/18/06
Approved by: Donna Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature: <i>Donna Drogos</i>	Date: 01/19/06

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB:
Signature: <i>Ch McCaulou</i>	Date: 1/25/06

VIII. MONITORING WELL DECOMMISSIONING

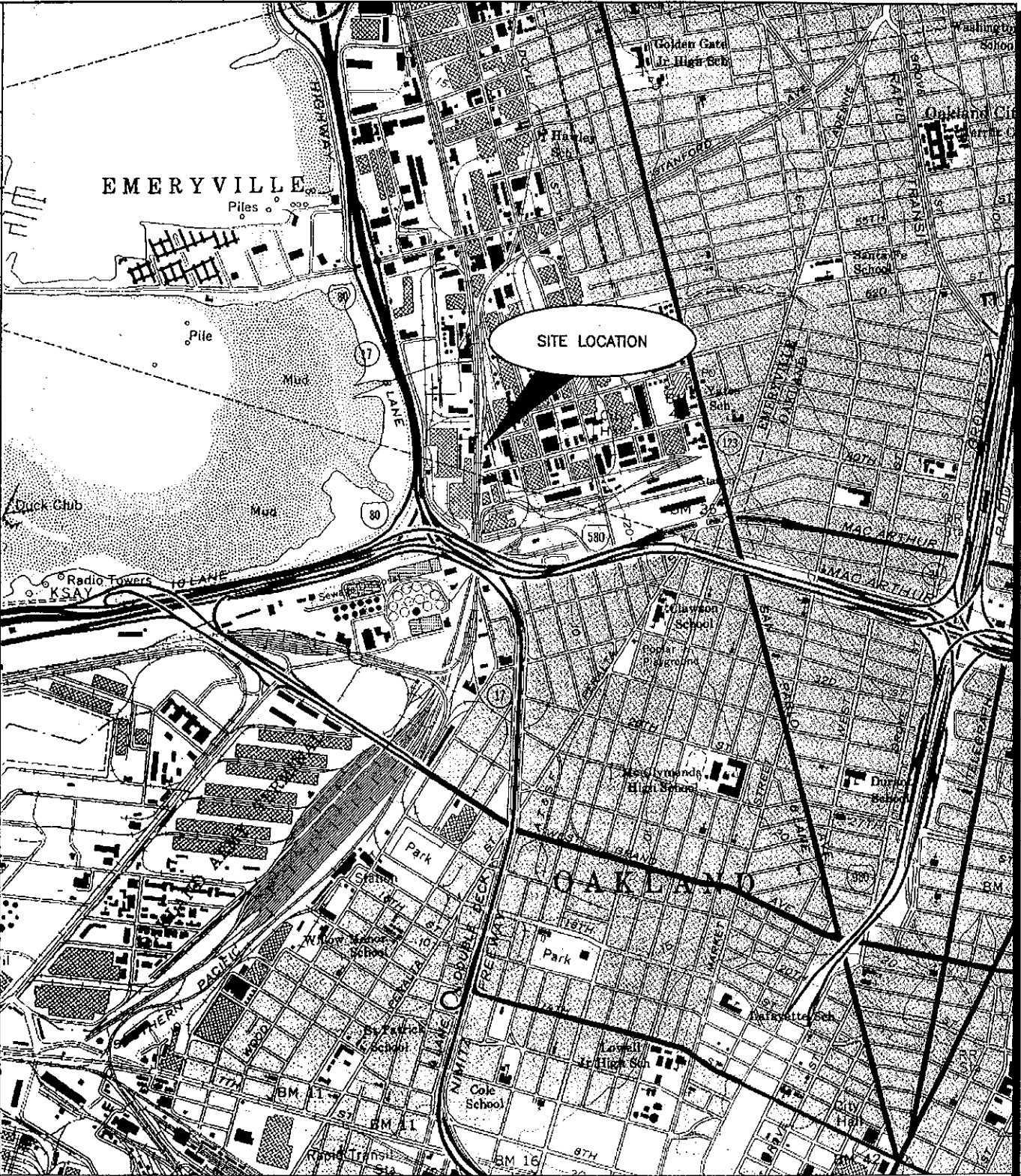
Data Requested by ACEH: Not Applicable	Date of Well Decommissioning Report: Not Applicable	
All Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 6
Reason Wells Retained: Wells were installed and are used for monitoring adjacent Sherwin Williams property.		
Additional requirements for submittal of groundwater data from retained wells: None.		
ACEH Concurrence - Signature: <i>Jay Wickham</i>	Date: 1/26/06	

Attachments:

1. Location Map, Site Plan, 1994 UST Excavation, and Excavation of USTs and Soil Sampling Locations (4 pages)
2. June 1997 Groundwater Contour Map and Groundwater Elevation Contours - January 8, 1999 (2 pages)
3. Distribution of TPH in Groundwater (June 1997) and Total Petroleum Hydrocarbons as Diesel- July 1999 (2 pages)
4. 1994 UST Excavation Data and 1995 UST Excavation Data (2 pages)
5. Groundwater Elevation Data and Monitoring Well Analytical Summary (2 pages)

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.

Project No. 8057.03
 Date: 07/09/02
 Drawn By: D. Ludlam
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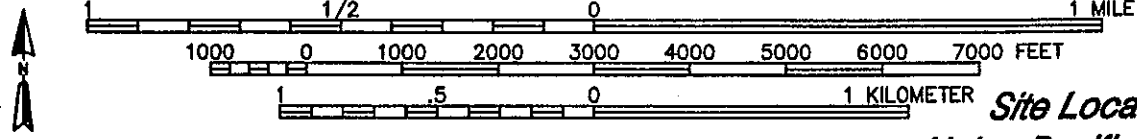


Figure 1
Site Location Map
Union Pacific Railroad
1450 Sherwin Street

References:
 U.S.G.S. 7.5 Minute Series (Topographic) Quadrangle,
 Oakland West, California
 Dated: 1959; Photorevised 1980

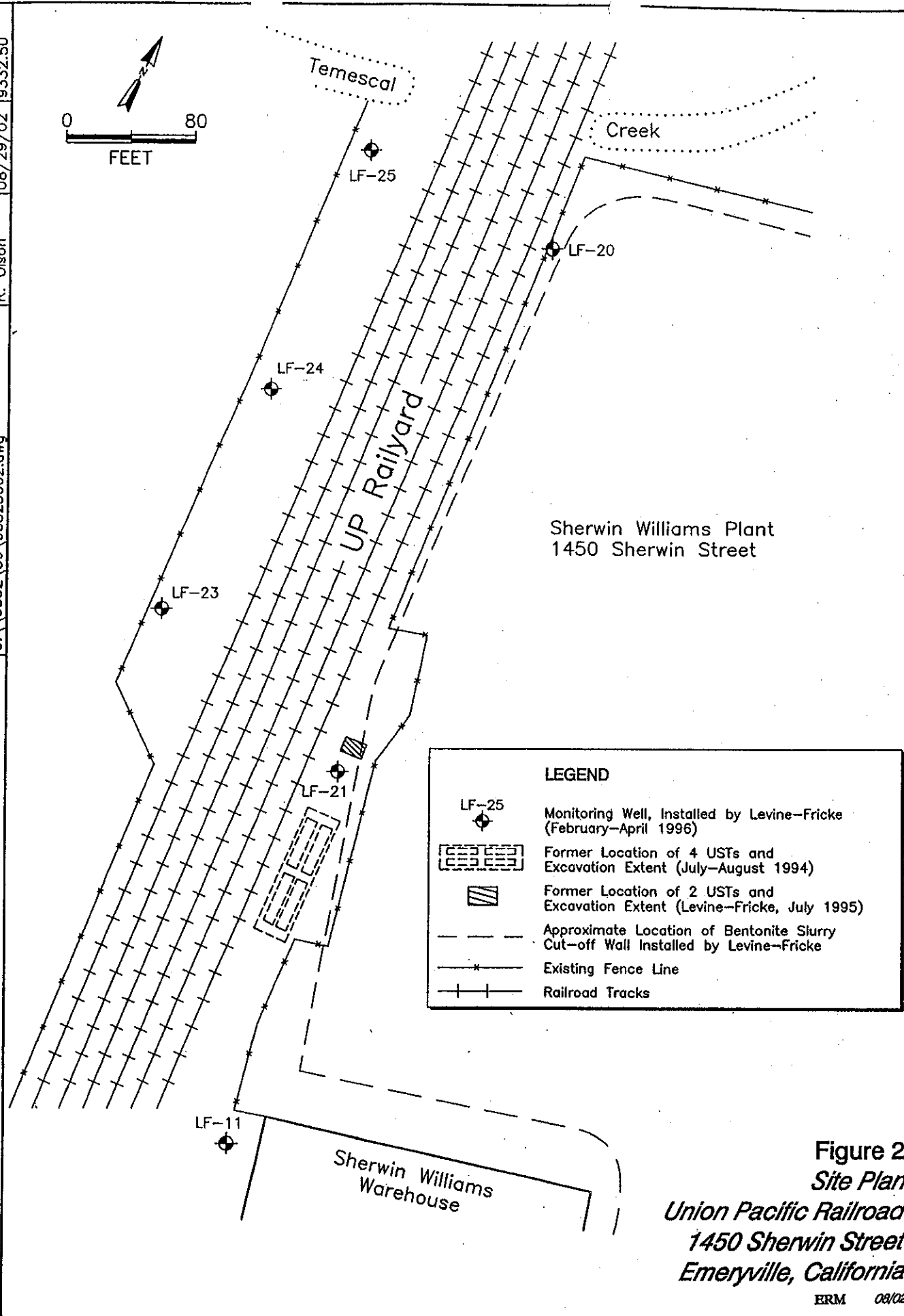
ATTACHMENT 1

Project No.
9332.50

Date:
08/29/02

Drawn By:
R. Olson

CAD File:
G:\9332\50\93325002.dwg



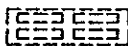
Sherwin Williams Plant
1450 Sherwin Street

LEGEND

LF-25



Monitoring Well, Installed by Levine-Fricke
(February-April 1996)



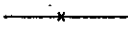
Former Location of 4 USTs and
Excavation Extent (July-August 1994)



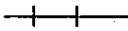
Former Location of 2 USTs and
Excavation Extent (Levine-Fricke, July 1995)



Approximate Location of Bentonite Slurry
Cut-off Wall Installed by Levine-Fricke



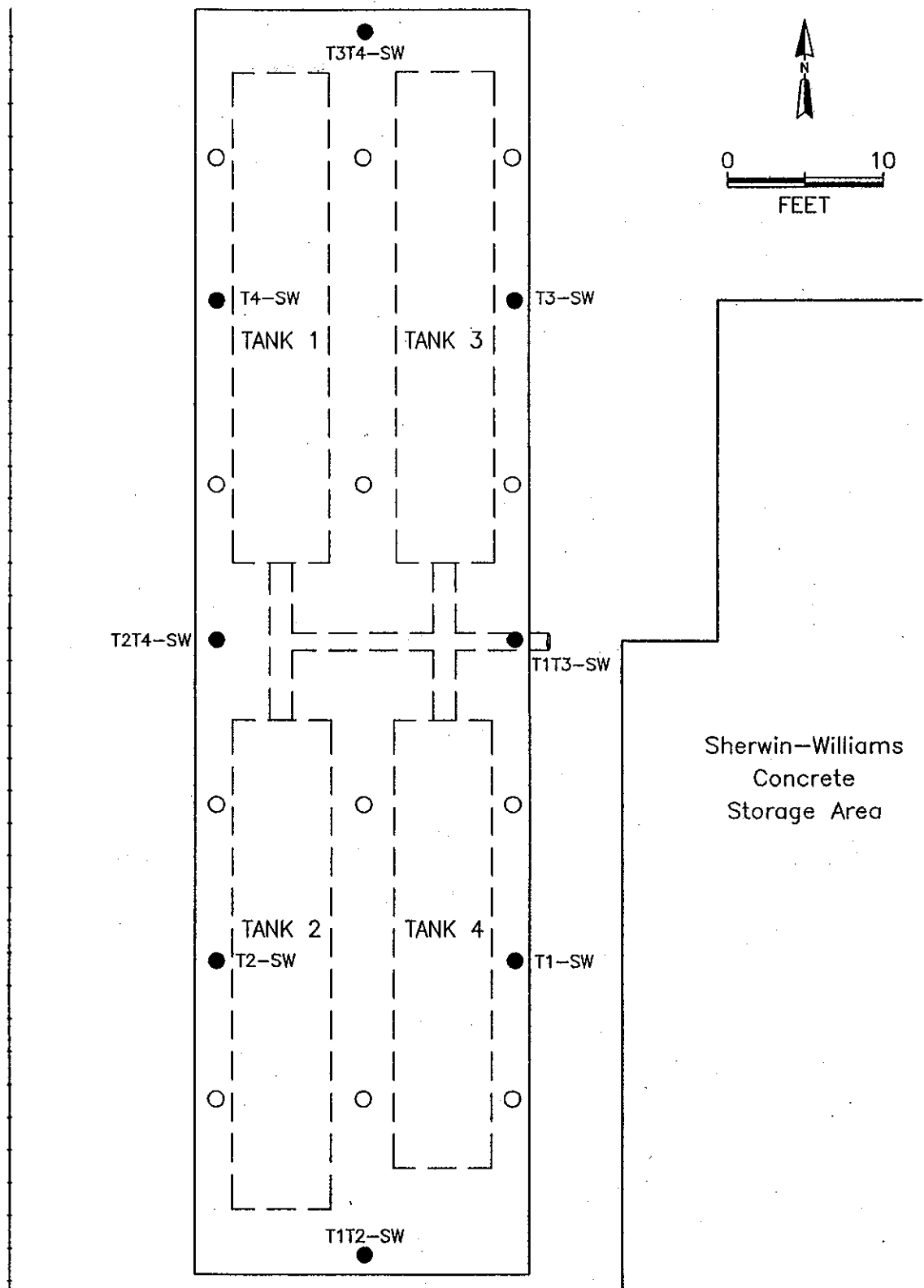
Existing Fence Line



Railroad Tracks

Figure 2
Site Plan
Union Pacific Railroad
1450 Sherwin Street
Emeryville, California

CAD File: G:\9332\50\93325001.dwg
 Drawn By: R. Olson
 Date: 08/29/02
 Project No: 9332.50



LEGEND

- 12" Diameter Wooden Piling
- Sampling Location
- T1-SW Sampling Number
- +— Rail Spur Line

Note: Soil samples taken in sidewall of excavation approximately 6" above ground water.

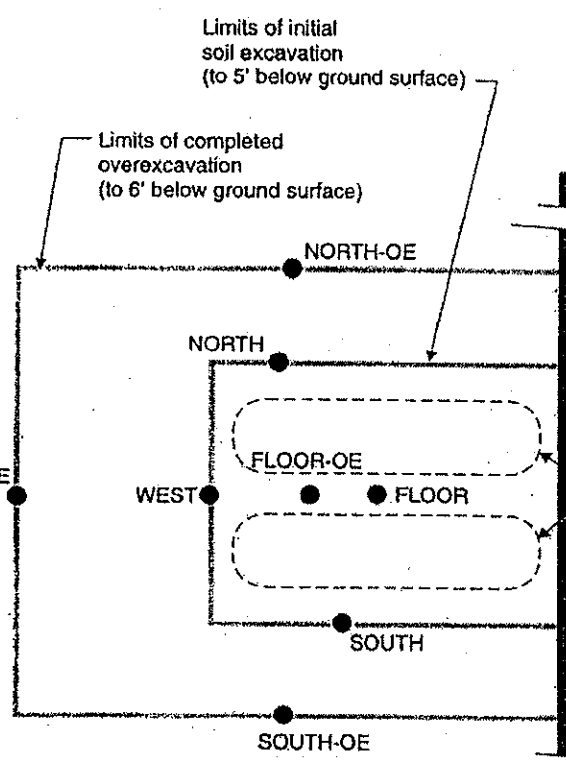
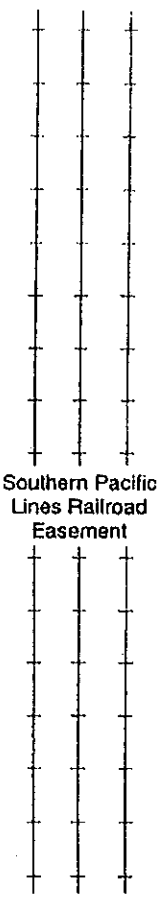
Figure 3
1994 UST Excavation Detail
Union Pacific Railroad
1450 Sherwin Street
Emeryville, California

Project No.
8057.03

Date:
07/09/02

Drawn By:
D. Ludlam

CAD File:
G:\8057\03\80570302.dwg



Sherwin-Williams
Site

Former underground
storage tanks

Existing slurry
cut-off wall



Approx. Scale (feet)

Figure 4
Excavation of USTs and Soil Sampling Locations
Union Pacific Railroad
1450 Sherwin Street
Emeryville, California

Source: Levine Fricke, Underground Storage Tank
Removal Report, March 15, 1996.

Project No. 9332.50
 Date: 08/29/02
 Drawn By: R. Olson
 CAD File: G:\9332\50\93325004.dwg

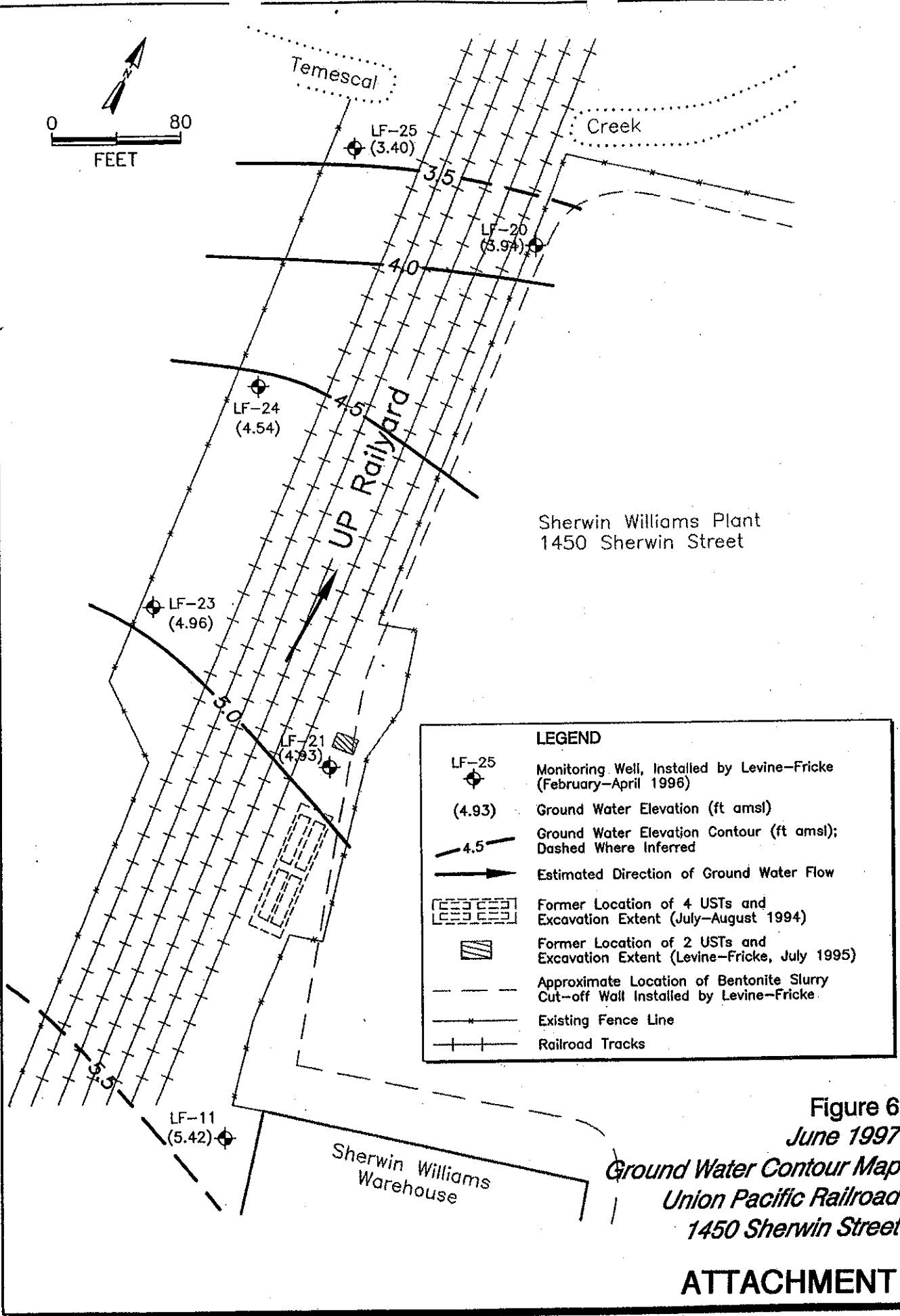
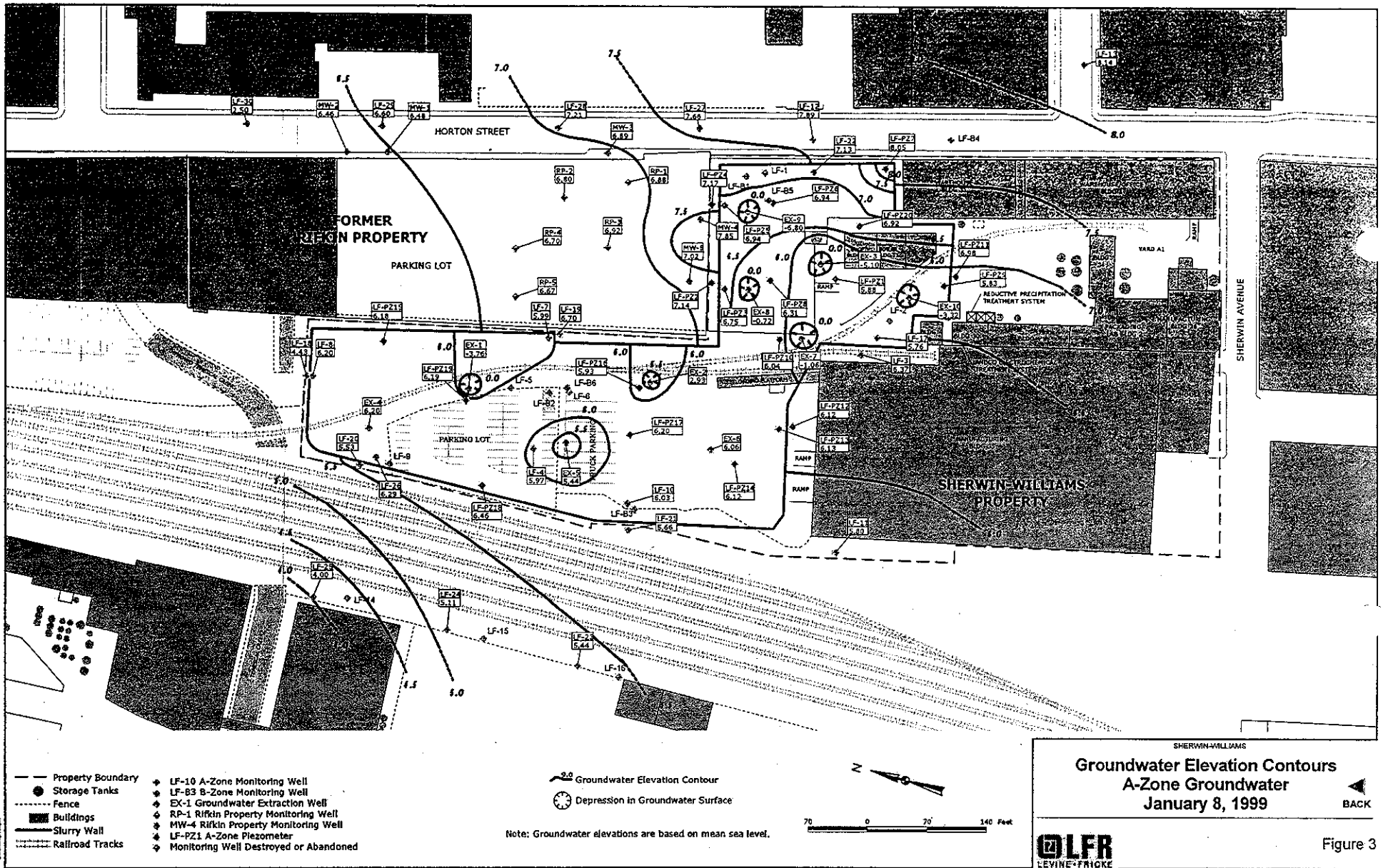


Figure 6
June 1997
Ground Water Contour Map
Union Pacific Railroad
1450 Sherwin Street

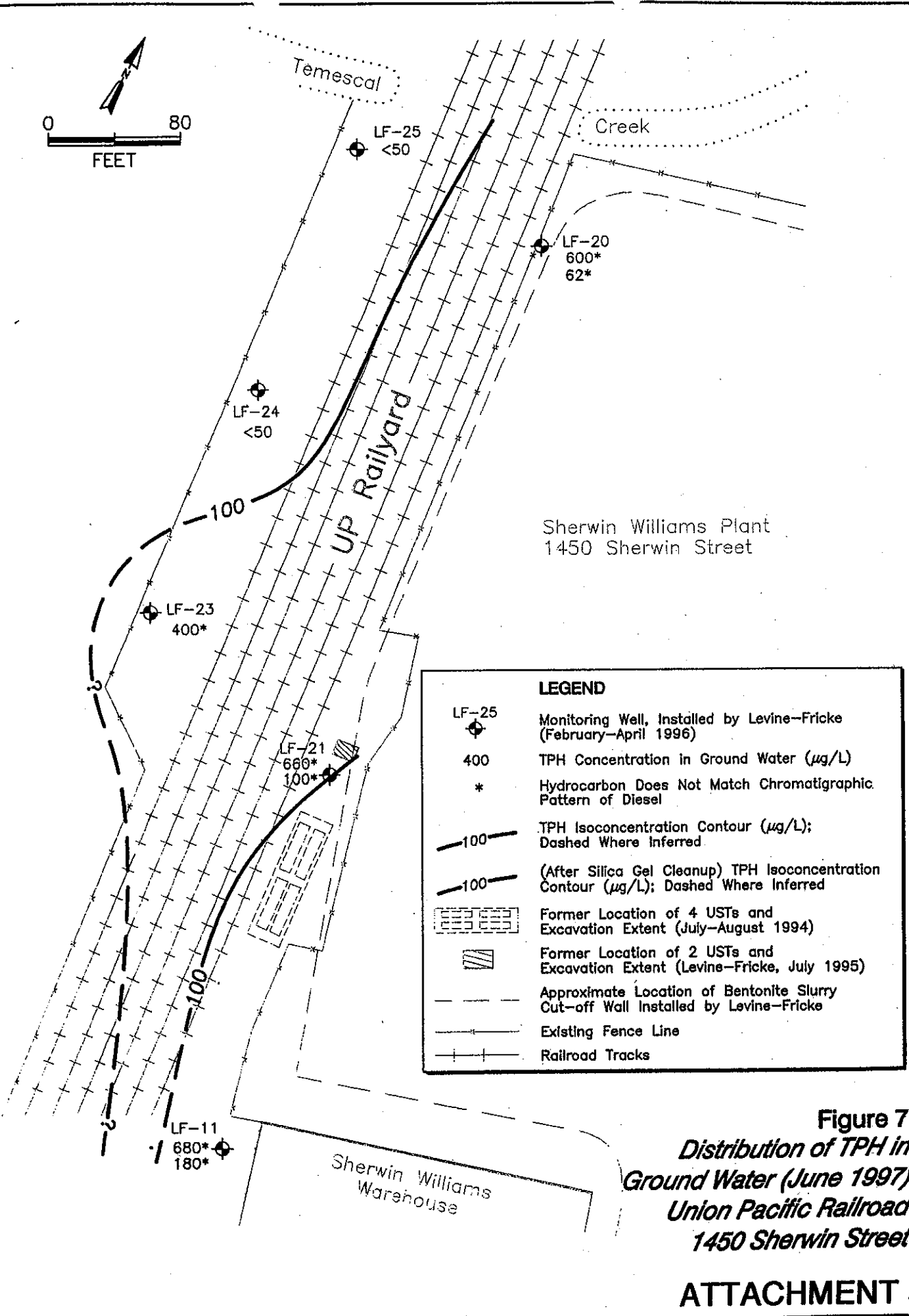
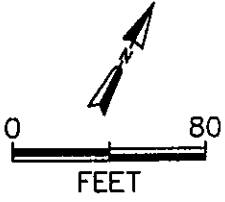


Project No.
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Date:
08/30/02

Drawn By:
R. Olson

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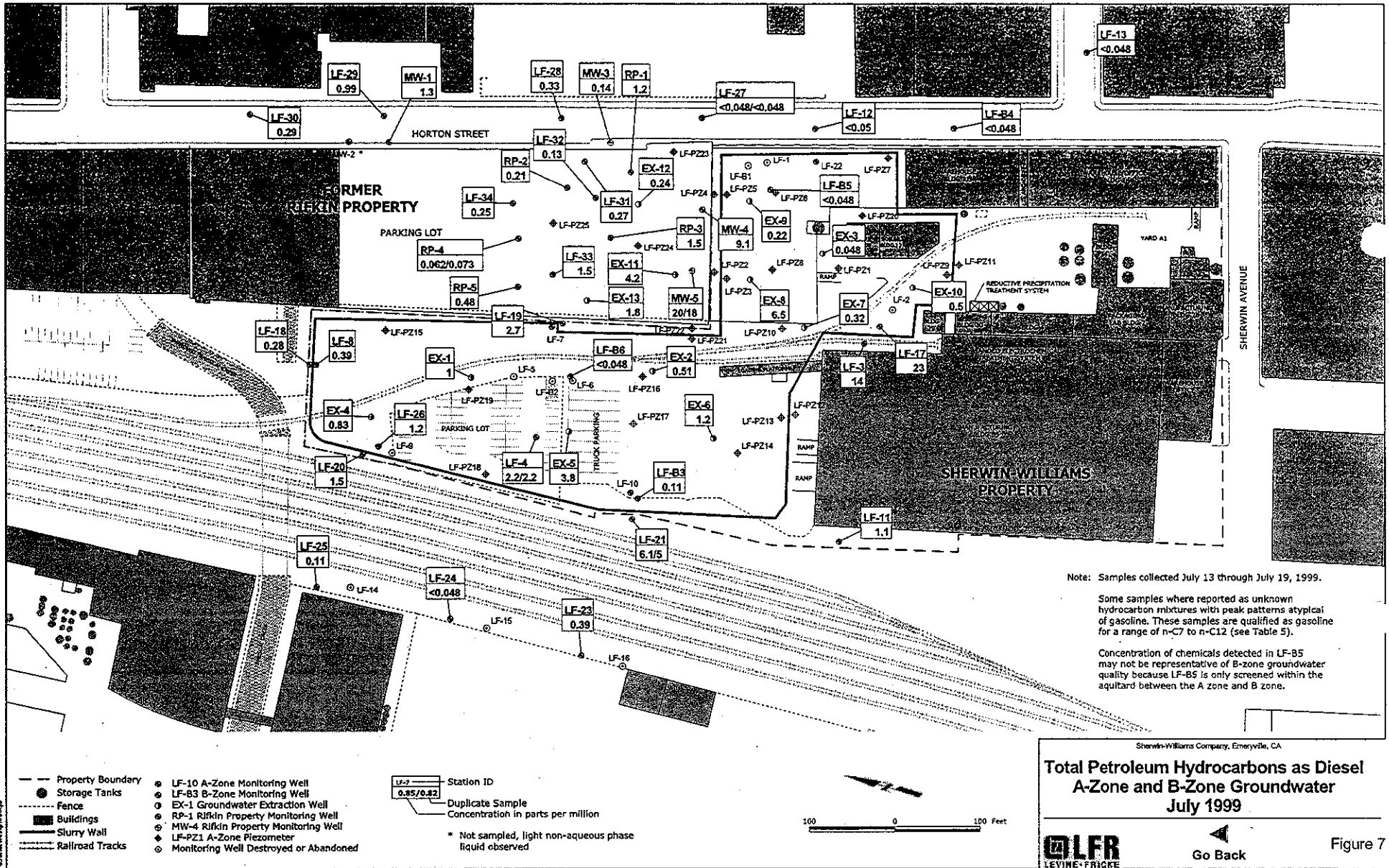
Sherwin Williams Plant
1450 Sherwin Street

LEGEND

- LF-25
Monitoring Well, Installed by Levine-Fricke (February-April 1996)
- 400
TPH Concentration in Ground Water ($\mu\text{g/L}$)
- *
- Hydrocarbon Does Not Match Chromatigraphic Pattern of Diesel
- 100
TPH Isoconcentration Contour ($\mu\text{g/L}$); Dashed Where Inferred
- (After Silica Gel Cleanup) 100
TPH Isoconcentration Contour ($\mu\text{g/L}$); Dashed Where Inferred
- [Grid Pattern]
Former Location of 4 USTs and Excavation Extent (July-August 1994)
- [Hatched Area]
Former Location of 2 USTs and Excavation Extent (Levine-Fricke, July 1995)
- - -
Approximate Location of Bentonite Slurry Cut-off Wall Installed by Levine-Fricke
- - -
Existing Fence Line
- |||
Railroad Tracks

Figure 7
Distribution of TPH in Ground Water (June 1997)
Union Pacific Railroad
1450 Sherwin Street

ATTACHMENT 3



Note: Samples collected July 13 through July 19, 1999.

Some samples were reported as unknown hydrocarbon mixtures with peak patterns atypical of gasoline. These samples are qualified as gasoline for a range of n-C7 to n-C12 (see Table 5).

Concentration of chemicals detected in LF-B5 may not be representative of B-zone groundwater quality because LF-B5 is only screened within the aquitard between the A zone and B zone.

Sherwin-Williams Company, Emeryville, CA

**Total Petroleum Hydrocarbons as Diesel
A-Zone and B-Zone Groundwater
July 1999**



Figure 7

Table 1
1994 UST Excavation Data
Union Pacific Railroad Company
1450 Sherwin Street
Emeryville, California

Sample Location	Date Sampled	Sample Type	Units	TPH-S	TPH-d	TPH-b	Oil and Grease	Benzene	Toluene	Bhtylbenzene	Xylenes	Acenaphthene	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
T1T2, T1T3, T2T4, T3T4 - Sidewall	3 Aug 94	Soil Composite	mg/kg	na	na	na	na	na	na	na	na	na	3.9	82	<1	33	6.7	0.05	<0.5	<1
T2 - Sidewall	3 Aug 94	Grab Soil	mg/kg	<1	<1	8.4	<10	<0.005	<0.005	<0.005	<0.005	na	na	na	na	na	na	na	na	na
T2T4 - Sidewall	3 Aug 94	Grab Soil	mg/kg	<1	<1	37	110	<0.005	<0.005	<0.005	<0.005	na	na	na	na	na	na	na	na	na
T4 - Sidewall	3 Aug 94	Grab Soil	mg/kg	1.4	230	780	83	<0.005	<0.005	<0.005	<0.005	na	na	na	na	na	na	na	na	na
T3T4 - Sidewall	3 Aug 94	Grab Soil	mg/kg	<1	30	230	67	<0.005	<0.005	<0.005	<0.005	na	na	na	na	na	na	na	na	na
T3 - Sidewall	3 Aug 94	Grab Soil	mg/kg	2.5	540	1,800	880	<0.005	<0.005	<0.005	<0.005	na	na	na	na	na	na	na	na	na
T1T3 - Sidewall	3 Aug 94	Grab Soil	mg/kg	18	4,400	28,000	7,700	<0.005	<0.005	<0.005	<0.005	na	na	na	na	na	na	na	na	na
T1 - Sidewall	3 Aug 94	Grab Soil	mg/kg	4.3	1,700	7,400	2,800	<0.005	<0.005	<0.005	<0.005	na	na	na	na	na	na	na	na	na
T1T2 - Sidewall	3 Aug 94	Grab Soil	mg/kg	<1	<1	40	13	<0.005	<0.005	<0.005	<0.005	na	na	na	na	na	na	na	na	na
South end of pit	3 Aug 94	Grab Water	mg/L	0.15	3.2	6.1	<5.0	0.0012	0.0008	<0.005	0.0024	0.015	0.018	0.16	<0.005	<0.01	0.028	<0.0002	<0.005	<0.01

Sample Location	Date Sampled	Sample Type	Units	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Arsenic	Lead
T2 - Sidewall ¹	3 Aug 94	Grab Soil	µg/L	<30	<30	<30	<30	<30	<30	na	na
T2T4 - Sidewall ¹	3 Aug 94	Grab Soil	µg/L	<30	<30	<30	<30	<30	<30	na	na
T2T4 - Sidewall ²	3 Aug 94	Grab Soil	µg/L	<17	<17	<17	<17	<17	<17	na	na
T4 - Sidewall ¹	3 Aug 94	Grab Soil	µg/L	540	430	1,400	370	990	750	na	na
T3T4 - Sidewall ¹	3 Aug 94	Grab Soil	µg/L	<30	<30	<30	<30	<30	<30	na	na
T3 - Sidewall ¹	3 Aug 94	Grab Soil	µg/L	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600	na	na
T1T3 - Sidewall ¹	3 Aug 94	Grab Soil	µg/L	<33,000	<33,000	<33,000	<33,000	<33,000	<33,000	na	na
T1T3 - Sidewall ²	3 Aug 94	Grab Soil	µg/L	<17	<17	<17	<17	<17	<17	na	na
T1 - Sidewall ¹	3 Aug 94	Grab Soil	µg/L	<1,600	<1,600	<1,600	<1,600	<1,600	<1,600	na	na
T1T2 - Sidewall ¹	3 Aug 94	Grab Soil	µg/L	<30	<30	<30	<30	<30	<30	na	na
Stockpile ³	4 Aug 94	Soil Composite	µg/L	na	na	na	na	na	na	6	1.1

Notes:

All sidewall samples collected from 7 feet below ground surface
Table reproduced from Tables 1 through 6 of the Tank Closure Report, Southern Pacific Transportation Company,
1450 Sherwin Avenue, Emeryville, California (Industrial Compliance, 29 September 1994).

¹ Extracted by Waste Extraction Test (WET) and analyzed by United States Environmental Protection Agency (USEPA) Method 8270

² Extracted by WET using deionized water and analyzed by USEPA Method 8270

³ Analyzed by Toxic Characteristic Leachability Procedure (TCLP)

Key:

mg/kg = Milligrams per kilogram

µg/L = Micrograms per liter

na = Not analyzed

mg/L = Milligrams per liter

< = Less than; not detected above reporting limit

Table 2
1995 UST Excavation Data
Union Pacific Railroad Company
1450 Sherwin Street
Emeryville, California

Sample ID	Date Sampled	Sample Type	Units	Kerosene	Diesel	Motor Oil
North Tank 1	13 Jul 95	Product	mg/kg	<600	<600	<6,000 ¹
South Tank 2	13 Jul 95	Product	µg/L	<5,000	<5,000	370,000
Floor	3 Aug 95	Soil	mg/kg	150	400	1,400
South	3 Aug 95	Soil	mg/kg	na	na	1,000
North	3 Aug 95	Soil	mg/kg	na	na	810
West	3 Aug 95	Soil	mg/kg	na	na	1,200
North-OE	11 Aug 95	Soil	mg/kg	110	170	910
South-OE	11 Aug 95	Soil	mg/kg	150	280	940
West-OE	11 Aug 95	Soil	mg/kg	530	760	1,700

Notes:

¹ Unknown hydrocarbon in the motor oil range of 34,000 mg/kg.

Table reproduced from Tables 1 and 2 of the *Underground Storage Tank Removal Report, Sherwin Williams Facility, Emeryville, California* (Levine-Fricke, 15 March 1996).

Product samples were also tested for the presence of PCBs, VOCs, and metals. PCBs were non-detect. Metals were not detected above regulatory thresholds. VOCs were non-detect except the North Tank, which had low levels of benzene (0.22 mg/kg), toluene (0.26 mg/kg), and total xylenes (1.7 mg/kg).

Key:

mg/kg = Milligrams per kilogram

µg/L = Micrograms per liter

na = Not analyzed

Table 3
Ground Water Elevation Data
Union Pacific Railroad Company
1450 Sherwin Street
Emeryville, California

Well ID	Date Measured	Top of Casing Elevation (feet MSL)	Depth to Ground Water (feet below TOC)	Ground Water Elevation (feet MSL)
LF-11	18 Mar 97	10.05	4.67	5.38
	11 Jun 97		4.63	5.42
LF-20	24 Apr 96	11.77	7.55	4.22
	21 Nov 96		7.90	3.87
	18 Mar 97		7.83	3.94
	11 Jun 97		7.83	3.94
LF-21	24 Apr 96	10.37	3.65	6.72
	21 Nov 96		5.33	5.04
	18 Mar 97		5.49	4.88
	11 Jun 97		5.44	4.93
LF-23	24 Apr 96	10.64	4.08	6.56
	21 Nov 96		4.54	6.10
	18 Mar 97		5.24	5.40
	11 Jun 97		5.68	4.96
LF-24	24 Apr 96	10.22	4.40	5.82
	21 Nov 96		5.35	4.87
	18 Mar 97		5.18	5.04
	11 Jun 97		5.70	4.52
LF-25	24 Apr 96	11.31	7.15	4.16
	21 Nov 96		7.29	4.02
	18 Mar 97		7.84	3.47
	11 Jun 97		7.91	3.40

Notes:

MSL = Mean sea level

TOC = Top of Casing

Table 4
Monitoring Well Analytical Summary
Union Pacific Railroad Company
1450 Sherwin Street
Emeryville, California

Monitoring Well	Date Sampled	Diesel (µg/L)	Motor Oil (µg/L)	Diesel w/ Silica Gel Cleanup (µg/L)
LF-11	18 Mar 97	290 ^a	<500	<50
	11 Jun 97	680 ^a	<500	180 ^a
LF-20	12 Apr 96	1,000 ^b	NQ	82
	21 Nov 96	1,800	<540	na
	18 Mar 97	240 ^a	<500	nd ^c
	11 Jun 97	600 ^a	<500	62 ^a
LF-21	10 Apr 96	910 ^b	NQ	<50
	21 Nov 96	1,100	<590	na
	18 Mar 97	360 ^a	<500	<50
	11 Jun 97	660 ^a	<500	100 ^a
LF-23	10 Apr 96	340 ^b	NQ	<50
	21 Nov 96	420	<540	na
	18 Mar 97	1,200 ^a	<500	<50
	11 Jun 97	400	<500	<50
LF-24	12 Apr 96	<50	<50	na
	21 Nov 96	<50	<530	na
	18 Mar 97	<50	<500	na
	11 Jun 97	<50	<500	na
LF-25	12 Apr 96	88 ^b	<530	<50
	21 Nov 96	<53	<500	na
	18 Mar 97	<50	<500	na
	11 Jun 97	<50	<500	na

Notes:

^a Reported hydrocarbons in the diesel range do not match chromatographic diesel pattern.

^b Unknown hydrocarbon mixture atypical of diesel fuel in the carbon range of C10 to C32. Hydrocarbons from C10 to C24 were quantified based on comparison with a diesel standard.

^c Due to laboratory contamination during the 8015 analysis with silica gel cleanup of sample LF-20, the removal of hydrocarbons in the C10 to C13 range by silica gel cleanup cannot be verified and a reporting limit cannot be provided.

Key:

< = Less than; not detected above reporting limit

µg/L = Micrograms per liter

na = Not analyzed

nd = Not detected

NQ = Hydrocarbons in the motor oil range (>C24) were not quantified.