TXD 981046873

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

REGION	SITE NUMBER (to be assigned by HQ)
VI	TX 13595

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentative Disposition (*Section II*). File this form in its entirety in the regional Hazardous Waste Log File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Tack Force (*EN-335*); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

TXD981046873

A. SITE NAME	B. STREET (or other identifier)		
Southern Pacific Transportation Co.	4910 Liberty Road		
C. CITY	**D. STATE**	**E. ZIP CODE**	**F. COUNTY NAME**
Houston	TX	77001	Harris

G. SITE OPERATOR INFORMATION

1. NAME		2. TELEPHONE NUMBER	
Marion A. Lane - operator		713/223-6582	
3. STREET	**4. CITY**	**5. STATE**	**6. ZIP CODE**
4910 Liberty Road	Houston	TX	77001

H. REALTY OWNER INFORMATION (*if different from operator of site*)

1. NAME		2. TELEPHONE NUMBER	
Southern Pacific Transportation Co.		713/223-6582	
3. CITY		**4. STATE**	**5. ZIP CODE**
4910 Liberty Road, Houston		TX	77001

I. SITE DESCRIPTION

Inactive creosote wood treating facility. An active railroad work yard.

J. TYPE OF OWNERSHIP

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☒ 5. PRIVATE

II. TENTATIVE DISPOSITION (*complete this section last*)

A. ESTIMATE DATE OF TENTATIVE DISPOSITION (*mo., day, & yr.*)

B. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☒ 2. MEDIUM ☐ 3. LOW ☐ 4. NONE

C. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (*mo., day, & yr.*)
J. David Highland Engineering-Science, Inc.	512/477-9901	09/09/86

III. INSPECTION INFORMATION

A. PRINCIPAL INSPECTOR INFORMATION

1. NAME	2. TITLE	
J. David Highland	Project Engineer	
3. ORGANIZATION		**4. TELEPHONE NO.** (*area code & no.*)
Engineering-Science, Inc.	2901 North Interregional Austin, Texas 78722	512/477-9901

B. INSPECTION PARTICIPANTS

1. NAME	2. ORGANIZATION	3. TELEPHONE NO.
Lisa Arceneaux	Engineering-Science, Inc.	512/477-9901
David Wilkes	Engineering-Science, Inc.	512/477-9901

C. SITE REPRESENTATIVES INTERVIEWED (*corporate officials, workers, residents*)

1. NAME	2. TITLE & TELEPHONE NO.	3. ADDRESS
Marion A. Lane	Operator 713/223-6582	4910 Liberty Road, Houston, TX 77001
Dan Hoffreek	713/223-6479	P.O. Box 1319, Houston, TX 77251

SUPERFUND FILE

FEB 04 1993

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Reviewed by 6M-ES
Date 2/15/87

Continued From Front

III. INSPECTION INFORMATION (continued)

D. GENERATOR INFORMATION (sources of waste)

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE GENERATED
Southern Pacific Transportation Co.	713/223-6188	P.O. Box 1319, Houston TX 77251	Creosote sludge Acetic acid

E. TRANSPORTER/HAULER INFORMATION

1. NAME	2. TELEPHONE NO.	3. ADDRESS	4. WASTE TYPE TRANSPORTED
Malone Trucking	713/488-3463	P.O. Box 709 Texas City, TX 77592-0709	dilute acetic acid
Rollins Environmental Services	713/479-6001	2027 Battleground Road Deer Park, Texas	Creosote sludge Creosote cont.soil

F. IF WASTE IS PROCESSED ON SITE AND ALSO SHIPPED TO OTHER SITES, IDENTIFY OFF-SITE FACILITIES USED FOR DISPOSAL.

1. NAME	2. TELEPHONE NO.	3. ADDRESS
Rollins Environmental Services	713/479-6001	2027 Battleground Road, Deer Park, Texas
EMPAK, Inc.	713/479-1990	2759 Battleground Road, Deer Park, Texas

G. DATE OF INSPECTION (mo., day, & yr.)	H. TIME OF INSPECTION	I. ACCESS GAINED BY: (credentials must be shown in all cases)
6/03/86	8:45 a.m.	[X] 1. PERMISSION [ ] 2. WARRANT

J. WEATHER (describe)

Hazy, cloudy, warm

IV. SAMPLING INFORMATION

A. Mark 'X' for the types of samples taken and indicate where they have been sent e.g., regional lab, other EPA lab, contractor, etc. and estimate when the results will be available.

1. SAMPLE TYPE	2. SAMPLE TAKEN (mark 'X')	3. SAMPLE SENT TO:	4. DATE RESULTS AVAILABLE
a. GROUNDWATER			
b. SURFACE WATER			
c. WASTE			
d. AIR			
e. RUNOFF			
f. SPILL			
g. SOIL	X (3)	Engineering-Science, Inc. Laboratory 600 Bancroft Way, Berkeley, CA 94710	7/28/86
h. VEGETATION			
i. OTHER (specify) Standing rainwater	X (1)	Engienering-Science, Inc. Laboratory 600 Bancroft Way, Berkeley, CA 94710	7/28/86

B. FIELD MEASUREMENTS TAKEN (e.g., radioactivity, explosivity, PH, etc.)

1. TYPE	2. LOCATION OF MEASUREMENTS	3. RESULTS
None		

 Continue On Page 3

Continued From Page 2

IV. SAMPLING INFORMATION *(continued)*

C. PHOTOS

1. TYPE OF PHOTOS: [XX] a. GROUND [ ] b. AERIAL
2. PHOTOS IN CUSTODY OF: See attachments

D. SITE MAPPED?

[XX] YES. SPECIFY LOCATION OF MAPS: See attached area map and sketch.

E. COORDINATES

1. LATITUDE *(deg.-min.-sec.)*: 29°47'14"N
2. LONGITUDE *(deg.-min.-sec.)*: 95°18'60"W

V. SITE INFORMATION

A. SITE STATUS

[ ] 1. ACTIVE *(Those inductrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if intrequently.)*

[XX] 2. INACTIVE *(Those sites which no longer receive wastes.)*

[ ] 3. OTHER *(specify)*: _____ *(Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)*

B. IS GENERATOR ON SITE?

[ ] 1. NO [XX] 2. YES *(specify generator's four-digit SIC Code)*: 2491

C. AREA OF SITE *(in acres)*: approximately 25

D. ARE THERE BUILDINGS ON THE SITE?

[ ] 1. NO [XX] 2. YES *(specify)*: See Attachment A

VI. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity*(ies)* and details relating to each activity by marking 'X' in the appropriate boxes.

'X'	A. TRANSPORTER	'X'	B. STORER	'X'	C. TREATER	'X'	D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION		1. LANDFILL
	2. SHIP	X	2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS./TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER *(specify)*:	X	6. OTHER *(specify)*: Impoundment closed in 1984. Process area pit containing creosote contaminated water and soil.		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER *(specify)*:
					9. OTHER *(specify)*:		

E. SUPPLEMENTAL REPORTS: If the site falls within any of the categories listed below, Supplemental Reports must be completed. Indicate which Supplemental Reports you have filled out and attached to this for..

[ ] 1. STORAGE [ ] 2. INCINERATION [ ] 3. LANDFILL [XX] 4. SURFACE IMPOUNDMENT [ ] 5. DEEP WELL

[ ] 6. CHEM/BIO/PHYS TREATMENT [ ] 7. LANDFARM [ ] 8. OPEN DUMP [ ] 9. TRANSPORTER [ ] 10. RECYCLOR/RECLAIMER

VII. WASTE RELATED INFORMATION

A. WASTE TYPE

[XX] 1. LIQUID [ ] 2. SOLID [ ] 3. SLUDGE [ ] 4. GAS

B. WASTE CHARACTERISTICS

[ ] 1. CORROSIVE [ ] 2. IGNITABLE [ ] 3. RADIOACTIVE [ ] 4. HIGHLY VOLATILE

[XX] 5. TOXIC [ ] 6. REACTIVE [ ] 7. INERT [ ] 8. FLAMMABLE

[ ] 9. OTHER *(specify)*:

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

No

 Continue On Reverse

Continued From Front

VII. WASTE RELATED INFORMATION (continued)

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT: None	AMOUNT: None	AMOUNT: None	AMOUNT: None	AMOUNT: Unknown	AMOUNT: 1000 est.
UNIT OF MEASURE:	UNIT OF MEASURE:	UNIT OF MEASURE:	UNIT OF MEASURE:	UNIT OF MEASURE:	UNIT OF MEASURE: yd^3
X (1) PAINT, PIGMENTS	X (1) OILY WASTES	X (1) HALOGENATED SOLVENTS	X (1) ACIDS	X (1) FLYASH	X (1) LABORATORY, PHARMACEUT.
(2) METALS SLUDGES	(2) OTHER (specify):	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
(3) POTW		(3) OTHER (specify):	(3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACTIVE
(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMELTING WASTES	(4) MUNICIPAL
(5) OTHER (specify):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	XX (5) OTHER (specify): Creosote contaminated rainwater
			(6) CYANIDE	XX (6) OTHER (specify): Creosote contaminated soil	
			(7) PHENOLS		
			(8) HALOGENS		
			(9) PCB		
			(10) METALS		
			(11) OTHER (specify)		

D. LIST SUBSTANCES OF GREATEST CONCERN WHICH ARE ON THE SITE (place in descending order of hazard)

1. SUBSTANCE	2. FORM (mark 'X') a. SOLID	b. LIQ.	c. VAPOR	3. TOXICITY (mark 'X') a. HIGH	b. MED.	c. LOW	d. NONE	4. CAS NUMBER	5. AMOUNT	6. UNIT
Creosote		X		Constituents below				None	1,000 est.	yd^3
Nepthalene		X		X				91-20-3	unknown	-
Phenanthene		X		X				85-01-8	unknown	-
Accennalthene		X		unknown				83-32-9	unknown	-
Benzo (a) Anthralene		X		X				20-644-0	unknown	-
Benzo (k) Fluoranthene		X		X				129-00-0	unknown	-
Fluoranthene		X		X				56-55-3	unknown	-
Pyrene		X		unknown				None	unknown	-

VIII. HAZARD DESCRIPTION

FIELD EVALUATION HAZARD DESCRIPTION: Place an 'X' in the box to indicate that the listed hazard exists. Describe the hazard in the space provided.

☐ A. HUMAN HEALTH HAZARDS

None identified

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Continued From Page 4

VIII. HAZARD DESCRIPTION (continued)

☐ B. NON-WORKER INJURY/EXPOSURE

None identified

☐ C. WORKER INJURY/EXPOSURE

None identified

☐ D. CONTAMINATION OF WATER SUPPLY

None identified

☐ E. CONTAMINATION OF FOOD CHAIN

None identified

☒ F. CONTAMINATION OF GROUND WATER

Groundwater monitoring data attached indicate groundwater contamination by creosote constituents from closed surface impoundment.

☒ G. CONTAMINATION OF SURFACE WATER

Analysis of soil sample in runoff path leaving site indicates creosote constituents leaving the site in runoff stream. Ultimate destination of runoff is Buffalo Bayou, an urban area stream.

Continued From Front

VIII. HAZARD DESCRIPTION (continued)

[XX] H. DAMAGE TO FLORA/FAUNA

Attached photo No. 23 shows dead vegetation in drainage ditch where soil sample analysis indicates creosote contamination.

[ ] I. FISH KILL

None identified

[ ] J. CONTAMINATION OF AIR

None identified

[ ] K. NOTICEABLE ODORS

None identified

[XX] L. CONTAMINATION OF SOIL

Sample analysis attached indicate contamination of soil in wood processing area and in the runoff path leaving the site.

[ ] M. PROPERTY DAMAGE

None identified

 Continue On Page 7

VIII. HAZARD DESCRIPTION (continued)

☐ T. MIDNIGHT DUMPING

None identified

☐ U. OTHER (specify):

None identified

IX. POPULATION DIRECTLY AFFECTED BY SITE

A. LOCATION OF POPULATION	B. APPROX. NO. OF PEOPLE AFFECTED	C. APPROX. NO. OF PEOPLE AFFECTED WITHIN UNIT AREA	D. APPROX. NO. OF BUILDINGS AFFECTED	E. DISTANCE TO SITE (specify units)
1. IN RESIDENTIAL AREAS	3,500	3,500	1,000	1 mile
2. IN COMMERCIAL OR INDUSTRIAL AREAS	1,000	1,000	100	1 mile
3. IN PUBLICLY TRAVELLED AREAS	100,000/day	100,000/day	-	1 mile
4. PUBLIC USE AREAS (parks, schools, etc.)	5,000	5,000	9	1 mile

X. WATER AND HYDROLOGICAL DATA

A. DEPTH TO GROUNDWATER (specify unit)	B. DIRECTION OF FLOW	C. GROUNDWATER USE IN VICINITY
4 ft.; 325-350 ft.; 275-300 ft. (Note 1)	North; South/southeast - (shallow aquifer)	monitoring, industrial
D. POTENTIAL YIELD OF AQUIFER	**E. DISTANCE TO DRINKING WATER SUPPLY (specify unit of measure)**	**F. DIRECTION TO DRINKING WATER SUPPLY**
up to 3,000 gpm (Note 2)	1.25 miles	west/northwest

G. TYPE OF DRINKING WATER SUPPLY

☐ 1. NON-COMMUNITY < 15 CONNECTIONS ☒ 2. COMMUNITY (specify town): > 15 CONNECTIONS City of Houston

☐ 3. SURFACE WATER ☒ 4. WELL Northeast Well #3 (TWC #65-14-406)

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Note 1: Depth to static water in shallow monitoring wells, area Chicot aquifer, and area Evangeline aquifer wells, respectively

Note 2: Yield (maximum) in Chicot and Evangeline aquifers

Continued From Page 6

VIII. HAZARD DESCRIPTION (continued)

☐ N. FIRE OR EXPLOSION

None identified

☒ O. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUID

Soil contamination from surface runoff is indicated in attached sample analysis. Standing liquid was observed in process area (see attached photos). Analysis of standing water sample indicates creosote constituents present with fluoranthene concentrations at 30% of the EPA water quality criteria.

☐ P. SEWER, STORM DRAIN PROBLEMS

None identified

☐ Q. EROSION PROBLEMS

None identified

☐ R. INADEQUATE SECURITY

None identified

☐ S. INCOMPATIBLE WASTES

None identified

 Continue On Reverse

Continued From Page 8

X. WATER AND HYDROLOGICAL DATA (continued)

H. LIST ALL DRINKING WATER WELLS WITHIN A 1/4 MILE RADIUS OF SITE

1. WELL	2. DEPTH (specify unit)	3. LOCATION (proximity to population/buildings)	4. NON-COMMUNITY (mark 'X')	5. COMMUNITY (mark 'X')
None				

I. RECEIVING WATER

1. NAME: Drainage ditch into Buffalo Bayou

☐ 2. SEWERS ☒ 3. STREAMS/RIVERS ☐ 4. LAKES/RESERVOIRS ☐ 5. OTHER (specify):

6. SPECIFY USE AND CLASSIFICATION OF RECEIVING WATERS

Navigation and industrial water supply only.

XI. SOIL AND VEGITATION DATA

LOCATION OF SITE IS IN:

☒ A. KNOWN FAULT ZONE 2.2 miles NW ☐ B. KARST ZONE ☐ C. 100 YEAR FLOOD PLAIN See floodplain map, Attachment D ☐ D. WETLAND

☐ E. A REGULATED FLOODWAY ☐ F. CRITICAL HABITAT ☐ G. RECHARGE ZONE OR SOLE SOURCE AQUIFER

XII. TYPE OF GEOLOGICAL MATERIAL OBSERVED

Mark 'X' to indicate the type(s) of geological material observed and specify where necessary, the component parts.

'X'	A. OVERBURDEN	'X'	B. BEDROCK (specify below)	'X'	C. OTHER (specify below)
X	1. SAND		None observed		None observed
X	2. CLAY				
	3. GRAVEL				

XIII. SOIL PERMEABILITY

Soil Permeability approximately: 10^{-5} to 10^{-7} cm/sec.

☐ A. UNKNOWN ☐ B. VERY HIGH (100,000 to 1000 cm/sec.) ☐ C. HIGH (1000 to 10 cm/sec.)

☐ D. MODERATE (10 to .1 cm/sec.) ☐ E. LOW (.1 to .001 cm/sec.) ☒ F. VERY LOW (.001 to .00001 cm/sec.)

G. RECHARGE AREA

☐ 1. YES ☒ 2. NO 3. COMMENTS:

H. DISCHARGE AREA

☐ 1. YES ☒ 2. NO 3. COMMENTS:

I. SLOPE

1. ESTIMATE % OF SLOPE: 0 - 1%

2. SPECIFY DIRECTION OF SLOPE, CONDITION OF SLOPE, ETC.: southwesterly

J. OTHER GEOLOGICAL DATA

The site stratigraphy was estimated from geologic table and geologic cross-section (see Attachment B). The site is located on top of the Holocene and Pleistocene series of the Quaternary System. See Attachment A.

 Continue On Reverse

Continued From Front

XIV. PERMIT INFORMATION

List all applicable permits held by the site and provide the related information.

A. PERMIT TYPE (e.g., RCRA, State, NPDES, etc.)	B. ISSUING AGENCY	C. PERMIT NUMBER	D. DATE ISSUED (mo., day, & yr.)	E. EXPIRATION DATE (mo., day, & yr.)	F. IN COMPLIANCE (mark 'X')		
					1. YES	2. NO	3. UNKNOWN
Solid Waste Registration	TWC	31547	Unknown	Unknown			X

XV. PAST REGULATORY OR ENFORCEMENT ACTIONS

☐ NONE ☒ YES (summarize in this space)

Routine monitoring by TWC. Surface impoundment closed April, 1984. Groundwater monitoring at the impoundment continued for at least one year after closure. Surface impoundment was constructed in 1979 to contain creosote contaminated soil from spill.

NOTE: Based on the information in Sections III through XV, fill out the Tentative Disposition *(Section II)* information on the first page of this form.

TWC SITE INSPECTION COMMENTS
SOUTHERN PACIFIC TRANSPORTATION COMPANY
HOUSTON, TEXAS
TX13595

DOCUMENTATION OF SITE ACTIVITIES

An inspection of the Southern Pacific Transportation Company (SPT) site was conducted on June 3, 1986. At 8:45 A.M., J. D. Highland, E.S. Arceneaux, and D. R. Wilkes of Engineering-Science, Inc. (ES) met with Marion Lane and Dan Hoffreek of SPT for an interview prior to the site reconnaissance.

Upon completion of the interview at 9:30 AM, a survey of the site was begun. The site is fenced and access is available by a gate near the office. The location of the wood treatment operation received primary attention in addition to a closed surface impoundment. The wood treating operation is located in the southeast end of the site and occupies approximately 3 of the 25 acres at the site. The wood treating facility is no longer in operation. This area consists of a process building, a large pit filled with rainwater and black, oily gravel and dirt on the west side of the building where the treatment cylinders were located, a sump which was used to catch spills from the treatment cylinders, and several aboveground tanks east of the process building. An oily sheen was observed on the water in the pit and the water was a dark brown color. Sediment and gravel in the more shallow areas appeared to be covered with a black, viscous liquid. Visual signs of contamination from the wood treatment operation appeared to be limited to the area of this pit.

A closed surface impoundment is located at the extreme west end of the site. The impoundment appears to cover an area of about one acre. One upgradient and three down gradient monitoring wells were observed. The impoundment is overgrown with vegetation and no visible signs of contamination were apparent.

A storm sewer which receives runoff from the site (including the area around the wood treating facility) empties into a ditch running along the north side of the surface impoundment. In the area where the ditch leaves

the property, brownish colored standing water and dead vegetation were observed.

The remainder of the site consists of an office, and several structures related to the materials salvage operation at the site. Except for the monitoring wells at the surface impoundment, there are no groundwater wells within 1/4 mile of the site.

Upon completion of the site survey, sampling was begun. Soil and standing water samples were taken in the abandoned processing area. A soil sample was taken in the drainage ditch leaving the property to the south-southwest. A background sample was taken at the extreme eastern end of the site. The inspection was completed at 12:20 pm.

SITE HISTORY AND WASTE MANAGEMENT PRACTICES

Information in this section is based on file information and/or interviews with site representatives.

The T & N.O. railroad operated a wood preservation works at this location as early as 1929 (see photographis in Attachment D). The majority of the area was used to store railroad ties. The process area consisted of pressure tanks and a wastewater lagoon which was eventually filled in.[1]

SPT operated its wood treating facility at this site from 1957 until 1984. From 1899 until 1957, the operation was located near downtown Houston, TX. Creosote only was used in the wood preserving process except for a short period in the early 1970s when pentachlorophenol was used. Currently, the only operation on site is a scrap metals salvaging operation.

Five treatment cylinders were used in the treatment process. These cylinders were supported by concrete foundations but the operating area was mostly a gravel surface. For the most part, the chemicals used in the process were recycled. Approximately 20,000 gallons per day of creosote contaminated dilute acetic acid was generated as a by-product of

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[1] Sanborn Insurance Maps, 1929, Vol. 8, P. 812 (Barker Archives).

the treatment process. This material was drawn off and collected in tank cars until it was removed by Malone Transport and disposed of by EMPAK in Deer Park, TX. On those occasions when the chemicals could not be immediately reused, they were retained in a slop storage tank. EMPAK also occasionally removes the rainwater which fills the pit in the processing area. Vacuum trucks are used to remove the liquid which is hauled off site for disposal.

Release of chemicals in the treatment process was limited to spills in the operating area from the treatment cylinders and an occasional accident. On about three occasions in the last 20 years, a chemical tank has fallen over. In one of those instances, high flash naptha was spilled over Liberty Road. A letter from SPT to the Texas Department of Water Resources (TDWR) dated 11/28/79 stated that a spill occurred which released creosote off site. SPT held a wastewater discharge permit from the City of Houston for phenols until it was revoked in the early 1970s due to high concentrations of phenols in the discharge.

A surface impoundment was constructed on the west end of the site in 1979 to contain contaminated soil from a creosote spill. The clay lined impoundment was also used to hold creosote contaminated tank bottoms. At the time of closure, contaminated material amounted to about 1600 cubic yards. The material was removed for off site disposal in 1984. Approximately 200 cubic yards of contaminated soil was removed, and monitoring wells were installed. Closure was completed in April, 1984. Groundwater monitoring has continued since then and is scheduled to continue for approximately one more year. The closure and monitoring was performed by Rollins Environmental Services.

ASSESSMENT AND CONCLUSIONS

Past investigations at this site have been limited to clean up of chemical spills and groundwater monitoring at the closed surface impoundment. Monitoring wells were sampled in October and December of 1984 and the data are in Attachment C. The data indicate a significant increase in concentrations of several creosote constituents during this time period and also indicate that the source of this contamination is between the upgradient well (No. 4) and the downgradient wells (Nos. 1, 2, and 3). The

concentrations seen are generally low as compared to published groundwater quality criteria and available toxicity data except for napthalene which is seen in concentrations exceeding the 0.62 mg/l EPA water quality criteria for chronic toxicity in freshwater fish.

No problems with the surface impoundment were noted during the site inspection. However, a significant risk of contaminated surface runoff and groundwater contamination was observed in the abandoned wood processing area. Rainwater filling the pit next to the process building appeared to be contaminated and could possibly leave the site via the stormwater/drainage ditch running east-west along the tracks, and by seeping down to groundwater which, based on the available monitoring well data, may be less than ten feet below the ground surface.

Samples of soil were collected at the extreme upgradient (east) end of the site, at the pit next to the process building, and in the drainage ditch approximately 100 feet downstream of SPT property. A sample of standing water was collected at the pit next to the process building. Sample analysis (see Attachment D) indicate significant concentrations of creosote constituents in the soil in the area of the pit, although the concentrations in the standing water were relatively low. Comparison of data from the extreme upgradient sample with those from the drainage ditch sample gives an indication of off site migration of creosote constituents via surface runoff.

The information obtained from this site investigation, as well as monitoring well data obtained previously, demonstrates off site migration via the surface runoff pathway and contamination of shallow groundwater by creosote constituents. Significant concentrations of contaminants in soil in the drainage path indicate that creosote waste is being carried off site by stormwater. The ultimate destination of this stormwater is Buffalo Bayou which is an urban waterway. Contamination of shallow groundwater suggests release of creosote waste from the surface impoundment. This impoundment is located within one hundred yards of a residence and the shallowness of the groundwater may create a significant risk of exposure. Due to the above mentioned contamination and the potential continued release from the open pit, and the location of the site in an urban, light industrial and residential area, a medium hazard is assigned to this site.

ATTACHMENT A

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT SUPPLEMENT SHEET

Instruction - This sheet is provided to give additional information in explanation of a question on the form T2070-3.

Corresponding number on form	Additional Remark and/or Explanation
V.D.	One wood processing building, one wood tie storage building, one shed, one oil drum storage building, and one office building.
XIII.J.	Units are slightly tilted toward Gulf Coast (Figure 1) due to the deltaic deposits from the coastal rivers creating overburden resulting in subsidence below sea level. The rock types are mainly alternating beds of sandstone and clay. The sandstone beds are confined between two impermeable clay beds creating artesian conditions. These confined beds may be hydraulically connected by the Willis Sand of the Pleistocene series and Goliad Sand of the Pliocene series of the Tertiary age and so they are referred to as the Chicot-Evangeline aquifer. Near the site, the approximate regional thickness of the Chicot and Evangeline aquifers ranges between 650 to 700 and 1800 to 1850 feet below the surface. The approximate water levels in the Chicot and Evangeline aquifers ranged from 325 to 350 and 275 to 300 feet below the surface (TDWR reports 236, 241, and 286).

ATTACHMENT B

✓	Stratigraphic and Hydrogeologic Information
✓	Site Inspection Supplimental Report(s)
✓	Groundwater Monitoring System Supplimental Form
NA	Residential Well Sampling Information
✓	Boring Logs and/or Monitoring Well construction and design

Table 1.--Stratigraphic and Hydrogeologic Framework of Part of the Coastal Plain of Texas

Era	System	Series	Stratigraphic Units	Hydrogeologic Units	Selected Faunal Markers	Remarks
CENOZOIC	Quaternary	Holocene	Alluvium	Chicot aquifer		Quaternary System undifferentiated on sections.
		Pleistocene	Beaumont Clay			
			Montgomery Formation			
			Bentley Formation			
			Willis Sand			
	Tertiary	Pliocene	Goliad Sand	Evangeline aquifer		Goliad Sand overlapped east of Lavaca County.
		Miocene	Fleming Formation	Burkeville confining system	*Potamides matsoni* *Bigenerina nodosaria var. directa* *Bigenerina humblei* *Amphistegina sp.*	
			Oakville Sandstone	Jasper aquifer		Oakville Sandstone included in Fleming Formation east of Washington County.
			Surface: Catahoula Tuff or Sandstone Subsurface: Upper part of Catahoula Tuff or Sandstone	Catahoula confining system (restricted)	*Discorbis nomada* *Discorbis gravelli* *Heterostegina sp* *Marginulina idiomorpha*	Catahoula Tuff designated as Catahoula Sandstone east of Lavaca County.
		?	Anahuac Formation		*Textularia mississippiensis*	Anahuac and "Frio" Formations may be Oligocene in age.
		?	"Frio" Formation			
		Oligocene(?)	Surface: Frio Clay Subsurface: Vicksburg Group equivalent	Not discussed as hydrologic units in this report.	*Textularia usarenii*	Frio Clay overlapped or not recognized on surface east of Live Oak County.
		?	Jackson Group: Whitsett Formation: Fashing Clay Member			Indicated members of Whitsett Formation apply to south-central Texas. Whitsett Formation east of Karnes County may be, in part or in whole, Oligocene in age.
			Jackson Group: Whitsett Formation: Callihan Sandstone Member or Tordilla Sandstone Member			
			Jackson Group: Whitsett Formation: Dubose Member		*Marginulina cocoaensis*	
			Jackson Group: Whitsett Formation: Deweesville Sandstone Member			
			Jackson Group: Whitsett Formation: Conquista Clay Member		*Textularia hocklevensis*	
			Jackson Group: Whitsett Formation: Dilworth Sandstone Member		*Massilina pratti*	
		?	Jackson Group: Manning Clay			
		Eocene	Jackson Group: Wellborn Sandstone		*Textularia dibollensis*	
			Jackson Group: Caddell Formation			
			Claiborne Group: Yegua Formation		*Nonionella cockfieldensis* *Discorbis yeguaensis* *Eponides yeguaensis* *Ceratobulimina eximia*	
			Claiborne Group: Cook Mountain Formation			
			Claiborne Group: Sparta Sand			
			Claiborne Group: Weches Formation			
			Claiborne Group: Queen City Sand			
			Claiborne Group: Reklaw Formation			
			Claiborne Group: Carrizo Sand			
			Wilcox Group			
		Paleocene	Midway Group			

Source: TDWR Report 236, July 1979

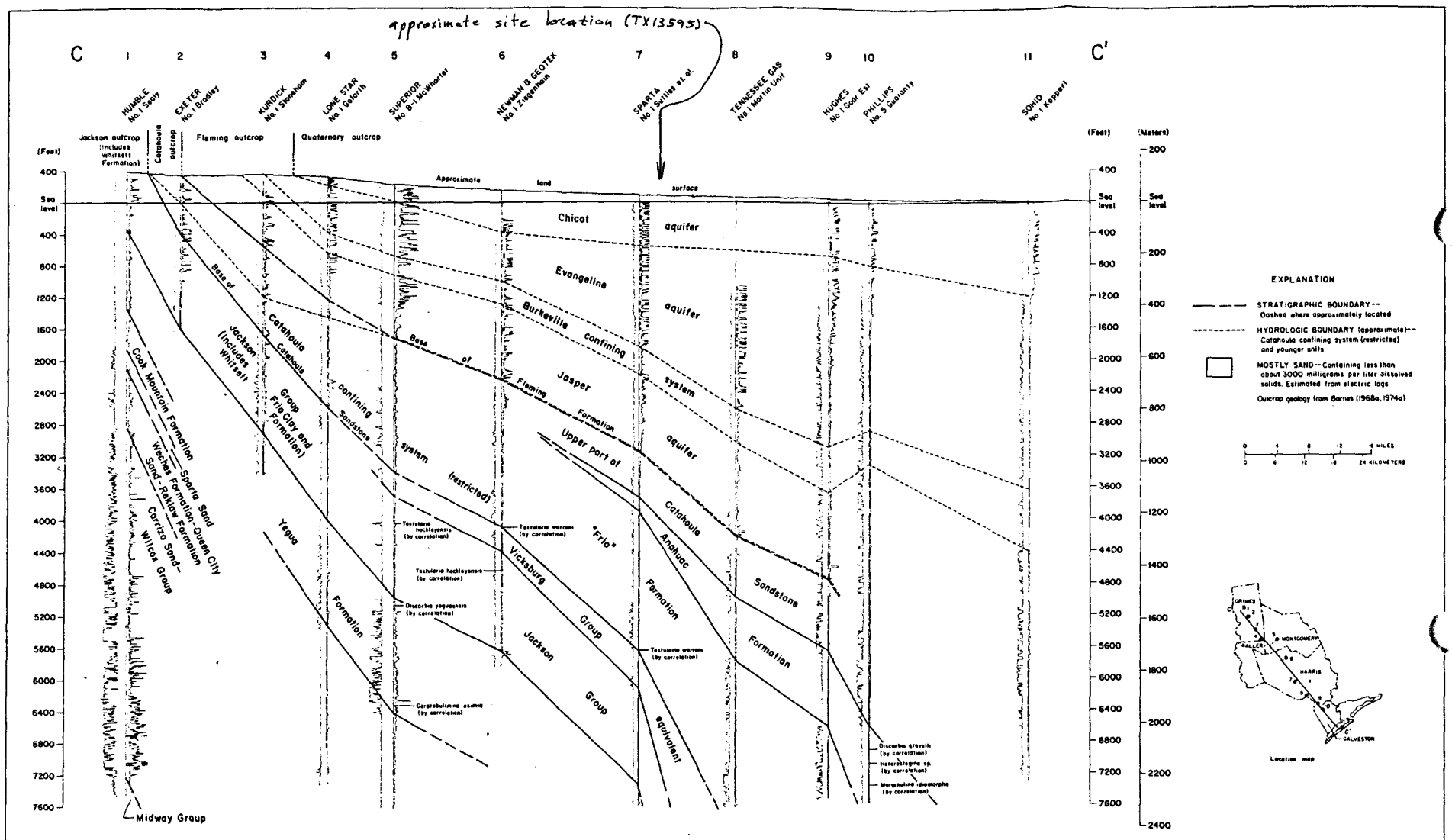


Figure 4

Stratigraphic and Hydrogeologic Section C-C'

SURFACE IMPOUNDMENTS SITE INSPECTION REPORT
(Supplemental Report)

INSTRUCTION
Answer and Explain as Necessary.

1. TYPE OF IMPOUNDMENT
Clay with no lining, closed in 1984 with waste removed

2. STABILITY/CONDITION OF EMBANKMENTS
No evidence of failure or instability

3. EVIDENCE OF SITE INSTABILITY *(Erosion, Settling, Sink Holes, etc.)*
☐ YES ☒ NO

4. EVIDENCE OF DISPOSAL OF IGNITABLE OR REACTIVE WASTE
☐ YES ☒ NO

5. ONLY COMPATIBLE WASTES ARE STORED OR DISPOSED OF IN THE IMPOUNDMENT
☒ YES ☐ NO

6. RECORDS CHECKED FOR CONTENTS AND LOCATION OF EACH SURFACE IMPOUNDMENT
☒ YES ☐ NO

7. IMPOUNDMENT HAS LINER SYSTEM
☐ YES ☒ NO

7a. INTEGRITY OF LINER SYSTEM CHECKED
☐ YES ☒ NO

7b. FINDINGS

8. SOIL STRUCTURE AND SUBSTRUCTURE
Clay, very low permeability

9. MONITORING WELLS
☒ YES ☐ NO

10. LENGTH, WIDTH, AND DEPTH
LENGTH WIDTH 106' x 180' x 72' x 177' x unknown depth (see below) DEPTH

11. CALCULATED VOLUMETRIC CAPACITY
Unknown

12. PERCENT OF CAPACITY REMAINING
N/A

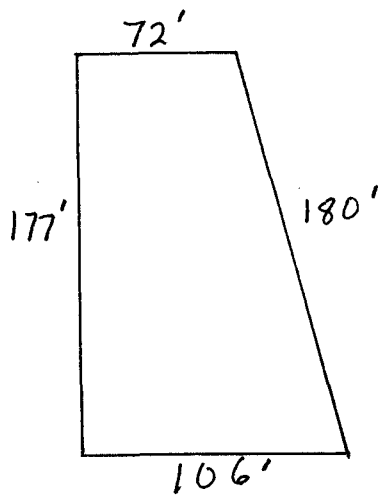
13. ESTIMATE FREEBOARD
N/A

14. SOLIDS DEPOSITION
☐ YES ☐ NO N/A

15. DREDGING DISPOSAL METHOD
N/A

16. OTHER EQUIPMENT
N/A

Impoundment dimensions (from item 10 above)



GROUNDWATER MONITORING SYSTEM SUPPLEMENTAL FORM

1. FACILITY NAME and LOCATION:

Southern Pacific Transportation Company

4910 Liberty Rd.

Houston, Texas 77001

2. SKETCH SHOWING WELL LOCATIONS — ATTACHMENT NO. See Site Sketch

3.

Monitoring Well ID	Well Depth	Static Water Depth	Casing Depth	Type of Casing	Screening Depth
#1	18.5 ft	3.8 ft	18.5	PVC	
#2	18.5 ft	4.1 ft	18.5	PVC	
#3	18.5 ft	4.2 ft	18.5	PVC	
#4	21.0 ft	4.0 ft	21.0	PVC	

4. OBTAIN COPY OF WELL CONSTRUCTION DESIGN - ATTACHMENT NO. B

5. OBTAIN COPIES OF COMPANY's PERTINENT SELF MONITORING DATA ATTACHMENT NO. C

6. COMMENTS

Monitoring wells were padlocked and in apparent good condition

well #1

JOB No. 286-45062

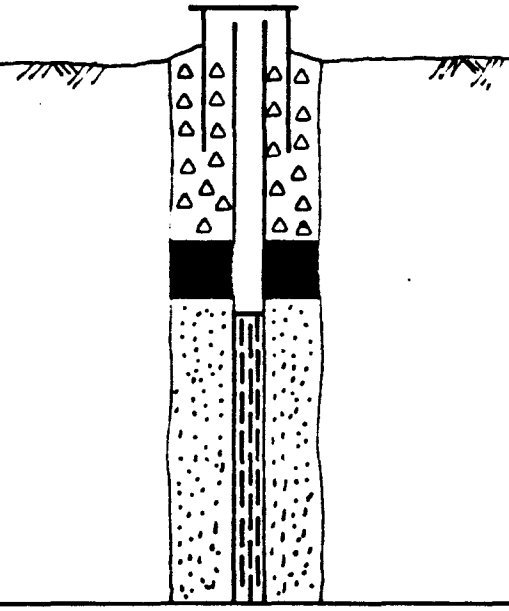
LOG OF BORING No. SP-4

MONITOR WELL INSTALLATIONS
SOUTHERN PACIFIC TRANSPORTATION COMPANY
HOUSTON, TEXAS

TYPE BORING: Wash

LOCATION: See Plate 1

DEPTH, FT.	SAMPLE No.	SAMPLE	SOIL DESCRIPTION	MONITOR WELL INSTALLATION
			SUR. ELEV.:	
0			Red clay - black below 3'	
5			Light gray and tan sandy clay - tan and light gray below 9'	
10				
15			Light gray and tan sand	
20				Note: For Description Of Material Used, See Plate 3.
25				
30				
35				
40				
45				



COMPLETION DEPTH: 18.5'
DATE: April 17, 1984

DEPTH TO WATER:
DATE:

NFS / NATIONAL SOIL SERVICES
CONSULTING ENGINEERS

Well #2

JOB No. 286-45062

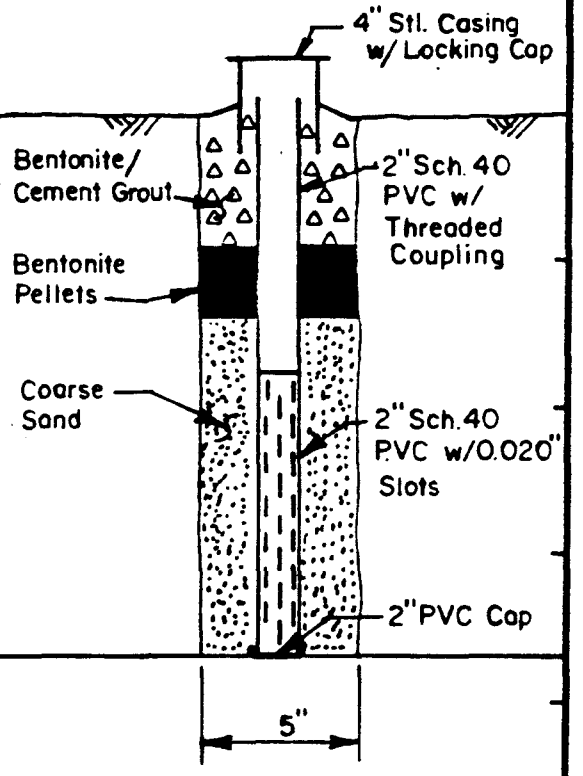
LOG OF BORING No. S

MONITOR WELL INSTALLATIONS
SOUTHERN PACIFIC TRANSPORTATION COMPANY
HOUSTON, TEXAS

TYPE BORING: Auger & Wash

LOCATION: See Plate 1

DEPTH, FT.	SAMPLE No.	SAMPLE	SOIL DESCRIPTION	MONITOR WELL INSTALLATION
			SUR. ELEV.:	
0			Dark gray clay - light gray and tan w/calcareous nodules below 7' - tan and light gray w/silt pockets 10' - 11'	
5				
10				
			Light gray silty clay	
15			Tan and light gray sand w/chemical odor - free water at 14'	
			Light gray clay	
20				
25				
30				
35				
40				
45				



COMPLETION DEPTH: 18.5'
DATE: April 17, 1984

DEPTH TO WATER:
DATE:

NATIONAL SOIL SERVICES
CONSULTING ENGINEERS

well # 3

JOB No. 286-45062

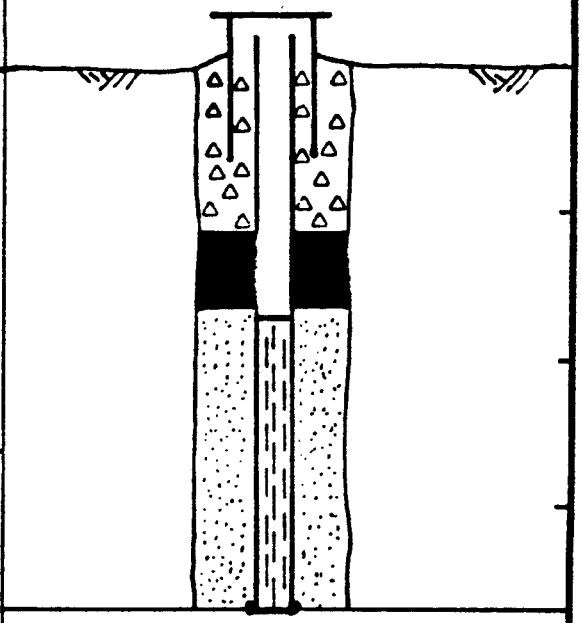
LOG OF BORING No. SP-3

MONITOR WELL INSTALLATIONS
SOUTHERN PACIFIC TRANSPORTATION COMPANY
HOUSTON, TEXAS

TYPE BORING: Wash

LOCATION: See Plate 1

DEPTH, FT.	SAMPLE No.	SAMPLE	SOIL DESCRIPTION	MONITOR WELL INSTALLATION
			SUR. ELEV.:	
0			Black sandy clay	
			- tan and light gray below 3'	
5			- light gray and tan below 7'	
			- tan and light gray w/sand seams below 9'	
10				
			Tan and light gray sand	
15				
20				Note: For Description Of Material Used, See Plate 3.
25				
30				
35				
40				
45				



COMPLETION DEPTH: 18.5'
DATE: April 17, 1984

DEPTH TO WATER:
DATE:

NATIONAL SOIL SERVICES
CONSULTING ENGINEERS

Well #4

JOB No. 286-45062

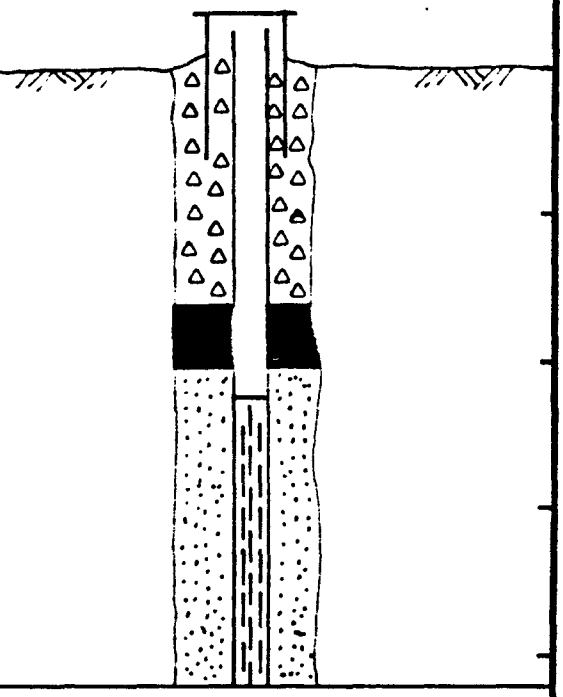
LOG OF BORING No. SP-5

MONITOR WELL INSTALLATIONS
SOUTHERN PACIFIC TRANSPORTATION COMPANY
HOUSTON, TEXAS

TYPE BORING: Wash

LOCATION: See Plate 1

DEPTH, FT.	SAMPLE No.	SAMPLE	SOIL DESCRIPTION	MONITOR WELL INSTALLATION
			SUR. ELEV.:	
0			Tan and dark gray sandy clay	
			- dark gray below 3'	
5			- light gray and tan below 7'	
10			- tan and light gray w/calcareous nodules below 12'	
15			Light gray sand	
20				
25				Note: For Description Of Material Used, See Plate 3.
30				
35				
40				
45				



COMPLETION DEPTH: 21'
DATE: April 18, 1984

DEPTH TO WATER:
DATE:

NATIONAL SOIL SERVICES
CONSULTING ENGINEERS

ATTACHMENT C

✓ Groundwater Monitoring Data

N/A Report(s) from Previous Site Investigation(s)

ATLAS
ENVIRONMENTAL LABORATORIES, INC.
P.O. BOX 1149 • HUMBLE, TEXAS 77347-1149 • (713) 540-2517

October 3, 1984

Frank Bozeman
Southern Pacific Transportation Company
913 Franklin
Houston, Texas 77002

Re: Laboratory sampling: Report #214-43030-57

This report deals with the sampling of the four monitoring wells in Englewood Yard at 4910 Liberty Road, Houston, Texas.

Date Sampled: August 30, 1984

Sampling Method: Four well volumes were evacuated from each well by bailing before the analytical sample was drawn.

Well Gauging Data

Well No.	Depth from ground level to water level, ft.	Total height of water column ft.	Temperature of sample °F
1	5.1	12.8	77
2	5.8	12.0	78
3	5.9	11.9	78
4	10.6	10.3	78

Note: See attached diagram for location of wells.

Respectfully Submitted,

Atlas Environmental Laboratories, Inc.

cc: L. W. Pepple, S. Pacific - San Francisco

BY ..... DATE .....
CHKD BY DATE

SUBJECT WOOD PRESERVING WORK
CLOSURE PLAN – ENGLEWOOD
YARD, HOUSTON, TEXAS

SHEET NO. ... OF
JOB NO. RCRA FACILITY
No. 31547

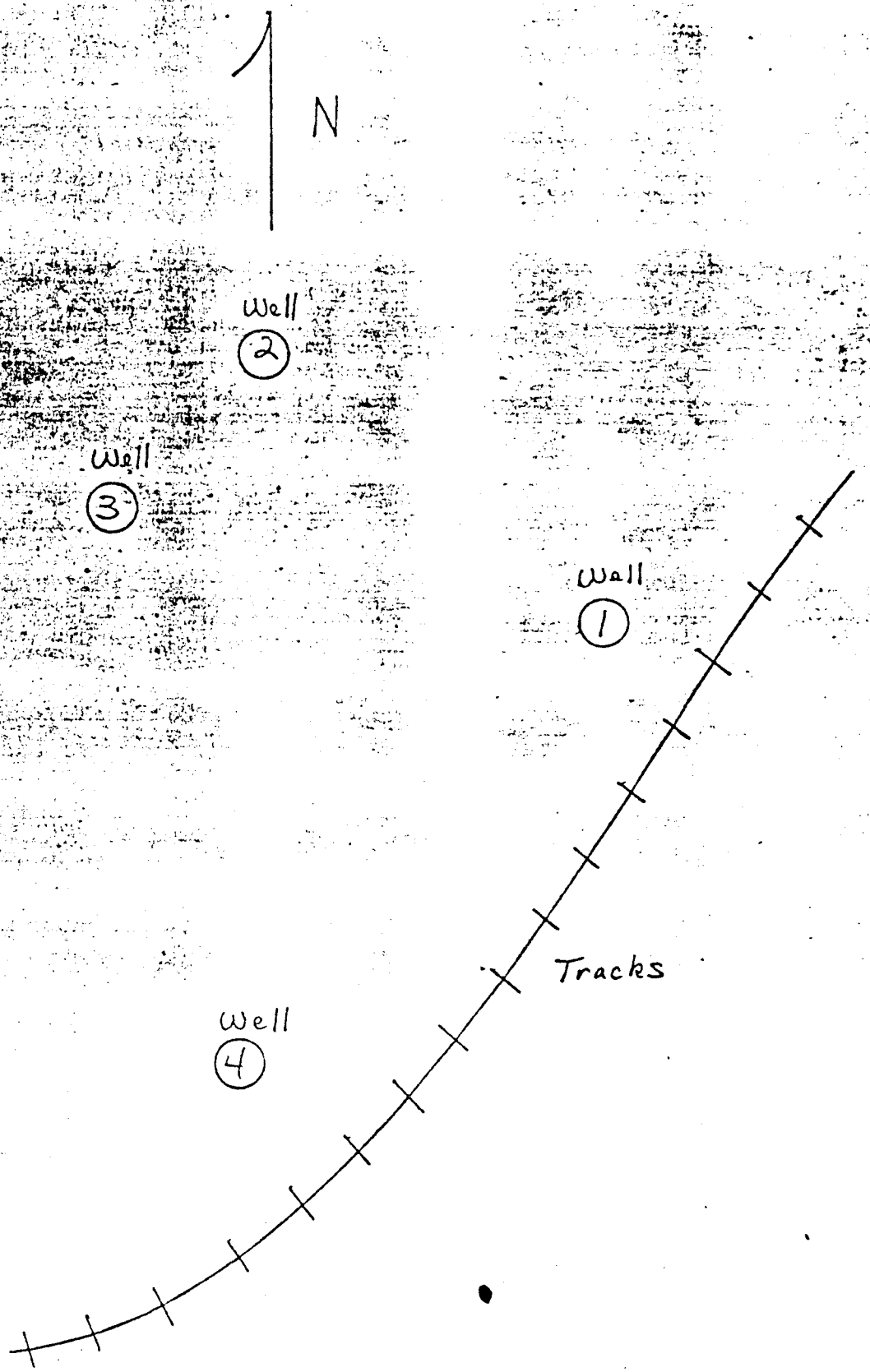
DATE SAMPLED
8-30-84

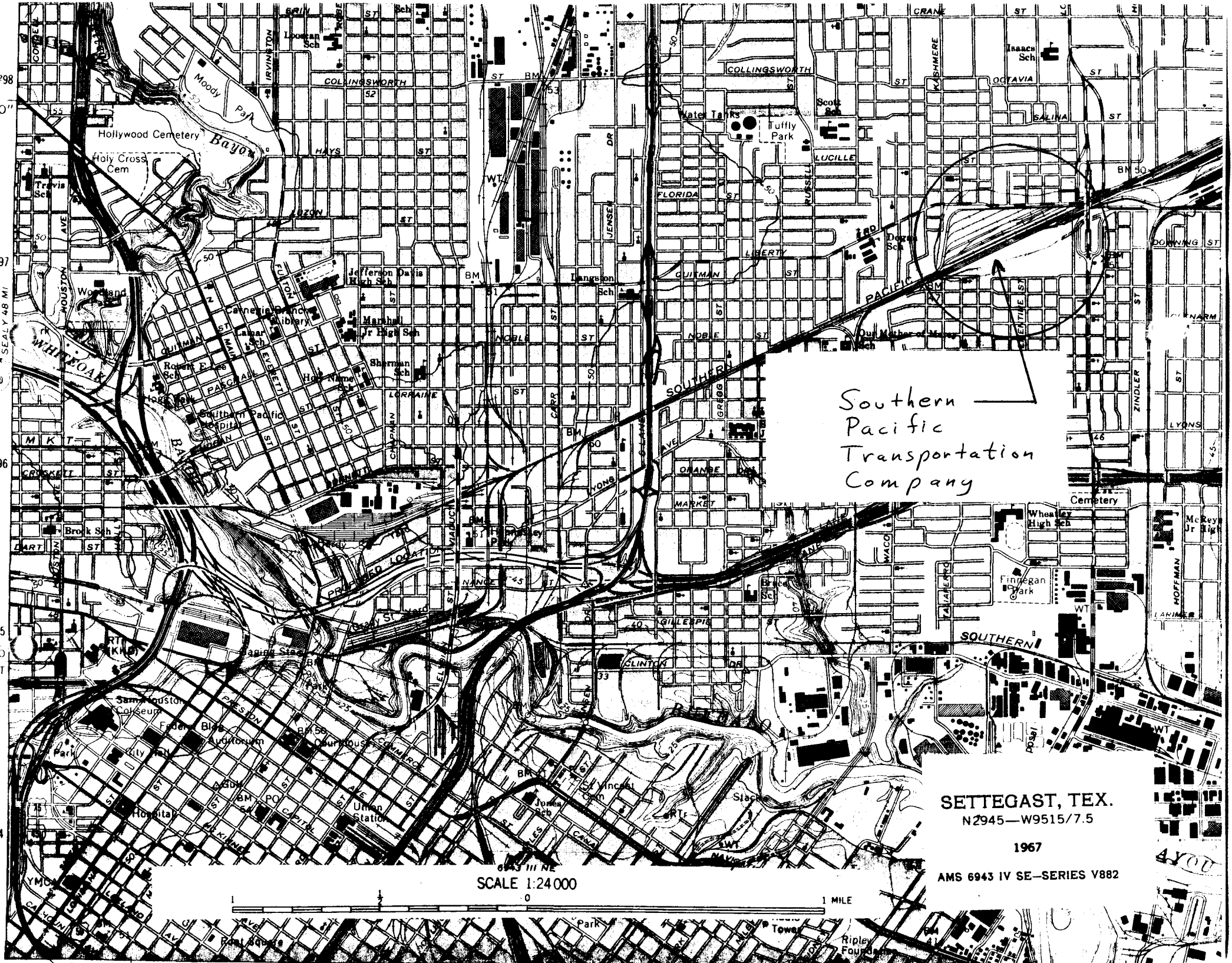
DETECTION LIMIT PPb (ug/L)		WELL 1	WELL 2	WELL 3	WELL 4
10	BENZENE	16	16	17	13
	BENZ(A)ANTHRACENE	*	*	*	*
10	BENZO(A)PYRENE	BDL	BDL	BDL	BDL
10	CHRYSENE	BDL	BDL	BDL	BDL
20	4-NITROPHENOL	20	BDL	BDL	BDL
10	TOLUENE	BDL	BDL	BDL	BDL
	NAPTHALENE PHENOL	*	*	*	*
10	2 CHLOROPHENOL	BDL	BDL	BDL	BDL
10	2, 4, DIMETHYLPHENOL	BDL	BDL	BDL	BDL
10	2, 4, 6 TRICHLOROPHENOL	BDL	BDL	BDL	BDL
10	PENTACHLOROPHENOL	BDL	BDL	BDL	BDL
	4, 6 DINITRO-O-CRESOL	*	*	*	*
	TETRACHLOROPHENOL	*	*	*	*

BDL – BELOW DETECTION LIMIT

* – NOT REPORTED IN LAB. REPORT

Englewood Yard Monitor Well Location




Southern Pacific Transportation Company
SETTEGAST, TEX.
N2945—W9515/7.5
1967
AMS 6943 IV SE—SERIES V882
SCALE 1:24000
1 MILE
Moody Park
Bayou
Hollywood Cemetery
Holy Cross Cem
Travis Sch
Loomis Sch
Jefferson Davis High Sch
Carnegie Branch Library
Marshall Jr High Sch
Lamar Sch
Robert E Lee Sch
Sherman Sch
Holy Name Sch
Southern Pacific Hospital
Langston Sch
Water Tanks
Tuffly Park
Scott Sch
Isaacs Sch
Dogan Sch
Our Mother of Mercy Sch
Wheatley High Sch
McKeyn Jr High
Finnegan Park
Cemetery
Brook Sch
Bruce Sch
Sam Houston Coliseum
Federal Bldg
Auditorium
City Hall
Courthouse
Union Station
Hospital
Lincoln Cem
Jones Sch
Stacks
Park
Post Square
Tower
Ripley Foundation
COLLINGSWORTH ST
HAYS ST
LUZON ST
FLORIDA ST
LIBERTY ST
GUITMAN ST
NOBLE ST
LORRAINE ST
MARKET ST
ORANGE ST
GILLESPIE ST
CLINTON DR
SOUTHERN
PACIFIC
OCTAVIA ST
SALINA ST
LUCILLE ST
CRANE ST
DOWNING ST
LYONS ST
CROCKETT ST
DART ST
NANCE ST
CAPITOL ST
PRESTON ST
COMMERCE ST
McKINNEY ST
CANAL ST
WACO ST
TALLAHEE RD
HOFFMAN ST
ZINDLER ST
KASHMERE ST
RUSSELL DR
JENSEN DR
CARR ST
GREGG ST
CHAPMAN ST
EVERETT ST
FULTON ST
MAIN ST
PASCHAL ST
LINCOLN ST
HOUSTON AVE
WHITE OAK
SEALY 48 MI
M K T
3298
3297
3296
3295
3294
30"
10
5'

ATLAS
ENVIRONMENTAL LABORATORIES, INC.
P.O. BOX 1149 • HUMBLE, TEXAS 77347-1149 • (713) 540-2517

October 3, 1984

Frank Bozeman
Southern Pacific Transportation Company
913 Franklin
Houston, Texas 77002

Re: Laboratory Results: Report #253-43240-1

SAMPLE DESCRIPTION:
Four (4) Waters Labeled #1 Thru #4, In Quart Glass Bottles and Purgeables Vials.

METHODOLOGY EMPLOYED:
Quantification of Base/ Neutral Extractables, and Acid Extractables and Purgeable Organics.

In General Accordance with U.S. EPA Methods 624 and 625.

RESULTS:

Please see the following pages.

Respectfully Submitted,

Atlas Environmental Laboratories, Inc.

cc: L. W. Pepple, S. Pacific - San Francisco

ACID EXTRACTABLES: EPA METHOD 625

PARAMETER	SAMPLE #1 ppb (ug/L)	SAMPLE #2 ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
2-Chlorophenol	BDL	BDL	10
2-Nitrophenol	BDL	BDL	10
Phenol	BDL	BDL	10
2,4-Dimethylphenol	BDL	BDL	10
2,4-Dichlorophenol	BDL	BDL	10
2,4,6-Trichlorophenol	BDL	BDL	10
4-Chloro-3-Methylphenol	BDL	BDL	10
2,4-Dinitrophenol	BDL	BDL	20
2-Methyl-4,6-Dinitrophenol	BDL	BDL	20
Pentachlorophenol	BDL	BDL	10
4-Nitrophenol	20	BDL	20

ACID EXTRACTABLES: EPA METHOD 625

PARAMETER	SAMPLE #3 ppb (ug/L)	SAMPLE #4 ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
2-Chlorophenol	BDL	BDL	10
2-Nitrophenol	BDL	BDL	10
Phenol	BDL	BDL	10
2,4-Dimethylphenol	BDL	BDL	10
2,4-Dichlorophenol	BDL	BDL	10
2,4,6-Trichlorophenol	BDL	BDL	10
4-Chloro-3-Methylphenol	BDL	BDL	10
2,4-Dinitrophenol	BDL	BDL	20
2-Methyl-4,6-Dinitrophenol	BDL	BDL	20
Pentachlorophenol	BDL	BDL	10
4-Nitrophenol	BDL	BDL	10

BASE/NEUTRAL EXTRACTABLES: EPA METHOD 625

PARAMETER	SAMPLE #1 ppb (ug/L)	SAMPLE #2 ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
N-Nitrosodimethyl Amine	BDL	BDL	100
1,3-Dichlorobenzene	BDL	BDL	10
1,4-Dichlorobenzene	BDL	BDL	10
Hexachloroethane	BDL	BDL	10
Bis(2-chloroethyl)ether	BDL	BDL	10
1,2-Dichlorobenzene	BDL	BDL	10
Bis(2-chloroisopropyl) ether	BDL BDL	BDL BDL	10
N-Nitrosodi-n-propyl amine	BDL BDL	BDL BDL	100
Nitrobenzene	BDL	BDL	10
Hexachlorobutadiene	BDL	BDL	10
1,2,4-Trichlorobenzene	BDL	BDL	10
Isophorone	BDL	BDL	50
→ Napthalene	1100	540	50
Bis(2-chloroethoxy) methane	BDL	BDL	50
Hexachlorocyclopentadiene	BDL	BDL	50
2-Chloronapthalene	BDL	BDL	50
Acenapthylene	BDL	BDL	50
Acenapthene	BDL	BDL	50
Dimethyl pthalate	BDL	BDL	50
2,6-Dinitrotoluene	BDL	BDL	50
→ Fluorene	80	80	50
4-Chlorophenyl phenyl ether	BDL	BDL	50
2,4-Dinitrotoluene	BDL	BDL	50
Diethyl pthalate	BDL	BDL	50
N-Nitrosodiphenyl amine	BDL	BDL	10
Hexachloro benzene	BDL	BDL	10
4-Bromophenyl phenyl ether	BDL BDL	BDL BDL	10
Phenanthrene	BDL	BDL	10
Anthracene	BDL	BDL	10
Di-n-butyl pthalate	BDL	BDL	10
Fluoranthene	BDL	BDL	10
Pyrene	BDL	BDL	10
Benzidine	BDL	BDL	10
Butyl benzyl pthalate	BDL	BDL	10
Bis(2-ethylhexyl) pthalate	BDL BDL	BDL BDL	10
Chrysene	BDL	BDL	10
Benzo(a)anthracene	BDL	BDL	10
3,3'-Dichlorobenzidine	BDL	BDL	10
Di-n-octyl phalate	BDL	BDL	10
Benzo-(b)fluoranthene	BDL	BDL	10

BASE NEUTRAL EXTRACTABLES: (continued)

PARAMETER	SAMPLE #1 ppb (ug/L)	SAMPLE #2 ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
Benzo(k)fluoranthene	BDL	BDL	10
Benzo(a)pyrene	BDL	BDL	10
Indeno(1,2,3-cd)pyrene	BDL	BDL	10
Dibenzo(a,h)anthracene	BDL	BDL	10
Benzo(ghi)perylene	BDL	BDL	10

BASE/NEUTRAL EXTRACTABLES: EPA METHOD 625

PARAMETER	SAMPLE #3 ppb (ug/L)	SAMPLE #4 ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
N-Nitrosodimethyl Amine	BDL	BDL	100
1,3-Dichlorobenzene	BDL	BDL	10
1,4-Dichlorobenzene	BDL	BDL	10
Hexachloroethane	BDL	BDL	10
Bis(2-chloroethyl)ether	BDL	BDL	10
1,2-Dichlorobenzene	BDL	BDL	10
Bis(2-chloroisopropyl) ether	BDL	BDL	10
N-Nitrosodi-n-propyl amine	BDL	BDL	100
Nitrobenzene	BDL	BDL	10
Hexachlorobutadiene	BDL	BDL	10
1,2,4-Trichlorobenzene	BDL	BDL	10
Isophorone	BDL	BDL	50
→ Napthalene	57	22	50
Bis(2-chloroethoxy) methane	BDL	BDL	50
Hexachlorocyclopentadiene	BDL	BDL	50
2-Chloronapthalene	BDL	BDL	50
Acenapthylene	BDL	BDL	50
Acenapthene	BDL	BDL	50
Dimethyl pthalate	BDL	BDL	50
2,6-Dinitrotoluene	BDL	BDL	50
→ Fluorene	25	68	50
4-Chlorophenyl phenyl ether	BDL	BDL	50
2,4-Dinitrotoluene	BDL	BDL	50
Diethyl pthalate	BDL	BDL	50
N-Nitrosodiphenyl amine	BDL	BDL	10
Hexachloro benzene	BDL	BDL	10
4-Bromophenyl phenyl ether	BDL	BDL	10
Phenanthrene	BDL	BDL	10
Anthracene	BDL	BDL	10
Di-n-butyl pthalate	BDL	BDL	10
Fluoranthene	BDL	BDL	10
Pyrene	BDL	BDL	10
Benzidine	BDL	BDL	10
Butyl benzyl pthalate	BDL	BDL	10
Bis(2-ethylhexyl) pthalate	BDL	BDL	10
Chrysene	BDL	BDL	10
Benzo(a)anthracene	BDL	BDL	10
3,3'-Dichlorobenzidine	BDL	BDL	10
Di-n-octyl phalate	BDL	BDL	10
Benzo-(b)fluoranthene	BDL	BDL	10

BASE NEUTRAL EXTRACTABLES: (continued)

PARAMETER	SAMPLE #3 ppb (ug/L)	SAMPLE #4 ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
Benzo(k)fluoranthene	BDL	BDL	10
Benzo(a)pyrene	BDL	BDL	10
Indeno(1,2,3-cd)pyrene	BDL	BDL	10
Dibenzo(a,h)anthracene	BDL	BDL	10
Benzo(ghi)perylene	BDL	BDL	10

PURGEABLES. EPA METHOD 624

PARAMETER	STORET #	ATLAS #1 ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
Chloromethane	34418	BDL	10
Bromomethane	34413	BDL	10
Vinyl chloride	39175	BDL	10
Chloroethane	34311	BDL	10
→ Methylene chloride	34423	45	10
Trichlorofluoromethane	34488	BDL	10
1,1-Dichloroethene	34501	BDL	10
1,1-Dichloroethane	34496	BDL	10
trans-1,2-Dichloroethene	34546	BDL	10
→ Chloroform	32106	27	10
1,2-Dichloroethane	34531	BDL	10
1,1,1-Trichloroethane	34506	BDL	10
Carbon Tetrachloride	32102	BDL	10
Bromodichloromethane	32101	BDL	10
1,2-Dichloropropane	34541	BDL	10
trans-1,3-Dichloropropene	34699	BDL	10
→ Trichloroethylene	39180	17	10
→ Benzene	34030	16	10
Dibromochloromethane	32105	BDL	10
1,1,2-Trichloroethane	34511	BDL	10
cis-1,3-Dichloropropene	34699	BDL	10
2-Chloroethyl vinyl ether	34576	BDL	10
Bromoform	32104	BDL	10
1,1,2,2-Tetrachloroethane	34516	BDL	10
Tetrachloroethene	34475	BDL	10
Toluene	34010	BDL	10
Chlorobenzene	34301	BDL	10
Ethyl benzene	34371	BDL	10
1,3-Dichlorobenzene	34566	BDL	10
1,2-Dichlorobenzene	34536	BDL	10
1,4-Dichlorobenzene	34571	BDL	10

BDL denotes Below Detection Limit.

PURGEABLES. EPA METHOD 624

PARAMETER	STORET #	ATLAS #2 ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
Chloromethane	34418	BDL	10
Bromomethane	34413	BDL	10
Vinyl chloride	39175	BDL	10
Chloroethane	34311	BDL	10
→ Methylene chloride	34423	25	10
Trichlorofluoromethane	34488	BDL	10
1,1-Dichloroethene	34501	BDL	10
1,1-Dichloroethane	34496	BDL	10
trans-1,2-Dichloroethene	34546	BDL	10
→ Chloroform	32106	23	10
1,2-Dichloroethane	34531	BDL	10
1,1,1-Trichloroethane	34506	BDL	10
Carbon Tetrachloride	32102	BDL	10
Bromodichloromethane	32101	BDL	10
1,2-Dichloropropane	34541	BDL	10
trans-1,3-Dichloropropene	34699	BDL	10
→ Trichloroethylene	39180	19	10
→ Benzene	34030	16	10
Dibromochloromethane	32105	BDL	10
1,1,2-Trichloroethane	34511	BDL	10
cis-1,3-Dichloropropene	34699	BDL	10
2-Chloroethyl vinyl ether	34576	BDL	10
Bromoform	32104	BDL	10
1,1,2,2-Tetrachloroethane	34516	BDL	10
Tetrachloroethene	34475	BDL	10
Toluene	34010	BDL	10
Chlorobenzene	34301	BDL	10
Ethyl benzene	34371	BDL	10
1,3-Dichlorobenzene	34566	BDL	10
1,2-Dichlorobenzene	34536	BDL	10
1,4-Dichlorobenzene	34571	BDL	10

BDL denotes Below Detection Limit.

PURGEABLES. EPA METHOD 624

PARAMETER	STORET #	ATLAS #3 ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
Chloromethane	34418	BDL	10
Bromomethane	34413	BDL	10
Vinyl chloride	39175	BDL	10
Chloroethane	34311	BDL	10
Methylene chloride	34423	25	10
Trichlorofluoromethane	34488	BDL	10
1,1-Dichloroethene	34501	BDL	10
1,1-Dichloroethane	34496	BDL	10
trans-1,2-Dichloroethene	34546	BDL	10
Chloroform	32106	29	10
1,2-Dichloroethane	34531	BDL	10
1,1,1-Trichloroethane	34506	BDL	10
Carbon Tetrachloride	32102	BDL	10
Bromodichloromethane	32101	BDL	10
1,2-Dichloropropane	34541	BDL	10
trans-1,3-Dichloropropene	34699	BDL	10
Trichloroethylene	39180	33	10
Benzene	34030	17	10
Dibromochloromethane	32105	BDL	10
1,1,2-Trichloroethane	34511	BDL	10
cis-1,3-Dichloropropene	34699	BDL	10
2-Chloroethyl vinyl ether	34576	BDL	10
Bromoform	32104	BDL	10
1,1,2,2-Tetrachloroethane	34516	BDL	10
Tetrachloroethene	34475	BDL	10
Toluene	34010	BDL	10
Chlorobenzene	34301	BDL	10
Ethyl benzene	34371	BDL	10
1,3-Dichlorobenzene	34566	BDL	10
1,2-Dichlorobenzene	34536	BDL	10
1,4-Dichlorobenzene	34571	BDL	10

BDL denotes Below Detection Limit.

PURGEABLES. EPA METHOD 624

PARAMETER	STORET #	ATLAS #4 ppb (ug/L)	DETECTION LIMIT ppb (ug/L)
Chloromethane	34418	BDL	10
Bromomethane	34413	BDL	10
Vinyl chloride	39175	BDL	10
Chloroethane	34311	BDL	10
Methylene chloride	34423	27	10
Trichlorofluoromethane	34488	BDL	10
1,1-Dichloroethene	34501	BDL	10
1,1-Dichloroethane	34496	BDL	10
trans-1,2-Dichloroethene	34546	BDL	10
Chloroform	32106	26	10
1,2-Dichloroethane	34531	BDL	10
1,1,1-Trichloroethane	34506	BDL	10
Carbon Tetrachloride	32102	BDL	10
Bromodichloromethane	32101	BDL	10
1,2-Dichloropropane	34541	BDL	10
trans-1,3-Dichloropropene	34699	BDL	10
Trichloroethylene	39180	29	10
Benzene	34030	13	10
Dibromochloromethane	32105	BDL	10
1,1,2-Trichloroethane	34511	BDL	10
cis-1,3-Dichloropropene	34699	BDL	10
2-Chloroethyl vinyl ether	34576	BDL	10
Bromoform	32104	BDL	10
1,1,2,2-Tetrachloroethane	34516	BDL	10
Tetrachloroethene	34475	BDL	10
Toluene	34010	BDL	10
Chlorobenzene	34301	BDL	10
Ethyl benzene	34371	BDL	10
1,3-Dichlorobenzene	34566	BDL	10
1,2-Dichlorobenzene	34536	BDL	10
1,4-Dichlorobenzene	34571	BDL	10

BDL denotes Below Detection Limit.

BY ..... DATE

CHKD BY ..... DATE

SUBJECT WOOD PRESERVING PLANT CLOSURE PLAN – ENGLEWOOD YARD, HOUSTON, TEXAS

SHEET NO ..... OF .....

JOB NO RCRA FACILITY No. 31547

DATE SAMPLED 12-6-84

DETECTION LIMIT PPb (ug/L)		WELL 1	WELL 2	WELL 3	WELL 4
10	BENZENE	BDL	BDL	BDL	BDL
	BENZ(A)ANTHRACENE	*	*	*	*
10	BENZO(A)PYRENE	BDL	BDL	BDL	BDL
10	CHRYSENE	BDL	BDL	BDL	BDL
10	4-NITROPHENOL	BDL	BDL	BDL	BDL
10	TOLUENE	BDL	BDL	BDL	BDL
	NAPTHALENE PHENOL	*	*	*	*
10	2 CHLOROPHENOL	BDL	BDL	BDL	BDL
10	2, 4, DIMETHYLPHENOL	11	BDL	BDL	BDL
10	2, 4, 6 TRICHLOROPHENOL	BDL	BDL	BDL	BDL
10	PENTACHLOROPHENOL	BDL	BDL	BDL	BDL
10	4, 6 DINITRO-O-CRESOL	BDL	BDL	BDL	BDL
100	TETRACHLOROPHENOL	BDL	BDL	BDL	BDL

BDL – BELOW DETECTION LIMIT

* – NOT REPORTED IN LAB. REPORT

Professional Service Industries, Inc.
Analytical Services Division

ANALYTICAL REPORT

TESTED FOR: ATLAS ENVIRONMENTAL
Post Office Box 1149
Humble, Texas 77347

Attn: Medina Ford

PROJECT: Englewood Yard Monitor Well Sampling

DATE: December 31, 1984

OUR REPORT NO.: 214-43030-75

REMARKS: This report deals with the sampling and testing of the four monitoring wells in Englewood Yard at 4910 Liberty Road, Houston Texas.

Date Sampled: December 6, 1984

Sampling Method: Four well volumes were evacuated from each well by bailing before the analytical sample was drawn.

Test Method: EPA 625, GC/MS.

Well Gauging Data

Well No.	Depth from ground level to water level, ft.	Total height of water column ft.	Temperature of sample °F
1	2.1	15.8	68
2	1.5	16.3	67
3	3.2	14.6	70
4	4.9	16.0	69

Note: See attached diagram for location of wells.

Test Results
Attached

Woods Environmental
214-43030-75

Well No. 1

PRIORITY POLLUTANTS

VOLATILES - Results will follow		Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
1V	acrolein		50
2V	acrylonitrile		50
3V	benzene		10
4V	bis (chloromethyl) ether		10
5V	bromoform		10
6V	carbon tetrachloride		10
7V	chlorobenzene		10
8V	chlorodibromomethane		10
9V	chloroethane		10
10V	2-chloroethylvinyl ether		10
11V	chloroform		10
12V	dichlorobromethane		10
13V	dichlorodifluoromethane		10
14V	1,1-dichloroethane		10
15V	1,2-dichloroethane		10
16V	1,1-dichloroethylene		10
17V	1,2-dichloropropane		10
18V	1,2-dichloropropylene		10
19V	ethylbenzene		10
20V	methyl bromide		10
21V	methyl chloride		10
22V	methylene chloride		10
23V	1,1,2,2,-tetrachloroethane		10
24V	tetrachloroethylene		10
25V	toluene		10
26V	1,2-trans-dichloroethylene		10
27V	1,1,1-trichloroethane		10
28V	1,1,2-trichloroethane		10
29V	trichloroethylene		10
30V	trichlorfluoromethane		10
31V	vinyl chloride		10

ACID EXTRACTABLES			
1A	2-chlorophenol	BDL	10
2A	2,4-dichlorophenol	BDL	10
3A	2,4-dimethylphenol	11	10
4A	4,6-dinitro-o-cresol	BDL	10
5A	2,4-dinitrophenol	BDL	10
6A	2-nitrophenol	BDL	10
7A	4-nitrophenol	BDL	10
8A	p-chloro-m-cresol	BDL	10
9A	pentachlorophenol	BDL	10
10A	phenol	BDL	10
11A	2,4,6-trichlorophenol	BDL	10

BDL = Below Detection Limit

Atlas Environmental
214-43030-75

Well No. 2

PRIORITY POLLUTANTS

VOLATILES - Results will follow		Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
1V	acrolein		50
2V	acrylonitrile		50
3V	benzene		10
4V	bis (chloromethyl) ether		10
5V	bromoform		10
6V	carbon tetrachloride		10
7V	chlorobenzene		10
8V	chlorodibromomethane		10
9V	chloroethane		10
10V	2-chloroethylvinyl ether		10
11V	chloroform		10
12V	dichlorobromethane		10
13V	dichlorodifluoromethane		10
14V	1,1-dichloroethane		10
15V	1,2-dichloroethane		10
16V	1,1-dichloroethylene		10
17V	1,2-dichloropropane		10
18V	1,2-dichloropropylene		10
19V	ethylbenzene		10
20V	methyl bromide		10
21V	methyl chloride		10
22V	methylene chloride		10
23V	1,1,2,2,-tetrachloroethane		10
24V	tetrachloroethylene		10
25V	toluene		10
26V	1,2-trans-dichloroethylene		10
27V	1,1,1-trichloroethane		10
28V	1,1,2-trichloroethane		10
29V	trichloroethylene		10
30V	trichlorfluoromethane		10
31V	vinyl chloride		10

ACID EXTRACTABLES			
1A	2-chlorophenol	BDL	10
2A	2,4-dichlorophenol	BDL	10
3A	2,4-dimethylphenol	BDL	10
4A	4,6-dinitro-o-cresol	BDL	10
5A	2,4-dinitrophenol	BDL	10
6A	2-nitrophenol	BDL	10
7A	4-nitrophenol	BDL	10
8A	p-chloro-m-cresol	BDL	10
9A	pentachlorophenol	BDL	10
10A	phenol	BDL	10
11A	2,4,6-trichlorophenol	BDL	10

BDL = Below Detection Limit

[illegible] Environmental
214-43030-75

Well No. 3

PRIORITY POLLUTANTS

VOLATILES - Results will follow		Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
1V	acrolein		50
2V	acrylonitrile		50
3V	benzene		10
4V	bis (chloromethyl) ether		10
5V	bromoform		10
6V	carbon tetrachloride		10
7V	chlorobenzene		10
8V	chlorodibromomethane		10
9V	chloroethane		10
10V	2-chloroethylvinyl ether		10
11V	chloroform		10
12V	dichlorobromethane		10
13V	dichlorodifluoromethane		10
14V	1,1-dichloroethane		10
15V	1,2-dichloroethane		10
16V	1,1-dichloroethylene		10
17V	1,2-dichloropropane		10
18V	1,2-dichloropropylene		10
19V	ethylbenzene		10
20V	methyl bromide		10
21V	methyl chloride		10
22V	methylene chloride		10
23V	1,1,2,2,-tetrachloroethane		10
24V	tetrachloroethylene		10
25V	toluene		10
26V	1,2-trans-dichloroethylene		10
27V	1,1,1-trichloroethane		10
28V	1,1,2-trichloroethane		10
29V	trichloroethylene		10
30V	trichlorfluoromethane		10
31V	vinyl chloride		10

ACID EXTRACTABLES			
1A	2-chlorophenol	BDL	10
2A	2,4-dichlorophenol	BDL	10
3A	2,4-dimethylphenol	BDL	10
4A	4,6-dinitro-o-cresol	BDL	10
5A	2,4-dinitrophenol	BDL	10
6A	2-nitrophenol	BDL	10
7A	4-nitrophenol	BDL	10
8A	p-chloro-m-cresol	BDL	10
9A	pentachlorophenol	BDL	10
10A	phenol	BDL	10
11A	2,4,6-trichlorophenol	BDL	10

BDL = Below Detection Limit

Atlas Environmental
214-43030-75

Well No. 4

PRIORITY POLLUTANTS

VOLATILES - Results will follow		Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
1V	acrolein		50
2V	acrylonitrile		50
3V	benzene		10
4V	bis (chloromethyl) ether		10
5V	bromoform		10
6V	carbon tetrachloride		10
7V	chlorobenzene		10
8V	chlorodibromomethane		10
9V	chloroethane		10
10V	2-chloroethylvinyl ether		10
11V	chloroform		10
12V	dichlorobromethane		10
13V	dichlorodifluoromethane		10
14V	1,1-dichloroethane		10
15V	1,2-dichloroethane		10
16V	1,1-dichloroethylene		10
17V	1,2-dichloropropane		10
18V	1,2-dichloropropylene		10
19V	ethylbenzene		10
20V	methyl bromide		10
21V	methyl chloride		10
22V	methylene chloride		10
23V	1,1,2,2,-tetrachloroethane		10
24V	tetrachloroethylene		10
25V	toluene		10
26V	1,2-trans-dichloroethylene		10
27V	1,1,1-trichloroethane		10
28V	1,1,2-trichloroethane		10
29V	trichloroethylene		10
30V	trichlorfluoromethane		10
31V	vinyl chloride		10

ACID EXTRACTABLES			
1A	2-chlorophenol	BDL	10
2A	2,4-dichlorophenol	BDL	10
3A	2,4-dimethylphenol	BDL	10
4A	4,6-dinitro-o-cresol	BDL	10
5A	2,4-dinitrophenol	BDL	10
6A	2-nitrophenol	BDL	10
7A	4-nitrophenol	BDL	10
8A	p-chloro-m-cresol	BDL	10
9A	pentachlorophenol	BDL	10
10A	phenol	BDL	10
11A	2,4,6-trichlorophenol	BDL	10

BDL = Below Detection Limit

Atlas Environmental
214-43030-75

Well No. 1

BASE/NEUTRAL EXTRACTABLES		Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
→1B	acenaphthene	90	10
2B	acenaphthylene	BDL	10
→3B	anthracene	86	10
4B	benzidine	BDL	10
5B	benzo(a)anthracene	BDL	10
6B	benzo(a)pyrene	BDL	10
7B	3,4-benzofluoranthene	BDL	10
8B	benzo(ghi)perylene	BDL	10
9B	benzo(k)fluoranthene	BDL	10
10B	bis(2-chloroethoxy)methane	BDL	10
11B	bis(2-chloroethyl)ether	BDL	10
12B	bis(2-chloroisopropy)ether	BDL	10
13B	bis(2-ethylhexyl)phthalate	BDL	10
14B	4-bromophenyl phenyl ether	BDL	10
15B	butylbenzyl phthalate	BDL	10
16B	2-chloronaphthalene	BDL	10
17B	4-chlorophenyl phenyl ether	BDL	10
18B	chrysene	BDL	10
19B	dibenzo(a,h)anthracene	BDL	10
20B	1,2-dichlorobenzene	BDL	10
21B	2,3-dichlorobenzene	BDL	10
22B	1,4-dichlorobenzene	BDL	10
23B	3,3-dichlorobenzidine	BDL	10
24B	diethyl phthalate	BDL	10
25B	dimethyl phthalate	BDL	10
→26B	di-n-butyl phthalate	13	10
27B	2,4-dinitrotoluene	BDL	10
28B	2,6-dinitrotoluene	BDL	10
→29B	di-n-octyl phthalate	14	10
30B	1,2-diphenylhydrazine (as azobenzene)	BDL	10
31B	fluoranthene	BDL	10
→32B	fluorene	100	10
33B	hexachlorobenzene	BDL	10
34B	hexachlorobutadiene	BDL	10
35B	hexachlorocyclopentadiene	BDL	10
→36B	hexachloroethane	83	10
37B	indeno(1,2,3-cd)pyrene	BDL	10
38B	isophorone	BDL	10
→39B	naphthalene	1160	10
40B	nitrobenzene	BDL	10
41B	N-nitrosodimethylamine	BDL	10
42B	N-nitrosodi-n-propylamine	BDL	10
43B	N-nitrosodiphenylamine	BDL	10
→44B	phenanthrene	133	10
→45B	pyrene	43	10
46B	1,2,4-trichlorobenzene	BDL	10

BDL = Below Detection Limit

214-43030-75

Well No. 2

BASE/NEUTRAL EXTRACTABLES		Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
→ 1B	acenaphthene	111	10
2B	acenaphthylene	BDL	10
→ 3B	anthracene	95	10
4B	benzidine	BDL	10
5B	benzo(a)anthracene	BDL	10
6B	benzo(a)pyrene	BDL	10
7B	3,4-benzofluoranthene	BDL	10
8B	benzo(ghi)perylene	BDL	10
9B	benzo(k)fluoranthene	BDL	10
10B	bis(2-chloroethoxy)methane	BDL	10
11B	bis(2-chloroethyl)ether	BDL	10
12B	bis(2-chloroisopropy)ether	BDL	10
13B	bis(2-ethylhexyl)phthalate	BDL	10
14B	4-bromophenyl phenyl ether	BDL	10
15B	butylbenzyl phthalate	BDL	10
16B	2-chloronaphthalene	BDL	10
17B	4-chlorophenyl phenyl ether	BDL	10
18B	chrysene	BDL	10
19B	dibenzo(a,h)anthracene	BDL	10
20B	1,2-dichlorobenzene	BDL	10
21B	2,3-dichlorobenzene	BDL	10
22B	1,4-dichlorobenzene	BDL	10
23B	3,3-dichlorobenzidine	BDL	10
24B	diethyl phthalate	BDL	10
25B	dimethyl phthalate	BDL	10
26B	di-n-butyl phthalate	BDL	10
27B	2,4-dinitrotoluene	BDL	10
28B	2,6-dinitrotoluene	BDL	10
→ 29B	di-n-octyl phthalate	11	10
30B	1,2-diphenylhydrazine (as azobenzene)	BDL	10
31B	fluoranthene	BDL	10
→ 32B	fluorene	128	10
33B	hexachlorobenzene	BDL	10
34B	hexachlorobutadiene	BDL	10
35B	hexachlorocyclopentadiene	BDL	10
→ 36B	hexachloroethane	58	10
37B	indeno(1,2,3-cd)pyrene	BDL	10
38B	isophorone	BDL	10
→ 39B	naphthalene	235	10
40B	nitrobenzene	BDL	10
41B	N-nitrosodimethylamine	BDL	10
42B	N-nitrosodi-n-propylamine	BDL	10
43B	N-nitrosodiphenylamine	BDL	10
→ 44B	phenanthrene	147	10
→ 45B	pyrene	49	10
46B	1,2,4-trichlorobenzene	BDL	10

BDL = Below Detection Limit

Atlas Environmental
214-43030-75

Well No. 3

BASE/NEUTRAL EXTRACTABLES		Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
1B	acenaphthene	BDL	10
→2B	acenaphthylene	205	10
3B	anthracene	BDL	10
4B	benzidine	BDL	10
5B	benzo(a)anthracene	BDL	10
6B	benzo(a)pyrene	BDL	10
7B	3,4-benzofluoranthene	BDL	10
8B	benzo(ghi)perylene	BDL	10
9B	benzo(k)fluoranthene	BDL	10
10B	bis(2-chloroethoxy)methane	BDL	10
11B	bis(2-chloroethyl)ether	BDL	10
12B	bis(2-chloroisopropy)ether	BDL	10
→13B	bis(2-ethylhexyl)phthalate	21	10
14B	4-bromophenyl phenyl ether	BDL	10
15B	butylbenzyl phthalate	BDL	10
16B	2-chloronaphthalene	BDL	10
17B	4-chlorophenyl phenyl ether	BDL	10
18B	chrysene	BDL	10
19B	dibenzo(a,h)anthracene	BDL	10
20B	1,2-dichlorobenzene	BDL	10
21B	2,3-dichlorobenzene	BDL	10
22B	1,4-dichlorobenzene	BDL	10
23B	3,3-dichlorobenzidine	BDL	10
24B	diethyl phthalate	BDL	10
25B	dimethyl phthalate	BDL	10
26B	di-n-butyl phthalate	BDL	10
27B	2,4-dinitrotoluene	BDL	10
28B	2,6-dinitrotoluene	BDL	10
→29B	di-n-octyl phthalate	11	10
30B	1,2-diphenylhydrazine (as azobenzene)	BDL	10
31B	fluoranthene	BDL	10
→32B	fluorene	234	10
33B	hexachlorobenzene	BDL	10
34B	hexachlorobutadiene	BDL	10
35B	hexachlorocyclopentadiene	BDL	10
36B	hexachloroethane	BDL	10
37B	indeno(1,2,3-cd)pyrene	BDL	10
38B	isophorone	BDL	10
→39B	naphthalene	1234	10
40B	nitrobenzene	BDL	10
41B	N-nitrosodimethylamine	BDL	10
42B	N-nitrosodi-n-propylamine	BDL	10
43B	N-nitrosodiphenylamine	BDL	10
44B	phenanthrene	BDL	10
→45B	pyrene	119	10
46B	1,2,4-trichlorobenzene	BDL	10

BDL = Below Detection Limit

Wells Environmental
214-43030-75

Well No. 4

BASE/NEUTRAL EXTRACTABLES		Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
→ 1B	acenaphthene	19	10
2B	acenaphthylene	BDL	10
3B	anthracene	BDL	10
4B	benzidine	BDL	10
5B	benzo(a)anthracene	BDL	10
6B	benzo(a)pyrene	BDL	10
7B	3,4-benzofluoranthene	BDL	10
8B	benzo(ghi)perylene	BDL	10
9B	benzo(k)fluoranthene	BDL	10
10B	bis(2-chloroethoxy)methane	BDL	10
11B	bis(2-chloroethyl)ether	BDL	10
12B	bis(2-chloroisopropy)ether	BDL	10
13B	bis(2-ethylhexyl)phthalate	BDL	10
14B	4-bromophenyl phenyl ether	BDL	10
15B	butylbenzyl phthalate	BDL	10
16B	2-chloronaphthalene	BDL	10
17B	4-chlorophenyl phenyl ether	BDL	10
18B	chrysene	BDL	10
19B	dibenzo(a,h)anthracene	BDL	10
20B	1,2-dichlorobenzene	BDL	10
21B	2,3-dichlorobenzene	BDL	10
22B	1,4-dichlorobenzene	BDL	10
23B	3,3-dichlorobenzidine	BDL	10
24B	diethyl phthalate	BDL	10
25B	dimethyl phthalate	BDL	10
26B	di-n-butyl phthalate	BDL	10
27B	2,4-dinitrotoluene	BDL	10
28B	2,6-dinitrotoluene	BDL	10
29B	di-n-octyl phthalate	BDL	10
30B	1,2-diphenylhydrazine (as azobenzene)	BDL	10
31B	fluoranthene	BDL	10
→ 32B	fluorene	18	10
33B	hexachlorobenzene	BDL	10
34B	hexachlorobutadiene	BDL	10
35B	hexachlorocyclopentadiene	BDL	10
36B	hexachloroethane	BDL	10
37B	indeno(1,2,3-cd)pyrene	BDL	10
38B	isophorone	BDL	10
→ 39B	naphthalene	89	10
40B	nitrobenzene	BDL	10
41B	N-nitrosodimethylamine	BDL	10
42B	N-nitrosodi-n-propylamine	BDL	10
43B	N-nitrosodiphenylamine	BDL	10
→ 44B	phenanthrene	12	10
45B	pyrene	BDL	10
46B	1,2,4-trichlorobenzene	BDL	10

BDL = Below Detection Limit

Atlas Environmental
214-43030-75

Well No. 1

ADDITIONAL COMPOUNDS	Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
Tetrachlorophenol	BDL	100

BDL = Below Detection Limit

Atlas Environmental
214-43030-75

Well No. 2

ADDITIONAL COMPOUNDS	Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
Tetrachlorophenol	BDL	100

BDL = Below Detection Limit.

Atlas Environmental
214-43030-75

Well No. 3

ADDITIONAL COMPOUNDS	Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
Tetrachlorophenol	BDL	100

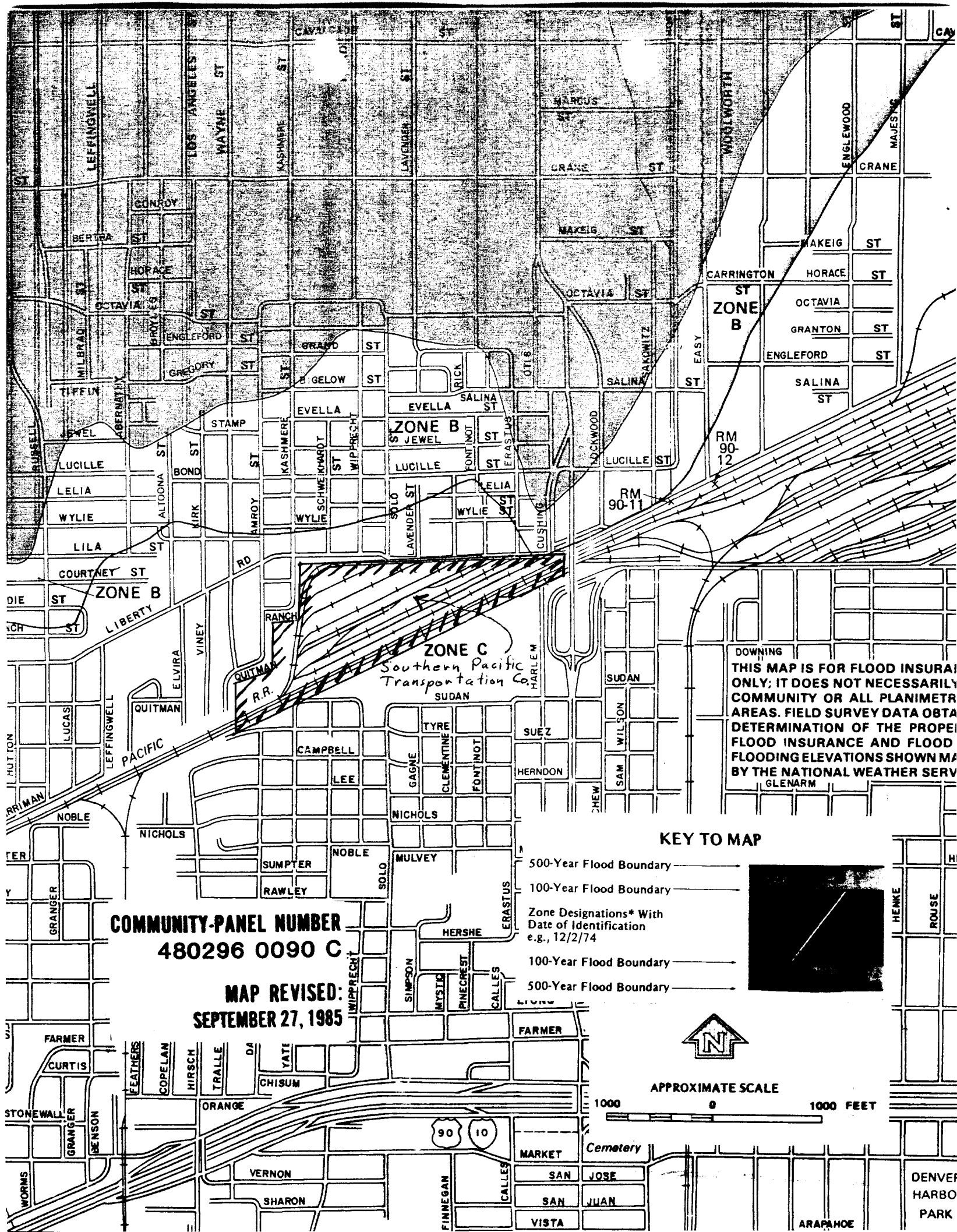
BDL = Below Detection Limit.

Atlas Environmental
214-43030-75

Well No. 4

ADDITIONAL COMPOUNDS	Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
Tetrachlorophenol	BDL	100

BDL = Below Detection Limit.


ZONE B
ZONE C
Southern Pacific Transportation Co.
RM 90-12
RM 90-11
THIS MAP IS FOR FLOOD INSURA
ONLY; IT DOES NOT NECESSARIL
COMMUNITY OR ALL PLANIMETR
AREAS. FIELD SURVEY DATA OBTA
DETERMINATION OF THE PROPE
FLOOD INSURANCE AND FLOOD
FLOODING ELEVATIONS SHOWN MA
BY THE NATIONAL WEATHER SERV
KEY TO MAP
500-Year Flood Boundary
100-Year Flood Boundary
Zone Designations* With Date of Identification e.g., 12/2/74
100-Year Flood Boundary
500-Year Flood Boundary
COMMUNITY-PANEL NUMBER
480296 0090 C
MAP REVISED:
SEPTEMBER 27, 1985
APPROXIMATE SCALE
1000 0 1000 FEET
Cemetery

Well Number 1

PRIORITY POLLUTANTS

VOLATILES		Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
1	Chloromethane	BDL	10
2	Bromomethane	BDL	10
3	Vinyl Chloride	BDL	10
4	Chloroethane	BDL	10
5	Dichloromethane	774	10
6	Trichlorofluormethane	BDL	10
7	1,1-Dichloroethene	BDL	10
8	1,1-Dichloroethane	BDL	10
9	Trans-1,2-Dichloroethene	BDL	10
10	Chloroform	BDL	10
11	1,2-Dichloroethane	BDL	10
12	1,1,1-Trichloroethane	BDL	10
13	Carbon Tetrachloride	BDL	10
14	Bromodichloromethane	BDL	10
15	1,2-Dichloropropane	1873	10
16	Trans-1,3-Dichloropropene	BDL	10
17	Trichloroethene	BDL	10
18	Benzene	BDL	10
19	Chlorodibromomethane	BDL	10
20	1,1,2-Trichloroethane	BDL	10
21	Cis-1,3-Dichloropropene	BDL	10
22	2-Chloroethyl Vinyl Ether	BDL	10
23	Bromoform	BDL	10
24	Tetrachloroethene	BDL	10
25	1,1,2,2-Tetrachloroethane	BDL	10
26	Toluene	BDL	10
27	Chlorobenzene	BDL	10
28	Ethyl Benzene	BDL	10
29	1,3-Dichlorobenzene	BDL	10
30	1,2-Dichlorobenzene	BDL	10
31	1,4-Dichlorobenzene	BDL	10

BDL = Below Detection Limit

Well Number 2

PRIORITY POLLUTANTS

VOLATILES		Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
1	Chloromethane	BDL	10
2	Bromomethane	BDL	10
3	Vinyl Chloride	BDL	10
4	Chloroethane	BDL	10
5	Dichloromethane	12	10
6	Trichlorofluormethane	BDL	10
7	1,1-Dichloroethene	BDL	10
8	1,1-Dichloroethane	BDL	10
9	Trans-1,2-Dichloroethene	BDL	10
10	Chloroform	BDL	10
11	1,2-Dichloroethane	BDL	10
12	1,1,1-Trichloroethane	BDL	10
13	Carbon Tetrachloride	BDL	10
14	Bromodichloromethane	BDL	10
15	1,2-Dichloropropane	36	10
16	Trans-1,3-Dichloropropene	BDL	10
17	Trichloroethene	BDL	10
18	Benzene	BDL	10
19	Chlorodibromomethane	BDL	10
20	1,1,2-Trichloroethane	BDL	10
21	Cis-1,3-Dichloropropene	BDL	10
22	2-Chloroethyl Vinyl Ether	BDL	10
23	Bromoform	BDL	10
24	Tetrachloroethene	BDL	10
25	1,1,2,2-Tetrachloroethane	BDL	10
26	Toluene	BDL	10
27	Chlorobenzene	BDL	10
28	Ethyl Benzene	BDL	10
29	1,3-Dichlorobenzene	BDL	10
30	1,2-Dichlorobenzene	BDL	10
31	1,4-Dichlorobenzene	BDL	10

BDL = Below Detection Limit

Well Number 3

PRIORITY POLLUTANTS

VOLATILES	Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
1 Chloromethane	BDL	10
2 Bromomethane	BDL	10
3 Vinyl Chloride	BDL	10
4 Chloroethane	BDL	10
→ 5 Dichloromethane	10	10
6 Trichlorofluormethane	BDL	10
7 1,1-Dichloroethene	BDL	10
8 1,1-Dichloroethane	BDL	10
9 Trans-1,2-Dichloroethene	BDL	10
10 Chloroform	BDL	10
11 1,2-Dichloroethane	BDL	10
12 1,1,1-Trichloroethane	BDL	10
13 Carbon Tetrachloride	BDL	10
14 Bromodichloromethane	BDL	10
→ 15 1,2-Dichloropropane	40	10
16 Trans-1,3-Dichloropropene	BDL	10
17 Trichloroethene	BDL	10
18 Benzene	BDL	10
19 Chlorodibromomethane	BDL	10
20 1,1,2-Trichloroethane	BDL	10
21 Cis-1,3-Dichloropropene	BDL	10
22 2-Chloroethyl Vinyl Ether	BDL	10
23 Bromoform	BDL	10
24 Tetrachloroethene	BDL	10
25 1,1,2,2-Tetrachloroethane	BDL	10
26 Toluene	BDL	10
27 Chlorobenzene	BDL	10
28 Ethyl Benzene	BDL	10
29 1,3-Dichlorobenzene	BDL	10
30 1,2-Dichlorobenzene	BDL	10
31 1,4-Dichlorobenzene	BDL	10

BDL = Below Detection Limit

Well Number 4

PRIORITY POLLUTANTS

VOLATILES		Concentration ppb (ug/L)	Detection Limit ppb (ug/L)
1	Chloromethane	BDL	10
2	Bromomethane	BDL	10
3	Vinyl Chloride	BDL	10
4	Chloroethane	BDL	10
→ 5	Dichloromethane	635	10
6	Trichlorofluormethane	BDL	10
7	1,1-Dichloroethene	BDL	10
8	1,1-Dichloroethane	BDL	10
9	Trans-1,2-Dichloroethene	BDL	10
10	Chloroform	BDL	10
11	1,2-Dichloroethane	BDL	10
12	1,1,1-Trichloroethane	BDL	10
13	Carbon Tetrachloride	BDL	10
14	Bromodichloromethane	BDL	10
→ 15	1,2-Dichloropropane	1610	10
16	Trans-1,3-Dichloropropene	BDL	10
17	Trichloroethene	BDL	10
18	Benzene	BDL	10
19	Chlorodibromomethane	BDL	10
20	1,1,2-Trichloroethane	BDL	10
21	Cis-1,3-Dichloropropene	BDL	10
22	2-Chloroethyl Vinyl Ether	BDL	10
23	Bromoform	BDL	10
24	Tetrachloroethene	BDL	10
25	1,1,2,2-Tetrachloroethane	BDL	10
26	Toluene	BDL	10
27	Chlorobenzene	BDL	10
28	Ethyl Benzene	BDL	10
29	1,3-Dichlorobenzene	BDL	10
30	1,2-Dichlorobenzene	BDL	10
31	1,4-Dichlorobenzene	BDL	10

BDL = Below Detection Limit

ATTACHMENT D

___ Site Safety and Work Plan

✓ Site sketch

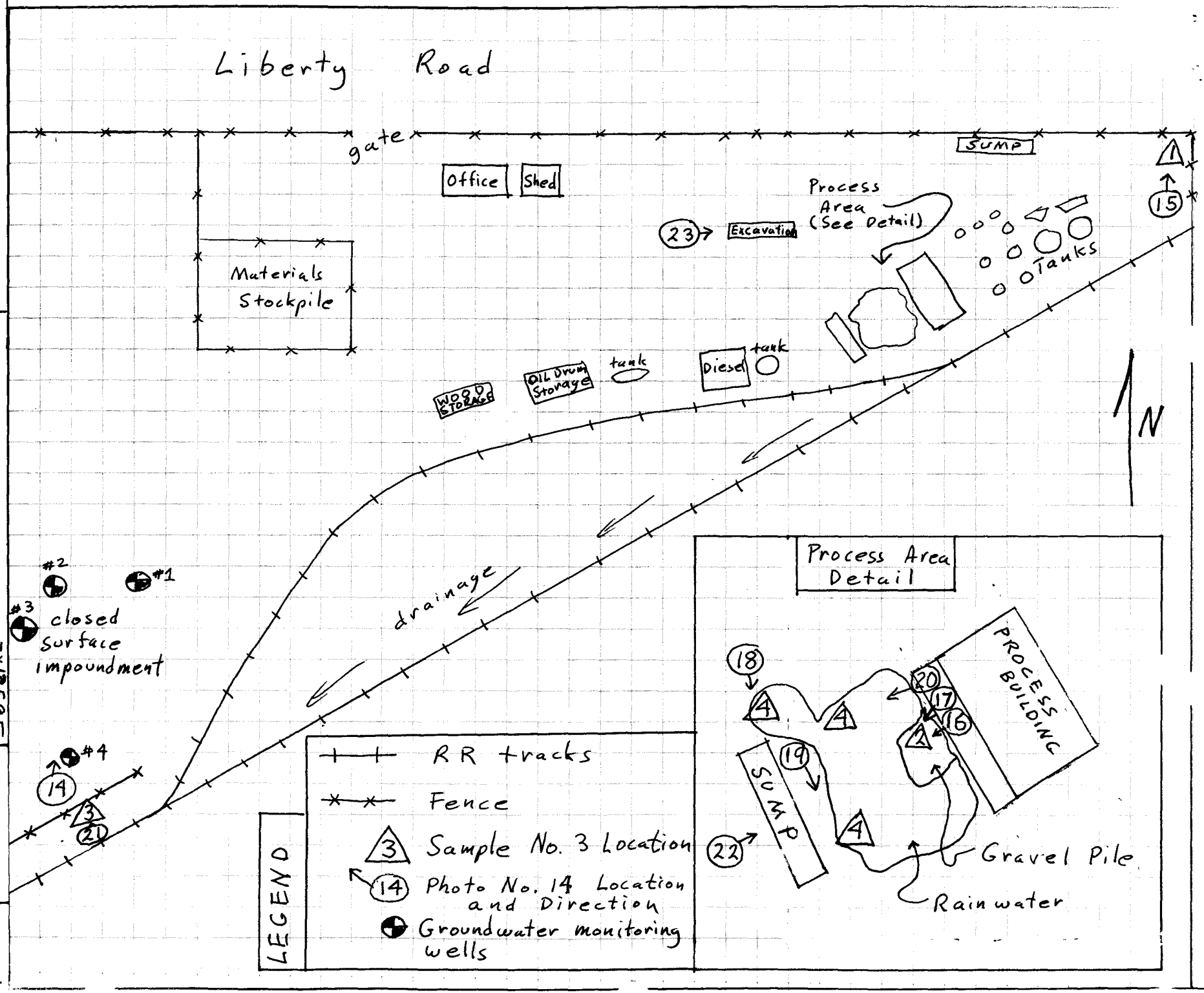
✓ Laboratory data

✓ Chain-of-Custody form(s)

✓ Topographic map

✓ Floodplain map

✓ Photographs



ENGINEERING-SCIENCE
2901 NORTH INTERREGIONAL
AUSTIN, TEXAS 78722
(512) 477-9901

PROJECT TWC - SIs Phase 3 JOB NO. TX13595

DETAIL Southern Pacific Site Sketch

DATE ____ SHT. 1

BY ____ OF 1

ES ENGINEERING-SCIENCE

RESEARCH AND DEVELOPMENT LABORATORY • 600 BANCROFT WAY • BERKELEY, CALIFORNIA 94710 • 415/841-7353

Priority Pollutant Analysis
Base Neutrals - EPA 625

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample: TX13595-1 NE Corner of Property, Soil Background
Lab No: 861434
Date Collected: 6/3/86
Time Collected: 1140

Compound	Detection Limits mg/kg	ANALYTICAL RESULTS mg/kg	ug/kg	ug/kg	ug/kg
1,3-Dichlorobenzene	0.6	ND			
1,4-Dichlorobenzene	0.6	ND			
Hexachloroethane	0.5	ND			
Bis(2-chloroethyl)ether	2	ND			
1,2-Dichlorobenzene	0.6	ND			
Nitrobenzene	0.6	ND			
Bis(2-chloroisopropyl)ether	2	ND			
N-Nitrosodi-n-propyl amine	3	ND			
Hexachlorobutadiene	0.3	ND			
1,2,4-Trichlorobenzene	0.6	ND			
N-Nitrosodimethylamine	12	ND			
Isophorone	0.7	ND			
Naphthalene	0.1	ND			
Bis(2-chloroethoxy)methane	1.8	ND			
2-Chloronaphthalene	0.1	ND			
Dibenzofuran	2	ND			
Acenaphthylene	0.1	ND			
Acenaphthene	0.1	ND			
Dimethyl phthalate	0.5	ND			
2,6-Dinitrotoluene	0.6	ND			
Fluorene	0.1	ND			
4-Chlorophenyl phenyl ether	1.5	ND			
Diethyl phthalate	0.8	ND			
N-Nitrosodiphenylamine	0.6	ND			
Hexachlorobenzene	0.6	ND			
4-Bromophenyl phenyl ether	0.6	ND			

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Priority Pollutant Analysis
Base Neutrals - EPA 625
(continued)

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-1 NE Corner of Property, Soil Background
Lab No:	861434
Date Collected:	6/3/86
Time Collected:	1140

Compound	Detection Limits mg/kg	ANALYTICAL RESULTS mg/kg	ug/kg	ug/kg	ug/kg
Phenanthrene	0.8	ND			
Anthracene	0.8	ND			
Dibutyl phthalate	0.8	ND			
Fluoranthene	0.8	ND			
2,4-Dinitrotoluene	2	ND			
Pyrene	0.8	1.1			
Butyl benzyl phthalate	0.8	ND			
Bis(2-ethylhexyl) phthalate	0.8	ND			
Chrysene	0.1	ND			
Benzo(a)anthracene	0.1	ND			
Di-n-octyl phthalate	0.8	ND			
Benzo(b)fluoranthene	0.3	ND			
Benzo(k)fluoranthene	0.2	ND			
Benzo(a)pyrene	0.2	ND			
Indeno(1,2,3-c,d)pyrene	0.3	ND			
Dibenzo(a,h)anthracene	0.2	ND			
Benzo(ghi)perylene	0.3	ND			
Benzidine	12	ND			
3,3-Dichlorobenzidine	5	ND			

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Priority Pollutant Analysis
Pesticides and PCBs - EPA 625

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-1 NE Corner of Property, Soil Background
Lab No:	861434
Date Collected:	6/3/86
Time Collected:	1140

Compound	Detection Limits mg/kg	ANALYTICAL RESULTS mg/kg	ug/kg	ug/kg	ug/kg
Alpha-BHC	2	ND			
Gamma-BHC	2	ND			
Beta-BHC	1	ND			
Heptachlor	0.7	ND			
Delta-BHC	2	ND			
Aldrin	0.7	ND			
Heptachlor epoxide	0.8	ND			
Endosulfan I	--*	ND			
Dieldrin	0.9	ND			
4,4'-DDE	2	ND			
Endrin	--*	ND			
Endosulfan II	--*	ND			
4,4'-DDD	1	ND			
4,4'-DDT	1.7	ND			
Endosulfan Sulfate	2	ND			
Endrin aldehyde	20	ND			
Chlordane	20	ND			
Toxaphene	20	ND			
PCB-1016	10	ND			
PCB-1221	10	ND			
PCB-1232	10	ND			
PCB-1242	10	ND			
PCB-1248	10	ND			
PCB-1254	10	ND			
PCB-1260	10	ND			

ENGINEERING-SCIENCE

Priority Pollutant Analysis
Acid Extractables - EPA 625

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-1 NE Corner of Property, Soil Background
Lab No:	861434
Date Collected:	6/3/86
Time Collected:	1140

Compound	Detection Limits mg/kg	ANALYTICAL RESULTS mg/kg	ug/kg	ug/kg	ug/kg
2-Chlorophenol	1.1	ND			
2-Nitrophenol	1.2	ND			
Phenol	0.5	ND			
2,4-Dimethylphenol	0.9	ND			
2,4-Dichlorophenol	0.9	ND			
2,4,6-Trichlorophenol	0.9	ND			
4-Chloro-3-methylphenol	1.0	ND			
2,4-Dinitrophenol	15	ND			
2-Methyl-4,6-Dinitrophenol	8	ND			
Pentachlorophenol	1.2	ND			
4-Nitrophenol	15	ND			

ND = Not Detected.

* Detection limits not established for these compounds.

Jana H. Morin
Laboratory Supervisor

ES ENGINEERING-SCIENCE

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Priority Pollutant Analysis
Base Neutrals - EPA 625

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-2 Soil sample by process building
Lab No.:	861435
Date Collected:	6/3/86
Time Collected:	1110

Compound	Detection Limits mg/kg	ANALYTICAL RESULTS mg/kg	ug/kg	ug/kg	ug/kg
1,3-Dichlorobenzene	10	ND			
1,4-Dichlorobenzene	10	ND			
Hexachloroethane	8	ND			
Bis(2-chloroethyl)ether	30	ND			
1,2-Dichlorobenzene	10	ND			
Nitrobenzene	10	ND			
Bis(2-chloroisopropyl)ether	30	ND			
N-Nitrosodi-n-propyl amine	50	ND			
Hexachlorobutadiene	4	ND			
1,2,4-Trichlorobenzene	10	ND			
N-Nitrosodimethylamine	200	ND			
Isophorone	10	ND			
Naphthalene	2	2			
Bis(2-chloroethoxy)methane	50	ND			
2-Chloronaphthalene	2	ND			
Dibenzofuran	6	30			
Acenaphthylene	4	ND			
Acenaphthene	2	70			
Dimethyl phthalate	2	ND			
2,6-Dinitrotoluene	30	ND			
Fluorene	2	70			
4-Chlorophenyl phenyl ether	20	ND			
Diethyl phthalate	10	ND			
N-Nitrosodiphenylamine	10	ND			
Hexachlorobenzene	8	ND			
4-Bromophenyl phenyl ether	10	ND			

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Priority Pollutant Analysis
Base Neutrals - EPA 625
(continued)

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-2 Soil sample by process building
Lab No:	861435
Date Collected:	6/3/86
Time Collected:	1110

Compound	Detection Limits mg/kg	ANALYTICAL RESULTS mg/kg	ug/kg	ug/kg	ug/kg
Phenanthrene	8	330			
Anthracene	8	80			
Dibutyl phthalate	8	ND			
Fluoranthene	8	320			
2,4-Dinitrotoluene	30	ND			
Pyrene	8	440			
Butyl benzyl phthalate	10	ND			
Bis(2-ethylhexyl) phthalate	12	ND			
Chrysene	8	70			
Benzo(a)anthracene	30	60			
Di-n-octyl phthalate	10	ND			
Benzo(b)fluoranthene	20	ND			
Benzo(k)fluoranthene	10	10			
Benzo(a)pyrene	3	ND			
Indeno(1,2,3-c,d)pyrene	4	ND			
Dibenzo(a,h)anthracene	3	ND			
Benzo(ghi)perylene	4	ND			
Benzidine	200	ND			
3,3-Dichlorobenzidine	80	ND			

ENGINEERING-SCIENCE

Priority Pollutant Analysis
Pesticides and PCBs - EPA 625

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-2 Soil sample by process building
Lab No.:	861435
Date Collected:	6/3/86
Time Collected:	1110

Compound	Detection Limits mg/kg	ANALYTICAL RESULTS mg/kg	ug/kg	ug/kg	ug/kg
Alpha-BHC	50	ND			
Gamma-BHC	25	ND			
Beta-BHC	50	ND			
Heptachlor	20	ND			
Delta-BHC	50	ND			
Aldrin	20	ND			
Heptachlor epoxide	20	ND			
Endosulfan I	--*	ND			
Dieldrin	23	ND			
4,4'-DDE	50	ND			
Endrin	--*	ND			
Endosulfan II	--*	ND			
4,4'-DDD	25	ND			
4,4'-DDT	44	ND			
Endosulfan Sulfate	50	ND			
Endrin aldehyde	500	ND			
Chlordane	500	ND			
Toxaphene	500	ND			
PCB-1016	250	ND			
PCB-1221	250	ND			
PCB-1232	250	ND			
PCB-1242	250	ND			
PCB-1248	250	ND			
PCB-1254	250	ND			
PCB-1260	250	ND			

ENGINEERING-SCIENCE

Priority Pollutant Analysis
Acid Extractables - EPA 625

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample: TX13595-2 Soil sample by process building
Lab No: 861435
Date Collected: 6/3/86
Time Collected: 1110

Compound	Detection Limits mg/kg	ANALYTICAL RESULTS mg/kg	ug/kg	ug/kg	ug/kg
2-Chlorophenol	15	ND			
2-Nitrophenol	16	ND			
Phenol	7	ND			
2,4-Dimethylphenol	12	ND			
2,4-Dichlorophenol	12	ND			
2,4,6-Trichlorophenol	12	ND			
4-Chloro-3-methylphenol	14	ND			
2,4-Dinitrophenol	200	ND			
2-Methyl-4,6-Dinitrophenol	100	ND			
Pentachlorophenol	17	ND			
4-Nitrophenol	200	ND			

ND = Not Detected.

* Detection limits not established for these compounds.

Melanie Baltzer
Laboratory Supervisor

ES ENGINEERING-SCIENCE

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Priority Pollutant Analysis
Base Neutrals - EPA 625

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-4 Surface Water Pool by Process Building
Lab No:	861437
Date Collected:	6/3/86
Time Collected:	1055

Compound	Detection Limits ug/L	ANALYTICAL RESULTS ug/L	ug/kg	ug/kg	ug/kg
1,3-Dichlorobenzene	2	ND			
1,4-Dichlorobenzene	2	ND			
Hexachloroethane	2	ND			
Bis(2-chloroethyl)ether	6	ND			
1,2-Dichlorobenzene	2	ND			
Nitrobenzene	2	ND			
Bis(2-chloroisopropyl)ether	6	ND			
N-Nitrosodi-n-propyl amine	6	ND			
Hexachlorobutadiene	1	ND			
1,2,4-Trichlorobenzene	3	ND			
N-Nitrosodimethylamine	40	ND			
Isophorone	2	ND			
Naphthalene	2	ND			
Bis(2-chloroethoxy)methane	5	ND			
2-Chloronaphthalene	2	ND			
Dibenzofuran	6	ND			
Acenaphthylene	4	ND			
Acenaphthene	2	2			
Dimethyl phthalate	2	ND			
2,6-Dinitrotoluene	2	ND			
Fluorene	2	ND			
4-Chlorophenyl phenyl ether	4	ND			
Diethyl phthalate	2	4			
N-Nitrosodiphenylamine	2	ND			
Hexachlorobenzene	2	ND			
4-Bromophenyl phenyl ether	2	ND			

ENGINEERING-SCIENCE

Priority Pollutant Analysis
Base Neutrals - EPA 625
(continued)

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-4 Surface Water Pool by Process Building
Lab No:	861437
Date Collected:	6/3/86
Time Collected:	1055

Compound	Detection Limits ug/L	ANALYTICAL RESULTS ug/L	ug/kg	ug/kg	ug/kg
Phenanthrene	2	ND			
Anthracene	2	3			
Dibutyl phthalate	2	ND			
Fluoranthene	2	15			
2,4-Dinitrotoluene	6	ND			
Pyrene	2	58			
Butyl benzyl phthalate	2	ND			
Bis(2-ethylhexyl) phthalate	2	38			
Chrysene	2	ND			
Benzo(a)anthracene	8	ND			
Di-n-octyl phthalate	2	ND			
Benzo(b)fluoranthene	5	ND			
Benzo(k)fluoranthene	3	ND			
Benzo(a)pyrene	3	ND			
Indeno(1,2,3-c,d)pyrene	4	ND			
Dibenzo(a,h)anthracene	3	ND			
Benzo(ghi)perylene	4	ND			
Benzidine	80	ND			
3,3-Dichlorobenzidine	20	ND			

ENGINEERING-SCIENCE

Priority Pollutant Analysis
Pesticides and PCBs - EPA 625

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-4 Surface Water Pool by Process Building
Lab No:	861437
Date Collected:	6/3/86
Time Collected:	1055

Compound	Detection Limits ug/L	ANALYTICAL RESULTS ug/L	ug/kg	ug/kg	ug/kg
Alpha-BHC	4	ND			
Gamma-BHC	4	ND			
Beta-BHC	4	ND			
Heptachlor	2	ND			
Delta-BHC	3	ND			
Aldrin	2	ND			
Heptachlor epoxide	2	ND			
Endosulfan I	--*	ND			
Dieldrin	3	ND			
4,4'-DDE	6	ND			
Endrin	--*	ND			
Endosulfan II	--*	ND			
4,4'-DDD	3	ND			
4,4'-DDT	5	ND			
Endosulfan Sulfate	6	ND			
Endrin aldehyde	50	ND			
Chlordane	50	ND			
Toxaphene	50	ND			
PCB-1016	30	ND			
PCB-1221	30	ND			
PCB-1232	30	ND			
PCB-1242	30	ND			
PCB-1248	30	ND			
PCB-1254	30	ND			
PCB-1260	30	ND			

ENGINEERING-SCIENCE

Priority Pollutant Analysis
Acid Extractables - EPA 625

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-4 Surface Water Pool by Process Building
Lab No:	861437
Date Collected:	6/3/86
Time Collected:	1055

Compound	Detection Limits ug/L	ANALYTICAL RESULTS ug/L	ug/kg	ug/kg	ug/kg
2-Chlorophenol	3	ND			
2-Nitrophenol	4	ND			
Phenol	2	ND			
2,4-Dimethylphenol	3	ND			
2,4-Dichlorophenol	3	ND			
2,4,6-Trichlorophenol	3	ND			
4-Chloro-3-methylphenol	3	ND			
2,4-Dinitrophenol	40	ND			
2-Methyl-4,6-Dinitrophenol	20	ND			
Pentachlorophenol	4	8			
4-Nitrophenol	40	ND			

ND = Not Detected.

* Detection limits not established for these compounds.

Laboratory Supervisor

ES ENGINEERING-SCIENCE

RESEARCH AND DEVELOPMENT LABORATORY • 600 BANCROFT WAY • BERKELEY, CALIFORNIA 94710 • 415/841-7353

Priority Pollutant Analysis
Base Neutrals - EPA 625

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-3 Soil sample in drainage ditch
Lab No:	861436
Date Collected:	6/3/86
Time Collected:	1136

Compound	Detection Limits mg/kg	ANALYTICAL RESULTS mg/kg	ug/kg	ug/kg	ug/kg
1,3-Dichlorobenzene	2	ND			
1,4-Dichlorobenzene	2	ND			
Hexachloroethane	2	ND			
Bis(2-chloroethyl)ether	6	ND			
1,2-Dichlorobenzene	2	ND			
Nitrobenzene	2	ND			
Bis(2-chloroisopropyl)ether	6	ND			
N-Nitrosodi-n-propyl amine	10	ND			
Hexachlorobutadiene	1	ND			
1,2,4-Trichlorobenzene	2	ND			
N-Nitrosodimethylamine	40	ND			
Isophorone	3	ND			
Naphthalene	1	ND			
Bis(2-chloroethoxy)methane	6	ND			
2-Chloronaphthalene	1	ND			
Dibenzofuran	6	ND			
Acenaphthylene	2	6			
Acenaphthene	1	1			
Dimethyl phthalate	2	ND			
2,6-Dinitrotoluene	2	ND			
Fluorene	1	ND			
4-Chlorophenyl phenyl ether	5	ND			
Diethyl phthalate	3	ND			
N-Nitrosodiphenylamine	2	ND			
Hexachlorobenzene	2	ND			
4-Bromophenyl phenyl ether	2	ND			

ENGINEERING-SCIENCE

Priority Pollutant Analysis
Base Neutrals - EPA 625
(continued)

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample: TX13595-3 Soil sample in drainage ditch
Lab No: 861436
Date Collected: 6/3/86
Time Collected: 1136

Compound	Detection Limits mg/kg	ANALYTICAL RESULTS mg/kg	ug/kg	ug/kg	ug/kg
Phenanthrene	5	ND			
Anthracene	5	40			
Dibutyl phthalate	3	ND			
Fluoranthene	5	200			
2,4-Dinitrotoluene	6	ND			
Pyrene	5	190			
Butyl benzyl phthalate	3	ND			
Bis(2-ethylhexyl) phthalate	3	ND			
Chrysene	5	50			
Benzo(a)anthracene	6	80			
Di-n-octyl phthalate	3	ND			
Benzo(b)fluoranthene	4	ND			
Benzo(k)fluoranthene	2	ND			
Benzo(a)pyrene	2	27			
Indeno(1,2,3-c,d)pyrene	4	ND			
Dibenzo(a,h)anthracene	2	ND			
Benzo(ghi)perylene	2	ND			
Benzidine	50	ND			
3,3-Dichlorobenzidine	20	ND			

ENGINEERING-SCIENCE

Priority Pollutant Analysis
Pesticides and PCBs - EPA 625

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-3 Soil sample in drainage ditch
Lab No:	861436
Date Collected:	6/3/86
Time Collected:	1136

Compound	Detection Limits mg/kg	ANALYTICAL RESULTS mg/kg	ug/kg	ug/kg	ug/kg
Alpha-BHC	12	ND			
Gamma-BHC	6	ND			
Beta-BHC	12	ND			
Heptachlor	4	ND			
Delta-BHC	12	ND			
Aldrin	4	ND			
Heptachlor epoxide	5	ND			
Endosulfan I	--*	ND			
Dieldrin	5	ND			
4,4'-DDE	12	ND			
Endrin	--*	ND			
Endosulfan II	--*	ND			
4,4'-DDD	6	ND			
4,4'-DDT	10	ND			
Endosulfan Sulfate	12	ND			
Endrin aldehyde	120	ND			
Chlordane	120	ND			
Toxaphene	120	ND			
PCB-1016	60	ND			
PCB-1221	60	ND			
PCB-1232	60	ND			
PCB-1242	60	ND			
PCB-1248	60	ND			
PCB-1254	60	ND			
PCB-1260	60	ND			

ENGINEERING SCIENCE

Priority Pollutant Analysis
Acid Extractables - EPA 625

Date Received 6/4/86
Date Reported 7/18/86
Date Revised 7/28/86

P.O. No. --
Job No. ZB057

For: ES-Austin/Texas Water Commission
Attn: Lisa Arceneaux
Address:

Source of Sample:	TX13595-3 Soil sample in drainage ditch
Lab No:	861436
Date Collected:	6/3/86
Time Collected:	1136

Compound	Detection Limits mg/kg	ANALYTICAL RESULTS mg/kg	ug/kg	ug/kg	ug/kg
2-Chlorophenol	4	ND			
2-Nitrophenol	4	ND			
Phenol	2	ND			
2,4-Dimethylphenol	3	ND			
2,4-Dichlorophenol	3	ND			
2,4,6-Trichlorophenol	3	ND			
4-Chloro-3-methylphenol	3	ND			
2,4-Dinitrophenol	40	ND			
2-Methyl-4,6-Dinitrophenol	20	ND			
Pentachlorophenol	4	ND			
4-Nitrophenol	40	ND			

ND = Not Detected.

* Detection limits not established for these compounds.

Melanie Baltegore
Laboratory Supervisor

CHAIN OF CUSTODY RECORD

PROJECT NO.: 56360

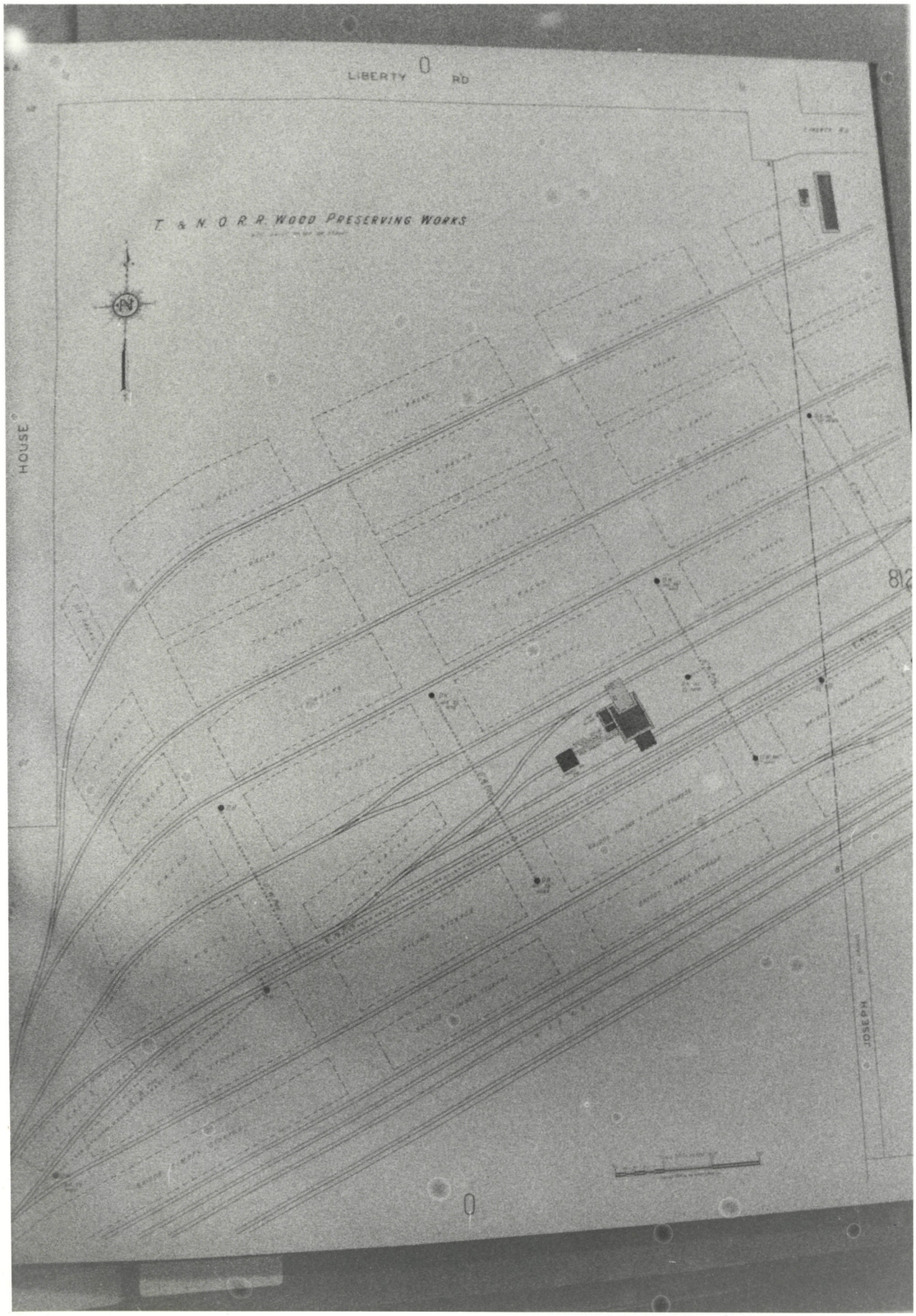
PROJECT NAME: TWC Site Inspections.

SAMPLERS (Signatures): David Higley

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Priority Pollutants*						REMARKS
TX13595-1	6/3	10:40		✓	NE corner of property soil backgr.	1	✓						* AP/BN by GC/MS 86143
TX13595-2	6/3	11:10		✓	soil sample by process Bldg	1	✓						435
TX13595-3	6/3	11:36		✓	soil sample in drainge ditch	1	✓						36
TX13595-4	6/3	10:55	✓		surface water pool by process bldg.	1	✓						37

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
David Higley	6/3/86 1:40	Lisa Arceneaux	Lisa Arceneaux	6/3/86 4:10	~~Americ~~ Federal Express
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for lab. by: (Signature)	Date/Time	Remarks	
		[illegible]	6/4 1030		

Photo 1 of 2 - T+N.O.R.R. Wood Preserving Works
Sanborn Insurance Maps, 1929, Vol. 8, p 812.



TY 13595

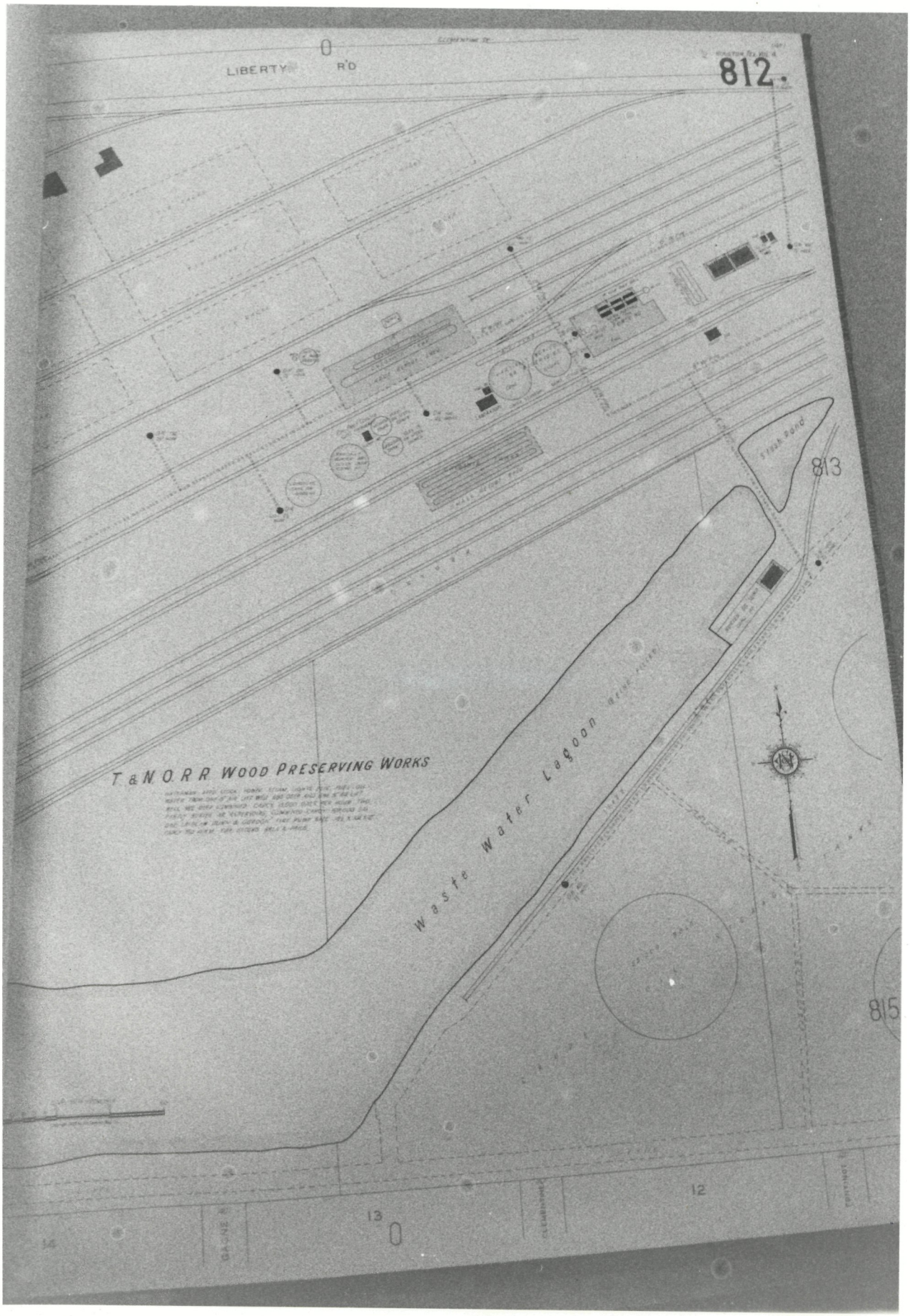



Photo 2 of 2 - T & N.O. R.R. Wood Preserving Works