



Industrial Compliance

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**FIRST QUARTER 1995
GROUND WATER MONITORING REPORT**

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

IC Project No. 05100535

Prepared For:

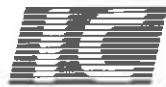
**Southern Pacific Transportation Company
One Market Plaza
San Francisco, CA 94105**

June 21, 1995

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ENVIRONMENTAL
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June 21, 1995

IC Project No. 05100535

Ms. Jennifer Eberle
Alameda County Health Care Services Agency
Department of Environmental Health
Division of Hazardous Materials
1131 Harbor Bay Parkway
Alameda, California 94501

VIA OVERNIGHT MAIL

**Re: First Quarter 1995 Ground Water Monitoring Report
Southern Pacific Transportation Company
1399 Wood Street - Oakland, California**

Dear Ms. Eberle:

Industrial Compliance (IC), on behalf of Southern Pacific Transportation Company (SPTCo), has prepared the attached First Quarter 1995 Ground Water Monitoring Report for the SPTCo site located at 1399 Wood Street, Oakland, California. This first quarter report was in preparation prior to receipt of your May 31, 1995 letter in which you indicated that future quarterly reports need not include site background information. This simplification in quarterly monitoring reports provided to you will be implemented with the second quarter 1995 report.

Section 5.3 of the enclosed report presents recommendations for reductions in scope of monitoring at the 1399 Wood Street site. IC will contact you by telephone to verify your concurrence with the recommendations prior to scheduled second quarter 1995 monitoring at the site.

If you have any questions regarding this report, please contact either of the undersigned at (510) 238-9540 or (916) 369-8971.

Sincerely,

INDUSTRIAL COMPLIANCE

James B. Ackerman
Project Geologist

Richard L. Bateman, R.G.
Principal Hydrogeologist

JBA/RLB/dao

Attachment

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Ms. Jennifer Eberle

June 21, 1995

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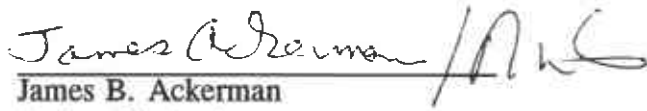
cc: Mr. John Moe, Southern Pacific Transportation Company (with attachment)
Mr. Darrell J. Maxey, Oakland Program Office, Southern Pacific Transportation
Company (with attachment)
Ms. Gina Kathuria, California Regional Water Quality Control Board, San Francisco
Region (with attachment)



**FIRST QUARTER 1995
GROUND WATER MONITORING REPORT**

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

Prepared By:


James B. Ackerman
Project Geologist

Reviewed By:



Richard L. Bateman, R.G.
Principal Hydrogeologist



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Appendix B	Chain-of-Custody Document
Appendix C	Analytical Laboratory Reports, Ground Water Samples
Appendix D	Ground Water Elevation Contour Maps, Previous Monitoring Events



1.0 INTRODUCTION

Industrial Compliance (IC), on behalf of Southern Pacific Transportation Company (SPTCo), is conducting quarterly ground water monitoring at the SPTCo property located at 1399 Wood Street, Oakland, California (Figure 1). This report presents first quarter 1995 ground water monitoring results. First quarter water level measurement and ground water sampling activities occurred on March 27, 1995.



Approximate Scale in Feet
 0 2000

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

Reference:
 USGS 7.5 Minute Topographic Map
 Oakland West Quadrangle
 California



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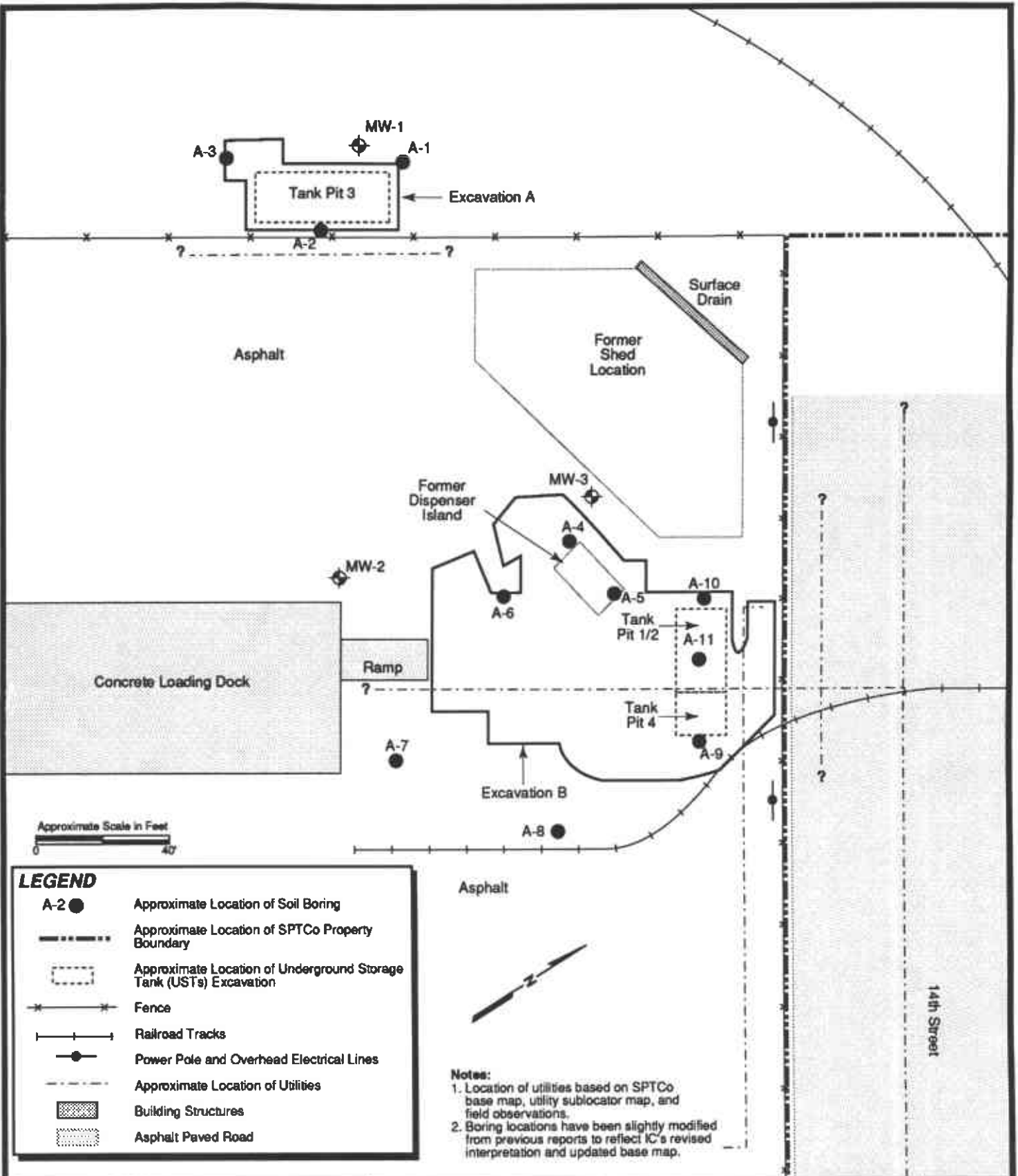


2.0 BACKGROUND

In July 1988, Canonie Environmental Services Corporation (Canonie) removed a fuel dispensing island with associated piping and three USTs (identified in Canonie's report as Tank 1/2, Tank 3, and Tank 4) from the 1399 Wood Street site: a 12,000-gallon split-compartment diesel-gasoline tank (Tank 1/2), a 7,300 gallon diesel tank (Tank 3), and a 550 gallon waste oil tank (Tank 4) (Figure 2). The procedures and results of this work were presented in a Canonie report dated December 18, 1989 (report entitled: *Final Site Report, Underground Storage Tank Removal, Southern Pacific Transportation Company, Oakland, California*).

The Alameda County Health Care Services Agency - Department of Environmental Health, Division of Hazardous Materials required SPTCo to conduct a further investigation of the site. In October 1992, IC performed a preliminary soil investigation in which 11 soil borings (A1 through A11) were drilled (Figure 2). Total petroleum hydrocarbons as gasoline (TPH-G) were identified in three borings near the former location of Tanks 1/2 and 4 and the former location of the fuel dispensing island. Total hydrocarbons as diesel were identified in four borings, two near the former location of Tanks 1/2 and 4, and two near the former location of Tank 3. The procedures and results of this work were presented in IC's report dated January 17, 1994 (report entitled: *Preliminary Soil Investigation Report, Southern Pacific Transportation Company, 1399 Wood Street, Oakland, California*).

In June of 1994, IC conducted a soil remediation and ground water investigation. As a result of the soil remediation activities, a total of 1,100 cubic yards (cy) of petroleum hydrocarbon impacted soil was removed from the site. Excavation A included the area immediately around the former location of Tank 3 (60 cy), and the area of excavation B included the former locations of Tank 1/2, Tank 4, and the fuel dispensing island. After conclusion of the soil remediation activities, a ground water investigation was initiated. As part of this



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SITE LAYOUT AND LOCATION OF SOIL BORINGS AND MONITORING WELLS INSTALLED DURING PREVIOUS SITE INVESTIGATIONS SOUTHERN PACIFIC TRANSPORTATION COMPANY 1399 WOOD STREET OAKLAND, CALIFORNIA

Project No.: 05100535

Date: 05/02/95

Drawn By: Patti Decker

Checked By: Richard Bateman

Figure: 2

Page: 4

Scale: as shown

investigation, four soil borings were drilled, three of which were converted to monitoring wells, and subsequently developed (MW-1, MW-2 and MW-3). Ground water sampling commenced on June 29, 1994. Locations of excavations, soil borings and monitoring wells are shown on Figure 2. The procedures and results of this work were presented in IC's report dated August 29, 1994 (report entitled: *Soil Remediation and Ground Water Investigation Report, Southern Pacific Transportation Company, 1399 Wood Street, Oakland, California*).

Quarterly ground water monitoring was initiated at the site in June (second quarter) of 1994. The first quarter 1995 monitoring is the fourth quarterly monitoring event for the site.

3.0 FIELD INVESTIGATION

This section discusses the procedures and protocol used for the collection of monitoring well water level data and ground water samples for laboratory analyses.

3.1 Monitoring Well Water Level Data

On March 27, 1995, prior to conducting any ground water sampling, the depth to ground water was measured in all three monitoring wells on site. All measurements were taken relative to a surveyed reference point of known elevation at the top of each well casing, using a water level probe with an accuracy of 0.01 feet. Ground water elevations for the first quarter of 1995 ranged from 3.90 to 6.47 feet above mean sea level (MSL). Monitoring well ground water elevation data for this quarter are summarized in Table 1. Figure 3 is a ground water elevation contour map which depicts the approximate direction and gradient of ground water flow for this quarter. The direction of ground water flow is to the northeast. The local hydraulic gradient calculated from the March 27, 1995 water level data, is approximately 0.024.

3.2 Monitoring Well Purging

After measurement of the ground water level in each well, the saturated well volume was calculated by subtracting the depth to ground water from the total depth of the well and multiplying the resultant length by the number of gallons per foot of casing. Prior to sample collection, three saturated well volumes were purged from each of the wells by hand-bailing. During purging, ground water characterization data consisting of temperature, electrical conductivity and pH, were measured from the initial water removed from the well, and at least three times during purging. The ground water in each well was assumed to be representative of the formation when three well volumes were removed and consecutive

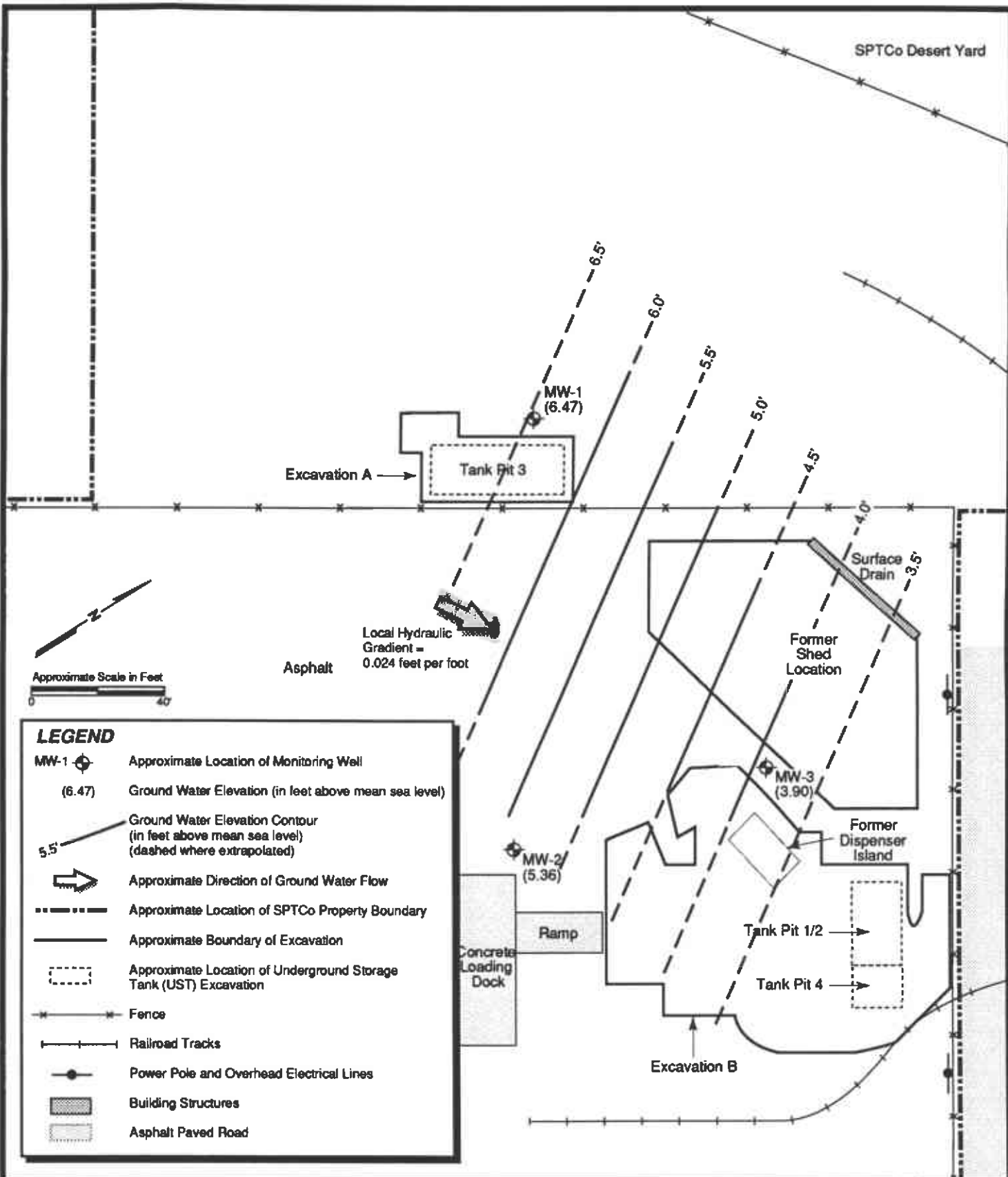


**TABLE 1
GROUND WATER ELEVATION DATA
MARCH, 1995**

Monitoring Well^a	Date Measured	Time Measured	Top of Casing Elevation^b (feet MSL)	Depth to Ground Water^c (feet TOC)	Ground Water Elevation^d (feet MSL)
MW-1	03/27/95	0807	7.71	1.24	6.47
MW-2	03/27/95	0815	7.00	1.64	5.36
MW-3	03/27/95	0821	7.32	3.42	3.90

- a See Figure 2 for approximate location of monitoring wells.
 - b Top of casing elevation is a surveyed point marked on the top of the well casing.
 - c Depth to ground water measured from top of casing.
 - d Ground water elevation calculated by subtracting the depth to ground water from the top of casing elevation.
- MSL Mean sea level
- TOC Top of casing





Approximate Scale in Feet
0 40'

LEGEND

- MW-1 Approximate Location of Monitoring Well
(6.47) Ground Water Elevation (in feet above mean sea level)
- 5.5' Ground Water Elevation Contour (in feet above mean sea level) (dashed where extrapolated)
- Approximate Direction of Ground Water Flow
- Approximate Location of SPTCo Property Boundary
- Approximate Boundary of Excavation
- Approximate Location of Underground Storage Tank (UST) Excavation
- Fence
- Railroad Tracks
- Power Pole and Overhead Electrical Lines
- Building Structures
- Asphalt Paved Road

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Project No.: 05100535 Date: 05/02/95

Drawn By: Patti Decker Checked By: Richard Bateman

**CONTOUR MAP OF GROUND WATER ELEVATION
MARCH, 1995
SOUTHERN PACIFIC TRANSPORTATION COMPANY
1399 WOOD STREET
OAKLAND, CALIFORNIA**

Figure:	3
Page:	8
Scale:	as shown

parameter readings were within 10 percent. After purging was completed, each well was allowed to recover to at least 90 percent of the pre-purge water level prior to sampling. Purge water was collected in 55-gallon Department of Transportation approved drums. Purge water was subsequently disposed of at the SPTCo water treatment plant located in the West Oakland Yard, after analytical results from the ground water sampling indicated that the purge water met treatment plant influent requirements. Ground water purge characterization data are summarized in Table 2. Purge characterization field data sheets are included in Appendix A.

3.3 Monitoring Well Sampling

Ground water samples were collected using new, disposable polyethylene bailers. Ground water samples were collected in laboratory-supplied bottles of appropriate volumes and with required preservatives for the intended analyses. Volatile organic analysis (VOA) sample bottles were filled to capacity, sealed with Teflon-lined lids, and checked for air bubbles. If air bubbles were detected, the vial was reopened, additional sample water added, and the vial resealed.

After sample collection was completed, each sample was labeled with a unique sample number, the site name, date of collection, time of collection, initials of collector, and any other pertinent information. The samples were then placed in a chilled ice chest for transport to Chromalab, Inc. Environmental Services (Chromalab) for analysis. A chain-of-custody form was completed concurrent with sample collection and accompanied the samples upon transport to the laboratory. The chain-of-custody document is included as Appendix B.

TABLE 2
GROUND WATER PURGE CHARACTERIZATION DATA
MARCH, 1995

Monitoring Well ^a	Date Measured	Purge Volume (gallons)	Electrical Conductivity (μ hos/cm)	Temperature ($^{\circ}$ F)	Field pH (units)
MW-1	03/27/95	0	970	63.0	6.86
		8	710	61.1	6.88
		16	690	61.4	6.85
		24	710	61.0	6.86
MW-2	03/27/95	0	880	65.8	7.04
		8	870	64.2	7.25
		16	860	64.0	7.28
		24	850	64.1	7.29
MW-3	03/27/95	0	1130	70.2	7.55
		7	1070	67.0	7.24
		14	1080	65.8	7.25
		21	1070	64.8	7.29

a See Figure 2 for approximate location of monitoring wells.

μ hos/cm Micromhos per centimeter

$^{\circ}$ F Degrees Fahrenheit

Note: Purge characterization data sheets included in Appendix A.



All ground water samples were analyzed for the following constituents:

<u>Constituents</u>	<u>Analytical</u>
Total petroleum hydrocarbons as gasoline (TPH-G)	EPA Method 8015 Modified
Total petroleum hydrocarbons as diesel (TPH-D) ¹	EPA Method 8015 Modified
Benzene, toluene, ethylbenzene, and xylenes (BTEX)	EPA Method 8020
Polychlorinated biphenyls (PCBs)	EPA Method 608 Modified
Total dissolved solids (TDS)	EPA Method 160.1
Sodium chloride	EPA Method 6010

3.4 Quality Assurance/Quality Control

To evaluate the integrity of the ground water sampling/analysis process, a duplicate ground water sample was collected from MW-2 using the procedures previously described in Section 3.3. This duplicate was analyzed for the same constituents as the original ground water sample.

To assess the potential for cross-contamination of the ground water samples during transport to the laboratory, one trip blank was prepared by chromalab prior to sampling and accompanied the ground water samples during shipment to the laboratory. The trip blank was analyzed for TPH-G and BTEX compounds only.

In addition, one equipment blank was prepared by pouring deionized (DI) water through the sampling equipment into the sample bottles. The equipment blank was analyzed for all constituents listed in Section 3.3, except for sodium chloride and TDS.

1. Analysis for hydrocarbons in the C₁₃ to C₂₂ range.



4.0 ANALYTICAL RESULTS

First quarter 1995 ground water samples were analyzed by Chromalab for the suite of constituents listed in Section 3.3. Analytical results are summarized in Table 3. Figure 4 is a chemical distribution map. Analytical laboratory reports are included as Appendix C. The following is a summary of the first quarter, 1995 analytical results:

- * PCBs were not detected in any of the wells at or above the reporting limit.
- * Ground water from MW-1 and MW-2 did not contain TPH-G or BTEX at or above the respective reporting limits.
- * Ground water from MW-2 and MW-3 did not contain TPH-D at or above the respective reporting limits.
- * TPH-G was detected in MW-3 at a concentration of 290 micrograms per liter ($\mu\text{g/L}$).
- * TPH-D was detected in MW-1 at a concentration of 97 $\mu\text{g/L}$.
- * Benzene, toluene, and xylenes were detected in MW-3 at concentrations of 2.4 $\mu\text{g/L}$, 1.2 $\mu\text{g/L}$ and 2.8 $\mu\text{g/L}$ respectively, while ethylbenzene was not detected at or above the reporting limit.
- * Sodium chloride concentrations ranged from 38 milligrams per liter (mg/L) in MW-2 & MW-3 to 110 mg/L in MW-1 (average concentration for all three wells = 62 mg/L).



TABLE 3
GROUND WATER ANALYTICAL RESULTS
MARCH, 1995

Well Location	Date Sampled	Total Petroleum Hydrocarbons ^a (µg/L)		Volatile Organic Compounds ^b (µg/L)				PCBs ^c (µg/L)	Sodium Chloride ^d (mg/L)	Total Dissolved Solids ^e (mg/L)
		Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Xylenes			
MW-1	03/27/95	<50	97	<0.5	<0.5	<0.5	<0.5	<0.5	110	550
MW-2	03/27/95	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	38	670
MW-3	03/27/95	290	<50	2.4	1.2	<0.5	2.8	<0.5	38	810
Duplicate (MW-2D)	03/27/95	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	36	670
Equipment Blank	03/27/95	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA
Trip Blank	03/27/95	<50	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
Cal DHS MCLs ^f		NE	NE	1	100 ^g	680	1,750	0.5 ^h	NE	500

a Analyzed by EPA Method 8015 Modified.

b Analyzed by EPA Method 8020.

c Analyzed by EPA Method 608 Modified.

d Sodium chloride concentrations determined by calculation, after analyzing for sodium and chloride separately.

e Analyzed by EPA Method 160.1

f California Department of Health Services(DHS) Maximum Contaminant Levels (MCLs) for drinking water (California RWQCB, May, 1993, Compilation of Water Quality Goals).

g California DHS action level for drinking water (California RWQCB, May, 1993, Compilation of Water Quality Goals)

h U.S. Environmental Protection Agency (USEPA) MCLs for drinking water (California RWQCB, May, 1993, Compilation of Water Quality Goals) .

PCBs Polychlorinated biphenyls

µg/L Micrograms per liter

mg/L Milligrams per liter

< Symbol indicates constituents not detected above reporting limits.

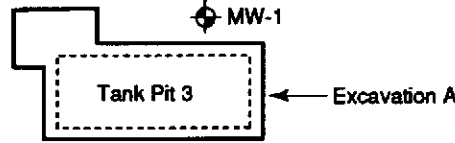
ND Not detected above the reporting limit.

NA Not analyzed

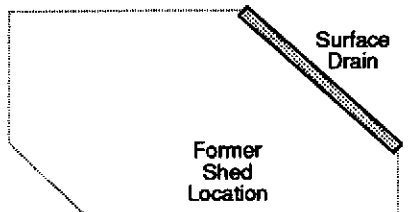
NE Not established



Date Sampled	TPH (µg/L)		Volatile Organic Compounds (µg/L)			Sodium Chloride (mg/L)	PCBs (µg/L)	Total Dissolved Solids (mg/L)
	Gasoline	Diesel*	Benzene	Toluene	Ethyl-benzene			
3/27/95	<50	97	<0.5	<0.5	<0.5	110	<0.5	550



Date Sampled	TPH (µg/L)		Volatile Organic Compounds (µg/L)			Sodium Chloride (mg/L)	PCBs (µg/L)	Total Dissolved Solids (mg/L)
	Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene			
3/27/95	<50	<50	<0.5	<0.5	<0.5	38	<0.5	670



Date Sampled	TPH (µg/L)		Volatile Organic Compounds (µg/L)			Sodium Chloride (mg/L)	PCBs (µg/L)	Total Dissolved Solids (mg/L)	
	Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene				Xylenes
3/27/95	290	<50	2.4	1.2	<0.5	2.8	38	<0.5	810



LEGEND

- MW-1 Approximate Location of Monitoring Well
- Approximate Location of SPTCo Property Boundary
- Approximate Boundary of Excavation
- Approximate Location of Underground Storage Tank (USTs) Excavation
- Fence
- Railroad Tracks
- Power Pole and Overhead Electrical Lines
- Building Structures
- Asphalt Paved Road

NOTES:

1. Total petroleum hydrocarbons (TPH) analyzed by EPA Method 8015 Modified and volatile organic compounds analyzed by EPA Method 8020 Modified
 2. Polychlorinated biphenyls (PCBs) analyzed by EPA Method 608.
 3. Sodium chloride concentrations determined by calculation.
 4. Total dissolved solids analyzed by EPA Method 160.1.
 5. Sample results reported in micrograms per liter (µg/L), or milligrams per liter (mg/L).
 6. < = Indicates the constituent not detected at a concentration at or above the method practical quantitation limit as noted.
- * Hydrocarbons detected in the diesel range do not match the typical chromatographic pattern for diesel.



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Project No.: 05100535	Date: 05/02/95
Drawn By: Patti Decker	Checked By: Richard Bateman

**CHEMICAL DISTRIBUTION MAP FOR
CONSTITUENTS IN GROUND WATER SAMPLES
MARCH, 1995
SOUTHERN PACIFIC TRANSPORTATION COMPANY
1399 WOOD STREET
OAKLAND, CALIFORNIA**

Figure: 4
Page: 14
Scale: as shown

- * TDS ranged from 550 mg/L in MW-1 to 810 mg/L in MW-3 (average concentration for all three wells = 678 mg/L).

The analytical results for the duplicate ground water sample collected from MW-2 were consistent with the analytical results for the original sample.

None of the analyzed constituents were detected at or above their respective reporting limits in either the trip blank or the equipment blank.

All laboratory procedures (holding times, methods used, method blanks, documentation, etc.) and subsequent results were monitored throughout the analytical process according to standard quality assurance/quality control (QA/QC) procedures. In addition, all laboratory reports were evaluated as part of QA/QC procedures for ground water monitoring. The analytical data included in this first quarter, 1995 report are considered quantitatively valid.



5.0 DISCUSSION

The following sections discuss the occurrence and distribution of chemical compounds in site ground water, ground water elevation and flow direction, and proposed reductions in the number of analytes for the quarterly ground water monitoring program.

5.1 Chemical Distribution

Based on data collected during the first quarter, 1995 ground water monitoring event at the 1399 Wood Street site, the chemical compounds present in the ground water consist primarily of petroleum hydrocarbons in the gasoline and diesel range. Figure 5 shows the estimated lateral extent of TPH-G in ground water. Gasoline impacted ground water appears to be limited to the area around the former location of the fuel dispensing island, as indicated by the detection of gasoline hydrocarbons in monitoring well MW-3 only. Figure 6 shows the estimated lateral extent of TPH-D in ground water. Diesel impacted ground water appears to be limited to the area around the former location of Tank 3 as indicated by the detection of hydrocarbons in the diesel range (C_{13} - C_{22}) in MW-1 exclusively. Benzene was the only constituent detected this quarter at a concentration which exceeds the California Department of Health Services (DHS) water quality goals for drinking water. Monitoring well MW-3 contained benzene at a concentration of 2.4 $\mu\text{g/L}$. The California DHS maximum contaminant level (MCL) for benzene is 1 $\mu\text{g/L}$.

Table 4 summarizes ground water analytical data collected during this and all previous sampling events. A review of these analytical data shows that during all sampling events, TPH-G and BTEX compounds have been detected in MW-3 but have not been detected in MW-1 or MW-2. The concentration of TPH-G this quarter falls within the range of results from previous monitoring events (110 $\mu\text{g/L}$ to 410 $\mu\text{g/L}$). In MW-3, concentrations of benzene, toluene and xylenes (2.4 $\mu\text{g/L}$, 1.2 $\mu\text{g/L}$ and 2.8 $\mu\text{g/L}$, respectively) decreased this



MW-1
(<50)

Excavation A

Tank Pit 3

Surface Drain

Former Shed Location

MW-3
(290)

Former Dispenser Island

MW-2
(<50)

Concrete Loading Dock

Ramp

Tank Pit 1/2

Tank Pit 4

Excavation B



Asphalt

LEGEND

- MW-1 Approximate Location of Monitoring Well
- <50 Concentration of Total Petroleum Hydrocarbons (TPH) as Gasoline (in micrograms per liter)
- Approximate Extent of TPH-impacted Ground Water (dashed where inferred)
- Approximate Direction of Ground Water Flow
- Approximate Location of SPTCo Property Boundary
- Approximate Boundary of Excavation
- Approximate Location of Underground Storage Tank (UST) Excavation
- Fence
- Railroad Tracks
- Power Pole and Overhead Electrical Lines
- Building Structures
- Asphalt Paved Road



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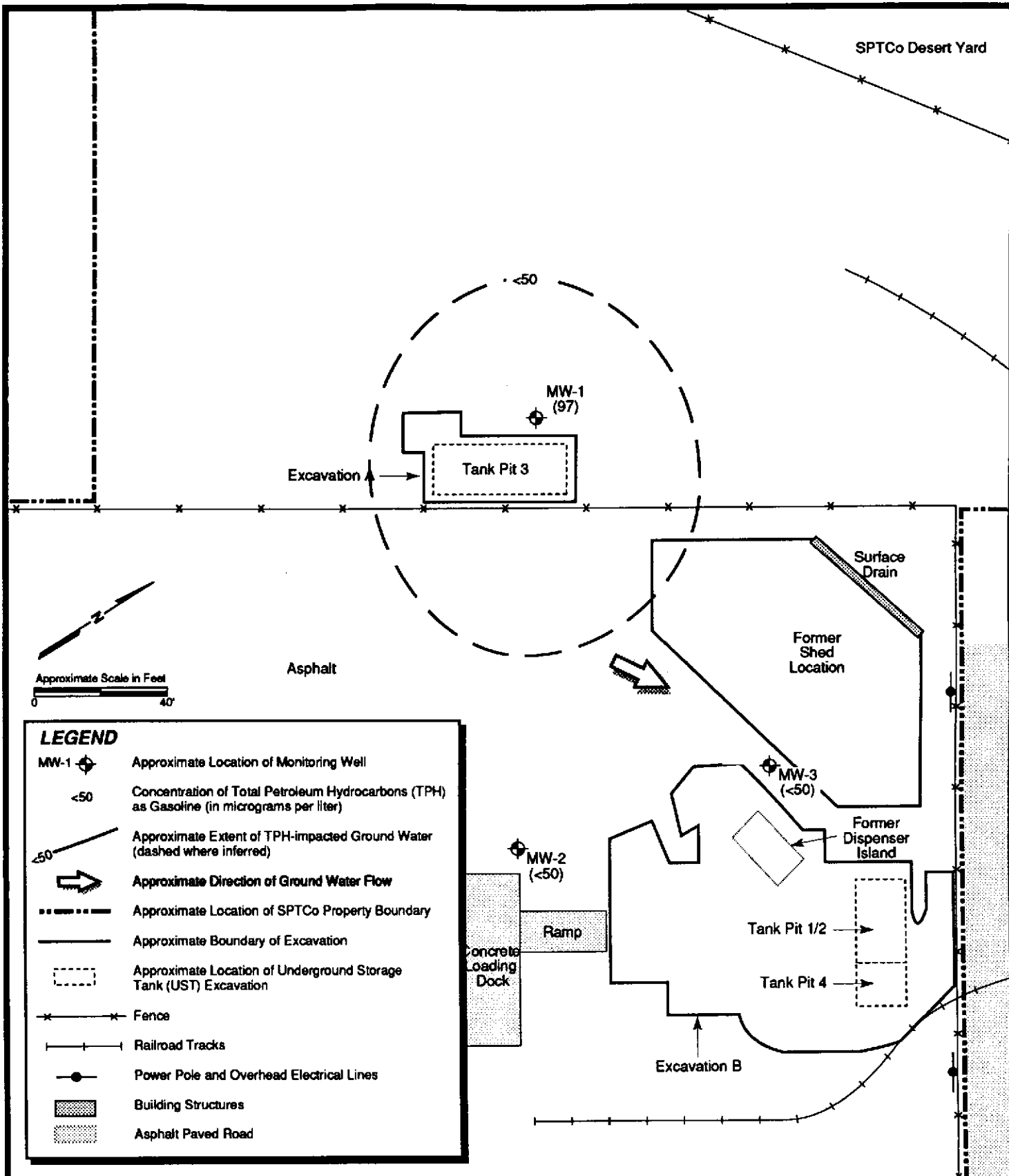
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Project No.: 05100535	Date: 05/02/95
Drawn By: Patti Decker	Checked By: Richard Bateman

ESTIMATED LATERAL EXTENT OF TPH AS GASOLINE IN GROUND WATER
MARCH, 1995
SOUTHERN PACIFIC TRANSPORTATION COMPANY
1399 WOOD STREET
OAKLAND, CALIFORNIA

Figure: 5
Page: 17
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Project No.: 05100535 Date: 05/02/95

Drawn By: Patti Decker Checked By: Richard Bateman

ESTIMATED LATERAL EXTENT OF TPH AS DIESEL IN GROUND WATER
MARCH, 1995
SOUTHERN PACIFIC TRANSPORTATION COMPANY
1399 WOOD STREET
OAKLAND, CALIFORNIA

Figure:	6
Page:	18
Scale:	as shown

**TABLE 4
GROUND WATER ANALYTICAL RESULTS
HISTORIC SUMMARY**

Well Location	Date Sampled	Total Petroleum Hydrocarbons ^a (µg/L)		Volatile Organic Compounds ^b (µg/L)				PCBs ^c (µg/L)	Sodium Chloride ^d (mg/L)	Total Dissolved Solids ^e (mg/L)
		Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Xylenes			
MW-1	06/29/94	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	40	410
	09/30/94	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA	630
	12/19/94	<50	160*	<0.5	<0.5	<0.5	<0.5	<0.5	40	510
	03/27/95	<50	97	<0.5	<0.5	<0.5	<0.5	<0.5	110	550
MW-2	06/29/94	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	48	680
	09/30/94	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA	670
	12/19/94	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	35	900
	03/27/95	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	38	670
MW-3	06/29/94	110	<50	<0.5	0.9	<0.5	0.8	<1.0	60	850
	09/30/94	160	<50	0.8	1.6	<0.5	2.3	<0.5	NA	880
	12/19/94	410	<50	5.1	4.5	<0.5	3.6	<0.5	49	1020
	03/27/95	290	<50	2.4	1.2	<0.5	2.8	<0.5	38	810
Cal DHS MCLs ^f		NE	NE	1	100 ^g	680	1,750	0.5 ^h	NE	500

- a Analyzed by EPA Method 8015 Modified (June 29, 1994 samples analyzed by EPA Method 8260 Modified).
- b Analyzed by EPA Method 8020 (June 29, 1994 samples analyzed by EPA Method 8260 Modified).
- c Analyzed by EPA Method 608 Modified.
- d Analyzed by EPA Method 8020.
- e Analyzed by EPA Method 160.1
- f California Department of Health Services (DHS) Maximum Contaminant Levels (MCLs) for drinking water (California RWQCB, May, 1993, Compilation of Water Quality Goals).
- g California DHS action level for drinking water (California RWQCB, May, 1993, Compilation of Water Quality Goals).

- h U.S. Environmental Protection Agency (USEPA) MCLs for drinking water (California RWQCB, May, 1993, Compilation of Water Quality Goals).
- PCB Polychlorinated biphenyls
- µg/L Micrograms per liter
- mg/L Milligrams per liter
- < Symbol indicates constituents not detected above method detection or reporting limits as noted.
- NA Not analyzed.
- NE No MCL established.
- * Non-typical diesel chromatographic pattern.



quarter in comparison with the analytical results of last quarter (5.1 $\mu\text{g/L}$, 4.5 $\mu\text{g/L}$ and 3.6 $\mu\text{g/L}$, respectively). Ethylbenzene has not been detected in MW-3 during any sampling event.

5.2 Ground Water Elevation and Flow

Ground water elevation contour maps for all previous monitoring events are included in Appendix D. Table 5 lists all ground water elevation data collected to date. A comparison of ground water elevation data collected during the first quarter, 1995 sampling event with ground water elevations measured during the previous sampling event, indicates an increase in ground water elevation in wells MW-1 and MW-2, but a decrease in ground water elevation in MW-3. The average net change for all the wells is an increase of 0.07 feet. The local hydraulic gradient for the first quarter, 1995 was calculated to be 0.024 which has increased relative to the gradient for December, 1994 of 0.015. The direction of ground water flow has changed slightly from the east/northeast last quarter to the northeast this quarter. The observed increase in ground water elevation in MW-1 and MW-2 is most likely due to seasonal variation. Figure 7 shows hydrographs of ground water elevation for all monitoring wells.

5.3 Reduction of Analyses

Based on the results from the last four quarters of ground water monitoring at this site, IC will be deleting TDS and sodium chloride from the analytical suite for quarterly monitoring effective the second quarter of 1995. TDS has been analyzed for in all wells during the past four quarters. All results except for the initial TDS analysis in MW-1 have exceeded the DHS recommended long-term MCL of 500 mg/L. Sodium chloride (calculation from separate analyses of sodium and chloride) also has been analyzed for in all wells during the

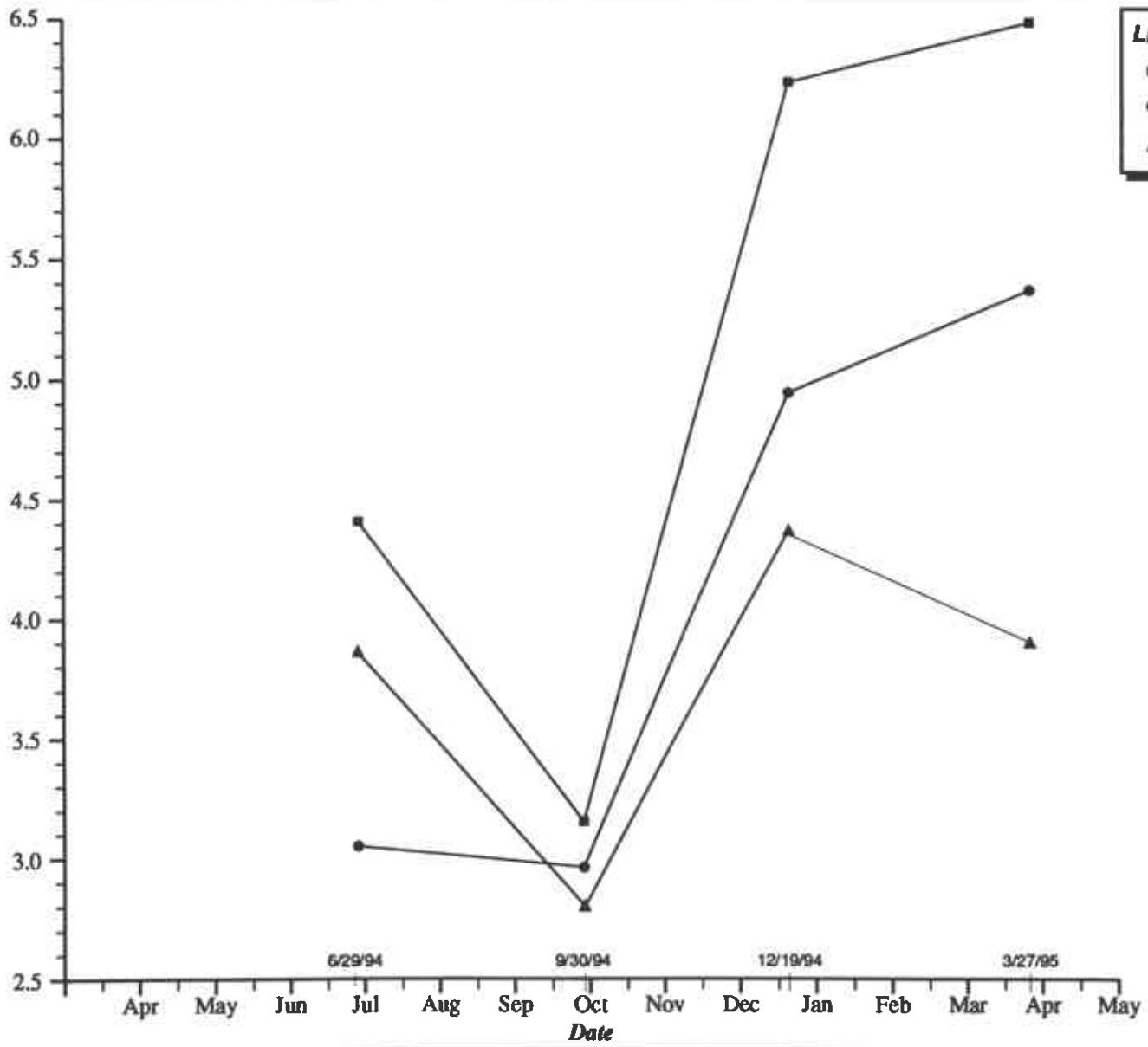
**TABLE 5
GROUND WATER ELEVATION DATA
HISTORIC SUMMARY**

Monitoring Well ^a	Date Measured	Time Measured	Top of Casing Elevation ^b (feet MSL)	Depth to Ground Water ^c (feet TOC)	Ground Water Elevation ^d (feet MSL)
MW-1	06/29/94	0900	7.74	3.36	4.38
	09/30/94	1000	7.71*	4.56	3.15
	12/19/94	0825		1.48	6.23
	03/27/95	0807		1.24	6.47
MW-2	06/29/94	0900	7.00*	3.94	3.06
	09/30/94	1015		4.04	2.96
	12/19/94	0809		2.06	4.94
	03/27/95	0815		1.64	5.36
MW-3	06/29/94	0900	7.43	3.50	3.84
	09/30/94	1030	7.32*	4.52	2.80
	12/19/94	0810		7.32	4.36
	03/27/95	0810		3.42	3.90

- a See Figure 2 for approximate location of monitoring wells.
 - b Top of casing elevation is a surveyed point marked on the top of the well casing.
 - c Depth to ground water measured from top of casing.
 - d Ground water elevation calculated by subtracting the depth to ground water from the top of casing elevation.
- MSL** Mean sea level
- TOC** Top of casing
- * Well resurveyed in September of 1994.



Water Level Elevation (feet msl)



LEGEND

- Monitoring Well MW-1
- Monitoring Well MW-2
- ▲ Monitoring Well MW-3

ICG Industrial Compliance
A Subsidiary of SP Environmental Systems, Inc.

Project No.: 05100535 Date: 05/02/95

Drawn By: Patti Decker Checked By: Richard Bateman

**HYDROGRAPHS OF GROUND WATER ELEVATION
SOUTHERN PACIFIC TRANSPORTATION COMPANY
1399 WOOD STREET
OAKLAND, CALIFORNIA**

Figure:	7
Page No.:	22
Scale:	as shown

past four quarters. This is an adequate amount of data to characterize the salinity of site ground water and to document that site ground water is not of drinking water quality.

Also, based on the results from the last four quarters of ground water monitoring, IC recommends deleting PCBs from the analytical suite for quarterly monitoring. PCBs have not been detected in any of the wells during the four quarters of monitoring completed to date.

IC also recommends reducing the frequency of sampling and analysis of ground water from wells MW-1 and MW-2. TPH-D has been detected in MW-1 for the last two quarters but TPH-G and BTEX compounds have not been detected over the four quarters of monitoring completed to date. IC recommends that sampling of MW-1 and analysis for TPH-D continue to be performed quarterly; sampling and analyses for TPH-G and BTEX will be eliminated effective the second quarter of 1995. BTEX compounds, TPH-G, and TPH-D have not been detected in MW-2 over the four quarters of monitoring completed to date. IC recommends that sampling and analysis of MW-2 be eliminated effective the second quarter of 1995. Monitoring well MW-3 will continue to be sampled on a quarterly basis for TPH-G and BTEX. Water level measurements will continue to be taken quarterly in MW-1, MW-2 and MW-3.

delete TPH-D.

It is proposed that the reduced monitoring program described above be maintained for one year or four additional quarterly sampling events. If at the end of this period there has been no significant change or a reduction in the concentration of petroleum hydrocarbon species in ground water, SPTCo will propose termination of monitoring and site closure.

6.0 GLOSSARY OF ACRONYMS

BTEX	Benzene, toluene, ethylbenzene, and xylenes
cy	Cubic yards
DHS	Department of Health Services
DI	Deionized
IC	Industrial Compliance
MCLs	Maximum contaminant levels
mg/L	Milligrams per liter
MSL	Mean sea level
PCBs	Polychlorinated biphenyls
QA/QC	Quality Assurance/Quality Control
SPTCo	Southern Pacific Transportation Company
TDS	Total dissolved solids
TPH-D	Total petroleum hydrocarbons as diesel
TPH-G	Total petroleum hydrocarbons as gasoline
VOA	Volatile organic analysis
µg/L	Micrograms per liter

APPENDIX A

**GROUND WATER ELEVATION MEASUREMENT AND
PURGE CHARACTERIZATION FIELD DATA SHEETS**



GROUND WATER ELEVATION MEASUREMENT LOG

Sheet 1 of 1

Project Name: 1399 WOOD ST
 Date: 3-27-95

Project No. 05100535
 Equipment: WATER LEVEL INDICATOR

Task/Phase: 01 / 98000
 Weather: SUNNY

Well Number	Reference Elevation (feet-MSL)	Time (military)	Depth to Water (feet)	Depth to Product (feet)	Total Depth (feet)	PT (feet)	PT x 0.8 (feet)	Adjusted DTW ¹ (feet)	Ground Water Elevation ² (feet-MSL)
MW-1	7.71	807	1.24	—	13.70	—	—	1.24	6.47
MW-2	7.00	815	1.64	—	1410	—	—	1.64	5.36
MW-3	7.32	821	3.42	—	1410	—	—	3.42	3.90
Comments:									

- 1 Adjusted depth to water = DTW - (PT x 0.8)
- 2 Ground water elevation = Reference elevation - Adjusted DTW
- MSL Mean sea level
- DTW Depth to water (to 0.01 foot)
- PT Product thickness (0.01 foot)

Signature: Duke Endicott



Industrial Compliance

A Subsidiary of SP Environmental Systems, Inc.



PURGE CHARACTERIZATION AND SAMPLE LOG

Project Number: 05100535 Project Name: 1399 WOOD ST Date: 3-27-95
 Well Number: MCC-1 Sampler: Tride Indicate Weather: SKY

Military Time	850	856	904	911	930		
Gallons Purged	0	8	16	24			Depth to bottom (DB): <u>13.20</u>
Purge Rate	—	—	—	—	S		Depth to water (DW): <u>1.24</u>
pH	6.86	6.88	6.85	6.86	A		Height of water column (H) = DB - DW: <u>12.46</u>
Conductivity	97 ^{µS/cm}	71 ^{µS/cm}	69 ^{µS/cm}	71 ^{µS/cm}	M		One casing volume (CV) = H x multiplier: <u>8.0</u>
Temperature (°F)	63.0	61.1	61.4	61.0	P		Three casing volumes (3CV): <u>24.0</u>
Salinity (0/00)	—	—	—	—	P		Multipliers = 2" well = 0.16 gallons/foot
Turbidity	CLEAR	CLOUDY	CLOUDY	CLOUDY	L		4" well = 0.65 gallons/foot
Color	CLEAR	LT BRN	LT BRN	LT BRN	E		6" well = 1.47 gallons/foot
Water Level Casing							8" well = 2.61 gallons/foot
Calibration	pH:						S.C.:

Sample #	Quantity	Volume	Type	Preserv.	Analysis	Lab	Sample Equip.	Purge Equip.	Field Comments
MCC-1	2	40 mL	LOA	HCL	^{STEX} TAM-GAS	CHROM	DISP BAYLER	TELEPH BAYLER	
	1	1LT	AMBER	HCL	TPH-DISS	↓	↓	↓	
	1	1LT	AMBER	^{TRICE} HCL	PBS	↓	↓	↓	
	1	1LT	POLY	NONE	TPH-KALL	↓	↓	↓	
TRIP	2	40 ML	LOA	HCL	^{STEX} TAM-GAS	CHROM	DISP BAYLER	TELEPH BAYLER	
Cleaning:	<u>WASHED BAYLER WITH ALCOHOL / RINSED WITH DI WATER</u>								
Comments:									

Sampler's Signature: Tride Indicate



Industrial Compliance

A Subsidiary of SP Environmental Systems, Inc.



PURGE CHARACTERIZATION AND SAMPLE LOG

Project Number: 05100535 Project Name: 1399 46000 ST Date: 3-27-95
 Well Number: MW-2 Sampler: Mike Endicott Weather: SUNNY

Military Time	947	953	1000	1007	1020		
Gallons Purged	0	8	16	24			Depth to bottom (DB): <u>1410</u>
Purge Rate	—	—	—	—	3		Depth to water (DW): <u>1.64</u>
pH	<u>7.04</u>	<u>7.25</u>	<u>7.28</u>	<u>7.29</u>	<u>7</u>		Height of water column (H) = DB - DW: <u>12.46</u>
Conductivity	<u>88^{x1000}</u>	<u>87^{x1000}</u>	<u>86^{x1000}</u>	<u>85^{x1000}</u>	<u>A</u>		One casing volume (CV) = H x multiplier: <u>8.0</u>
Temperature (°F)	<u>65.8</u>	<u>64.2</u>	<u>64.0</u>	<u>64.1</u>	<u>D</u>		Three casing volumes (3CV): <u>24.0</u>
Salinity (0/00)	—	—	—	—	<u>L</u>		Multipliers = 2" well = 0.16 gallons/foot
Turbidity	<u>CLEAR</u>	<u>LOUDY</u>	<u>CLOUDY</u>	<u>CLOUDY</u>	<u>E</u>		4" well = 0.65 gallons/foot
Color	<u>CLEAR</u>	<u>LT BRN</u>	<u>LT BRN</u>	<u>LT BRN</u>			6" well = 1.47 gallons/foot
Water Level Casing							8" well = 2.61 gallons/foot
Calibration	pH:						S.C.:

Sample #	Quantity	Volume	Type	Preserv.	Analysis	Lab	Sample Equip.	Purge Equip.	Field Comments
MW-2	2	40ML	VOA	HCL	^{BTX} TPH-GAS	CHROM	DISP BAILER	TELEPH BAILER	
	1	1LT	AMBER	HCL	TPH-DISS NOISE PCB	↓	↓	↓	
	1	1LT	AMBER	HCL		↓	↓	↓	
	1	1LT	POLY	NONE	TDS-NACL	↓	↓	↓	
MW 2D	2	40ML	VOA	HCL	^{BTX} TPH-GAS	CHROM	DISP BAILER	TELEPH BAILER	
	1	1LT	AMBER	HCL	TPH-DISS NOISE PCB	↓	↓	↓	
	1	1LT	AMBER	HCL		↓	↓	↓	
	1	1LT	POLY	NONE	TDS-NACL	↓	↓	↓	

Cleaning: WASHED BAILER WITH ALCOHOL / RINSED WITH DI WATER
 Comments:

Sampler's Signature: Mike Endicott



Industrial Compliance

A Subsidiary of SP
Environmental Systems, Inc.



PURGE CHARACTERIZATION AND SAMPLE LOG

Project Number: 05100535 Project Name: 1399 6000 ST Date: 3-27-95

Well Number: MW-3 Sampler: MIKE ENDICOTT Weather: SKINNY

Military Time	1057	1103	1111	1116						
Gallons Purged	0	7.0	14.0	21.0					Depth to bottom (DB):	1410
Purge Rate	—	—	—	—					Depth to water (DW):	342
pH	7.55	7.24	7.25	7.29					Height of water column (H) = DB - DW:	10.68
Conductivity	113 ^{µmho}	105 ^{µmho}	105 ^{µmho}	105 ^{µmho}					One casing volume (CV) = H x multiplier:	7.0
Temperature (°F)	70.2	67.0	65.8	64.8					Three casing volumes (3CV):	21.0
Salinity (0/00)	—	—	—	—					Multipliers = 2" well = 0.16 gallons/foot	
Turbidity	CLEAR	CLOUDY	CLOUDY	CLOUDY					4" well = 0.65 gallons/foot	
Color	CLEAR	MED BRN	MED BRN	MED BRN					6" well = 1.47 gallons/foot	
Water Level Casing									8" well = 2.61 gallons/foot	
Calibration	pH:								S.C.:	

Sample #	Quantity	Volume	Type	Preserv.	Analysis	Lab	Sample Equip.	Purge Equip.	Field Comments
MW-3	2	40 ML	UOA	HCL	TPH-GAS ^{PTER}	CHROM	DISP BAILER	TELEPH BAILER	
	1	1 LT	AMBER	HCL	TPH-DISEL ^{PTER}				
	1	1 LT	AMBER	HCL	TPH-DISEL ^{PTER}				
	1	1 LT	POLY	MARIE	TDS NAEL				
EQWIP	2	40 ML	UOA	HCL	TPH-GAS ^{PTER}	CHROM	DISP BAILER	TELEPH BAILER	
	1	1 LT	AMBER	HCL	TPH-DISEL ^{PTER}				
	1	1 LT	AMBER	HCL	TPH-DISEL ^{PTER}				
Cleaning:	WASHED BAILER WITH ALCOHOL / RINSED WITH DI WATER								
Comments:									

Sampler's Signature: Mike Endicott

APPENDIX B
CHAIN-OF-CUSTODY DOCUMENT



APPENDIX C
ANALYTICAL LABORATORY REPORTS
GROUND WATER SAMPLES



APPENDIX C
ANALYTICAL LABORATORY REPORTS
GROUND WATER SAMPLES

CHROMALAB, INC.

Environmental Services (SDB)

April 3, 1995

Submission #: 9503399

INDUSTRIAL COMPLIANCE-OAKLAND

Atten: Carl Taylor


Project: 1399 WOOD ST ✓
Received: March 27, 1995

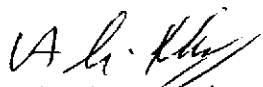
Project#: 05100649

re: 6 samples for Gasoline and BTEX analysis.

Sampled: March 27, 1995 ✓ Matrix: WATER
Method: EPA 5030/8015M/602/8020 Run#: 6022 Analyzed: April 3, 1995

Spl #	CLIENT	SMPL ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
82726	MW-1		N.D. ✓	N.D. ✓	N.D. ✓	N.D. ✓	N.D. ✓
82727	MW-2		N.D. ✓	N.D. ✓	N.D. ✓	N.D. ✓	N.D. ✓
82728	MW-3		0.29 ✓	2.4 ✓	1.2 ✓	N.D. ✓	2.8 ✓
82729	MW-2D		N.D. ✓	N.D. ✓	N.D. ✓	N.D. ✓	N.D. ✓
82730	EQUIP		N.D. ✓	N.D. ✓	N.D. ✓	N.D. ✓	N.D. ✓
82731	TRIP		N.D. ✓	N.D. ✓	N.D. ✓	N.D. ✓	N.D. ✓
Reporting Limits			0.05	0.5	0.5	0.5	0.5
Blank Result			N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)			97	106	109	115	111


Jack Kelly
Chemist


Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

April 3, 1995

Submission #: 9503399

INDUSTRIAL COMPLIANCE-OAKLAND

Atten: Carl Taylor

Project: 1399 WOOD ST
Received: March 27, 1995

Project#: 05100649

re: 5 samples for C13-C22 Range Compounds analysis.

Sampled: March 27, 1995
Method: EPA 3510/8015M

Matrix: WATER Extracted: March 31, 1995
Run#: 6018 Analyzed: April 1, 1995

Spl #	CLIENT	SMPL ID	C13 - C22 (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
82726	MW-1		97	50	N.D.	89
82727	MW-2		N.D.	50	N.D.	89
82728	MW-3		N.D.	50	N.D.	89
82729	MW-2D		N.D.	50	N.D.	89
82730	EQUIP		N.D.	50	N.D.	89

Sirirat Chullakorn

Sirirat (Sindy) Chullakorn
Chemist

Ali Kharrazi

Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

March 31, 1995

Submission #: 9503399

INDUSTRIAL COMPLIANCE-OAKLAND

Atten: Carl Taylor

Project: 1399 WOOD ST
Received: March 27, 1995

Project#: 05100649

re: One sample for Polychlorinated Biphenyls (PCBs) analysis.

Sample ID: MW-1

Spl#: 82726

Sampled: March 27, 1995

Method: MOD. EPA 608


Matrix: WATER


Run#: 6015

Extracted: March 30, 1995

Analyzed: March 30, 1995

<u>ANALYTE</u>	<u>RESULT</u> (ug/L)	<u>REPORTING</u> <u>LIMIT</u> (ug/L)	<u>BLANK</u> <u>RESULT</u> (ug/L)	<u>BLANK SPIKE</u> <u>RESULT</u> (%)
AROCLOR 1016	N.D.	0.5	N.D.	--
AROCLOR 1221	N.D.	0.5	N.D.	--
AROCLOR 1232	N.D.	0.5	N.D.	--
AROCLOR 1242	N.D.	0.5	N.D.	--
AROCLOR 1248	N.D.	0.5	N.D.	--
AROCLOR 1254	N.D.	0.5	N.D.	--
AROCLOR 1260	N.D.	0.5	N.D.	96


Alex Tam
Chemist


Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

March 31, 1995

Submission #: 9503399

INDUSTRIAL COMPLIANCE-OAKLAND

Atten: Carl Taylor

Project: 1399 WOOD ST
Received: March 27, 1995

Project#: 051.00649

re: One sample for Polychlorinated Biphenyls (PCBs) analysis.

Sample ID: MW-2

Spl#: 82727

Sampled: March 27, 1995

Method: MOD. EPA 608


Matrix: WATER


Run#: 6015

Extracted: March 30, 1995

Analyzed: March 30, 1995

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
AROCLOR 1016	N.D.	0.5	N.D.	--
AROCLOR 1221	N.D.	0.5	N.D.	--
AROCLOR 1232	N.D.	0.5	N.D.	--
AROCLOR 1242	N.D.	0.5	N.D.	--
AROCLOR 1248	N.D.	0.5	N.D.	--
AROCLOR 1254	N.D.	0.5	N.D.	--
AROCLOR 1260	N.D.	0.5	N.D.	96


Alex Taha
Chemist


Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

March 31, 1995

Submission #: 9503399

INDUSTRIAL COMPLIANCE-OAKLAND

Atten: Carl Taylor

Project: 1399 WOOD ST
Received: March 27, 1995

Project#: 05100649

re: One sample for Polychlorinated Biphenyls (PCBs) analysis.

Sample ID: MW-3

Spl#: 82728

Sampled: March 27, 1995

Method: MOD. EPA 608


Matrix: WATER


Run#: 6015

Extracted: March 30, 1995

Analyzed: March 30, 1995

<u>ANALYTE</u>	<u>RESULT</u> <u>(ug/L)</u>	<u>REPORTING</u> <u>LIMIT</u> <u>(ug/L)</u>	<u>BLANK</u> <u>RESULT</u> <u>(ug/L)</u>	<u>BLANK SPIKE</u> <u>RESULT</u> <u>(%)</u>
AROCLOR 1016	N.D.	0.5	N.D.	--
AROCLOR 1221	N.D.	0.5	N.D.	--
AROCLOR 1232	N.D.	0.5	N.D.	--
AROCLOR 1242	N.D.	0.5	N.D.	--
AROCLOR 1248	N.D.	0.5	N.D.	--
AROCLOR 1254	N.D.	0.5	N.D.	--
AROCLOR 1260	N.D.	0.5	N.D.	96


Alex Tam
Chemist


Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

March 31, 1995

Submission #: 9503399

INDUSTRIAL COMPLIANCE-OAKLAND

Atten: Carl Taylor

Project: 1399 WOOD ST
Received: March 27, 1995

Project#: 05100649

re: One sample for Polychlorinated Biphenyls (PCBs) analysis.

Sample ID: MW-2D

Spl#: 82729

Sampled: March 27, 1995

Method: MOD. EPA 608


Matrix: WATER

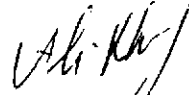
Run#: 6015

Extracted: March 30, 1995

Analyzed: March 30, 1995

<u>ANALYTE</u>	<u>RESULT</u> <u>(ug/L)</u>	<u>REPORTING</u> <u>LIMIT</u> <u>(ug/L)</u>	<u>BLANK</u> <u>RESULT</u> <u>(ug/L)</u>	<u>BLANK SPIKE</u> <u>RESULT</u> <u>(%)</u>
AROCLOR 1016	N.D.	0.5	N.D.	--
AROCLOR 1221	N.D.	0.5	N.D.	--
AROCLOR 1232	N.D.	0.5	N.D.	--
AROCLOR 1242	N.D.	0.5	N.D.	--
AROCLOR 1248	N.D.	0.5	N.D.	--
AROCLOR 1254	N.D.	0.5	N.D.	--
AROCLOR 1260	N.D.	0.5	N.D.	96


Alex Tam
Chemist


Ali Kharrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

March 31, 1995

Submission #: 9503399

INDUSTRIAL COMPLIANCE-OAKLAND

Atten: Carl Taylor

Project: 1399 WOOD ST
Received: March 27, 1995

Project#: 05100649

re: One sample for Polychlorinated Biphenyls (PCBs) analysis.

Sample ID: EQUIP

Spl#: 82730

Matrix: WATER

Extracted: March 30, 1995

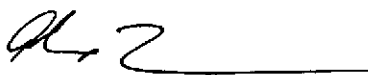
Sampled: March 27, 1995

Run#: 6015

Analyzed: March 30, 1995

Method: MOD. EPA 608

<u>ANALYTE</u>	<u>RESULT</u> <u>(ug/L)</u>	<u>REPORTING</u> <u>LIMIT</u> <u>(ug/L)</u>	<u>BLANK</u> <u>RESULT</u> <u>(ug/L)</u>	<u>BLANK SPIKE</u> <u>RESULT</u> <u>(%)</u>
AROCLOR 1016	N.D.	0.5	N.D.	--
AROCLOR 1221	N.D.	0.5	N.D.	--
AROCLOR 1232	N.D.	0.5	N.D.	--
AROCLOR 1242	N.D.	0.5	N.D.	--
AROCLOR 1248	N.D.	0.5	N.D.	--
AROCLOR 1254	N.D.	0.5	N.D.	--
AROCLOR 1260	N.D.	0.5	N.D.	96


Alex Tam
Chemist


Ali Kharrazi
Organic Manager



GeoAnalytical Laboratories, Inc.

1405 Kansas Avenue
Modesto, CA 95351

Phone (209) 572-0900
FAX (209) 572-0916

CERTIFICATE OF ANALYSIS

Report # G087-07
ChromaLab
1220 Quarry Lane
Pleasanton CA 94566 - 4756

Date of Report: 04/04/95
Date Received: 03/28/95
Date Started: 03/28/95
Date Completed: 03/31/95

Project Name: INDCOMP

Project # 9503399

Sample ID	Lab ID	Detection Limit	Method	Analyte	Results	Units mg/L
MW-1	G31341	1	6010/300	Sodium Chloride	110	
MW-1	G31341	10	160.1	Total Dissolved Solids	550	
MW-2	G31342	1	6010/300	Sodium Chloride	38	
MW-2	G31342	10	160.1	Total Dissolved Solids	670	
MW-3	G31343	1	6010/300	Sodium Chloride	38	
MW-3	G31343	10	160.1	Total Dissolved Solids	810	

Ramiro Salgado
Ramiro Salgado
Chemist

Certification # 1157

Donna Allsup
Donna Allsup
Laboratory Director



GeoAnalytical Laboratories, Inc.

1405 Kansas Avenue
Modesto, CA 95351

Phone (209) 572-0900
FAX (209) 572-0916

CERTIFICATE OF ANALYSIS

Report # G087-07
ChromaLab
1220 Quarry Lane
Pleasanton CA 94566 - 4756

Date of Report: 04/04/95
Date Received: 03/28/95
Date Started: 03/28/95
Date Completed: 03/31/95

Project Name: INDCOMP

Project # 9503399

Sample ID	Lab ID	Detection Limit	Method	Analyte	Results	Units mg/L
MW-2D	G31344	1	6010/300	Sodium Chloride	36	
MW-2D	G31344	10	160.1	Total Dissolved Solids	670	

Ramiro Salgado
Ramiro Salgado

Chemist

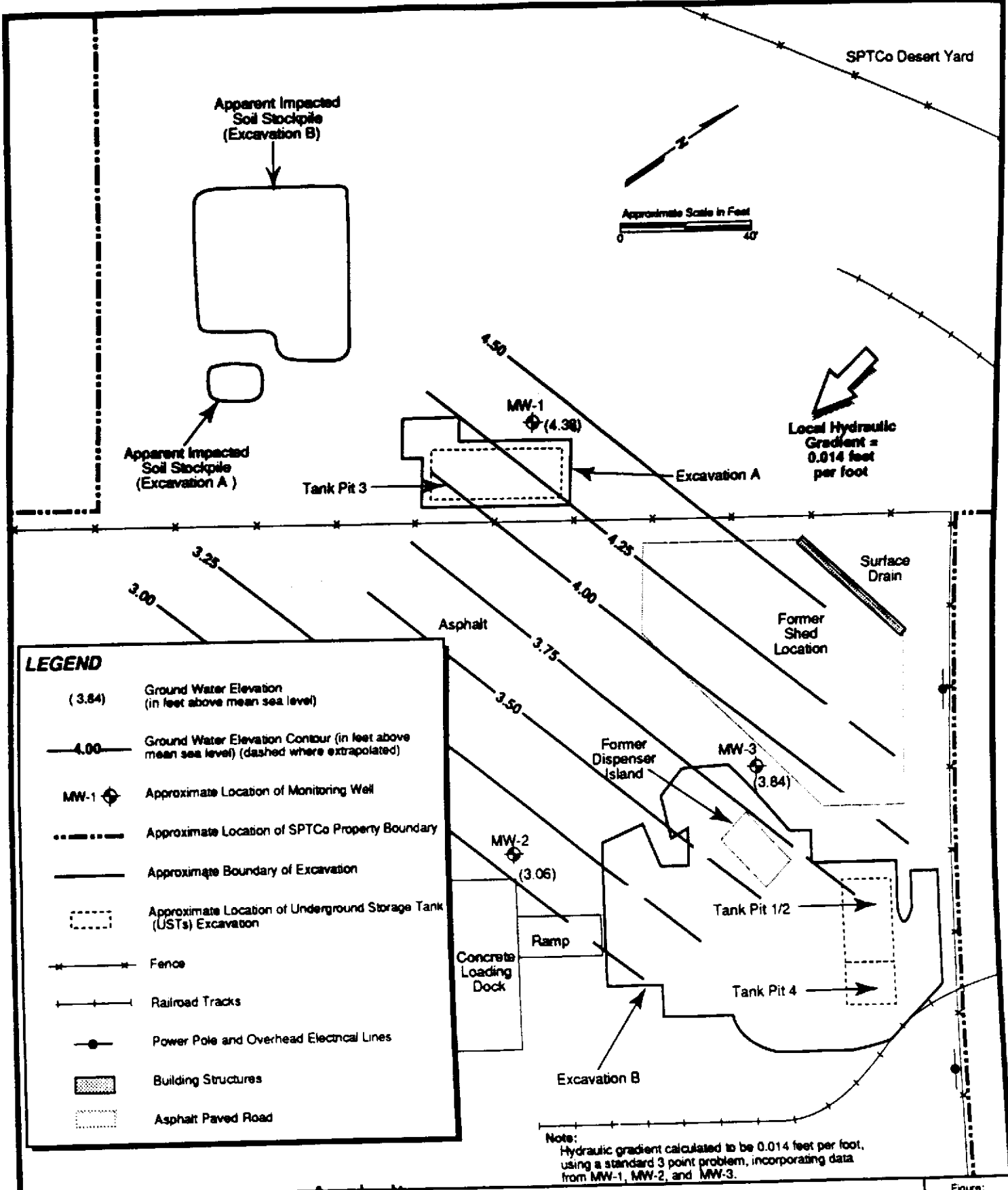
Certification # 1157

Donna Allsup
Donna Allsup
Laboratory Director

APPENDIX D

**GROUND WATER ELEVATION CONTOUR MAPS
PREVIOUS MONITORING EVENTS**





LEGEND

- (3.84) Ground Water Elevation (in feet above mean sea level)
- 4.00 — Ground Water Elevation Contour (in feet above mean sea level) (dashed where extrapolated)
- MW-1 ◊ Approximate Location of Monitoring Well
- Approximate Location of SPTCo Property Boundary
- Approximate Boundary of Excavation
- - - - - Approximate Location of Underground Storage Tank (USTs) Excavation
- +—+—+— Fence
- +—+—+— Railroad Tracks
- Power Pole and Overhead Electrical Lines
- ▒ Building Structures
- ▒ Asphalt Paved Road

Note:
Hydraulic gradient calculated to be 0.014 feet per foot, using a standard 3 point problem, incorporating data from MW-1, MW-2, and MW-3.

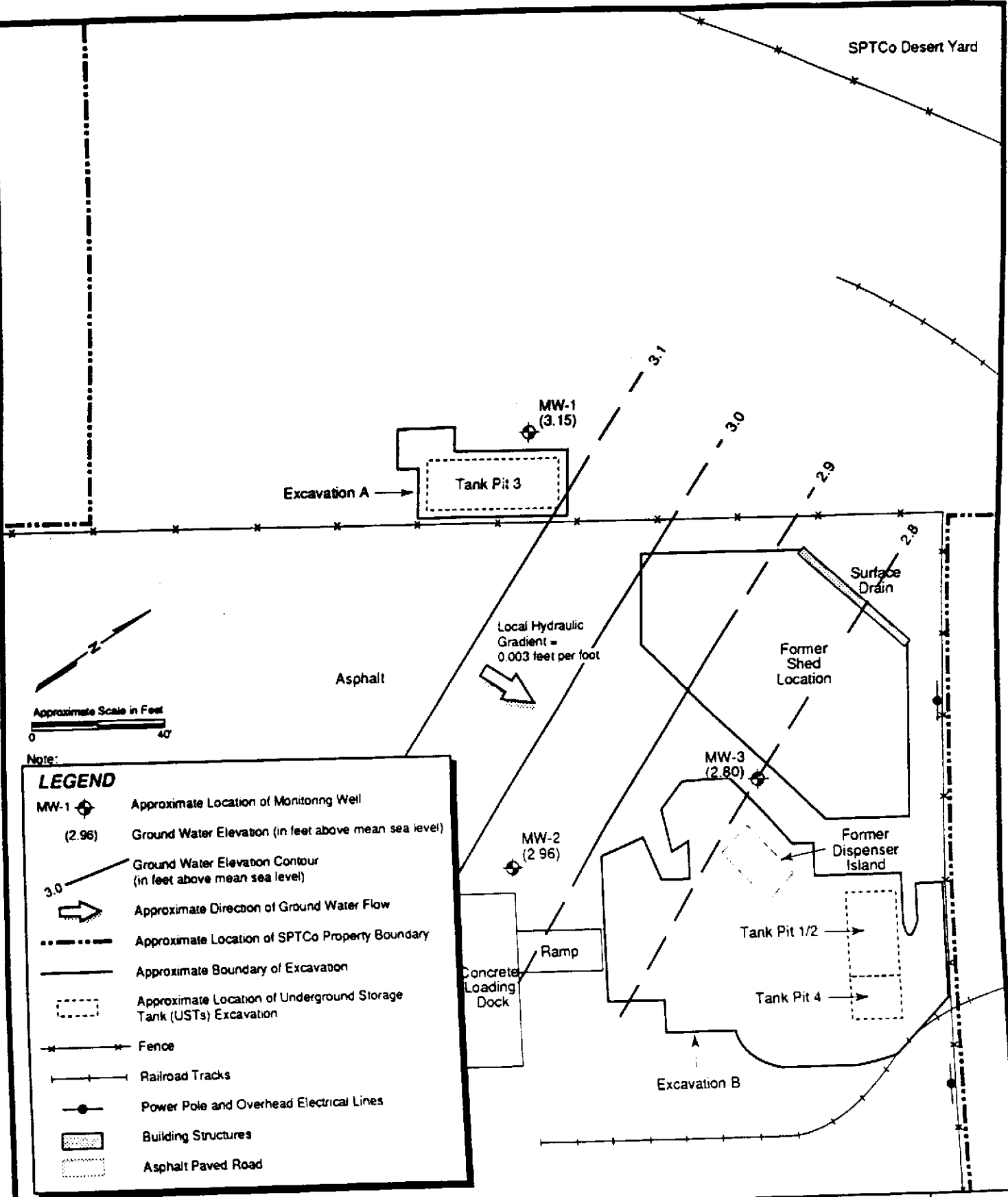
Industrial Compliance
A Subsidiary of SP Environmental Systems, Inc.

Project No.: 05100535 Date: 08/15/94

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

CONTOUR MAP OF GROUND WATER ELEVATIONS WITH HYDRAULIC GRADIENT, JUNE, 1994
SOUTHERN PACIFIC TRANSPORTATION COMPANY
1399 WOOD STREET
OAKLAND, CALIFORNIA

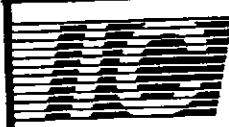
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Note:

LEGEND

- MW-1 Approximate Location of Monitoring Well
- (2.96) Ground Water Elevation (in feet above mean sea level)
- 3.0 Ground Water Elevation Contour (in feet above mean sea level)
- Approximate Direction of Ground Water Flow
- Approximate Location of SPTCo Property Boundary
- Approximate Boundary of Excavation
- Approximate Location of Underground Storage Tank (USTs) Excavation
- Fence
- Railroad Tracks
- Power Pole and Overhead Electrical Lines
- Building Structures
- Asphalt Paved Road

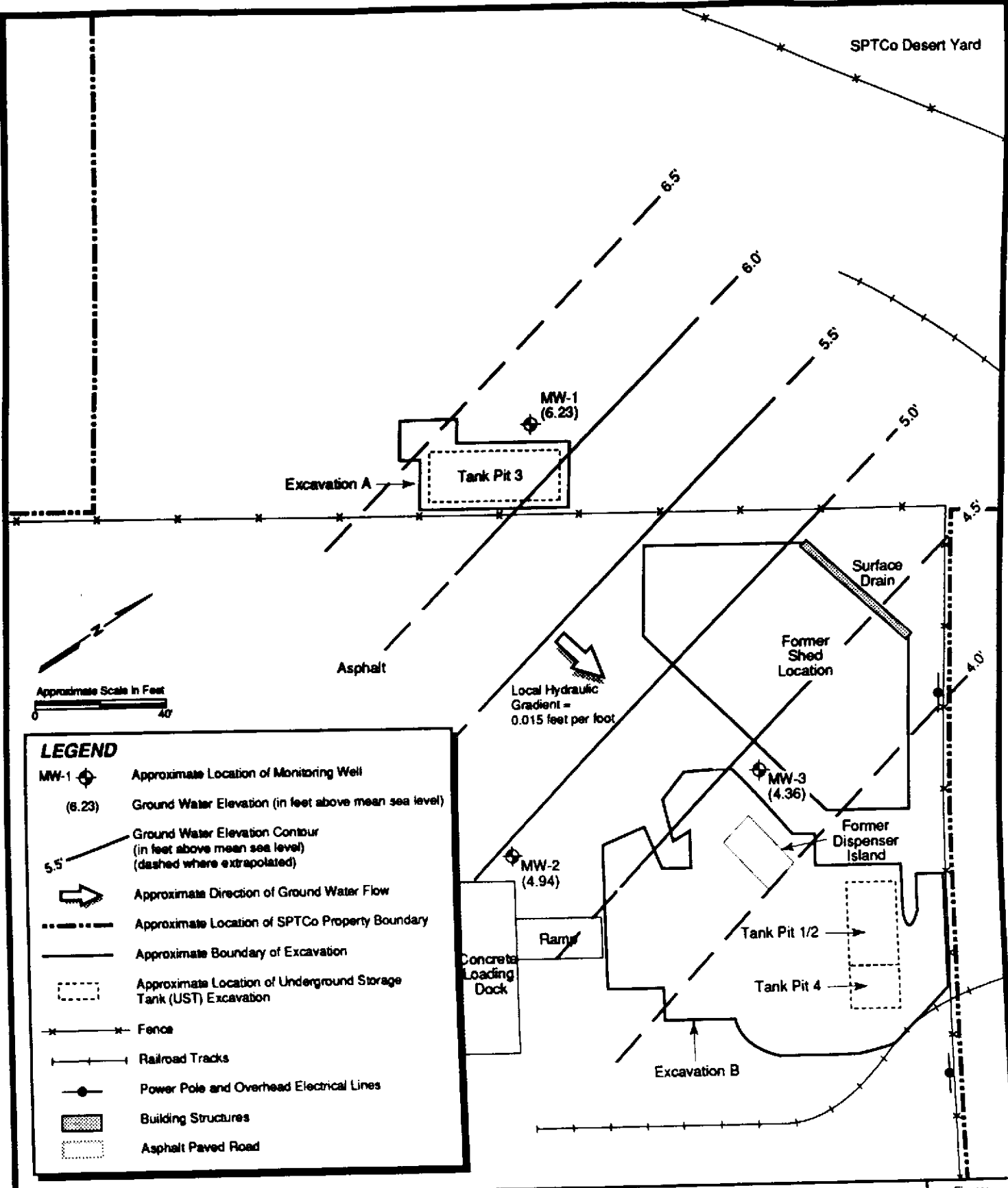


Industrial Compliance
 A Subsidiary of SP
 Environmental Systems, Inc.

**CONTOUR MAP OF GROUND WATER ELEVATIONS
 SEPTEMBER, 1994
 SOUTHERN PACIFIC TRANSPORTATION COMPANY
 1399 WOOD STREET
 OAKLAND, CALIFORNIA**

Project No.: 05100535	Date: 01/18/95
Drawn By: Patti Decker	Checked By: James Ackerman

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LEGEND

- MW-1 Approximate Location of Monitoring Well
- (6.23) Ground Water Elevation (in feet above mean sea level)
- Ground Water Elevation Contour (in feet above mean sea level) (dashed where extrapolated)
- Approximate Direction of Ground Water Flow
- Approximate Location of SPTCo Property Boundary
- Approximate Boundary of Excavation
- Approximate Location of Underground Storage Tank (UST) Excavation
- Fence
- Railroad Tracks
- Power Pole and Overhead Electrical Lines
- Building Structures
- Asphalt Paved Road

Industrial Compliance
 A Subsidiary of SP Environmental Systems, Inc.

Project No.: 05100535 Date: 02/13/95

Drawn By: Patti Decker Checked By: Richard Bateman

**CONTOUR MAP OF GROUND WATER ELEVATION
 DECEMBER, 1994
 SOUTHERN PACIFIC TRANSPORTATION COMPANY
 1399 WOOD STREET
 OAKLAND, CALIFORNIA**

Figure:	4
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