

2169 E. FRANCISCO BOULEVARD, SUITE B
SAN RAFAEL, CALIFORNIA 94901
415/457-7595 FAX: 415/457-8521

24 Apr 1990

Lisa Marinaro
Chevron USA
2410 Camino Ramon
San Ramon, California 94583

Re: Soil Sampling
Former Chevron Asphalt Plant and
Terminal
Emeryville, California
WGR Project #1-045.44

Dear Ms. Marinaro:

At your request, Western Geologic Resources, Inc. (WGR) presents the results of the soil sampling conducted at the former Chevron Asphalt Plant and Terminal located in Emeryville, California. The scope of work included drilling of shallow soil borings and collecting soil samples at a depth of approximately 5 ft for analysis.

On 26 March 1990, 43 soil borings were drilled with a Giddings trailer-mounted drill rig or with truck-mounted hollow-stem augers under the supervision of WGR personnel around the northern edge of the recent soil excavation and along the western boundary of the site (Figures 1A and 1B). The borings were drilled to between 3.5 and 4.5 ft below ground surface and soil samples were collected between 4 and 5 ft below ground surface.

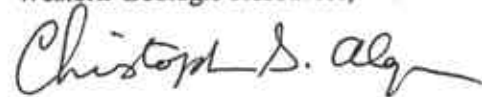
Soil samples were sent under chain-of-custody to GTEL Environmental Laboratories of Concord, California, for analysis. Analytic results are presented in Table 1 and 2. Analytic results for total oil and grease by Standard Method 503A are presented on Figures 1A and 1B. Analytic results for oil and grease as total extractable petroleum hydrocarbons by EPA Method 418.1 are presented in Table 1. Analytic results for benzene, toluene, ethylbenzene and total xylenes and halocarbons by EPA Method 8240 are presented on Figures 2A and 2B. Analytic results for total lead and soluble lead by EPA Method 6010 are presented on Figures 3A and 3B. Analytic results for total petroleum hydrocarbons, as gasoline and diesel, by EPA Method 8015 are presented on Figures 4A and 4B.

L. Marinaro/24 April 1990

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WGR hopes that this summary of the investigation will meet your needs. Please call us at (415)457-7595 if you have questions.

Sincerely,
Western Geologic Resources, Inc.



Christopher S. Alger
Project Geologist

CSA:vw
Enclosures



Table 1. Analytic Results: Soil
Former Chevron Asphalt Plant
Emeryville, California

Boring ID	Date Sampled	TPH Gasoline	TPH Diesel	Total O&G	Petroleum O&G	Acetone	Methylene Chloride	2-Butanone	1,2-DCE	TCE
		ppm				ppb				
EPA Method		8015	8015	413.2	418.1	8240	8240	8240	8240	8240
SB-1	26 Mar 90	<10	<10	17	---	<100	<5	<100	<5	<5
SB-2	26 Mar 90	<10	<10	27	---	<100	<5	<100	<5	<5
SB-3	26 Mar 90	<10	<10	5	---	<100	<5	<100	<5	<5
SB-4	26 Mar 90	<10	<10	7	---	<100	<5	<100	<5	<5
SB-5	26 Mar 90	<10	<10	6	---	<100	<5	<100	<5	<5
SB-6	26 Mar 90	<10	<10	6	---	<100	<5	<100	<5	<5
SB-7	26 Mar 90	<10	<10	15	---	<100	<5	<100	<5	<5
SB-8	26 Mar 90	<10	<10	12	---	<100	<5	<100	<5	<5
SB-9	26 Mar 90	<10	<10	8	---	<100	<5	<100	<5	<5
SB-10	26 Mar 90	<10	<10	<5	---	<100	<5	<100	<5	<5
SB-11	26 Mar 90	<10	<10	420	---	<100	<5	<100	<5	<5
SB-12	26 Mar 90	<10	<10	72	---	<100	<5	<100	<5	<5
SB-13	26 Mar 90	<10	<10	<5	---	<100	<5	<100	<5	<5
SB-14	26 Mar 90	<10	<10	<5	---	<100	<5	<100	<5	<5
SB-15	26 Mar 90	<10	<10	8	---	<100	<5	<100	<5	<5
SB-16	26 Mar 90	<10	57	98	---	<100	<5	<100	<5	<5

Table 1. Analytic Results: Soil (continued)
Former Chevron Asphalt Plant
Emeryville, California

Boring ID	Date Sampled	TPH Gasoline	TPH Diesel	Total O&G	Petroleum O&G	Acetone	Methylene Chloride	2-Butanone	1,2-DCE	TCE
		←-----ppm----->				←-----ppb----->				
EPA Method		8015	8015	413.2	418.1	8240	8240	8240	8240	8240
SB-17	26 Mar 90	<10	<10	1300	530	<100	<5	<100	<5	<5
SB-18	26 Mar 90	47	16	29	400	<100	<5	<100	<5	<5
SB-19	26 Mar 90	78	38	280	420	<100	<5	<100	<5	<5
SB-20	26 Mar 90	<10	<10	450	32	<100	<5	<100	<5	<5
SB-21	26 Mar 90	<10	<10	22	56	<100	<5	<100	<5	<5
SB-22	26 Mar 90	<10	<10	93	57	<100	<5	<100	<5	<5
SB-23	26 Mar 90	78	<10	230	31	<100	<5	<100	<5	<5
SB-24	26 Mar 90	<10	<10	120	76	<100	<5	<100	<5	<5
SB-25	26 Mar 90	1900	<10	3900	2300	<100	<5	<100	<5	<5
SB-26	26 Mar 90	660	<10	1100	---	170	<5	<100	<5	<5
SB-27	26 Mar 90	390	<10	110	---	<100	<5	<100	<5	<5
SB-28	26 Mar 90	86	<10	150	---	<100	<5	<100	<5	<5
SB-29	26 Mar 90	97	<10	570	---	<100	<5	220	<5	<5
SB-30	26 Mar 90	59	<10	55	---	150	<5	<100	<5	<5
SB-31	26 Mar 90	<10	<10	64	---	<100	<5	<100	<5	<5
SB-32	26 Mar 90	<10	<10	<5	---	120	<5	<100	<5	<5

Table 1. Analytic Results: Soil (continued)
Former Chevron Asphalt Plant
Emeryville, California

Boring ID	Date Sampled	TPH Gasoline	TPH Diesel	Total O&G	Petroleum O&G	Acetone	Methylene Chloride	2-Butanone	1,2-DCE	TCE
		-----ppm-----				-----ppb-----				
EPA Method		8015	8015	413.2	418.1	8240	8240	8240	8240	8240
SB-33	26 Mar 90	<10	<10	<5	---	100	<5	<100	<5	<5
SB-34	26 Mar 90	<10	<10	<5	---	<100	25	<100	<5	<5
SB-35	26 Mar 90	<10	720	6200	--	<100	<5	<100	<5	<5
SB-36	26 Mar 90	<10	<10	<5	---	<100	<5	<100	<5	<5
SB-37	26 Mar 90	<10	<10	<5	---	<100	<5	<100	6.6	<5
SB-38	26 Mar 90	<10	<10	<5	---	<100	<5	<100	<5	<5
SB-39	26 Mar 90	<10	<10	<5	---	200	<5	<100	<5	<5
SB-40	26 Mar 90	<10	<10	<5	---	<100	<5	<100	<5	<5
SB-41	26 Mar 90	<10	<10	8	---	<100	<5	<100	<5	<5
SB-42	26 Mar 90	1200	<10	92000	1700	<100	<5	<100	1700	15000
SB-43	26 Mar 90	<10	<10	9	---	<100	<5	<100	<5	<5

Table 2. Analytic Results: Soil
Former Chevron Asphalt Plant
Emeryville, California

Boring ID	Date Sampled	Benzene	Toluene	E-Benzene	Xylenes	Total Cadmium	Total Chromium	Total Zinc	Total Lead	Soluble Lead
		----->								
EPA Method		8240	8240	8240	8240	3050/6010	3050/6010	3050/6010	3050/6010	1310/6010
SB-1	26 Mar 90	<5	<5	<5	<5	<3	11	41	22	---
SB-2	26 Mar 90	<5	<5	<5	<5	<3	11	41	25	---
SB-3	26 Mar 90	<5	<5	<5	<5	<3	6	24	20	---
SB-4	26 Mar 90	<5	<5	<5	<5	<3	5	20	18	---
SB-5	26 Mar 90	<5	<5	<5	<5	<3	14	27	22	---
SB-6	26 Mar 90	<5	<5	<5	<5	<3	7	18	13	---
SB-7	26 Mar 90	<5	<5	<5	<5	<3	17	31	35	---
SB-8	26 Mar 90	<5	<5	<5	<5	<3	6	13	13	---
SB-9	26 Mar 90	<5	<5	<5	<5	<3	6	15	16	---
SB-10	26 Mar 90	<5	<5	<5	<5	<3	12	23	21	---
SB-11	26 Mar 90	<5	<5	<5	<5	<3	7	22	23	---
SB-12	26 Mar 90	<5	<5	<5	<5	<3	7	16	16	---
SB-13	26 Mar 90	<5	<5	<5	<5	<3	7	12	14	---
SB-14	26 Mar 90	<5	<5	<5	<5	<3	7	14	13	---
SB-15	26 Mar 90	<5	<5	<5	<5	<3	8	43	43	---
SB-16	26 Mar 90	<5	<5	<5	<5	3	11	170	60	---

Table 2. Analytic Results: Soil (continued)
Former Chevron Asphalt Plant
Emeryville, California

Boring ID	Date Sampled	Benzene	Toluene	E-Benzene	Xylenes	Total Cadmium	Total Chromium	Total Zinc	Total Lead	Soluble Lead
		----->								
EPA Method		8240	8240	8240	8240	3050/6010	3050/6010	3050/6010	3050/6010	1310/6010
SB-17	26 Mar 90	<5	<5	<5	<5	<3	18	90	120	<0.2
SB-18	26 Mar 90	<5	<5	<5	8.6	<3	14	120	190	<0.2
SB-19	26 Mar 90	<5	<5	<5	<5	<3	7	110	150	<0.2
SB-20	26 Mar 90	<5	23	<5	26	4	11	400	880	<0.2
SB-21	26 Mar 90	<5	<5	<5	<5	<3	9	130	150	<0.2
SB-22	26 Mar 90	<5	<5	<5	<5	<3	9	84	130	3
SB-23	26 Mar 90	<5	<5	<5	<5	<3	7	120	120	<0.2
SB-24	26 Mar 90	<5	<5	<5	<5	<3	9	200	180	3
SB-25	26 Mar 90	<5	<5	<5	<5	<3	8	22	17	2
SB-26	26 Mar 90	<5	<5	<5	<5	<3	37	21	13	---
SB-27	26 Mar 90	<5	<5	<5	<5	<3	8	11	12	---
SB-28	26 Mar 90	<5	<5	<5	<5	<3	5	13	15	---
SB-29	26 Mar 90	<5	<5	<5	<5	<3	11	120	110	---
SB-30	26 Mar 90	<5	<5	<5	<5	<3	11	35	34	---
SB-31	26 Mar 90	<5	<5	<5	<5	<3	5	60	30	---
SB-32	26 Mar 90	<5	<5	<5	<5	<3	<5	18	18	---
SB-33	26 Mar 90	<5	<5	<5	<5	<3	<5	26	17	---
SB-34	26 Mar 90	<5	<5	<5	<5	<3	5	8	12	---

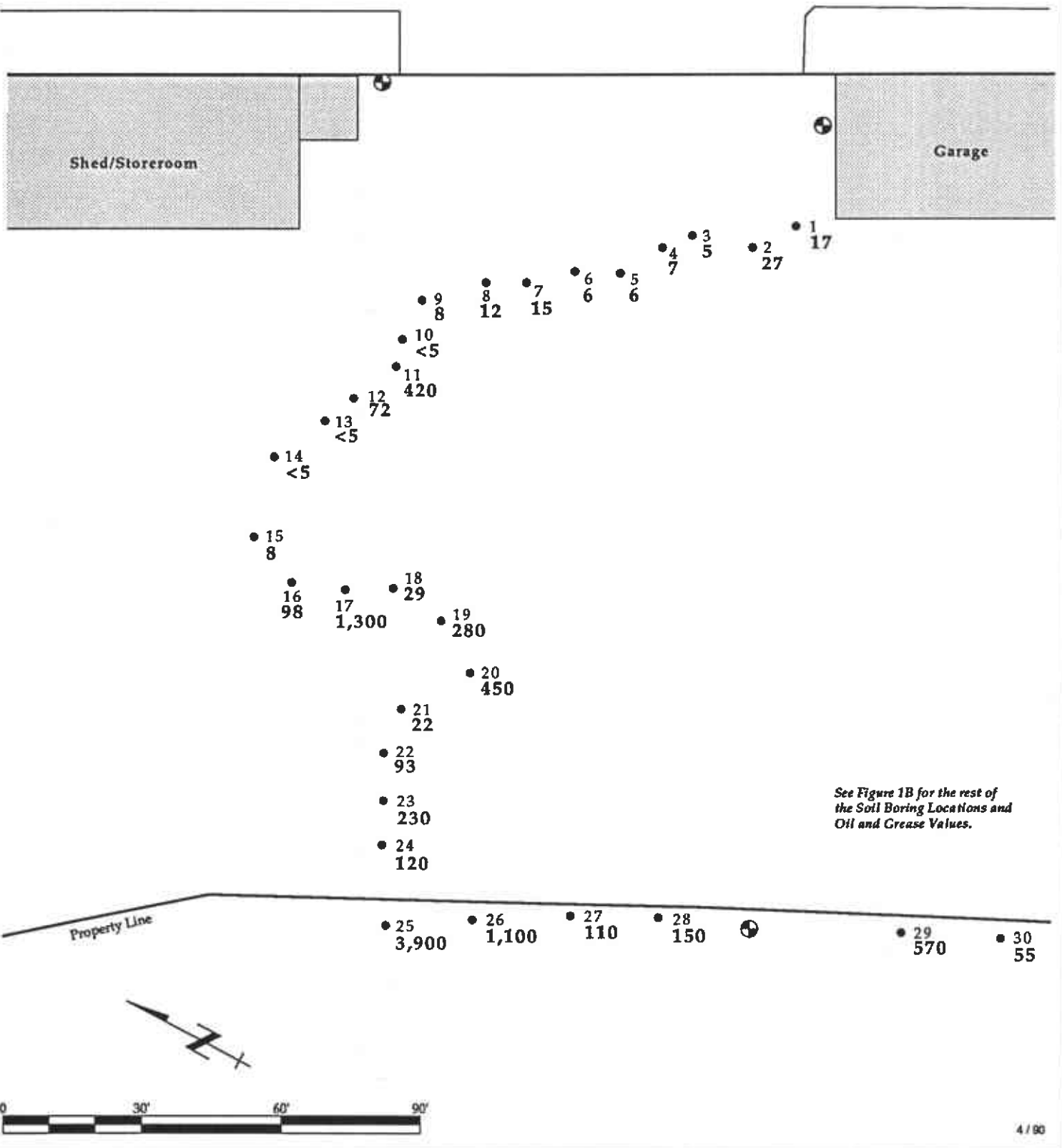
Table 2. Analytic Results: Soil (continued)
Former Chevron Asphalt Plant
Emeryville, California

Boring ID	Date Sampled	Benzene	Toluene	E-Benzene	Xylenes	Total Cadmium	Total Chromium	Total Zinc	Total Lead	Soluble Lead
		-----ppb-----								
EPA Method		8240	8240	8240	8240	3050/6010	3050/6010	3050/6010	3050/6010	1310/6010
SB-35	26 Mar 90	<5	<5	<5	<5	<3	7	26	30	---
SB-36	26 Mar 90	<5	<5	<5	<5	<3	<5	25	41	---
SB-37	26 Mar 90	<5	<5	<5	<5	<3	6	14	16	---
SB-38	26 Mar 90	<5	<5	<5	<5	<3	<5	5	5	---
SB-39	26 Mar 90	<5	<5	<5	<5	<3	<5	6	6	---
SB-40	26 Mar 90	<5	<5	<5	<5	<3	<5	11	10	---
SB-41	26 Mar 90	<5	<5	<5	<5	<3	<5	6	<10	---
SB-42	26 Mar 90	<5	7.0	680	3100	<3	<9	190	120	1
SB-43	26 Mar 90	<5	<5	<5	<5	<3	5	25	17	---

Notes:

All analyses by Groundwater Technology Environmental Laboratories (GTEL)
 ppm = parts-per-million
 ppb = parts-per-billion
 O&G = Oil and Grease
 1,2-DCE = 1,2-Dichloroethene
 TCE = Trichloroethene
 E-Benzene = Ethylbenzene
 < = Less than indicated detection limit
 --- = Not Analyzed

LANDREGAN STREET

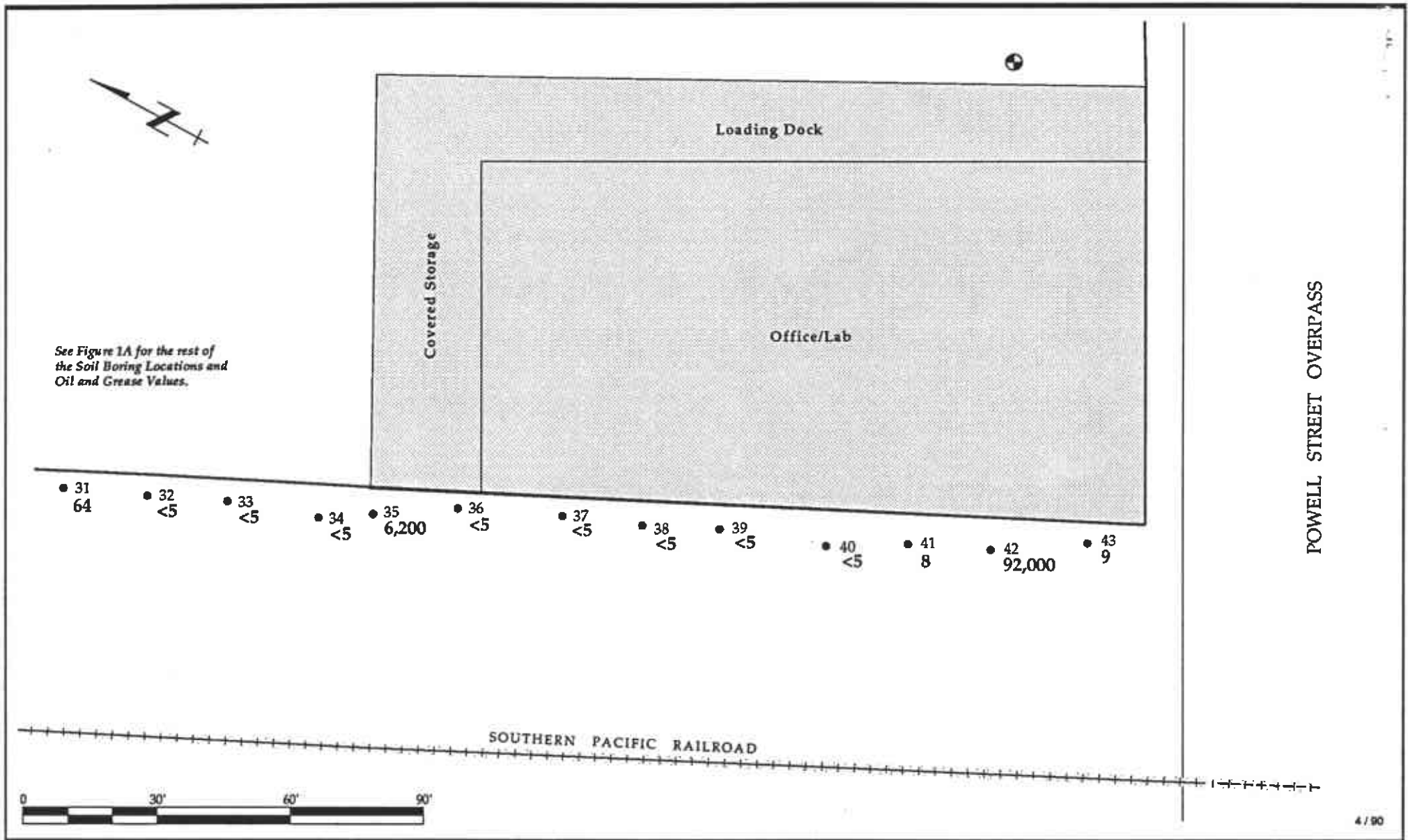


LEGEND

- ⊕ Monitor Well Location
- 17
1,300 Soil Boring Location and Total Oil and Grease in Soil, in parts per million.

Concentrations of Total Oil and Grease in Soil
Former Chevron Asphalt Plant and Terminal
Emeryville, California

FIGURE
1A



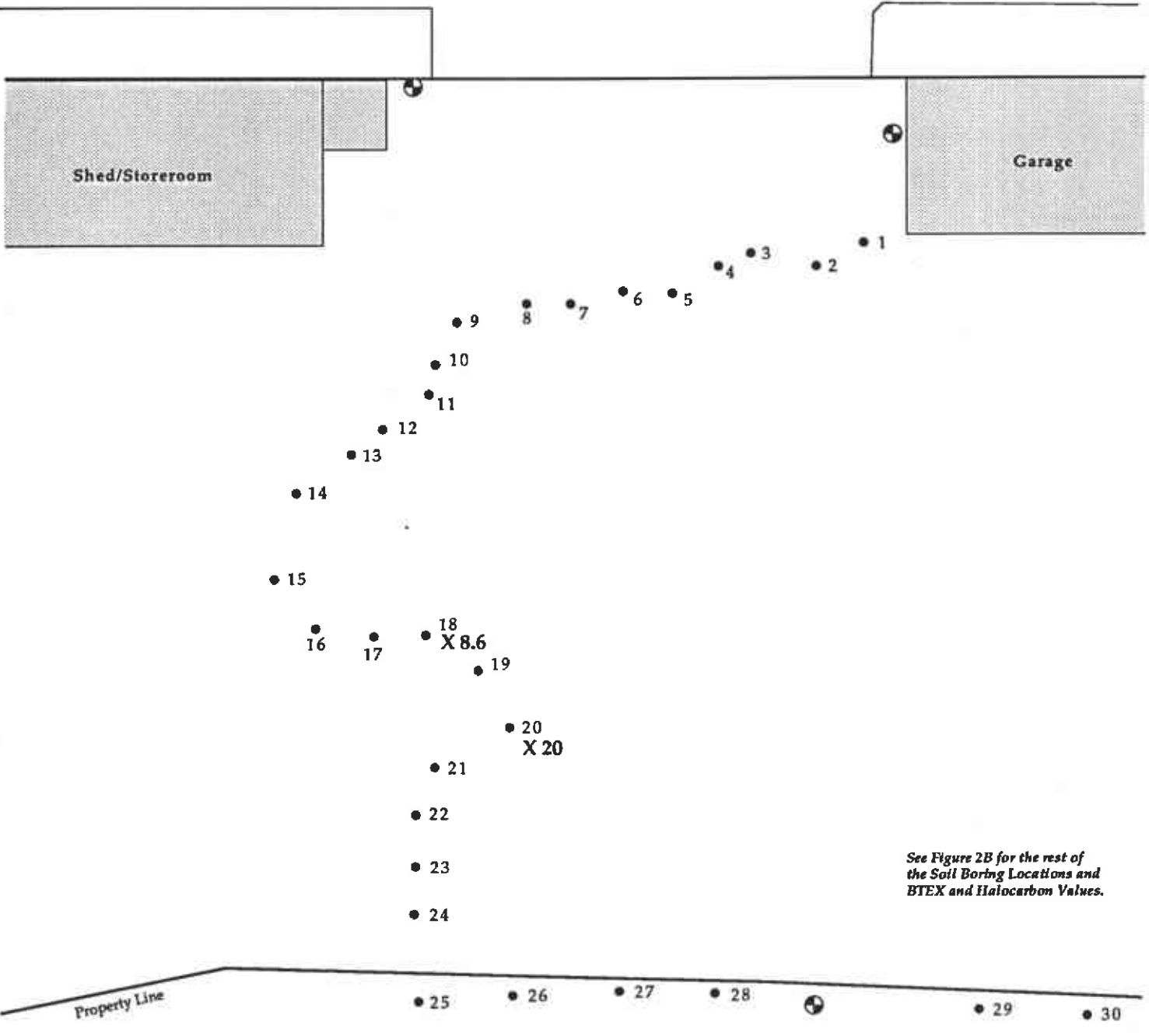
LEGEND	
	Monitor Well Location
	Soil Boring Location and Total Oil and Grease in Soil, in parts per million.
• 31	64

Concentrations of Total Oil and Grease in Soil
 Former Chevron Asphalt Plant and Terminal
 Emeryville, California

WESTERN GEOLOGIC RESOURCES, INC.

FIGURE
1B
 1-045.44

LANDREGAN STREET



See Figure 2B for the rest of the Soil Boring Locations and BTEX and Halocarbon Values.

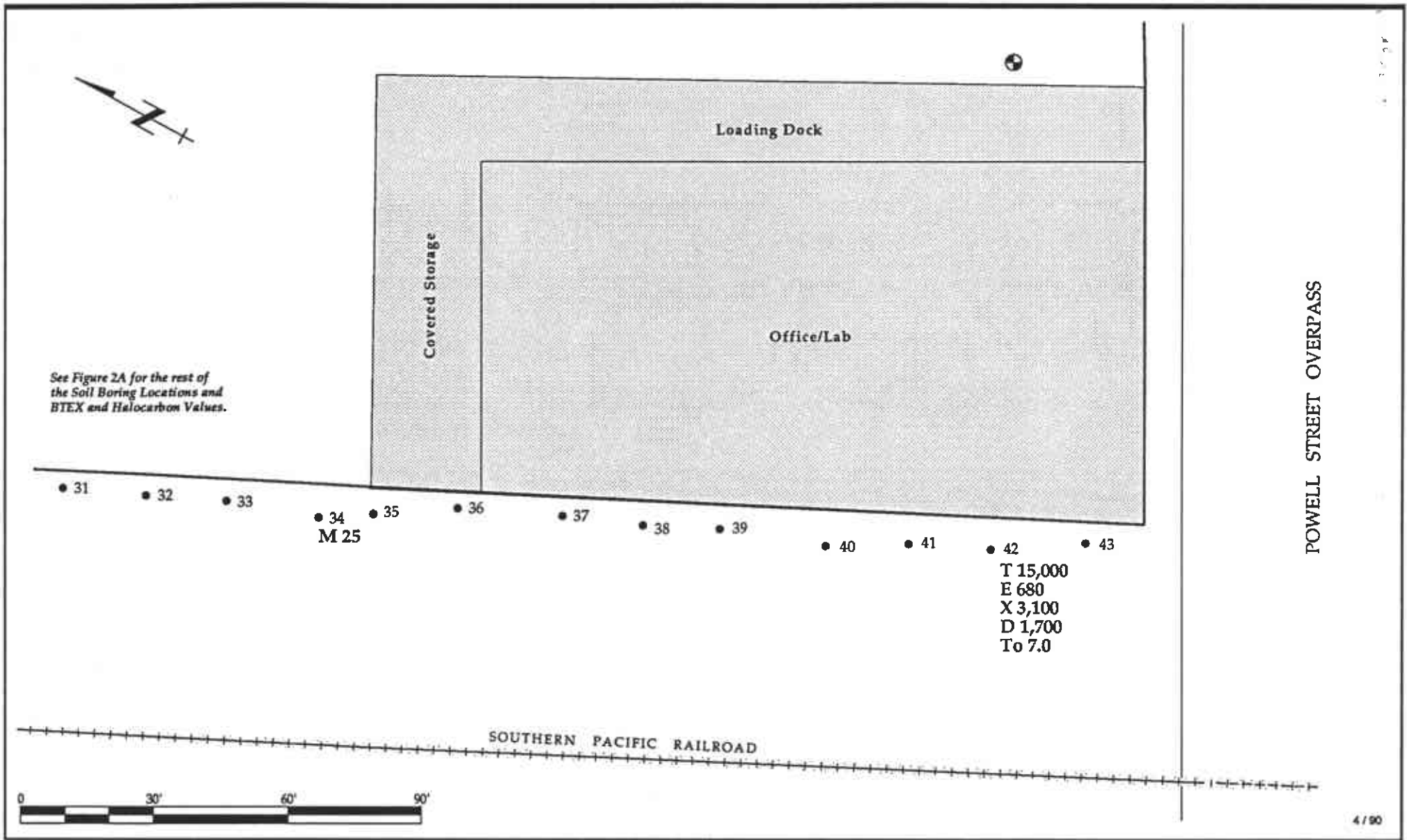


LEGEND

- ⊕ Monitor Well Location
- 18
X 8.6 Soil Boring Location and BTEX and Halocarbons, in parts per billion.
- M= Methylene Chloride
- D = Trans 1,2 Dichloroethene
- E = Ethylbenzene
- X = Xylene (total)

Concentrations of BTEX and Halocarbons in Soil
Former Chevron Asphalt Plant and Terminal
Emeryville, California

FIGURE
2A



LEGEND

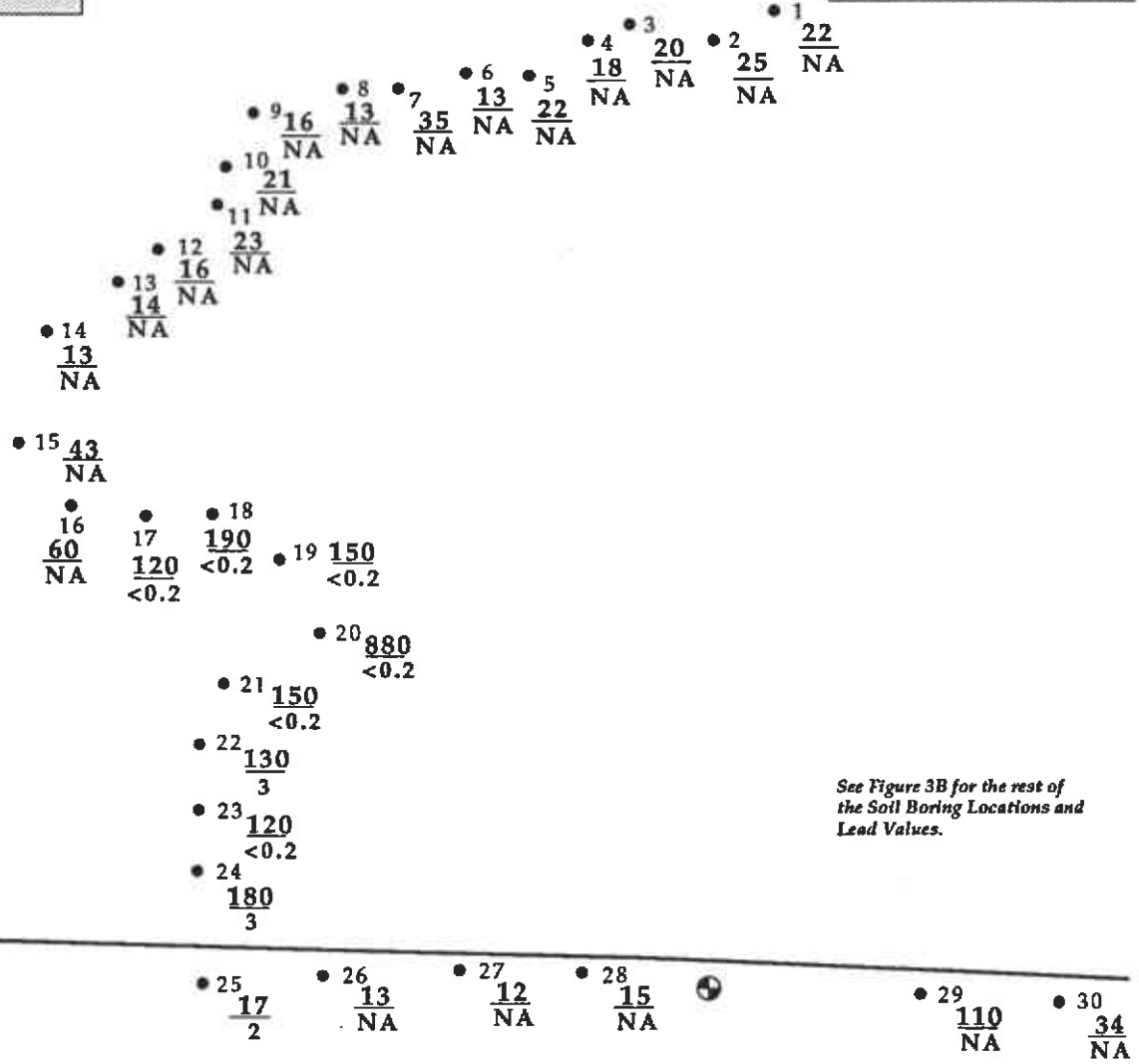
⊕	Monitor Well Location
● 18 X 8.6	Soil Boring Location and BTEX and Halocarbons, in parts per billion.
M=	Methylene Chloride
D =	Trans 1,2 Dichloroethene
E =	Ethylbenzene
X =	Xylene
T =	Trichloroethene
To =	Toluene

Concentrations of BTEX and Halocarbons in Soil
 Former Chevron Asphalt Plant and Terminal
 Emeryville, California

WESTERN GEOLOGIC RESOURCES, INC.

FIGURE
2B
 1-045.44

LANDREGAN STREET



See Figure 3B for the rest of the Soil Boring Locations and Lead Values.

Property Line

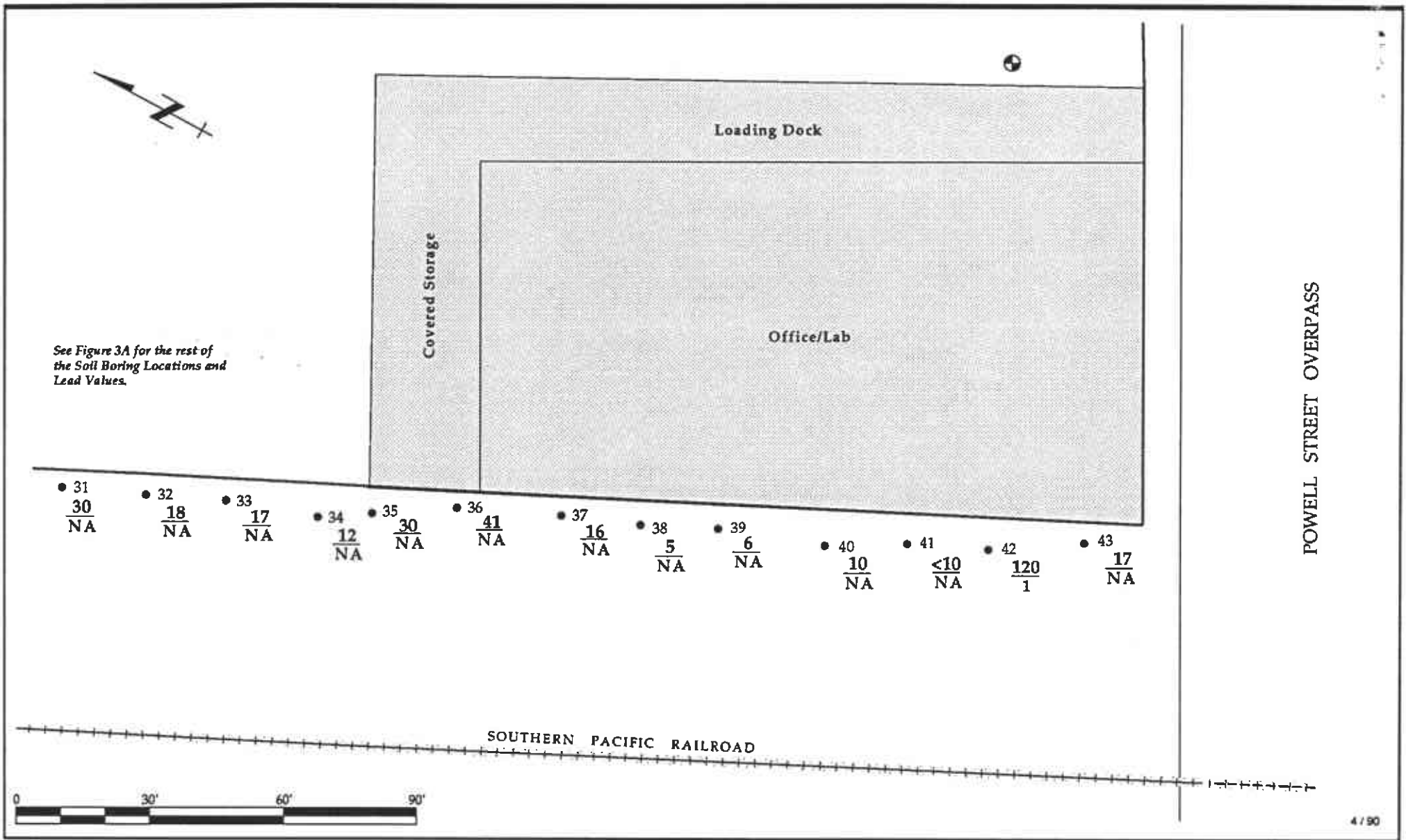


LEGEND

- ⊕ Monitor Well Location
- 17
120
<0.2
Soil Boring Location and Total Lead over Soluble Lead Concentration in Soil, in parts per million. Average sample depth 4'.
- NA Not Analyzed

Total Lead and Soluble Lead in Soil
Former Chevron Asphalt Plant and Terminal
Emeryville, California

FIGURE
3A



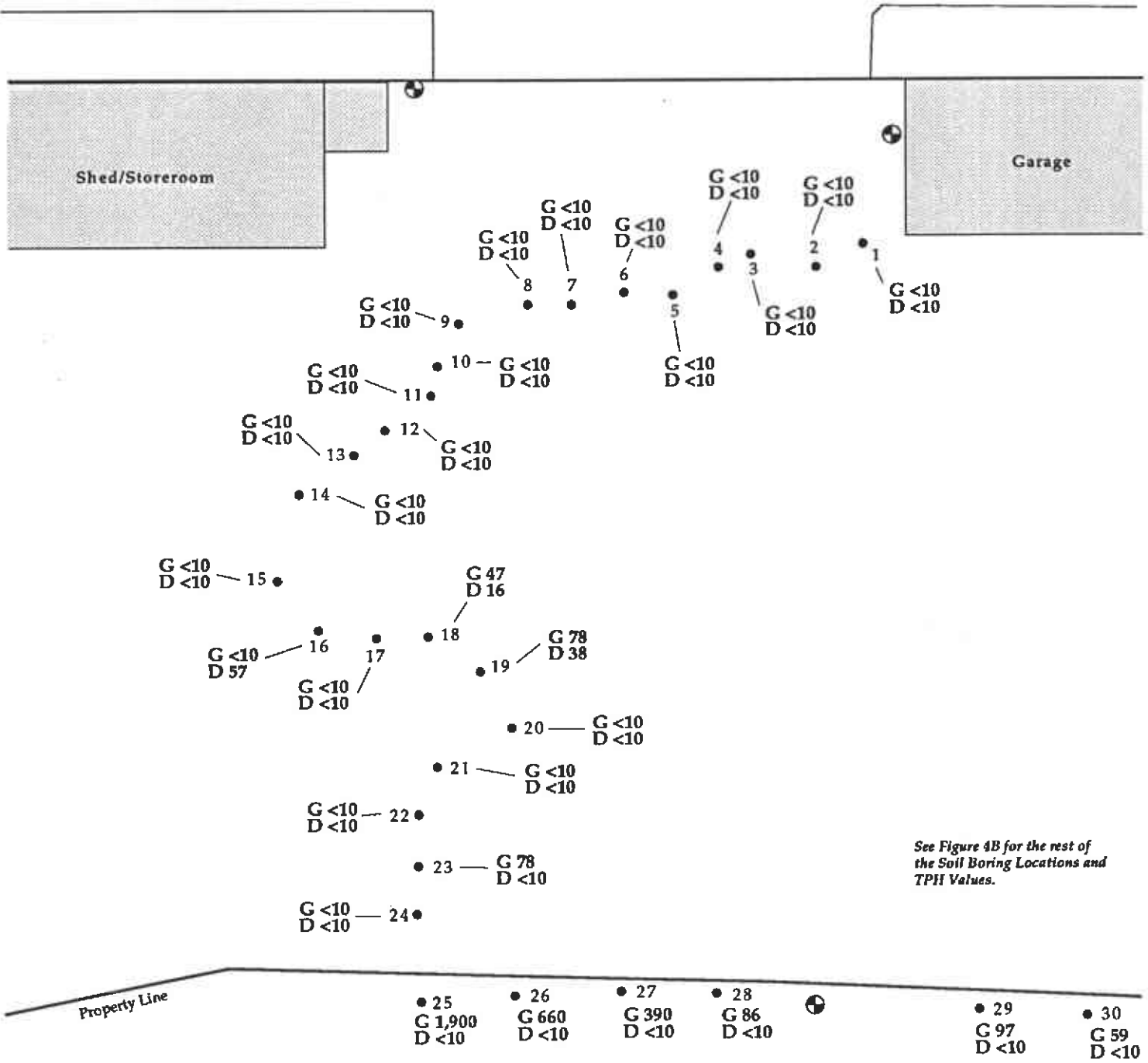
LEGEND	
	Monitor Well Location
	Soil Boring Location and Total Lead over Soluble Lead Concentration in Soil, in parts per million. Average sample depth 4'.
NA	Not Analyzed

Total Lead and Soluble Lead in Soil
Former Chevron Asphalt Plant and Terminal
Emeryville, California

WESTERN GEOLOGIC RESOURCES, INC.

FIGURE
3B
1-045.44

LANDREGAN STREET



See Figure 4B for the rest of the Soil Boring Locations and TPH Values.



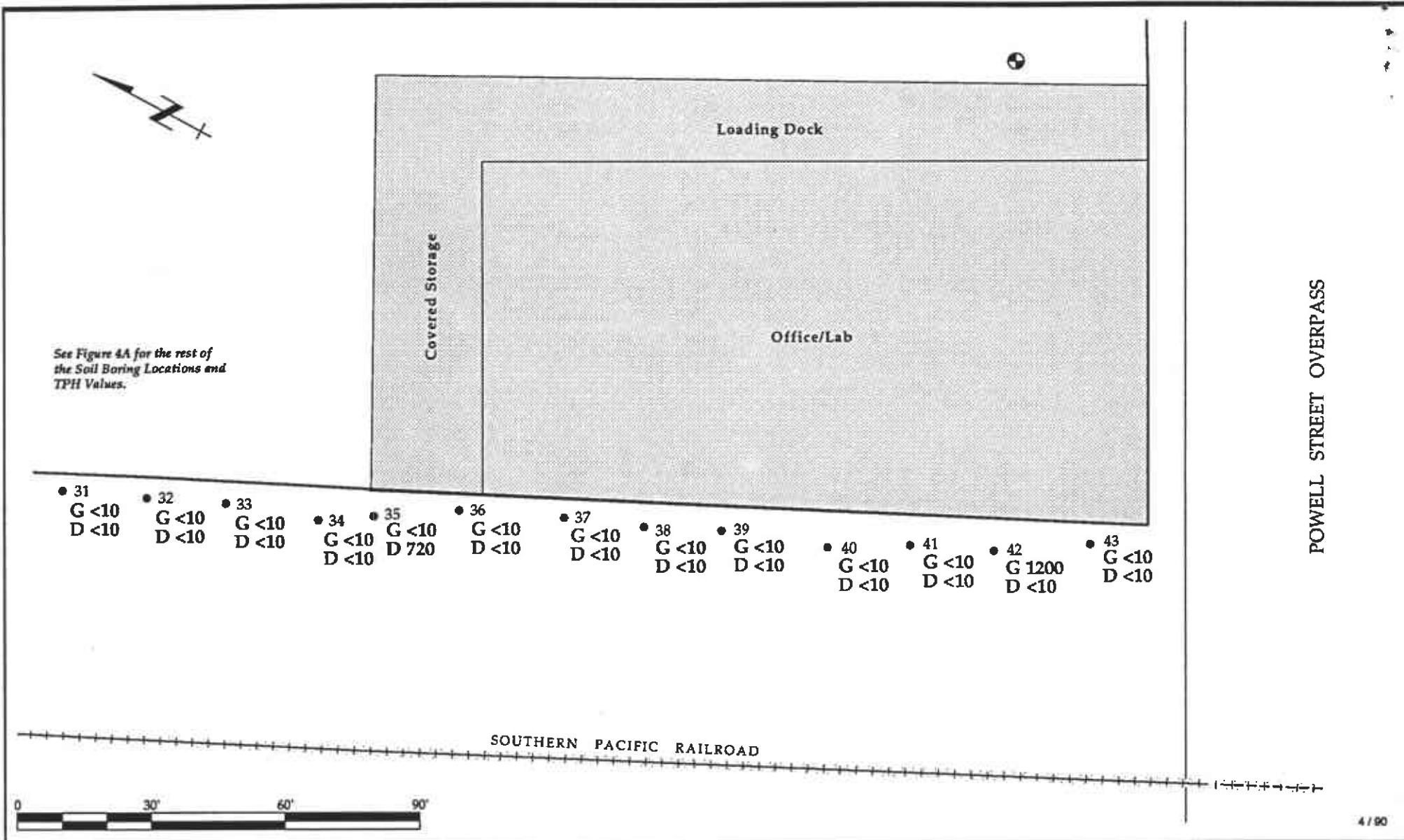
LEGEND

- ⊕ Monitor Well Location
- 17 Soil Boring Location and Total Petroleum Hydrocarbons as Gas (G) and Diesel (D) Concentrations in parts per million
- G <10
- D <10

Concentrations of Total Petroleum Hydrocarbons as Gas and Diesel
Former Chevron Asphalt Plant and Terminal
Emeryville, California

FIGURE

4A



LEGEND	
	Monitor Well Location
	Soil Boring Location and TPH as Gas (G) and Diesel (D), concentrations in parts per million
31	G <10 D <10

Concentrations of Total Petroleum Hydrocarbons (TPH) as Gas and Diesel
 Former Chevron Asphalt Plant and Terminal
 Emeryville, California

WESTERN GEOLOGIC RESOURCES, INC.

FIGURE
4B
 1-045.44