

4617

## SOIL AND GROUNDWATER INVESTIGATION

PRENTISS PROPERTIES LTD. INC.

1750 WEBSTER STREET

OAKLAND, CALIFORNIA

### 1.0 EXECUTIVE SUMMARY

On behalf of Prentiss Properties LTD Inc., ATC Associates Inc. (ATC) has completed a soil and groundwater investigation for the property located at 1750 Webster Street in the City of Oakland, California (Site), (see Figure 1, the Site Vicinity Map). The results of the investigation are presented in this report.

An Environmental Assessment (Phase I) of the 1750 Webster Street site was prepared by Applied Geosciences, Inc. (1993a). The report described a number properties in an up-gradient direction from the Site which have been identified as releasing petroleum hydrocarbons to groundwater. Possible migration of groundwater containing petroleum hydrocarbons to locations beneath the Site was identified as a concern. The existence of on-site underground storage tanks (USTs) was also identified as a concern. A geophysical survey and groundwater investigation were performed at the site in March 1993 (Applied Geosciences, 1993b). No USTs were identified by the geophysical survey, but the two groundwater samples collected (HP-1 and HP-2) had concentrations of total petroleum hydrocarbons as gasoline (TPH-G), and the gasoline related compounds benzene, toluene, ethylbenzene, and total xylenes (BTEX). In May of 1993, a follow-up investigation was performed which included another geophysical survey, and the collection of soil samples (Applied Geosciences, 1993c). Again, no USTs were identified by the geophysical survey. Four soil borings were drilled to depths of approximately 20 feet below ground surface (bgs), and two samples were analyzed from each boring. No significant concentrations of TPH-G or BTEX were detected in any of the soil samples.

The purpose of the current investigation is to confirm that no USTs exist at the site, and to determine whether the source of the groundwater contamination is off-site, or on-site. This was accomplished by performing a more extensive geophysical survey, installing twelve borings

throughout the site, and collecting soil and groundwater samples for analysis. A magnetometer survey indicated four anomalies which could possibly represent possible USTs. However, due to heavy rains during the geophysical survey, the magnetometer anomalies could not be confirmed with ground penetrating radar (GPR), as planned. Despite this, the soil boring locations were adjusted to locations adjacent to the magnetometer anomalies.

The twelve soil borings were advanced using a Geoprobe sampling rig. Two samples were collected from each boring and analyzed for TPH-G, BTEX and methyl tert-butyl ether (MTBE). One groundwater grab sample was also collected from each boring and analyzed for TPH-G, BTEX and MTBE. Groundwater samples from five of the borings were also analyzed for halogenated volatile organic compounds (HVOCs). Groundwater was detected at a depth of approximately 20 feet bgs. None of the soil samples collected from above that depth had detectable concentrations of TPH-G, BTEX or MTBE. All of the groundwater samples did have detectable concentrations of TPH-G, BTEX and MTBE, and three had detectable concentrations of HVOCs.

Based on the established northwest groundwater gradient in the vicinity of the site, and the results of our investigation as summarized above, it appears that the source, or sources, of the groundwater contamination at the site is located off-site to the south and/or southwest. A number of potential off-site sources were identified in the Environmental Assessment of the site prepared by Applied Geosciences, Inc. (1993a), including the Douglas Parking site located at 1721 Webster Street, and the former Chevron site located at the southwest corner of 19<sup>th</sup> Street and Harrison. Both of these sites have been identified as sources of groundwater petroleum hydrocarbon contamination, and are located up-gradient of the 1750 Webster Street site. Groundwater samples from the Chevron site also contained concentrations of HVOCs. Other potential off-site sources of groundwater contamination may be as-of-yet unidentified.

TABLE 1

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS  
 PRENTISS PROPERTIES LTD. INC.  
 1750 WEBSTER STREET SITE  
 OAKLAND, CA 94612

Sample ID	Date Sampled	TPH-G (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Detected VOCs (EPA 8010)		
								Cis-1,2-DCE (ug/l)	TCE (ug/l)	PCE (ug/l)
G-1	02/07/98	700	4.1	9	140	63	50	NR	NR	NR
G-2	02/07/98	7,300	69	870	660	1,350	510	NR	NR	NR
G-3	02/07/98	20,000	210	1,300	1,300	3,120	560	ND 1.0	13	1.2
G-4	02/07/98	36,000	1,900	3,100	1,400	4,700	620	ND 1.0	11	1.1
G-5	02/07/98	32,000	6,500	9,600	1,100	5,000	390	8.2	4.2	1.0
G-6	02/08/98	760,000	340	730	5,800	13,400	2,000	NR	NR	NR
G-7	02/08/98	46,000	1,600	670	2,700	7,600	1,100	NR	NR	NR
G-8	02/08/98	51,000	10,000	7,200	2,300	9,900	930	NR	NR	NR
G-9	02/08/98	19,000	7,200	7,900	490	2,370	<200	NR	NR	NR
G-10	02/08/98	280,000	7,700	29,000	3,600	17,500	2,900	NR	NR	NR
G-11	02/08/98	17,000	6,000	4,600	740	2,760	420	ND 4.0	ND 4.0	ND 4.0
G-12	02/08/98	78,000	7,800	8,500	2,200	9,200	1,300	ND 10	ND 10	ND 10

Notes:

TPH-G denotes total petroleum hydrocarbons as gasoline  
 MTBE denotes methyl-tert-butyl ether  
 Cis-1,2-DCE denotes Cis-1,2-dichloroethylene  
 TCE denotes Trichloroethylene  
 PCE denotes Tetrachloroethylene  
 ug/l denotes micrograms per liter  
 ND 1.0 denotes not detected at or above practical quantitation limit of 1.0 ug/l for the method  
 NR indicates analysis not requested  
 For detection limits listed as ND, refer to laboratory reports

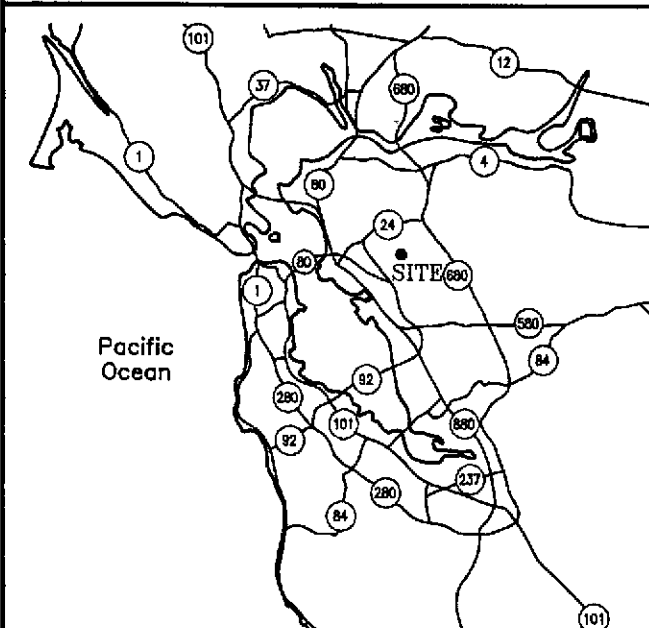
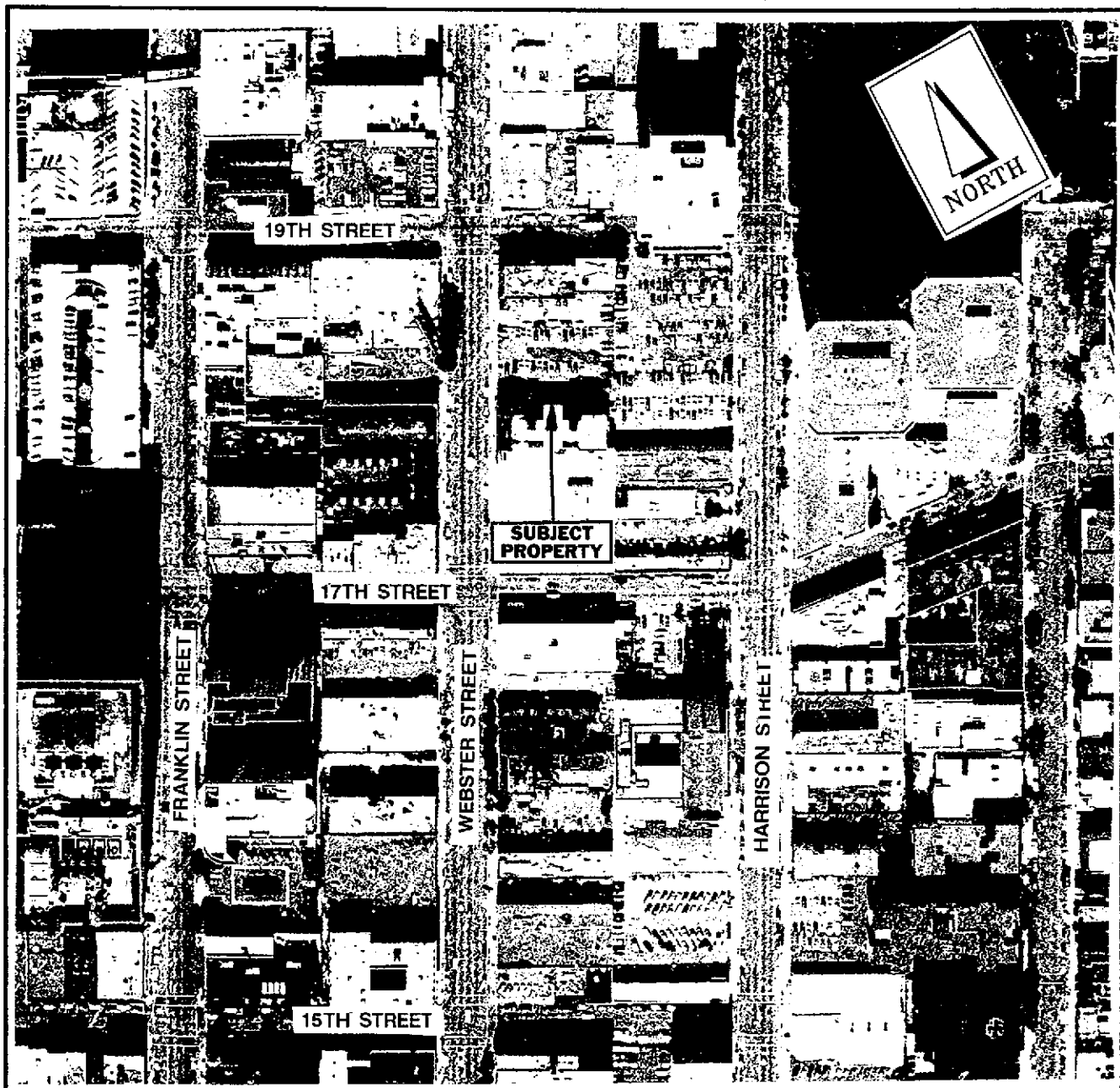
TABLE 2

SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
 PRENTISS PROPERTIES LTD. INC.  
 1750 WEBSTER STREET SITE  
 OAKLAND, CA 94612

Sample ID	Date Sampled	TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)
G-1-10FT	02/07/98	<1	<5	<5	<5	<5	<20
G-1-24FT	02/07/98	200	250	310	1,700	1830	1,000
G-2-10FT	02/07/98	<1	<5	<5	<5	6.5	<20
G-2-22-FT	02/07/98	4	6.6	8.7	87	82	27
G-3-10FT	02/07/98	<1	<5	<5	<5	<5	<20
G-3-16FT	02/07/98	<1	<5	<5	<5	<5	<20
G-4-12FT	02/07/98	<1	<5	<5	<5	<5	<20
G-4-22FT	02/07/98	17	<5	20	110	304	<20
G-5-11FT	02/07/98	<1	<5	<5	<5	<5	<20
G-5-21FT	02/07/98	<1	<5	8.2	<5	<5	<20
G-6-10FT	02/08/98	<1	<5	<5	<5	<5	<20
G-6-15FT	02/08/98	<1	<5	<5	<5	<5	<20
G-7-15FT	02/08/98	<1	<5	<5	<5	<5	<20
G-7-19FT	02/08/98	<1	<5	<5	<5	<5	<20
G-8-12FT	02/08/98	<1	<5	<5	<5	<5	<20
G-8-16FT	02/08/98	<1	<5	<5	<5	<5	<20
G-9-11FT	02/08/98	<1	<5	<5	<5	<5	<20
G-9-16FT	02/08/98	<1	<5	<5	<5	<5	<20
G-10-10FT	02/08/98	<1	<5	<5	<5	<5	<20
G-10-17FT	02/08/98	<1	<5	<5	<5	<5	<20
G-11-11FT	02/08/98	<1	<5	<5	<5	<5	<20
G-11-16FT	02/08/98	<1	<5	<5	<5	<5	<20
G-12-11-FT	02/08/98	<1	<5	<5	<5	<5	<20
G-12-16FT	02/08/98	<1	<5	<5	<5	<5	<20

Notes:

TPH-G denotes total petroleum hydrocarbons as gasoline  
 MTBE denotes methyl-tert-butyl ether  
 Cis-1,2-DCE denotes Cis-1,2-dichloroethylene  
 TCE denotes Trichloroethylene  
 PCE denotes Tetrachloroethylene  
 mg/kg denotes milligrams per kilogram (ppm)  
 ND 1.0 denotes not detected at or above practical quantitation limit of 1.0 ug/l for the method  
 For detection limits listed as ND, refer to laboratory reports



**Notes:**

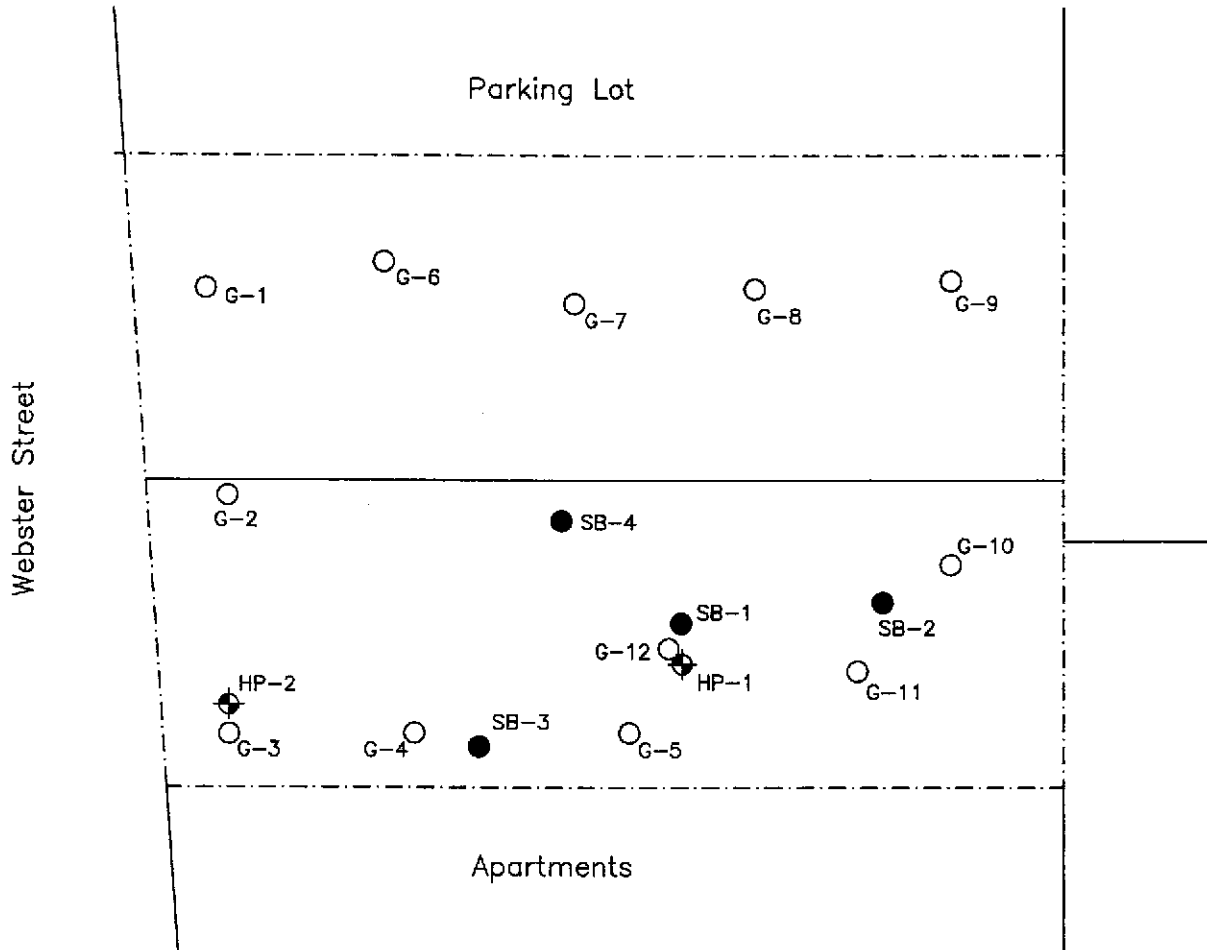
- 1) All locations and dimensions are approximate.
- 2) Base map from City Of Oakland, Office of Planning & Building Dept. date of photography 3-31-94.

APPROXIMATE SCALE: 1" = 200'

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 Environmental, Geotechnical and Materials Professionals

**SITE VICINITY MAP**  
**1750 WEBSTER STREET**  
**OAKLAND, CALIFORNIA**

**PROJECT NO. 61877.0001**    **FIGURE 1**

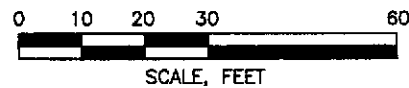


EXPLANATION

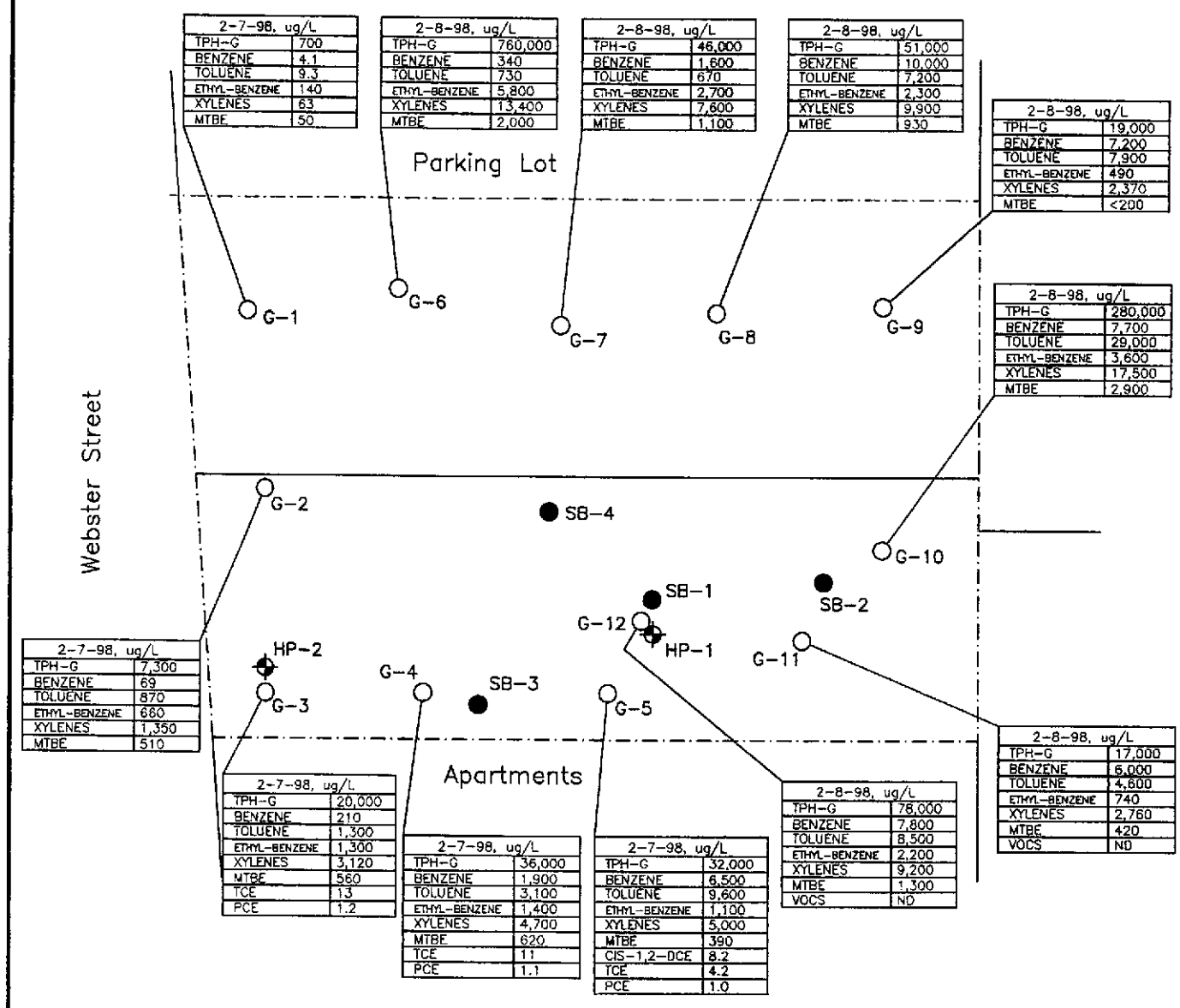
- GeoProbe soil and groundwater sampling location (2-7 & 2-8-98)
- ◆ HP-1 Previous Hydropunch Location and Designation
- SB-1 Previous Soil Boring Location and Designation

NOTES

1) All locations and dimensions are approximate.



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SITE PLAN 1750 WEBSTER STREET OAKLAND, CALIFORNIA	
PROJECT NO. 61877.0001	FIGURE 2

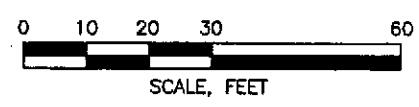


**EXPLANATION**

- GeoProbe soil and groundwater sampling location (2-7 & 2-8-98)
- ◆ HP-1 Previous Hydropunch Location and Designation
- SB-1 Previous Soil Boring Location and Designation

**NOTES**

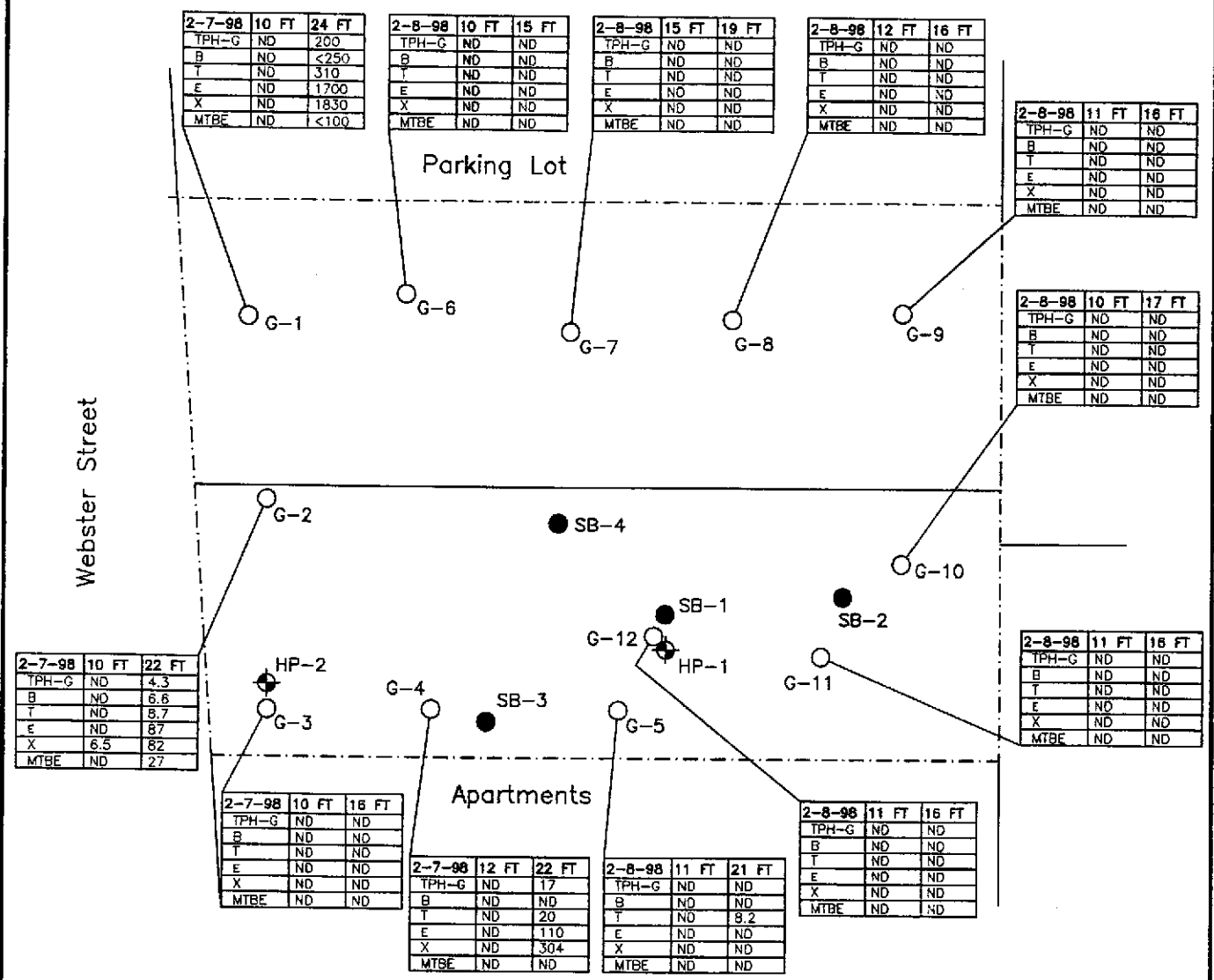
1) All locations and dimensions are approximate.



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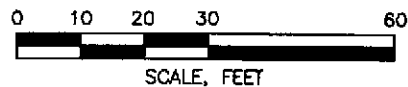
**SUMMARY OF CONCENTRATIONS  
 IN GROUNDWATER  
 1750 WEBSTER STREET  
 OAKLAND, CALIFORNIA**

**PROJECT NO. 61877.0001      FIGURE 3**



**EXPLANATION**

- GeoProbe soil and groundwater sampling location (2-7 & 2-8-98)
- B Benzene
- T Toluene
- E Ethyl-Benzene
- X Total Xylenes
- ◆ HP-1 Previous Hydropunch Location and Designation
- SB-1 Previous Soil Boring Location and Designation



**NOTES**

- 1) All locations and dimensions are approximate.
- 2) Concentrations in mg/kg (ppm).

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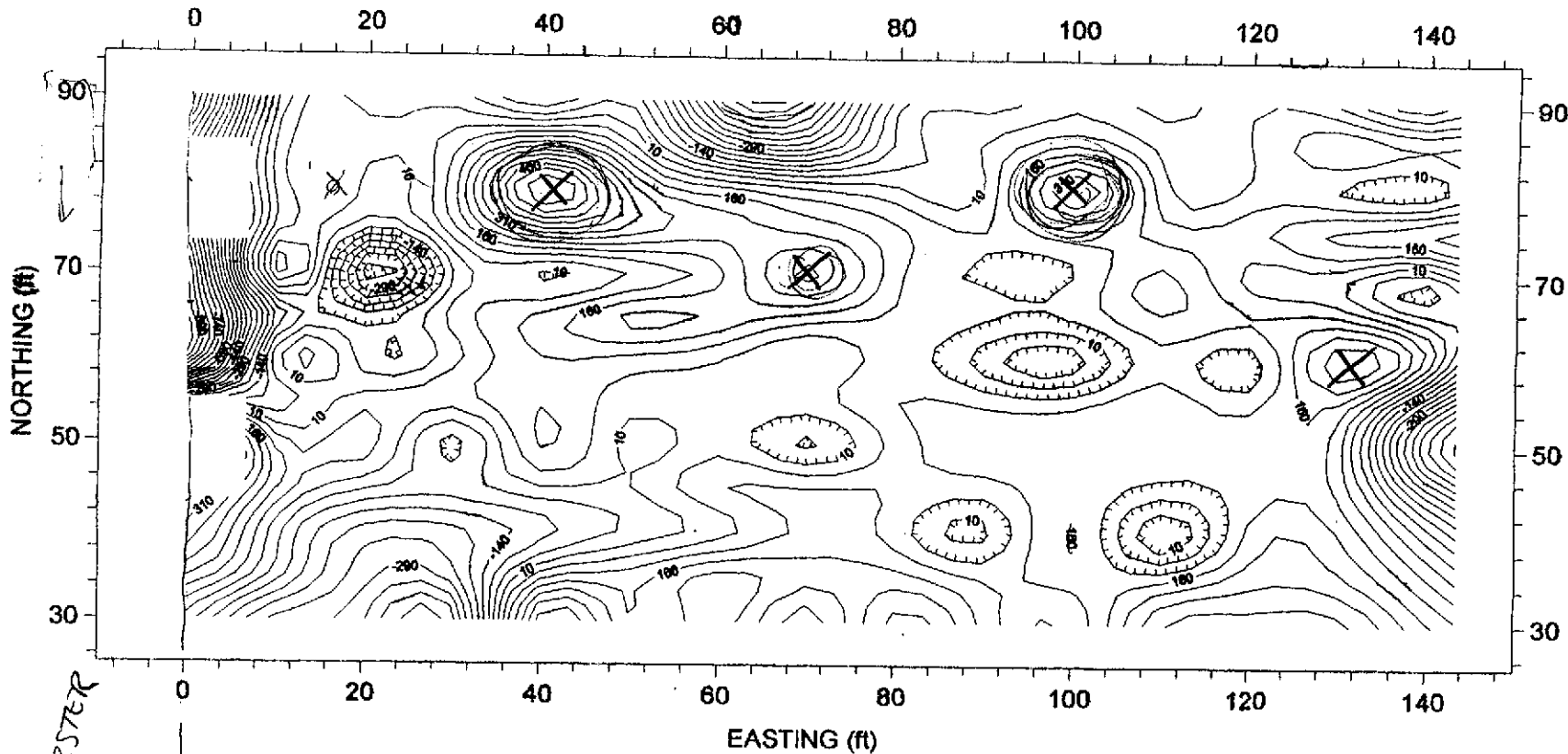
**SUMMARY OF CONCENTRATIONS  
 IN SOIL  
 1750 WEBSTER STREET  
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**PROJECT NO. 61877.0001**

**FIGURE 4**



VMG Contour Map, Parcel 1 & 2, 50 nT/m



WEBSTER

