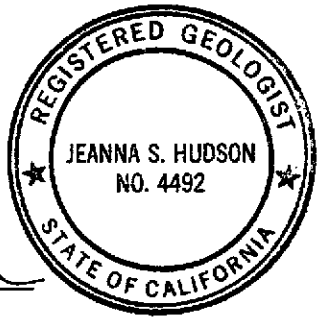
A Report Prepared for

Texaco Refining and Marketing Inc.
10 Universal City Plaza
Universal City, California 91608

QUARTERLY TECHNICAL REPORT
FOURTH QUARTER OF 1990
FORMER TEXACO STATION
2225 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA

HLA Job No. 2251,146.03
February 26, 1991
1990 Report No. 4

by



Jeanna S. Hudson
Senior Geologist

Michael A. Sides
Environmental Engineer

Harding Lawson Associates
1355 Willow Way, Suite 109
Concord, California 94520
415/687-9660

INTRODUCTION

This quarterly technical report (QTR) presents the results of site investigation and remediation activities conducted by Harding Lawson Associates (HLA) at a service station site formerly owned by Texaco Refining and Marketing Inc. The station, at 2225 Telegraph Avenue, Oakland, California (see Plate 1), is currently owned and operated by Exxon Company U.S.A. This QTR summarizes HLA's work at the site, ongoing since May 1988, and presents results of the recent quarter's work.

SITE DESCRIPTION

The site is on the southwest corner of the intersection of Telegraph and West Grand Avenues (Plate 2). The surrounding area contains commercial/retail businesses, including a Chevron service station immediately across Telegraph Avenue and a Beacon service station northeast of the site. Adjacent to the site on the south is the First Baptist Church of Oakland. There is an apartment building, currently occupied, immediately west of the site.

Surface elevation at the site is approximately 20 feet above mean sea level. The land surface slopes gently southeast, toward Lake Merritt and the Oakland/Alameda Inner Harbor, an area of former tidal flats that has been filled. This area has been extensively developed, and surface runoff is mainly controlled by the municipal storm sewer system.

As shown on Plate 3, structures at the service station include a building, three fuel pump islands, one underground waste oil tank, and three underground fuel storage tanks. Leaded and unleaded gasoline are dispensed from these tanks; automotive repair services are also provided.

HYDROGEOLOGIC SETTING

The East Bay Plain has been divided into seven groundwater subareas, defined by the California Department of Water Resources (DWR) on the basis of hydrologic and geologic conditions. This site lies within the Oakland Upland and Alluvial Plain subarea. Most groundwater used in the East Bay Plain is for agricultural or industrial, rather than domestic, purposes. The majority of domestic water is supplied by the East Bay Municipal Utility District (EBMUD) from surface sources.

The groundwater aquifers at the site are primarily contained with the Alameda and Temescal Formations; these permeable formations have an aggregate thickness of more than 1,100 feet. According to maps of the area the Temescal Formation, an alluvial fan deposit, is present locally at the surface. Approximately 1,000 feet west of the site is an outcrop of the Merritt Sand. Direction of regional groundwater flow is south-southwest, toward San Francisco Bay.

Subsurface materials at the site, down to the maximum explored depth of 20 feet, generally consist of stiff, silty clay

(CL), underlain by a dense layer of silty sand that ranges from 3 to 8 feet in thickness. According to slug test results, the hydraulic conductivity of the shallow, saturated sand aquifer beneath the site ranges from 1.2 to 5.9 feet per day (Table 1).

Groundwater is currently encountered at approximately 13 feet below grade; water level measurements and survey data are presented in Table 2. The estimated direction of the groundwater gradient is to the southwest as shown on the Potentiometric Surface Map, Plate 4.

SUMMARY OF PREVIOUS INVESTIGATIONS

Previous Reports

Since May 1988, HLA has investigated soil and groundwater conditions at this site. To date, results of the investigation and remedial planning have been presented in the following reports:

1.	Sensitive Receptor Study	May 24, 1988
2.	Subsurface Investigation	July 20, 1988
3.	Environmental Assessment	June 22, 1989
4.	Groundwater Remediation Plan	November 30, 1989

Field Investigation

Boring locations are shown on Plate 3. Because of restricted subsurface access on Telegraph and West Grand Avenues, no off-site exploration was conducted north or east of the site. These restrictions were imposed by the City of Oakland and the

Bay Area Rapid Transit District (BART), whose tunnel is in this area (see Plate 2).

During previous investigative activities, the following tasks were completed:

- Conducted a soil-gas survey on site and in city streets near the site. Probe locations are shown on Plate 3 and soil-gas survey results are presented in Table 3.
- Drilled and sampled seven shallow soil borings (B-1 through B-7); locations are shown on Plate 3.
- Drilled, constructed, developed, and sampled six on-site monitoring wells (MW-6A through MW-6F) and three off-site wells (MW-6G through MW-6I); locations are shown on Plate 5.
- Ordered chemical analyses on soil and water samples to determine concentrations of petroleum hydrocarbons; results of soil and water analyses are presented in Tables 4 and 5, respectively.
- Conducted slug tests in MW-6D, MW-6E, and MW-6H to estimate hydraulic conductivity and transmissivity values for the shallow aquifer; slug test results are presented in Table 1.

Vadose-zone Soil Condition

No significant concentrations of petroleum hydrocarbons have been found in shallow vadose-zone soils. However, the fuel constituents benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbons (TPH) as gasoline have been detected in soils from 12 to 13.5 feet below the ground surface; this depth is probably within the capillary fringe area. TPH as gasoline concentrations exceeded 100 parts per million (ppm) in some of the soil samples (Table 4).

Groundwater Condition

Free product sheen has been observed on the surface of water purged from RW-1. As shown on Plate 5, hydrocarbon-bearing groundwater appears to originate in the vicinity of the underground tanks and pump islands, and it extends southwest.

Groundwater samples from five on-site wells near the tanks and pump islands contain levels of TPH as gasoline ranging from 200 to 30,000 parts per billion (ppb). As of April 1990, the lateral limits of the plume are delineated by MW-6G, MW-6F, and MW-6I; samples from these wells show no detectable hydrocarbons (detection limit for TPH = 50 ppb). Upgradient plume definition is incomplete because of the restricted subsurface access, mentioned above, which is imposed by the City of Oakland and BART.

SUMMARY OF REMEDIAL ACTIVITIES

The following tasks were completed during installation of the remedial system:

- Drilled and installed three recovery wells, RW-1, RW-2, and RW-3 (locations shown on Plate 3) in the previous locations of B-3, MW-6D, and MW-6C, respectively.
- Installed groundwater extraction and collection system.
- Fabricated and installed skid-mounted groundwater treatment system.

WORK PERFORMED DURING THE FOURTH QUARTER OF 1990

1. Started up groundwater extraction and treatment system flowing to a 4000-gallon storage tank.

2. Received approval from EBMUD to discharge the contents of the tank to the sanitary sewer; the treatment system was directly connected to the sewer discharge lateral.

3. Extracted, treated, and discharged approximately 17,000 gallons of groundwater to the sanitary sewer.

4. Sampled water from influent, effluent, and midstream for carbon breakthrough and performed chemical analysis as specified in EBMUD Wastewater Discharge Permit No. 001-00007 (see Tables 6 and 7).

5. Measured water levels in monitoring wells (see Table 2 and Plate 4).

WORK PLANNED FOR THE FIRST QUARTER OF 1991

1. Monitor carbon canisters for breakthrough as required by the EBMUD wastewater discharge permit.

2. Prepare EBMUD monthly status reports as required by the EBMUD wastewater discharge permit.

3. Check water levels in recovery wells and monitoring wells in order to observe effects of pumping on local groundwater gradient. Check for free product in RW-1.

LIST OF TABLES

LIST OF ILLUSTRATIONS

Table 1. Slug Test Results
2225 Telegraph Avenue
Oakland, California

Well Number	Most Permeable Stratum Adjacent to Well Screen			Estimated Hydraulic Conductivity (feet/day)
	Lithology	Classification	Thickness (feet)	
MW-6D	sand	confined	2	5.9
MW-6E	sand, fine-grained	confined	2.5	1.2
MW-6H	sand, medium-grained	unconfined	6	4.8

Table 2. Water Level Measurements and Survey Data
2225 Telegraph Avenue
Oakland, California

Well No.	Date	Top of Casing Elevation[1] (feet)	Depth to Groundwater (feet)	Groundwater Surface Elevation[2] (feet)	Incremental Water Elevation Change[3] (feet)	Total Water Elevation Change Since 12/15/88[4] (feet)
MW-6A	12/15/88	98.99	13.77	85.22	--	--
	10/03/89		13.40	85.59	+0.37	+0.37
	05/11/90		12.87	86.12	+0.53	+0.90
	10/16/90		13.27	85.72	-0.40	+0.50
	12/06/90		13.28	85.71	-0.01	+0.49
MW-6B	12/15/88	98.81	13.01	85.80	--	--
	10/03/89		12.94	85.87	+0.07	+0.07
	04/30/90		12.53	86.28	+0.41	+0.48
	10/16/90		12.73	86.08	-0.20	+0.28
	12/06/90		12.74	86.07	-0.01	+0.27
MW-6C	12/15/88	99.89	14.41	85.48	--	--
	10/03/89		14.10	85.79	+0.31	+0.31
	04/30/90		13.81	86.68	+0.29	+0.60
(RW-3)	10/16/90	98.97[5]	13.29	85.68	-0.40	+0.20
MW-6D	12/15/88	98.78	13.53	85.25	--	--
	10/03/89		13.44	85.34	+0.09	+0.09
	04/30/90		13.19	85.59	+0.25	+0.34
(RW-2)	10/16/90	98.11[5]	12.77	85.34	-0.25	+0.09
MW-6E	12/15/88	98.99	13.84	85.15	--	--
	10/03/89		13.70	85.29	+0.14	+0.14
	04/30/90		13.43	85.56	+0.27	+0.41
	10/16/90		13.77	85.22	-0.34	+0.07
	12/06/90		13.95	85.04	-0.18	-0.11
MW-6F	12/15/88	99.91	14.73	85.18	--	--
	10/03/89		14.48	85.43	+0.25	+0.25
	04/30/90		14.14	85.77	+0.34	+0.59
	10/16/90		14.77	85.14	-0.63	-0.04
	12/06/90		14.81	85.10	-0.04	-0.08
MW-6G	12/15/88	99.16	12.39	86.77	--	--
	10/03/89		12.22	86.94	+0.17	+0.17
	04/30/90		11.73	87.43	+0.49	+0.66
	10/16/90		12.28	86.88	-0.55	+0.11
	12/06/90		12.27	86.89	+0.01	+0.12

Table 2. continued

Well No.	Date	Top of Casing Elevation[1] (feet)	Depth to Groundwater (feet)	Groundwater Surface Elevation[2] (feet)	Incremental Water Elevation Change[3] (feet)	Total Water Elevation Change Since 12/15/88[4] (feet)
MW-6H	12/15/88	97.93	12.39	85.54	--	--
	10/03/89		12.36	85.57	+0.03	+0.03
	04/30/90		12.10	85.83	+0.26	+0.29
	10/16/90		12.18	85.75	-0.08	+0.21
	12/06/90		12.29	85.64	-0.11	+0.10
MW-6I	12/15/88	97.60	12.82	84.78	--	--
	10/03/89		12.83	84.77	-0.01	-0.01
	04/30/90		12.66	84.94	+0.17	+0.16
	10/16/90		12.71	84.89	-0.05	+0.11
	12/06/90		12.75	84.85	0.04	+0.07
RW-1	10/16/90	97.89	12.24	85.65	--	NA

Notes:

1 Elevation relative to HLA temporary benchmark located at the western end of the dispenser island nearest West Grand Avenue, with an arbitrary elevation of 100.0 feet (see Plate 3).

2 Groundwater surface elevation = top of casing elevation - depth to water.

3 Incremental groundwater elevation change = groundwater elevation - previous groundwater elevation.

4 Total groundwater elevation change = groundwater elevation - groundwater elevation on 12/15/88

5 Top of casing elevation changed when monitoring wells were converted into recovery wells.

Table 3. Results of Soil-gas Survey
2225 Telegraph Avenue
Oakland, California

Conducted on September 19, 1988
Concentrations in micrograms per liter (µg/L)

Sample	Depth (feet)	Benzene	Ethyl-benzene	Toluene	Xylenes	Total Petroleum Hydrocarbons
Air	N/A	<0.7	<0.8	<0.8	<0.8	<0.7
SG-01	--	--	--	--	--	--
SG-02	5.0	<0.7	<0.8	<0.8	<0.8	<0.7
SG-03	12.0	10	4	<0.8	2,800	6,100
SG-04	13.0	<0.7	<0.8	<0.8	140	780
WS-05*	12.0	<75	<76	<77	<77	<75
SG-06	13.0	<0.7	<0.8	<0.8	<0.8	<0.7
SG-07	--	--	--	--	--	--
Air	N/A	<0.7	<0.8	<0.8	<0.8	<0.7

-- - Not able to obtain sample
N/A - Not applicable
Air - Ambient air sample
* - WS-05 was a sample of groundwater

Table 4. Results of Soil Chemical Analyses
2225 Telegraph Avenue
Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Sample Number	Depth (feet)	1 Benzene	Ethyl- 2 benzene	3 Toluene	3 Xylenes	TPH as 4 Gasoline
B-1	8.0	0.05	ND	ND	ND	ND
B-1	13.0	ND (5)	10 (10)	16 (10)	41 (10)	2,000 (1,000)
B-2	7.0	ND	ND	ND	ND	ND
B-2	13.5	ND	ND	ND	ND	ND
B-3	7.0	0.06	ND	ND	ND	ND
B-3	13.5	40 (25)	84 (50)	390 (50)	370 (50)	11,000 (5,000)
B-4	13.5	ND	ND	ND	ND	ND
B-5	5.5	ND	ND	ND	ND	ND
B-5	9.5	ND	ND	ND	ND	ND
B-5	12.5	ND	ND	ND	ND	ND
B-6	6.0	ND	ND	ND	ND	ND
B-6	9.5	ND	ND	ND	ND	ND
B-6	12.0	40 (5)	40 (20)	110 (10)	450 (10)	3,000 (1,000)
B-7	6.0	0.64	0.4	0.9	3.4	24
B-7	9.5	0.5	ND	0.7	1.0	ND
B-7	12.0	20 (5)	20 (20)	72 (10)	190 (10)	1,400 (1,000)
MW-6E	13.0	ND	ND	ND	ND	ND
MW-6F	13.0	ND	ND	ND	ND	ND
MW-6G	13.5	ND	ND	ND	ND	5.2
MW-6H	13.5	11 (0.5)	8.8 (2)	3.2 (1)	19 (1)	1,000 (495)
MW-6I	13.5	ND	ND	ND	ND	ND

ND = Not detected.

1 Detection limit 0.05 mg/kg except as noted in parentheses.
2 Detection limit 0.2 mg/kg except as noted in parentheses.
3 Detection limit 0.1 mg/kg except as noted in parentheses.
4 Detection limit 10 mg/kg except as noted in parentheses.

Table 5. Results of Groundwater Chemical Analyses
2225 Telegraph Avenue
Oakland, California

Concentrations in micrograms per liter (µg/L)

EPA TEST METHOD 602

Well Number	Date Sampled	Benzene[1]	Ethylbenzene[2]	Toluene[3]	Xylenes[3]	TPH[4] (as gasoline)
MW-6A	06/24/88	ND	ND	ND	ND	-
	10/20/88	1	ND	ND	ND	
	09/07/89	2	ND	ND	ND	ND
	05/11/90	150	ND (0.25)	6.2	13	ND (500)
MW-6B	06/24/88	ND	ND	ND	5	-
	10/20/88	4	ND	3	ND	-
	09/07/89	70 (2.5)	60 (3)	8 (3)	160 (4)	2,700 (25)
	04/30/90	45 (5)	20 (5)	6 (5)	22 (5)	168 (50)
MW-6C	06/24/88	7,400	170	7	2,300	-
	10/20/88	9,500 (50)	170 (2)	65 (100)	850 (1)	-
	09/07/89	7,900 (25)	350 (25)	430 (25)	1,100 (38)	18,000 (2,500)
	04/30/90	6,100 (250)	1,000 (250)	1,500 (250)	2,700 (250)	30,000 (25,000)
MW-6D	07/11/88	220 (5)	ND (20)	27 (10)	ND (10)	-
	10/20/88	710 (5)	22 (20)	74 (10)	110 (10)	-
	09/07/89	600 (12.5)	58 (13)	26 (13)	31 (19)	2,200 (1,250)
	04/30/90	800 (50)	310 (50)	150 (50)	280 (50)	3,600 (500)
MW-6E	10/20/88	1	ND	ND	3	
	09/07/89	3	ND	ND	ND	220
	04/30/90	57 (5)	ND (5)	ND (5)	53 (5)	250 (50)
MW-6F	10/25/88	ND	ND	ND	2	
	09/07/89	ND	ND	ND	ND	ND
	04/30/90	ND	ND	ND	ND	ND
MW-6G	12/07/88	ND	ND	ND	ND	-
	09/07/89	ND	ND	ND	ND	ND
	04/30/90	ND	ND	ND	ND	ND
MW-6H	12/07/88	1,200 (25)	110 (20)	320 (10)	220 (10)	-
	09/07/89	480 (10)	16 (10)	ND (10)	ND (15)	660 (500)
	04/30/90	700 (50)	31 (5)	39 (5)	50 (5)	630 (500)
MW-6I	12/07/88	ND	ND	ND	ND	-
	09/07/89	ND	ND	ND	ND	ND
	04/30/90	ND	ND	ND	ND	ND

ND = Not detected.

Detection limits given in parentheses, where applicable. If not:

1. Detection limit = 0.5
2. Detection limit = 2
3. Detection limit = 1
4. Detection limit = 50

Table 6. Results of Chemical Analyses,
Groundwater Treatment System Initial Sampling
2225 Telegraph Avenue
Oakland, California
2251,146.03
(Reported in parts per billion, ppb)

	INF-1 (Influent)	EFF-1 (Effluent)	EBMUD Requirements
Organics			
TPH-Gas (EPA 8015)	22,000	35	NS
Benzene	3,000	ND	3
Toluene	3,800	ND	31
Ethylbenzene	390	ND	5
Xylenes (EPA 8020)	2,000	ND	42
Benzene	3,100	ND	3
Ethylbenzene	340	ND	5
m,p-Xylene	640	ND	NS
x-Xylene	600	ND	NS
Toluene	3,900	ND	31
1,2,4-Trimethylbenzene (EPA 524.2)[1]	230	ND	203
Inorganics			
Arsenic (EPA 200)[1]	23	30	2,000
COOF (SMWWA 2540D)	96,000	140,000	Fee
TSS (SMWWA 5220D)	34,000	68,000	Fee
Conductivity (umhos/cm) (EPA 120.1)	1,200	1,300	NS
pH (EPA 9040)	7.4	8.1	NS

1 Only contaminants detected are listed in this table; all others were below analytical detection limits

NS = Not specified
ND = Not detected above laboratory detection limits
TPH = Total petroleum hydrocarbons
COOF = Chemical Oxygen Demand
TSS = Total Suspended Solids
Fee = Used to determine discharge fee

Is there any additional
sampling data indicating
SW design of the pump
system since
12/26/80

Table 7. Results of Chemical Analyses, Groundwater Treatment System
- Periodic Sampling
2225 Telegraph Avenue, Oakland, California
2251,146.03

Harding Lawson Associates

Sampling Date	Sample	TPH (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	CODF (ppb)	TSS (ppb)	Tempera-ture (°C)	pH	Conduc-tivity (umhos/cm)	Flow Meter (gallons)
EBMUD Requirements		NS	3	31	5	42	Fee	Fee	NS	NS	NS	
11/30/90	INF-1	22,000	3,000	3,800	390	2,000	96,000	34,000	12.2	7.4	1,200	--[1]
	EFF-1	35	ND	ND	ND	ND	140,000	68,000	15.6	8.1	1,300	--
12/01/90	INF-2	8,800	1,700	2,100	210	1,200	35,000	8,000	--	7.5	1,000	--[1]
	EFF-2	ND	ND	ND	ND	ND	ND(30,000)	13,000	--	8.0	1,000	--
12/02/90	INF-3	11,000	3,800	2,500	270	1,500	47,000	18,000	--	7.4	1,000	--[1]
	EFF-3	ND	ND	ND	ND	ND	32,000	24,000	--	7.9	1,000	--
12/03/90	INF-4	12,000	1,600	1,000	ND	1,300	81,000	6,000	--	7.3	1,200	--[1]
	EFF-4	ND	ND	ND	ND	0.94	26,000	1,000	--	7.8	1,200	--
12/04/90	INF-5	11,000	2,900	1,300	170	1,000	61,000	7,000	--	7.1	1,200	--[1]
	EFF-5	ND	ND	ND	ND	ND	29,000	2,000	10.0	8.0	1,300	--
12/05/90	B-1-1	35	7.4	0.81	ND	1.6	--	--	--	--	--	--[1,2]
	B-2-1	ND	ND	ND	ND	ND	--	--	--	--	--	--
12/13/90[3]	INF-6	8,600	2,100	920	68	900	52,000	12,000	--	7.7	1,200	4,130
	EFF-6	ND	ND	ND	ND	ND	20,000	1,000	--	7.6	1,400	
	BT-1-2	65	18	5.5	ND	5.0	--	--	--	--	--	
	B2-2-2	ND	ND	ND	ND	ND	--	--	--	--	--	
12/19/90[4]	INF-7	3,600	830	490	62	810	34,000	1,000	--	7.6	1,100	8,460
	EFF-7	ND	ND	ND	ND	ND	ND	ND	--	7.8	1,200	
	BT-1-3	ND	ND	ND	ND	ND	--	--	--	--	--	
12/26/90	INF-8	1,500	330	ND	ND	ND	41,000	18,000	--	7.5	1,000	12,161
	EFF-8	ND	ND	ND	ND	ND	ND	15,000	--	7.7	1,000	
	BT-1-4	ND	ND	ND	ND	ND	--	--	--	--	--	
Detection Limit		30	0.3	0.3	0.3	0.3	20,000	1,000	--	--	1.0	

1 Water retained in Baker Tank waiting verification chemical analysis

2 System shut down waiting for EBMUD permission to discharge Baker Tank (12/6/90-12/12/90)

3 Added 90 lbs of carbon evenly between 3 carbon canisters (12/12/90)

4 System down after taking out 1st canister (12/19/90-12/21/90)

-- = Not tested
ND = Not detected above laboratory detection limit
NS = Not specified
Fee = Used to determine discharge fee
ppb = Parts per billion (µg/l)
TPH = Total petroleum hydrocarbons as gasoline (EPA 8015 modified)
CODF = Chemical oxygen demand, filtered (SMWWA 2540D)
TSS = Total suspended solids (SMWWA 5220D)

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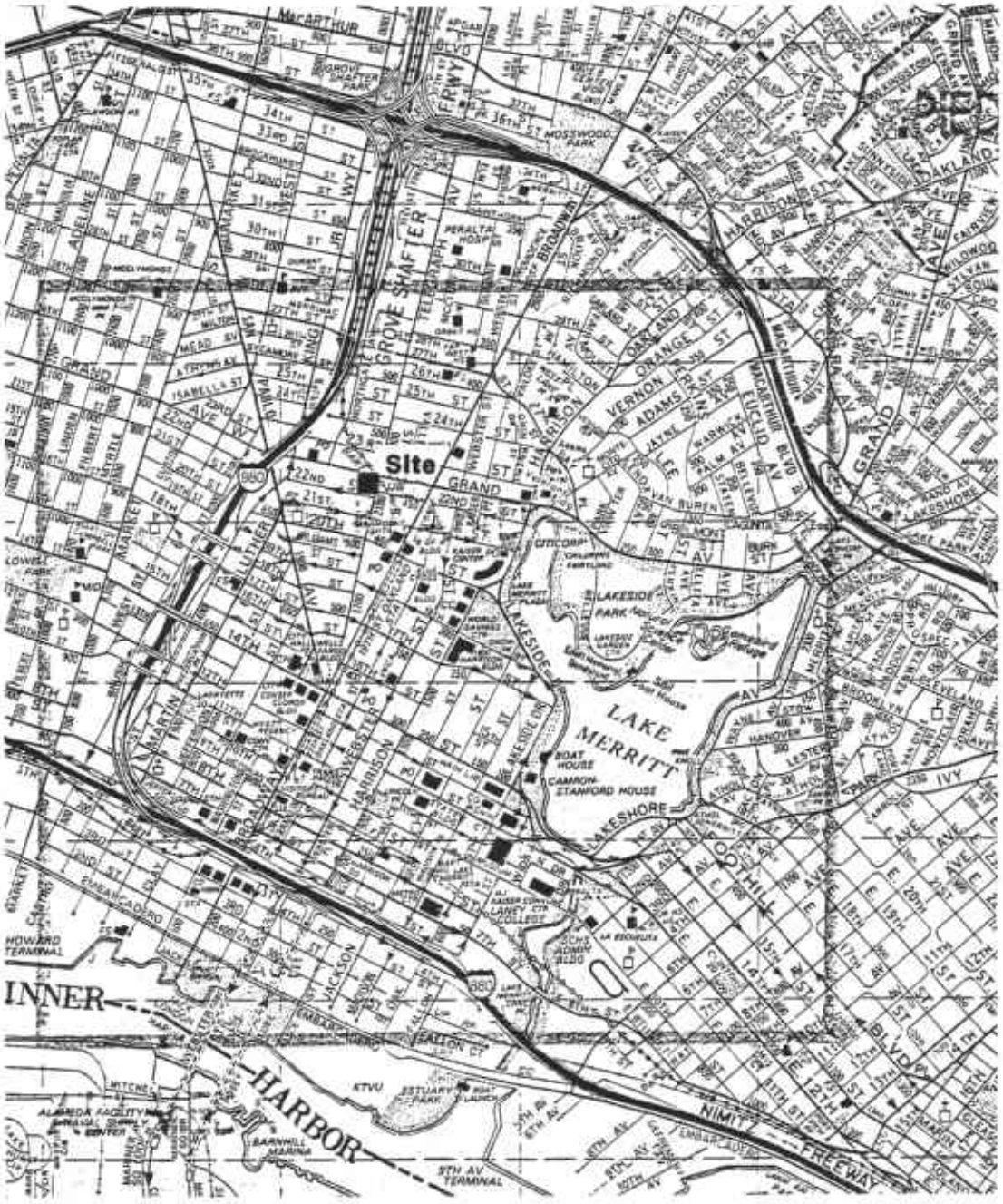


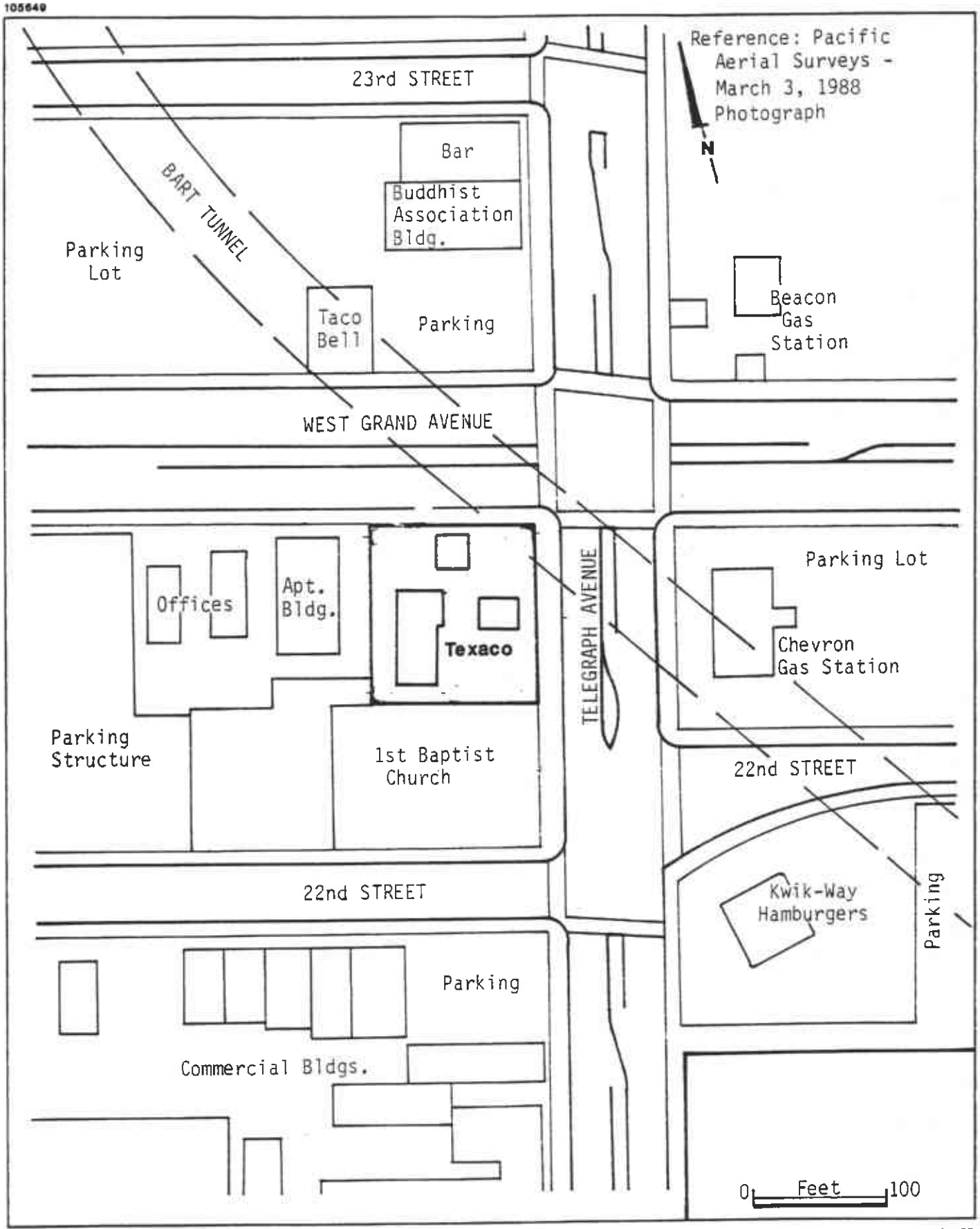
Harding Lawson Associates
Engineers and Geoscientists

Site Location Map
Former Texaco Service Station
2225 Telegraph Avenue
Oakland, California

PLATE
1

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
YC	2251,111.03		2/89		

105649



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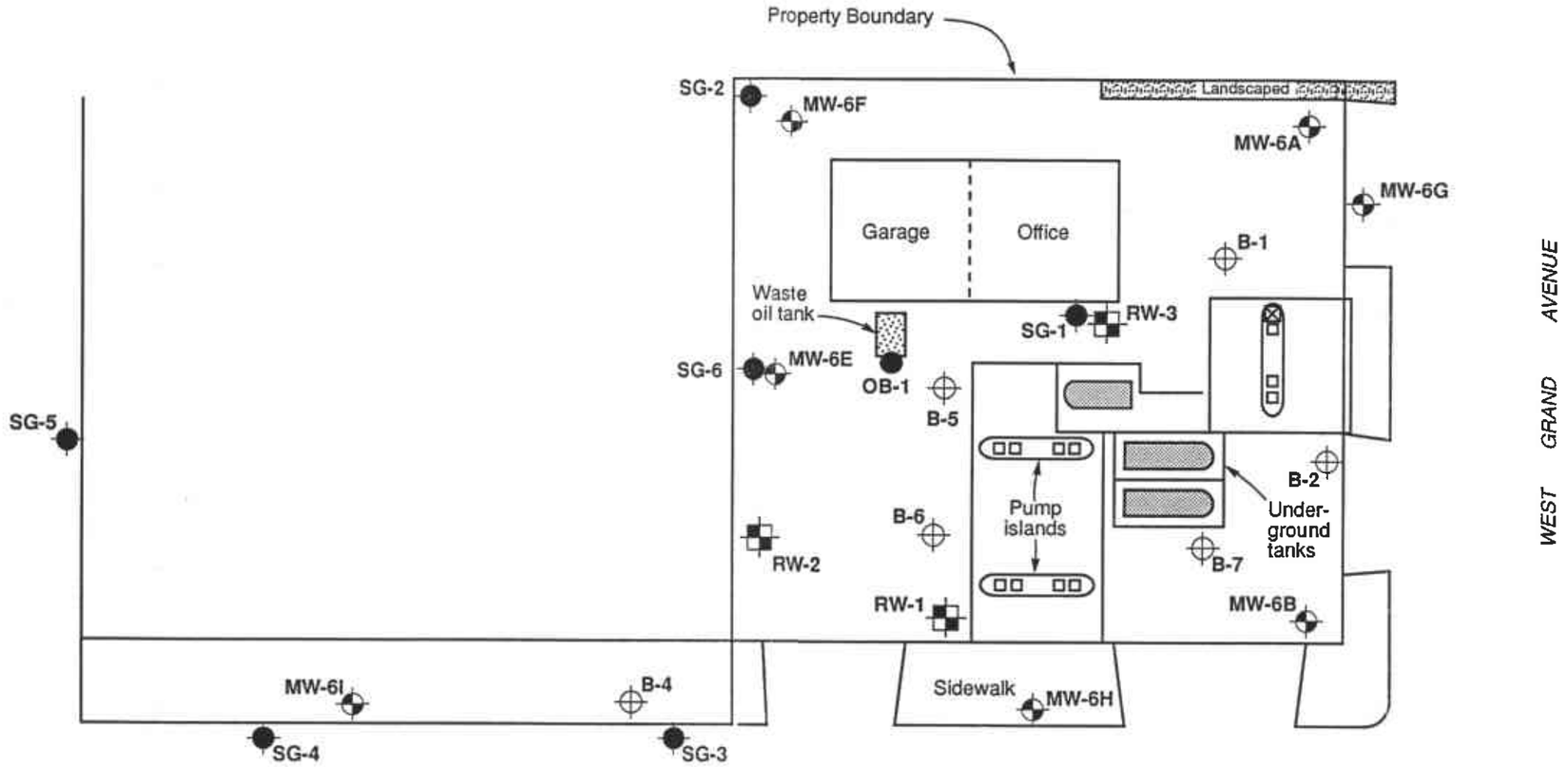
Engineers and Geoscientists

Vicinity Plan
Former Texaco Service Station
2225 Telegraph Avenue
Oakland, California

PLATE **2**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
YC	2251,146.03		2/91		



NOTE:-

RW–1 Previously B–3
RW–2 Previously MW–6D
RW–3 Previously MW–6C

EXPLANATION

- Monitoring well
- Recovery well
- Soil-gas probe location
- Observation well
- Soil boring location
- Benchmark (HLA datum; elevation = 100 feet)

N

0 30 60

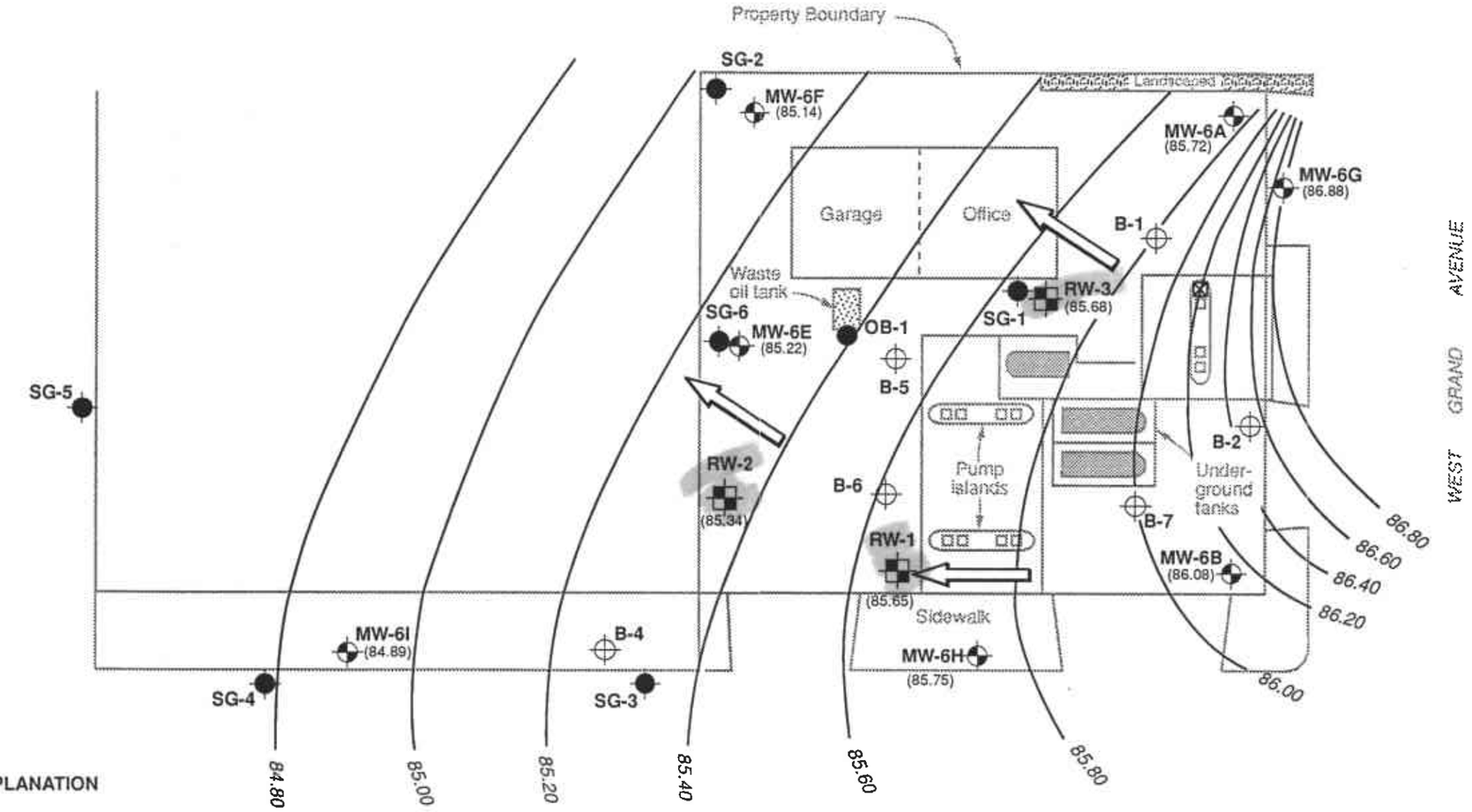
SCALE IN FEET

Harding Lawson Associates
Engineering and Environmental Services

Site Plan
Former Texaco Service Station
2225 Telegraph Avenue
Oakland, California

PLATE **3**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
RHC	2251,146.03	JSH	1/91	02/22/91



EXPLANATION

- Monitoring well
- Recovery well
- Soil-gas probe location
- Observation well
- Soil boring location
- Benchmark (HLA datum; elevation = 100 feet)
- (84.89) Relative groundwater elevation on 10/16/90
- Contour interval 0.20 feet
- Direction of groundwater flow

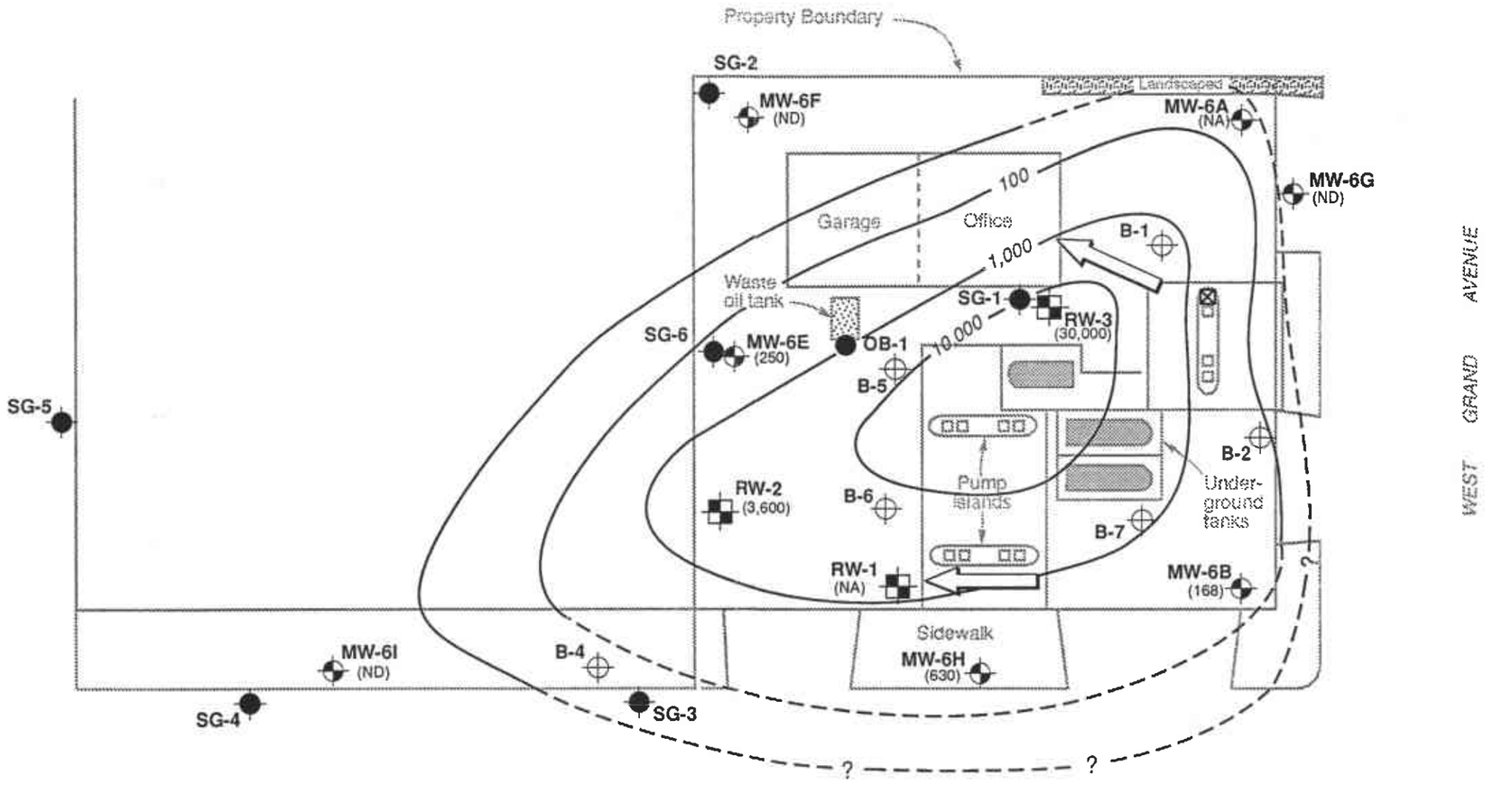
NOTE: RW-1 previously B-3
RW-2 previously MW-6D
RW-3 previously MW-6C

Harding Lawson Associates
Engineering and Environmental Services

Potentiometric Surface 10/16/90
Former Texaco Service Station
2225 Telegraph Avenue
Oakland, California

PLATE **4**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
RHC	2251,146.03	JSH	2/91	



EXPLANATION

- Monitoring well
- Recovery well
- Soil-gas probe location
- Observation well
- Soil boring location
- Benchmark (HLA datum; elevation = 100 feet)

(250) TPH as gasoline concentrations in groundwater (ppb) on 4/30/90

ND Concentrations below detection limits

NA Groundwater not analyzed on 4/30/90

Logarithmic contour interval

Direction of groundwater flow

NOTE: RW-1 previously B-3
RW-2 previously MW-6D
RW-3 previously MW-6C

0 30 60
SCALE IN FEET

Harding Lawson Associates
Engineering and
Environmental Services

TPH (gasoline) Concentrations in Groundwater, 4/30/90
Former Texaco Service Station
2225 Telegraph Avenue
Oakland, California

PLATE **5**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
RHC	2251,146.03	JSH	2/91	

DISTRIBUTION

4 copies: Texaco Refining and Marketing Inc.
108 Cutting Boulevard
Richmond, California 94804
Attention: Mr. R. R. Zielinski

MAS/JSH/mlw 031908M/R43

QUALITY CONTROL REVIEWER

Stephen J. Osborne
Principal Engineer