

**1995 FIRST QUARTERLY GROUNDWATER
MONITORING REPORT**

FOR

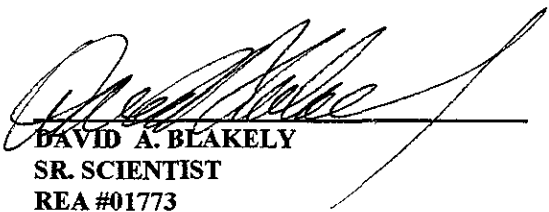
**THE WATSON TRUST PROPERTY
1461 PARK AVENUE
EMERYVILLE, CALIFORNIA**


PREPARED FOR:

**UNION BANK TRUST REAL ESTATE
445 SOUTH FIGUEROA STREET
LOS ANGELES, CA 90071**

SUBMITTED BY:

**BLAKELY ENVIRONMENTAL, INC.
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ONTARIO, CALIFORNIA 91761
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**June 30, 1995
06-95-390**



BEI

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1. INTRODUCTION

This report presents the results of the 1995 First Quarterly Groundwater Sampling Program performed on May 25, 1995 at the Watson Trust property located at 1461 Park Avenue, Emeryville, California (Figure 1) by Blakely Environmental, Inc. (BEI). The groundwater monitoring program is required by the California Regional Water Quality Control Board (CRWQCB), Region 2, Mr. Kevin Graves, (510) 286-0435 and the Alameda County Environmental Health Department (ACEHD), Susan Hugo, (510) 567-6700, and was authorized on February 22, 1995 by Union Bank, Trust Real Estate, (818)810-6530, on behalf of the property trustees.

1.1 Site Location and Description

The property, situated approximately a quarter of a mile east of the San Francisco Bay, is in a commercial area of the City of Emeryville, California, at about 122°17' 30" west longitude and 37° 69' north latitude. The site contains one, concrete block, single story building that covers the entire property. The dominant industries in the area are warehousing and manufacturing.

The property was occupied from 1968 to 1973 by Pic-A-Tune, reportedly a music or record distributor. From 1973 to 1986 it was leased by Stuart Western, Stuart Radiator and Stuart Auto Parts. The Stuart companies were involved in rebuilding brakeshoes and/or warehousing and distributing auto parts. In 1986, Stuart Western was purchased by Modine Southwest Company. This company owns Western Brake Company, which warehouses and distributes vehicle brake parts and radiators. No manufacturing nor repair processes occurred on-site. Electro Coatings, Inc. (ECI), located in the groundwater upgradient direction, appears to have discharged sufficient amounts of hexavalent chromium into groundwater to cause contamination which has migrated onto this site.

1.2 Site Assessment History

In March 1990, two underground storage tanks (USTs) were removed by PCC, Incorporated. A tank closure report was filed with the ACEHD in July 1990. A 3000-gallon tank containing gasoline was found in good condition. The 500-gallon tank, thought to contain diesel, showed evidence of leakage due to failure at the welds. The required reports of contamination were filed with the CRWQCB, Region 2, and with the ACEHD.

During the excavation of the tanks, three soil samples and two water samples were obtained from the tank excavations, as groundwater occurs at a depth of about 6.5 feet below grade (bg). The two tanks were located adjacent to each other. The tanks were excavated separately creating separate pits. The gasoline tank pit was located in about the northern 17 feet and the diesel tank pit in about the southern 13 feet of the former underground storage tank (UST) excavation area. Soil samples were taken at a depth of four feet from the north and south walls of the gasoline tank excavation and one sample was obtained of water standing in the pit. A soil sample was taken at a depth of five feet from the south wall of the diesel tank excavation and one water sample was taken from the groundwater in the pit. After removal of USTs, the contaminated soil was returned to the excavation.

Analysis for total petroleum hydrocarbons (TPH) identified 62.3 mg/kg and 460 mg/kg TPH in the north and south walls of the gasoline tank excavation, respectively, and 1580 mg/kg TPH was detected in the south wall of the diesel tank excavation. Analysis for TPH as diesel was also performed,

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but none was detected. Benzene, toluene, xylenes and ethylbenzene (BTXE) were detected in three samples. In the north wall of the gasoline tank excavation, BTXE was detected at concentrations of 9.8, 207, 947, and 32.9 ug/kg, respectively. In the south wall of the gasoline tank excavation, BTXE was found at concentrations of 1600, 9140, 32,300 and 5080 ug/kg, respectively. In the south wall of the diesel tank excavation, BTXE was detected at concentrations of 17.3, 2600, 100,400 and 481 ug/kg, respectively.

Laboratory testing for TPH as gasoline detected 38.1 mg/l in the free-standing water in the gasoline tank excavation. BTXE concentrations were 2750, 2849, 5890, and 1160 ug/l, respectively. In the free-standing water in the diesel tank excavation, TPH as gasoline was detected at a concentration of 110 mg/l and BTXE at concentrations of 5240, 7040, 15000 and 2420 ug/l, respectively. TPH as diesel was non-detectable in the sample collected from the diesel tank excavation and TPH-d was not analyzed for in the sample collected from the gasoline tank excavation.

The results of chemical analysis suggest that the 500-gallon "diesel" tank may have contained gasoline during the period of leakage. The tank may have been used for diesel and gasoline storage, but appears to have leaked gasoline.

Elevated concentrations of TPH and BTXE occur in the north and south walls of the gasoline tank excavation and in the south wall of the diesel tank excavation (the soil was not tested from the north wall of the diesel tank excavation). It is probable that all walls of the tank excavations had elevated concentrations of petroleum hydrocarbons.

In September 1990, three borings (MW-1, MW-2 and MW-3) were drilled to a depth of 20 feet bg on the site (Figure 2). Soil samples were obtained at depths of 5 and 10 feet bg and analyzed for TPH as gasoline and BTXE. The concentrations of TPH ranged from less than 2.5 to 150 mg/kg. Concentrations of benzene were from less than 5 to 5,000 ug/kg, toluene from less than 5 to 2,200 ug/kg, ethylbenzene from less than 5 to 3,100 ug/kg and xylenes from less than 5 to 4,900 ug/kg. Upon completion of drilling and soil sampling, monitoring wells were installed in the boreholes.

Two weeks after installation, the wells were purged and sampled by Alpha Chemical and Biomedical Laboratories. The samples were analyzed for TPH as gasoline and for BTXE. TPH and BTXE were detected in monitoring well MW-2 only. The concentration of TPH was 1.2 mg/l. BTXE concentrations were 209, 33.7, 128 and 5.4 ug/l, respectively.

On May 15 and 16, 1991 seven hand augured borings were advanced by Remedial Action Corporation (RAC) to depths ranging from 4.5' bg to 9.5' bg. Fourteen soil samples were collected and analyzed for petroleums, halogenated compounds, and CAM metals. The maximum TPH-g concentration observed was 97 ppM in boring B103. The maximum benzene concentration identified was 1,580 ppB in boring B102. Composite soil samples from boring B107 identified halogenated compound concentrations below laboratory detection limits. Maximum hexavalent chromium concentration was identified at 17.3 ppM in boring B103.

In May of 1991, groundwater samples from MW-1, MW-2 and MW-3 were collected by RAC. Maximum dissolved phase petroleum concentrations were observed in monitoring well MW-1. Trichloroethene (TCE) was identified in groundwater monitoring wells MW-1, MW-2, and MW-3 at concentrations of 1.29*, 0.401 and 0.262 mg/l, respectively. (*this concentration was recorded as 1.285 ppb in the RAC draft report). Trichloroethane (TCA) was detected in MW-1 only, at a concentration of 64.3

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mg/l. Hexavalent chromium was detected in groundwater in monitoring wells MW-1, MW-2 and MW-3 at concentrations of 0.11 mg/l, 0.26 mg/l and 0.17 mg/l, respectively.

In September and October of 1991, RAC hand augered borings 201 through 224. Maximum TPH and BTEX levels were observed in boring 208 (TPH-g at 3400 mg/kg and BTEX at 13000, 80000, 260000 and 53000 ug/kg, respectively).

On May 25, 1995 BEI conducted a groundwater monitoring episode from monitoring wells MW-1 through MW-3. Results of this sampling event and previous sampling events are included in Table 1.

1.3 Historical Site Use

No records of underground storage of hexavalent chromium or TCE were identified in a search of site records. No records of usage of hexavalent chromium nor TCE were identified in a search of records of operations of site occupants. A review of generic radiator storage and distributing operations identified no usage of hexavalent chromium nor TCE. Subsurface storage on site was solely petroleum fuel oil, as supported by the exclusive identification of residual gasoline compounds in the subsurface soil prior to groundwater.

2. SITE GEOLOGIC CONDITIONS

The Watson site lies on recent alluvial bay muds that are the youngest geological unit in the San Francisco Bay area. Site elevation is approximately 12' above mean sea level and the site is less than 1/4 mile east of the San Francisco Bay. Logs of 29 borings drilled on site and 11 borings drilled on the ECI site adjacent to and east of the Watson site, identified a comprehensive black clay, clay fill and silty clay zone extending from surface to first subsurface water at approximately 7' bg. The black clay is consistently described as plastic, firm and moist.

3. SITE GROUNDWATER CONDITIONS

Groundwater exists in the vicinity of the site at a depth of approximately 7' bg (ECI Facility) and underlays the site at 6.5' to 8' bg. Groundwater pumping wells in the area reportedly utilize water from a depth of 250' bg (CRWQCB, 1991). Area groundwater is reported to flow in a west to southwesterly direction as determined by on site and adjacent site (ECI) investigations. Current depth to groundwater beneath the site was measured between 4.43' and 4.52' bg and groundwater flows in a westerly direction as identified by BEI (Figure 5).

4. GROUNDWATER SAMPLING

The 1995 first quarterly collection of groundwater samples proceeded as follows:

- A. Depth to groundwater from the top of the surveyed well casing and total depth of well was measured and recorded in field log book.
- B. A minimum of three (3) casing volumes of water was purged from each well (approximately 8-gallons).

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The current action levels for drinking water set by Department of Health Services, Title 22 are as follows:

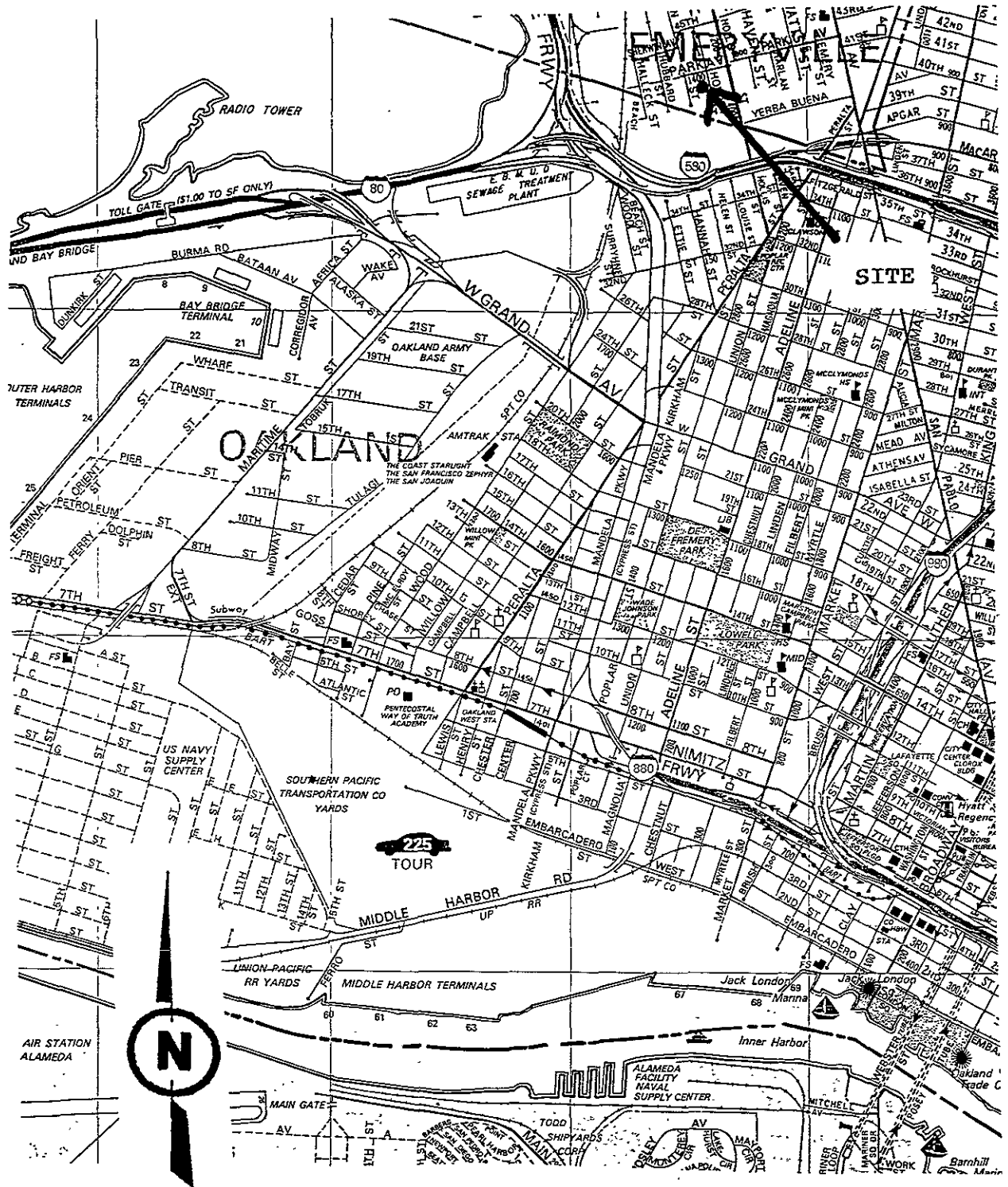
Benzene	1 ug/l
Toluene	100 ug/l
Ethylbenzene	680 ug/l
Total xylenes	1750 ug/l

6. CONCLUSIONS

Groundwater samples obtained from monitoring wells MW-1 through MW-3 identified dissolved phase petroleum contaminants in MW-1 and MW-3, only. Monitoring well MW-1 contained TPH-g and benzene concentrations of 0.6 mg/l and 540 ug/l, respectively. Contaminant levels (TPH-g and benzene) in MW-1 have, therefore, attenuated by 82% and 63%, respectively, from sampling performed in May 1991. Monitoring well MW-3 identified only benzene at a concentration of 7.4 ug/l. Monitoring well MW-2 contained non-detectable levels of TPH-g and BTEX.

Groundwater beneath the site flows in a westerly direction based on data acquired on May 25, 1995 (See Figure 5). Isoconcentration diagrams of TPH-g and benzene are included as figures 3 and 4, respectively.

FIGURES



Blakely Environmental Inc.
 320 S. Milliken Ave. Suite A
 Ontario, CA 91761

Site Location Map

Union Bank - Watson Trust Property
 1461 Park Avenue
 Emeryville, California

FIGURE: 1

JUNE 1995

HOLDEN

STREET

ELECTRO-
COATINGS
INC.

MW11

MW12

MW9

MW10

MW13

HORTON STREET

PARK

MW2

MW1

TRUST PROPERTY

MW3

MW6

STREET

Well locations are approximate

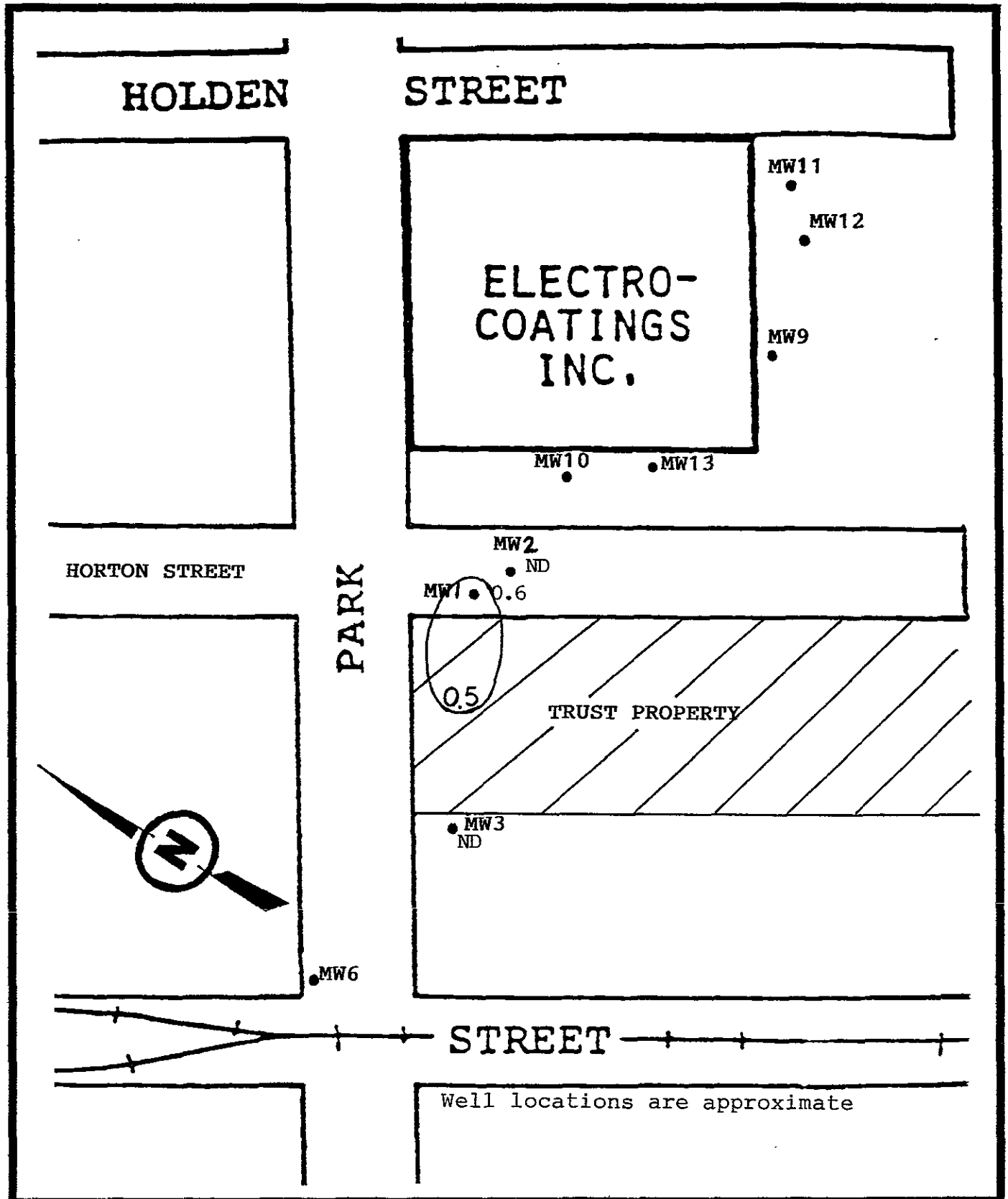
Blakely Environmental Inc.
320 S. Milliken Ave. Suite A
Ontario, CA 91761

Site Layout Map

Union Bank - Watson Trust Property
1461 Park Avenue
Emeryville, California

FIGURE: 2

JUNE 1995



Blakely Environmental Inc.
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 Ontario, CA 91761

TPH-g Isoconcentration Diagram (ppM)
 Union Bank - Watson Trust Property
 1461 Park Avenue
 Emeryville, California

FIGURE: 3
 JUNE 1995

HOLDEN

STREET

ELECTRO-COATINGS INC.

MW11

MW12

MW9

MW10

MW13

HORTON STREET

PARK

MW2

ND

MW1 540

TRUST PROPERTY

10

MW3

1.0 7.4

MW6

STREET

Well locations are approximate

Blakely Environmental Inc.
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Benzene Isoconcentration Diagram (ppB)

Union Bank - Watson Trust Property
1461 Park Avenue
Emeryville, California

FIGURE: 4

JUNE 1995

HOLDEN

STREET

ELECTRO-COATINGS INC.

MW11

MW12

MW9

MW10

MW13

HORTON STREET

PARK

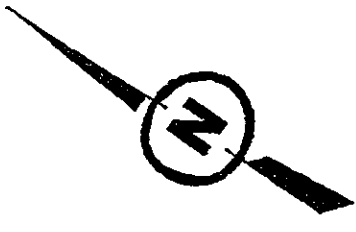
MW2

MW1

TRUST PROPERTY

MW3

MW6



FLOW
N75W

STREET

Well locations are approximate

SCALE: 1"=100'

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Ontario, CA 91761

Groundwater Gradient Map
Union Bank - Watson Trust Property
1461 Park Avenue
Emeryville, California

FIGURE: 5

JUNE 1995

APPENDICES

APPENDIX A

Groundwater Parameters

Site Name: Watson Trust	Date: June 28, 1995
Site Address: 1461 Park Avenue Emeryville, California	Client: Union Bank Trust Real Estate

Time	Development Status	Conductivity	Temp.	Turbidity	pH
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Date Sampled: May 25, 1995		Monitoring Well: MW-1			
12:19	Before Dev.	1560	71.1	90	6.72
12:34	During Dev.	1630	67.3	105	6.5
2:41	After Dev.	1600	64.4	97	6.48

Date Sampled: May 25, 1995		Monitoring Well: MW-2			
12:10	Before Dev.	1540	71.1	180	6.66
12:26	During Dev.	1750	69.5	115	6.44
2:29	After Dev.	1680	66	140	6.51

Date Sampled: May 25, 1995		Monitoring Well: MW-3			
1:37	Before Dev.	1560	67.7	75	6.98
1:47	During Dev.	1690	66.8	96	6.5
2:55	After Dev.	1650	65.2	80	6.54

MW#:	MW-1	MW-2	MW-3		
Grndwtr,ft.(from TOC	4.47	4.52	4.43		
Depth Corrected, ft.:	95.09	95.31	94.24		
Survey:	99.56	99.83	98.67		
Free Product,in. thick:	0	0	0		

APPENDIX B

Modified 8015 - Total Volatile Hydrocarbons as Gasoline

Client: Blakely Environmental
 Project: Watson Trust
 Job No.: 8285
 Matrix: Water
 Analyst: GB

Date Sampled: 05/25/95
 Date Received: 05/26/95
 Date Analyzed: 06/01-05/95
 Batch Number: 015GW0544

Sample ID	Detection	Petroleum Hydrocarbons as
	Limit	Gasoline
	mg/L	mg/L
Method Blank	0.5	ND
MW-2	0.5	ND
MW-1	0.5	0.6
MW-3	0.5	ND

EPA 8020 - BTEX

Client: Blakely Environmental
 Project: Watson Trust
 Job No.: 8285
 Matrix: Water
 Analyst: GB

Date Sampled: 05/25/95
 Date Received: 05/26/95
 Date Analyzed: 06/01-05/95
 Batch Number: 8020W0748

	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Surrogate (BFB)
Detection Limit:	0.0006	0.001	0.001	0.003	Limit: >50%
Sample ID	mg/L	mg/L	mg/L	mg/L	
Method Blank	ND	ND	ND	ND	90 %
MW-2	ND	ND	ND	ND	101 %
MW-1	0.54	0.028	0.008	0.18	103 %
MW-3	0.0074	ND	ND	ND	94 %

QC Sample Report - EPA 8020

Matrix: Water
 Batch #: 8020W0748
 MS/MSD Laboratory Sample ID #: 8291-1
 MS/MSD Client Sample ID #: Not Applicable

LCS(s):

Compound	Spike Concentration mg/L	% Recovery LCS	% Recovery LCSD	Acceptance Limits % Recovery	Relative % Difference	Acceptance Limits RPD
Benzene	0.1	97	90	70 - 130	7	25
Toluene	0.1	94	89	70 - 130	6	25
Ethyl Benzene	0.1	100	93	70 - 130	7	25
Xylene (total)	0.3	96	90	70 - 130	6	25

Analytical Notes:

RPD is calculated on the recovery of the laboratory control samples.

MS/MSD:

Compound	Spike Concentration mg/L	% Recovery MS	% Recovery MSD	Acceptance Limits % Recovery	Relative % Difference	Acceptance Limits RPD
Benzene	0.1	98	99	70 - 130	0	25
Toluene	0.1	98	98	70 - 130	0	25
Ethyl Benzene	0.1	102	102	70 - 130	0	25
Xylene (total)	0.3	98	99	70 - 130	0	25

Analytical Notes:

RPD is calculated on the concentration of the spiked samples

LCS: Laboratory Control Sample
 LCSD: Laboratory Control Sample Duplicate
 MS: Matrix Spike Sample
 MSD: Matrix Spike Duplicate
 RPD: Relative Percent Difference

QC Sample Report - EPA 8015 Gasoline

Matrix: Water
 Batch #: 8015GW0544
 MS/MSD Laboratory Sample ID #: 8291-1
 MS/MSD Client Sample ID #: Not Applicable

LCS(s):

Compound	Spike Concentration mg/L	% Recovery LCS	% Recovery LCSD	Acceptance Limits % Recovery	Relative % Difference	Acceptance Limits RPD
Gasoline	5	100	NA	42-122	NA	24

Analytical Notes:

RPD is calculated on the recovery of the laboratory control samples.

MS/MSD:

Compound	Spike Concentration mg/L	% Recovery MS	% Recovery MSD	Acceptance Limits % Recovery	Relative % Difference	Acceptance Limits RPD
Gasoline	5	108	108	42-122	0	24

Analytical Notes:

RPD is calculated on the concentration of the spiked samples.

LCS: Laboratory Control Sample
 LCSD: Laboratory Control Sample Duplicate
 MS: Matrix Spike Sample
 MSD: Matrix Spike Duplicate
 RPD: Relative Percent Difference



CENTRUM ANALYTICAL LABORATORIES, INC.

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CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

Job No.:		Project Name: <u>Watson Trust</u>			Analyses required <i>ECIS 943/8020</i> Hazardous sample Special handling Sample preserved (Y/N)																
Sampler: <u>H.G.</u>		Phone: <u>(909) 340-1792</u>																			
Client Name: <u>BEI</u>		Address: <u>320 S. Milliken Ave Suite A Ontario, Ca.</u>																			
Sample Number	Date/Time Sampled	Sample Type			Site Location	# and type of containers	Remarks and observations														
		Soil	Water	Other (Specify)																	
<u>MW-1</u>	<u>5/25/95</u>		<u>X</u>		<u>Emeryville</u>	<u>3-40 mL vials</u>	<u>X</u>														
<u>MW-2</u>	<u>5/25/95</u>		<u>X</u>		<u>"</u>	<u>"</u>	<u>X</u>														
<u>MW-3</u>	<u>5/25/95</u>		<u>X</u>		<u>"</u>	<u>"</u>	<u>X</u>														
Relinquished by: (Signature) <u>H. Garcia</u>		Date/Time <u>5/25/95 10:10AM</u>		Received by: (Signature) <u>Joe Cardon</u>		Relinquished by: (Signature)		Date/Time		Received by: (Signature)											
Relinquished by: (Signature)		Date/Time		Received for Laboratory by: (Signature)		Date/Time		Samples chilled <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Samples sealed <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Method of Shipment <input type="checkbox"/> Courier <input type="checkbox"/> UPS/Fed-x <input type="checkbox"/> Mail <input type="checkbox"/> Hand Carried													

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.