BT Associates
Environmental Services

31 Nightowl Court, Richmond, CA 94803
(Office) 510-222-1541 (Fax) 510-525-2178

QUARTERLY GROUNDWATER MONITORING WELL SAMPLING REPORT FOR:

3516 ADELINE STREET OAKLAND, CA

(March 28, 1994)

SITE DESCRIPTION

3516 Adeline Street is located in the northwest portion of the City of Oakland, which is in Alameda County, California. This address occupies the southeast corner of the intersection of Adeline and 35th Streets, approximately 0.1 mile west from the point at which 35th Street intersects with San Pablo Avenue. The subject site is approximately one (1) mile east of the San Francisco Bay, 60 feet south of State Highway 580 (an elevated structure), and 0.6 mile west of the Highway 580-Highway 980 interchange (see Figures 1 and 2). Contiguous properties consist of a mixture of residential and commercial occupancies. The on-site buildings, which formerly housed the City of Paris Cleaners (a full-service laundry and dry cleaning business), are currently vacant.

GEOLOGY AND HYDROGEOLOGY

The subject site is located at an elevation of approximately 30 feet above mean sea level, on an alluvial plain that slopes gently westward toward the San Francisco Bay. Underlying deposits, known as "Bay Mud", are generally composed of unconsolidated olive-gray, blue-gray, brown or black silty clay. This clay varies from soft to stiff and is typically plastic. Permeability is generally low except where lenses of sand occur. The Franciscan Formation, a complex assemblage of deformed and altered sediments and volcanic rocks commonly forming the bedrock in the San Francisco Bay region, has been documented underlying the sediments in the area.

The geologic materials encountered during excavation and drilling operations conducted in December of 1991 and March of 1992 by Uriah Environmental Services, Inc. (UES) of Modesto consisted predominantly of sandy gravel, clayey sand, and sandy clay. General subsoil conditions encountered during the drilling of the three (3) on-site monitoring wells were noted by UES as being consistent with regional conditions. A brown sandy gravel was encountered to a depth of approximately 12.5 feet below ground surface (bgs). A moist, olive-gray, medium clayey sand of medium density was encountered from 12.5 to 27.5 feet bgs. This clayey sand was, in turn, underlain by a stiff brown sandy clay that exhibited low plasticity (UES Report: "The Installation, Development, and Sampling of Three Groundwater Monitoring Wells at the City of Paris Cleaners site; March 31, 1993).

Groundwater was first encountered during drilling at 19 to 20 feet bgs. The static water level was measured in each well on November 18, 1992, and found to be 13.99 feet in MW-1, 13.18 feet in MW-2, and 13.93 feet in MW-3. On March 28, 1994, the hydraulic gradient was calculated as 0.149 ft/ft., and the direction of groundwater flow was determined to be to the northeast (N50°E).

OVERVIEW OF PREVIOUS ENVIRONMENTAL COMPLIANCE ACTIVITIES PERFORMED AT THE SITE

Removal of Underground Storage Tanks

On October 4, 1990, one (1) 750-gallon and two (2) 1,000-gallon underground stoddard solvent storage tanks were excavated and removed from this location by the Semco Company of San Mateo (a California-licensed contractor).

Six (6) discrete soil samples acquired attendant to the removal of the tanks were submitted for certified laboratory analysis and found to contain between 1 and 1,000 parts per million (ppm) Total Petroleum Hydrocarbons as Gasoline (TPH-G), and some elevated levels of ethylbenzene and total xylenes. Although reported as TPH-G, the TPH compound(s) detected were believed to have been stoddard solvent. On July 31 and August 1-2, 1991, UES performed a soil vapor survey at the site in an effort to define the approximate boundaries of the area of soil contamination. Although vapors were found to be widely distributed across the site, a discrete soil plume could not be defined due to the presence of buildings, subsurface utilities, and the public roadway.

Excavation and Remediation of Hydrocarbon-Contaminated Soil

On August 30, 1991, employees of W.A. Craig, Inc. (WAC), a California-licensed contractor, overexcavated the eastern portion of the tank pit to a depth of approximately 15 feet. While digging in the southeastern corner of the pit, WAC encountered a 250-gallon underground stoddard solvent storage tank. This tank was subsequently excavated and disposed of in accordance with requirements set forth by Alameda County Health Care Services Agency (ACoHCSA) Inspector Dennis Byrne.

Additional excavation was performed, and 59 cubic yards of contaminated soil was subsequently bioremediated on site and later used to backfill the tank pit. Although soil samples acquired from boundaries of the remedial excavation revealed that some residual contamination remained unexcavated (9.8 to 140 ppm TPH-Stoddard Solvent and 15 to 110 ppm TPH-Diesel), Inspector Byrne advised UES that ACoHCSA would require no additional excavation as the integrity of significant structures (both on site and upon contiguous properties) could be jeopardized if further excavation was attempted.

Installation, Development, and Sampling of Monitoring Wells

On October 29 and 30, 1992, three (3) groundwater monitoring wells were installed at the subject site by Soils Exploration Services (SES) of Vacaville. The wells were placed at locations approved by ACoHCSA (see Figure 4). The borings were advanced with a truck-mounted drill rig equipped with 8-inch outside diameter, continuous flight, hollow-stem augers. Drilling, logging (in accordance with the Unified Soil Classification System), and sampling were performed by/under the direction of a UES staff hydrogeologist.

Discrete soil samples were collected from the borings at five-foot intervals beginning at five (5) feet bgs in a 2-inch inside diameter, split-spoon sampler fitted with clean brass tubes measuring 1.9 inches in diameter by 6.0 inches in length. The sampler was driven 18 inches into undisturbed soil using a standard 30-inch drop of a 140 pound hammer. Upon being retrieved from the sampler, the ends of the lower-most brass tube were covered with teflon sheeting, fitted with plastic caps, and sealed with duct tape. Each tube was then labeled and placed on blue ice for transportation to a California-state certified hazardous waste analytical laboratory under chain-of-custody.

The soil samples acquired from vadose soils (from 5 and 10 feet bgs) were subsequently analyzed for Total Petroleum Hydrocarbons as Stoddard Solvent (TPH-SS), Total Petroleum Hydrocarbons as Diesel (TPH-D), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) as well as for chlorobenzene and dicholorbenzene using EPA Methods 3550/8015-8020 (602).

The drilling augers and sampling equipment were steam cleaned or thoroughly scrubbed with Alconox solution followed by a distilled water rinse prior to being brought on site and between all samplings. Analytical results for the soil samples collected are presented in Table I, below:

Table I
Soil Sample Results - Soil Borings for Monitoring Wells
October 29 & 30, 1992 (UES)

Sample I.D.	TPH-SS (ppm)	TPH-D (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	Chl./Dichl.-benzenes (ppb)
MW1-5'	ND	ND	0.3	12	ND	ND	ND
MW1-10'	210	ND	1.1	21	12	ND	23
MW2-5'	ND	ND	ND	63	130	210	740
MW2-10'	17	ND	ND	120	ND	360	ND
MW3-5'	ND	ND	2.4	120	47	160	410
MW3-10'	30	ND	26	550	ND	ND	230
Method Detection Limits	10	10	5	5	5	5	5

TPH-SS = Total Petroleum Hydrocarbons as Stoddard Solvent
TPH-D = Total Petroleum Hydrocarbons as Diesel
ND = Not detected at or above the Method Detection Limit
Chl./Dichl. = Chlorobenzene; 1,3 Dichlorobenzene; 1,4 Dichlorobenzene; and 1,2 Dichlorobenzene
ppm = Parts per million
ppb = Parts per billion

Following completion of the drilling, logging, and soil sampling, each boring was converted into a 2-inch inside diameter groundwater monitoring well. The wells were constructed of 2-inch inside diameter, threaded, Schedule 40 PVC risers attached to 0.020-inch slotted PVC well screen. The screened interval extended more than five (5) feet above the water table to account for anticipated fluctuations in the depth to water. The annular space around the well screen was filled with #3 Monterey Silica Sand. The sand was covered by a one foot thick bentonite seal to protect groundwater from surface water infiltration. The wells were finished by covering the bentonite with cement from the top of the seal to 0.5 feet bgs followed by concrete aggregate to grade. Each well was then covered with a locked traffic cover.

Prior to development, the newly installed wells were allowed to equilibrate for a period in excess of 48 hours. Depths to water and total well depths were measured with an electric water level meter and the volume of water contained in each well casing was computed. The wells were then developed using a vented surge block to release and draw fines (silts, clays, and fine sands) by forcing water in and out of the well screen and adjacent annular pack. The wells were then purged using a clean, disposable polyethylene bailer until the groundwater was free of significant sediment and other grit material and pH, electrical conductivity, and temperature readings stabilized.

A water sample from each developed well was obtained with a clean, disposable, polyethylene bailer lowered into the well to a point immediately below the water surface. The sample was promptly transferred into two (2) amber glass sample bottles and two (2) Volatile Organic Analysis (VOA) vials containing hydrochloric acid preservative. Each container was sealed with a teflon-lined screw cap, labeled, and placed on blue ice for transportation to a California-state certified hazardous waste analytical laboratory under chain-of-custody. Analyses were subsequently performed for TPH-SS, TPH-D, and BTEX using EPA Methods 3510/8015-8020 (602). Analytical results are summarized in Table II (page 6, below and Appendix A).

Cuttings from the boring and rinsate generated from steam cleaning of the augers were each placed in a labeled, covered, 55-gallon DOT drum and stored on site pending receipt of laboratory analyses and development of an appropriate disposal protocol.

Groundwater acquired attendant to the development and initial sampling of all three (3) on-site monitoring wells was found to be free of detectable concentrations of TPH-D and BTEX. TPH-SS was detected in each well, as follows: 1,800 parts per billion (ppb) in MW-1; 630 ppb in MW-2; and 11,000 ppb in MW-3.

Although all soil samples contained detectable concentrations of some target analytes, UES proposed that the only significant presence was that of 210 parts per million (ppm) stoddard solvent at MW1-10. This sample was acquired from slightly moist sandy gravel overlaying less permeable clayey sand. As the soil sample acquired from this area during the course of remedial excavation contained only 14 ppm stoddard solvent, UES believed that the 210 ppm level was either: 1) representative of a small, environmentally insignificant area of residual contamination; or 2) indicative of contamination that had moved as a non-aqueous phase liquid with groundwater during a period when the water table was higher.

In consideration of the data acquired at the site by UES and others, UES proposed that no additional environmental compliance activities be required other than quarterly monitoring of wells MW-1, MW-2, and MW-3 with subsequent laboratory analyses for TPH-SS, TPH-D, and BTEX.

COMPLIANCE MONITORING/ON-SITE GROUNDWATER MONITORING WELLS

Groundwater samples were first collected from the on-site monitoring wells by UES on November 18, 1992. In April of 1993, UES ceased business operations. In November of 1993, the sampling and reporting responsibilities for the subject site were assumed by BT Associates.

With the approval of Hazardous Materials Specialist Susan Hugo, BT Associates again collected groundwater samples from the on-site monitoring wells on March 28, 1994. Analytical results for all groundwater samples collected at the subject site have been summarized in Table II, below:

Table II - Groundwater Sampling Results

Well #	Date	Depth to Water (ft)	TPH-D (ppb)	TPH-G (ppb)	TPH-SS (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)
MW-1	11/18/92	13.99	ND	na	1,800	ND	ND	ND	ND
	11/4/93	16.79	ND	ND	2,000	ND	ND	ND	ND
	3/28/94	14.14	ND	na	150	35	40	72	120
MW-2	11/18/92	13.18	ND	na	630	ND	ND	ND	ND
	11/4/93	14.84	ND	ND	3,200	ND	ND	ND	ND
	3/28/94	11.50	ND	na	45	1.4	2	11	19
MW-3	11/18/92	13.93	ND	na	11,000	ND	ND	ND	ND
	11/4/93	15.16	ND	ND	320	ND	ND	ND	ND
	3/28/94	13.43	ND	na	ND	0.8	0.9	5	10
Method Detection Limits	3/28/94	-	50	50	20	0.5	0.5	0.5	0.5
Method of Analysis	(all)	-	3510/ 8015	5030/ 8015	3510/ 8015	602	602	602	602

TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-SS = Total Petroleum Hydrocarbons as Stoddard Solvent
ND = Not detected at or above Method Detection Limit
na = Not analyzed
ppb = Parts per billion

Well Sampling Methodology

Depth to water and total well depth were measured using an electric tape, and the volume of water within the 2-inch inside-diameter casings computed. Each well was then purged using a clean, disposable polyethylene bailer until the groundwater was free of significant sand, silt, and/or other grit material, and pH, conductivity, and temperature readings stabilized. In each case, more than three (3) well volumes were removed from each well. Measurements of pH, conductivity, and temperature were recorded as referenced within Appendix B.

Subsequent to purging the wells, a groundwater sample was collected from each using a clean, disposable polyethylene bailer lowered to a point just below the water surface. Using a Voss VOC Sampler, each groundwater sample was immediately transferred into a one-liter, amber glass bottle and two (2) Volatile Organic Analysis (VOA) vials which contained sufficient hydrochloric acid preservative to reduce the pH of the sample to <2.0. Each sample container was promptly sealed with a teflon-lined screw cap, labeled, placed on ice in an insulated container, and then transported under chain-of-custody to a California state-certified hazardous waste analytical laboratory for the following analyses: Benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Method 5030/8020 (602); Total Petroleum Hydrocarbons as Diesel (TPH-D) and Total Petroleum Hydrocarbons as Stoddard Solvent (TPH-SS) using EPA Methods 3510/8015.

Extracted groundwater, in excess of that acquired for laboratory analysis, was placed into a covered DOT drum and stored on site pending the receipt of the report of laboratory analysis and the development of an appropriate disposal protocol.

Results of Certified Laboratory Analyses

TPH-D was non-detectable (ND) in all groundwater samples collected on March 28, 1994. The levels of TPH-SS in MW-1 and MW-2 were found to be 150 and 45 parts per billion (ppb), respectively. TPH-SS was ND in MW-3. Varying levels of BTEX were found in each sample, as follows: benzene - 0.8 to 35 ppb; toluene - 0.9 to 40 ppb; ethylbenzene - 5 to 72 ppb; and total xylenes - 10 to 120 ppb. Analytical results for the groundwater samples collected have been summarized in Table II (page 6, above, and Appendix A). Copies of all laboratory results as received from the certified hazardous waste analytical laboratory are enclosed within Appendix B.

CONCLUSIONS AND RECOMMENDATIONS

The level of Total Petroleum Hydrocarbons as Diesel (TPH-D) was found to be below the limits of laboratory detection (ND) in all groundwater samples collected on March 28, 1994.

Total Petroleum Hydrocarbons as Stoddard Solvent (TPH-SS) was detected in samples from two (2) of the three (3) on-site monitoring wells (MW-1 and MW-2), at levels of 150 and 45 parts per billion (ppb), respectively. In the previous round of sampling, TPH-SS levels in samples from these wells were 2,000 and 3,200 ppb. TPH-SS was ND in MW-3 (320 ppb in the previous round).

Varying levels of benzene, toluene, ethylbenzene, and total xylenes (BTEX) were found in each sample, as follows: benzene - 0.8 to 35 ppb; toluene - 0.9 to 40 ppb; ethylbenzene - 5 to 72 ppb; and total xylenes - 10 to 120 ppb. In the two (2) prior sampling events, BTEX levels were ND in all samples collected.

This round of sampling represents only the second consecutive sampling event (third overall) conducted at this location. As such, it is recommended that quarterly groundwater monitoring be continued. The next groundwater sampling event for this site will be scheduled to take place in July, 1994.

Should you have any questions, or if we may otherwise be of assistance, please feel free to contact either of the undersigned at 510-222-1541.

Sincerely,

Bruce A. Tsutsui
President, BT Associates
Registered Environmental Health Specialist (#4522)

Marvin D. Kirkeby
President, Kirkeby Engineering
Registered Civil Engineer (#14001)

REGISTERED PROFESSIONAL ENGINEER
MARVIN D. KIRKEBY
No. 14001
EXP. 3/31/97
CIVIL
STATE OF CALIFORNIA

BT606/ADE3516QMR2/053194

APPENDIX A

FIGURES AND TABLES

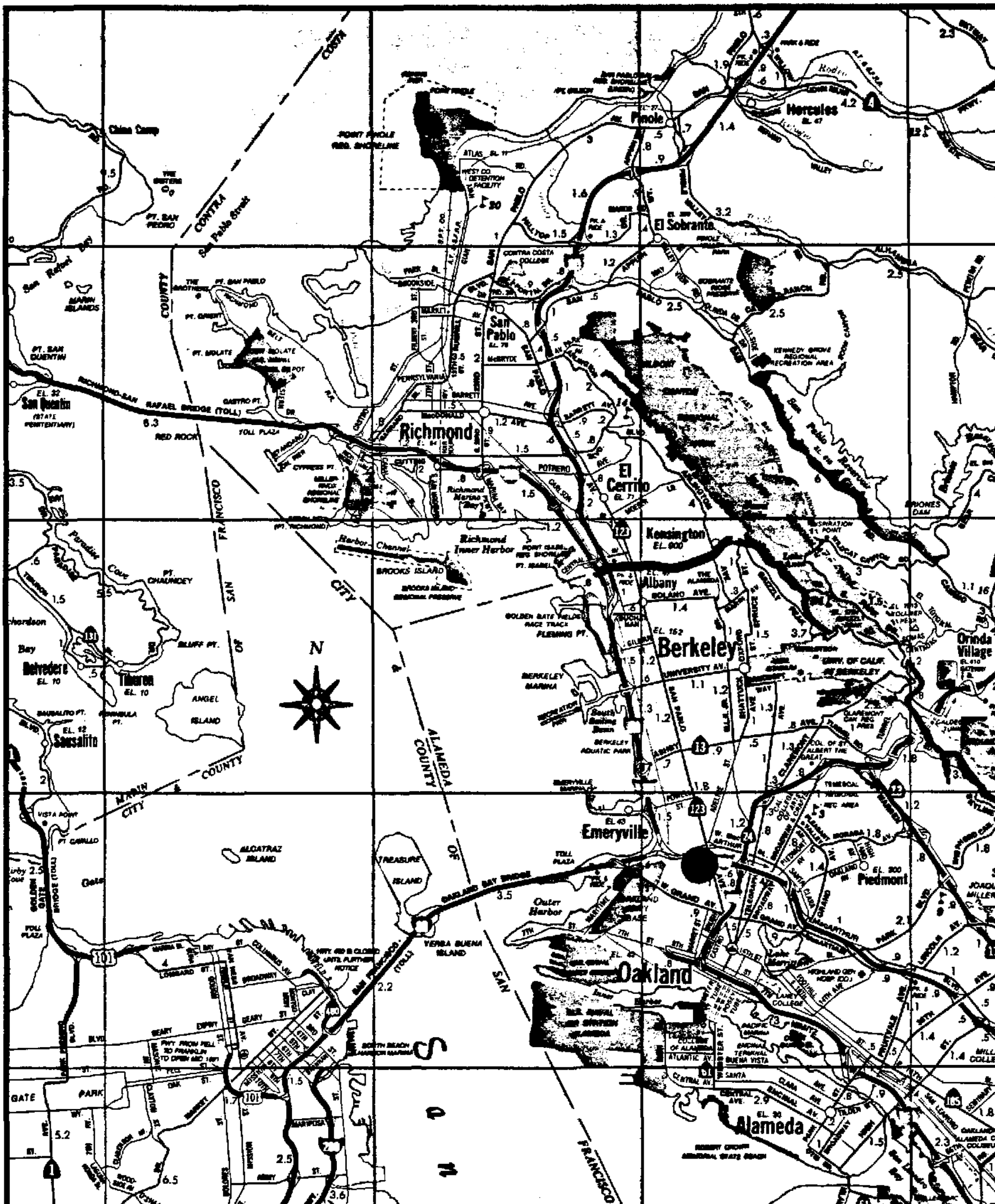


Figure 1 - Regional Map

Colored circle denotes location of 3516 Adeline Street, Oakland, CA

0 2

Scale (miles)

BT Associates

Environmental Services

31 Nightowl Court, Richmond, CA 94803

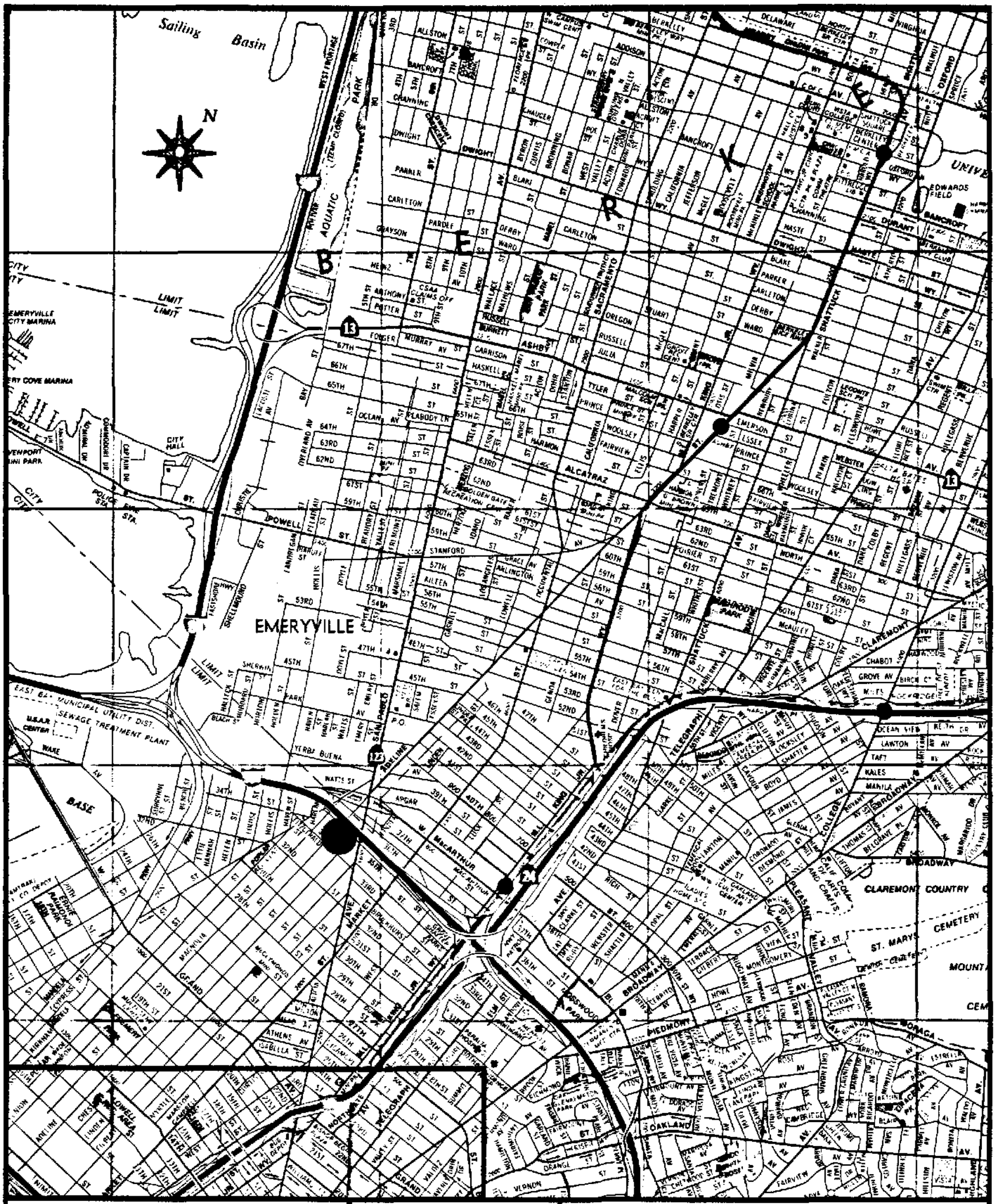


Figure 2 - Locality Map

Colored circle denotes location of 3516 Adeline Street, Oakland, CA

0 0.5

Scale (miles)

BT Associates

Environmental Services

31 Nightowl Court, Richmond, CA 94803

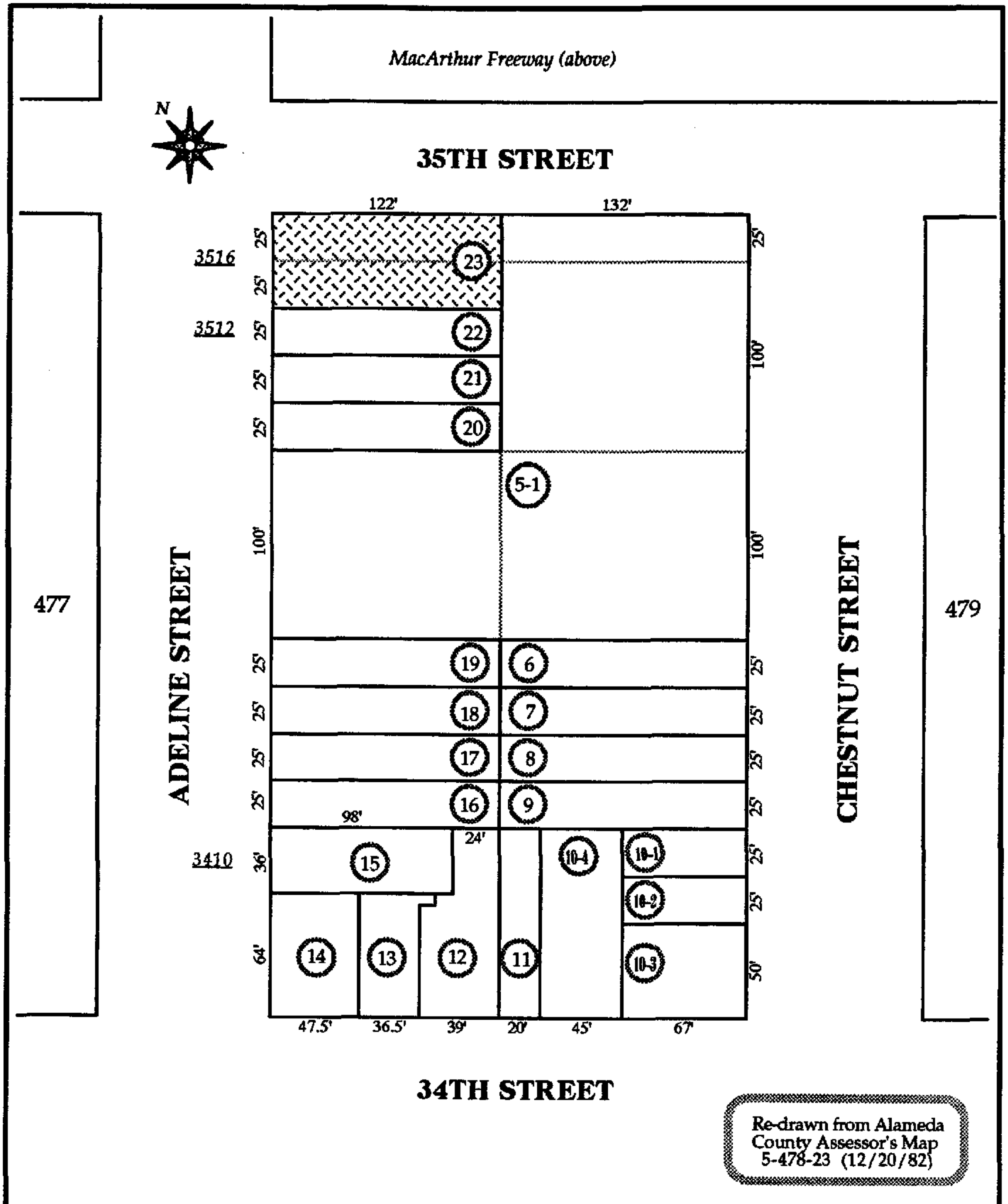


Figure 3 - Detail Map

Location and shape of subject site at 3516 Adeline Street, Oakland, CA

0 75

Approx. scale (feet)

BT Associates

Environmental Services

31 Nightowl Court, Richmond, CA 94803

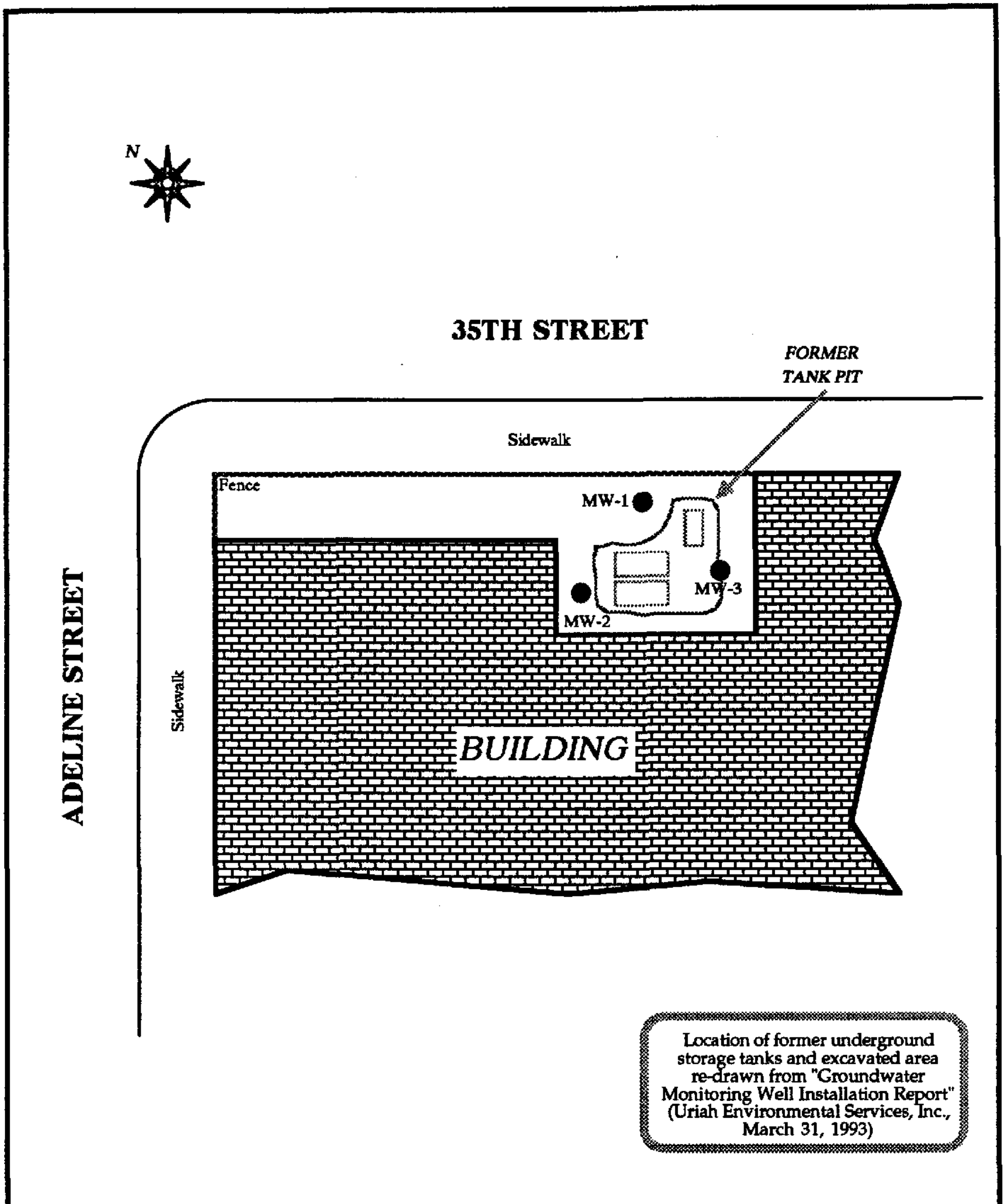
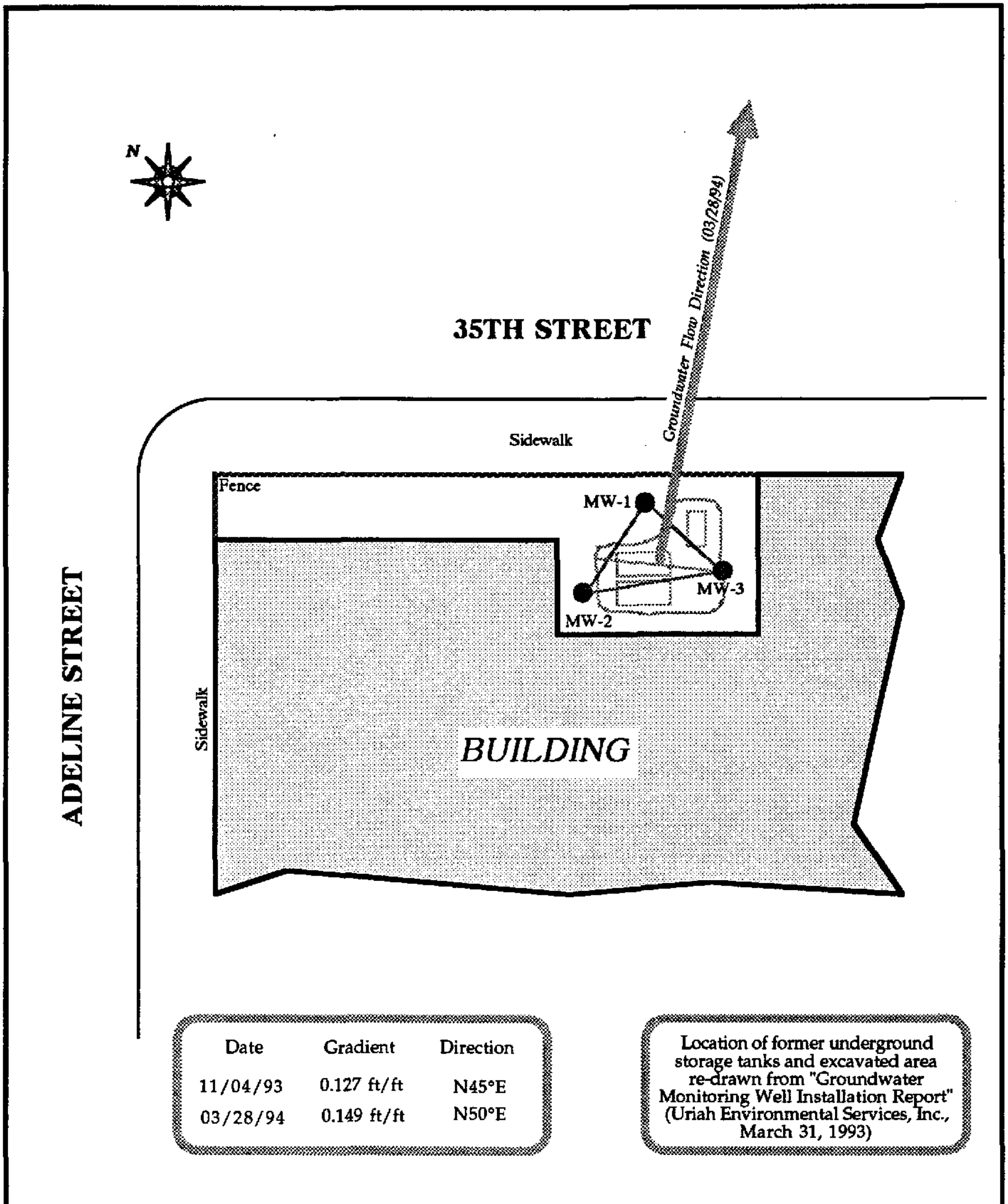


Figure 4 - Detail Map

Location and shape of subject site at 3516 Adeline Street, Oakland, CA

BT Associates
Environmental Services
31 Nightowl Court, Richmond, CA 94803



Date	Gradient	Direction
11/04/93	0.127 ft/ft	N45°E
03/28/94	0.149 ft/ft	N50°E

Figure 5 - Detail Map

Direction of groundwater flow at 3516 Adeline Street, Oakland, CA

0 20

Approx. scale (feet)

BT Associates

Environmental Services

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Table I
Soil Sample Results - Soil Borings for Monitoring Wells
October 29 & 30, 1992 (UES)

Sample I.D.	TPH-SS (ppm)	TPH-D (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	Chl./Dichl.-benzenes (ppb)
MW1-5'	ND	ND	0.3	12	ND	ND	ND
MW1-10'	210	ND	1.1	21	12	ND	23
MW2-5'	ND	ND	ND	63	130	210	740
MW2-10'	17	ND	ND	120	ND	360	ND
MW3-5'	ND	ND	2.4	120	47	160	410
MW3-10'	30	ND	26	550	ND	ND	230
Method Detection Limits	10	10	5	5	5	5	5

TPH-SS = Total Petroleum Hydrocarbons as Stoddard Solvent
TPH-D = Total Petroleum Hydrocarbons as Diesel
ND = Not detected at or above the Method Detection Limit
Chl./Dichl. = Chlorobenzene; 1,3 Dichlorobenzene; 1,4 Dichlorobenzene; and 1,2 Dichlorobenzene

ppm = Parts per million
ppb = Parts per billion

Table II
Groundwater Sampling Results

Well #	Date	Depth to Water (ft)	TPH-D (ppb)	TPH-G (ppb)	TPH-SS (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)
MW-1	11/18/92	13.99	ND	na	1,800	ND	ND	ND	ND
	11/4/93	16.79	ND	ND	2,000	ND	ND	ND	ND
	3/28/94	14.14	ND	na	150	35	40	72	120
MW-2	11/18/92	13.18	ND	na	630	ND	ND	ND	ND
	11/4/93	14.84	ND	ND	3,200	ND	ND	ND	ND
	3/28/94	11.50	ND	na	45	1.4	2	11	19
MW-3	11/18/92	13.93	ND	na	11,000	ND	ND	ND	ND
	11/4/93	15.16	ND	ND	320	ND	ND	ND	ND
	3/28/94	13.43	ND	na	ND	0.8	0.9	5	10
Method Detection Limits	3/28/94	-	50	50	20	0.5	0.5	0.5	0.5
Method of Analysis	(all)	-	3510/ 8015	5030/ 8015	3510/ 8015	602	602	602	602

TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-SS = Total Petroleum Hydrocarbons as Stoddard Solvent
ND = Not detected at or above Method Detection Limit
na = Not analyzed
ppb = Parts per billion

APPENDIX B

REPORTS OF CERTIFIED LABORATORY ANALYSES
CHAIN-OF-CUSTODY AND QA/QC DOCUMENTS
WELL MONITORING FORMS

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

March 30, 1994 PEL # 9403092

BT ASSOCIATES, INC.

Attn: John Rapp
Re: Three water sample for BTEX and TEPH analyses.

Project name: City of Paris Cleaners
Project location: 35th & Adeline, Oakland

Date sampled: Mar 24, 1994
Date extracted: Mar 28-30, 1994

Date submitted: Mar 28, 1994
Date analyzed: Mar 28-30, 1994

RESULTS:

SAMPLE I.D.	Stoddard Solvent (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
MW-1	150	N.D.	35	40	72	120
MW-2	45	N.D.	1.4	2.0	11	19
MW-3	N.D.	N.D.	0.8	0.9	5.0	10
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	---	89.3%	90.6%	74.8%	---	107.2%
Duplicate Spiked Recovery	---	---	79.9%	88.4%	91.7%	84.5%
Detection limit	20	50	0.5	0.5	0.5	0.5
Method of Analysis	3510 / 8015	3510 / 8015	602	602	602	602

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

BT Associates
Environmental Services

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(Office) 510-222-1541 (Fax) 510-525-2178

CHAIN OF CUSTODY

Date: MARCH 24 1994 Page 1 of 1

PROJECT I.D. CITY OF PARIS CLEANERS

ADDRESS 35TH / ADELINE, OAKLAND

SAMPLER'S NAME RAPP / BEYCE

SIGNATURE [signature]

TELEPHONE NUMBER (209) 551-3591

ANALYSIS REQUEST

SAMPLE I.D.	DATE	TIME	MATRIX	TPHG	TPHD	TPHG & BTEX	BTEX	O&G	METALS Cd,Cr Pb,Zn Ni	PURGEABLE HALOCARBONS	VOLATILE ORGANICS	ORGANIC LEAD	TOTAL LEAD	SOLUBLE LEAD	[illegible] SOLVENT				# OF CONTAINERS
MW-1	3-28-94	SEE SAMPLING REPORT	Soil (Water)		x		x								x				3
MW-2	3-24-94		Soil (Water)		x		x								x				3
MW-3	3-24-94		Soil (Water)		x		x								x				3
			Soil Water																
			Soil Water																
			Soil Water																

PEL # 9403092

INV # 24612

LABORATORY INSTRUCTIONS / COMMENTS:

Turn-around Time (Circle One)

Same Day 24 Hrs. 48 Hrs. 72 Hrs. (Normal)

EACH SAMPLE CONSISTS OF A ONE LITER GLASS BOTTLE AND TWO VOAS
SAMPLES MW-2 AND MW-3 HELD UNDER REFRIGERATION AT < 4°C 3/24-28/94

ANALYTICAL LABORATORY PRIORITY ENVIRONMENTAL LABS

CITY MILPITAS

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:
JOHN E. RAPP	Oz Beyce	
Printed Name: BT ASSOCIATES	Printed Name: EPM Tech	Printed Name
Company: [signature]	Company: [signature]	Company
Signature	Signature	Signature
Time 13:50 Date 3-28-94	Time 2:50p Date 3/28/94	Time ___ Date ___

RECEIVED BY:	RECEIVED BY:	RECEIVED BY:
Oz Beyce	VICTOR DUONG	
Printed Name: EPM Tech	Printed Name: [illegible]	Printed Name
Company: [signature]	Company: PEL	Company
Signature	Signature	Signature
Time 13:50p Date 3/28/94	Time 3/28/94 Date 13:50	Time ___ Date ___

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(Office) 510-222-1541

(Fax) 510-525-2178

WELL MONITORING FORM

CLIENT: City of Paris/Champion Family Estate

DATE: March 28, 1994

SITE ADDRESS: 3516 Adeline Street
Oakland, CA

COUNTY REPRESENTATIVE: Ms. Susan Hugo

COUNTY REPRESENTATIVE CONTACTED PRIOR TO SAMPLING? Yes

Note 1: TOTAL WELL DEPTH & DEPTH TO WATER measurements are read to an accuracy of .01' from a straight edge placed in a north-south orientation on top of the christy box.

Note 2: The 0.17 figure used below to convert WATER COLUMN HEIGHT to gallons has units of gallons/linear foot, and is for a 2" diameter, Schedule 40 PVC pipe with an inside diameter of 2.067". Similiarly, use a conversion factor of 0.66 for a 4" pipe, which has a 4.026" I.D.

TOTAL WELL DEPTH 30.08' MONITORING WELL # MW-1

– DEPTH TO WATER 14.14' PURGE METHOD: Disposable Polyethylene Bailer

= WATER COLUMN HEIGHT 15.94' x 0.17 = 2.71 Gallons (1 well volume)

Multiply 1 well volume by 3 to obtain the minimum number of gallons of water to be purged from monitoring well prior to taking samples.

3 x 2.71 = 8.13 Gallons (3 Well Volumes)

TIME	GALLONS	TEMPERATURE (°F)	pH	CONDUCTIVITY µmhos/cm
1205	0	74.8	6.85	1698
1212	2.7	74.6	6.66	1590
1221	5.4	72.4	6.54	1572
1233	8.2	70.9	6.44	1583

* purge water gray in color; significant gas release upon removal of well cap

CONTAMINANT ODOR? Intermittent

TIME OF SAMPLE COLLECTION: 1235

TURBIDITY LEVEL: Moderate

WITNESSED BY: No Witness

SHEEN ON WATER? No

SAMPLER'S SIGNATURE: [signature] (John Rapp)

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WELL MONITORING FORM

CLIENT: *City of Paris/Champion Family Estate*

DATE: *March 28, 1994*

SITE ADDRESS: *3516 Adeline Street*

Oakland, CA

COUNTY REPRESENTATIVE: *Ms. Susan Hugo*

COUNTY REPRESENTATIVE CONTACTED PRIOR TO SAMPLING? *Yes*

Note 1: TOTAL WELL DEPTH & DEPTH TO WATER measurements are read to an accuracy of .01' from a straight edge placed in a north-south orientation on top of the christy box.

Note 2: The 0.17 figure used below to convert WATER COLUMN HEIGHT to gallons has units of gallons/linear foot, and is for a 2" diameter, Schedule 40 PVC pipe with an inside diameter of 2.067". Similiarly, use a conversion factor of 0.66 for a 4" pipe, which has a 4.026" I.D.

TOTAL WELL DEPTH *30.08'* MONITORING WELL # *MW-2*

– DEPTH TO WATER *11.50'* PURGE METHOD: *Disposable Polyethylene Bailer*

= WATER COLUMN HEIGHT *18.58'* x 0.17 = *3.16* Gallons (1 well volume)

Multiply 1 well volume by 3 to obtain the minimum number of gallons of water to be purged from monitoring well prior to taking samples.

3 x *3.16* = *9.48* Gallons (3 Well Volumes)

TIME	GALLONS	TEMPERATURE (°F)	pH	CONDUCTIVITY μmhos/cm
1445	0	61.6	7.36	1570
1450	3.2	61.6	7.04	1560
1500	6.4	62.2	6.93	1490
1505	9.5	62.5	7.04	1560

* odor like anaerobic decomposition

CONTAMINANT ODOR? *Yes**

TURBIDITY LEVEL: *Moderate*

SHEEN ON WATER? *No*

TIME OF SAMPLE COLLECTION: *1508*

WITNESSED BY: *No Witness*

SAMPLER'S SIGNATURE: [signature]

(John Rapp)

BT Associates
Environmental Services

31 Nightowl Court, Richmond, CA 94803

(Office) 510-222-1541

(Fax) 510-525-2178

WELL MONITORING FORM

CLIENT: *City of Paris/Champion Family Estate*

DATE: *March 28, 1994*

SITE ADDRESS: *3516 Adeline Street*

Oakland, CA

COUNTY REPRESENTATIVE: *Ms. Susan Hugo*

COUNTY REPRESENTATIVE CONTACTED PRIOR TO SAMPLING? *Yes*

Note 1: TOTAL WELL DEPTH & DEPTH TO WATER measurements are read to an accuracy of .01' from a straight edge placed in a north-south orientation on top of the christy box.

Note 2: The 0.17 figure used below to convert WATER COLUMN HEIGHT to gallons has units of gallons/linear foot, and is for a 2" diameter, Schedule 40 PVC pipe with an inside diameter of 2.067". Similiarly, use a conversion factor of 0.66 for a 4" pipe, which has a 4.026" I.D.

TOTAL WELL DEPTH *30.18'* MONITORING WELL # *MW-3*

− DEPTH TO WATER *13.43'* PURGE METHOD: *Disposable Polyethylene Bailer*

= WATER COLUMN HEIGHT *16.75'* x 0.17 = *2.85* Gallons (1 well volume)

Multiply 1 well volume by 3 to obtain the minimum number of gallons of water to be purged from monitoring well prior to taking samples.

3 x *2.85* = *8.55* Gallons (3 Well Volumes)

TIME	GALLONS	TEMPERATURE (°F)	pH	CONDUCTIVITY µmhos/cm
1518	0	59.1	7.10	1370
1523	3	60.8	6.82	1430
1536	6	61.7	6.85	1400
1544	9	59.5	7.55	1320

* some gas release upon removal of well cap

CONTAMINANT ODOR? *Minor*

TURBIDITY LEVEL: *Moderate*

SHEEN ON WATER? *No*

TIME OF SAMPLE COLLECTION: *1545*

WITNESSED BY: *No Witness*

SAMPLER'S SIGNATURE: [signature]

(John Rapp)