

# BT Associates

Environmental Services

ENVIRONMENTAL  
PROTECTION

95 MAR 13 PM 3:42

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

## QUARTERLY GROUNDWATER MONITORING WELL SAMPLING REPORT FOR:

1435 WEBSTER STREET  
ALAMEDA, CA

(December 30, 1994)

*In Sep 1994 GW to NW  
In Dec 1994 GW to NE  
probably need MW N of  
former excavation*

## SITE DESCRIPTION

1435 Webster Street is located in the northwest portion of the City of Alameda, which is in Alameda County, California (Figures 1 and 2). This address is on the northwest corner of the intersection of Webster and Taylor Streets, and occupies Alameda County Assessor's Parcel number 74-427-51 (Figure 3). It is 1.5 miles south of the Webster Street Tunnel, approximately 3.0 miles south of Interstate Highway 880, and 1.0 mile southeast of the former U.S. Naval Air Station. The subject site is currently a City of Alameda public parking lot (street level only). Property use in the area is multi-purpose in nature with commercial, residential, and light industrial usage.

## GEOLOGY AND HYDROGEOLOGY

The subject site is located on bay plain deposits approximately 1/4 mile east of the San Francisco Bay. The bay is a drowned valley which is thought to have been originally formed by erosion of the ancestral Sacramento River and subsequently widened by subsidence and rise in the level of the sea. Quaternary (Pleistocene to recent) sediments deposited in what is now San Francisco Bay include both shallow marine and continental deposits known as "Bay Mud". The geologic deposits encountered during drilling in January of 1993 consisted primarily of fine to medium, loose to medium-dense, poorly-sorted, brown sand with some gravel. Groundwater was encountered at 11.5 feet below ground surface (bgs).

## OVERVIEW OF PREVIOUS ENVIRONMENTAL COMPLIANCE ACTIVITIES PERFORMED AT THE SITE

### Removal of Underground Storage Tanks

On October 11, 1988, CHIPS Environmental Consultants, Inc. performed soil gas analyses at the subject site at the request of Accutite Tank Testing and Maintenance Services (a division of Olympian Oil Company) of South San Francisco. The CHIPS study was specific to the area occupied by two (2) 10,000-gallon underground gasoline storage tanks, one 7,500-gallon underground diesel storage tank, and one 500-gallon waste oil tank. High soil gas readings were obtained on the east side of one of two (2) gasoline pump islands, between the islands, and from the backfill between the gasoline storage tanks at both 8 and 11 feet below ground surface (bgs). Soil gas concentrations on the west side of the tank pits were relatively low.

All underground storage tanks were removed during September of 1989. Soil samples acquired for certified laboratory analyses attendant to the removal of the tanks contained concentrations of Total Petroleum Hydrocarbons as Gasoline (TPH-G) to 220 parts per million (ppm), Total Petroleum Hydrocarbons as Diesel (TPH-D) to 430 ppm, and 650 ppm Total Oil and Grease (TOG).

### Over-excavation of the Former Tank Pits and Attendant Sampling

On January 11, 15, and 23, 1991, exploratory/remedial excavations of the fuel hydrocarbon contaminated soil were conducted by AAA Tank Removal/Forcade Excavation Services (California licensed contractors) under the direction of a staff geologist from Uriah Environmental Services, Inc. (UES) of Livermore/Modesto. The work performed was done in accordance with a workplan previously submitted to, and approved by, the Alameda County Health Care Services Agency (ACoHCSA).

Approximately 550 cubic yards of contaminated soil was removed from the area of the pit(s) previously occupied by the underground storage tanks. At that time, the dimensions of the excavation measured 34'(W) x 40'(L) x 18'(D). No further excavation was undertaken as the surface of the site was fully occupied by treatment beds constructed for the biological detoxification of previously excavated soil.

Following the bioremediation of the previously excavated soil, excavation activities resumed on September 23-25, 1991. All work was performed by W.A. Craig, Inc. (a California licensed contractor), under the direction of a UES staff hydrogeologist. The excavation was expanded to 34' (W) x 55' (L) x 18' (D), and an additional 300 cubic yards of contaminated soil was removed. During the course

of the expanded excavation, contamination was observed to be confined to sandy clay lenses that were present at various depths along the south wall of the pit.

On September 27, 1991, four (4) discrete soil samples were acquired from the sidewalls of the expanded excavation. These samples were found to be free of detectable concentrations of TPH-G, TOG, and benzene, toluene, ethylbenzene, and total xylenes (BTEX), but contained 21-24 ppm TPH in the diesel range. The "non-standard diesel pattern" reported by the laboratory was previously compared to a tar wrap fabric by running comparative chromatographic standards. This comparative study appeared to confirm the hypothesis that the "non-standard" TPH-D range material detected was composed of partially-degraded, extractable hydrocarbons which comprise a portion of the tar wrap material.

A soil sample acquired from the floor of the expanded excavation was found to contain benzene at 120 parts per billion (ppb), toluene at 16 ppb, and ethylbenzene at 23 ppb.

### **Bioremediation of Hydrocarbon-Contaminated Soil**

Following the excavation of contaminated soil in January, 1991, this material and approximately 50 cubic yards of stockpiled soil remaining from the underground storage tank excavation was configured on-site in quadrilateral beds atop bermed, hydrocarbon-resistant liners. The treatment beds were inoculated with a bio-nutrient solution containing common, non-pathogenic, hydrocarbon-utilizing soil bacteria and a dilute commercial fertilizer solution. During the course of treatment, the soil was monitored to determine rates of degradation, soil temperature, moisture, pH, and nutrient levels.

On September 20, 1991, soil samples were acquired and submitted for uncertified analyses. Levels of TPH-G were found to be below the detection limit of 10 ppm, while concentrations of TPH-Oil had been reduced to below the detection limit of 50 ppm. Based upon these results, twelve (12) discrete samples (one for every 50 cubic yards of soil under treatment) were obtained for certified analyses. All samples were free of detectable concentrations of TPH-G, BTEX, and TOG. Ten (10) of twelve (12) samples were found to be free of detectable concentrations of TPH-D, with the two (2) remaining samples containing 16 and 44 ppm TPH-D, respectively. According to UES (and as noted above), these levels of "TPH-D" were not represented by a chromatographic pattern typical of diesel fuel and represented, instead, partially degraded tar wrap.

On December 2, 1991, ten (10) discrete soil samples (one for every 20 cubic yards of soil under treatment) were acquired from approximately 200 cubic yards of contaminated soil remaining under treatment. All samples were found to be free of detectable concentrations of the referenced analytes.

For additional and/or more specific information regarding these sampling and remediation activities (sample locations, methodologies, etc.), please refer to the aforementioned UES workplan and the UES Report, "Installation of Three Groundwater Monitoring Wells" (March 25, 1993).

### **Installation of Groundwater Monitoring Wells**

On January 11 and 12, 1993, three (3) soil borings were advanced on the subject site under the direction of a UES staff hydrogeologist. Discrete soil samples were collected at five-foot intervals between the ground surface and the top of the capillary fringe. The samples collected were submitted for certified analyses for TPH-D, TPH-G, BTEX, and TOG. All samples were found to be free of detectable concentrations of the referenced analytes.

Following completion of the drilling and soil sampling, each boring was converted into a 2-inch inside-diameter groundwater monitoring well (Figure 4). All work performed was done under the authority of a permit (#92664) issued by the Alameda County Zone 7 Water Resources Agency.

For additional and/or more specific information regarding these borings (boring logs, well construction details, etc.), please refer to the UES Report, "Installation of Three Groundwater Monitoring Wells" (March 25, 1993).

### **COMPLIANCE MONITORING/ON-SITE GROUNDWATER MONITORING WELLS**

According to information made available to BT Associates, the on-site groundwater monitoring wells were developed and sampled by UES at the end of the first quarter of 1993. At the time of this report, however, analytical results for the initial groundwater samples collected were not available. In April of 1993, UES ceased business operations. In May of 1993, the sampling and reporting responsibilities for the subject site were assumed by BT Associates.

BT Associates first collected groundwater samples from the on-site monitoring wells on June 3, 1993. Subsequent sampling activities were placed on hold until the on-site monitoring wells could be surveyed with respect to mean sea level datum. This work was delayed, however, pending resolution of a separate billing issue between the property owner and the company that was to conduct the survey (as obtaining similar service from another company was also not requested). This issue was eventually resolved and the survey was completed on September 14, 1994. Following notification of ACoHCSA, BT Associates resumed sampling activities at the subject site. The most recent sampling event at this location was conducted on December 30, 1994. On that date, the hydraulic

gradient was calculated as 0.0035 ft./ft., and the direction of groundwater flow was determined to be to the northeast (N19°E). Analytical results for the samples collected at the subject site are summarized in Table I, below:

**Table I - Groundwater Sampling Results**

Well #	Date	Depth to Water (ft)	TPH-G (ppb)	TPH-D (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Total Xylenes (ppb)	TOG (ppm)
MW-1	6/3/93	na	(Well inaccessible - vehicle parked over well several days)						
	9/14/94	11.46	14,000	ND	44	28	25	50	0.8
	12/30/94	9.22	4,000	ND	12	9	6.8	30	ND
MW-2	6/3/93	9.54	ND	ND	5.8	ND	ND	ND	ND
	9/14/94	11.82	ND	ND	ND	ND	ND	ND	ND
	12/30/94	9.46	160	ND	1.4	1.4	0.8	5	ND
MW-3	6/3/93	9.80	ND	ND	ND	ND	ND	ND	ND
	9/14/94	12.19	ND	ND	ND	ND	ND	ND	ND
	12/30/94	9.72	ND	ND	ND	ND	ND	ND	ND
Method Detection Limits	-	-	50	50	0.5	0.5	0.5	0.5	0.5
Method of Analysis	-	-	5030/ 8015	3510/ 8015	602	602	602	602	5520 C&F
TPH-G = Total Petroleum Hydrocarbons as Gasoline			na = Not analyzed/requested						
TPH-D = Total Petroleum Hydrocarbons as Diesel			ppb = Parts per billion						
TOG = Total Oil and Grease			ppm = Parts per million						
ND = Not detected at or above the Method Detection Limit									

**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. Over 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 well 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 two (2) Volatile Organic Analysis (VOA) vials and a one-liter, amber glass bottle. Each sample container was promptly sealed with a teflon-lined screw cap, labeled, placed on ice in an insulated container, and transported under chain-of-custody to a California state-certified hazardous waste analytical laboratory for analysis for Total Petroleum Hydrocarbons as Gasoline (TPH-G), benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Methods 5030/8015-8020 (602); Total Petroleum Hydrocarbons as Diesel (TPH-D) using EPA Methods 3510/8015; and Total Oil and Grease (TOG) using EPA Method 5520.

Extracted groundwater, in excess of that acquired for laboratory analysis, was taken to Modesto and introduced into a bioreactor currently developing liquid inoculum for use in bioremediation operations.

### **Results of Certified Laboratory Analyses**

The levels of all target analytes were found to be non-detectable (ND) in the groundwater sample collected from MW-3 on December 30, 1994. The level of Total Petroleum Hydrocarbons as Diesel (TPH-D) was also ND in the samples from MW-1 and MW-2. Total Petroleum Hydrocarbons as Gasoline (TPH-G) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) were detected in MW-1 and MW-2, as follows: TPH-G - 4,000 parts per billion (ppb) and 160 ppb; benzene - 12 and 1.4 ppb; toluene - 9 and 1.4 ppb; ethylbenzene - 6.8 and 0.8 ppb; and total xylenes - 30 and 5 ppb. The level of Total Oil and Grease (TOG) was found to be ND in samples from all three (3) wells. Analytical results for the groundwater samples collected have been summarized in Table I (page 5, 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 levels of Total Petroleum Hydrocarbons as Diesel (TPH-D) and Total Oil and Grease (TOG) were found to be below the limits of laboratory detection (ND) in all groundwater samples collected on December 30, 1994.

Total Petroleum Hydrocarbons as Gasoline (TPH-G) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) were detected in MW-1 at the following levels: TPH-G - 4,000 parts per billion (ppb); benzene - 12 ppb; toluene - 9 ppb; ethylbenzene - 6.8 ppb; and total xylenes - 30 ppb. TPH-G was

detected in MW-2 at 160 ppb. The levels of BTEX constituents in MW-2 was as follows: benzene - 1.4 ppb; toluene - 1.4 ppb; ethylbenzene - 0.8 ppb; and total xylenes - 5 ppb.

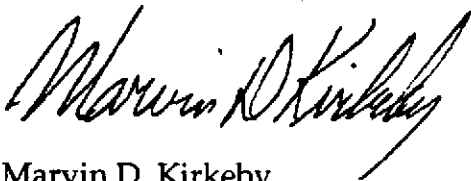
As the sampling conducted on December 30, 1994, represents only the third sampling event for the subject site, it is recommended that quarterly groundwater monitoring be continued. The next groundwater sampling event for this site will be scheduled to take place in late March, 1995.

Should you have any questions, 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)



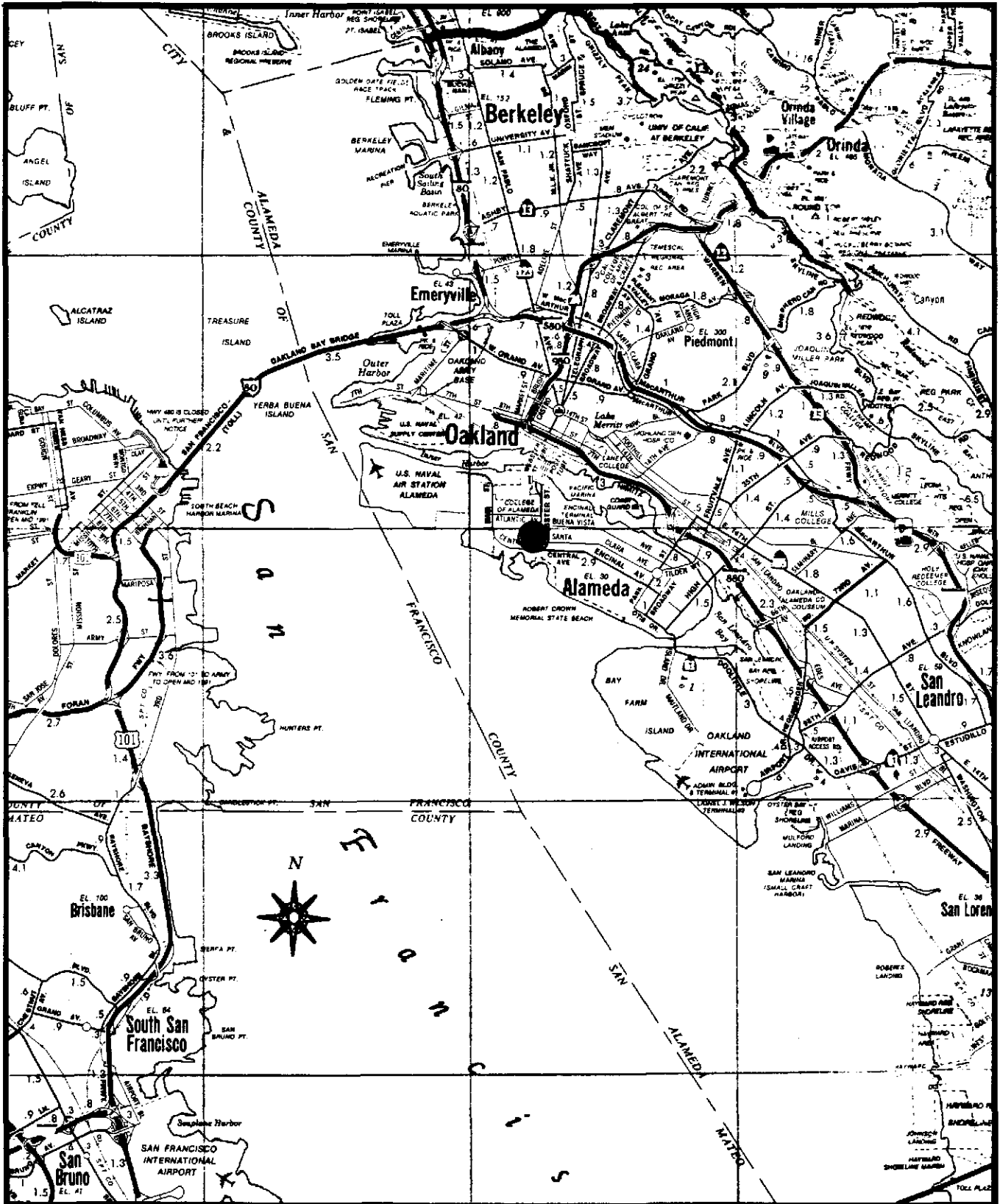
Marvin D. Kirkeby  
President, Kirkeby Engineering  
Registered Civil Engineer (#14001)



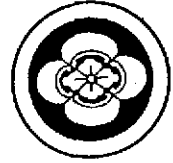
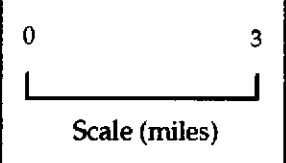
**APPENDIX A**

**FIGURES AND TABLES**





**Figure 1 - Regional Map**  
 Colored circle denotes location of  
 1435 Webster Street,  
 Alameda, CA



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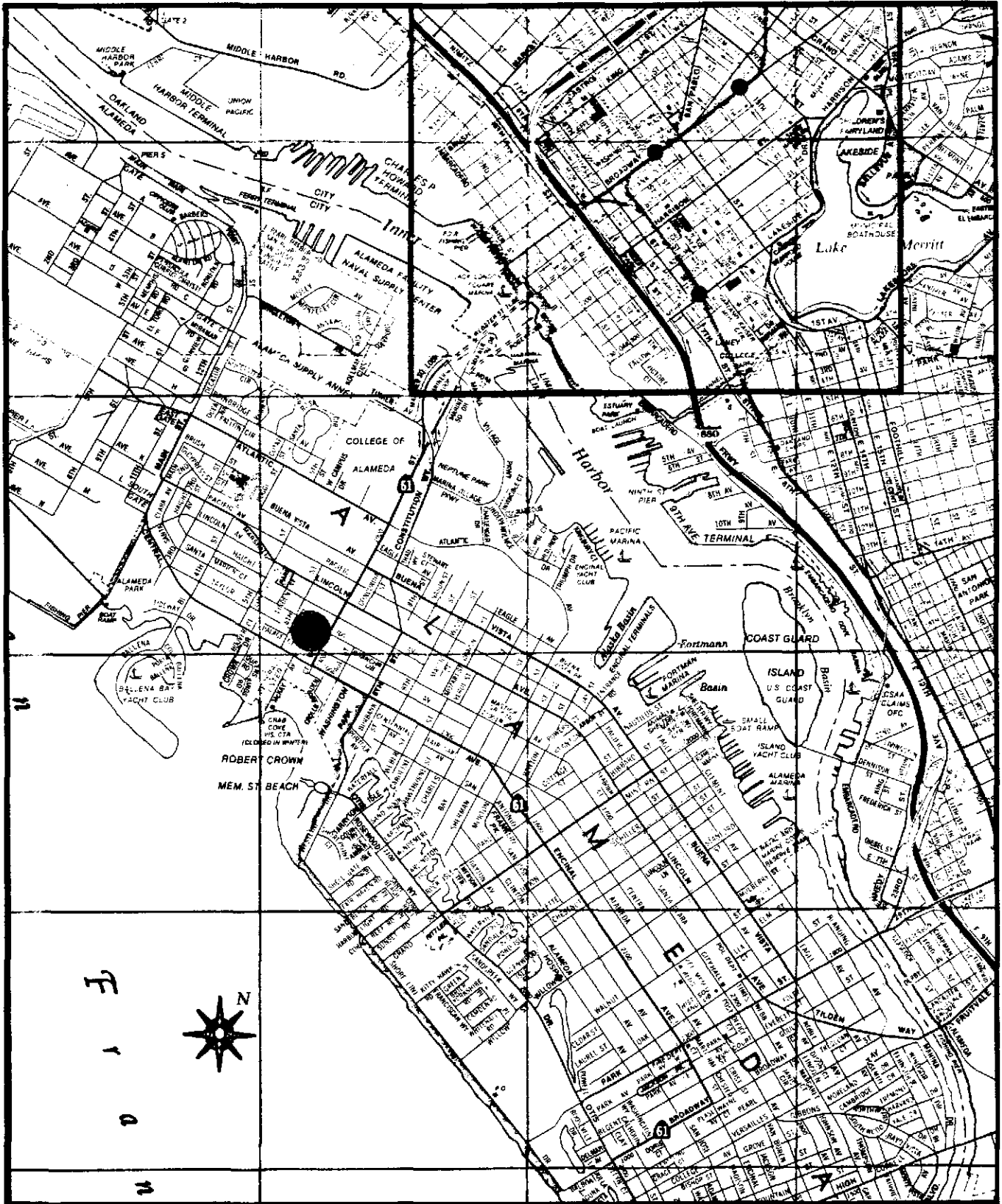
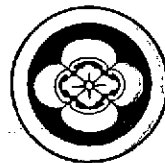
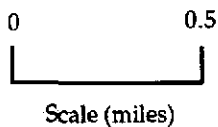
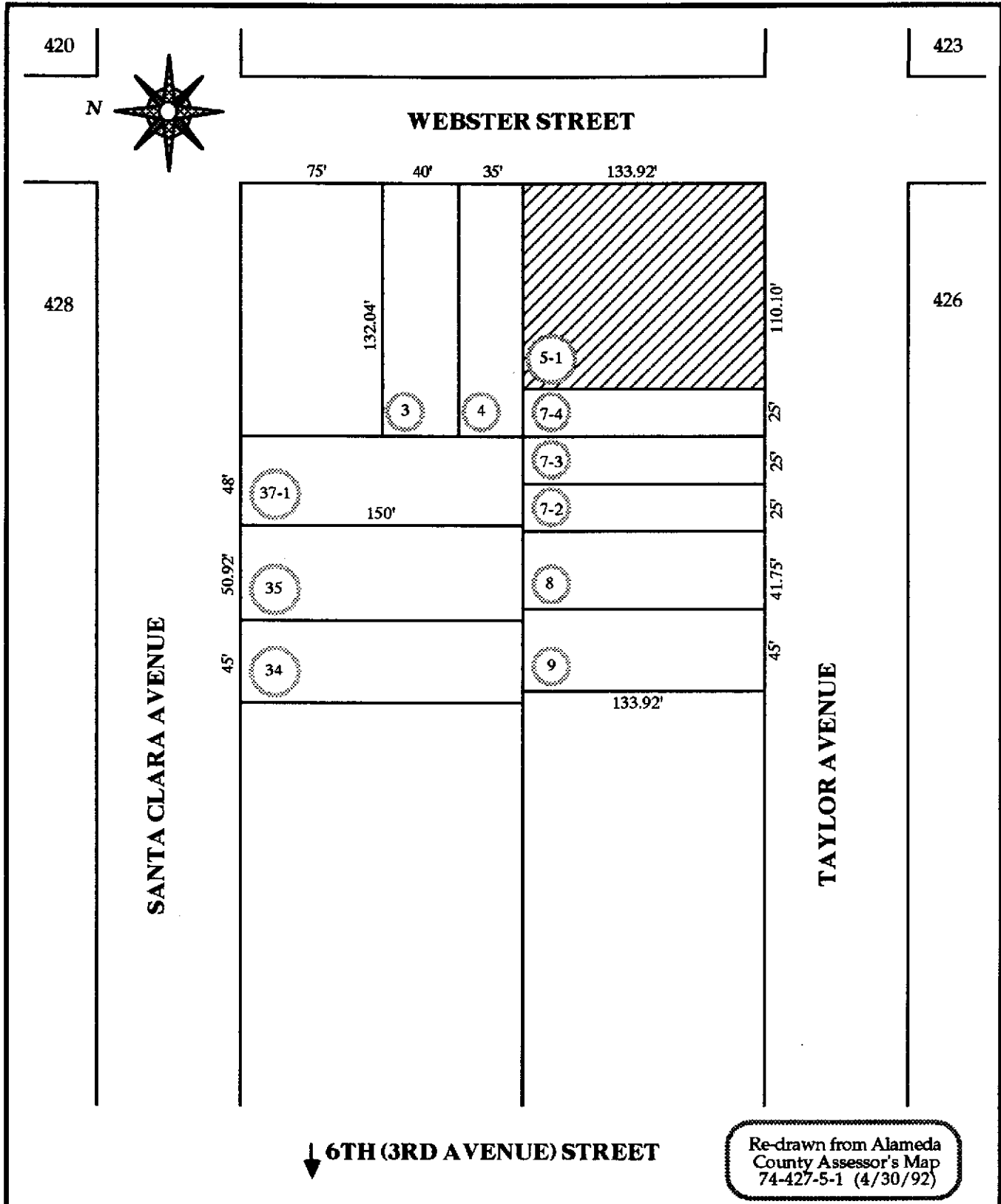


Figure 2 - Locality Map  
 Colored circle denotes location of  
 1435 Webster Street,  
 Alameda, CA



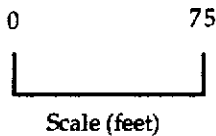
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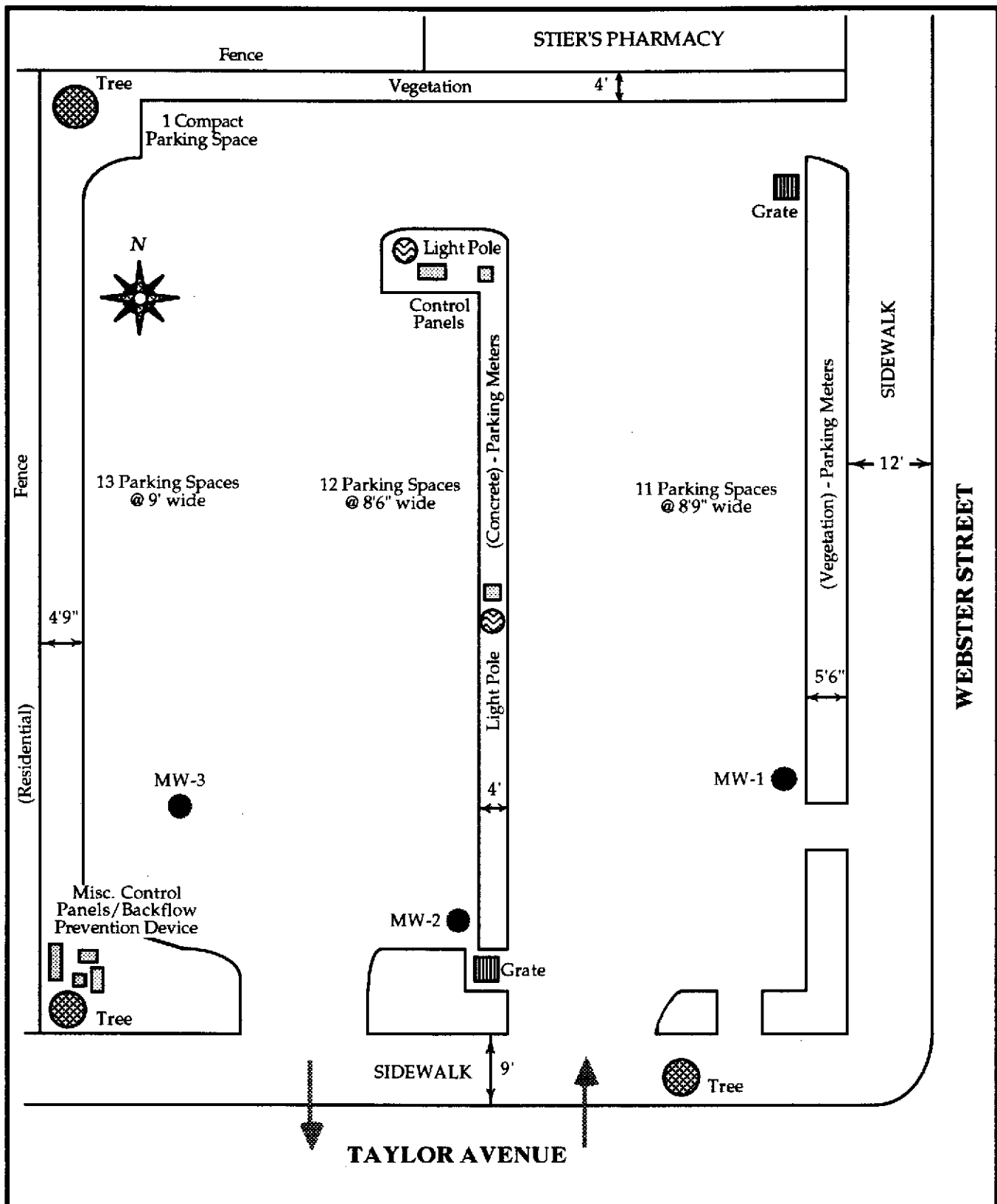
**Figure 3 - Detail Map**

Location and shape of subject site  
at 1435 Webster Street,  
Alameda, CA

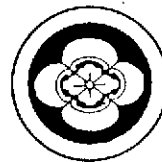
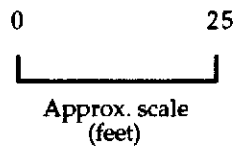


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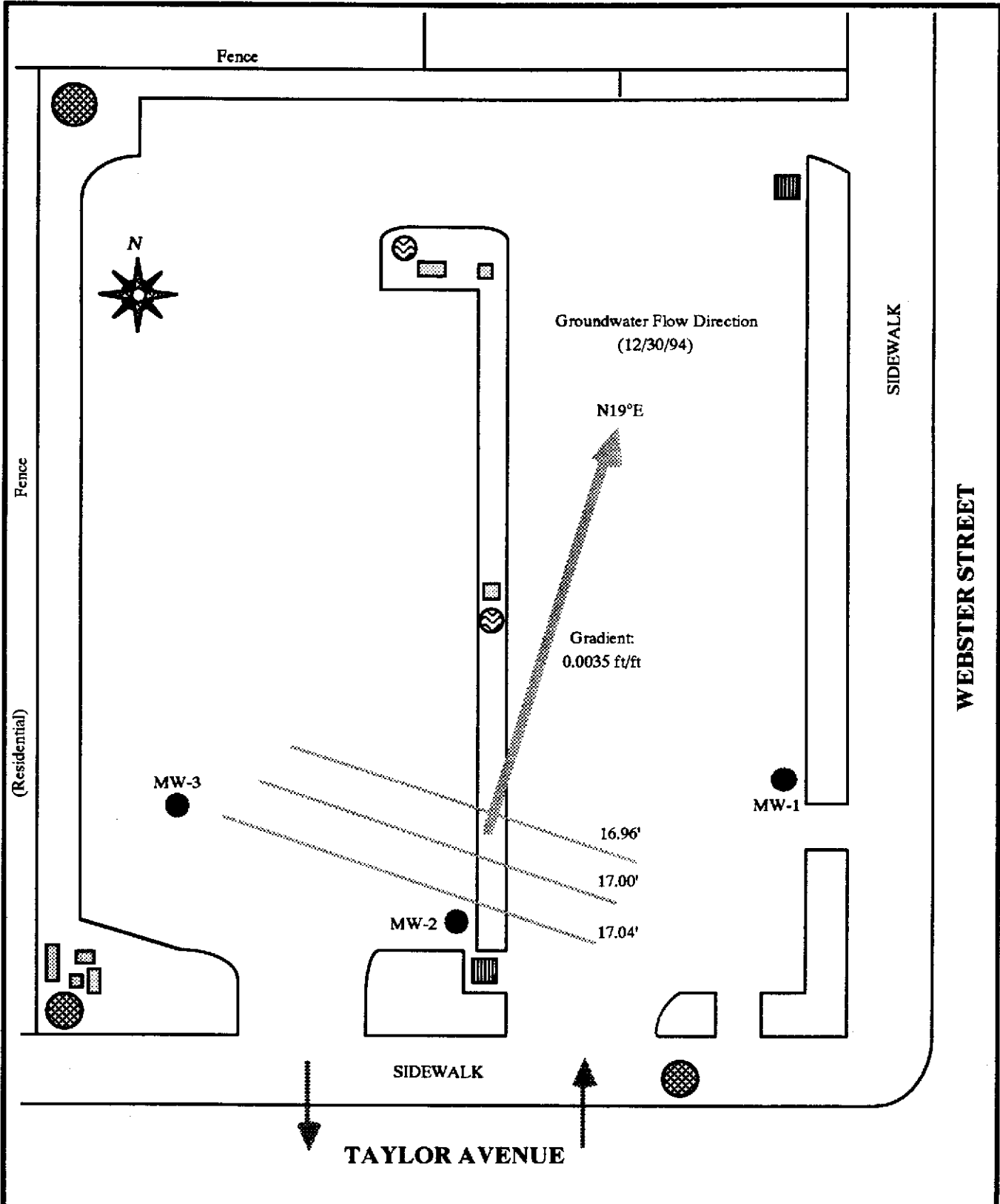
31 Nightowl Court, Richmond, CA 94803



**Figure 4 - Detail Map**  
 Location and shape of subject site  
 at 1435 Webster Street,  
 Alameda, CA

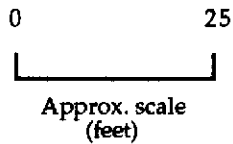


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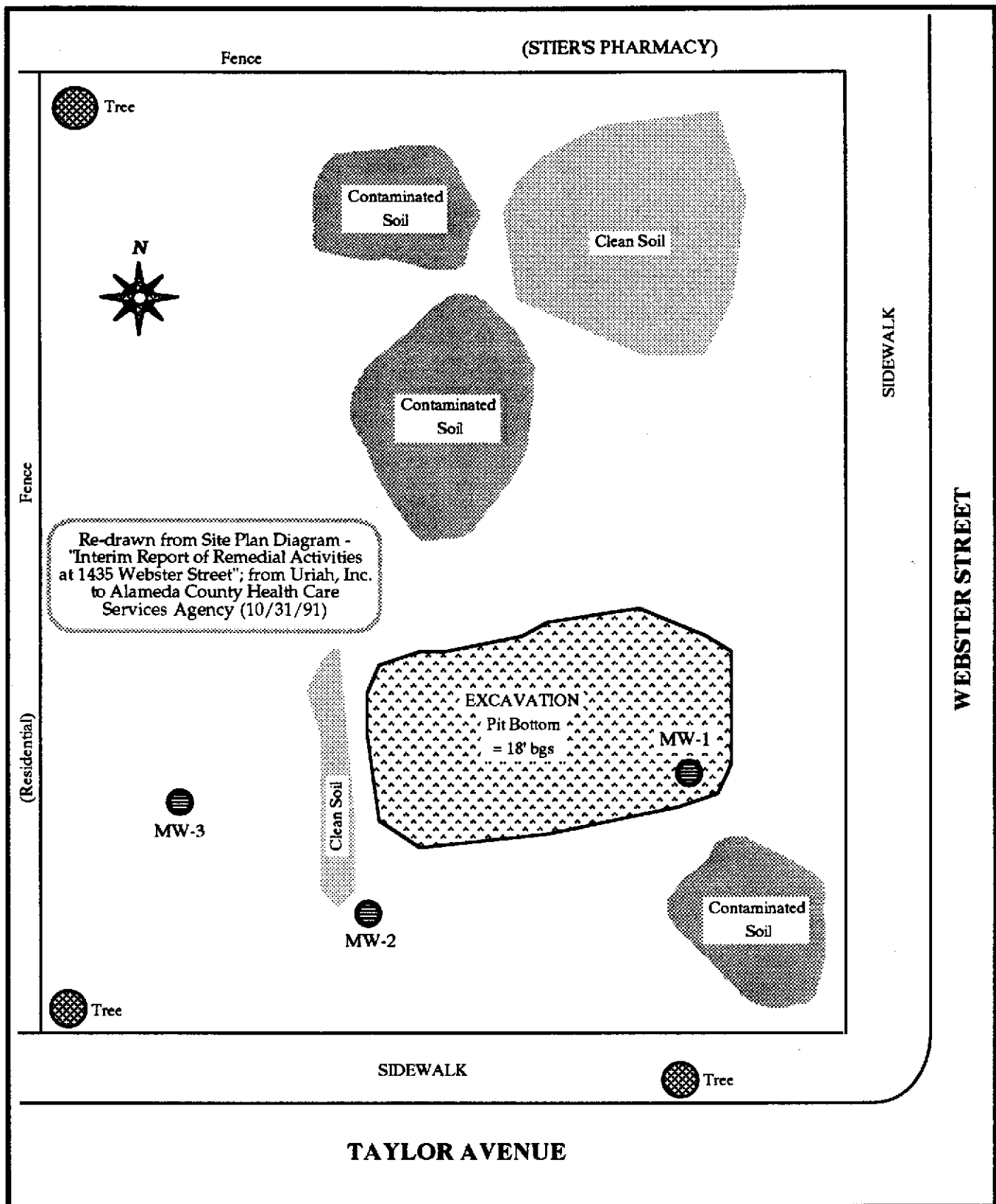
**Figure 5 - Detail Map**

Direction of groundwater flow  
beneath subject site  
at 1435 Webster Street,  
Alameda, CA

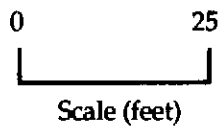


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**Figure 6 - Detail Map/Overlay**  
 Excavation and stockpile locations after  
 9/23/91 with present locations of  
 groundwater monitoring wells  
 at 1435 Webster Street, Alameda, CA



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Table I - Groundwater Sampling Results

Well #	Date	Depth to Water (ft)	TPH-G (ppb)	TPH-D (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Total Xylenes (ppb)	TOG (ppm)
MW-1	6/3/93	na	(Well inaccessible - vehicle parked over well several days)						
	9/14/94	11.46	14,000	ND	44	28	25	50	0.8
	12/30/94	9.22	4,000	ND	12	9	6.8	30	ND
MW-2	6/3/93	9.54	ND	ND	5.8	ND	ND	ND	ND
	9/14/94	11.82	ND	ND	ND	ND	ND	ND	ND
	12/30/94	9.46	160	ND	1.4	1.4	0.8	5	ND
MW-3	6/3/93	9.80	ND	ND	ND	ND	ND	ND	ND
	9/14/94	12.19	ND	ND	ND	ND	ND	ND	ND
	12/30/94	9.72	ND	ND	ND	ND	ND	ND	ND
Method Detection Limits	-	-	50	50	0.5	0.5	0.5	0.5	0.5
Method of Analysis	-	-	5030/ 8015	3510/ 8015	602	602	602	602	5520 C&F
TPH-G = Total Petroleum Hydrocarbons as Gasoline					na = Not analyzed/requested				
TPH-D = Total Petroleum Hydrocarbons as Diesel					ppb = Parts per billion				
TOG = Total Oil and Grease					ppm = Parts per million				
ND = Not detected at or above the Method Detection Limit									

**APPENDIX B**

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





# PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

January 05, 1995

PEL # 9501001

BT ASSOCIATES

Attn: Bruce Tsutsui

Re: Three water samples for Gasoline/BTEX, Diesel, and Oil & Grease analyses.

Project name: Ferrar / Olympian

Project location: 1435 Webster St., - Alameda, CA.

Date sampled: Dec 30, 1994

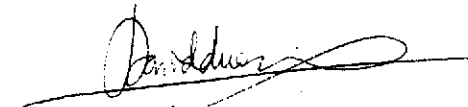
Date submitted: Jan 03, 1995

Date extracted: Jan 03-04, 1995

Date analyzed: Jan 03-04, 1995

## RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	Oil & Grease (mg/L)
MW-1	4000	N.D.	12	9.0	6.8	30	N.D.
MW-2	160	N.D.	1.4	1.4	0.8	5.0	N.D.
MW-3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	86.6%	101.2%	88.3%	90.2%	91.0%	100.5%	---
Detection limit	50	50	0.5	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	3510 / 8015	602	602	602	602	5520 C & F

  
David Duong  
Laboratory Director



**BT Associates**  
Environmental Services

311  
Rich  
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PEL # 9501001

INV # 25567

**IN OF CUSTODY**

Date: JAN. 3, 1994 Page 1 of 1

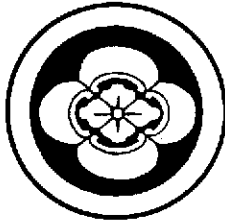
PROJECT I.D. <u>Fennar/Olympian</u>				ANALYSIS REQUEST												# OF CONTAINERS			
ADDRESS <u>1435 Webster Street, Abingdon</u>				T P H G	T P H D	T P H G & B T E X	B T E X	O & G	M E T A L S	P H A R L G O A C B A L R B O N S	V O R G A N I C L E A D	O R G A N I C L E A D	T O T A L L E A D	S O L U B L E L E A D					
SAMPLER'S NAME <u>Bruce Teufel</u>																			
SIGNATURE <u>Bruce A. Teufel</u>																			
TELEPHONE NUMBER <u>510-222-1541 (P) 510-525-2178</u>																			
SAMPLE I.D.	DATE	TIME	MATRIX																
MW-1	12-30-94	12:00 PM	Soil <u>Water</u>		X	X		X										3	
MW-2	12-30-94	12:00 PM	Soil <u>Water</u>		X	X		X										3	
MW-3	12-30-94	12:00 PM	Soil <u>Water</u>		X	X		X										3	
			Soil Water																
			Soil Water																
			Soil Water																

<b>LABORATORY INSTRUCTIONS / COMMENTS:</b>  Turn-around Time (Circle One) Same Day 24 Hrs. 48 Hrs. 72 Hrs. <u>(Normal)</u>  <u>2 Vials, 1 liter amber bottle per sample held under refrigeration at less than 4C 12/30/94 - 1/2/95</u>	<b>RELINQUISHED BY:</b> <u>Bruce A. Teufel</u> Printed Name <u>BT Associates</u> Company <u>Bruce A. Teufel</u> Signature Time <u>12:00</u> Date <u>1/3/95</u>	<b>RELINQUISHED BY:</b> _____ Printed Name _____ Company _____ Signature _____ Date _____	<b>RELINQUISHED BY:</b> _____ Printed Name _____ Company _____ Signature _____ Date _____
	<b>RECEIVED BY:</b> <u>Victor Duong</u> Printed Name <u>Victor Duong</u> Company <u>PEZ</u> Signature Time <u>12:00</u> Date <u>1/3/95</u>	<b>RECEIVED BY:</b> _____ Printed Name _____ Company _____ Signature _____ Date _____	<b>RECEIVED BY:</b> _____ Printed Name _____ Company _____ Signature _____ Date _____

<b>ANALYTICAL LABORATORY</b> <u>Priority Env. Labs</u> <b>CITY</b> <u>Milpitas</u>
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# BT Associates

Environmental Services

31 Nightowl Court, Richmond, CA 94803

(Office)  
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(Fax)  
510-525-2178

## WELL MONITORING FORM

CLIENT: Ferrar Property

DATE: December 30, 1994

SITE ADDRESS: 1435 Webster Street

COUNTY REPRESENTATIVE: Ms. Eva Chu

Alameda, CA

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". Similarly, use a conversion factor of 0.66 for a 4" pipe, which has a 4.026" I.D.

TOTAL WELL DEPTH 23.18' MONITORING WELL # MW-1  
 - DEPTH TO WATER 9.22' PURGE METHOD: Disposable Polyethylene Bailer  
 = WATER COLUMN HEIGHT 13.96' x 0.17 = 2.37 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 2.37 = 7.11 Gallons (3 Well Volumes)

TIME	GALLONS	TEMPERATURE (°F)	pH	CONDUCTIVITY $\mu$ mhos/cm
1215	0	67.2	6.89	4620
1228	2.4	66.2	6.43	4980
1240	4.8	66.8	6.08	5090
1300	7.2	65.4	5.99	5090

\* gray color after one gallon

CONTAMINANT ODOR? No

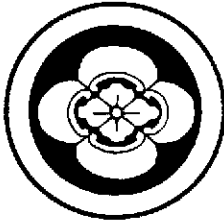
TIME OF SAMPLE COLLECTION: 1305

TURBIDITY LEVEL: Moderate

WITNESSED BY: No Witness

SHEEN ON WATER? No

SAMPLER'S SIGNATURE: Bruce Tsutsui  
(Bruce Tsutsui)



# BT Associates

Environmental Services

31 Nightowl Court, Richmond, CA 94803

(Office)  
510-222-1541

(Fax)  
510-525-2178

## WELL MONITORING FORM

CLIENT: Ferrar Property

DATE: December 30, 1994

SITE ADDRESS: 1435 Webster Street

COUNTY REPRESENTATIVE: Ms. Eva Chu

Alameda, CA

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". Similarly, use a conversion factor of 0.66 for a 4" pipe, which has a 4.026" I.D.

TOTAL WELL DEPTH 23.40' MONITORING WELL # MW-2  
- DEPTH TO WATER 9.46' PURGE METHOD: Disposable Polyethylene Bailer  
= WATER COLUMN HEIGHT 13.94' x 0.17 = 2.37 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 2.37 = 7.11 Gallons (3 Well Volumes)

TIME	GALLONS	TEMPERATURE (°F)	pH	CONDUCTIVITY $\mu$ mhos/cm
1405	0	63.7	5.72	8830
1416	2.3	65.4	6.38	9190
1426	4.6	65.2	6.32	8030
1435	6.9	65.1	6.22	7820

CONTAMINANT ODOR? No

TIME OF SAMPLE COLLECTION: 1440

TURBIDITY LEVEL: Moderate

WITNESSED BY: No Witness

SHEEN ON WATER? No

SAMPLER'S SIGNATURE: Bruce Tsutsui  
(Bruce Tsutsui)



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## WELL MONITORING FORM

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DATE: December 30, 1994

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TOTAL WELL DEPTH 23.18' MONITORING WELL # MW-3  
 - DEPTH TO WATER 9.72' PURGE METHOD: Disposable Polyethylene Bailer  
 = WATER COLUMN HEIGHT 13.46' x 0.17 = 2.29 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 2.29 = 6.81 Gallons (3 Well Volumes)

TIME	GALLONS	TEMPERATURE (°F)	pH	CONDUCTIVITY $\mu$ mhos/cm
1315	0	63.9	6.51	4020
1326	2.4	65.2	6.07	4260
1338	4.8	64.6	5.76	4150
1350	7.2	64.5	5.68	4350

CONTAMINANT ODOR? No

TIME OF SAMPLE COLLECTION: 1355

TURBIDITY LEVEL: Moderate

WITNESSED BY: No Witness

SHEEN ON WATER? No

SAMPLER'S SIGNATURE: *Bruce Tsutsui*  
(Bruce Tsutsui)