TRANSMITTAL SHEET

Dames & Moore

3700 LAKEVILLE HIGHWAY, PETALUMA, CALIFORNIA 94952 (707) 573-1227 FAX (707) 763-4065
P.O. BOX 808024, PETALUMA, CALIFORNIA 94975-8024

To: Alameda County Dept. of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Date 4/13/90

Your Order No.

Our Job No. 19002-003-043

Attention: Mr. Dennis Vyrne

Subject: Analytical Results

We are sending you via U.S. Mail the following

The soil analytical results for soil samples collected from the tank excavation and soil stock pile. The excavation is located at 1410 64th Street in Emeryville.

This is
These are for your files as requested.

No. of copies submitted:

Copies to:

Dames & Moore
90 APR 17 AM 10:43

By Maynard Geisler

114-6

ACCULAB
ENVIRONMENTAL SERVICES

3700 Lakeville Highway, Petaluma, CA 94952
P.O. Box 806024, Petaluma, CA, 94975-6024
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Rene Atwater
Dames & Moore
221 Main Street, Ste. 600
San Francisco, CA 94105

Client Code: DAME49
Survey EMERYVILLE CA
Project/Release 043

Page 1

L A B O R A T O R Y R E S U L T S

Date Collected: 02/23/90
Date Extracted: 02/26/90
Date Analyzed: 02/26/90

Laboratory Job No.: 900782
Date Received: 02/23/90
Date Reported: 02/27/90

ASSAY: TPH/GASOLINE (EPA 5020/8015)
MATRIX: SOIL

LABNO	SMPLNO-ID	RESULTS	DET.LIM
4273	TRENCH-1/6.0 GASOLINE	220 mg/kg	5.7 mg/kg
4274	TRENCH-2/5.0 GASOLINE	270 mg/kg	5.7 mg/kg
4275	TRENCH-3/6.0 GASOLINE	200 mg/kg	5.7 mg/kg
4276	TRENCH-4/5.0 GASOLINE	77.9 mg/kg	5.7 mg/kg

LABORATORY RESULTS

Date Collected: 02/23/90
Date Extracted: 02/26/90
Date Analyzed: 02/26/90

Laboratory Job No.: 900782
Date Received: 02/23/90
Date Reported: 02/27/90

ASSAY: TPH/DIESEL
MATRIX: SOIL

LABNO SMPLNO-ID	RESULTS	DET.LIM
4273 TRENCH-1/8.0 DIESEL	2000 mg/kg	5.0 mg/kg
4274 TRENCH-2/5.0 DIESEL	1500 mg/kg	5.0 mg/kg
4275 TRENCH-3/8.0 DIESEL	740 mg/kg	5.0 mg/kg
4276 TRENCH-4/5.0 DIESEL	810 mg/kg	5.0 mg/kg

LABORATORY RESULTS

Date Collected: 02/23/90
Date Extracted: 02/26/90
Date Analyzed: 02/26/90

Laboratory Job No.: 900782
Date Received: 02/23/90
Date Reported: 02/27/90

ASSAY: TPH/BTEX (EPA 5020/8020)
MATRIX: SOIL

LABNO SMPLNO-ID	RESULTS	DET.LIM
4273 TRENCH-1/6.0		
BENZENE	0.38 mg/kg	0.19 mg/kg
TOLUENE	2.0 mg/kg	0.19 mg/kg
ETHYLBENZENE	ND	0.19 mg/kg
XYLENE	5.6 mg/kg	0.19 mg/kg
4274 TRENCH-2/5.0		
BENZENE	0.22 mg/kg	0.19 mg/kg
TOLUENE	1.2 mg/kg	0.19 mg/kg
ETHYLBENZENE	ND	0.19 mg/kg
XYLENE	6.8 mg/kg	0.19 mg/kg
4275 TRENCH-3/6.0		
BENZENE	0.37 mg/kg	0.19 mg/kg
TOLUENE	1.4 mg/kg	0.19 mg/kg
ETHYLBENZENE	0.55 mg/kg	0.19 mg/kg
XYLENE	5.4 mg/kg	0.19 mg/kg
4276 TRENCH-4/5.0		
BENZENE	0.89 mg/kg	0.19 mg/kg
TOLUENE	0.36 mg/kg	0.19 mg/kg
ETHYLBENZENE	0.83 mg/kg	0.19 mg/kg
XYLENE	2.0 mg/kg	0.19 mg/kg

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Client Code: DAME49
Survey EMERYVILLE
Project/Release 043

L A B O R A T O R Y R E S U L T S

Date Collected: 02/23/90
Date Extracted: 02/26/90
Date Analyzed: 02/27/90

Laboratory Job No.: 900783
Date Received: 02/23/90
Date Reported: 03/02/90

ASSAY: TPH/DIESEL (EPA 8015)
MATRIX: SOIL/WATER

LABNO SMPLNO-ID	RESULTS	DET.LIM
4278 1SURF/STCK/P DIESEL	8500 mg/kg	5.0 mg/kg
4279 2SURF/STCK/P DIESEL	2500 mg/kg	5.0 mg/kg

LABORATORY RESULTS

Date Collected: 02/23/90
Date Extracted: 02/27/90
Date Analyzed: 02/27/90

Laboratory Job No.: 900783
Date Received: 02/23/90
Date Reported: 03/02/90

ASSAY: TPH/GASOLINE/BTEX (EPA 5020/8015/8020)
MATRIX: SOIL

LABNO	SMPLNO-ID	RESULTS	DET.LIM
4278	1SURF/STCK/P GASOLINE	550 mg/kg	12.0 mg/kg
4279	2SURF/STCK/P GASOLINE	110 mg/kg	1.0 mg/kg

LABORATORY RESULTS

Date Collected: 02/23/90
Date Extracted: 02/27/90
Date Analyzed: 02/27/90

Laboratory Job No.: 900783
Date Received: 02/23/90
Date Reported: 03/02/90

ASSAY: TPH/GASOLINE/BTEX (EPA 5020/8015/8020)
MATRIX: SOIL

LABNO	SMPLNO-ID	RESULTS		DET.LIM	
4278	1SURF/STCK/P				
	BENZENE	1.2	mg/kg	0.39	mg/kg
	TOLUENE	4.8	mg/kg	0.39	mg/kg
	ETHYLBENZENE	1.8	mg/kg	0.39	mg/kg
	XYLENE	17	mg/kg	0.39	mg/kg
4279	2SURF/STCK/P				
	BENZENE	0.44	mg/kg	0.040	mg/kg
	TOLUENE	0.74	mg/kg	0.040	mg/kg
	ETHYLBENZENE	0.40	mg/kg	0.040	mg/kg
	XYLENE	2.3	mg/kg	0.040	mg/kg

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Client Code: DAME49
Contract/PO RELOG:90-0783
Survey EMERYVILLE
Project/Release 043

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 901119
Date Received: 03/14/90
Date Reported: 03/15/90

Date Analyzed: 03/14/90

ASSAY:
MERCURY (EPA 7470/7471)
ARSENIC (EPA 7060)
SELENIUM (EPA 7740)

MATRIX: LIQUID

LABNO SMPLNO	COMPOUND	FOUND mg/L	CA STLC LEV	DET.LIM. mg/L
6058	HG	ND	0.20	0.0001
	AS	ND	5.0	0.005
	SE	ND	1.0	0.001

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 901118
Date Received: 03/14/90
Date Reported: 03/15/90

Date Analyzed: 03/14/90

ASSAY:METAL SCAN BY ICP (EPA 6010)

LABNO	SMPLNO-ID		RESULTS			DET. LIM.	
6058	WATER	WATER			CA STLC LEVEL		
		AG	ND		5.0	0.010	mg/L
		BA	0.420	mg/L	100	0.010	mg/L
		BE	ND		0.75	0.010	mg/L
		CD	ND		1.0	0.0050	mg/L
		CO	ND		80	0.020	mg/L
		CR	ND		560	0.020	mg/L
		CU	0.088	mg/L	25	0.010	mg/L
		MO	ND		350	0.020	mg/L
		NI	ND		20	0.050	mg/L
		PB	0.623	mg/L	5.0	0.050	mg/L
		SB	ND		15	0.50	mg/L
		TL	0.25	mg/L	7.0	0.20	mg/L
		V	0.072	mg/L	24	0.020	mg/L
		ZN	0.131	mg/L	250	0.010	mg/L

ND=Not Detected

Table 3
Results of Groundwater Sample Anlayses
for Metals and Petroleum Hydrocarbons
Sybase, Inc
64th and 65th Street Properties
Emeryville, California
EKI 940018.00

Sample ID	Date Sampled	Metals EPA 6000/7000 Series			Fuel Fingerprint EPA Method 8015		TPPH (a) EPA Method 8015/8020					
		Arsenic (ug/L)	Lead (ug/L)	Chromium (ug/L)	TEPH (ug/L)	Hydrocarbon Pattern (b)	TPPH (ug/L)	Hydrocarbon Pattern (b)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)
MW-1	3/23/95	<5 (c)	<5	<10	**5500 (d)**	**diesel**	**170**	C7-C12	<0.5	<0.5	<0.5	<0.5
MW-2	3/23/95	<5	<5	<10	260	C9-C24 (e)	71	<C8	<0.5	<0.5	<0.5	<0.5
MW-3	3/23/95	13	<5	<10	150	C9-C24 (e)	<50	-	<0.5	<0.5	<0.5	<0.5
MW-4	3/23/95	<5	<5	<10	190	C9-C24 (e)	<50	-	<0.5	<0.5	<0.5	<0.5
MW-5	3/27/95	68	<5	<10	29000	C9-C24 (e)	600	>C8	<0.5	<0.5	<0.5	<0.5
MW-6	3/27/95	16	<5	<10	13000	C9-C24 (e)	74	>C8	<0.5	<0.5	<0.5	<0.5
M-6Dup	3/27/95	NA (f)	NA	NA	5600	C9-C24(e)	250	>C8	<0.5	<0.5	<0.5	<0.5
RMW-1	3/24/95	<5	<5	<10	210	C13-C24 (e)	<50	-	<0.5	<0.5	<0.5	<0.5
R-1Dup	3/24/95	NA	NA	NA	97	C10-C24 (e)	<50	-	<0.5	<0.5	<0.5	<0.5
RMW-2	3/24/95	7.6	<5	<10	150	C10-C24 (e)	<50	ND	<0.5	<0.5	<0.5	<0.5
RMW-3	3/27/95	<5	<5	<10	97000	C9-C24 (e)	11000	>C8	<10	<10	<10	<10
TMW-1	3/28/95	<5	<5	<10	330	C9-24 (e)	100	gas	4.8	<0.5	1.8	3.2

NOTES:
(a) TPPH = total purgeable petroleum hydrocarbons quantified against gasoline standard.
(b) Hydrocarbon pattern indicates the identified hydrocarbon in the sample (i.e., diesel) or the range of carbon chain lengths quantified in the sample if the sample chromatogram did not resemble common hydrocarbon standards.
(c) Less than symbol ("<") denotes that compound was not present above the detection limit indicated.
(d) Compounds indicated in bold were present at concentrations that exceeded respective laboratory detection limits.
(e) Sample was quantified in the diesel range (i.e., up to a carbon chain length of 24), but the hydrocarbon chain length range extended to C36.
(f) Not analyzed.

report is included in Appendix I.

Table 2

Summary of Soil Analytical Results

Analysis	TMW-1		TMW-2		TMW-3		Detection Limit (mg/kg)
	1.5 ft.	5.25 ft.	1.5 ft.	5.25 ft.	3.25 ft.	5.25 ft.	
Diesel	*	230.0	*	16.0	*	*	5.0
Gasoline	16.0	3900.0	19.0	220.0	*	*	0.05
Benzene	0.59	75.0	0.33	7.3	*	*	0.001
Toluene	0.11	85.0	0.08	8.6	*	*	0.001
Xylene	0.73	120.0	0.56	6.6	*	*	0.001
Ethylbenzene	*	43.0	*	2.7	*	*	0.001

* Not detected
All results reported in mg/kg.

ENSR

Table 3

Summary of Groundwater Analytical Results

Analysis	TMW-1	TMW-2	TMW-3	Detection Limit (mg/l)
Diesel	*	*	*	0.10
Gasoline	0.56	0.14	*	0.05
Benzene	0.01	0.01	*	0.001
Toluene	<0.002	*	*	0.001
Xylene	0.03	0.007	*	0.001
Ethylbenzene	0.01	0.002	*	0.001

* Not detected.
All results reported in mg/l.

analytical results are summarized in Table 1 below. A copy of the laboratory report is included in Appendix D.

Table 1

Summary of Soil Analytical Results

Analysis	Sample Number/Depth				Detection Limit (mg/kg)
	1/6.0 ft.	2/5.0 ft.	3/6.0 ft.	4/5.0 ft.	
Diesel	2000.0	1500.0	740.0	810.0	5.0
Gasoline	220.0	270.0	200.0	77.0	5.7
Benzene	0.39	0.22	0.37	0.99	0.19
Toluene	2.0	1.2	1.4	0.36	0.19
Xylene	5.6	6.9	5.4	2.0	0.19
Ethylbenzene	*	*	0.55	0.83	0.19

* Not detected.
All results reported in mg/kg.

2.0 TANK REMOVAL

During removal of the USTs, Dennis Byrne of the Alameda County Health Care Agency and the City of Emeryville Fire Marshall, were on-site to inspect tank removal operations.

The USTs appeared in good condition, and no signs of tank or piping leaks were observed. However, the tanks were submerged in approximately two feet of water, and water was seeping into the excavation from a conduit in the side wall created by a utility line running across the gasoline tank. Upon removal of the USTs, the water level rose to seven feet below grade resulting in approximately seven feet of water in the bottom of the excavation. The water originally in the excavation, as well as the water seeping in the side wall had an odor and an oily sheen.

The USTs were transported by and disposed of at H&H Ship Service Company. A copy of the manifests and disposal certificate is included in Appendix C.

2.1 Soil Sample Collection

A Dames & Moore engineer was on-site during tank removal activities to collect soil samples from the tank excavation, under the direction of Mr. Byrne.

Four soil samples were collected from the side walls of the excavation, above the water level. Samples 1 and 2 were collected near the diesel tank at six and five feet below grade, respectively. Samples 3 and 4 were collected near the gasoline tank at six and five feet below grade, respectively (Figure 2, Appendix A).

The samples were transported to Acculab Environmental Services for analysis of Total Petroleum Hydrocarbons (TPH) as diesel by EPA Method 3550/8015, TPH as gasoline by EPA Method 5020/8015, and benzene, toluene, xylene, ethylbenzene (BTEX) by EPA Method 8020.

2.2 Analytical Results

Gasoline was detected in all four samples analyzed, ranging from 77 to 270 mg/kg. Diesel was detected in all four samples ranging from 740 to 2000 mg/kg. Also detected was benzene (0.22 to 0.99 mg/kg); toluene (0.36 to 2.0 mg/kg); and xylene (2.0 to 6.9 mg/kg). Ethylbenzene was detected in samples 3 and 4 only, at concentrations of 0.55 and 0.83 mg/kg, respectively. The

analytical results are summarized in Table 1 below. A copy of the laboratory report is included in Appendix D.

Table 1

Summary of Soil Analytical Results

Analysis	Sample Number/Depth				Detection Limit (mg/kg)
	1/6.0 ft.	2/5.0 ft.	3/6.0 ft.	4/5.0 ft.	
Diesel	2000.0	1500.0	740.0	810.0	5.0
Gasoline	220.0	270.0	200.0	77.0	5.7
Benzene	0.39	0.22	0.37	0.99	0.19
Toluene	2.0	1.2	1.4	0.36	0.19
Xylene	5.6	6.9	5.4	2.0	0.19
Ethylbenzene	*	*	0.55	0.83	0.19

* Not detected.
All results reported in mg/kg.

4.0 GROUNDWATER INVESTIGATION

As a result of petroleum compounds detected in the soil and groundwater samples collected from the tank excavation, a groundwater investigation was implemented.

On April 12, 1990, Dames & Moore drilled three soil borings to a depth of 15 feet below ground surface. All three borings were converted to 2-inch PVC monitoring wells, TMW-1, TMW-2 and TMW-3. TMW-1 and TMW-2 are located hydrologically up-gradient of the excavation. TMW-3 is located in the general down-gradient direction (Figure 2, Appendix B).

4.1 Soil Sampling

Soil samples were collected from each boring at 18-inch intervals, from the surface to a 10-foot depth; a final sample was collected at 15 feet.

Two soil samples from the unsaturated zone of each boring were submitted to ACCULAB Environmental Services, Petaluma, California. Soil samples were analyzed for TPH as gasoline by EPA Method 5020, TPH as diesel by EPA Method 3550, and BTEX by EPA Method 8020.

4.2 Groundwater Sampling

Groundwater samples were collected by Dames & Moore from each of the three wells on April 13, 1990. Samples were collected in laboratory-provided containers, stored on ice and shipped to the laboratory. All samples were analyzed for TPH as gasoline by EPA Method 5030, TPH as diesel by EPA Method 3510, and BTEX by EPA Method 602.

4.3 Analytical Results of Soil Samples

The 1.5 foot and 5.25 foot soil samples were analyzed from the two upgradient borings TMW-1 and TMW-2. Gasoline was detected in all four samples ranging from 16 mg/kg to 3,900 mg/kg. Diesel was detected in the 5.25 foot samples only, with concentrations of 16 mg/kg and 230 mg/kg.

The 3.25 foot and 5.25 foot soil samples were analyzed in the downgradient well, TMW-3. None of the compounds analyzed for were detected in either sample.

A summary of the analytical results are presented in Table 2 below. A copy of the laboratory report is included in Appendix I.

Table 2

Summary of Soil Analytical Results

Analysis	TMW-1		TMW-2		TMW-3		Detection Limit (mg/kg)
	1.5 ft.	5.25 ft.	1.5 ft.	5.25 ft.	3.25 ft.	5.25 ft.	
Diesel	*	230.0	*	16.0	*	*	5.0
Gasoline	16.0	3900.0	19.0	220.0	*	*	0.05
Benzene	0.59	75.0	0.33	7.3	*	*	0.001
Toluene	0.11	85.0	0.08	8.6	*	*	0.001
Xylene	0.73	120.0	0.56	6.6	*	*	0.001
Ethylbenzene	*	43.0	*	2.7	*	*	0.001

* Not detected
All results reported in mg/kg.

4.4 Analytical Results of Groundwater Sampling

Gasoline was detected in TMW-1 and TMW-2 at concentrations of 0.56 mg/l and 0.14 mg/l, respectively. Also detected in TMW-1 and TMW-2 was benzene (0.01 mg/l), xylene (0.3 and 0.007 mg/l), and ethylbenzene (0.01 and 0.002 mg/l). None of the compounds analyzed for were detected in the downgradient well, TMW-3. Analytical results are summarized in Table 3 below. A copy of the laboratory report is included in Appendix J.

Table 3

Summary of Groundwater Analytical Results

Analysis	TMW-1	TMW-2	TMW-3	Detection Limit (mg/l)
Diesel	*	*	*	0.10
Gasoline	0.56	0.14	*	0.05
Benzene	0.01	0.01	*	0.001
Toluene	<0.002	*	*	0.001
Xylene	0.03	0.007	*	0.001
Ethylbenzene	0.01	0.002	*	0.001

* Not detected.
All results reported in mg/l.

5.0 SUBSEQUENT GROUNDWATER SAMPLING

On November 30, 1990, John Koos of ENSR collected groundwater samples from the existing monitoring wells TMW-1, TMW-2 and TMW-3. The samples were collected in laboratory supplied containers, placed in ice, and delivered to Curtis & Tompkins Laboratories under chain-of-custody.

The samples were analyzed for diesel by EPA method 8015-modified and gasoline and BTEX by EPA Method 8020.

5.1 Analytical Results

Neither gasoline nor diesel was detected in any of the wells. Benzene and ethylbenzene were detected in TMW-1, each at a concentration of 3.2 μg/l and benzene was detected in TMW-2 at a concentration of 3.8 μg/l. A copy of the laboratory report and chain-of-custody form is included in Appendix K.

6.0 GEOLOGY AND HYDROGEOLOGY

6.1 Regional Geology and Hydrogeology

The site is located on the Berkeley Bay Plain. The Berkeley Bay Plain is one of several alluvial plains which lie between the East Bay hills and San Francisco Bay. Bay plain sediments of the East Bay consist of a mixture of gravels, sands, and clays of late Pliocene to late Pleistocene age. These sediments were deposited by ancient streams flowing westward from the East Bay hills. Closer to the Bay, these sediments interfinger with bay muds deposited by San Francisco Bay.

Groundwater occurs in discontinuous layers and lenses of sand and gravel to depths of up to 1000 feet. Many of the aquifers are confined, but unconfined and perched conditions also occur. Regional groundwater flow in the area is westward, towards San Francisco Bay.

6.2 Local Geology and Hydrogeology

The site is generally underlain by laterally discontinuous silty and sandy clays to a depth of 15 feet. A brown, sandy unit was noted in two of the borings (TMW-2 and TMW-3) at depths ranging between nine and fifteen feet. Logs of the borings are presented in Appendix L.

Groundwater was first encountered at a depth of about 7.5 feet during drilling operations on April 12, 1990. Subsequent water level measurements in each of the three monitoring wells indicate groundwater levels at depths of 2.3 to 3.6 feet, indicating groundwater beneath the site is under confined conditions. Groundwater elevation measurements indicate groundwater flow is to the south.

7.0 CONCLUSIONS

During tank removal operations on February 23, 1990, no signs of tank or piping leaks were observed. However, approximately two feet of water was initially encountered in the excavation and additional water was seeping into the excavation through a conduit created by a utility line running across the gasoline tank. Diesel, gasoline, and BTEX was detected in the soil and groundwater samples collected from the excavation.

A groundwater investigation was implemented which included the installation of three monitoring wells. Two wells were located upgradient of the former USTs (TMW-1 and TMW-2) and one well was located in the downgradient direction (TMW-3).

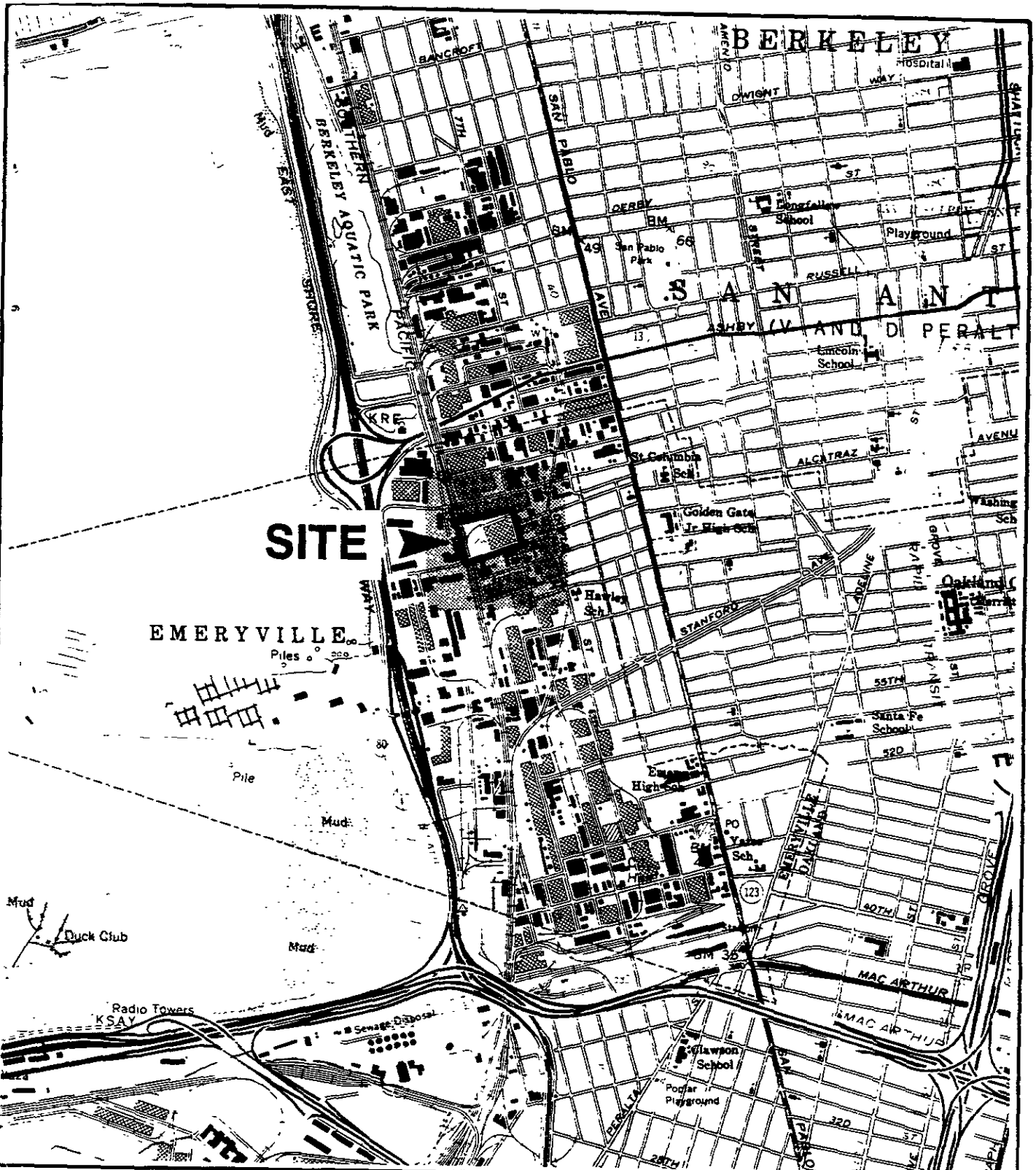
Analytical results of groundwater samples collected on April 13, 1990 indicated minor levels of gasoline, benzene, xylene and ethylbenzene in the two upgradient wells only.

Analytical results of groundwater samples collected on November 30, 1990 indicated benzene and ethylbenzene in TMW-1 at concentrations of 3.2 μg/l and benzene in TMW-2 at a concentration of 3.8 μg/l.

Based on these results, ENSR concludes that although petroleum compounds were detected in the soil and groundwater of the excavation, there was no indication that any releases had occurred from the USTs on-site. The contaminated soil and groundwater from the excavation has been disposed of off-site. The most recent groundwater analytical data indicate benzene and ethylbenzene in the upgradient wells only, suggesting the possibility of an upgradient source. This is further supported by upgradient contaminated groundwater flowing into the excavation through a utility conduit, and numerous properties in the surrounding area with documented soil and or groundwater contamination.

8.0 RECOMMENDATIONS

Based on the above conclusions, ENSR does not believe that additional work is warranted at this time. However, as an effort to monitor the levels of benzene migrating onto the property, Mission Taylor Properties will collect two more sets of groundwater samples from the three existing monitoring wells on-site for analysis of gasoline, diesel, and BTEX. These samples will be collected in April and July, 1991. The results will be sent to you for your review. If the levels of benzene do not increase and benzene is not detected in the downgradient well (TMW-3), no further sampling will be performed. ?



REFERENCE: USGS 7.5 MINUTE SERIES
OAKLAND WEST QUADRANGLE 1980

0 ¼ ½ 1 MILE

SCALE

ENSR

SITE LOCATION MAP
MISSION TAYLOR PROPERTIES
1410 64th STREET
EMERYVILLE, CALIFORNIA

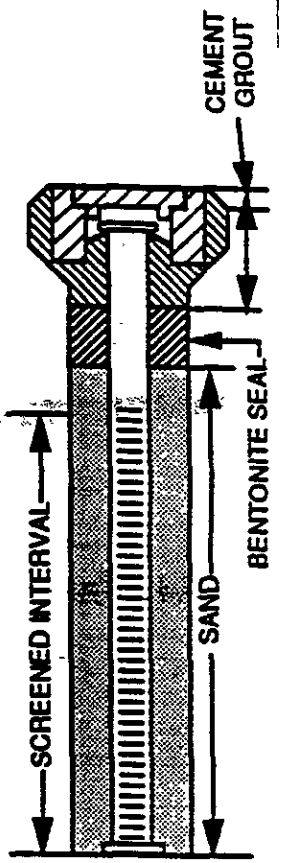
DRAWN BY: mrl	DATE: 01 10 91	PROJECT NO.: 4682-001
CHK'D BY.	REVISED:	DWG.NO.: FIGURE 1

TMW-2

DATE DRILLED: 4/12/90

ELEVATION: 15.6 feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
0					CONCRETE
	CA	push		CL	DARK GRAY SILTY SANDY CLAY with gravel (slightly moist) [FILL]
5	CA	push			OLIVE GRAY AND DARK GREEN MOTTLED CLAY with white calcite nodules and small reddish brown sand pockets (moist) (very stiff) Grades sandy with sand and gravel pockets, hydrocarbon odor
	CA	push		CL	BROWN AND BROWNISH YELLOW MOTTLED SANDY CLAY with black iron oxide nodules and minor amount of gravel (very stiff) (moist)
10	CA	push			Grades wet
15	CA	—		SP	BROWN AND BROWNISH YELLOW MOTTLED GRAVELLY SAND with some clay and silt (wet)
20					
25					
25					
25					



NOTES:

1. Boring completed at a depth of 15.5 feet on 4/12/90
2. 2-inch PVC observation well installed to a depth of 15.0 feet; screened interval from 5.0 to 15.0 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-4.

LOG OF BORING

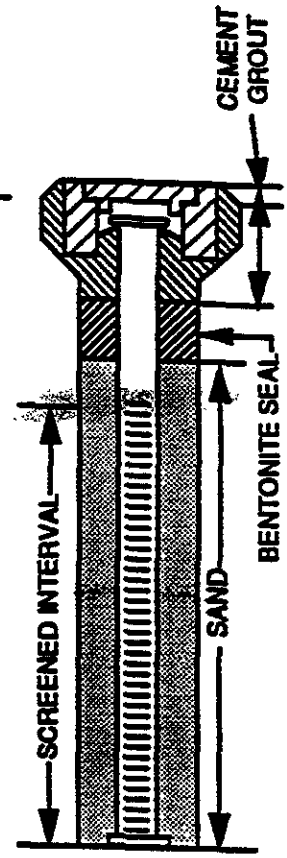
Dames & Moore

TMW-3

DATE DRILLED: 4/12/90

ELEVATION: 15.4 feet

DEPTH IN FEET	SAMPLES	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SYMBOLS	DESCRIPTION
0		CA	44	CL	ASPHALT AND BRICK DARK GRAY SILTY SANDY CLAY with gravel (moist) (hard) [FILL]
		CA	58	CL	OLIVE GRAY AND GREENISH GRAY MOTTLED SANDY CLAY with black iron oxide nodules (moist) (hard)
5		CA	52	CL	BROWN AND BROWNISH YELLOW MOTTLED SANDY CLAY, sand is coarse (wet) (stiff to very stiff)
		CA	17		
10		CA	28	SP	BROWN SAND, with some clay and gravel, contains gravelly layers (wet) (medium dense)
15		CA	40	CL	BROWN AND BROWNISH YELLOW MOTTLED SILTY CLAY with some sand (wet) (very stiff)
20					
25					
25					



NOTES:

1. Boring completed at a depth of 15.5 feet on 4/12/90
2. 2-inch PVC observation well installed to a depth of 15.0 feet; screened interval from 5.0 to 15.0 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-4.

LOG OF BORING

Dames & Moore

19002-003-043

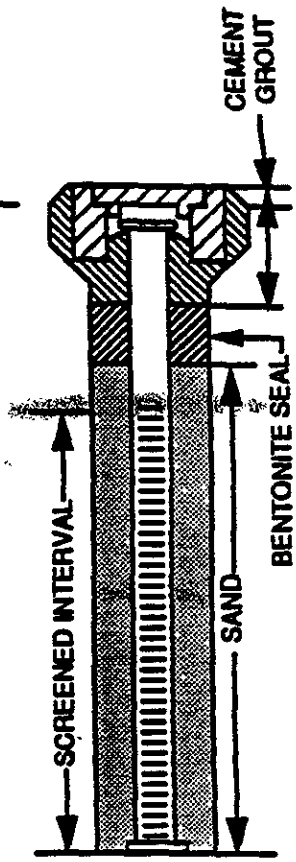
PLATE A-3

TMW-1

DATE DRILLED: 4/12/90

ELEVATION: 16.5 feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
0	CA	40		CL	ASPHALT AND RUBBER DARK GRAY SILTY SANDY CLAY with gravel (dry) [FILL]
	CA	70		CL	OLIVE GRAY AND GREENISH GRAY MOTTLED CLAY with black iron oxide nodules and white calcite nodules (moist) (hard)
5	CA	40			
	CA	30		CL	Grades sandy with sand and gravel pockets; hydrocarbon odor
10	CA	24			BROWN AND BROWNISH YELLOW MOTTLED SANDY CLAY with yellowish red and black iron oxide nodules (wet) (hard) Grades with sand lenses and very sandy layers
15	CA	60			Approximately 1 foot thick very gravelly layers Grades with gravel up to 1/2"
20					
25					
25					
25					

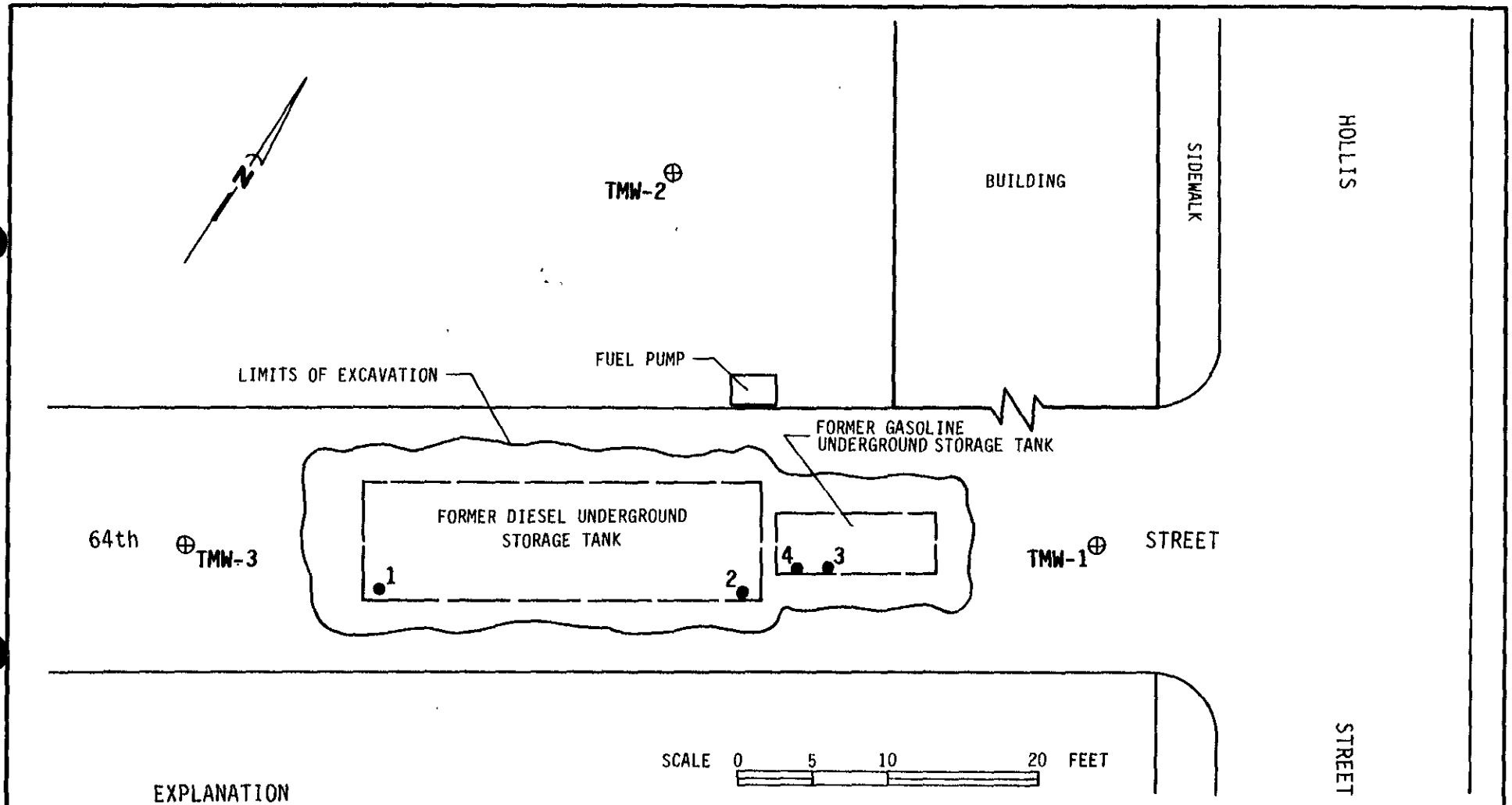


NOTES:

1. Boring completed at a depth of 15.5 feet on 4/12/90
2. 2-inch PVC observation well installed to a depth of 15.0 feet; screened interval from 5.0 to 15.0 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-4.

LOG OF BORING

Dames & Moore



EXPLANATION

●4 SOIL SAMPLE LOCATION

⊕TMW-3 SOIL BORINGS/MONITORING WELLS

ENSR™

SITE PLAN
MISSION TAYLOR PROPERTIES
1410 64th STREET
EMERYVILLE, CALIFORNIA