ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

REMEDIAL ACTION COMPLETION CERTIFICATION

September 25, 1997

Mr. Francis Collins
Hollis Street Project
6050 Hollis Street
Emeryville, California 94608

RE: STID # 3792 Hollis Street Project (Dream Builders)
6050 Hollis Street, Emeryville, California 94608

Dear Mr. Collins:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tanks are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Section 2721 (e) of Title 23 of the California Code of Regulations.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung, Director

c: Gordon Coleman, Chief, Environmental Protection Division
Kevin Graves, San Francisco Bay RWQCB
Dave Deaner, SWRCB, UST Cleanup Fund Program (with enclosure)
George Warren, Emeryville Fire Department
Susan Hugo (2 copies of letter only)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RO#699

September 25, 1997

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

Mr. Francis Collins
Hollis Street Project
6050 Hollis Street
Emeryville, California 94608

RE: Fuel Leak Site Case Closure - Hollis Street Project (Dream Builders) STID # 3792
6050 Hollis Street, Emeryville, California 94608

Dear Mr. Collins:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37 [h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health Services, Local Oversight Program is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

Site Investigation and Cleanup Summary:

Please be advised that the following conditions exist at the site:

* Ninety five parts per million (ppm) Total Petroleum Hydrocarbon (TPH) as Gasoline, 800 ppm TPH as Diesel, 0.5 ppm benzene, and 0.7 ppm xylene remain in the soil at the site.

* One thousand two hundred parts per billion (ppb) Total Petroleum Hydrocarbon (TPH) as Gasoline, 230 ppb TPH as Diesel and 190 ppb TPH as Kerosene remain in the groundwater beneath the site.

If you have any questions, please contact me at (510) 567-6780. Thank you.

Sincerely,

Susan L. Hugo

Susan L. Hugo, Hazardous Materials Specialist

Enclosures:
1. Case Closure Letter
2. Case Closure Summary

c: Gordon Coleman, Chief, Environmental Protection Division
George Warren, Emeryville Fire Department
SH (2 copies of letter only)

01-0773

ENVIRONMENTAL
97 APR -2 PM 2:20

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION Date: February 3, 1997

Agency Name: **Alameda County-HazMat** Address: **1131 Harbor Bay Parkway**
City/State/ Zip: **Alameda, CA 94502** Phone: **(510) 567-6700**
Responsible Staff Person: **Susan L. Hugo** Title: **Senior Hazardous Materials Specialist**

II. CASE INFORMATION

Site Facility Name: **Hollis Street Project (Dream Builders)**
Site Facility Address: **6050 Hollis Street, Emeryville, CA 94608**
RB LUSTIS Case No. : **N/A** Local Case No./ LOP Case No. **3792**
URF Filing Date: **03/08/89** SWEEPS No.: **N/A**

Responsible Parties:	**Addresses**:	**Phone Numbers**:
Mr. Francis Collins	**6050 Hollis Street**	**(510) 653-6871**
Hollis Street Project	**P.O. BOX 8685, Emeryville, CA 94608**	

Tank No:	**Size in gal.**	**Contents**:	**Closed in-place or removed?**:	**Date**:
1	**500**	**Heating oil**	**Removed**	**4/87**
2	**500**	**Unknown / empty**	**Removed**	**4/87**

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Unknown**
Site characterization complete: **YES**
Date approved by oversight agency:
Monitoring wells installed ? **YES** Number: **Three (3)**
Proper screened interval ? **YES (6-20' in MW-H1, 4.5-20' in MW-H2 & 3-15' in MW-H3)**
Highest GW depth below ground surface: **3.98' (5/24/94)**
Lowest depth: **6.42' (3/26/90) in MW-H1**
Flow direction: **Generally to the northwest**
Most sensitive current use: **Commercial**
Are drinking water wells affected ? **NO** Aquifer Name: **NA**
Is surface water affected ? **NO** Nearest affected SW name: **NA**
Off-site beneficial use impacts (address / location): **Unknown**
Report (s) on file ? **YES**
Where is report (s) filed ? **Alameda County, 1131 Harbor Bay Parkway, Alameda, CA 94502**

Treatment and Disposal of Affected Materials:

Materials	Amount (Include Units)	Action (Treatment / or Disposal w/ Destination	Date
Tank	**Two 500 gallon**	**Cleaned and cut up for scrap**	**1987**
Product	**100 gallons**	**Used as fuel for heaters**	**-**
Soil	**2.5 yards**	**Aerated, may have been reused as fill**	**-**

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	Before[1]	After[2]	Before[3]	After[4]
TPH gasoline	1700	95	3,800	1,200
TPH diesel	-	(800)[5]	550	230
TPH kerosene	-	-	320	190
Benzene	0.8	0.5	93	ND
Toluene	12	ND	5.6	ND
Ethylbenzene	-	-	13	ND
Xylene	93	0.7	6 7	ND

Comments (Depth of Remediation, etc.): See "Additional Comments" section.

[1] "Before" soil sample collected from the northeastern corner of the excavation @ unknown depth after the removal of the USTs in 1987.

[2] "After" soil sample collected from the west side of the excavation @ 10.5 to 11' bgs after limited overexcavation in 1987.

[3] "Before" water sample represents maximum concentration detected in monitoring well MW-H1 between 2/89 and 8/95.

[4] "After" water sample represents the concentration detected in monitoring well MW-H1 during the last monitoring event conducted in 12/95.

[5] Concentration found in soil sample collected from boring MW-H3 at 6-6.5' bgs in 8/91.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan ? **Undetermined**

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan ? **Undetermined**

Does corrective action protect public health for current land use ? **YES**
Site management requirements: **NA**

Should corrective action be reviewed if land use changes ? **YES**

Monitoring wells Decommissioned : **No, waiting for RWQCB signoff**
Number Decommissioned: **None** Number Retained: **Three (3)**

List enforcement actions taken: **Notice of Violation issued on 1/90 regarding illegal disposal of hazardous waste.**

List enforcement actions rescinded: NA

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Susan L. Hugo** Title: **Senior Hazardous Materials Specialist**
Signature: Susan L. Hugo Date: 2/3/97

Reviewed by:

Name: **Eva Chu** Title: **Hazardous Materials Specialist**
Signature: Date: 2/9/97

Name: **Thomas Peacock** Title: **Manager, LOP Program**
Signature: Date: 3-6-97

VI. RWQCB NOTIFICATION

Date Submitted to RB: 3/8/97 RB Response: Approved

RWQCB Staff Name: **Kevin Graves** Title: **Water Resources Control Engineer**
Signature: Date: 3-27-97

VII. ADDITIONAL COMMENTS, DATA, ETC.

Two 500-gallon underground storage tanks (USTs) in a common pit were reportedly removed from the site in April 1987. One tank was reported to contain approximately 100 gallon of heating oil and the other was empty. According to Mr. Francis Collins (the property owner), the heating oil was used as fuel for sheetrock drying heaters and that the former USTs were cleaned and cut up for scrap metals. It appears that the former USTs were removed without a permit from ACDEH. However, City of Emeryville Fire Dept. issued a removal permit on 7/6/87.

It was reported that one soil sample collected from the northeastern corner of the excavation found up to 1700 ppm TPH gasoline and 0.8 ppm benzene (see Table 5). Limited overexcavation was conducted and two confirmation samples were collected on 7/24/87. Results of the confirmation samples showed low levels of residual soil contamination left at the site (see Table 5).

One groundwater monitoring well (MW-H1) was installed in the downgradient direction of the former tank area on 2/9/89. The well was completed to a depth of 20.5 feet, with a screen interval from 6 to 20 feet bgs. Groundwater was encountered at a depth of 8 feet bgs and one soil sample was collected above the shallow groundwater at 6 feet bgs. No detectable concentration of petroleum hydrocarbon was identified in the soil sample (see Table 4) and the water sample (see Table 3).

On September 11, 1991, two additional groundwater monitoring wells, MW-H2 (upgradient) and MW-H3 (downgradient) were installed to further characterize the extent of the groundwater contamination. Dissolved petroleum hydrocarbons have been detected in well MW-H1 during the two years of quarterly sampling from 9/89 to 3/91. Soil sample collected at 6 feet bgs from the two borings found no detectable concentration of petroleum hydrocarbon with the exception of TPH diesel (800 ppm) in boring MW-H3 (see Table 4). Analytical results of the groundwater samples collected from the two wells found no detectable concentration of petroleum hydrocarbon with the exception of TPH diesel (220 ppb) in MW-H3 (see Table 3). Groundwater monitoring program has been performed at the site for a period of four to five years (2/89 to 12/95).

This site is a low risk groundwater case. The rationale for recommending case closure for the subject site are as follows:

1) Aggressive source removal has occurred at the site. The USTs were removed in 1987. Limited overexcavation was conducted around the former tank area and confirmation samples showed low levels of residual soil contamination left at the site. The source area and ongoing sources have been removed to the extent feasible.

2) The site has been adequately characterized. The residual soil contamination appeared to be limited in the former tank area. TPH diesel (800 ppm) found in boring MW-H3 (located along Hollis Street) appeared to be from off-site sources. The extent of soil and groundwater contamination is adequately defined.

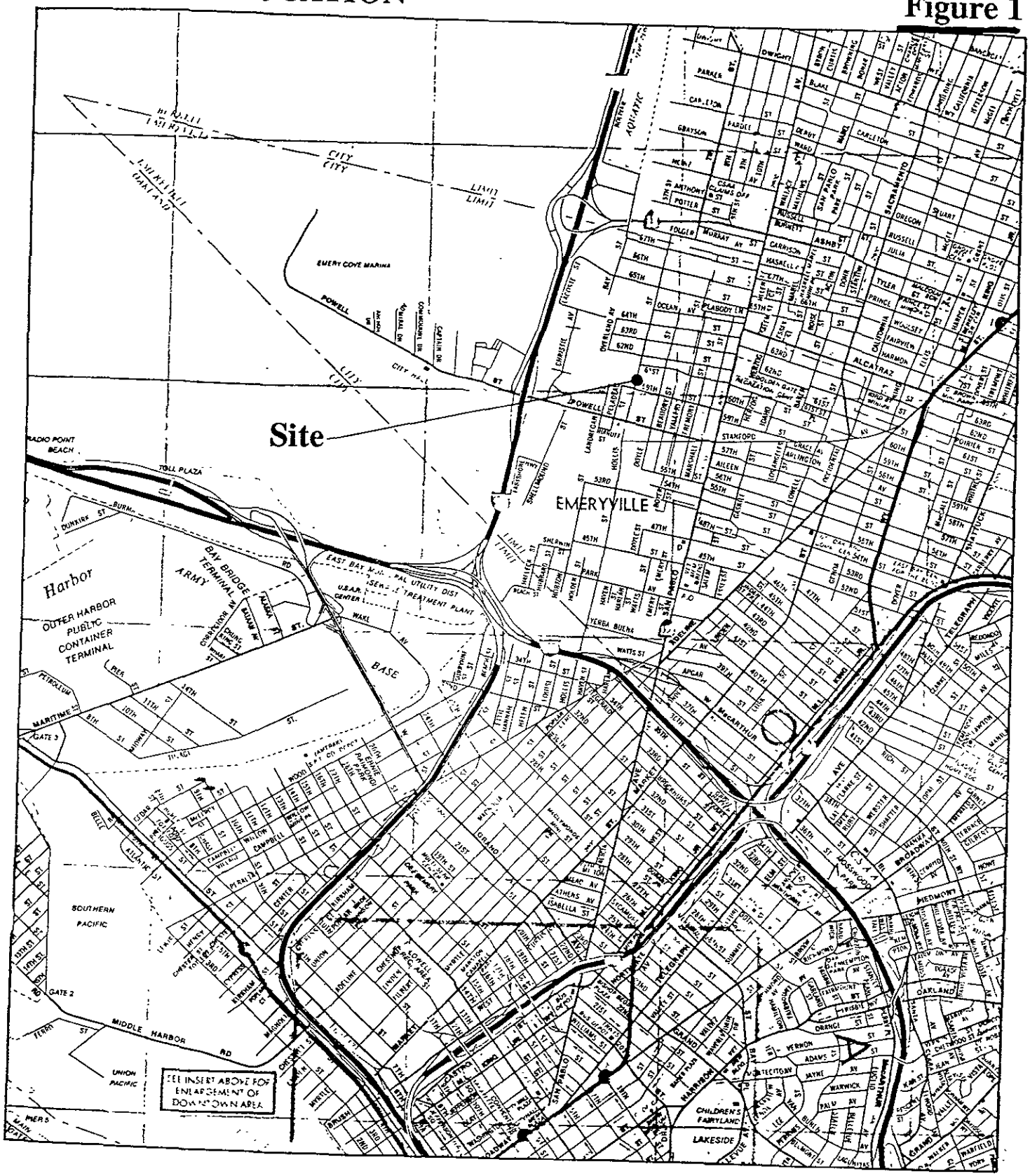
3) The dissolved petroleum hydrocarbon plume appears to be stable based on the data collected during the groundwater monitoring program conducted at the site. Benzene, toluene, ethylbenzene and xylene (BTEX) has not been detect in the three wells during the last two sampling events (8/95 & 12/95). TPH gasoline at 80 ppb was the only target analyte detected in well MW-H3 during the last sampling conducted in 12/95. Dissolved petroleum hydrocarbon found in well MW-H1 appeared to be either stable or decreasing in concentration.

4) No water wells, deeper drinking water wells, surface water or other sensitive receptors are likely to be impacted. Petroleum hydrocarbon contamination appears to be localized in the vicinity of the groundwater monitoring well MW-H3. In addition, BTEX has not been detected in the three wells during the last two sampling events (8/95 & 12/95).

5) The site does not appear to present a significant risk to human health and the environment. Confirmation soil samples collected after overexcavation of the tank area revealed maximum benzene concentration of 0.5 ppm which does not exceed the ASTM RBCA CA- modified Tier 1 RBSL value (1.325 ppm) for a 1E-05 (1 in 100,000) excess cancer risk for the exposure pathway "Soil -Volatilization to Outdoor Air", for a commercial / industrial receptor scenario. In addition, BTEX has not been detected in the groundwater during the last two sampling events (8/95 & 12/95).

REGIONAL LOCATION

Figure 1

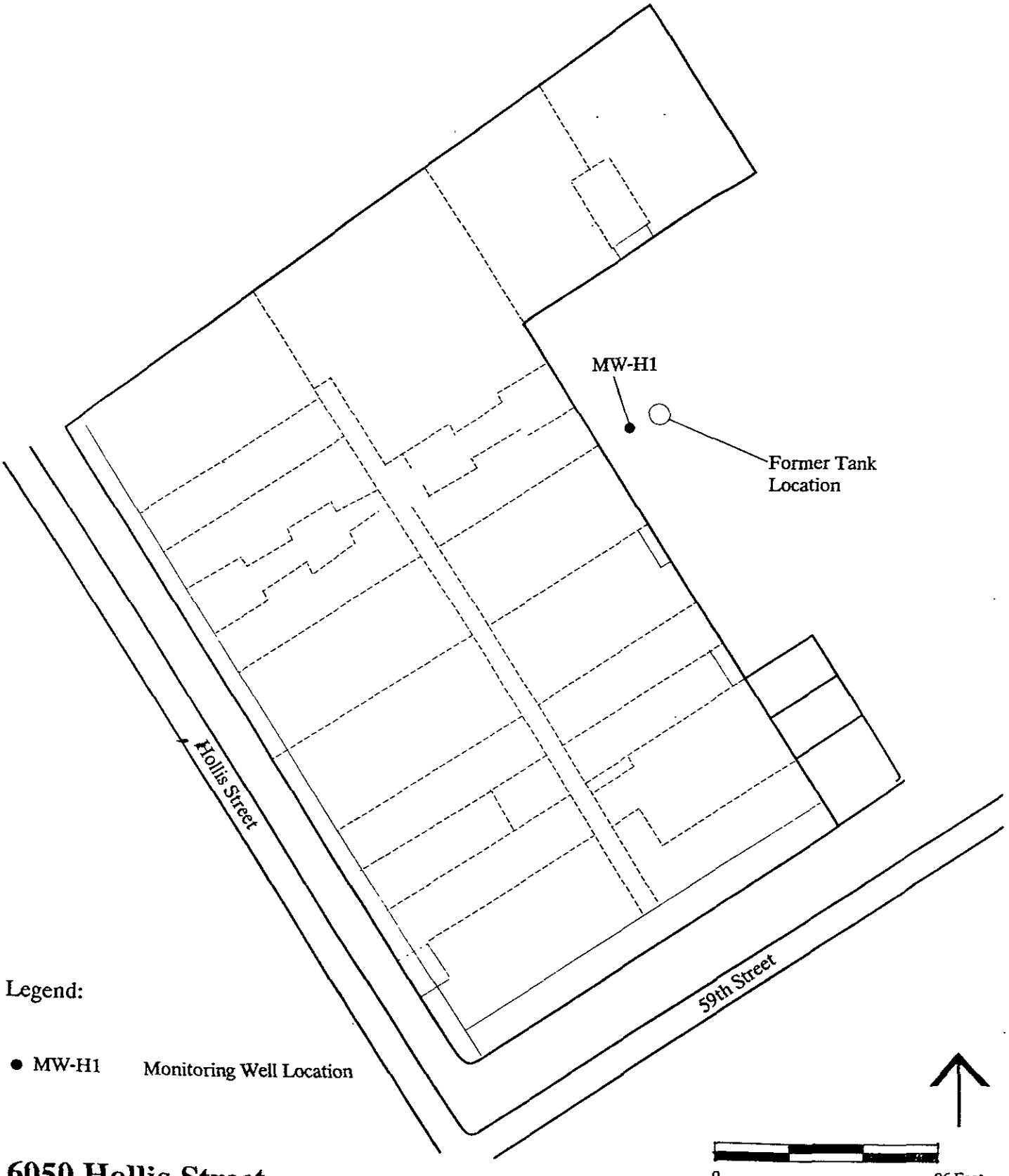


6050 and Hollis Street
Emeryville, California

BASELINE

SITE PLAN

Figure 2

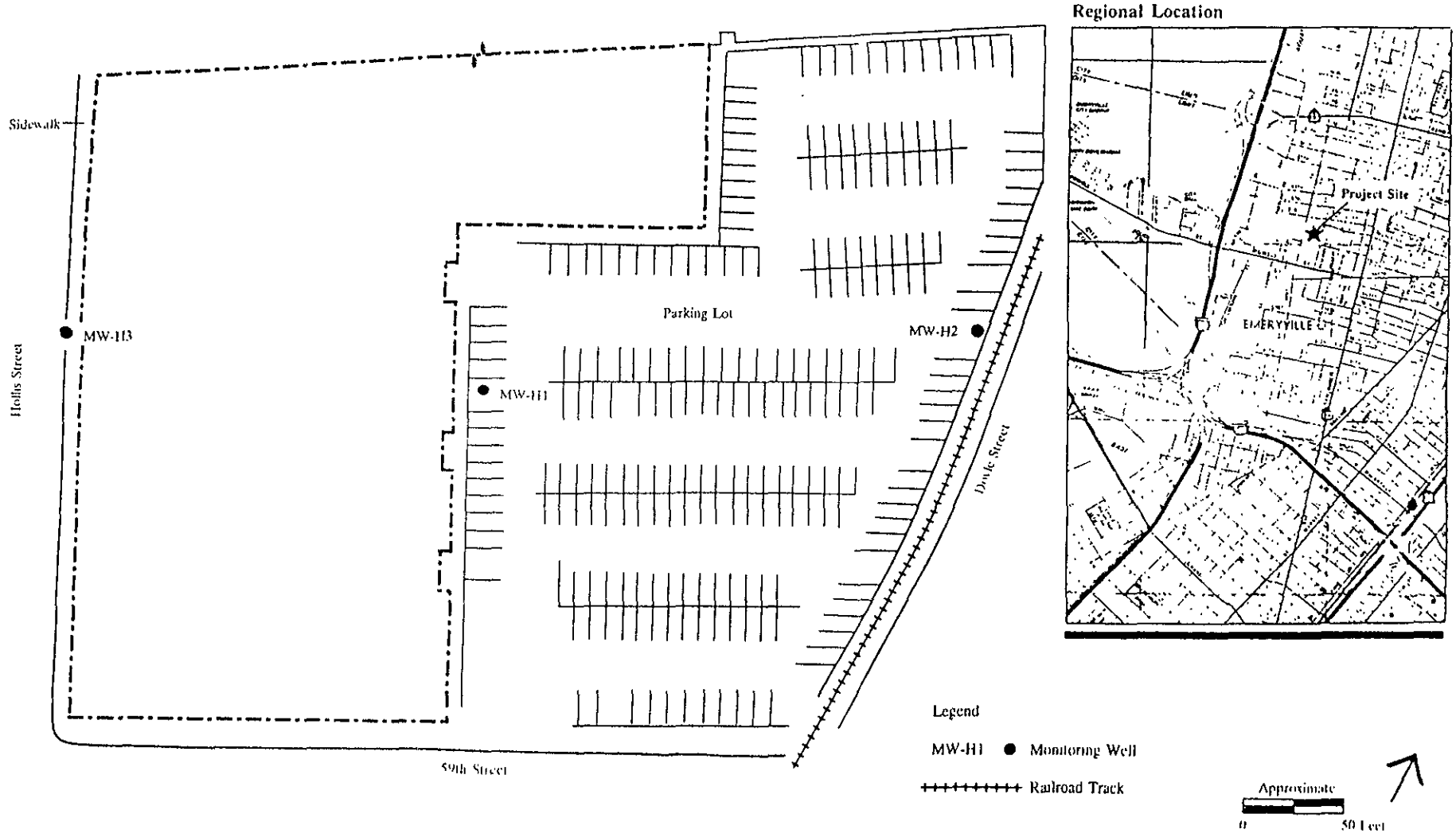


6050 Hollis Street
Emeryville, California

BASELINE

SITE PLAN
6050 Hollis Street
Emeryville, California

Figure 3



BASELINE

S9105-AO 7/5/95

GROUNDWATER LEVEL MEASUREMENTS
6050 Hollis Street, Emeryville

Well	Date	Depth to Water from TOC (feet)	Elevation of TOC (feet msl)	Groundwater Elevation (feet msl)
MW-H1	02/08/89	4.85	18.90	14.05
	05/01/89	5.10		13.80
	09/13/89	5.80		13.10
	12/04/89	5.34		13.56
	03/26/90	6.42		12.48
	07/24/90	5.93		12.97
	11/16/90	5.80		13.10
	03/15/91	4.30		14.60
	09/11/91	5.71		13.19
	09/24/91	5.80		13.10
	05/24/94	3.98		14.92
	03/08/95	3.71		15.19
	05/24/95	3.98		14.92
	08/30/95	5.11		13.79
	12/05/95	4.91		13.99
MW-H2	09/11/91	6.84	21.48	14.64
	09/24/91	6.86		14.62
	05/24/94	6.30		15.18
	03/08/95	5.45		16.03
	05/24/95	6.30		15.18
	08/30/95	6.57		14.91
	12/05/95	6.20		15.28
MW-H3	09/11/91	4.84	16.95	12.11
	09/24/91	4.81		12.14
	05/24/94	3.88		13.07
	03/08/95	3.69		13.26
	05/24/95	3.88		13.07
	08/30/95	4.76		12.19
	12/05/95	5.20		11.75

Notes: msl = mean sea level.
Well locations are shown in Figure 1.

GROUNDWATER FLOW DIRECTION AND MAGNITUDE
6050 Hollis Street, Emeryville

Date	Groundwater Flow Direction	Magnitude (feet/feet)
9/11/91	S30W	0.0068
9/24/91	S13W	0.0099
5/24/94	N20W	0.037
3/08/95	N22W	0.002
5/24/95	N25W	0.039
8/30/95	N34W	0.013
12/05/95	N31W	0.022

Note: Groundwater flow direction and magnitude were determined graphically by three-point method using wells MW-H1, MW-H2, and MW-H3.

TABLE 3
SUMMARY OF ANALYTICAL RESULTS, GROUNDWATER
6050 Hollis Street, Emeryville
(mg/L)

Well	Date	TPH as Gasoline[1]	TPH as Diesel[2]	TPH as Kerosene[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
MW-H1	02/10/89	<0.05	<0.5	<0.5	<0.001	<0.001	<0.001	<0.001
	05/01/89	<0.05	<0.5	<0.5	<0.001	<0.001	<0.001	<0.001
	09/13/89	**1.3**	<0.5	<0.5	**0.061**	<0.0005	**0.005**	**0.002**
	12/04/89	**0.41/0.37**	<0.5/<0.5	<0.5/<0.5	**0.0072/0.011**	**0.0032/0.0024**	**0.0028/0.0014**	**0.0032/0.0013**
	03/26/90	**0.7**	<0.5	<0.5	**0.093**	**0.001**	**0.0017**	<0.001
	06/14/90[4]	**0.34**[4]	**0.082**[4]	<0.05[4]	**0.016**[4]	<0.001[4]	<0.001[4]	<0.001[4]
	07/24/90	**0.14**	<0.5	<0.5	**0.006**	<0.0005	<0.0005	**0.0009**
	11/16/90	**1.1**	**0.55**	<0.05	**0.016**	**0.0009**	**0.0018**	**0.0015**
	03/15/91	**0.98/1.0**	<0.05/<0.05	<0.05/<0.05	**0.02/0.017**	**0.0006**/<0.0005	**0.0022/0.0019**	**0.0025/0.0022**
	09/11/91	**1.0**	**0.39**	<0.05	**0.015**	**0.0056**	**0.0027**	**0.0029**
	05/24/94	**3.4**	**0.28**	--[6]	**0.021**	<0.0005	**0.010**	**0.0067**
	03/08/95	**3.8**	**0.34**[5]	--[6]	**0.0087**	<0.0005	**0.013**	**0.006**
	05/24/95	**3.4**	**0.28**	--[6]	**0.021**	<0.0005	**0.010**	**0.0067**
	08/30/95	**1.2**[5]	**0.33**[5]	**0.32**[5,7]	<0.0005	<0.0005	<0.0005	<0.0005
	12/05/95	**1.2**[9]	**0.23**[7,9]	**0.19**[9]	<0.0005	<0.0005	<0.0005	<0.0005
MW-H2	09/11/91	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	05/24/94	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	03/08/95	<0.05	**0.08**[5]	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	05/24/95	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
	08/30/95	<0.05	**0.062**[5]	**0.072**[5]	<0.0005	<0.0005	<0.0005	<0.0005
	12/05/95	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

(Continued)

Table 3: Summary of Analytical Results, Groundwater (Continued)

Well	Date	TPH as Gasoline[1]	TPH as Diesel[2]	TPH as Kerosene[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
MW-H3	09/11/91	<0.05/<0.05	**0.12/0.22**	<0.05/<0.05	<0.0005/<0.0005	<0.0005/<0.0005	<0.0005/<0.0005	<0.0005/<0.0005
	05/24/94	**0.110**[5]	**0.110**	--[6]	<0.0005	<0.0005	<0.0005	<0.0005
	03/08/95	**0.085**	**0.110**[5]	--[6]	<0.0005	<0.0005	<0.0005	<0.0005
	05/24/95	**0.110**[5]	**0.110**	--[6]	<0.0005	<0.0005	<0.0005	<0.0005
	08/30/95	<0.05	**0.057**[5]	**0.057**[5]	<0.0005	<0.0005	<0.0005	<0.0005
	12/05/95	**0.08**[8]	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
Field Blanks	06/14/90[4]	<0.05	**0.062**[4]	<0.05	<0.001	<0.001	<0.001	<0.001
	07/24/90	<0.05	<0.5	<0.5	<0.0005	<0.0005	<0.0005	<0.005
	11/16/90	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.005

Notes: Number(s) shown in bold are concentrations identified above detection limit(s).
Well locations are shown in Figure 1.
Groundwater sampling forms and analytical results for the most recent sampling are in Attachment A.
xx/xx indicates duplicate samples.

1 Analyzed by EPA Methods 5030/8015 Modified (some of the laboratory reports cite the California DHS Luft Manual).
2 Analyzed by EPA Methods 3510 or 3550/8015 Modified (some of the laboratory reports cite the California DHS Luft Manual).
3 Analyzed by EPA Methods 5030/8020.
4 The field blank for 6/14/90 sampling contained diesel at 0.062 mg/L, therefore all analytical results for MW-H1 for that date may be erroneous.
5 Laboratory report indicates that the chromatogram does not resemble fuel standard.
6 Quantitated as diesel due to overlap of hydrocarbon ranges.
7 Hydrocarbon reported is lighter than standard.
8 Sample exhibits unknown peak or peaks.
9 Sample exhibits fuel pattern which does not resemble standard.

TABLE 4

ANALYTICAL RESULTS, SOILS
6050 Hollis Street, Emeryville

(mg/kg)

Well	Date	Sample Depth	TPH as Diesel[1]	TPH as Kerosene[1]	TPH as Gasoline[1]	Benzene[2]	Toluene[2]	Ethyl-benzene[2]	Xylenes[2]
MW-H1	02/9/89	6.0	<10	<10	<10	<0.025	<0.005	<0.005	<0.005
MW-H2	08/29/91	6.0-6.5	<1.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005
MW-H3	08/29/91	6.0-6.5	800	<10	<1.0	<0.005	<0.005	<0.005	<0.005

[1] Analyzed in accordance with the DHS LUFT Manual.
[2] Extracted by EPA Method 5030 and analyzed by EPA Method 8020.

Notes: Number(s) shown in bold are concentrations identified above detection limit(s).
Well locations are shown in Figure 1.
Well logs are in Attachment C.
Laboratory report is in Appendix E.
Bolded numbers indicate concentrations above the levels of detection.

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E87-07-244

Received: 15 JUL 87
Reported: 21 JUL 87

Mr. Francis Collins
Hollis Street Project
Post Office Box 8685
Emeryville, California 84662-0685

TABLE 5

REPORT OF ANALYTICAL RESULTS

NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
244-1	Northeast Corner of Pit	15 JUL 87

AMETER	07-244-1
zene,Toluene,Xylene Isomers	
nzene, mg/kg	0.8
luene, mg/kg	12
tal Xylene Isomers, mg/kg	93
al Fuel Hydrocarbons, mg/kg	1700

A. McLean, Laboratory Director

REPORT OF ANALYTICAL RESULTS

G NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
-474-1	Tank Site - East - 10.0-10.5'	24 JUL 87
-474-2	Tank Site - West - 10.5-11.0'	24 JUL 87

RAMETER	07-474-1	07-474-2
enzene,Toluene,Xylene Isomers		
Benzene, mg/kg	<0.5	0.5
Toluene, mg/kg	<0.5	<0.5
Total Xylene Isomers, mg/kg	<0.5	0.7
otal Fuel Hydrocarbons, mg/kg	<10	95

D. A. McLean, Laboratory Director

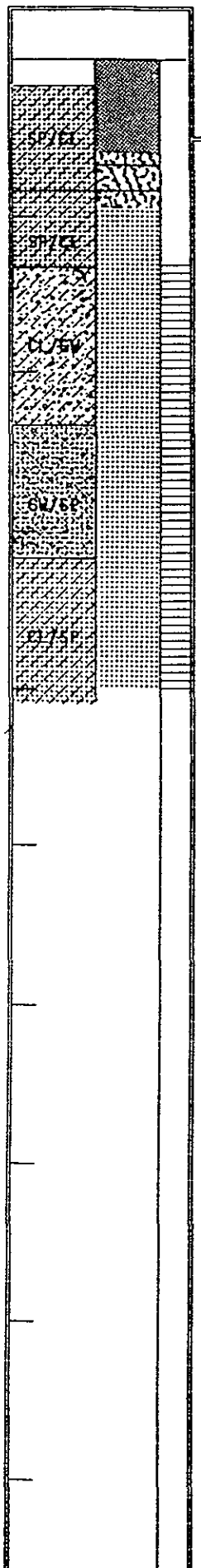
WELL CONSTRUCTION SUMMARY

Project Banta Collins - 6050 Hollis St. WELL MW-H1

Personnel WKS Job No. S9-105

Location of Coords: _____ Elevation: Ground Level _____

Top of Casing _____



DRILLING SUMMARY

Total Depth: 20.5'

Borehole Diameter: 7"

Driller: ASE Drilling

Rig: Mobile B-53

Bit(s): Hollow Stem Cont. Flight

Drilling Fluid: None

Surface Casing: Iron well cap

WELL DESIGN

Basis: Geologic Log X

Geophysical Log _____

Casing String(s): C=Casing S=Screen

0	- 6'	C		-	
6'	- 20'	S		-	
	-			-	
	-			-	
	-			-	
	-			-	

Casing: C1 PVC, sch 40

C2 _____

C3 _____

C4 _____

Screen: S1 PVC, sch 40, 20 slots

S2 _____

S3 _____

S4 _____

Centralizers: _____

Filter Material: Lonestar sand #3

4.5' - 20.5'

Cement: Neat 0 - 3.5'

Other: Bentonite 4.5' - 3.5'

CONSTRUCTION TIME LOG

TASK	Start Date	Start Time	Finish Date	Finish Time
Drilling:	2/8/89	8:52	2/8/89	10:26
Geophys Logging:				
Casing:	2/8/89	10:35	2/8/89	10:36
Filter Placement	2/8/89	11:37	2/8/89	11:53
Cementing:	2/8/89	11:54	2/8/89	12:10
Development:	2/8/89	12:15	2/8/89	14:40
Other:				

WELL DEVELOPMENT

Power pump 2-8-89 50 gallons

COMMENTS

Water level during drilling: 8.0'

2/10/89: 4.85'

BASELINE ENVIRONMENTAL CONSULTING

5900 Hollis St., "D"

Emeryville, CA 94608

(415) 420-8686

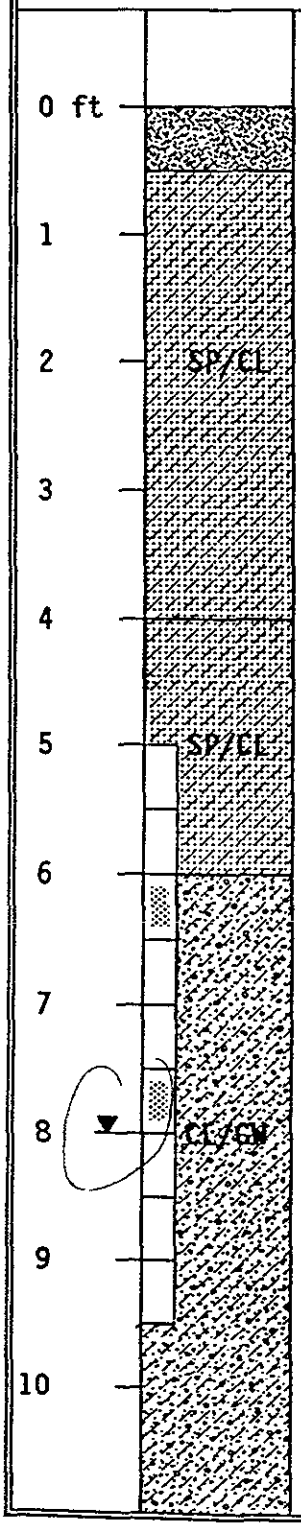
SIGN. Jane Davidson

DRILLING LOG

BASELINE
5900 Hollis St., "D"
Emeryville, CA 94608
(415) 420-8686

Location Banta Collins - 6050 Hollis Street
Driller ASE Drilling
Method Hollow Stem Continuous Flight
Logger WKS Datum

Boring No. MW-H1
Date 2/8/89
Bore size 7"
Casing size 2"



Depth	Lithology	Notes
0 ft	Concrete.	
	Very dark gray/black, sandy CLAY, damp.	
1		Petroleum odor
2	SP/CL	
3		
4	Light yellowish brown, sandy CLAY, moist.	Slight petroleum odor
5	SP/CL	6-12-22 Blow counts
6	Dark yellowish brown, sandy clayey GRAVEL, moist-wet, some larger cobble-sized clasts.	
7		5-16-25
8	CL/GW	No recovery 9-12-19
9		
10		

DRILLING LOG

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Casing size 2"

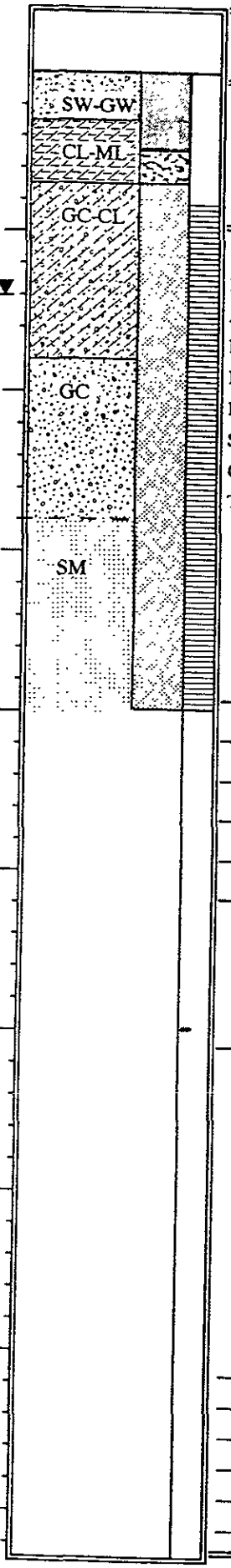
Depth	Graphic	Lithology	Notes
11 ft	CL/GW		
12		Dark yellowish brown, clayey gravelly SAND, very fine-grained, moist-wet.	2-8-12
13	GW/SP		
14			
15			
16		Dark yellowish brown, clayey SAND, very fine-grained, moist-wet.	
17			
18	CL/SP		
19			
20		Total depth 20.5 feet.	
21			

WELL CONSTRUCTION SUMMARY

Project No.: S9105 Well No: MW-H2

Project Name: Hollis Street Project
Location: 6050 Hollis St.
Emeryville, CA

Date: 8-29-91
Personnel: WKS
Driller: Aqua Science Engineers



[Scale: 1 inch=5 feet]

DRILLING SUMMARY

Drill Rig: B-57
Auger/Bits: Hollow stem continuous flight
Drilling Fluid: None
Boring Diameter (inch): 8-inch
Boring Depth (feet): 20
Surface Completion: Morrison Christy Box
Ground Surface Elevation (feet): 21.93
TOC Elevation (feet): 21.48

WELL DESIGN

Basis: X Geologic Log ___ Geophysical Log

Casing Diameter (inch)	Material + Length (feet)	Slot Size	Interval (feet bgs)
2	PVC 4.2	Blank	0.4 - 4.5
2	PVC 10	010	4.5 - 14.5
2	PVC 5.5	010	14.5 - 20

Centralizer: None	
Filter Material: Lonestar #2/16	3.5 - 20
Bentonite:	2.5 - 3.5
Cement:	0 - 2.5

WATER LEVELS

	Date	Time	Depth (ft bgs)
During Drilling:	8-29-91	8:15	≈7.0
After completion:	N.A.	N.A.	N.A.
Before development:	9-5-91	12:47	6.81

COMMENTS

CONSTRUCTION TIME LOG

Task	Start Date	Start Time	Finish Date	Finish Time
Drilling:	8-29-91	7:45	8-29-91	8:57
Geophys Logging:				
Casing:	8-29-91	9:00	8-29-91	9:05
Filter Placement:	8-29-91	9:05	8-29-91	9:59
Cementing:	8-29-91	10:15	8-29-91	10:20
Development:	9-5-91	12:48	9-5-91	14:10
Other:				

WELL DEVELOPMENT

Method: Double diaphragm pump Date: 9-5-91

Time	Gallons	Appearance
12:48	0	Very turbid
12:50	4	Very turbid
13:03	8	Very turbid
13:06	15	Very turbid
13:12	15	Slightly turbid
13:40	22	Slightly turbid
13:47	26	Slightly turbid
13:56	30	Very slightly turbid
14:10	35	Very slightly turbid - clear

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Signature: [signature]

(revised 9/6/91)

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DRILLING LOG

Location	6050 Hollis Street	Boring No.	MW-H2
Driller	ASE	Project No.	S9105
Method	Hollow stem	Date	8-29-91
Logger	WKS Datum	Bore size 8-inch	Casing size 2-inch

Depth	Graphic	Lithology	Notes
0		Concrete slab	
		Yellowish brown, silty gravelly SAND - sandy GRAVEL; fine-grained, sub-angular - angular clasts 1/2 - 3/4 inch	
	SW-GW	diameter, loose to loosely dense, dry-damp (fill).	
1			
		Black, silty CLAY - clayey SILT with some gravel,	Brick pieces
2	CL/ML	low plasticity; firm sub-rounded clasts 1/3 inch diameter damp.	
3			
	GC/CL	Brown, sandy clayey GRAVEL - gravelly CLAY.	
4		1/3 - 1/4 inch diameter clasts. Sub-angular.	
		Angular, medium plasticity, loose, moist-very moist.	
5			8-9-9
			Increase in moisture.
6			Some water in between gravel.
			5 ppm Hnu
7			8-8-9-10
8			17-8-9-10
9		Brown, clayey sandy GRAVEL, sub-angular sub-rounded clasts 1/3 - 3/4 inch diameter, loose.	
	GC		
10		Medium loose, some interbedding of coarse grained sandy wet.	

Scale: 1 inch = 1.5 feet

(10/23/91)

Signature

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DRILLING LOG

Depth	Graphic	Lithology	Notes
10			
11			
12			
13			
14	SM	Pale olive - yellowish brown, silty SAND; very fine-grained - some interbedding of fine-grained sands, iron oxide stains, wet.	8-8-9
15			
16			
17			
18			
19		Some interbedding of gravelly clay - clayey gravels. 1-3 inches thich.	
20		T.D. 20.0 ft	12-24-19-23

Scale: 1 inch = 1.5 feet (10/23/91)

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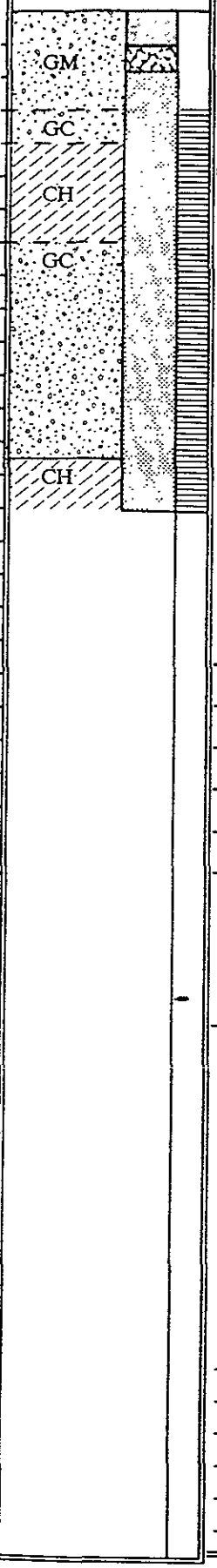

WELL CONSTRUCTION SUMMARY

Project No.: S9105 Well No: MW-H3

Project Name: Hollis Street Project
Location: 6050 Hollis Street
Emeryville, CA

Date: 8-29-91
Personnel: WKS
Driller: Aqua Science Engineers

DRILLING SUMMARY

Drill Rig: B-57
Auger/Bits: Hollow stem continuous flight
Drilling Fluid: None
Boring Diameter (inch): 8
Boring Depth (feet): 15
Surface Completion: Morrison Christy Box
Ground Surface Elevation (feet): 17.37
TOC Elevation (feet): 16.95

WELL DESIGN

Basis: X Geologic Log ____ Geophysical Log

Casing Diameter (inch)	Material + Length (feet)	Slot Size	Interval (feet bgs)
2	PVC 2.7	Blank	0.4 - 3
2	PVC 10	010	3 - 13
2	PVC 2	010	13 - 15

Centralizer	None	
Filter Material	Lonstar #2/16	2-15
Bentonite		1-2
Cement		0-1

WATER LEVELS

	Date	Time	Depth (ft bgs)
During Drilling:	8-29-91	12:00	4.5
After completion:	NA	NA	NA
Before development:	9-5-91	8:10	4.71

COMMENTS

CONSTRUCTION TIME LOG

Task	Start Date	Start Time	Finish Date	Finish Time
Drilling:	8-29-91	11:30	8-29-91	12:21
Geophys Logging:				
Casing:	8-29-91	12:25	8-29-91	12:27
Filter Placement:	8-29-91	12:30	8-29-91	13:10
Cementing:	8-29-91	14:10	8-29-91	14:28
Development:	9-5-91	8:10	9-5-91	10:42
Other:				

WELL DEVELOPMENT

Method: Double diaphragm pump Date: 9-5-91

Time	Gallons	Appearance
8:10	0	Very turbid
8:20	2.5	Very turbid
8:29	4.0	Very turbid
8:45	6.0	Very turbid
10:10	16.0	Slightly turbid
10:25	20.0	Very slightly turbid
10:35	22.0	Very slightly turbid - clear
10:42	27.0	Very slightly turbid - clear

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[Scale: 1 inch=5 feet]

(revised 9/9/91)

DRILLING LOG

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Location	6050 Hollis Street	Boring No.	MW-H3
Driller	ASE	Project No.	S9105
Method	Hollow stem	Date	8-29-91
Logger	WKS Datum	Bore size 8-inch	Casing size 2-inch

Depth	Graphic	Lithology	Notes
0		Reddish Brown CLAY, silty gravelly sand; fine-grained, clasts 1/4 - 1/3 inch diameter, sub-angular, loose, damp.	
1	GM		
2		Increase in clay. Gray, sandy, gravelly CLAY; medium-high plasticity, 1/4 - 1/3 inch diameter sub-rounded clasts, loose, moist.	
3	CL		
4			
5		Dark greenish gray, silty CLAY with gravel, medium-high plasticity, very soft, very moist, wet.	Hnu - 10 ppm Pushed sample; no blow counts; strong petroleum odor - diesel?
6	CH		Hnu - 10 ppm of sample
7		Yellowish brown, clayey sandy GRAVEL; clasts sub-rounded - rounded 1/4 - 1 1/2 inch diameter. Medium-fine grained sand, medium dense, very moist.	Decrease in moisture
8	GC		
9			
10			18-19-18-24

Scale: 1 inch = 1.5 feet

Signature _____

(10/23/91)

DRILLING LOG

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Depth	Graphic	Lithology	Notes
10			
11			
12			
13			7-7-7-2
14	CH	Pale yellowish-brown, sandy silty CLAY; medium-high plasticity, very fine-grained, firm, iron oxide stained, wet.	
15		T.D. 15.0 ft	
16			
17			
18			
19			
20			

Scale: 1 inch = 1.5 feet

(10/23/91)

Signature