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

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

March 30, 2005

Todd Adams
Holliday Development
1500 Park Avenue
Emeryville, CA 94608

Dear Mr. Adams:

Subject: Toxics Site Case Closure Southern Pacific Transportation Company Site, 4226 Halleck Street, Emeryville, California; Case No. RO0002619

This letter transmits the enclosed toxics case closure letter. 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 toxics case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

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

- Residual metals concentrations up to 9.6 mg/kg arsenic, 190 mg/kg lead, 330 mg/kg barium, 1.4 mg/kg cadmium, 98 mg/kg copper, and 380 mg/kg zinc remain in place in site soil.
- Polynuclear aromatic hydrocarbons (PAHs) concentrations up to 0.048 mg/kg anthracene, 0.12 mg/kg benzo(a)anthracene, 0.11 mg/kg benzo(a)pyrene, 0.095 mg/kg benzo(b)fluoranthene, 0.13 mg/kg benzo(g,h,I)perylene, 0.09 mg/kg benzo(k)fluoranthene, 0.16 mg/kg chyrsene, 0.32 mg/kg fluoranthene, 0.1 mg/kg indeno(1,2,3-cd)pyrene, 0.22 mg/kg phenanthrene, and 0.24 mg/kg pyrene remain in place in site soil.
- Up to 0.018 mg/kg toluene was detected in soil and up to 53 ug/L total volatile hydrocarbons quantified as gasoline was detected in groundwater.

If you have any questions, please call Bob Schultz at (510) 567-6719. Thank you.

Sincerely,

Donna L. Drogos, P.E.
LOP and Toxics Program Manager

Enclosures:
1. Remedial Action Completion Certificate
2. Case Closure Summary

cc: Betty Graham (w/enc), SF- Regional Water Quality Control Board, 1515 Clay Street, Suite 1400 Oakland, CA 94612
City of Emeryville, 1333 Park Ave., Emeryville, CA 94608 (w/enc)
File (w/orig enc), D. Drogos (w/enc), R. Garcia (w/enc)

Alameda County Environmental Health

CASE CLOSURE SUMMARY
SPILLS, LEAKS, INCIDENTS AND CLEANUPS (SLIC) – TOXICS PROGRAM

I. AGENCY INFORMATION

Date: March 1, 2005

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6719
Responsible Staff Person: Robert W. Schultz	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Southern Pacific Transportation Company Site		
Site Facility Address: 4226 Halleck Street, Emeryville, CA		
RB Case No.: 5276	Local Case No.: ---	TOXICS Case No.: RO0002619
URF Filing Date: NA	SWEEPS No.: ---	APN: 049-1035-004-00

Responsible Parties	Addresses	Phone Numbers
Hamilton Seniors LLC, Attn. Mr. Todd Adams	1500 Park Ave., Emeryville, CA 94608	510-547-2122

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
NA	NA	NA	NA	NA
Piping			NA	NA

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Metals and PAH containing fill material, emplaced during site construction (likely circa 1906)		
Site characterization complete? Yes	Date Approved By Oversight Agency: ----	
Monitoring wells installed? Yes	Number: 1	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 4.1 ft	Lowest Depth: 5.5 ft	Flow Direction: westward
Most Sensitive Current Use: Potential drinking water source.		

Summary of Production Wells in Vicinity:
The East Bay Plain Groundwater Basin Beneficial Use Evaluation Report prepared by the Regional Water Quality Control Board, San Francisco Bay Region, dated June 1999, inventoried all municipal, domestic, industrial and irrigation wells permitted by the Alameda County Flood Control District. The East Bay Plain Study states that 0 permitted water wells were located in Emeryville, and that no extractive beneficial uses are planned in the future. The site is within the Emeryville Brownfields Groundwater Management Zone identified by the East Bay Plain study. The City of Emeryville has developed a sub-regional groundwater monitoring plan to protect groundwater in this Brownfields Zone. Older (and consequently un-permitted) deeper wells were also considered in the East Bay Plain study. The density of deeper wells in Emeryville as evaluated from the Dockweiler Report (dated 1912) is fairly low at about 1 deep well per square mile.

Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: San Francisco Bay, approx. 1,300 ft to the west
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	NA	--	--
Piping	NA	--	--
Free Product	NA	--	--
Soil	2,400 tons 770 cubic yards 50 cubic yards	Disposal: Non-Hazardous Forward Inc., Manteca, California Hayward Pollution Control District Alviso Independent Oil, Alviso, California	April 24, 1999 August 5, 1999 November 30, 2004
Groundwater	NA	--	--

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
(Please see Attachments 1 through 5 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
Arsenic	6,800	9.6	32	32
Lead	640	190	ND	ND
Barium	2,400	330	1,800	1,800
Cadmium	24	1.4	10	10
Copper	3,000	98	20	20
Zinc	21,000	380	70	70
PAH*	--	0.120	NA	NA
Chyrsene	--	0.16	NA	NA
Pyrene	1.1	0.24	NA	NA

0.110 mg/kg benzo(a)pyrene detected. Various polynuclear aromatic hydrocarbons (PAHs) and metals were detected at the site. See attached tables for complete list of compound names and concentrations.

Site History and Description of Corrective Actions:
Metals were detected in soil, and petroleum hydrocarbons were detected in groundwater in 1990 during property screening performed as part of a transaction.

- Five soil borings were advanced and a well was installed to collect soil and groundwater samples in 1990.
- Two soil borings were drilled in 1994 to collect soil and groundwater samples and the well was re-sampled in 1994
- Soil and groundwater samples were collected from one boring in 1995.
- Eleven soil borings and four test pits were advanced to collect soil samples in 1997 and 1998.
- Approximately 2,400 tons of black sand fill and 770 cubic yards of overburden fill soil were removed from the site in 1999 and confirmation samples were collected following excavation. Excavation was completed to approximately 4 ft bgs.
- Eleven borings were drilled to collect soil samples in 2004.
- Approximately 50 cubic yards of soil were removed from the site in 2004 and confirmation samples were collected following excavation.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes No		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes No		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current conditions.		
Site Management Requirements: None		
Should corrective action be reviewed if land use changes? No		
Monitoring Wells Decommissioned: Yes	Number Decommissioned: 1	Number Retained: 0
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: None		

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:
Project proponent has requested review for unrestricted land use. Residual benzo(a)pyrene concentrations in samples GMX-5 and GMX-8 were 0.074 mg/kg and 0.11 mg/kg, respectively.

Metals and petroleum hydrocarbons (TVHg) were detected in groundwater. Detected arsenic, barium, beryllium, and cadmium concentrations exceed the San Francisco Basin Plan Water Quality Objectives based on use for municipal water supply. The detected TVHg concentration was 53 ug/L; however there is no numerical water quality objective for TVHg, and the gasoline constituents BTEX and MTBE were not detected in site groundwater.

Conclusion:
Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment based upon the information available in our files to date. The source area was over-excavated. Geomatrix Consultants, Inc., performed screening-level risk assessment the site and determined that the site would not pose a significant threat to the public under unrestricted land use. Cleanup has generally reduced metals and polynuclear aromatic hydrocarbon (PAH) concentrations in soil to at or below residential (the most sensitive potential future use) risk-based screening levels. Geomatrix concluded that he detected benzo(a)pyrene concentrations are above the applicable screening levels; however, these compounds appear in localized areas at the site, are common in urban environments and the incremental increase in health risk posed by their onsite presence is well within the USEPA typically accepted range of 10^{-4} to 10^{-5}. No further investigation or cleanup of PAHs is necessary.

Metals and PAH concentrations were detected in groundwater found within fill material emplaced on top of lower permeability native Bay Muds. Provided shallow onsite groundwater is not used as a drinking water source, the detected metals and hydrocarbon concentrations do not appear to pose a human health or environmental risk to onsite receptors. It appears unlikely that the detected metals and hydrocarbons would migrate away from the site and pose a significant risk to any offsite receptor. Geomatrix's evaluation concluded that the detected concentrations are consistent with background concentrations for the area, based on the regional history of artificial fill and industrial use.

ACEH staff recommend case closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Robert W. Schultz	Title: Hazardous Materials Specialist
Signature: Robert W. Schultz	Date: 3/23/05
Approved by: Donna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature: Donna L. Drogos	Date: 3/24/05

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Betty Graham	Title: Associate Water Resources Control Engineer
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB:
Signature:	Date:

Attachments:
1. Site Vicinity Map
2. Site Plan
3. Soil Analytical Data
4. Groundwater Analytical Data
5. Boring Logs

This document and the related CASE CLOSURE LETTER shall be retained by the lead agency as part of the official site file.

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Signature: Betty Graham	Date: 3/30/05

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1. Site Vicinity Map
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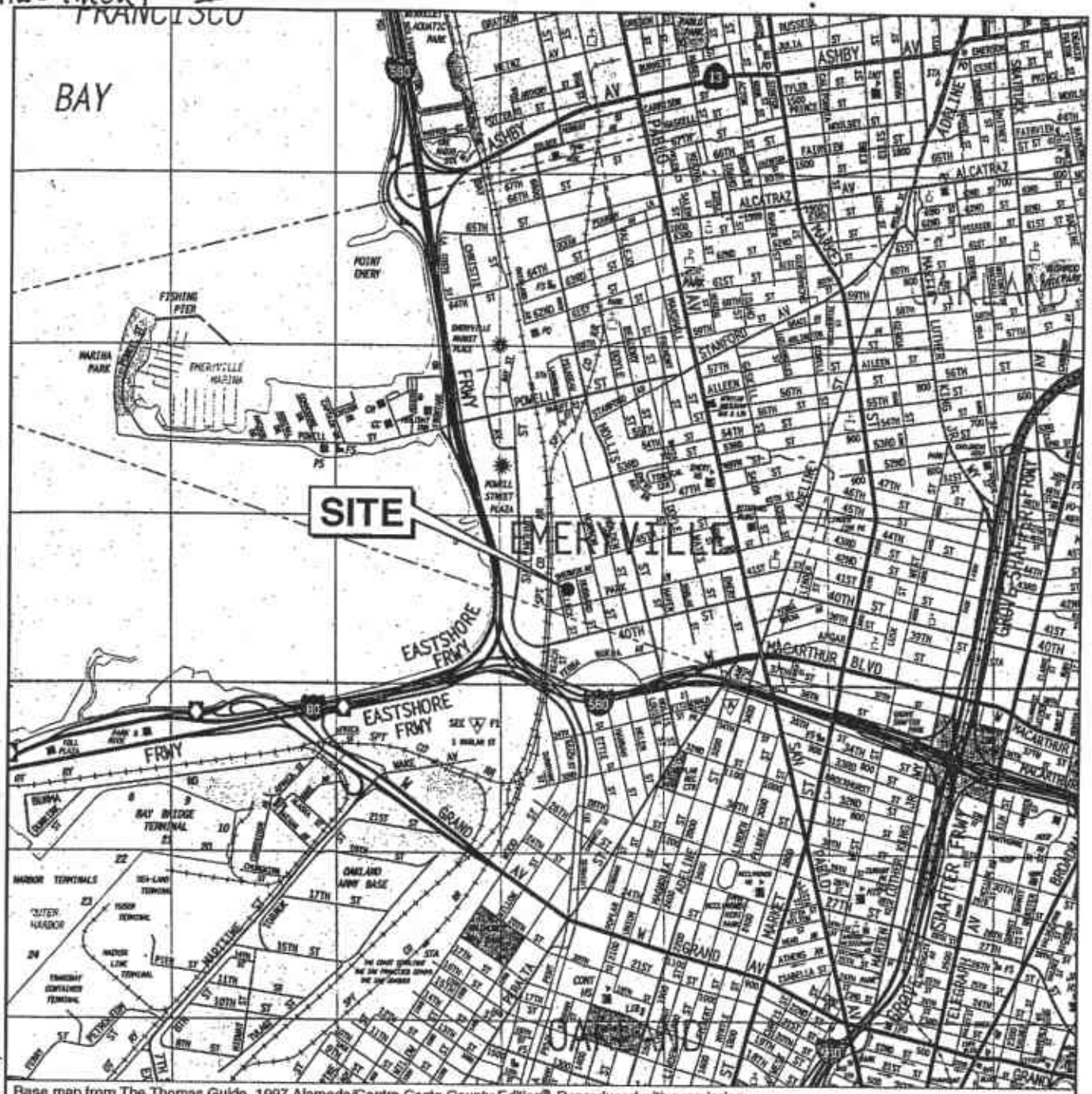
Post-it® Fax Note 7671	Date 3/30	# of pages ▶ 1
To Bob Schultz	From B Graham	
Co./Dept.	Co.	
Phone #	Phone #	
Fax # 837-9335	Fax #	

Attachment 1



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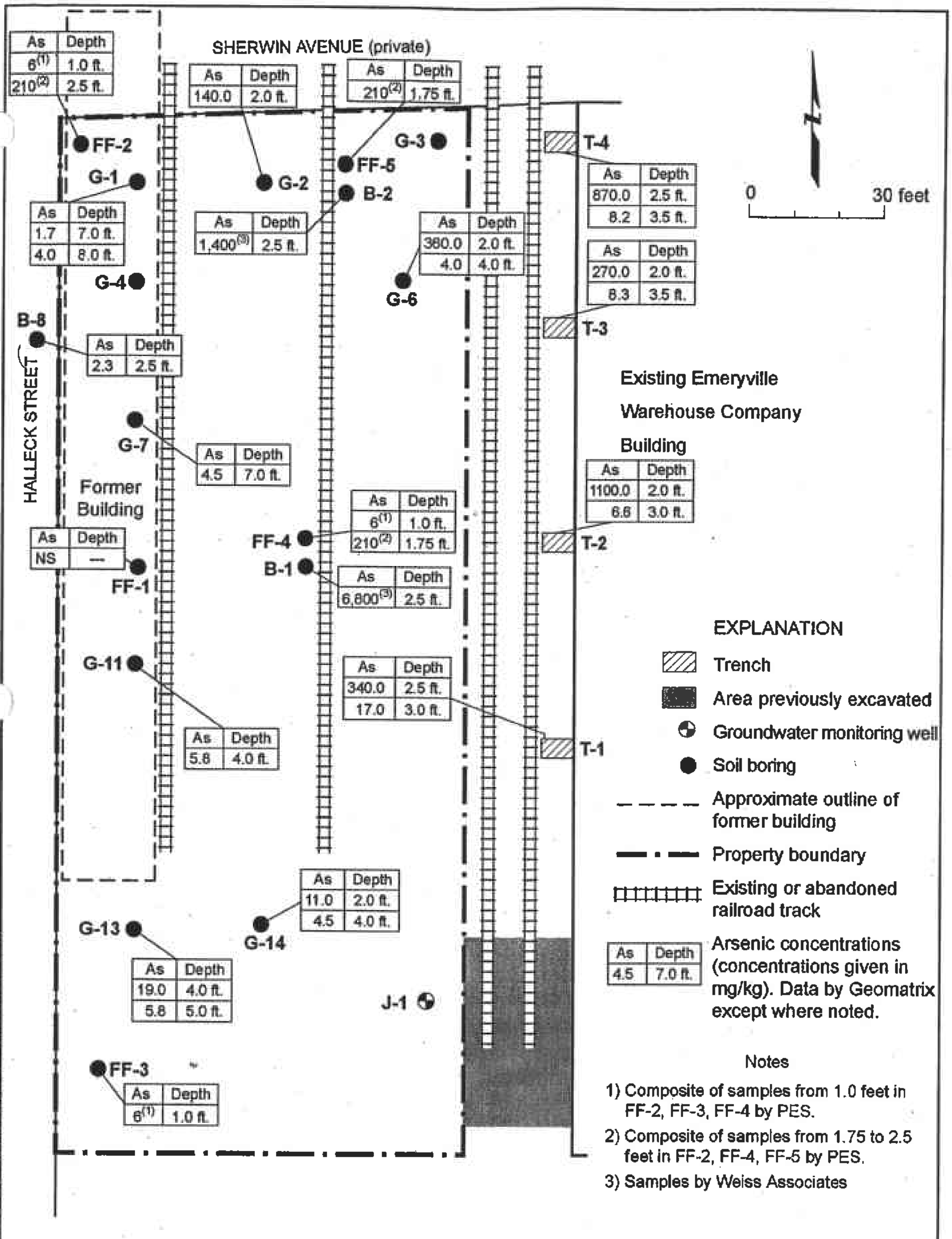
GEOMATRIX

SITE LOCATION MAP
4226 Halleck Street
Emeryville, California

Project No.
3095.007

Figure
1

Attachment 2



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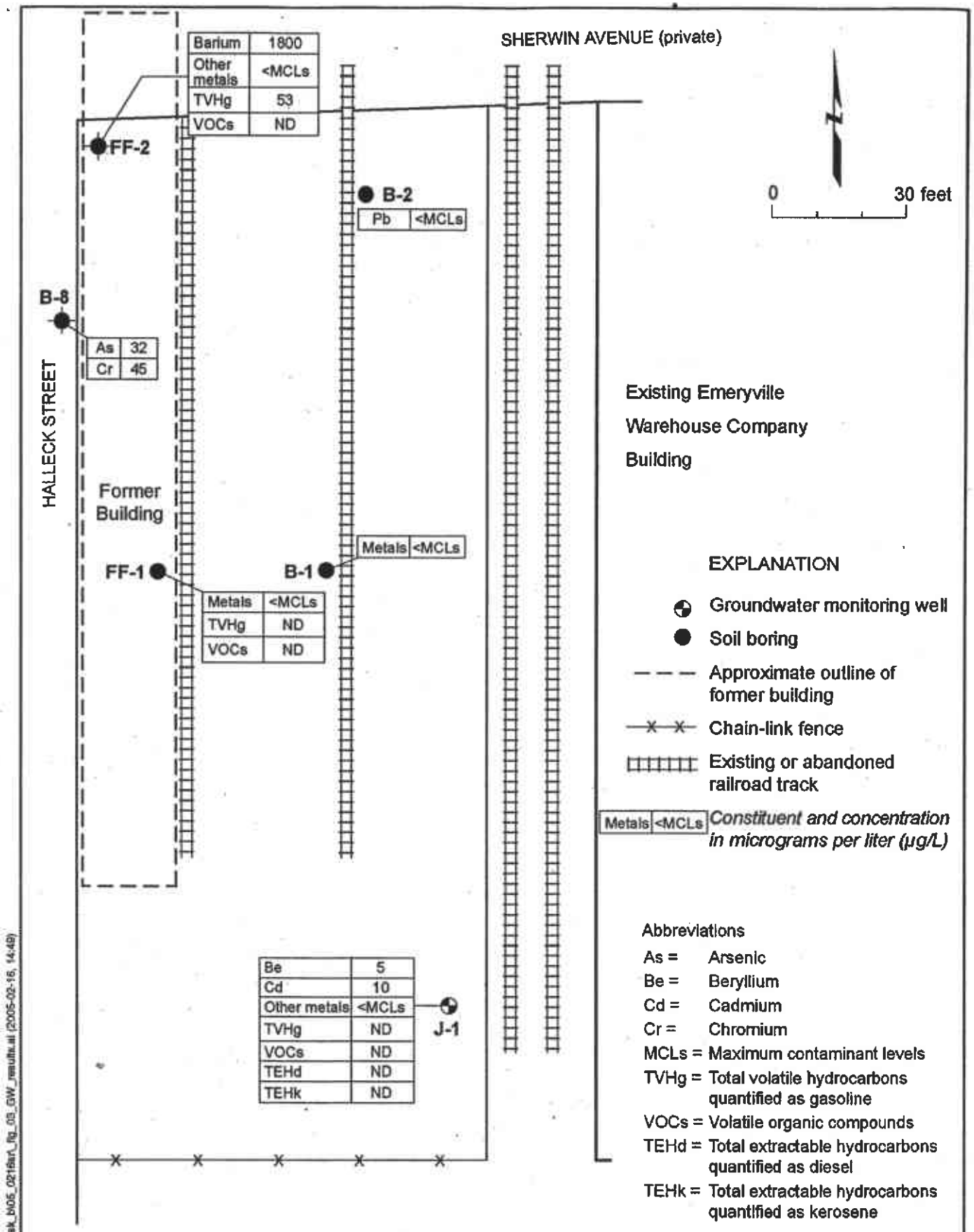
GEOMATRIX

ARSENIC CONCENTRATIONS IN SOIL PRIOR TO 1999 EXCAVATION
4226 Halleck Street
Emeryville, California

Project No. 3095.007

Figure 2

APPENDIX A



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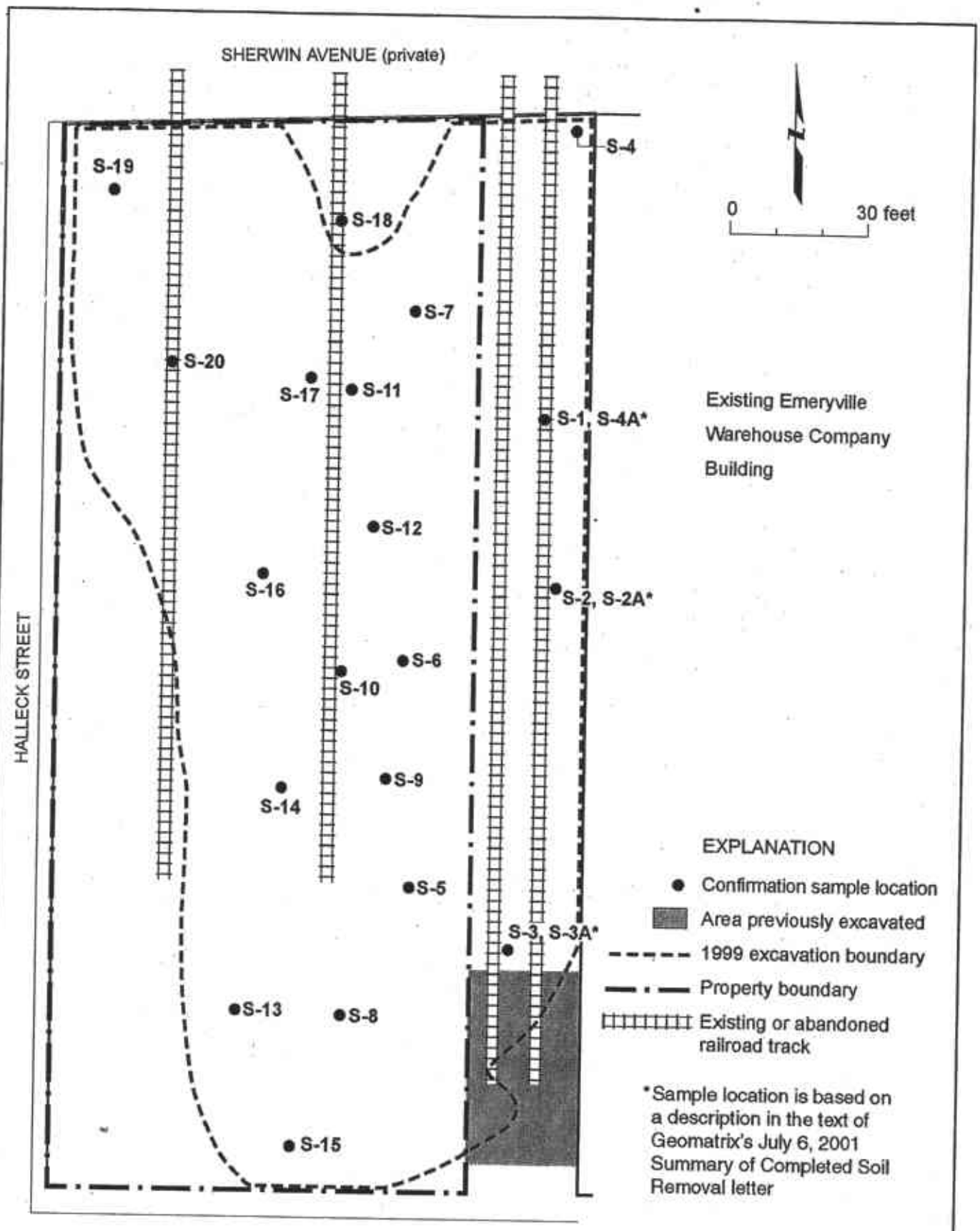
GEOMATRIX

GROUNDWATER ANALYTICAL RESULTS
4226 Halleck Street
Emeryville, California

Project No. 3095.007

Figure 3



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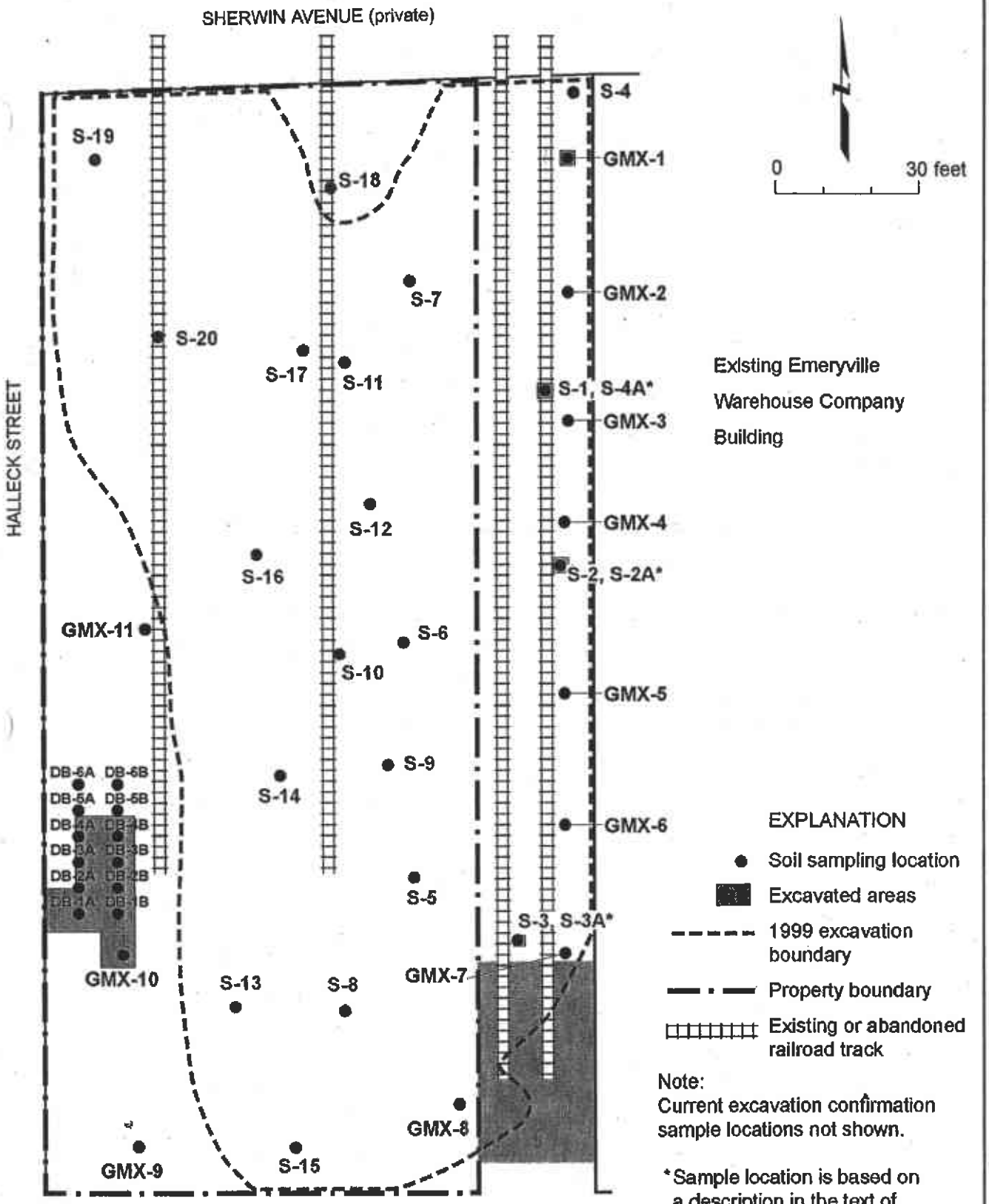
GEOMATRIX

POST-1999 EXCAVATION CONFIRMATION
SOIL SAMPLING LOCATIONS
4226 Halleck Street
Emeryville, California

Project No.
3095.007

Figure
4



Note:
Current excavation confirmation sample locations not shown.

*Sample location is based on a description in the text of Geomatrix's July 6, 2001 Summary of Completed Soil Removal letter

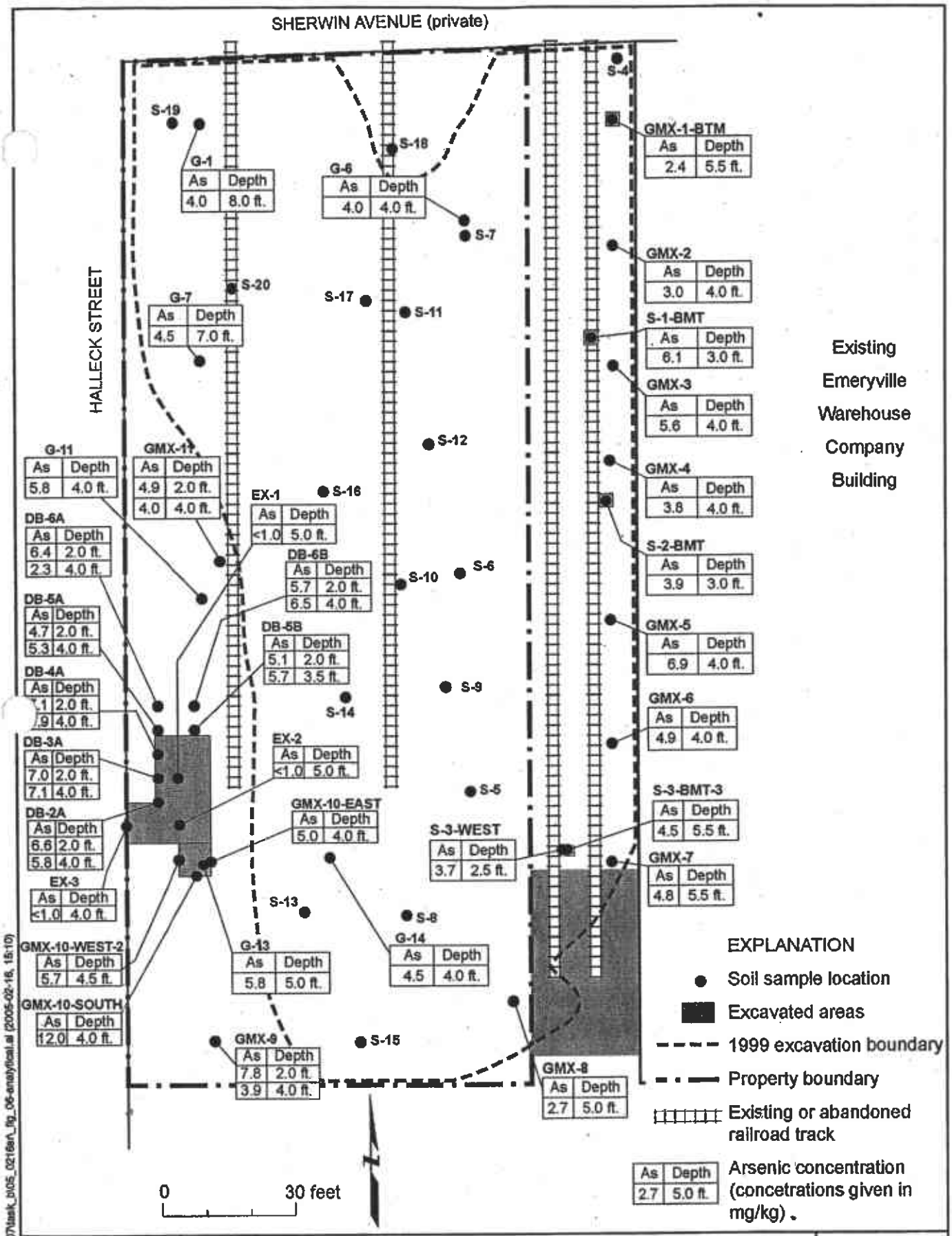
GEOMATRIX

2004 INVESTIGATION SOIL SAMPLING AND EXCAVATION LOCATIONS
4226 Halleck Street
Emeryville, California

Project No. 3095.007

Figure 5

S:\3000\3095.07\task_1\05_0216a_fig_05-SamplingLocations.ai (2005-02-16, 15:05)



GEOMATRIX

ARSENIC CONCENTRATIONS REMAINING IN SOIL
4226 Halleck Street
Emeryville, California

Project No. 3095.007

Figure 6

S:\3000s\3095.07\task_b\05_0216ar_fig_06-analytical.ai (2005-02-16, 15:10)

Attachment 3

TABLE 1

SUMMARY OF HISTORICAL SOIL ANALYTICAL RESULTS

4226 Halleck Street
Emeryville, California

Concentrations reported in milligrams per kilogram (mg/kg)

Sample Location	Sample Depth	Sample Type	Sample Date	Metals																Organics				
				Antimony	Arsenic	Barium	Beryl-lium	Cad-mium	Chrom-ium[1]	Cobalt	Copper	Mercury	Molyb-denum	Nickel	Lead	Selen-ium	Silver	Thal-lium	Vanad-ium	Zinc	TVHg	TEHk	TEHd	VOCs	SVOCs
FF-2/3/4[2,4]	1.0	Investigation	11/20/90	<5.0	6	110	<0.5	2	28	10	74	0.3	<0.5	39	96	<2.5	<1	<5.0	18	280	NA	NA	NA	NA	NA
FF-2/4/5[3,4]	1.75 - 2.5	Investigation	11/20/90	<5.0	210	1100	<0.5	24	52	72	2600	<0.1	3.2	13	550	<2.5	2	5.0	34	9300	NA	NA	NA	NA	NA
FF-2-6.0[4]	6.0	Investigation	11/20/90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	Toluene - 0.016	ND
FF-1/3/5[4]	5.5 - 6.0	Investigation	11/20/90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	Toluene - 0.018	ND
B1S[5]	2.5	Investigation	08/10/94	16	6800	1400	<0.5	10	25	43	2300	<0.05	21	9	190	<1.0	12	<5.0	27	21,000	NA	NA	NA	NA	NA
B2S[5]	2.5	Investigation	08/10/94	27	1400	440	<0.5	7	65	58	2300	<0.05	11	28	640	<1.0	11	6	26	10,000	NA	NA	NA	NA	NA
8@2.5'[6]	2.5	Investigation	12/15/95	NA	2.3	NA	NA	NA	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-1	7.0	Investigation	11/13/97	NA	1.7	96	NA	0.3	NA	NA	16	NA	NA	NA	5.0	NA	NA	NA	NA	30	NA	NA	NA	NA	NA
	8.0	Investigation	11/13/97	NA	4.0	140	NA	0.5	NA	NA	40	NA	NA	NA	12	NA	NA	NA	NA	150	NA	NA	NA	NA	NA
G-2	2.0	Investigation	11/13/97	NA	140	2400	NA	6.0	NA	NA	3000	NA	NA	NA	200	NA	NA	NA	NA	10,000	NA	NA	NA	NA	NA
G-6	2.0	Investigation	11/13/97	NA	360	910	NA	2.0	NA	NA	1700	NA	NA	NA	450	NA	NA	NA	NA	6900	NA	NA	NA	NA	NA
	4.0	Investigation	11/13/97	NA	4.0	300	NA	0.9	NA	NA	20	NA	NA	NA	6.0	NA	NA	NA	NA	42	NA	NA	NA	NA	NA
G-7	7.0	Investigation	11/13/97	NA	4.5	81	NA	0.3	NA	NA	15	NA	NA	NA	5.0	NA	NA	NA	NA	28	NA	NA	NA	NA	NA
G-11	4.0	Investigation	11/13/97	NA	5.8	200	NA	0.7	NA	NA	22	NA	NA	NA	7.0	NA	NA	NA	NA	55	NA	NA	NA	NA	NA
G-13	4.0	Investigation	11/13/97	NA	19	240	NA	4.1	NA	NA	130	NA	NA	NA	450	NA	NA	NA	NA	670	NA	NA	NA	NA	NA
	5.0	Investigation	11/13/97	NA	5.8	230	NA	0.7	NA	NA	20	NA	NA	NA	7.0	NA	NA	NA	NA	45	NA	NA	NA	NA	NA
G-14	2.0	Investigation	11/13/97	NA	11	110	NA	0.9	NA	NA	64	NA	NA	NA	11	NA	NA	NA	NA	290	NA	NA	NA	NA	NA
	4.0	Investigation	11/13/97	NA	4.5	180	NA	0.5	NA	NA	19	NA	NA	NA	6.0	NA	NA	NA	NA	43	NA	NA	NA	NA	NA
T-1	2.5	Investigation	Unknown	NA	340	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3.0	Investigation	Unknown	NA	17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-2	2.0	Investigation	Unknown	NA	1100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3.0	Investigation	Unknown	NA	6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-3	2.0	Investigation	Unknown	NA	270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3.5	Investigation	Unknown	NA	83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
T-4	2.5	Investigation	Unknown	NA	870	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3.5	Investigation	Unknown	NA	802	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
S-1	Unknown	Confirmation	03/23/99	NA	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
S-2	Unknown	Confirmation	03/23/99	NA	36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
S-3	Unknown	Confirmation	03/24/99	NA	87	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
S-4	Unknown	Confirmation	03/25/99	NA	4.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
S4-A	Unknown	Confirmation	04/13/99	NA	5.4	200	NA	<0.099	NA	NA	27	NA	NA	NA	6.6	NA	NA	NA	NA	64	NA	NA	NA	NA	NA
S-2A	Unknown	Confirmation	04/24/99	NA	5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
S3-A	Unknown	Confirmation	04/24/99	NA	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
S-1/2/3/4	Unknown	Confirmation	3/23-25/99	NA	48	420	NA	2.3	NA	NA	270	NA	NA	NA	120	NA	NA	NA	NA	1200	NA	NA	NA	NA	NA
S-5/6/7/8	Unknown	Confirmation	3/25-29/99	NA	9.5	330	NA	1.3	NA	NA	98	NA	NA	NA	30	NA	NA	NA	NA[4]	380	NA	NA	NA	NA	NA
S-9/10/11/12	Unknown	Confirmation	3/29-31/99	NA	11	230	NA	1.4	NA	NA	78	NA	NA	NA	30	NA	NA	NA	NA	270	NA	NA	NA	NA	NA
S-13/14/15/16	Unknown	Confirmation	4/1-15/99	NA	5	170	NA	<0.098	NA	NA	30	NA	NA	NA	15	NA	NA	NA	NA	67	NA	NA	NA	NA	NA
S-17/18/19/20	Unknown	Confirmation	4/15-20/99	NA	6.3	200	NA	0.2	NA	NA	28	NA	NA	NA	8.5	NA	NA	NA	NA	78	NA	NA	NA	NA	NA

Attachment 4

TABLE 2

SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS

4226 Halleck Street
Emeryville, California

Concentrations reported in micrograms per liter (µg/L)

			Metals															Organics				
Sample Location	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Mercury	Molyb-denum	Nickel	Lead	Selenium	Silver	Thallium	Vanadium	Zinc	TVHg	TEHk	TEHd	VOCs	SVOCs
WFF-1[1]	11/20/90	<50	<50	**250**	<10	<10	<10	<10	<10	<10	**10**	**20**	<50	<50	<20	<50	<20	**50**	<50	NA	NA	ND	NA
WFF-2[1]	11/20/90	<50	<50	**1800**	<10	<10	<10	<10	**20**	<1	**30**	<10	<50	<50	<20	<50	<20	**70**	**53**	NA	NA	ND	NA
B1W[2]	08/10/94	<100	**9**	**330**	<5	<10	<20	<20	<20	<2	<20	<20	<20	<10	<20	<200	<20	<20	NA	NA	NA	NA	NA
B2W[2]	08/10/94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
J-1[1]	10/15/90	<100	<50	NA	<10	<10	<10	NA	<20	<1	NA	<10	<50	<50	<20	<100	NA	<10	<50	<50	<50	ND	NA
J-1[2]	08/10/94	<100	**5**	**120**	**5**	**10**	<20	<20	<20	<2	<20	**20**	<100	<10	<20	<200	**50**	<20	NA	NA	NA	NA	NA
B-8[3]	12/15/95	NA	**32**	NA	NA	NA	**45**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WQO's		6	50	1000	4	5	50	--	1000	2	--	1000	50	50	50	2	--	5000	--	--	--	various	various

Notes:

[1] Samples were collected by PES Environmental, Inc., of Novato, California and filtered by the laboratory prior to analysis.

[2] Samples were collected by Weiss Associates of Emeryville, California and were not filtered prior to analysis.

[3] Sample was collected by Subsurface Consultants of Oakland, California and filtered by the laboratory prior to analysis.

[4] Water Quality Objectives; Regional Water Quality Control Board, San Francisco Bay Region, 1995, Water Quality Control Plan, San Francisco Basin (Region 2), June 21.

Abbreviations:
NA = not analyzed
ND = not detected above laboratory reporting limit
TVHg = Total Volatile Hydrocarbons quantified as gasoline.
TEHk = Total Extractable Hydrocarbons quantified as kerosene.
TEHd = Total Extractable Hydrocarbons quantified as diesel.
VOCs = Volatile Organic Compounds
SVOCs = Semivolatile Organic Compounds
-- = not applicable

TABLE 1

SUMMARY OF HISTORICAL SOIL ANALYTICAL RESULTS

4226 Halleck Street

Emeryville, California

Concentrations reported in milligrams per kilogram (mg/kg)

Sample Location	Sample Depth	Sample Type	Sample Date	Metals																	Organics				
				Antimony	Arsenic	Barium	Beryl-lium	Cad-mium	Chrom-ium[1]	Cobalt	Copper	Mercury	Molyb-denum	Nickel	Lead	Selen-ium	Silver	Thal-lium	Vanad-lium	Zinc	TVHg	TEHk	TEHd	VOCs	SVOCs
BF1A,B,C,D[2]	Unknown	Confirmation	4/27/92	NA	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
BF2A,B,C,D[2]	Unknown	Confirmation	4/27/92	NA	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
BF3A,B,C,D[2]	Unknown	Confirmation	4/27/92	NA	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
BF4A,B,C,D[2]	Unknown	Confirmation	4/27/92	NA	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
ESLs[7]				6.3	5.5	750	4.0	1.7	58	40	230	2.5	40	150	200	1.0	20	1.0	110	600	100	500	500	various	various
Background[8]				<10	14	410	1.1	5.6	120	25	63	0.5	<5	270	57	5.1	3	10	90	140	--	--	--	--	--

Notes:

All samples were collected by Geomatrix Consultants, Inc., unless otherwise indicated.

Shading indicates sample location was excavated.

[1] Total chromium; no hexavalent chromium was detected in any of the samples analyzed for metals.

[2] PES sample CFF-1, composite sample from Boring FF2 at 1.0', EF-3 at 1.0', and FF-4 at 1.0'.

[3] PES sample CFF-2, composite sample from Boring FF-2 at 2.5', FF-4 at 1.75' and FF-5 at 1.75'.

[4] Samples were collected by PES Environmental, Inc., of Novato, California.

[5] Samples were collected by Weiss Associates of Emeryville, California.

[6] Samples were collected by Subsurface Consultants of Oakland, California.

[7] Environmental Screening Levels; S.F. Bay Regional Water Quality Control Board, 2003, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, June (Table B-1).

[8] Represents the 99th percentile of background; arsenic is based on the 95th percentile. Lawrence Berkeley National Laboratory, 2002, Analysis of Background Distributions of Metals in Soil at Lawrence Berkeley National Laboratory, June.

Abbreviations:

NA = not analyzed

TVHg = Total Volatile Hydrocarbons quantified as gasoline.

TEHk = Total Extractable Hydrocarbons quantified as kerosene.

TEHd = Total Extractable Hydrocarbons quantified as diesel.

VOCs = Volatile Organic Compounds

SVOCs = Semivolatile Organic Compounds

-- = not applicable

TABLE 4

SOIL SAMPLE ANALYTICAL RESULTS - POLYNUCLEAR AROMATIC HYDROCARBONS[1]

4226 Halleck Street
Emeryville, California

Concentrations reported in milligrams per kilogram (mg/kg)

Sample Point	Bottom Depth (feet)	Sample Date	Acenaph-thene	Acenaph-thylene	Anthra-cene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoran-thene	Benzo (g,h,i) perylene	Benzo (k) fluoran-thene	Chrysene	Dibenz (a,h) anthracene	Fluoran-thene	Fluorene	Indeno (1,2,3-cd) pyrene	Naph-thalene	Phenan-threne	Pyrene	B(a)P EQ [2]
GMX-2	4.0	10/22/04	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND
GMX-5	4.0	10/22/04	<0.025	<0.025	0.028	0.120	0.074	0.095	0.130	0.09	0.160	<0.025	0.320	<0.025	0.100	<0.025	0.220	0.240	0.12
GMX-8	4.0	10/22/04	<0.025	<0.025	0.048	0.110	0.110	0.051	0.058	0.074	0.110	<0.025	0.210	<0.025	0.053	<0.025	0.160	0.240	0.14
GMX-9	2.0	10/22/04	<0.130	<0.130	<0.130	<0.130	<0.130	<0.130	<0.130	<0.130	<0.130	<0.130	<0.130	<0.130	<0.130	<0.130	<0.130	<0.130	ND
GMX-11	2.0	10/22/04	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.025	<0.025	0.039	<0.025	<0.025	0.031	0.025
Potency Equivalency Factor			NA	NA	NA	0.1	1	0.1	NA	0.1	0.01	0.34[3]	NA	NA	0.1	NA	NA	NA	NA
ESLs[4]			19	13	2.8	0.38	0.038	0.38	27	0.38	3.8	0.11	40	8.9	0.38	0.52	11	85	0.038

Notes:

[1] Samples collected by Geomatrix Consultants, Inc., and analyzed by Severn Trent Laboratories, Inc., of Pleasanton, California, for polynuclear aromatic hydrocarbons using EPA Method 8270C with selective ion monitoring (SIM).

[2] B(a)P EQs = Benzo(a)pyrene equivalents are used to assess the relative toxicity of carcinogenic PAHs and PAH derivatives as a group (OEHHA, 1993).
If a PAH was not detected, one-half the detection limit was multiplied by the corresponding potency equivalency factor (PEF).
B(a)P EQs were only calculated if one or more of the carcinogenic PAHs were detected. The PEFs used to calculate B(a)P EQs were 1.0 for benzo(a)pyrene;
0.1 for benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene; 0.01 for chrysene; and 0.34 for dibenz(a,h)anthracene.

[3] PEF based upon the California EPA oral carcinogenic slope factor of 4.1 mg/kg-day^{1} (OEHHA, 2004).

[4] Environmental Screening Levels; S.F. Bay Regional Water Quality Control Board 2003, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, June (Table B-1).

Abbreviations:
NA = not applicable
ND = not detected

GEOMATRIX

TABLE 3

SOIL SAMPLE ANALYTICAL RESULTS - METALS[1]

4226 Halleck Street
Emeryville, California

Concentrations in milligrams per kilogram (mg/kg)

Boring Location	Sample Depth (feet bgs)	Sample Type	Sample Date	Metals					
				Arsenic	Barium	Cadmium	Copper	Lead	Zinc
GMX-1	4.0	Investigation	10/22/04	22	73J+[2]	5.4	57	54J[3]	470
GMX-1-BTM	5.5	Confirmation	11/04/04	2.4	180	<0.50[4]	19	5.3J-[5]	40J-
GMX-2	4.0	Investigation	10/22/04	3.0	200J+	0.53	21	5.5J	51
GMX-3	4.0	Investigation	10/22/04	5.6	140J+	<0.50	18	4.9J	40
GMX-4	4.0	Investigation	10/22/04	3.8	150J+	<0.50	19	5.0J	38
GMX-5	4.0	Investigation	10/22/04	6.9	160J+	0.54	29	9.8J	70
GMX-6	4.0	Investigation	10/22/04	4.9	170J+	0.50	19	4.7J	40
GMX-7	5.5	Investigation	10/22/04	4.8	140J+	<0.50	24	25J	76
GMX-8	5.0	Investigation	10/22/04	2.7	120J+	<0.50	15	3.8J	34
GMX-9	2.0	Investigation	10/22/04	7.8	94J+	<0.50	28	20J	71
	4.0	Investigation	10/22/04	3.9	140J+	0.55	21	27J	58
GMX-10	2.0	Investigation	10/22/04	14.0	260J+	2.20	110	300J	520
	4.0	Investigation	10/22/04	94.0	180J+	3.00	36	120J	220
GMX-10-BTM	5.0	Confirmation	11/04/04	2.0	150	<0.50	19	6.6J-	34J-
GMX-10-EAST	4.0	Confirmation	11/04/04	5.0	79	<0.50	26	42J-	110J-
GMX-10-SOUTH	4.0	Confirmation	11/04/04	12.0	230	1.30	49	110J-	210J-
GMX-10-WEST	4.0	Confirmation	11/04/04	14.0	340	3.40	140	430J-	480J-
GMX-10-WEST-2	4.5	Confirmation	11/22/04	5.7	--[6]	--	--	56.0	--
GMX-10-NORTH	4.0	Confirmation	11/04/04	19.0	290	2.80	260	680J-	1300J-
GMX-10-NORTH-2	4.5	Confirmation	11/22/04	26.0	--	--	--	350.0	--
EX-1	5.0	Confirmation	12/13/04	<1.0	--	--	--	3.9	--
EX-2	5.0	Confirmation	12/13/04	<1.0	--	--	--	5.3	--
EX-3	4.0	Confirmation	12/13/04	<1.0	--	--	--	5.7	--
GMX-11	2.0	Investigation	10/22/04	4.9	82J+	0.62	51	37J	140
	4.0	Investigation	10/22/04	8.2	200J+	0.79	26	6.7J	61
S-1-BTM	3.0	Confirmation	11/04/04	38.0	420	1.50	240	42J-	810J-
S-3-BTM-2	4.0	Confirmation	11/22/04	66.0	--	--	--	--	--
S-3-BTM-3	5.5	Confirmation	11/23/04	4.5	--	--	--	--	--
S-3-WEST	2.5	Confirmation	11/04/04	3.7	86	0.57	20	52J-	83J-
S-2-BTM	3.0	Confirmation	11/04/04	3.9	130	0.52	20	12J-	42J-
S-1-BTM	3.0	Confirmation	11/04/04	6.1	160	0.64	40	20J-	110J-
DB-1A	2.0	Investigation	11/30/04	6.6	--	--	--	40J-	--
	4.0	Investigation	11/30/04	11.0	--	--	--	670J-	--
DB-1B	2.0	Investigation	11/30/04	6.7	--	--	--	46J-	--
	4.0	Investigation	11/30/04	12.0	--	--	--	360J-	--
DB-2A	2.0	Investigation	11/30/04	6.6	--	--	--	32J-	--
	4.0	Investigation	11/30/04	5.8	--	--	--	130J-	--
DB-2B	2.0	Investigation	11/30/04	7.0	--	--	--	39J-	--
	4.0	Investigation	11/30/04	23.0	--	--	--	640J-	--
DB-3A	2.0	Investigation	11/30/04	7.0	--	--	--	40.0	--
	4.0	Investigation	11/30/04	7.1	--	--	--	35.0	--
DB-3B	2.0	Investigation	11/30/04	9.2	--	--	--	190.0	--
	4.0	Investigation	11/30/04	22.0	--	--	--	260.0	--
DB-4A	2.0	Investigation	11/30/04	7.1	--	--	--	40.0	--
	4.0	Investigation	11/30/04	5.9	--	--	--	160.0	--
DB-4B	2.0	Investigation	11/30/04	9.6	--	--	--	27.0	--
	4.0	Investigation	11/30/04	50.0	--	--	--	260.0	--

GEOMATRIX

TABLE 3

SOIL SAMPLE ANALYTICAL RESULTS - METALS[1]

4226 Halleck Street
Emeryville, California

Concentrations in milligrams per kilogram (mg/kg)

Boring Location	Sample Depth (feet bgs)	Sample Type	Sample Date	Metals					
				Arsenic	Barium	Cadmium	Copper	Lead	Zinc
DB-5A	2.0	Investigation	11/30/04	4.7J-	--	--	--	24J-	--
	4.0	Investigation	11/30/04	5.3J-	--	--	--	130J-	--
DB-5B	2.0	Investigation	11/30/04	5.1J-	--	--	--	27J-	--
	3.5	Investigation	11/30/04	5.7J-	--	--	--	120J-	--
DB-6A	2.0	Investigation	11/30/04	6.4J-	--	--	--	29J-	--
	4.0	Investigation	11/30/04	2.3J-	--	--	--	160J-	--
DB-6B	2.0	Investigation	11/30/04	5.7J-	--	--	--	40J-	--
	4.0	Investigation	11/30/04	6.5J-	--	--	--	100J-	--
ESLs[7]				5.5	750	1.7	230	200	600
Background[8]				14	410	5.6	63	57	140

Notes:

Shading indicates that the soil at that location has been excavated and removed from the site

[1] Soil samples were collected by Geomatrix Consultants, Inc., of Oakland, California, and analyzed for arsenic, barium, cadmium, copper, lead and zinc using U.S. Environmental Protection Agency (EPA) Method 6010B.

[2] "J+" indicates the result is an estimated quantity, but the results may be biased high.

[3] "J" indicates the result is an estimated quantity. The associated numerical value is the approximate concentration

Background Distributions of Metals in Soil at Lawrence Berkeley National Laboratory, June.

[4] "<" indicates chemical concentration not detected at or above the laboratory reporting limit shown.

[5] "J-" indicates the result is an estimated quantity, but the results may be biased low.

[6] "--" = not analyzed

[7] Environmental Screening Levels; S.F. Bay Regional Water Quality Control Board 2003, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, June (Table B-1).

[8] Represents the 99th percentile of background; arsenic is based on the 95th percentile. Lawrence Berkeley National Laboratory, 2002, Analysis of Background Distributions of Metals in Soil at Lawrence Berkeley National Laboratory, June.

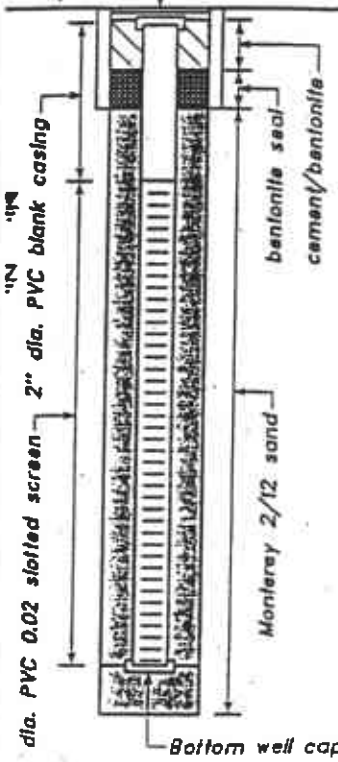
Abbreviations:

bgs = below ground surface

Attachment 5

PES Environmental, Inc.
Engineering & Environmental Services

LOG OF BORING J-1



BLOWS/6"	DEPTH (FT)	SYMBOLS	MATERIALS DESCRIPTION
			ASPHALT (FILL) ASPHALT DARK GREYISH BROWN WELL GRADED GRAVEL (GW) with sand, dense, moist. 30-35% fine-grained to coarse-grained sand. trace concrete debris (fill)
3 4 7			VERY DARK GREYISH BROWN LEAN CLAY (CL) with sand, soft to medium, moist. 10-20% fine-grained to medium-grained sand. trace fine to medium gravel. trace wood debris at 4.5 feet.
3 4 8	5		DARK BROWN POORLY GRADED SAND (SP) loose, saturated medium-grained to coarse-grained sand. trace fine gravel.
4 5 9			DARK GREYISH BROWN SILT (ML) with sand, very soft, moist to saturated. 15-20% very fine-grained sand. trace gravel.
			LIGHT BLUISH GREY LEAN CLAY (CL) with sand, soft to medium, moist to saturated. 10-15% very fine-grained sand.
8 13 19	10		YELLOWISH GROWN LEAN CLAY (CL) with sand, stiff, moist. 20-25% very fine-grained to coarse-grained sand. trace gravel.
10 9 15	15		*Bottom of Boring at 14.5 feet*
	20		
	25		
	30		

Fill

ENT
N
NUMBER FF001C
OLOGIST/ENGINEER Jim Dunn, Jane Gill
LL RIG Mobile B-34

Emeryville Warehouse Co.
Sherwin Avenue & Halleck Street
Emeryville, California

DIAMETER OF HOLE	8 inches
TOTAL DEPTH OF HOLE	14.5 feet
TOP OF CASING ELEVATION	0.3 feet Below Ground Level
DATE STARTED	10/11/90
DATE COMPLETED	10/11/90

PLATE 3

SF 031949

PES Environmental, Inc.
Engineering & Environmental Services

LOG OF BORING FF-1

BLOWS/6"	DEPTH (FT)	SYMBOLS	MATERIALS DESCRIPTION
			ASPHALT
			BASE ROCK
grab			DARK GREEN CLAYEY SAND (SC) with gravel, dense, moist, no odor
35			
22			
10			becomes softer at 3.5 feet
5	5		BLACK SILTY CLAY (CL) with fine-grained to medium-grained sand, medium stiff, moist to wet, no odor
7			
10			
4			BLUE GREEN SILTY CLAY (CL) medium stiff, wet, no odor
6			
8			*Bottom of Boring at 8.5 feet*

Fill

10
15
20
25
30

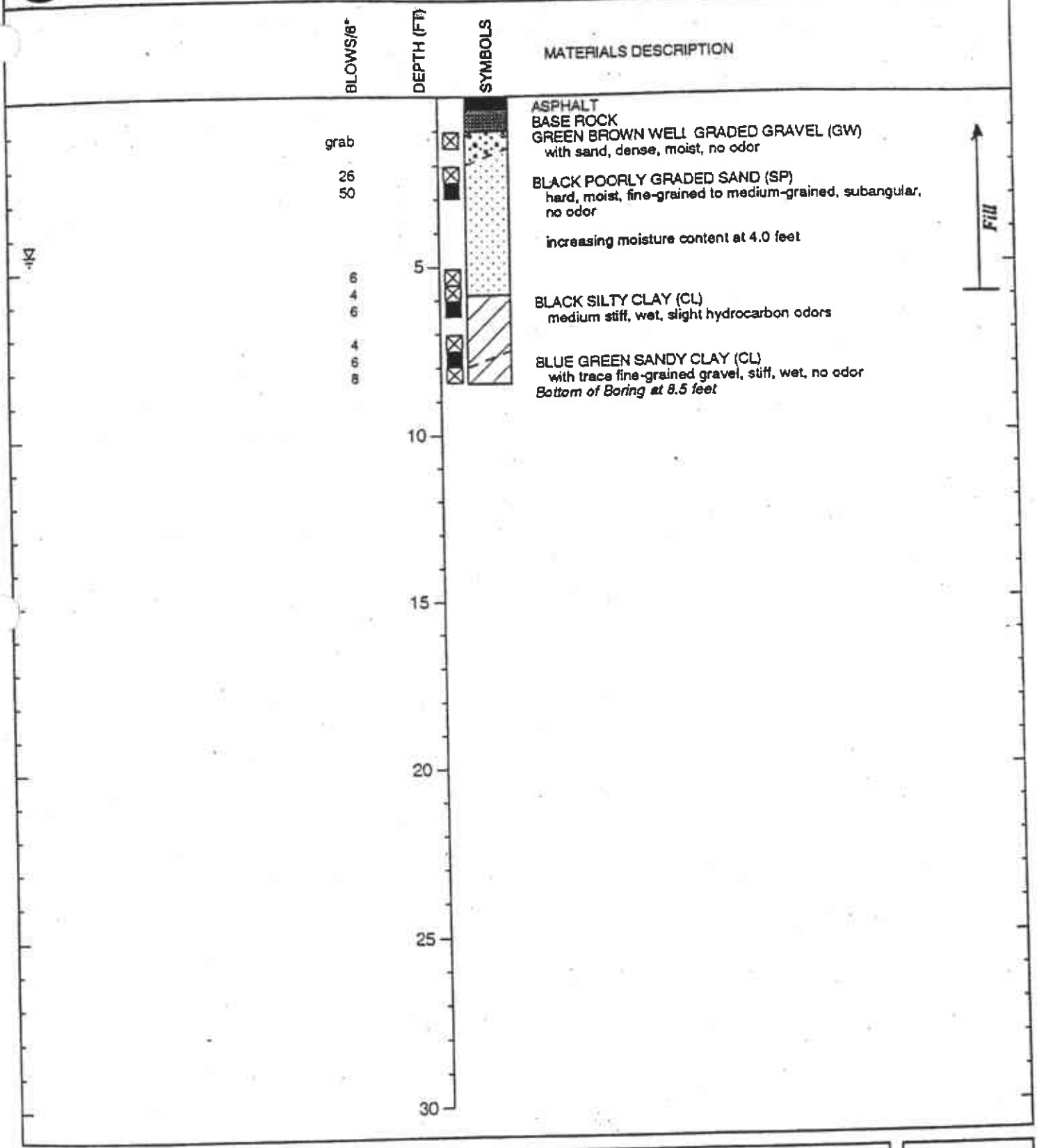
CLIENT	Emeryville Warehouse Co.	DIAMETER OF HOLE	8 inches
LOCATION	Sherwin Avenue & Halleck Street Emeryville, California	TOTAL DEPTH OF HOLE	8.5 feet
JOB NUMBER	FF001C	TOP OF CASING ELEVATION	N/A
GEOLOGIST/ENGINEER	Jim Dunn JSC	DATE STARTED	11/20/90
DRILL RIG	Failing 1500	DATE COMPLETED	11/20/90

PLATE 4

SF 031950

PES Environmental, Inc.
Engineering & Environmental Services

LOG OF BORING FF-2



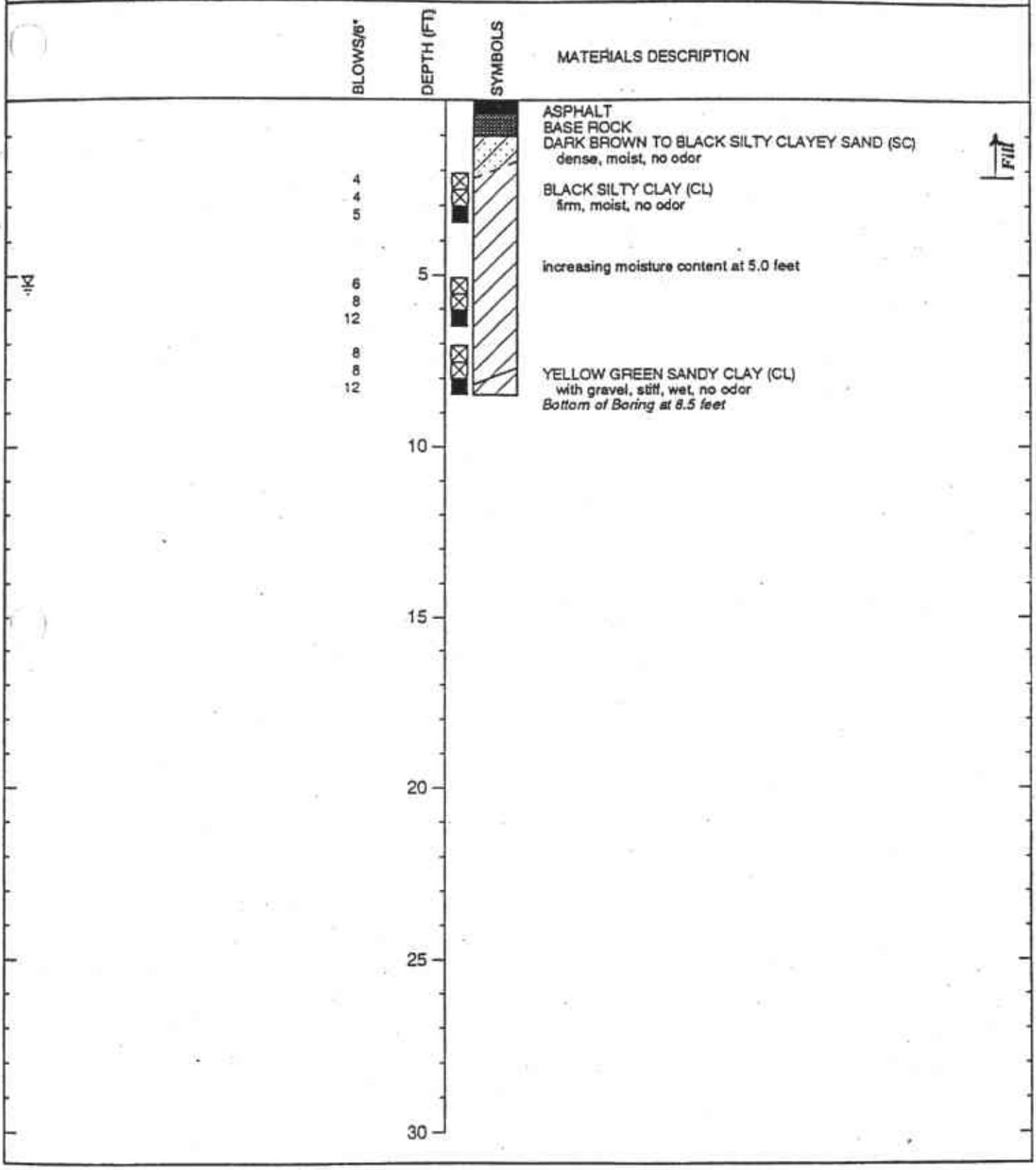
CLIENT	Emeryville Warehouse Co.	DIAMETER OF HOLE	8 inches
LOCATION	Sherwin Avenue & Halleck Street Emeryville, California	TOTAL DEPTH OF HOLE	8.5 feet
JOB NUMBER	FF001C	TOP OF CASING ELEVATION	N/A
GEOLOGIST/ENGINEER	Jim Dunn RSC	DATE STARTED	11/20/90
DRILL RIG	Failing 1500	DATE COMPLETED	11/20/90

PLATE 5

SF 031951

PES Environmental, Inc.
Engineering & Environmental Services

LOG OF BORING FF-3



CLIENT	Emeryville Warehouse Co.	DIAMETER OF HOLE	8 inches
LOCATION	Sherwin Avenue & Halleck Street Emeryville, California	TOTAL DEPTH OF HOLE	8.5 feet
JOB NUMBER	FF001C	TOP OF CASING ELEVATION	N/A
GEOLOGIST/ENGINEER	Jim Dunn RSC	DATE STARTED	11/20/90
DRILL RIG	Failing 1500	DATE COMPLETED	11/20/90

PLATE

6

SF 031952

PES Environmental, Inc.
Engineering & Environmental Services

LOG OF BORING FF-4

BLOWS/6"	DEPTH (FT)	SYMBOLS	MATERIALS DESCRIPTION
			ASPHALT
			BASE ROCK
grab			OLIVE GREEN SILTY SAND (SM)
grab			dense, moist, no odor
4			BLACK POORLY GRADED SAND (SP)
6			hard to medium dense, moist, fine-grained to medium-grained,
12			subangular, no odor
			BLACK SILTY CLAY (CL)
			firm, moist, no odor
	5		becomes wet
3			
4			
5			
			BLUE GREEN SILTY CLAY (CL)
5			firm, wet, no odor
8			
12			*Bottom of Boring at 8.5 feet*
	10		
	15		
	20		
	25		
	30		

Fill

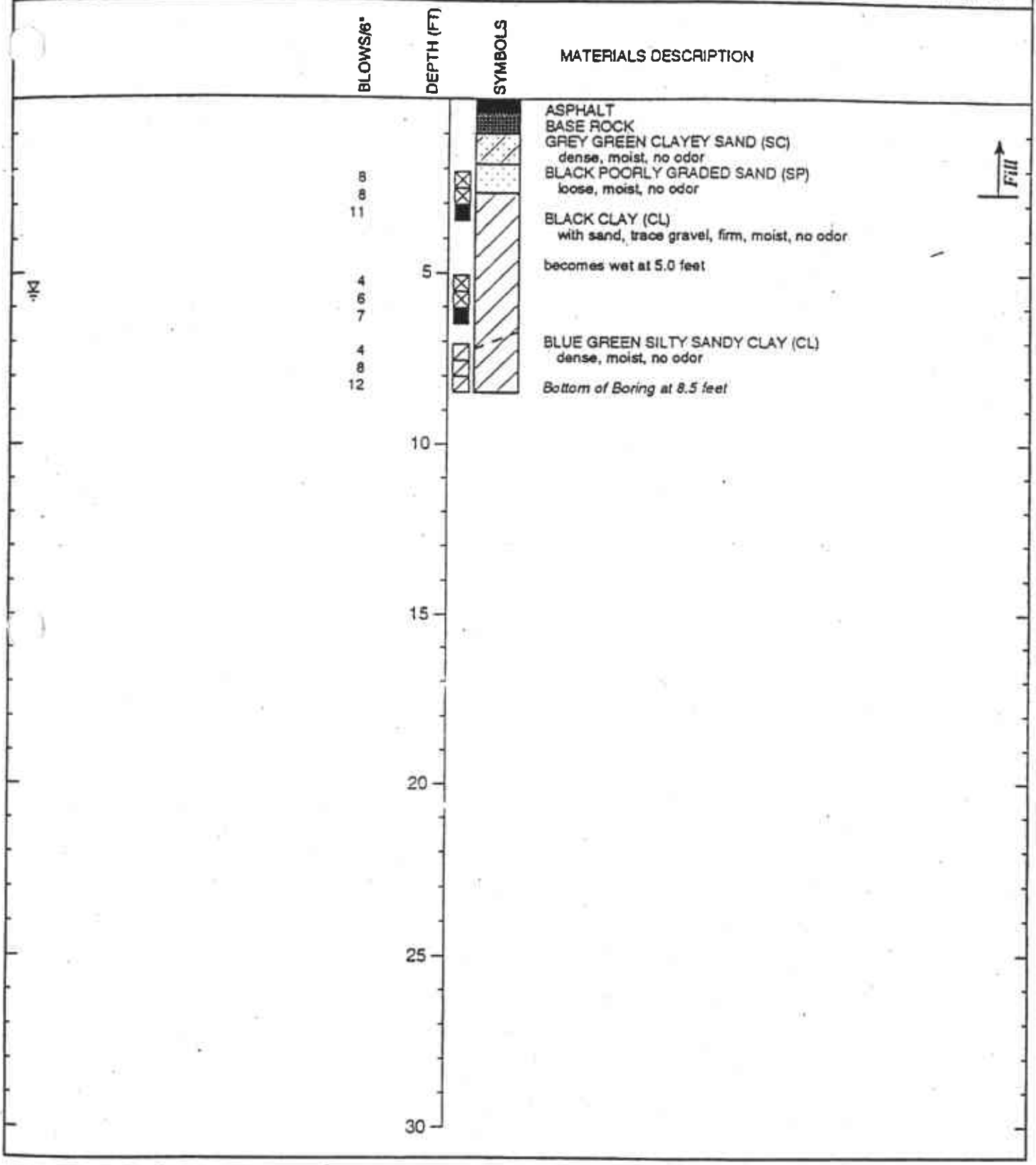
CLIENT	Emeryville Warehouse Co.	DIAMETER OF HOLE	8 inches
LOCATION	Sherwin Avenue & Halleck Street Emeryville, California	TOTAL DEPTH OF HOLE	8.5 feet
JOB NUMBER	FF001C	TOP OF CASING ELEVATION	N/A
GEOLOGIST/ENGINEER	Jim Dunn RSC	DATE STARTED	11/20/90
DRILL RIG	Failing 1500	DATE COMPLETED	11/20/90

PLATE 7

SF 031953

PES Environmental, Inc.
Engineering & Environmental Services

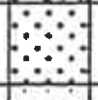
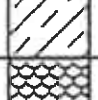
LOG OF BORING FF-5



CLIENT	Emeryville Warehouse Co.	DIAMETER OF HOLE	8 inches
LOCATION	Sherwin Avenue & Halleck Street Emeryville, California	TOTAL DEPTH OF HOLE	8.5 feet
JOB NUMBER	FF001C	TOP OF CASING ELEVATION	N/A
GEOLOGIST/ENGINEER	Jim Dunn RSC	DATE STARTED	11/20/90
DRILL RIG	Failing 1500	DATE COMPLETED	11/20/90

PLATE 8

SF 031954

MAJOR DIVISIONS					TYPICAL NAMES
COARSE-GRAINED SOILS MORE THAN HALF IS COARSER THAN NO. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		WELL GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
			GP		POORLY GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
		GRAVELS WITH OVER 15% FINES	GM		SILTY GRAVELS, SILTY GRAVELS WITH SAND
			GC		CLAYEY GRAVELS, CLAYEY GRAVELS WITH SAND
	SANDS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LITTLE OR NO FINES	SW		WELL GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
			SP		POORLY GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
		SANDS WITH OVER 15% FINES	SM		SILTY SANDS WITH OR WITHOUT GRAVEL
			SC		CLAYEY SANDS WITH OR WITHOUT GRAVEL
FINE-GRAINED SOILS MORE THAN HALF IS FINER THAN NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50% OR LESS		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTS WITH SANDS AND GRAVELS
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY CLAYS WITH SANDS AND GRAVELS, LEAN CLAYS
			OL		ORGANIC SILTS OR CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACIOUS, FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH		ORGANIC SILTS OR CLAYS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS			PT		PEAT AND OTHER HIGHLY ORGANIC SOILS

Perm	- Permeability
Consol	- Consolidation
LL	- Liquid Limit (%)
PI	- Plastic Index (%)
G_s	- Specific Gravity
MA	- Particle Size Analysis
2.5 YR 6/2	- Soil Color according to Munsell Soil Color Charts (1975 Edition)
5 GY 5/2	- GSA Rock Color Chart

☒	- No Soil Sample Recoverd
■	- "Undisturbed" Sample
⊠	- Bulk or Classification Sample
▽	- First Encountered Ground Water Level
▼	- Piezometric Ground Water Level
Penetration	- Sample drive hammer weight - 140 pounds falling 30 inches. Blows required to drive sampler 6 inches are indicated on the logs

PES Environmental, Inc.
Engineering & Environmental Services

Unified Soil Classification Chart
Phase II & III Investigations
Sherwin Avenue & Halleck Street
Emeryville, California

PLATE
9

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE	REVISED DATE
FF001C	RSC	12/90		

SF 031955

PROJECT: EMERYVILLE WAREHOUSE
Emeryville, California

Log of Boring No. G-1

BORING LOCATION: Northwest corner	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling	DATE STARTED: 11/13/97 / DATE FINISHED: 11/13/97
DRILLING METHOD: Direct push / continuous core	TOTAL DEPTH: 10.0 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: MD-3	DEPTH TO WATER: FIRST ~3.5 feet / COMPL. ---
SAMPLING METHOD: Butyiate tubes	LOGGED BY: Brad Job
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: Brad Job / REG. NO. C55699

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight, plast., consistency, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation: ---	
0					Approximately 2 inches asphalt and baserock	
1					CLAYEY SAND with GRAVEL (SC) Very dark grayish brown (2.5Y 3/2), 50% fine to coarse sand, 35% gravel, 15% plastic fines [FILL]	
2						
3					POORLY-GRADED SAND with CLAY (SP-SC) Black (2.5Y 2.5/1), moist, 85% fine to medium sand, 15% plastic fines, subangular	
4					— Saturated	
5						
6						
7	G-1-7					
8	G-1-8				FAT CLAY (CH) Greenish gray (5G 5/1), moist, 95% plastic fines, 5% fine sand, firm	
9						
10					Bottom of boring at 10.0 feet.	
11						
12						
13						
14						
15						

PROJECT: EMERYVILLE WAREHOUSE
Emeryville, California

Log of Boring No. G-2

BORING LOCATION: North end	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling	DATE STARTED: 11/13/97 / DATE FINISHED: 11/13/97
DRILLING METHOD: Direct push / continuous core	TOTAL DEPTH: 7.0 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: MD-3	DEPTH TO WATER: FIRST -3.5 feet / COMPL: ---
SAMPLING METHOD: Butyrate tubes	LOGGED BY: Brad Job
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: Brad Job / REG. NO. C55699

DEPTH (feet)	SAMPLES	DESCRIPTION	REMARKS
		Surface Elevation: ---	
		Approximately 2 inches asphalt and baserock	
1		POORLY-GRADED SAND with CLAY and GRAVEL (SP-SC) Gray (N5/). 50% fine to coarse sand. 35% gravel. 15% plastic fines	
2	G-2-2		
3		POORLY-GRADED SAND with CLAY (SP-SC) Red with black sand (2.5YR 5/6), moist, 90% angular fine to medium sands. 10% plastic fines	
4			
5		FAT CLAY (CH) Very dark gray (2.5Y 3/1), moist, 95% fines, 5% fine sand. firm, trace organic matter	
6			
7		Bottom of boring at 7.0 feet.	
8			
9			
10			
11			
12			
13			
14			
15			

PROJECT: EMERYVILLE WAREHOUSE
Emeryville, California

Log of Boring No. G-3

BORING LOCATION: Northeast corner	ELEVATION AND DATUM: ---	
DRILLING CONTRACTOR: Precision Sampling	DATE STARTED: 11/13/97	DATE FINISHED: 11/13/97
DRILLING METHOD: Direct push / continuous core	TOTAL DEPTH: 11.0 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: MD-3	DEPTH TO WATER: FIRST ~4.0 feet	COMPL. ---
SAMPLING METHOD: Butyiate tubes	LOGGED BY: Brad Job	
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: Brad Job	REG. NO. C55699

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol, ... color, consistency, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation: ---	
					Approximately 2 inches asphalt and baserock	
1					POORLY-GRADED SAND with CLAY and GRAVEL (SP-SC) Gray (N5/), 50% fine to coarse sand, 35% gravel, 15% plastic fines	
2					Poorly-graded sand with clay (SP-SC), black (2.5Y 2.5/1), 85% fine to medium sand, 15% plastic fines, subangular	
3						
4						
5						
6						
7						
8						
9						
10						
11					Bottom of boring at 11.0 feet.	
12						
13						
14						
15						

PROJECT: EMERYVILLE WAREHOUSE
Emeryville, California

Log of Boring No. G-4

BORING LOCATION: West norhwest corner	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling	DATE STARTED: 11/13/97 / DATE FINISHED: 11/13/97
DRILLING METHOD: Direct push / continuous core	TOTAL DEPTH: 10.0 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: MD-3	DEPTH TO WATER: FIRST ~3.5 feet / COMPL. ---
SAMPLING METHOD: Butyiate tubes	LOGGED BY: Brad Job
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: Brad Job / REG. NO. C55699

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample Type	SAMPLES: Blows/Foot	OVM (Headspace) (ppm)	DESCRIPTION	REMARKS
					Surface Elevation: ---	
0					Asphalt	
1					CLAYEY SAND with GRAVEL (SC) Very dark grayish brown (2.5Y 3/2), 50% fine to coarse sand. 35% gravel. 15% plastic fines	
2						
3						
4						
5						
6						
7						
8						
9						
10					Fat clay (CH). greenish gray (5G 5/1), moist, 95% plastic fines, 5% fine sand, firm	
					Bottom of boring at 10.0 feet.	
11						
12						
13						
14						
15						

PROJECT: EMERYVILLE WAREHOUSE
Emeryville, California

Log of Boring No. G-6

BORING LOCATION:	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling	DATE STARTED: 11/13/97 / DATE FINISHED: 11/13/97
DRILLING METHOD: Direct push / continuous core	TOTAL DEPTH: 7.0 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: MD-3	DEPTH TO WATER: FIRST ~3.0 feet / COMPL. ---
SAMPLING METHOD: Butyiate tubes	LOGGED BY: Brad Job
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: Brad Job / REG. NO. C55699

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight, plast., consistency, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation: ---	
					Approximately 2 inches asphalt and baserock	
1					CLAYEY SAND with GRAVEL (SC) Very dark grayish brown (2.5Y 3/2), 50% fine to coarse sand, 35% gravel, 15% plastic fines	
2	G-6-2					
3					POORLY-GRADED SAND with CLAY (SP-SC) Black (2.5Y 2.5/1), moist, 85% fine to medium sand, 15% plastic fines	
4	G-6-4					
5					FAT CLAY (CH) Greenish gray (5G 5/1), moist, 95% plastic fines, 5% fine sand, firm	
6						
7					Bottom of boring at 7.0 feet.	
8						
9						
10						
11						
12						
13						
14						
15						

PROJECT: EMERYVILLE WAREHOUSE
Emeryville, California

Log of Boring No. G-7

BORING LOCATION: West side	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling	DATE STARTED: 11/13/97 / DATE FINISHED: 11/13/97
DRILLING METHOD: Direct push / continuous core	TOTAL DEPTH: 10.0 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: MD-3	DEPTH TO WATER: FIRST ~3.5 feet / COMPL. ---
SAMPLING METHOD: Butyiate tubes	LOGGED BY: Brad Job
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: Brad Job / REG. NO. C55699

DEPTH (feet)	SAMPLES: Sample No	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM (headspace) (ppm)	DESCRIPTION	REMARKS
					Surface Elevation: ---	
					Approximately 2 inches asphalt and baserock	
1–7					CLAYEY SAND with GRAVEL (SC) Very dark grayish brown (2.5Y 3/2), 50% fine to coarse sand, 35% gravel, 15% plastic fines	
7–10					FAT CLAY (CH) Very dark gray (2.5Y 3/1), moist, 95% fines, 5% fine sand, firm	
10					Bottom of boring at 10.0 feet.	
11–15						

PROJECT: EMERYVILLE WAREHOUSE
Emeryville, California

Log of Boring No. G-10

BORING LOCATION: Central	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling	DATE STARTED: 11/13/97 / DATE FINISHED: 11/13/97
DRILLING METHOD: Direct push / continuous core	TOTAL DEPTH: 2.5 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: MD-3	DEPTH TO WATER: FIRST --- / COMPL ---
SAMPLING METHOD: Butyiate tubes	LOGGED BY: Brad Job
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: Brad Job / REG. NO. C55699

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION (NAME (USCS Symbol), color, moist., % by weight, plast., consistency, structure, cementation, react. w/HCl, geo. interp.)	REMARKS
					Surface Elevation: ---	
					Approximately 2 inches asphalt and baserock	
1					CLAYEY SAND with GRAVEL (SC) Gray (2.5Y 6/1), dry, 50% fine to coarse sand, 35% gravel, 15% plastic fines	
2					Asphalt	
					Bottom of boring at 2.5 feet.	
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

PROJECT: EMERYVILLE WAREHOUSE
Emeryville, California

Log of Boring No. G-11

BORING LOCATION: West side	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling	DATE STARTED: 11/13/97 / DATE FINISHED: 11/13/97
DRILLING METHOD: Direct push / continuous core	TOTAL DEPTH: 7.0 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: MD-3	DEPTH TO WATER: FIRST --- / COMPL. ---
SAMPLING METHOD: Butyiate tubes	LOGGED BY: Brad Job
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: Brad Job / REG. NO. C55699

DEPTH (feet)	SAMPLES: Sample No	SAMPLES: Sample Type	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION	REMARKS
					Surface Elevation: ---	
					Asphalt and baserock	
1					CLAYEY SAND with GRAVEL (SC) Very dark grayish brown (2.5Y 3/2), 50% fine to coarse sand, 35% gravel, 15% plastic fines	
2						
3						
4						
					FAT CLAY (CH) Very dark gray (2.5Y 3/1), moist, 95% fines, 5% fine sand, firm	
5						
6						
7						
					Bottom of boring at 7.0 feet.	
8						
9						
10						
11						
12						
13						
14						
15						

PROJECT: EMERYVILLE WAREHOUSE
Emeryville, California

Log of Boring No. G-14

BORING LOCATION:	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling	DATE STARTED: 11/13/97 / DATE FINISHED: 11/13/97
DRILLING METHOD: Direct push / continuous core	TOTAL DEPTH: 7.0 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: MD-3	DEPTH TO WATER: FIRST ~3.5 feet / COMPL. ---
SAMPLING METHOD: Butyiate tubes	LOGGED BY: Brad Job
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: Brad Job / REG. NO. 135699

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	SAMPLES: OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol), color, moist, ..., consistency, structure, cementation, react. w/HCl, geo. interp.	REMARKS
					Surface Elevation: ---	
					Asphalt and baserock	
1					CLAYEY SAND with GRAVEL (SC) Very dark grayish brown (2.5Y 3/2), 50% fine to coarse sand, 35% gravel, 15% plastic fines	
2						
3	G-14-2				POORLY-GRADED SAND with CLAY (SP-SC) Red with black sand (2.5YR 5/6), moist, 90% angular fine to medium sands, 10% plastic fines	
4	G-14-4				FAT CLAY (CH) Very dark gray (2.5Y 3/1), moist, 95% fines, 5% fine sand, firm	
5						
6						
7					Bottom of boring at 7.0 feet.	
8						
9						
10						
11						
12						
13						
14						
15						

PROJECT: EMERYVILLE WAREHOUSE
Emeryville, California

Log of Boring No. G-3

BORING LOCATION: Southeast corner	ELEVATION AND DATUM: ---
DRILLING CONTRACTOR: Precision Sampling	DATE STARTED: 11/13/97 / DATE FINISHED: 11/13/97
DRILLING METHOD: Direct push / continuous core	TOTAL DEPTH: 1.0 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: MD-3	DEPTH TO WATER: FIRST --- / COMPL. ---
SAMPLING METHOD: Butyiate tubes	LOGGED BY: Brad Job
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: Brad Job / REG. NO. C55699

DEPTH (feet)	SAMPLES: Sample No.	Sample	Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight,, plast., consistency, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation: ---	
0		X			Asphalt	
1					Bottom of boring at 1.0 feet. Split spoon stuck.	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

Schultz, Robert, Env. Health

To: JPatterson@geomatrix.com; Todd Adams [Todd@hollidaydevelopment.com]
Subject: re 2019: 4226 halleck st., emeryville closure summary

Jennifer and Todd:
There was a typo in ACEH's cover letter for the case closure summary for the above referenced site. There is no closure letter or remedial action certificate for SLIC sites. The language was carry-over from that required for LUFT sites. We apologize for the inconvenience. Hopefully, a copy of this email will meet your needs. If not, please let me know and I will send a replacement letter or a correction letter on ACEH letterhead.
Sincerely,
Bob
P.S. The cover letters come from the program manager (Donna) who is out of the office this week, so a replacement letter would not be possible until next week.
****

Robert W. Schultz, P.G.
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