Treadwell&Rollo

11 October 2006
Project 3494.01

Steven Plunkett
Hazardous Materials Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Subject: Administrative Record Clarification
28 September 2006 Letter
Fuel Leak Case No. RO0000052
Former Peterson Manufacturing Company Facility
1600 63rd Street
Emeryville, California

Dear Mr. Plunkett:

This letter is in response to the 28 September 2006 Alameda County Environmental Health Department (ACEH) request for additional activities to address technical comments associated with Fuel Leak Case No. RO0000052 for the former Peterson Manufacturing Company Facility at 1600 63rd Street in Emeryville, California (Site). Treadwell & Rollo is now the consultant contact for Wareham Property Group and 1600 63rd Street Associates, the current owner of the property.

Your letter outlined several suggested activities for the property which is generally consistent with the proposed scope of work outlined in the report "Groundwater Investigation Report and Work Plan for Additional Investigations" dated 10 January 2000 (SOMA Corporation). However, the administrative record for the case should be clarified as follows:

- The ACEH letter indicates that the off-site characterization proposed in the 10 January 2000 report was approved by ACEH in October 2002 and was not implemented. No record of the ACEH approval was received. However, Treadwell & Rollo provided another copy of the 10 January 2000 report to Ms. Eva Chu of ACEH for her case file in August 2002. No subsequent communication in 2002 was received from ACEH.

- An ACEH letter was received by Mr. Richard Robbins of Wareham Property Group, on 6 December 2005 from Amir K. Gholami, Hazardous Materials Specialist, requesting an update of information for Mr. Gholami's "new cases", including submission of a Site Conceptual Model that included site maps, plots of historical sampling locations, isoconcentration maps, summary tables and other available information. This 2005 ACEH letter (attached) was not referenced in the 28 September 2006 ACEH letter.

Treadwell & Rollo, Inc. *Environmental & Geotechnical Consultants*
501 14th Street, Third Floor, Oakland, CA 94612
Telephone (510) 874-4500 Facsimile (510) 874-4507

- A Site Conceptual Model dated 26 May 2006 was prepared by Treadwell & Rollo (attached) and sent to Mr. Gholami.

Treadwell & Rollo has been directed by Mr. Richard Robbins of Wareham Property Group to provide the requested Revised Work Plan for Soil and Groundwater Investigation and Monitoring Well Rehabilitation in accordance with your letter dated 28 September 2006. As noted previously, the scope of work request by ACEH is not significantly different than that proposed in January 2000.

Please note that the schedule for field investigation and subsequent reporting and groundwater monitoring may be affected by the availability of drilling contractors and other field services. The scope of work proposed in the Revised Work Plan will include both expedited site assessment tools, as suggested in the ACEH letter, as well as replacement of groundwater monitoring wells. We will keep you apprised of scheduling impacts as the investigation activities proceed. In accordance with the Electronic Report Upload Requirements of Alameda County Environmental Cleanup Oversight Programs, the Site Conceptual Model dated 26 May 2006 has been uploaded to the ACEH site.

If you have any questions, please call Glenn Leong at (510) 874-4500 at extension 554.

Sincerely yours,
TREADWELL & ROLLO, INC.

Glenn M. Leong, REA
Senior Associate

David R. Kleesattel, P.G.
Senior Geologist

PROFESSIONAL GEOLOGIST
DAVID R. KLEESATTEL
No. 5136
STATE OF CALIFORNIA

34940103.OAK

Attachments: Letter Received by Richard Robbins 6 December 2006
26 May 2006 Letter by Treadwell & Rollo to Amir Gholami of ACEH

cc: Richard Robbins, Wareham Property Group

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

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

RICHARD ROBBINS
1120 NYE STREET, SUITE 400, SAN RAFAEL, CA 94901

RE:RO0000052 PETERSON MANUFACTURING COMPANY INC 1600 63RD
Emeryville CA

Dear Mr.ROBBINS:

Please be advised that I have been recently assigned to oversee the above referenced site. Therefore, all documents, reports, and correspondences should be addressed to my attention. In fact, I have received numerous other "new cases", which I need to get familiar with and proceed forward as soon as practicable. In order to keep continuity and to reduce confusion, I will try to follow up on the work/guidelines previously requested by my colleague of this office.
However, to expedite this so called "familiarization" process, please fill out and submit to me the attached table as soon as possible. I would appreciate it if you could fill out the attached table with the latest information regarding concentrations, etc and send it to me via an email attachment. My email address is amir.gholami@acgov.org .

Site Address:

Depth to groundwater	
Groundwater flow gradient and speed	
Benzene (ppb)	
Toluene (ppb)	
Ethylbenzene (ppb)	
Xylene (ppb)	
MTBE (ppb)	
TPHg (ppb)	
TPHd (ppb)	
Solvents if any (ppb)	
Heavy Metals if any	
Well Screen levels (for each monitoring well)	
Date information collected for concentrations	
Plume Stability: increasing or decreasing or stable?	
Any"Active Remediation" occuring presently or past?	
Other Pertinent Information regarding this site, such as whether any of the following has been performed: the plume is defined (vertically & horizontally) in soil & GW, SCM ,Risk Assessment, ESL comparison for Soil /GW, Sensitive Receptor survey, Soil Vapor analysis, etc. What is left in soil/Gw presently? (Please use additional attachment(s) if necessary)	

Additionally please provide a hard copy of a **stand-alone document**, which includes a site conceptual model (SCM), which incorporates the following items:

- Summary Figures
    - Site vicinity map showing the site location and identification of any nearby sensitive receptors.
    - Plot plan showing all historical sampling locations. Differentiation between sample types (i.e. excavation soil samples, soil boring locations, monitoring wells, soil vapor sampling points, etc.) is required. This figure also needs to include any former and existing UST system components, delineation of excavation areas, areas targeted by active remediation, building locations, potential preferential pathways such as utilities, property boundaries and public right-of-way locations.
    - Depth-specific contaminant isoconcentration maps for soil and groundwater. If active remediation was performed, separate pre-remediation and post-remediation isoconcentration maps are required.
- Summary Tables
    - Table of all historical soil data. Sample ID, date, depth, and results for all analytes are required. Please refer to the Tri-Regional Guidelines to confirm that chemical analysis was performed for all relevant contaminants of concern (CoCs). Pre- and post-remediation concentrations should be clearly identified or presented in separate tables.
    - Table of all historical groundwater data. Chemical concentrations in monitoring well(s) concentrations along with depth to water should be tabulated.
    - The tables need to compare the detected CoC concentrations with the Regional Board's ESLs or other appropriate cleanup levels and to the water quality objectives identified in the Regional Board's Basin Plan.
- Complete set of all boring logs generated during site investigation.
- Geologic cross-sections showing soil borings, monitoring wells with screened intervals, UST locations, any preferential pathways, excavation boundaries, water table elevations (historical and current) and extent of residual contamination.

The submission of the above documents will help expedite the review of your case. If you have any questions, please call me at (510)-5676. Thank you very much for your cooperation.

Sincerely,

Amir K. Gholami, REHS
Hazardous Materials Specialist
C: A.Gholami,D.Drogos
files

Treadwell&Rollo

26 May 2006
Project 3494.01

Amir K. Gholami
Hazardous Materials Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Subject: Response to Request for Site Conceptual Model
for Former Peterson Manufacturing Company Facility
1600 63rd Street
Emeryville, California

Dear Mr. Gholami:

This letter is in response to the Alameda County Department of Environmental Health Services (ACDEHS) request for a Site Conceptual Model (SCM) of the property located at 1600 63rd Street in Emeryville, California (Site). Treadwell and Rollo Inc. (T&R) has compiled the attached SCM from available references provided by the Site owner.

SITE DESCRIPTION AND BACKGROUND

The Site is located at 1600 63rd Street in Emeryville, California (Figure 1). The Site occupies 2.75 acres bounded by 63rd Street to the south, Overland Avenue to the west, 64th Street to the north, and the City of Emeryville Fire Station Number 2 to the east (Figure 2). The surrounding land use is primarily commercial and light industrial.

The property was originally developed as a tallow manufacturing plant by Peterson Manufacturing Company in 1914 (ES, 1988). Historical records indicate six underground storage tanks (USTs) were previously located at the Site (Figure 3).

The current tenant has operated a FedEx shipping facility at the Site since 1989, when the Site was redeveloped and construction of the FedEx building was completed. FedEx currently operates one 10,000-gallon gasoline UST at the Site (SOMA, 2000).

ENVIRONMENTAL INVESTIGATIONS

Since 1987, numerous environmental investigations and remediation activities have been conducted at the Site. They are summarized below beginning with the most recent.

A soil and groundwater investigation was conducted by SOMA Corporation (SOMA) of Emeryville, California in May, August, and October of 1999. Shallow groundwater samples were collected from monitoring wells onsite in May 1999 and from five borings advanced in the northwestern portion of the Site in August 1999. Soil samples were also collected from the five borings. The shallow groundwater investigation indicates only petroleum hydrocarbons, primarily Total Petroleum Hydrocarbons as gasoline and diesel (TPH-g and TPH-d, respectively), were detected (SOMA, 2000). The groundwater elevation was not measured in well MW-2 due to the presence of approximately three feet of floating product in the well.

SOMA also conducted a deep groundwater investigation in October 1999. Using cone penetrometer testing (CPT) technology, deep groundwater samples were collected from two separate intervals determined at the time of the test that correlated with a former deep industrial well. Sampling results indicate that residual chemicals were not detected at concentrations that were expected to impact the beneficial uses of deep groundwater (SOMA, 2000).

A limited soil and groundwater assessment of the area surrounding groundwater monitoring well MW-2 was completed in 1994 (Certified, 1994). The results of soil analyses indicated that TPH-g and TPH-d concentrations were less than 2 milligrams per kilogram (mg/kg, or parts per million [ppm]), and that other petroleum constituents were present at concentrations below 0.3 mg/kg. The results of groundwater analyses indicated that TPH-g and TPH-d concentrations were 0.59 and 22 milligrams per liter (mg/L), respectively.

Harding-Lawson Associates (HLA) conducted a soil and groundwater quality investigation between April and June, 1989. HLA drilled 6 soil borings and completed five as groundwater monitoring wells. Soil analyses were limited to those collected from MW-2, as other borings reportedly did not exhibit obvious signs of contamination. Soil from MW-2 contained TPH-g and TPH-d at 15 and 212 mg/kg, respectively. The only compound detected in groundwater was TPH-g at 0.3 mg/L in MW-2 (HLA, 1989).

A Site Characterization Report was prepared by Engineering-Science (ES) in 1987 and 1988 (ES, 1988). ES drilled and sampled 12 soil borings; sampled an unknown, tarry material found on the Site surface; collected and composited samples of surface soils; sampled the contents of six USTs, seven ASTs, and five sumps; and, drilled and installed three groundwater monitoring wells. ES also investigated the deep groundwater supply well that was present on the Site. The analytical results for samples collected by ES are included in Tables 2 through 4.

The above-referenced report by HLA noted that previous investigations were conducted at the Site by Peter Kaldveer and Associates between 1986 and 1987; however, these references were not made available to Treadwell & Rollo so that information is not presented in this SCM.

REMEDIAL ACTIONS

Remedial actions completed at the Site to date include: removing old, leaking USTs, and relining another UST; excavating, remediating and replacing petroleum hydrocarbon-affected soil; and closing the deep industrial water well located at the Site. These activities have been conducted by several different consulting firms in conjunction with the site owner and the cleanup guidelines established by the ACEH.

Six USTs, six sumps, seven aboveground storage tanks (AST), a deep water-supply well and other appurtenances related to Peterson's manufacturing operations were removed prior to and during redevelopment activities in 1988 (ES, 1988). The FedEx gasoline UST was reportedly relined in 1998. FedEx also reportedly stopped using a waste oil UST located in the general area of the gasoline UST in 1998 (SOMA, 2000).

Landfarming with biodegradation was used by ES to remediate the hydrocarbon-contaminated soils removed from the UST excavations. The landfarming operation was reviewed and approved by the ACDEHS. Thin layers of excavated soil were placed along the boundaries of the Site and aerated according to the approved ES work plan from April 1988 until July 1988. The process was continued until the results of laboratory analyses of confirmation soil samples showed concentrations of TPH-g, TPH-d, and BTEX were below the California Regional Water Quality Control Board guidelines that were in effect at the time. Upon completion, the soil was placed back into the UST excavations beneath the proposed asphalt parking area (ES, 1988).

SITE CONCEPTUAL MODEL

All documented sampling locations, former UST locations, and soil excavations are presented in Figures 2 and 3. Analytical results from soil samples collected at each location are presented in Table 1. Analytical results from groundwater samples and the historical groundwater elevations are presented in Tables 2 and 4, respectively. Conditions at the Site are summarized below.

Groundwater Flow: Based on the most recent sampling event, the shallow groundwater flow was determined to be in northwesterly direction at a gradient of 0.02 (Figure 4).

Contaminant Distribution: Isoconcentration maps for soil were not prepared, due to the long time period over which soil samples were collected. Isoconcentration maps of TPH-g and TPH-d in groundwater are presented as Figures 5 and 6, respectively. These maps are based on data collected in 1999, the last year of regular groundwater monitoring at the Site. The results of the most recent groundwater analyses indicate that TPH-g and TPH-d are present in shallow groundwater in the northwest portion of the Site. The maximum concentration of TPH-g was

210 mg/L in well MW-2. The maximum concentration of TPH-d was 5,800 mg/L in a grab sample collected from boring HP-5, located along the northwest property boundary.

Subsurface Conditions: Geologic cross sections of the Site were created using the historical data and the boring logs from the past investigations (Figures 7 and 8). The cross-sections do not indicate the presence of buried alluvial channels in the subsurface or potential pathways for chemical migration in shallow groundwater. Boring logs from past soil and groundwater investigations are presented in Appendix A. Boring logs were not available for the Kaldveer borings (EB-1 through EB-6) advanced in March 1987.

Current Potential Sources: There is currently one 10,000-gallon gasoline UST being used by FedEx at the Site. This UST was relined in 1998. The product samples that have been collected in the northeast corner of the Site do not indicate characteristics of gasoline and are therefore associated with historical operations other than FedEx's use of the UST (SOMA, 2000).

SUMMARY AND CONCLUSIONS

Based on the past investigations, the soil and shallow groundwater at the Site has been affected by the former manufacturing processes that took place at the Site. The sump and tank removals, landfarming, and other past remediation activities appear to have been successful in removing the sources of contaminant releases to soil and groundwater.

If you have any questions, please call Glenn Leong at (510) 874-4500 at extension 554.

Sincerely yours,
TREADWELL & ROLLO, INC.

James Durkin, PG, CHG
Senior Geologist

Glenn M. Leong, REA
Senior Associate

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Attachments: References

Figure 1 - Site Location Map
Figure 2 - Site Plan
Figure 3 - Site Plan Showing Soil Excavation Areas
Figure 4 - Shallow Groundwater Elevation Contours – 14 May 1999
Figure 5 - Isoconcentration map of TPH-g Detected in Groundwater – May-August 1999
Figure 6 - Isoconcentration map of TPH-d Detected in Groundwater – May-August 1999
Figure 7 - Geologic Cross-Section A-A'
Figure 8 - Geologic Cross-Section B-B'

Table 1 – Summary of Historical Soil Sample Results
Table 2 – Summary of Historical Groundwater Sampling Results
Table 3 – Summary of Historical Soil Excavation Confirmation Sampling
Table 4 – Summary of Historical Groundwater Elevation Data

Appendix A – Historical Boring Logs

REFERENCES

Certified Engineering and Testing Company (Certified). 1994. *Subsurface Investigation, 1600 63rd Street, Emeryville.* November 22.

Engineering-Science (ES). 1988. *Site Characterization Report for Soil and Groundwater Contamination at 1600 63rd Street Site, Emeryville.* December 22.

Harding Lawson Associates (HLA). 1989. *Groundwater Quality Investigation, 1600 63rd Street Emeryville.* October 2.

Harding Lawson Associates. 1991. *Quarterly Groundwater Monitoring, 1600 63rd Street Emeryville.* November 21.

Kaldveer Associates (Kaldveer). 1988. *Foundation Investigation for Federal Express Building at Peterson Manufacturing Site, Emeryville.* April 11.

SOMA Corporation. 1998. *Summary of Remedial Activities and Recommended Site Closure Measures, 1600 63rd Street, Emeryville.* July 30.

SOMA Corporation. 1999a. *Additional Groundwater Investigation Workplan, 1600 63rd Street, Emeryville.* February 23.

SOMA Corporation. 1999b. *Shallow Groundwater Sampling Results and Addendum to Additional Groundwater Investigation Workplan, 1600 63rd Street, Emeryville.* July 7.

SOMA Corporation. 1999c. *Shallow Groundwater Investigation Results, 1600 63rd Street, Emeryville.* September 2.

SOMA Corporation. 2000. *Groundwater Investigation Report and Workplan for Additional Investigations, 1600 63rd Street, Emeryville.* January 10.

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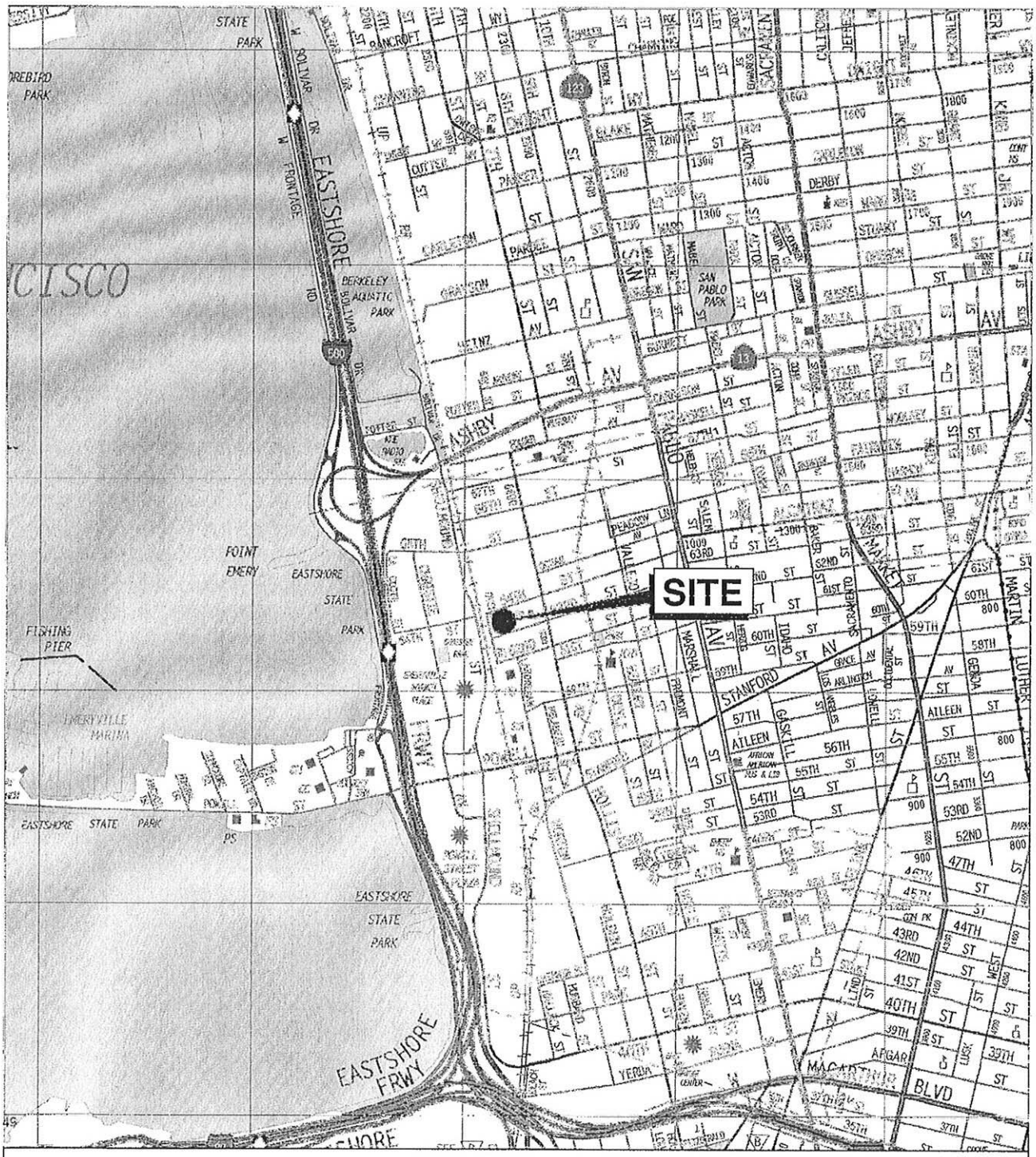
FIGURES



Base map: The Thomas Guide
Alameda County
1999

0 1/4 1/2 Mile

Approximate scale

1600 63RD STREET
Emeryville, California

SITE LOCATION MAP

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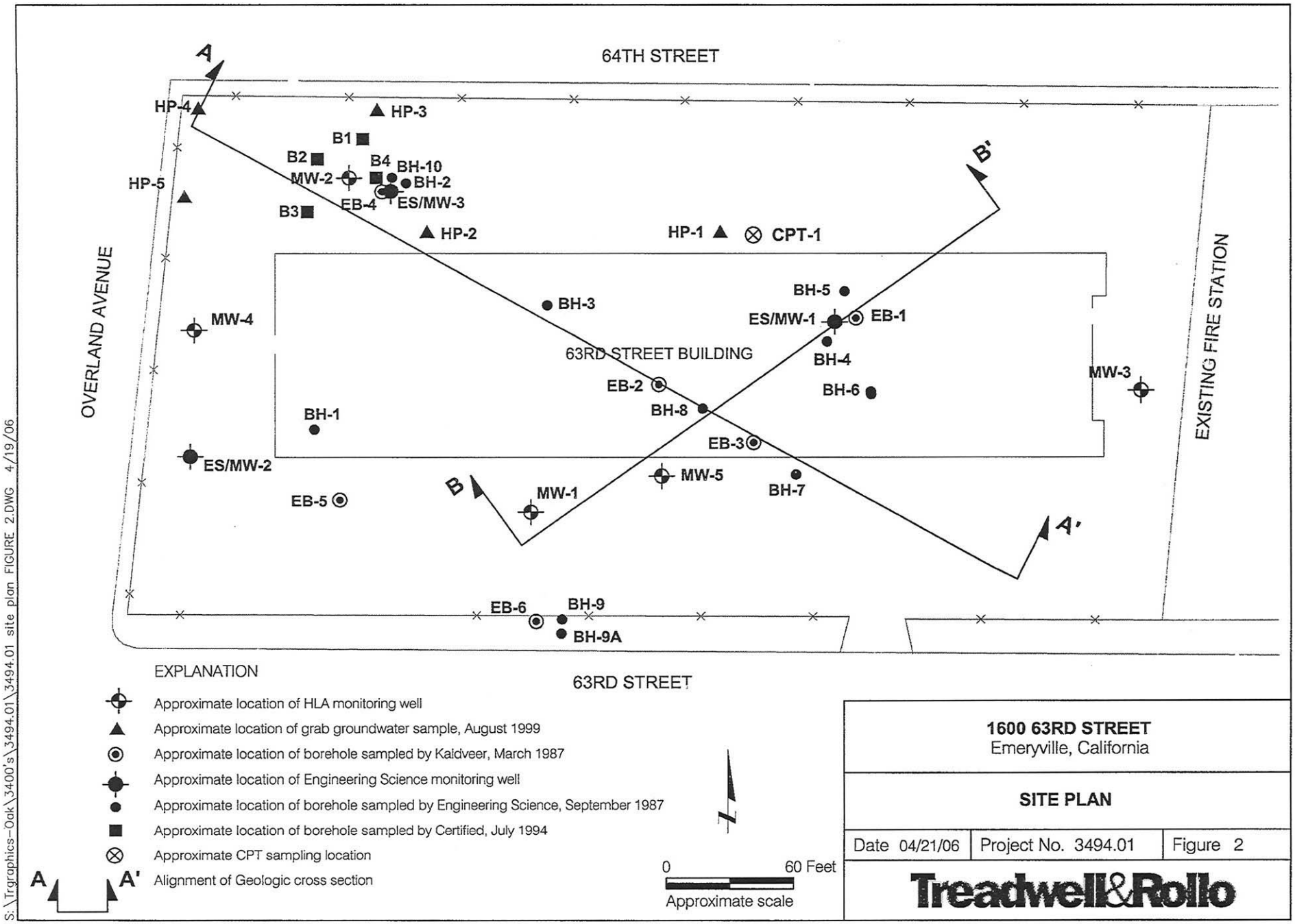
Date 04/21/06	Project No. 3494.01	Figure 1



S:\Trgraphics-Oak\3400's\3494.01\3494.01 site plan FIGURE 2.DWG 4/19/06

1600 63RD STREET
Emeryville, California

SITE PLAN

Date 04/21/06	Project No. 3494.01	Figure 2

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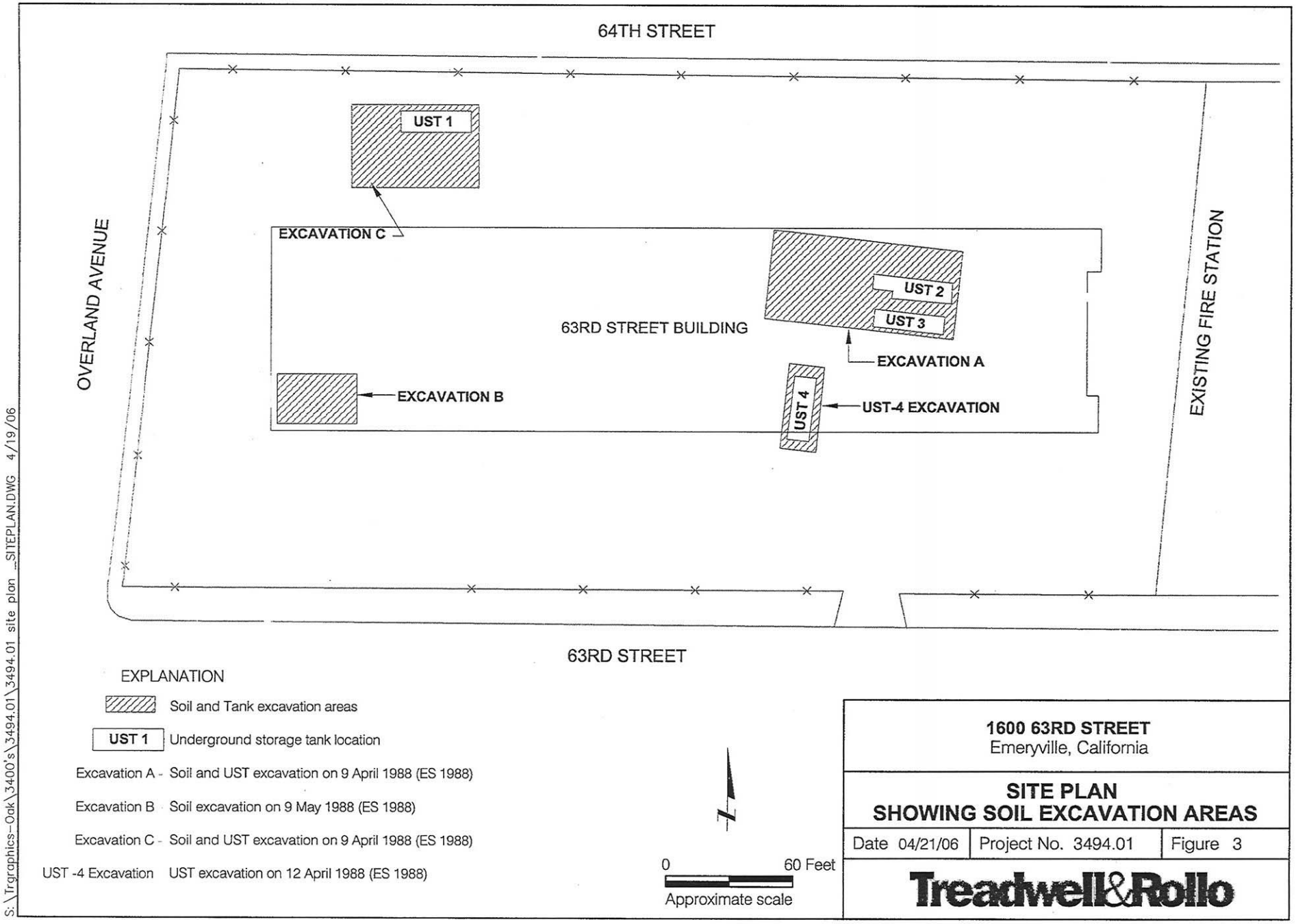

EXPLANATION

- Soil and Tank excavation areas
- UST 1 — Underground storage tank location
- Excavation A - Soil and UST excavation on 9 April 1988 (ES 1988)
- Excavation B - Soil excavation on 9 May 1988 (ES 1988)
- Excavation C - Soil and UST excavation on 9 April 1988 (ES 1988)
- UST -4 Excavation — UST excavation on 12 April 1988 (ES 1988)

0 60 Feet

Approximate scale

1600 63RD STREET
Emeryville, California

SITE PLAN
SHOWING SOIL EXCAVATION AREAS

Date 04/21/06	Project No. 3494.01	Figure 3

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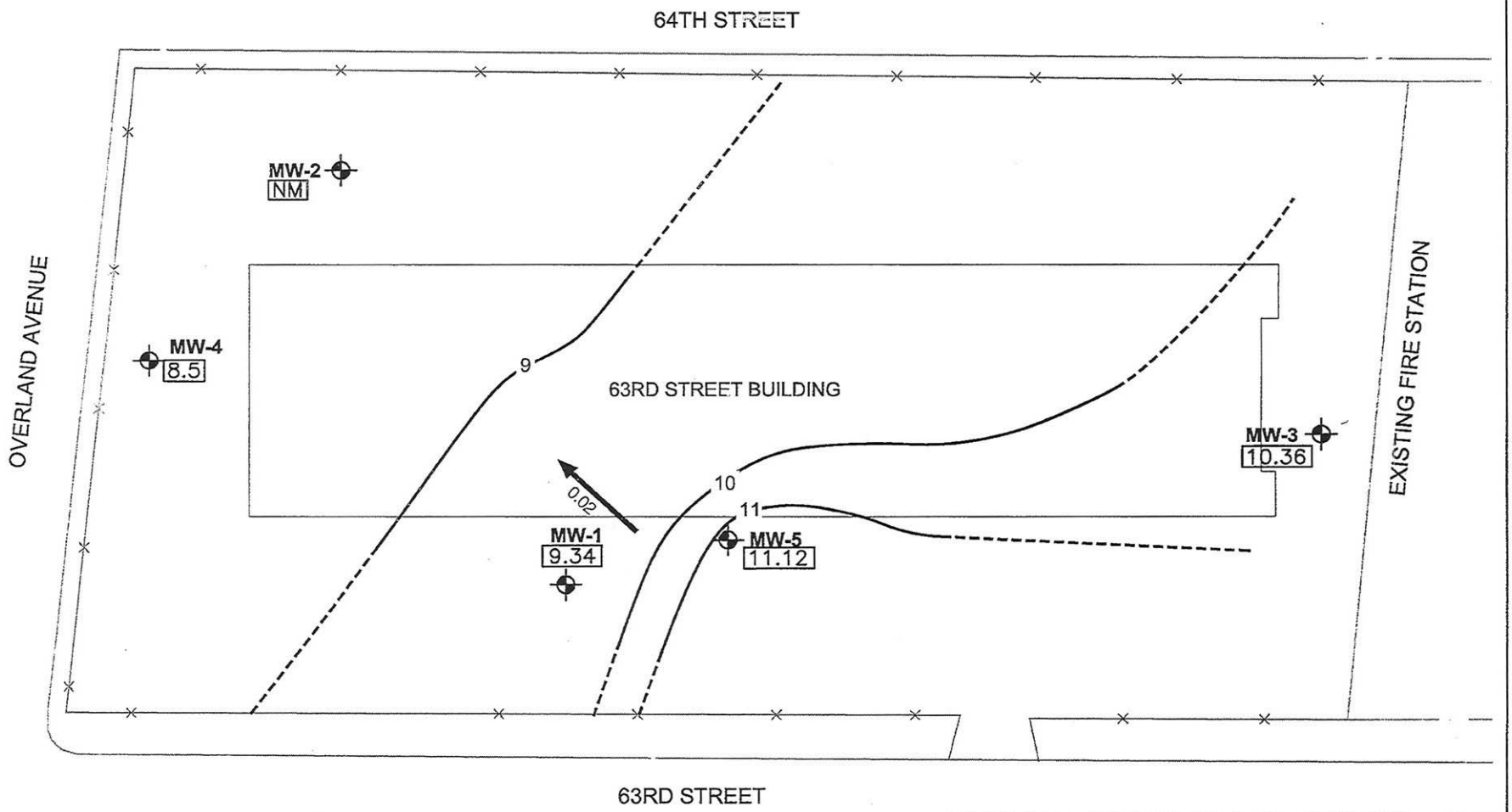

EXPLANATION

- Approximate location of HLA monitoring well
- —5— Approximate groundwater contour, dashed where inferred
- 11.12 Groundwater elevation measured 14 may 1999 (SOMA, 200)
- 0.02 Inferred groundwater flow direction and gradient

0 60 Feet

Approximate scale

1600 63RD STREET
Emeryville, California

SHALLOW GROUNDWATER ELEVATION CONTOURS - 14 MAY 1999

Date 04/21/06 | Project No. 3494.01 | Figure 4

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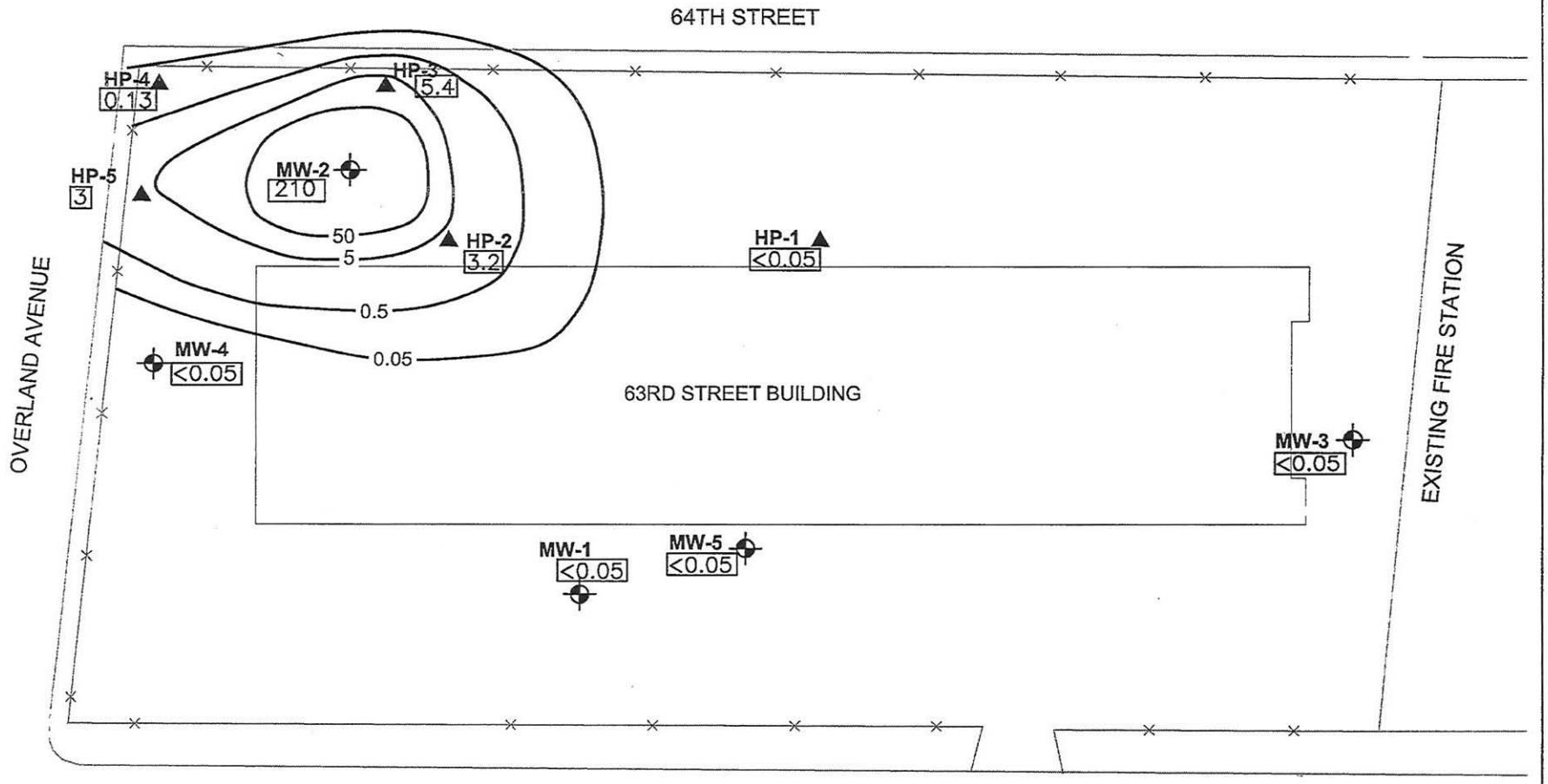

EXPLANATION

- Approximate location of HLA monitoring well
- Approximate location of grab groundwater sample, August 1999
- —5— Approximate TPH-d concentration contour
- 210 TPH-g concentration (mg/L) (SOMA, 2000)

0 60 Feet

Approximate scale

1600 63RD STREET
Emeryville, California

ISOCONCENTRATION MAP OF TPH-g DETECTED IN GROUNDWATER - MAY-AUGUST 1999

Date 04/21/06	Project No. 3494.01	Figure 5

Treadwell&Rollo

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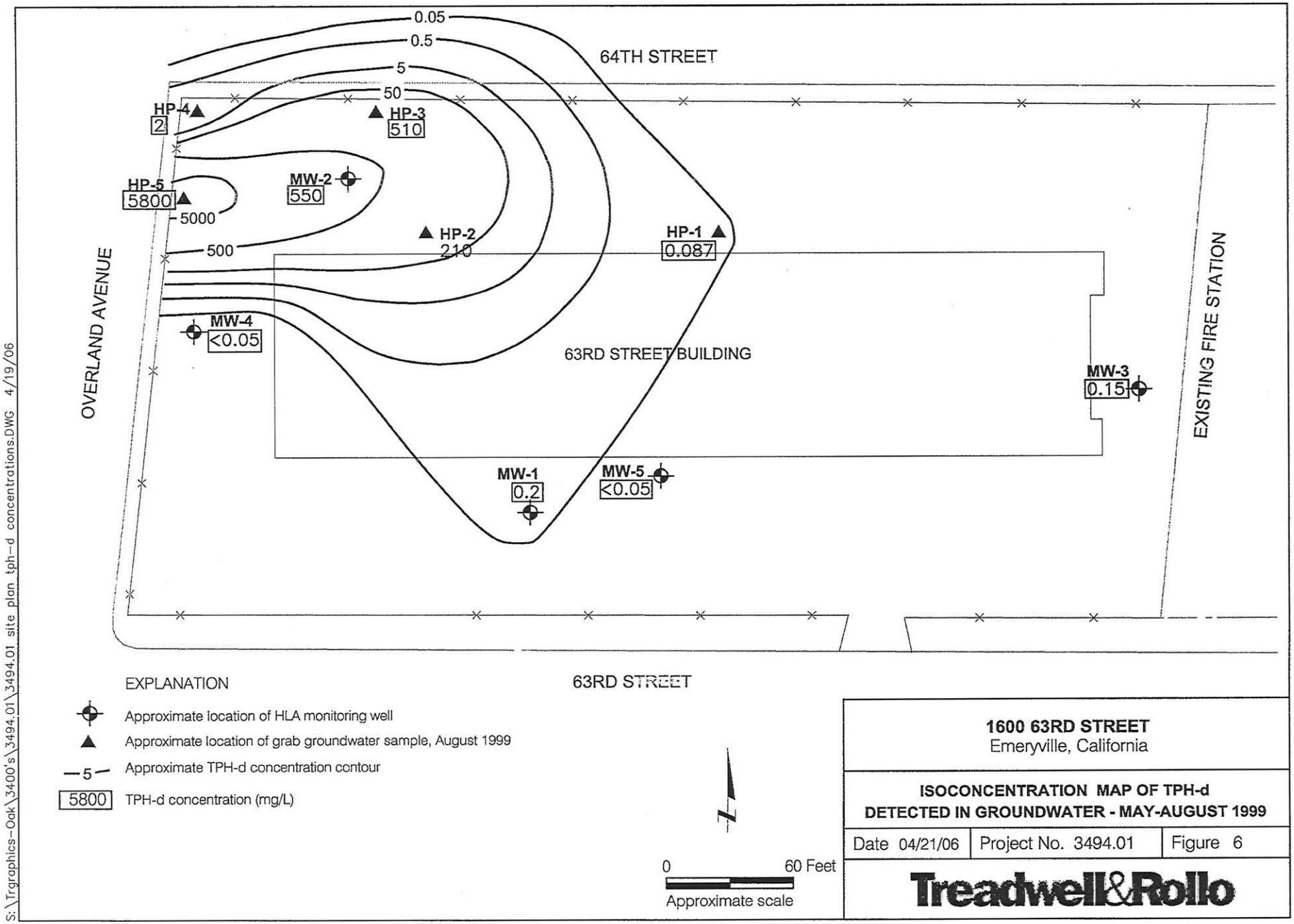

1600 63RD STREET
Emeryville, California

ISOCONCENTRATION MAP OF TPH-d DETECTED IN GROUNDWATER - MAY-AUGUST 1999

Date 04/21/06	Project No. 3494.01	Figure 6

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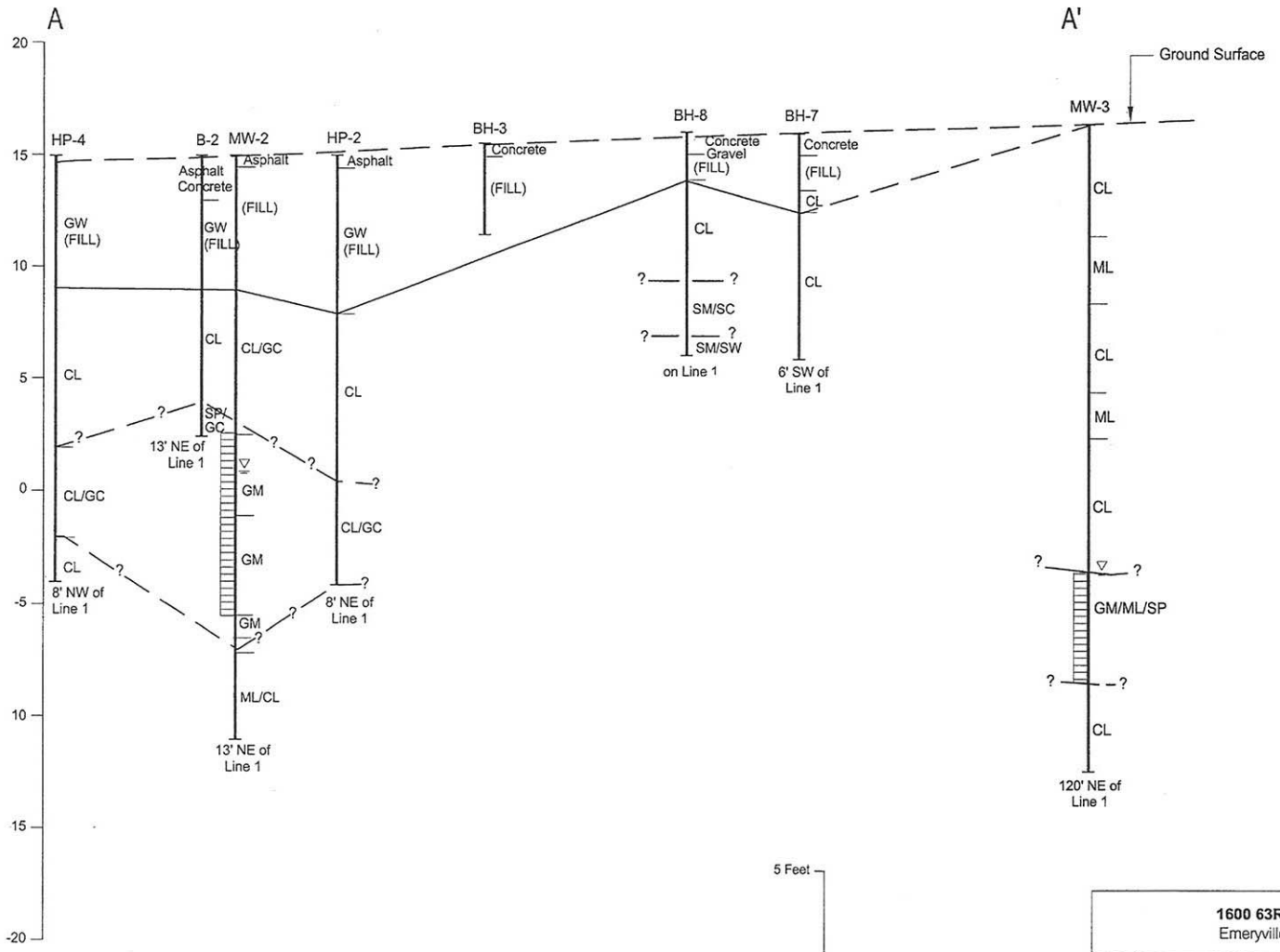

1600 63RD STREET
Emeryville, California

GEOLOGIC CROSS-SECTION A-A'

Date 04/21/06 | Project No. 3494.01 | Figure 7

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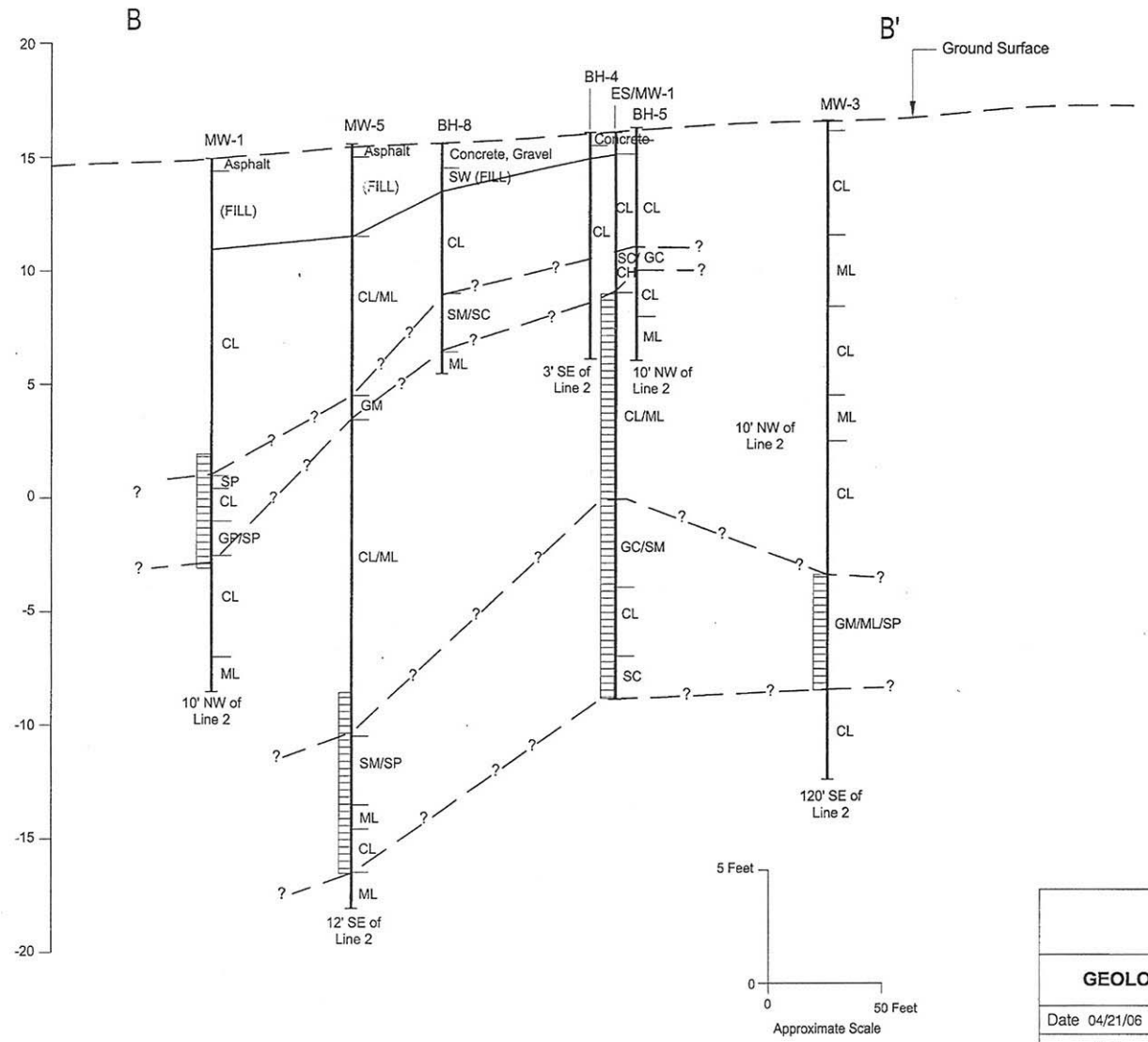
3494001_X-SECTIONS



1600 63RD STREET
Emeryville, California

GEOLOGIC CROSS-SECTION B-B'

Date 04/21/06	Project No. 3494.01	Figure 8

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349401_X-SECTIONS

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TABLES

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TABLE 1
SUMMARY OF HISTORICAL SOIL SAMPLE RESULTS
1600 63rd Street, Emeryville, CA

				Chemical Concentrations Detected (ppm)									
Sample No.	Date Sampled	Depth (below ground surface)	Notes	TOG	TPHg	TPHd	TPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	PCB's	TFH (Modified 8015)
Kaldveer													
EB-1	3/30/1987	3.0		--	**1600**	**380**	--	--	--	--	--	--	--
EB-2	3/30/1987	2.5		ND (1)	--	--	--	--	--	--	--	--	--
EB-3	3/30/1987	3.0		**120 (1)**	--	--	--	--	--	--	--	--	--
EB-4	3/30/1987	4.5	(2)	--	--	--	--	**0.006**	**0.011**	ND	ND	--	ND
EB-5	3/30/1987	6.0		**1300**	--	--	--	--	--	--	--	--	ND
EB-6	3/30/1987	7.5		**190 (1)**	ND	--	--	--	--	--	--	--	--
Engineering Science													
BH-1	9/2/1987	2.5, 6.5 Composite		**4800**	--	--	**1900**	--	--	--	--	--	--
BH-3	9/8/1987	1.0		**100**	--	--	<100	--	--	--	--	--	--
BH-4	9/2/1987	2.5, 4.5 Composite		--	**1300**	--	--	--	--	--	--	--	--
BH-5	9/2/1987	2.5, 6.0 Composite		--	**1300**	ND	--	--	--	--	--	--	--
BH-6	9/2/1987	1.0, 3.5 Composite		--	**17**	--	--	--	--	--	--	--	--
BH-7	9/8/1987	3.5, 9.5 Composite		--	--	**20**	--	--	--	--	--	ND	--
BH-8	9/8/1987	2.5, 6.0, 9.0 Composite		<100	--	--	<100	--	--	--	--	ND	--
BH-9A	9/9/1987	5.5, 10.0 Composite		--	--	**16**	--	--	--	--	--	ND	--
BH-10	9/9/1987	2.5		<100	--	--	<100	--	--	--	--	--	--
ES/MW-1	11/5/1987	5.0	(5)	--	**360**	(6)	--	**0.7**	**0.8**	--	**1.2**	--	--
ES/MW-2	11/6/1987	5.0		<250	--	--	<250	--	--	--	--	--	<10
ES/MW-3	1/6/1988	4.5	(2)	--	--	--	**1100**	ND	**0.6**	ND	ND	<0.3	--
Peterson-ASP	5/6/1988	2.0	(2) (4)	--	--	--	**43000**	--	--	--	**0.71**	ND	--
WPRS-C	5/11/1988	0.5 Composite 100-ft grid	(2) (3)	--	--	--	--	ND	ND	ND	ND	**0.042**	--
Harding Lawson													
MW-2	5/1/1989	5.0	(7)	--	**15**	**212**	--	<0.005	<0.005	<0.005	<0.005	ND	--
		9.5	(7)	--	<10	<10	--	<0.005	<0.005	<0.005	<0.005	ND	--
Certified													
B1	7/13/1994	12.0		--	<2	<2	--	**0.011**	**0.1**	**0.14**	**0.26**	--	--
B2	7/13/1994	12.0		--	<2	<2	--	**0.013**	**0.038**	**0.04**	**0.12**	--	--
B3	7/13/1994	12.0		--	<2	<2	--	**0.01**	**0.1**	**0.14**	**0.47**	--	--
B4	7/13/1994	12.0		--	<2	<2	--	<.005	**0.018**	**0.017**	**0.1**	--	--
ESL					100	500	100	0.18	9.3	32	11	0.22	

NOTES:

ppm = parts per million
TOG = Total Petroleum Hydrocarbons as Oil and Grease
TPHg = Total Petroleum Hydrocarbons as Gasoline.
TPHd = Total Petroleum Hydrocarbons as Diesel.
TPH = Total Petroleum Hydrocarbons
PCBs = Polychlorinated Biphenyls
MTBE = Methyl-tert-butyl ether
-- = Not Analyzed.
ND = Not Detected.
< = Below Specified Reporting Limits.
ESL = Environmental Screening Level (Shallow Soils-SFBRWQCB 2005)

(1) GC/FID Waste Oil Standard
(2) Other EPA 8240 analytes not detected
(3) Composite soil sample collected at roughly a 100 foot grid across the site from approximately 3 to 6 inches below the surface.
(4) 440 ppm lead, 6.1 ppm flourene, 19 ppm phenanthrene, 7.7 ppm flouranthene, 16 ppm pyrene, 23 ppm chrysene, 9.6 ppm benzo(a)anthracene detected.
(5) 4.9 ppm lead detected.
(6) Result reported as gasoline and diesel.
(7) Other EPA 8010, 8020, 8270 and 8080 analytes not detected.

Treadwell&Rollo

TABLE 2
SUMMARY OF HISTORICAL GROUNDWATER SAMPLING RESULTS
1600 63rd Street, Emeryville, CA

Sample No.	Date Sampled	Notes	Chemical Concentrations Detected (ppm)												
			TPHd	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	PCBs	EPA 8080 Analytes	EPA 8270 Analytes	EPA 8240 Analytes	EPA 8010 Analytes	MTBE	Motor Oil
Engineering Science															
ES/MW-1	11/12/1987	(1)	--	--	1.7	2.6	--	4.2	--	--	--	--	--	--	--
ES/MW-2	11/12/1987	(2)	--	--	--	--	--	--	--	--	--	--	--	--	--
ES/MW-3	1/13/1988	(3)	--	--	--	--	--	--	<0.0003	--	--	0.002 (12)	--	--	--
HLA															
MW-1	6/18/1989		<0.5	<0.5	<0.001	<0.001	<0.001	<0.001	--	--	ND	<0.01	--	--	--
	9/21/1989		<0.5	<0.5	<0.005	<0.005	<0.005	<0.005	0.0005	(4)	ND	<0.01	--	--	--
	12/20/1989		<0.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.0005	ND	ND	<0.01	--	--	--
	3/20/1990		<0.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.0005	ND	ND	<0.01	--	--	--
	7/20/1990		0.17	<0.05	<0.005	<0.0005	<0.0005	<0.005	--	ND	--	--	--	--	--
	11/12/1990		0.16	<0.05	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
	2/7/1991		0.2	<0.05	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
	5/8/1991		0.7	<0.05	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
MW-2	6/25/1989		<0.5	0.3	<0.005	<0.005	<0.005	<0.005	<0.0005	--	(7)	<0.01	--	--	--
	9/21/1989		1	<0.5	<0.005	<0.005	<0.005	<0.005	<0.0005	(5)	(8)	<0.01	--	--	--
	12/20/1989		<0.5	0.53	<0.005	<0.005	<0.005	<0.005	<0.0005	ND	(9)	<0.01	--	--	--
	2/20/1990		49	0.42	<0.005	<0.005	<0.005	<0.005	<0.0005	(6)	(10)	0.044 (13)	--	--	--
	5/11/1990		8.4	1.2	<0.005	<0.005	<0.005	<0.005	--	--	--	<0.01	--	--	--
	5/11/1990		<2.5	<0.5	<0.01	<0.01	<0.01	<0.01	--	--	--	<0.02	--	--	--
	7/20/1990		27	3.9	<0.005	<0.005	<0.005	0.011	--	ND	--	--	--	--	--
	7/20/1990		30	2.3	<0.005	<0.0025	<0.0025	0.0033	--	ND	--	--	--	--	--
	11/12/1990		61	380	<0.005	<0.0005	<0.0005	0.0005	<0.0005	ND	--	--	--	--	--
	11/12/1990		35	7	<0.005	0.0009	0.0001	0.0079	<0.0005	ND	--	--	--	--	--
	2/7/1991		41	11	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	ND	--	--	--	--	--
	2/7/1991		27	13	<0.005	<0.0005	<0.0005	0.043	<0.0005	ND	--	--	--	--	--
	5/8/1991		43	88	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
	5/8/1991		26	150	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
MW-3	7/18/1989		<0.5	<0.5	<0.001	<0.001	<0.001	<0.001	--	--	ND	<0.01	--	--	--
	9/21/1989		<0.5	<0.5	<0.005	<0.005	<0.005	<0.005	<0.0005	ND	ND	<0.01	--	--	--
	12/20/1989		<0.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.0005	ND	ND	<0.01	--	--	--
	3/20/1990		<0.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.0005	ND	ND	<0.01	--	--	--
	7/20/1990		<0.05	0.11	<0.005	<0.0005	<0.0005	<0.005	--	ND	--	--	--	--	--
	11/12/1990		<0.05	<0.05	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
	2/7/1991		0.12	<0.05	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
	5/8/1991		<0.05	<0.05	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--

Treadwell&Rollo

TABLE 2
SUMMARY OF HISTORICAL GROUNDWATER SAMPLING RESULTS
1600 63rd Street, Emeryville, CA

Sample No.	Date Sampled	Notes	Chemical Concentrations Detected (ppm)												
			TPHd	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	PCBs	EPA 8080 Analytes	EPA 8270 Analytes	EPA 8240 Analytes	EPA 8010 Analytes	MTBE	Motor Oil
MW-4	6/25/1989		<0.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.0005	--	ND	<0.01	--	--	--
	9/21/1989		<0.5	<0.5	<0.005	<0.005	<0.005	<0.005	<0.0005	ND	ND	<0.01	--	--	--
	12/20/1989		<0.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.0005	ND	ND	<0.01	--	--	--
	12/20/1989		--	--	<0.005	<0.005	<0.005	<0.005	--	--	--	<0.01	--	--	--
	3/20/1990		<0.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.0005	ND	ND	<0.01	--	--	--
	7/20/1990		<0.05	**0.12**	<0.005	<0.0005	<0.0005	<0.005	--	ND	--	--	--	--	--
	11/12/1990		<0.05	<0.05	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
	2/7/1991		<0.05	<0.05	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
	5/8/1991		<0.05	<0.05	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
MW-5	6/30/1989		<0.5	<0.05	<0.005	<0.005	<0.005	<0.005	--	--	ND	<0.01	--	--	--
	9/21/1989		<0.5	<0.5	<0.005	<0.005	<0.005	<0.005	**0.0009**	**(11)**	ND	<0.01	--	--	--
	12/20/1989		<0.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.0005	ND	ND	<0.01	--	--	--
	3/20/1990		<0.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.0005	ND	ND	<0.01	--	--	--
	7/20/1990		<0.05	<0.05	<0.005	<0.0005	<0.0005	<0.005	--	ND	--	--	--	--	--
	11/12/1990		<0.05	<0.05	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
	2/7/1991		<0.05	<0.05	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
	5/8/1991		<0.05	<0.05	<0.005	<0.0005	<0.0005	<0.005	<0.0005	ND	--	--	--	--	--
Certified															
MW-2	11/19/1992		**22**	**0.59**	<0.0003	**0.0014**	<0.0003	**0.0015**	--	--	--	--	--	--	--
	7/13/1994		**6**	<2	<0.001	<0.001	<0.001	<0.001	--	--	--	--	--	--	--
SOMA Corporation- Monitoring Wells															
MW-1	5/14/1999		**0.2**	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	ND	ND	--	ND	<0.005	<0.5
MW-2	5/14/1999	(14)	**550**	**210**	<2.5	<2.5	<2.5	**4.9**	<0.5	--	--	--	--	--	<3,500
MW-3	5/14/1999		**0.15**	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.00052	ND	ND	--	ND	<0.005	<0.5
MW-4	5/14/1999		<0.051	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	ND	ND	--	ND	<0.005	<0.51
MW-5	5/14/1999		<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.00052	ND	ND	--	ND	<0.005	<0.5
SOMA Corporation- Groundwater Grab Samples															
HP-1-W	8/5/1999		**0.087**	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	<0.005	--
HP-2-W	8/5/1999		**210**	**3.2**	<0.001	<0.001	<0.001	<0.001	--	--	--	--	--	<0.01	--
HP-3-W	8/5/1999		**150**	**5.4**	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	<0.05	--
HP-4-W	8/5/1999		**2**	**0.13**	<0.0005	**0.001**	**0.00082**	**0.002**	--	--	--	--	--	<0.005	--
HP-5-W	8/5/1999	(14)	**5,800**	**3**	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--	<0.05	--

Treadwell&Rollo

TABLE 2
SUMMARY OF HISTORICAL GROUNDWATER SAMPLING RESULTS
1600 63rd Street, Emeryville, CA

Sample No.	Date Sampled	Notes	Chemical Concentrations Detected (ppm)												
			TPHd	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	PCBs	EPA 8080 Analytes	EPA 8270 Analytes	EPA 8240 Analytes	EPA 8010 Analytes	MTBE	Motor Oil
CPT Groundwater Grab Samples															
CPT-1-1W	10/21/1999	Depth= 78' - 103'	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	ND	ND	ND	--	--	--
CPT-1-2W	10/21/1999	Depth= 135' - 160'	**0.1 (15)**	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.013	ND	ND	ND	--	--	--
ESL			640	500	46	130	290	100	0.014					1.8	

NOTES:

ppm = parts per million
TPHd = Total Petroleum Hydrocarbons as Diesel
TPHg = Total Petroleum Hydrocarbons as Gasoline
PCBs = Polychlorinated biphenols
< = Below Specified Reporting Limits.
-- = Not Analyzed.
ND = Not Detected.
ESL = Environmental Screening Level (Shallow GW-SFBRWQCB 2005)
TOG = Total Oil and Grease

(1) 0.031 ppm lead and 21 ppm total fuel hydrocarbons detected.
(2) 200 ppm TOG detected.
(3) 2.7 ppm total fuel hydrocarbons detected.
(4) 0.0001 ppm endrin aldehyde detected.
(5) 0.00016 ppm heptachlor and 0.00015 ppm 4,4'-DDD detected.
(6) 0.00035 ppm Gamma-BHC detected.
(7) Trace fluorene detected.
(8) 0.006 ppm fluroene, 0.005 ppm bis(2-ethyl-hexyl) phthalate and 0.0061 ppm 2-methyl-naphthalene detected.
(9) 0.012 ppm 2-methyl-naphthalene detected.
(10) 0.0061 ppm fluorene, 0.018 ppm 2-methyl-naphthalene and 0.0055 phenanthrene detected.
(11) 0.00015 ppm endrin aldehyde detected.
(12) 0.002 ppm unknown EPA 8240 analyte detected.
(13) 0.044 ppm acetone detected.
(14) Product samples collected from well MW-2 and boring HP-5; Chromalab results indicate hydrocarbon reported does not match diesel standard. Friedman & Bruya results indicate "patterns displayed by these peaks are indicative of degraded Bunker C or crude oil"
(15) Chromalab analytical results state "Compounds reported are in the diesel range. They do not exhibit pattern characteristic of hydrocarbon."

Treadwell&Rollo

TABLE 3
SUMMARY OF HISTORICAL SOIL EXCAVATION CONFIRMATION SAMPLING
1600 63rd Street, Emeryville, CA

Sample No.	Date Sampled	Depth (below ground surface)	Description	Chemical Concentrations Detected (ppm)									
				TPHg	TPHd	TPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	PCB's	EPA 8270 Analytes	Other Analyses
Excavation A													
UST-2SA	4/12/1988		Soil sample from west end of excavation	**350**	--	--	**150 (ppb)**	--	--	--	ND	--	--
UST-2SB	4/12/1988		Soil sample from east end of excavation	ND	ND	--	ND	ND	--	ND	--	--	--
UST-3SA	4/12/1988		Soil sample from west end of excavation	--	**170**	--	ND	ND	--	ND	ND	--	--
UST-3SB	4/12/1988		Soil sample from east end of excavation	ND	ND	--	ND	ND	--	ND	--	--	--
PP-1	5/17/1988	variable	Sides and bottom of excavation A	--	**300**	**1600**	--	--	--	--	--	--	--
PP-2	5/17/1998	variable	Sides and bottom of excavation A	--	ND	ND	--	--	--	--	--	--	--
PP-3	5/17/1998	variable	Sides and bottom of excavation A	--	**200**	**200**	--	--	--	--	--	--	--
PP-4	5/17/1998	variable	Sides and bottom of excavation A	--	**91**	**91**	--	--	--	--	--	--	--
PP-5	5/17/1998	variable	Sides and bottom of excavation A	--	**48**	**48**	--	--	--	--	--	--	--
PP-6	5/17/1998	variable	Sides and bottom of excavation A	--	**2000**	**2000**	--	--	--	--	--	--	--
PP-7	5/17/1998	variable	Sides and bottom of excavation A	--	ND	ND	--	--	--	--	--	--	--
PP-8	5/17/1998	variable	Sides and bottom of excavation A	--	**200**	**200**	--	--	--	--	--	--	--
PP-9	5/17/1998	variable	Sides and bottom of excavation A	--	**78**	**78**	--	--	--	--	--	--	--
PP-10	5/20/1988	variable	Sides and bottom of excavation A	ND	ND	--	--	--	--	--	--	--	--
PP-11	5/20/1988	variable	Sides and bottom of excavation A	ND	**83**	--	--	--	--	--	--	--	--
PP-12	5/20/1988	variable	Sides and bottom of excavation A	ND	**92**	--	--	--	--	--	--	--	--
PP-14-15	5/23/1988	variable	Sides and bottom of excavation A	**790**	ND	--	--	--	--	--	--	--	--
PP-15	5/25/1988	variable	Sides and bottom of excavation A	**490**	ND	--	--	--	--	--	--	--	--
Excavation B													
EXNBH-1	5/9/1988	variable	Composite sample around BH-1	ND	ND	--	--	--	--	--	--	--	--
Excavation C													
HT-1	4/7/1988		Soil sample from beneath west end of tank	--	**35**	--	--	--	--	--	**78 (ppb)**	--	(2)
HT-2	4/7/1988		Soil sample from beneath east end of tank	--	**26**	--	--	--	--	**6 (ppb)**	**43 (ppb)**	--	(3)
HT-3	4/7/1988	near surface	Soil sample from east edge of pit	--	--	**2600**	--	--	--	**112 (ppb)**	ND	--	(4)
UST-1SA	4/15/1988		Soil sample from west end of pit	--	--	--	--	--	--	--	ND	--	(5)
EXNUST-1	5/9/1988	variable	Composite near UST	--	--	--	--	--	--	--	--	(1)	--
PNA-S	5/23/1988		Soil from Burn-Pit area	--	--	--	--	--	--	--	--	--	--
UST-4													
UST-4SA	4/12/1988		Soil sample from north end of excavation	ND	ND	--	--	--	--	--	--	--	--
UST-4SB	4/12/1988		Soil sample from south end of excavation	ND	ND	--	--	--	--	--	--	--	--
ESL (ppm)				100	500	100	0.18	9.3	32	11	0.22		

Notes:

ppm = parts per million
TPHd = Total Petroleum Hydrocarbons as Diesel
TPHg = Total Petroleum Hydrocarbons as Gasoline
PCBs = Polychlorinated biphenols
< = Below Specified Reporting Limits.
-- = Not Analyzed.
ND = Not Detected.
ESL = Environmental Screening Level (Shallow Soils-SFBRWQCB 2005)

(1) 1.2 ppm Pyrene
(2) 21 ppb C6 Hydrocarbons
(3) 500 ppb Hexane
(4) 2100 ppb Hexane
(5) 170 ppb C6 Hydrocarbons

Treadwell&Rollo

TABLE 4
SUMMARY OF HISTORICAL GROUNDWATER ELEVATION DATA
1600 63rd Street, Emeryville, CA

Well Number	Top-of-Casing Elevation	Depth of Wall Screen Interval	Date Measured	Depth to Water	Water Elevation	Change in Elevation
	(feet)	(feet)		(feet)	(feet)	(feet)
MW-1	15.12	13-18	8/3/1989	5.99	9.13	
			9/21/1989	5.81	9.31	0.18
			10/20/1989	6.24	8.88	-0.43
			12/20/1989	6.09	9.03	0.15
			3/20/1990	5.87	9.25	0.22
			7/20/1990	5.75	9.37	0.12
			11/12/1990	6.04	9.08	-0.29
			2/7/1991	6.65	8.47	-0.61
			5/8/1991	6.17	8.95	0.48
			5/14/1999	5.78	9.34	0.39
MW-2	14.43	12.5-20.5	8/3/1989	6.66	7.77	
			9/21/1989	6.32	8.11	0.34
			10/20/1989	6.78	7.65	-0.46
			12/20/1989	7.32	7.11	-0.54
			3/20/1990	6.76	7.67	0.56
			5/11/1990	6.66*	--	--
			7/20/1990	6.74*	--	--
			11/12/1990	6.75*	--	--
			11/21/1990	7.00*	--	--
			2/7/1991	6.88*	--	--
			5/8/1991	6.92*	--	--
			5/14/1999	NM*	--	--
MW-3	15.90	20-25	8/3/1989	4.06	11.84	
			9/21/1989	3.77	12.13	0.29
			10/20/1989	4.49	11.41	-0.72
			12/20/1989	4.32	11.58	0.17
			3/20/1990	3.78	12.12	0.54
			7/20/1990	3.73	12.17	0.05
			11/12/1990	3.89	12.01	-0.16
			2/7/1991	3.92	11.98	-0.03
			5/8/1991	3.96	11.94	-0.04
			5/14/1999	5.54	10.36	-1.58
MW-4	14.04	22-29	8/3/1989	7.10	6.94	
			9/21/1989	6.90	7.14	0.20
			10/20/1989	6.95	7.09	-0.05
			12/20/1989	7.24	6.80	-0.29
			3/20/1990	6.94	7.10	0.30
			7/20/1990	6.94	7.10	0.00
			11/12/1990	7.13	6.91	-0.19
			2/7/1991	6.94	7.10	0.19
			5/8/1991	7.15	6.89	-0.21
			5/14/1999	5.54	8.50	1.61

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TABLE 4
SUMMARY OF HISTORICAL GROUNDWATER ELEVATION DATA
1600 63rd Street, Emeryville, CA

Well Number	Top-of-Casing Elevation (feet)	Depth of Wall Screen Interval (feet)	Date Measured	Depth to Water (feet)	Water Elevation (feet)	Change in Elevation (feet)
MW-5	15.21	24-32	8/3/1989	4.35	10.86	
			9/21/1989	4.38	10.83	-0.03
			10/20/1989	4.37	10.84	0.01
			12/20/1989	4.48	10.73	-0.11
			3/20/1990	4.07	11.14	0.41
			7/20/1990	4.12	11.09	-0.05
			11/12/1990	4.36	10.85	-0.24
			2/7/1991	4.44	10.77	-0.08
			5/8/1991	3.90	11.31	0.54
			5/14/1999	4.09	11.12	-0.19

NOTES:

* - Petroleum product measured in well (0.01- to 3-feet thick)

Treadwell&Rollo

APPENDIX A
Historical Boring Logs

CLIENT Wareham Development
Peterson Manufacturing Co.

TEST HOLE NUMBER MW-1

LOCATION 63rd St., Emeryville, CA

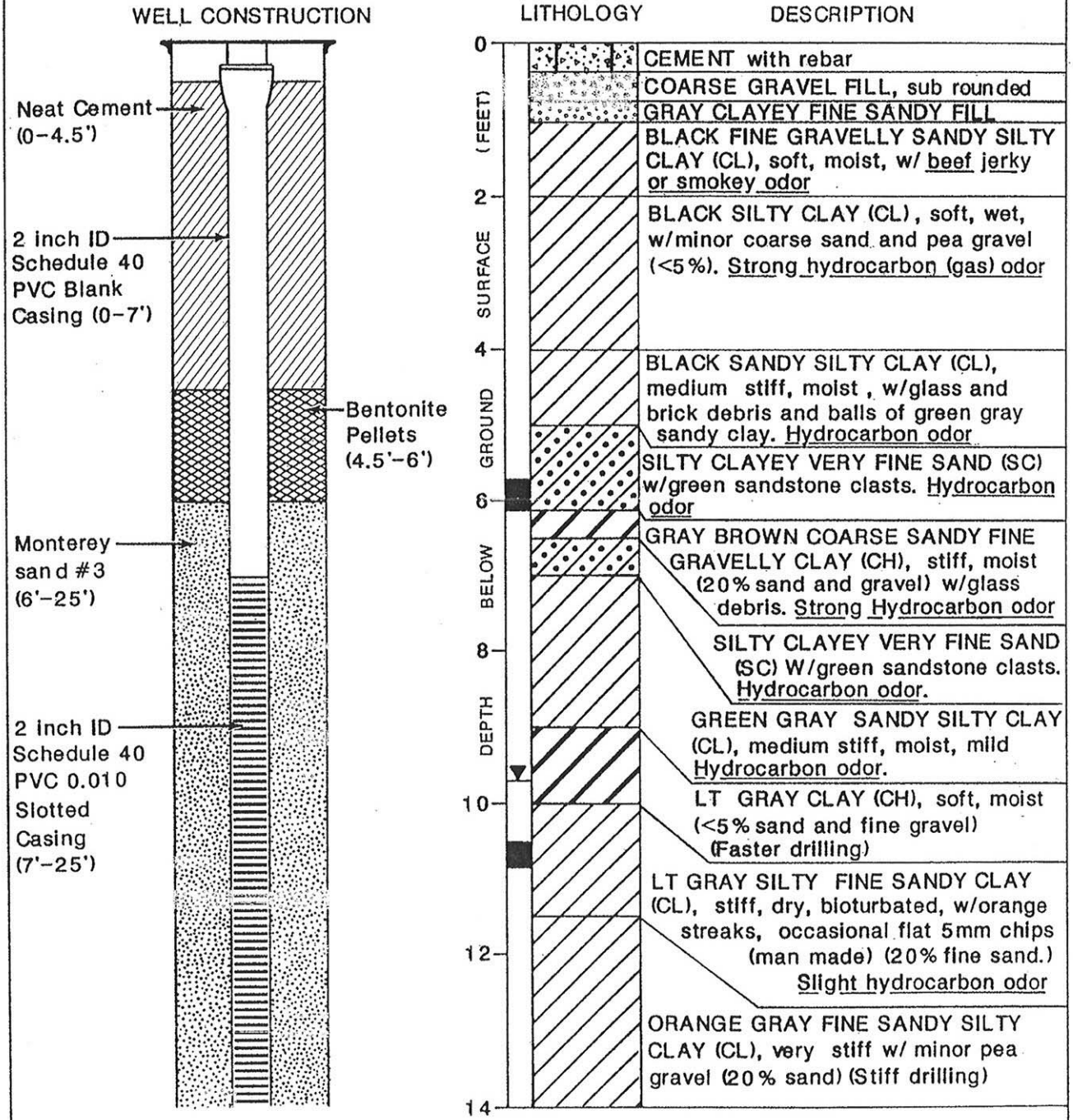
DRILLER Chris St. Pierre
Aqua Science Engineers

DATE 5 November 1987

DRILLING METHOD Hollow Stem Auger

GEOLOGIST K. Chesick

HOLE DIAMETER 8"



EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

Wareham Development

CLIENT Peterson Manufacturing Co.

LOCATION 63rd St., Emeryville, CA

DATE 5 November 1987

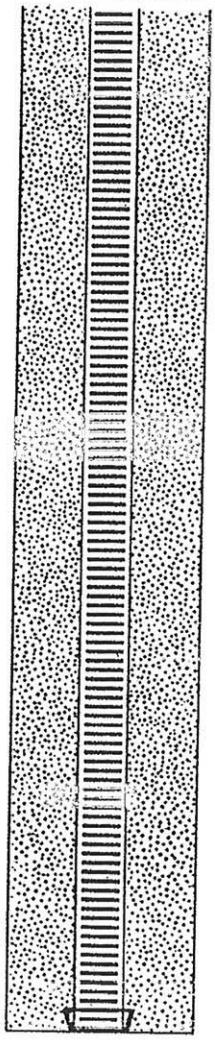
GEOLOGIST K. Chesick

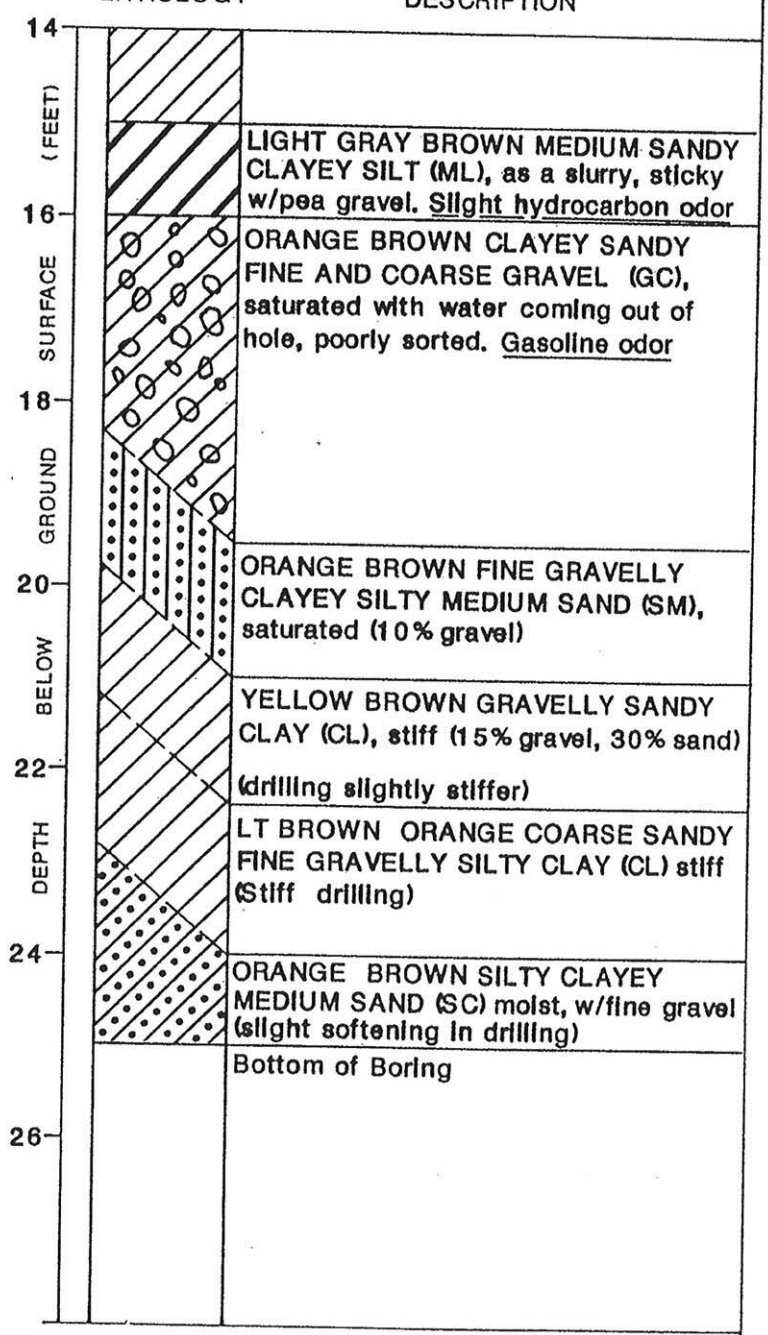
TEST HOLE NUMBER MW-1

DRILLER Chris St. Pierre
Aqua Science Engineers

DRILLING METHOD Hollow Stem Auger

HOLE DIAMETER 8"





EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

ES ENGINEERING-SCIENCE

Wareham Development

CLIENT Peterson Manufacturing Co.

TEST HOLE NUMBER MW-2

LOCATION 63rd St, Emeryville, CA

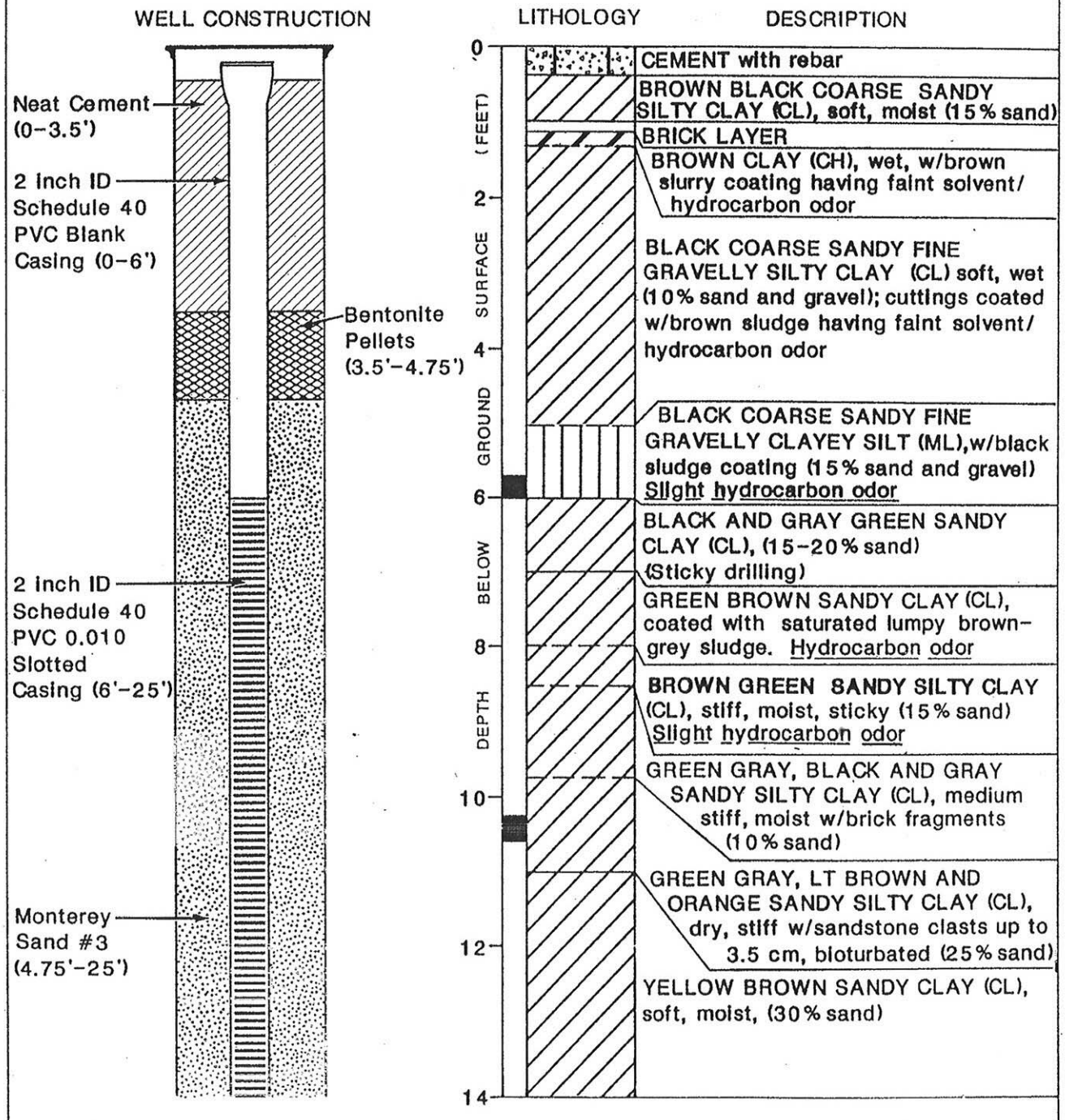
DRILLER Chris St. Pierre, Aqua Science Engineers

DATE 6 November 1987

DRILLING METHOD Hollow Stem Auger

GEOLOGIST K. Chesick

HOLE DIAMETER 8"



EXPLANATION

Water level during drilling

Contact (dashed where approximate)

Location of sample

CLIENT Wareham Development
Peterson Manufacturing Co.

TEST HOLE NUMBER MW-2

LOCATION 63rd St., Emeryville, CA

DRILLER Chris Pierre
Aqua Science Engineers

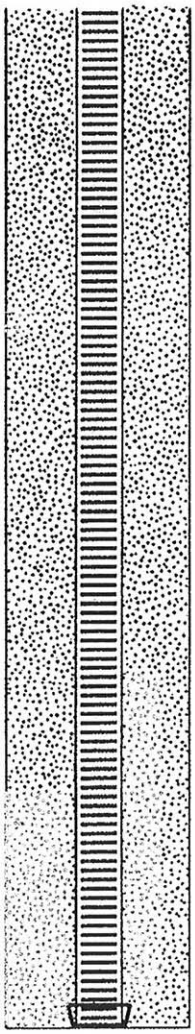
DATE 6 November 1987

DRILLING METHOD Hollow Stem Auger

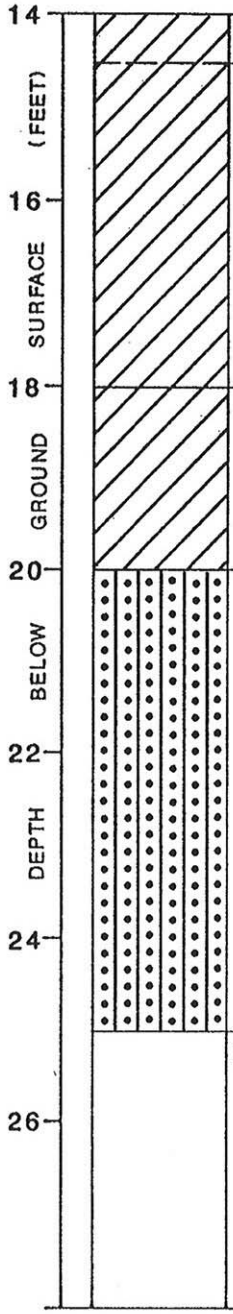
GEOLOGIST K. Chesick

HOLE DIAMETER 8"

WELL CONSTRUCTION



LITHOLOGY



DESCRIPTION

DARKER YELLOW BROWN SANDY CLAY (CL), soft, moist, sticky (40% sand) becomes grayer, stiffer with depth.

MEDIUM GRAY SANDY CLAY (CL), soft, moist (25%sand) w/black and medium brown streaks and brick fragments.

LT BROWN CLAYEY SILTY MEDIUM SAND (SM), comes out of hole as a very watery slurry. Slurry becomes thicker with increasing depth. Sand increases, becomes coarser. Angular fine gravel appears in cuttings.

Bottom of boring.

EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

CLIENT WAREHAM DEVELOPMENT

LOCATION PETERSON MANUFACTURING CO. 63rd ST., EMERYVILLE, CA

DATE 6 JANUARY 1988

GEOLOGIST K. CHESICK

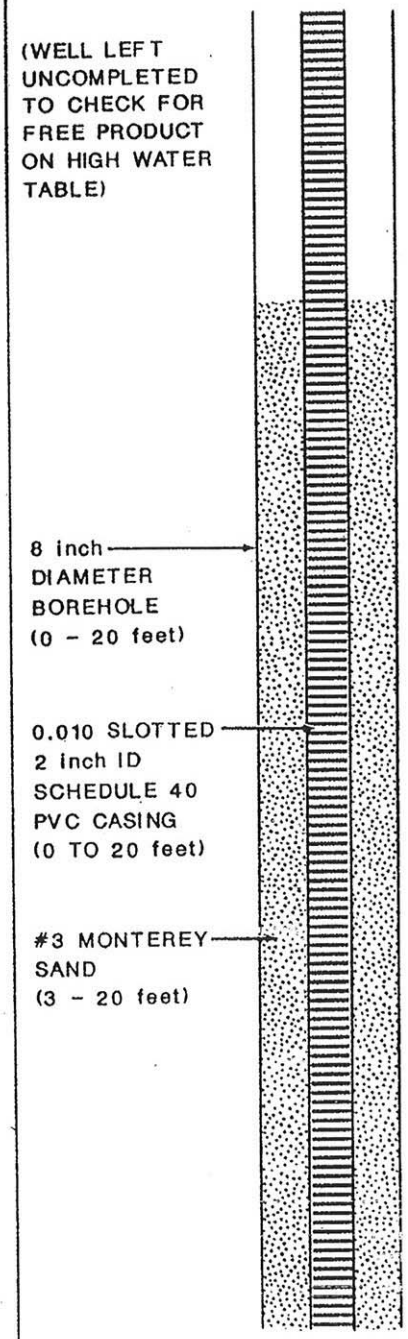
TEST HOLE NUMBER MW-3

DRILLER CHRIS ST. PIERRE AQUA SCIENCE ENGINEERS

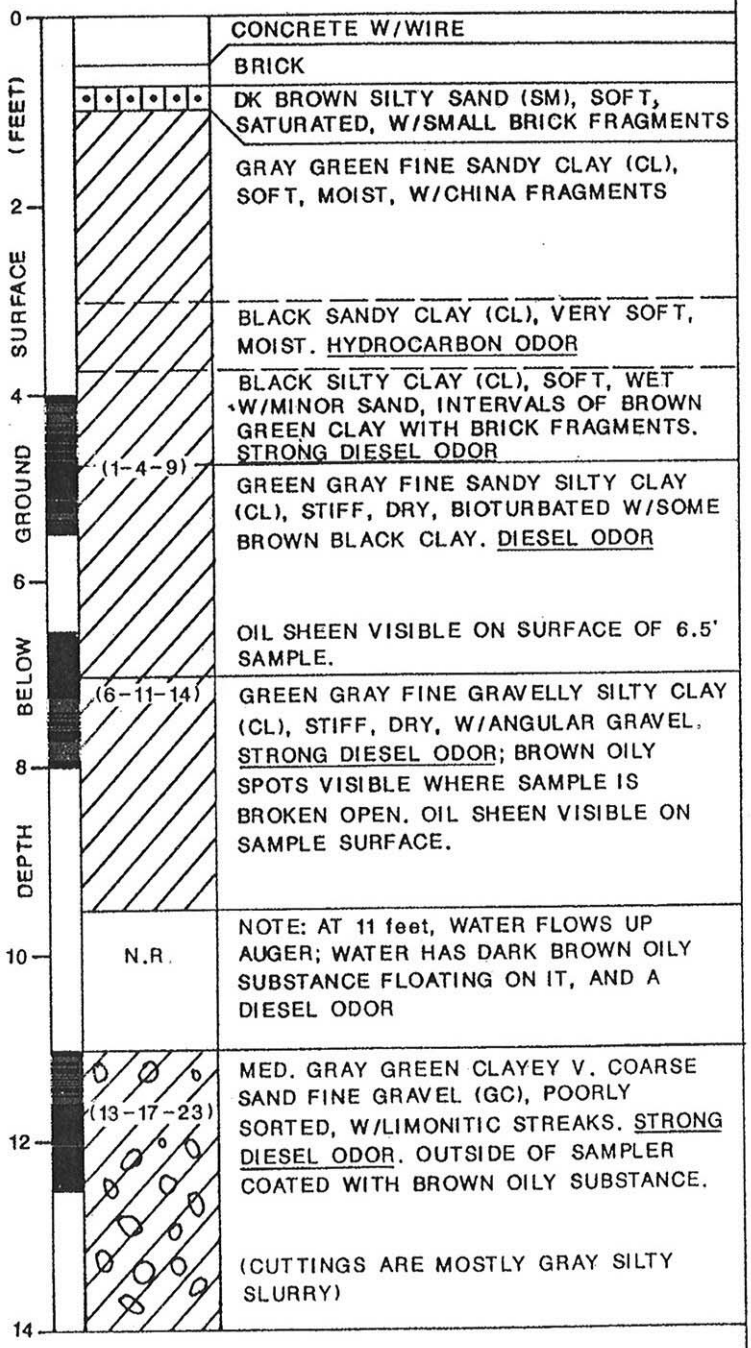
DRILLING METHOD HOLLOW STEM AUGER

HOLE DIAMETER 8-inch

WELL CONSTRUCTION



LITHOLOGY / DESCRIPTION



EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

CLIENT WAREHAM DEVELOPMENT

LOCATION PETERSON MANUFACTURING CO. 63rd ST., EMERYVILLE, CA

DATE 6 JANUARY 1988

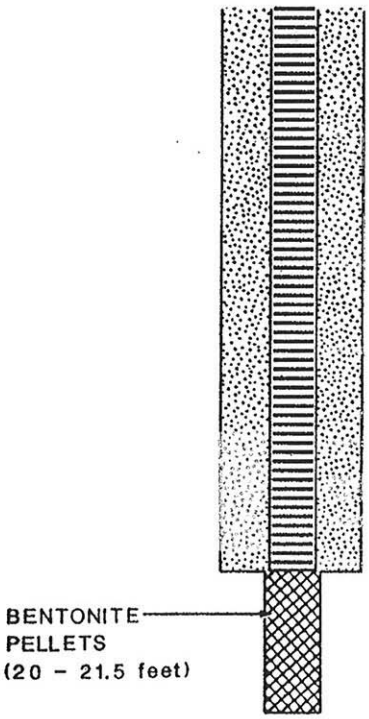
GEOLOGIST K. CHESICK

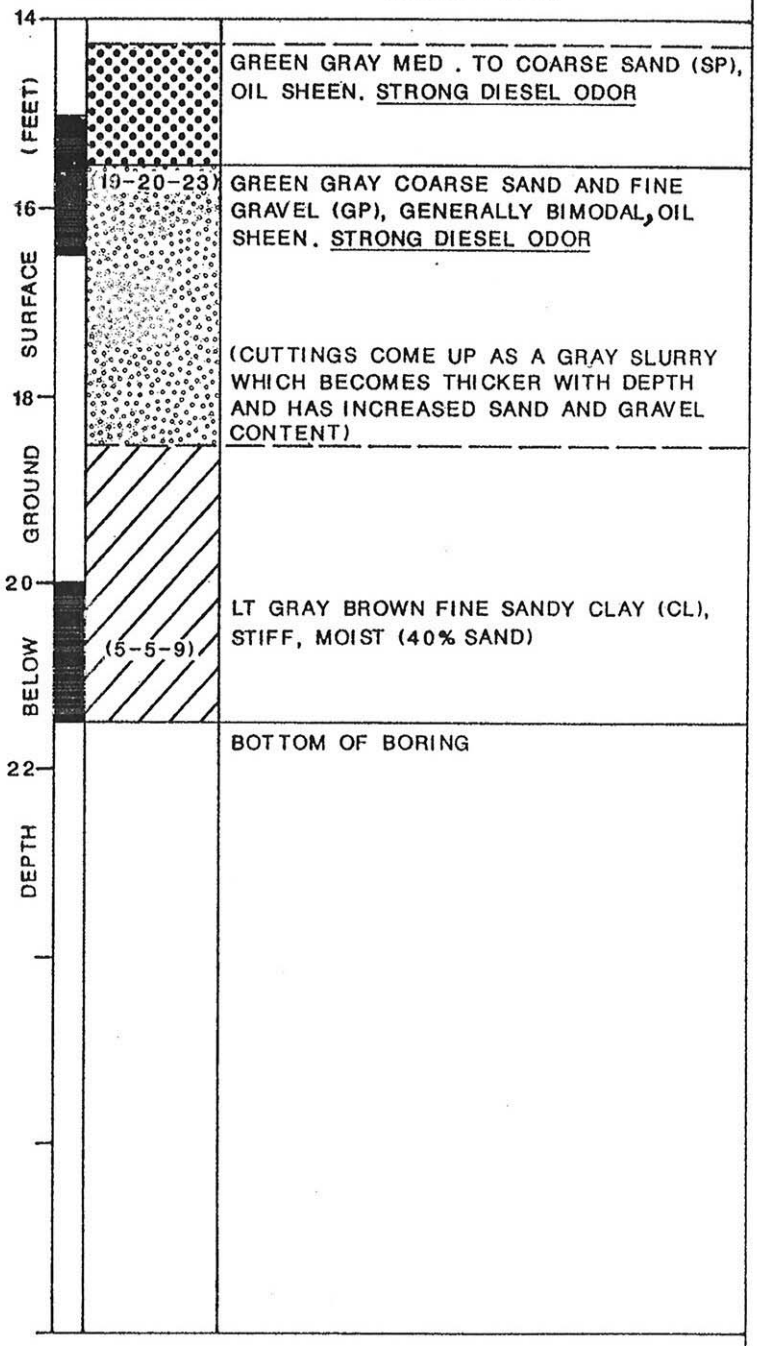
TEST HOLE NUMBER MW-3

DRILLER CHRIS ST. PIERRE AQUA SCIENCE ENGINEERS

DRILLING METHOD HOLLOW STEM AUGER

HOLE DIAMETER 8-inch





EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

Top of PVC Casing
Elevation 15.12 ft MSL

Equipment 10" HSA

Elevation 15.1 ft Date 4/30/89

GROUND SURFACE	See below for Well Top Detail	Blows/foot	OVA Readings (ppm)	Depth (ft)	Sample
TOP OF CASING 0.5 ft below ground level				0	
10 IN. DIAMETER BOREHOLE 0 to 23.5 ft		10	10-20	5	
4 IN. DIAMETER SCH. 40 PVC BLANK CASING 0.5 to 13 ft		10	5-10		
BENTONITE/CEMENT SEAL 1 to 8.5 ft				10	
BENTONITE PELLET SEAL 8.5 to 10.5 ft		3	0.5		
SANDPACK (Monterey 2/16) 10.5 to 22 ft		8	0.5	15	
4 IN. DIAMETER SCH. 40 PVC SLOTTED SCREEN (0.010" slot size) 13 to 18 ft		4	0.5		
SILT TRAP 18 to 18.5 ft		3	0.5	20	
BOTTOM WELL CAP at 18.5 ft					
SILT TRAP 18 to 18.5 ft		8	0.0		
SLOUGH 22.0 to 23.5 ft					
BOTTOM OF BOREHOLE 23.5 ft				25	

3 IN. ASPHALT
FILL - gravel and sand, hard, dry

VERY DARK GRAY SILTY SANDY CLAY (CL) medium stiff, moist

GRAY-GREEN SILTY GRAVELLY CLAY (CL) stiff, moist

color change to gray-brown

▽ water level on 4/30/89
color change to light olive-brown

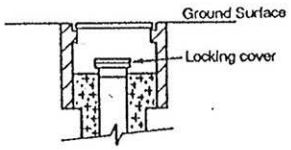
GRAY-BROWN SAND (SP) loose, saturated
LIGHT OLIVE-BROWN SILTY CLAY (CL) medium stiff, saturated

GRAY-BROWN SANDY GRAVEL (GP) loose, saturated
GRAY-BROWN SAND (SP) medium dense, saturated
DARK BROWN SILTY CLAY (CL) soft, saturated
GRAY-BROWN CLAY (CL) soft, moist

YELLOW-BROWN CLAYEY SILT (ML) medium stiff, wet
bottom of boring at 23.5 ft

30
35
40

WELL TOP DETAIL



NOT TO SCALE

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring and Well Completion Detail MW-1
1600-63rd Street Associates, Inc.
Emeryville, California

PLATE
A-3

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	18, 452, 016.02		9/89		

Top of PVC Casing
Elevation 14.43 ft MSL

Equipment 10" HSA

Elevation 15.0 ft Date 6/18/89

GROUND SURFACE

See below for Well Top Detail

TOP OF CASING 0.5 ft below ground level

10 IN. DIAMETER BOREHOLE
0 to 26 ft

4 IN. DIAMETER SCH. 40 PVC
BLANK CASING 0.5 to 12.5 ft

BENTONITE/CEMENT SEAL
1 to 8.5 ft

BENTONITE PELLET SEAL
8.5 to 10.5 ft

SANDPACK (Lonestar 2/16)
10.5 to 23 ft

4 IN. DIAMETER SCH. 40 PVC
SLOTTED SCREEN
(0.010" slot size)
12.5 to 20.5 ft

SILT TRAP 20.5 to 20.9 ft

BOTTOM WELL CAP at 20.9 ft

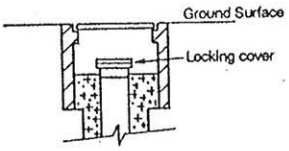
HOLE CLEANED OUT TO 24.5 ft

BENTONITE PELLETS
23.0 to 24.5 ft

SLOUGH 24.5 to 26.0 ft

Depth (ft)	Sample	Blows/foot	OVA Readings (ppm)	
0				6 IN. ASPHALT FILL - DARK BROWN SILTY GRAVEL (GM)
5		4	200	BLACK SANDY CLAY (CL) stiff, moist, 10-15% very fine-grained sand
				color change to dark gray
10		7	500	GREEN-GRAY CLAYEY SILT (ML) medium stiff, moist
		20	600	GREEN-GRAY CLAYEY SILTY GRAVEL (GM) medium dense, wet, subangular to subrounded gravel, 40% silt, 10% clay
15		15	400	water level on 6/18/89 DARK GRAY SILTY SAND (SM) medium dense, saturated, very fine-grained sand
20		16	300	
		7	100	LIGHT OLIVE-GRAY SANDY CLAYEY SILT (ML) medium stiff, wet
		6	75	DARK GRAY CLAYEY SILT (SM) loose, saturated
		11	40	LIGHT OLIVE-GRAY SANDY CLAYEY SILT (ML) medium stiff, wet
25		NA	0	LIGHT OLIVE-GRAY SILTY CLAY (CL) stiff, moist, 5% very fine sand
				bottom of boring at 26.0 ft
30				
35				
40				

WELL TOP DETAIL



NOT TO SCALE

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring and Well Completion Detail MW-2
1600-63rd Street Associates, Inc.
Emeryville, California

PLATE
A-4

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	18,452,016.02		9/89		

Top of PVC Casing Elevation 15.90 ft MSL

Equipment 10" HSA

Elevation 16.5 ft Date 5/1/89

GROUND SURFACE

See below for Well Top Detail

TOP OF CASING 0.5 ft below ground level

10 IN. DIAMETER BOREHOLE 0 to 29 ft

4 IN. DIAMETER SCH. 40 PVC BLANK CASING 0.5 to 20 ft

BENTONITE/CEMENT SEAL 1 to 15 ft

BENTONITE PELLET SEAL 15 to 18 ft

SANDPACK (Lonestar 2/16) 18 to 27 ft

4 IN. DIAMETER SCH. 40 PVC SLOTTED SCREEN (0.010" slot size) 20 to 25

SILT TRAP 25 to 25.5 ft

BOTTOM WELL CAP at 25 ft

HOLE CLEANED OUT TO 27 ft

SLOUGH 27.0-29.0 ft

Blows/foot	OVA Readings (ppm)	Depth (ft)	Sample
	0	0	
11	0	5	
5		10	
6	0	15	
6			
6	0		
11		20	
6	0	25	
8			
11	0	30	
		35	
		40	

VERY DARK GRAY CLAY (CL)

GRAY AND YELLOW-BROWN CLAYEY SANDY SILT (ML) medium stiff, wet

GRAY-BROWN CLAY (CL) medium stiff, wet

LIGHT OLIVE-BROWN CLAYEY SILT (ML) medium stiff

DARK BROWN CLAY (CL) medium stiff, moist

GRAY-BROWN SILTY CLAY (CL)

▽ water level on 5/1/89

YELLOW-BROWN CLAYEY SANDY SILTY GRAVEL (GM) medium dense, saturated

OLIVE-BROWN CLAYEY SILT (ML) medium stiff, saturated

RED-BROWN SAND (SP) loose, saturated

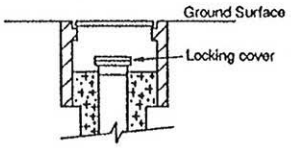
GRAY-BROWN CLAYEY SILT (ML) medium stiff, saturated, trace gravel

DARK GRAY-BROWN CLAY (CL) medium stiff, moist

DARK GRAY-BROWN GRAVELLY CLAY (CL) stiff, moist

bottom of boring at 29.0 ft

WELL TOP DETAIL



NOT TO SCALE

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring and Well Completion Detail MW-3

1600-63rd Street Associates, Inc.

Emeryville, California

PLATE **A-5**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	18, 452, 016.02		9/89		

Top of PVC Casing
Elevation 14.04 ft MSL

Equipment 10" HSA

Elevation 14.5 ft Date 6/18/89

	Blows/foot	OVA Readings (ppm)	Depth (ft)	Sample
GROUND SURFACE (See below for Well Top Detail)			0	
TOP OF CASING 0.5 ft below ground level				
10 IN. DIAMETER BOREHOLE 0 to 31 ft	12	150	5	
4 IN. DIAMETER SCH. 40 PVC BLANK CASING 0.5 to 22 ft	6	30	10	
		TR		
		TR		
	8	~0.2		
		5		
BENTONITE/CEMENT SEAL 1 to 18 ft	10	30	15	
		0		
	11	TR		
		0		
BENTONITE PELLET SEAL 18 to 20 ft	6	0	20	
		TR		
SANDPACK (Monterey 2/16) 20 to 30 ft	4			
	8	0		
		0		
4 IN. DIAMETER SCH. 40 PVC SLOTTED SCREEN (0.010" slot size) 22 to 29 ft	14	0	25	
	17	0		
		0		
SILT TRAP 29 to 29.5 ft	13	0		
BOTTOM WELL CAP at 29.5 ft.		0		
	12	0	30	
BENTONITE PELLETS 30 to 31 ft	23			
HOLE CLEANED OUT TO 31 ft			35	
			40	

6 IN. ASPHALT
FILL - MEDIUM DARK BROWN SILTY GRAVEL (GM)

BLACK SILTY CLAY WITH SAND (CL) soft, moist, with very fine sand

color change to dark gray
DARK GRAY CLAYEY SILT (ML)

DARK GRAY-BROWN SILTY SAND (SM) medium dense, moist, with gravel

DARK GRAY-BROWN CLAYEY SAND (SC) loose, wet

▽ water level on 6/18/89

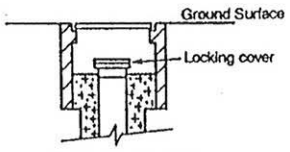
OLIVE-GRAY SANDY CLAYEY SILT (ML) soft, saturated, 10% very fine to fine sand
OLIVE-BROWN SILTY CLAY (CL) stiff, wet
OLIVE-BROWN SILTY SAND (SM) medium dense, saturated
OLIVE-BROWN SANDY SILT (ML) medium stiff, saturated

trace gravel from 20-20.2 ft

OLIVE-GRAY SILTY SAND (SM) loose, saturated, very fine sand

OLIVE-GRAY SILTY CLAY (CL) stiff, moist
DARK YELLOW-BROWN SILTY SAND (SM) medium dense, saturated
DARK YELLOW-BROWN SANDY GRAVEL (GM) medium dense, saturated
OLIVE-BROWN CLAYEY SILT (ML) stiff, wet, with 5% fine gravel
DARK YELLOW-BROWN SILTY SANDY GRAVEL (GM) medium dense, saturated, 40% coarse sand, 10% silt
OLIVE-BROWN CLAYEY SILT (ML) medium stiff, moist
bottom of boring at 31 ft

WELL TOP DETAIL



NOT TO SCALE

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring and Well Completion Detail MW-4
1600-63rd Street Associates, Inc.
Emeryville, California

PLATE
A-6

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	18, 452, 016.02		9/89		

Top of PVC Casing
Elevation 15.21 ft MSL

GROUND SURFACE

See below for Well Top Detail

TOP OF CASING 0.5 ft below ground level .

10 IN. DIAMETER BOREHOLE
0 to 33.5 ft

4 IN. DIAMETER SCH. 40 PVC BLANK CASING 0.5 to 24 ft

BENTONITE/CEMENT SEAL
1 to 20 ft

BENTONITE PELLET SEAL
20 to 22 ft

SANDPACK (Monterey 2/16)
22 to 33.5 ft

4 IN. DIAMETER SCH. 40 PVC SLOTTED SCREEN
(0.010" slot size)
24 to 32 ft

BOTTOM WELL CAP at 32 ft

HOLE CLEANED OUT TO 33.5 ft

Blows/foot	OVA Readings (ppm)
12	
6	0
4	0
	0
12	0
	0
7	0
	0
10	0
	0
8	0
	0
14	
24	
9	

Depth (ft) / Sample

Equipment 10" HSA

Elevation 15.7 ft Date 6/25/89

0 – 2 IN. ASPHALT
FILL - MEDIUM DARK BROWN SILTY GRAVEL (GP) dry

5 – VERY DARK GRAY SILTY CLAY (CL) soft, dry, 10% fine sand

10 – DARK BROWN CLAYEY SILT (ML) stiff, dry, with 5% fine gravel

color change to olive-brown at 10.4 ft

VERY DARK GRAY SILTY GRAVEL (GM) loose, moist
LIGHT OLIVE-BROWN SILTY CLAY (CL) medium stiff, moist
color change between 13.5 and 15.0 ft to brown

15 –

DARK GRAY-BROWN CLAYEY SILT (ML) medium stiff, moist

20 – BROWN SILTY CLAY (CL) soft, moist
DARK GRAY-BROWN SANDY CLAYEY SILT (ML) stiff, moist, 10% very fine to fine sand

color change to gray-brown, with 40% very fine to fine sand

25 – ▽ water level on 6/25/89

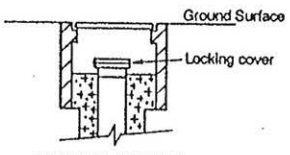
GRAY-BROWN SILTY SAND (SM) medium dense, saturated, 30-35% silt
YELOW-BROWN SAND (SP) 10YR 5/4 medium dense, saturated
DARK GRAY-BROWN SANDY CLAYEY SILT (ML) stiff, wet, 10% very fine sand
DARK YELLOW-BROWN GRAVEL (GM) 10YR 3/4 medum dense, saturated, 15-25% fine to medium sand, 15% silt

30 – DARK GRAY-BROWN SANDY CLAYEY SILT (ML) stiff, moist
bottom of boring at 33.5 ft

35 –

40 –

WELL TOP DETAIL



NOT TO SCALE

Harding Lawson Associates
Engineers and Geoscientists

Log of Boring and Well Completion Detail MW-5
1600-63rd Street Associates, Inc.
Emeryville, California

PLATE **A-7**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
	18, 452, 016.02		9/89		

ES ENGINEERING-SCIENCE

CLIENT WAREHAM DEVELOPMENT

LOCATION PETERSON MANUFACTURING CO. 63rd ST. EMERYVILLE, CA.

DATE 2 SEPTEMBER 1987

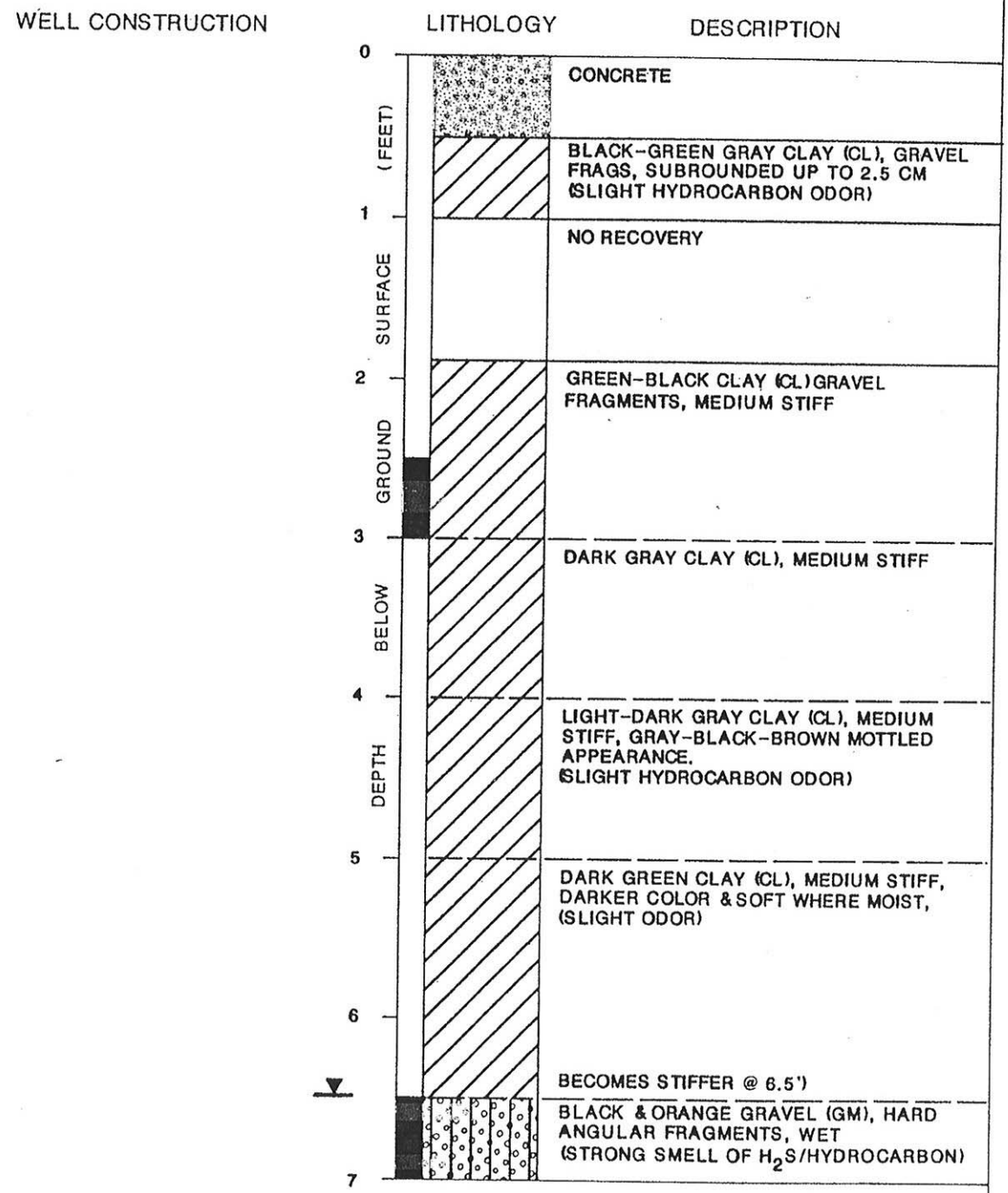
GEOLOGIST W. HAUCK

TEST HOLE NUMBER BH-1

DRILLER HANDRIVEN SAMPLING CO.

DRILLING METHOD HANDHELD SAMPLER

HOLE DIAMETER 1.25"



EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

ES ENGINEERING-SCIENCE

CLIENT WAREHAM DEVELOPMENT

TEST HOLE NUMBER BH-3

LOCATION PETERSON MANUFACTURING CO. 63rd ST., EMERYVILLE CA.

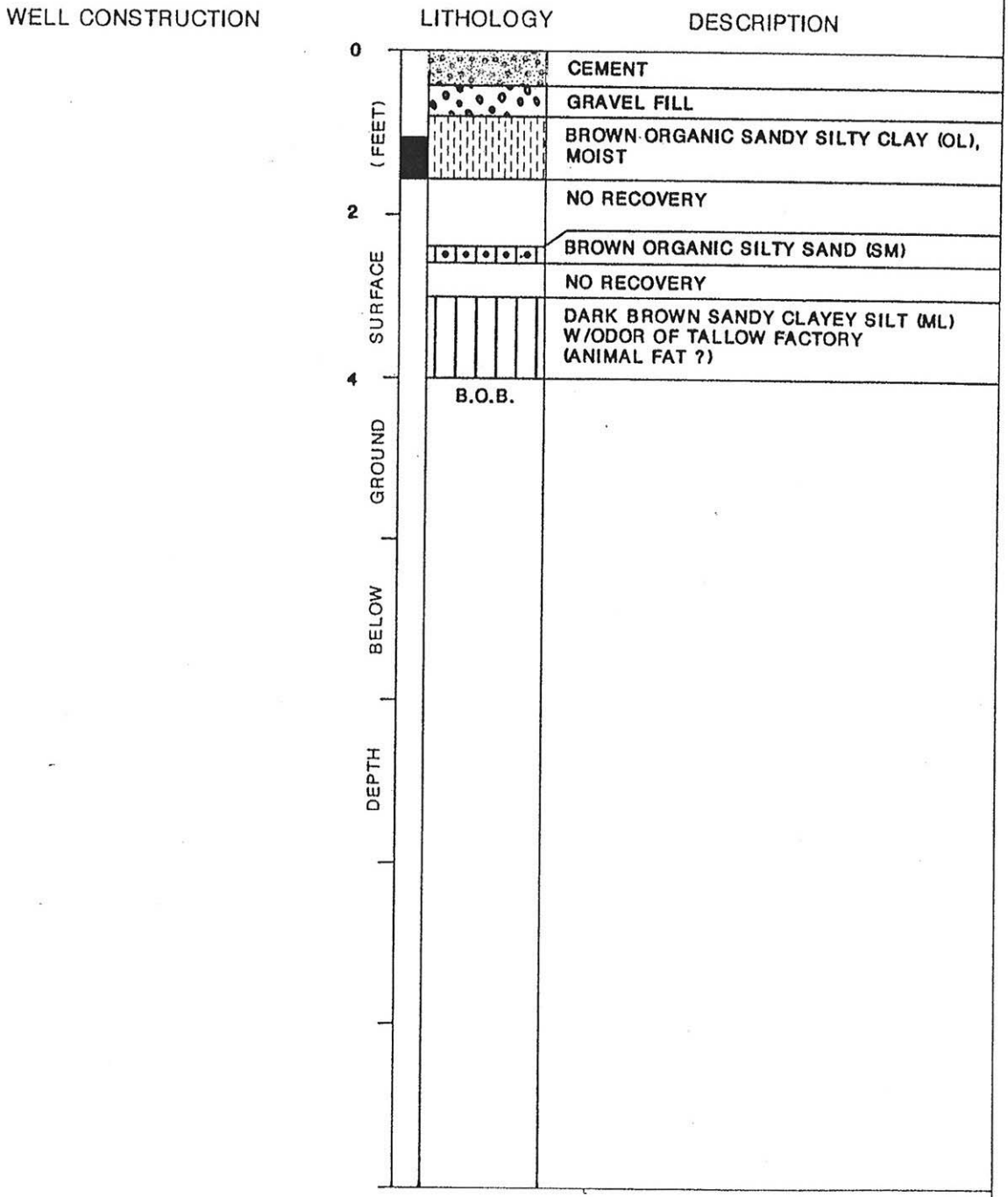
DRILLER HANDRIVEN SAMPLING CO.

DATE 8, 9 SEPTEMBER 1987

DRILLING METHOD HANDHELD SAMPLER

GEOLOGIST K. CHESICK

HOLE DIAMETER 1.25"



EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

CLIENT WAREHAM DEVELOPMENT

LOCATION PETERSON MANUFACTURING CO. 63 rd ST., EMERYVILLE, CA.

DATE 2 SEPTEMBER 1987

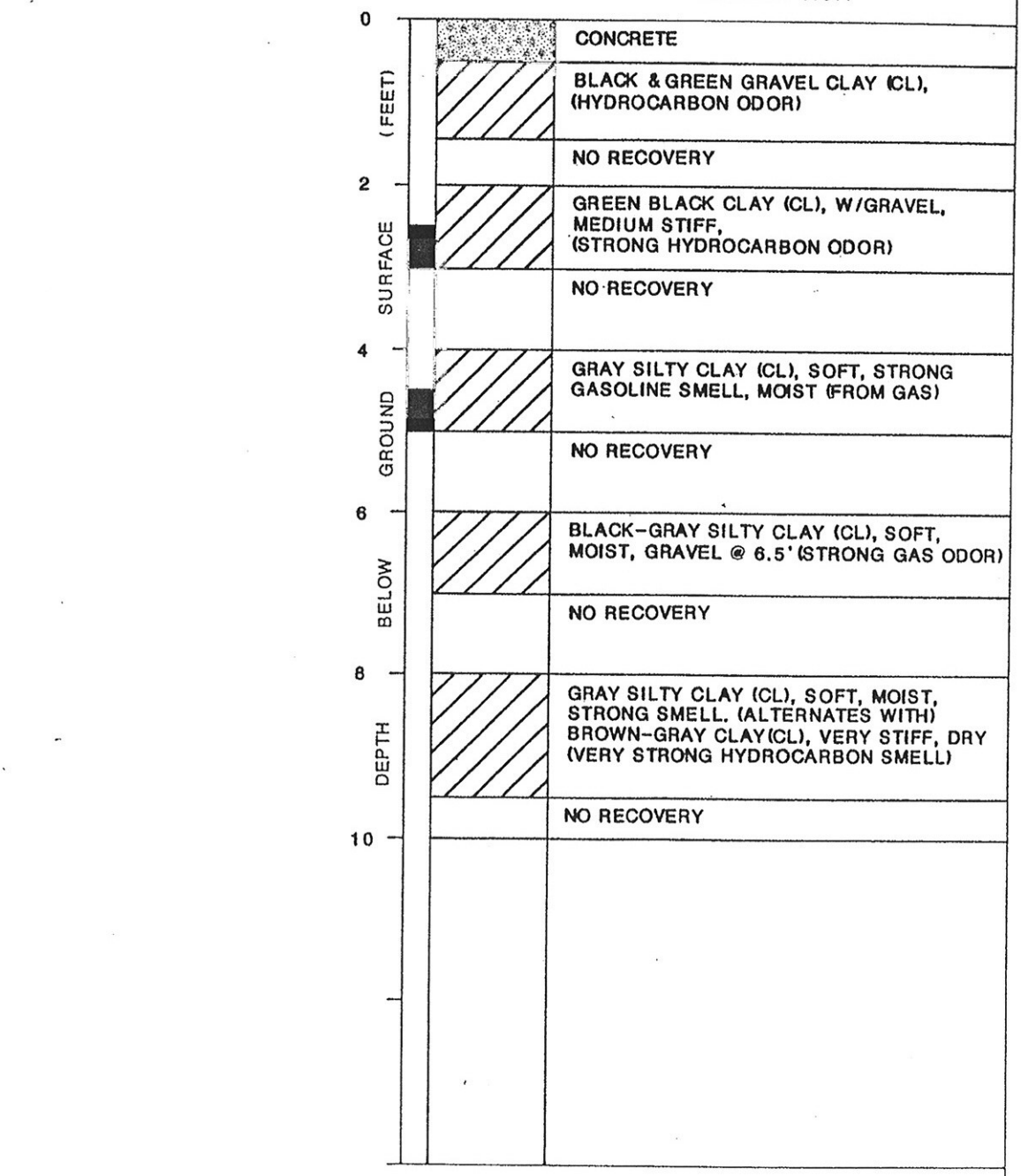
GEOLOGIST W. HAUCK

TEST HOLE NUMBER BH-4

DRILLER HANDRIVEN SAMPLING CO.

DRILLING METHOD HAND HELD SAMPLER

HOLE DIAMETER 1.25"



EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

ES ENGINEERING-SCIENCE

CLIENT WAREHAM DEVELOPMENT

LOCATION PETERSON MANUFACTURING CO. 63rd ST. EMERYVILLE, CA.

DATE 2 SEPTEMBER 1987

GEOLOGIST W. HAUCK

TEST HOLE NUMBER BH-5

DRILLER HANDRIVEN SAMPLING CO.

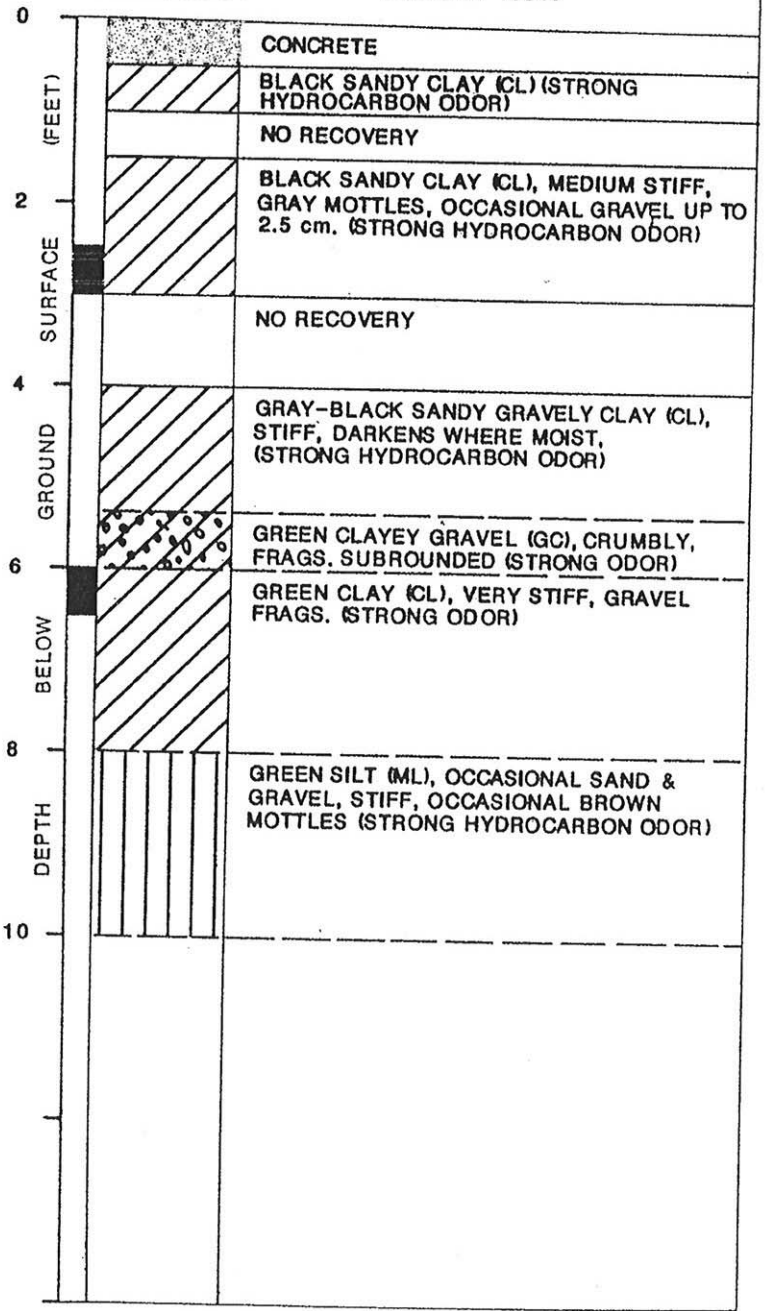
DRILLING METHOD HANDHELD SAMPLER

HOLE DIAMETER 1.25"

WELL CONSTRUCTION

LITHOLOGY

DESCRIPTION



EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

CLIENT WAREHAM DEVELOPMENT

LOCATION PETERSON MANUFACTURING CO. 63rd ST., EMERYVILLE, CA.

DATE 2 SEPTEMBER 1987

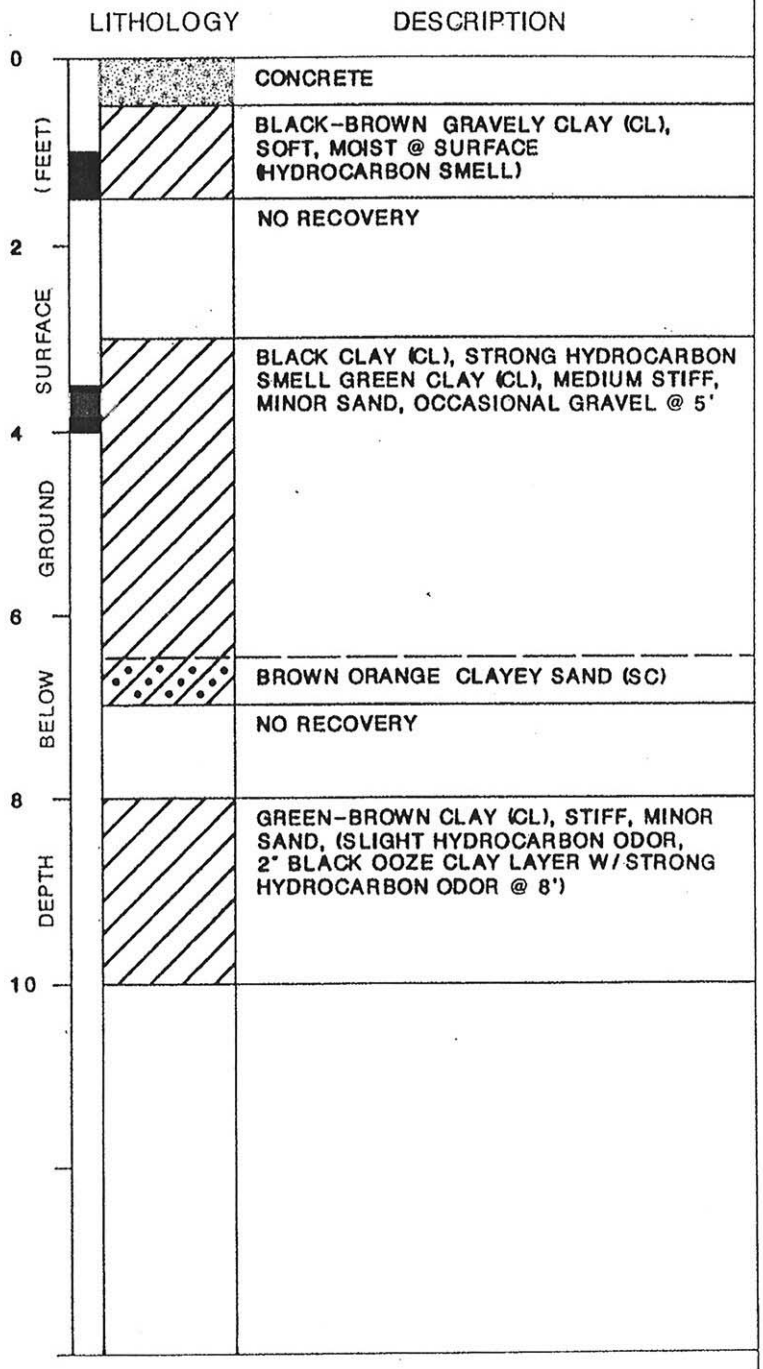
GEOLOGIST W. HAUCK

TEST HOLE NUMBER BH-6

DRILLER HANDRIVEN SAMPLING CO.

DRILLING METHOD HANDHELD SAMPLER

HOLE DIAMETER 1.25"



EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

ES ENGINEERING-SCIENCE

CLIENT WAREHAM DEVELOPMENT

LOCATION PETERSON MANUFACTURING CO. 63rd ST., EMERYVILLE CA.

DATE 8 SEPTEMBER 1987

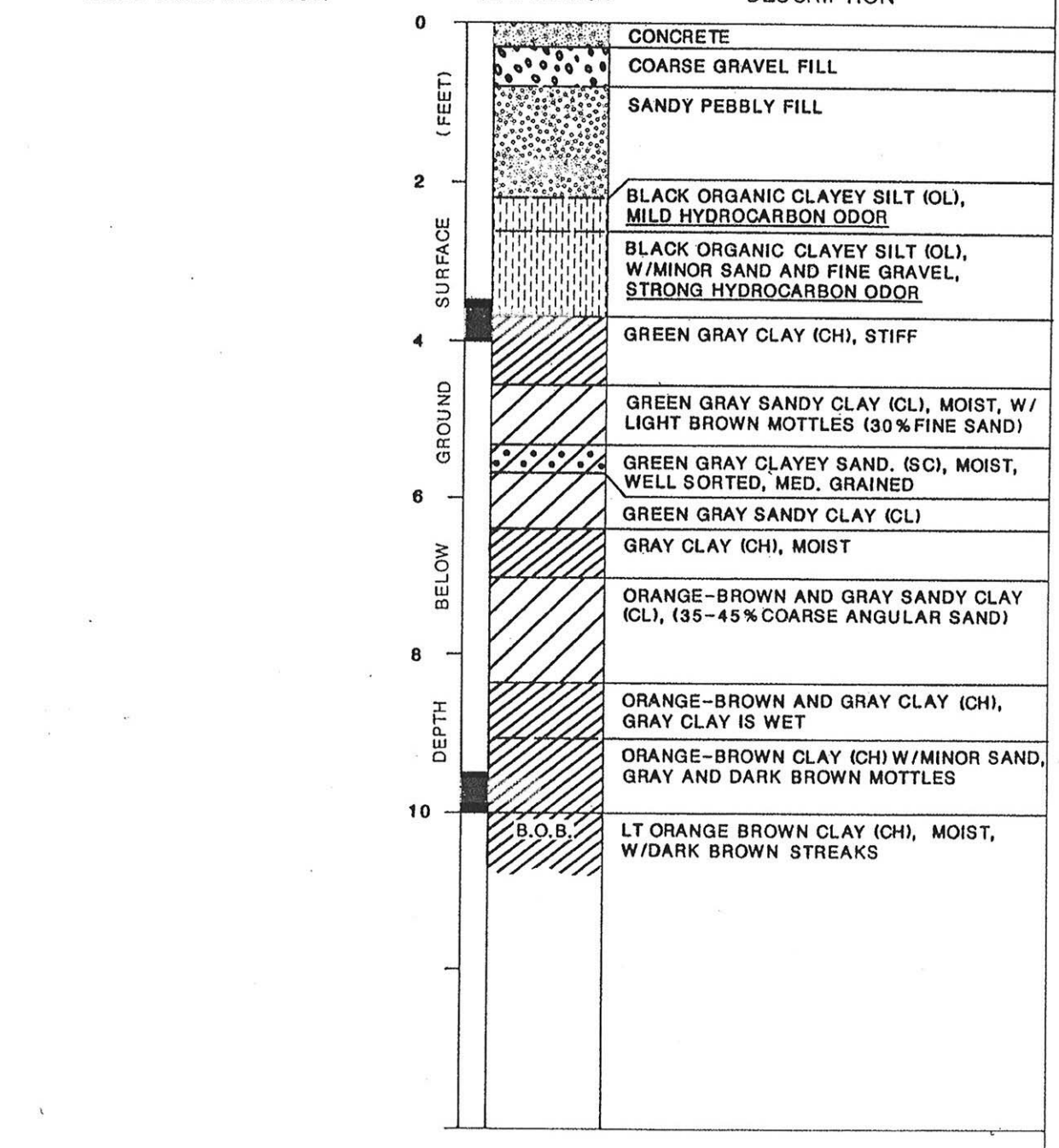
GEOLOGIST K. CHESICK

TEST HOLE NUMBER BH-7

DRILLER HANDRIVEN SAMPLING CO.

DRILLING METHOD HANDHELD SAMPLER

HOLE DIAMETER 1.25"



EXPLANATION

Water level during drilling

Contact (dashed where approximate)

Location of sample

ES ENGINEERING-SCIENCE

CLIENT WAREHAM DEVELOPMENT

LOCATION PETERSON MANUFACTURING CO. 63rd ST., EMERYVILLE CA.

DATE 8 SEPTEMBER 1987

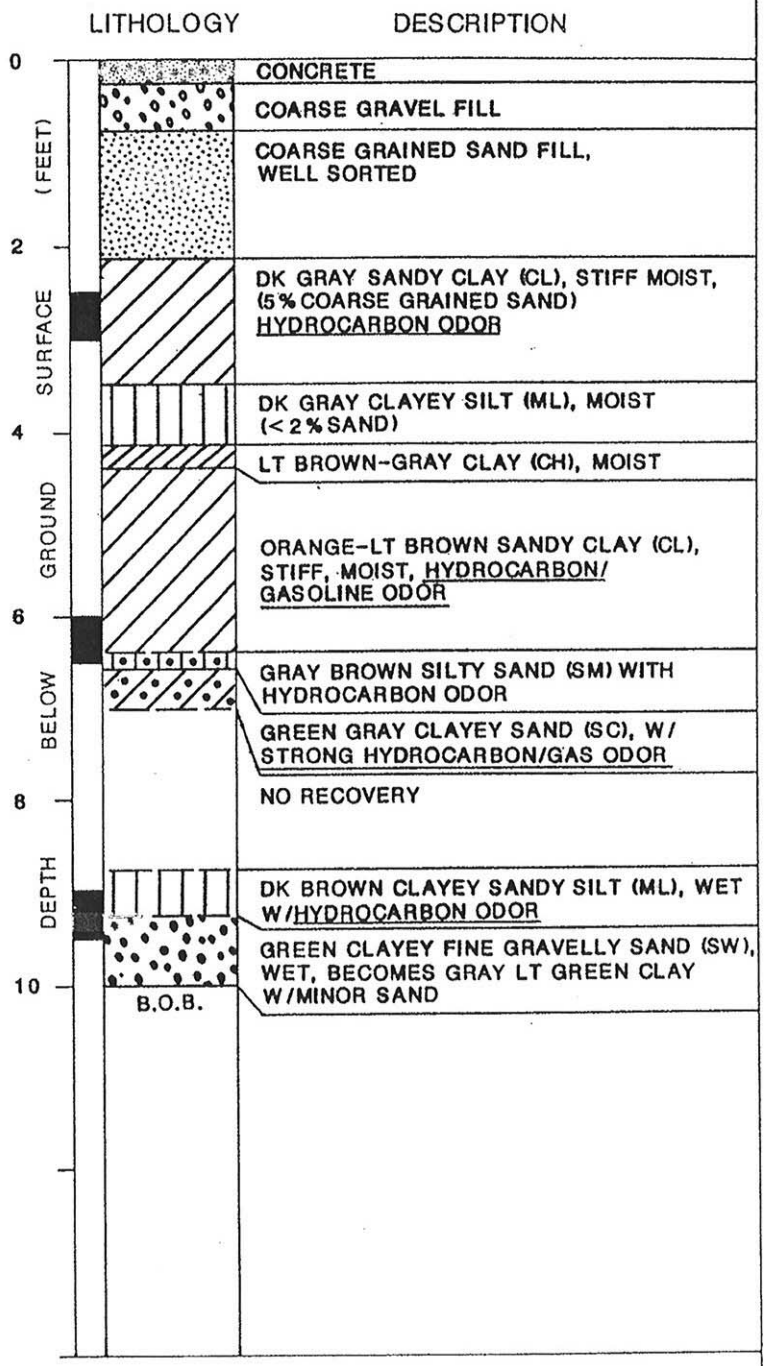
GEOLOGIST K. GHESICK

TEST HOLE NUMBER BH-8

DRILLER HANDRIVEN SAMPLING CO.

DRILLING METHOD HANDHELD SAMPLER

HOLE DIAMETER 1.25"



EXPLANATION

Water level during drilling

Contact (dashed where approximate)

Location of sample

ES ENGINEERING-SCIENCE

CLIENT WAREHAM DEVELOPMENT

LOCATION PETERSON MANUFACTURING CO. 63rd ST., EMERYVILLE CA.

DATE 9 SEPTEMBER 1987

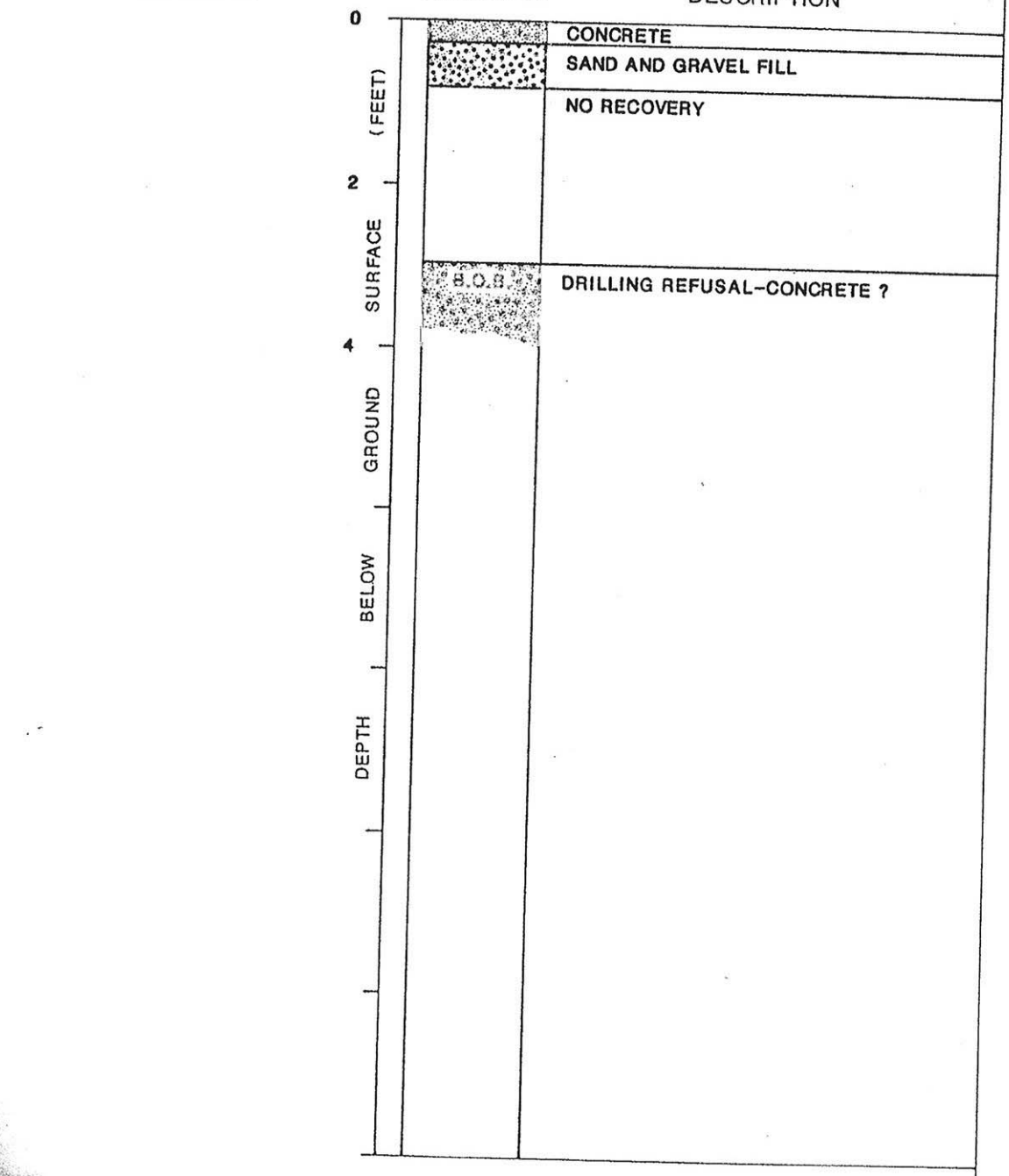
GEOLOGIST K. CHESICK

TEST HOLE NUMBER BH-9

DRILLER HANDRIVEN SAMPLING CO.

DRILLING METHOD HANDHELD SAMPLER

HOLE DIAMETER 1.25"



ES ENGINEERING - SCIENCE

CLIENT WAREHAM DEVELOPMENT

LOCATION PETERSON MANUFACTURING CO. 63rd ST, EMERYVILLE CA.

DATE 9 SEPTEMBER 1987

GEOLOGIST K. CHESICK

TEST HOLE NUMBER BH-9A

DRILLER HANDRIVEN SAMPLING CO.

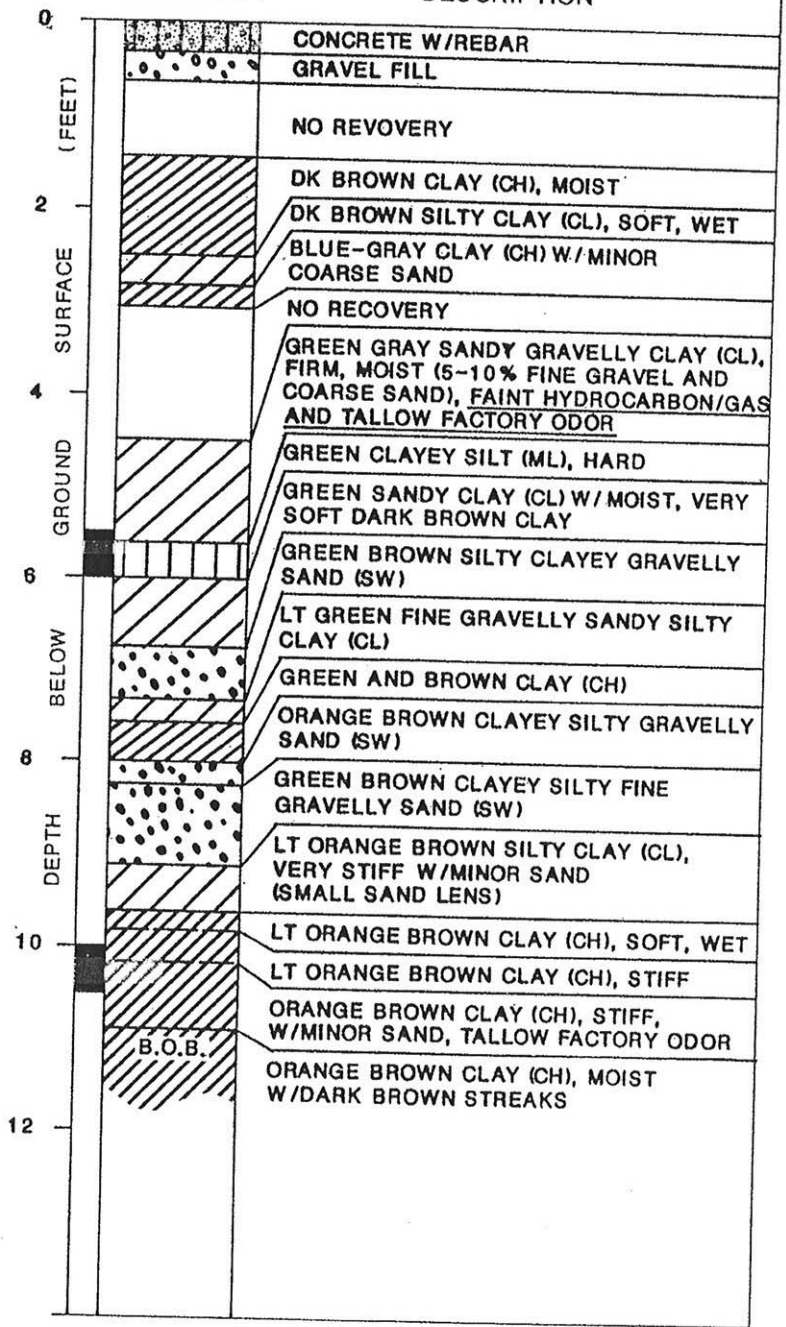
DRILLING METHOD HANDHELD SAMPLER

HOLE DIAMETER 1.25"

WELL CONSTRUCTION

LITHOLOGY

DESCRIPTION



EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

CLIENT WAREHAM DEVELOPMENT

LOCATION PETERSON MANUFACTURING CO. 63rd ST., EMERYVILLE CA.

DATE 9 SEPTEMBER 1987

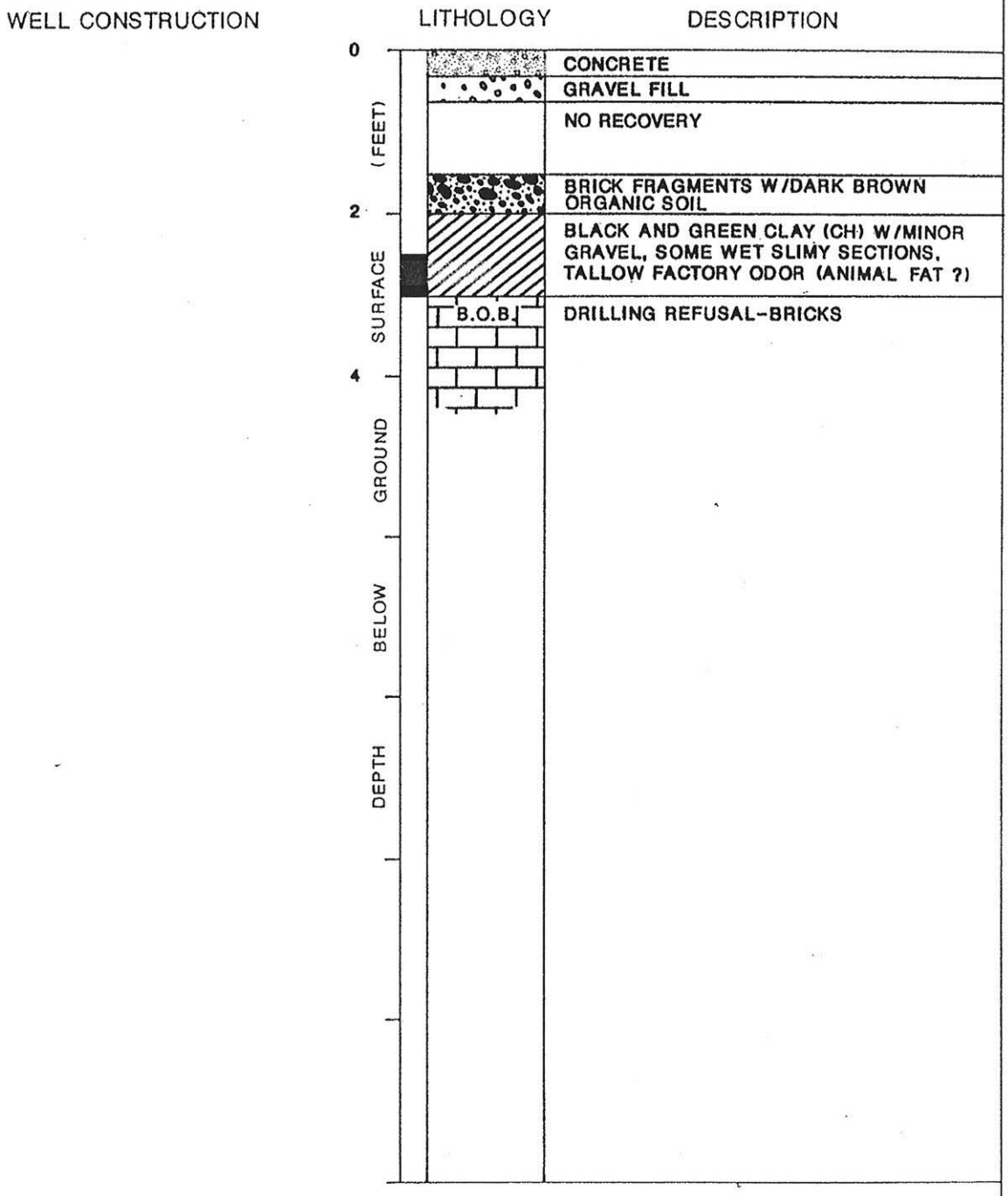
GEOLOGIST K. CHESICK

TEST HOLE NUMBER BH-10

DRILLER HANDRIVEN SAMPLING CO.

DRILLING METHOD HANDHELD SAMPLER

HOLE DIAMETER 1.25"



Recon
Environmental Corp.

Legend
GW GP GM GC ML CL OL
SW SP SM SC MH CH OH Pt

Elevation:

Job No.: S40120	Location: 1600 63rd Street Emeryville, CA	
Drilling Method: Hydraulic Hammer		Boring # B1
Drilling Company: Precision		Sheet # 1
Drilling Crew: Michael & Jose		Drilling Time:
Geologist: Fred Hayden		
Sampling Method: Brass Sleeves		8:30 AM
Casing/Sand/Seal Depth:	N/A N/A N/A	
Depth to Water/Time:	N/A	Date 7/13/94
Surface Conditions: Asphalt		

Recovery	Sample Type	Sample No.	Blows/ 6 in.	PID	Sample No.	Depth in Feet	USGS Code	Soil Description:
						1		ASPHALT with base Gravels.
						2		
						3	GC	Reddish brown, slightly moist, Clayey Sandy GRAVEL (slight reddish brown stain, product odor, dark reddish stain)
						4		
				20		5		
						6	CL	Dark brown to green, slightly moist, Sandy CLAY (old product odor).
				49	B1-7	7		
						8		Becomes dull whitish green with Silt at 8.5 ft.
				50		9		
						10		
						11		
				85	B1-12	12	SC	Brown and green moist Clayey SAND, old product odor.
						13		TD @ 12' No groundwater encountered.
						14		
						15		
						16		
						17		
						18		
						19		
						20		

Recon
Environmental Corp.

Legend
GW GP GM GC ML CL OL
SW SP SM SC MH CH OH Pt

Job No.: S40120	Location: 1600 63rd Street Emeryville, CA		
Drilling Method: Hydraulic Hammer			Boring # B2
Drilling Company: Precision			Sheet # 1
Drilling Crew: Michael & Jose			Drilling Time:
Geologist: Fred Hayden			
Sampling Method: Brass Sleeves			8:30 AM
Casing/Sand/Seal Depth:	N/A	N/A N/A	
Depth to Water/Time:	N/A		Date 7/13/94
Surface Conditions: Asphalt			

Elevation:

Recovery	Sample Type	Sample No.	Blows/ 6 in.	PID	Sample No.	Depth in Feet	USGS Code	Soil Description:
						1		ASPHALT with base Gravels.
						2		
						3	GP	Brownish green, ashy green and reddish brown, slightly moist, Sandy GRAVEL.
						4		
						5		Becomes mottled black a green with Clay at 5 feet.
				0.0		6		
					B2-7	7	CL	Greenish slightly moist Sandy CLAY.
						8		
						9		
				20		10		Becomes whitish green with Clay and some coarse Sand (old product odor)
						11		
				83	B2-12	12	SC/ GC	Greenish Sandy slightly moist CLAY changing to Clayey SAND and GRAVEL, old product odor.
						13		TD @ 12' No groundwater encountered.
						14		
						15		
						16		
						17		
						18		
						19		
						20		

Recon
Environmental Corp.

Legend

GW		ML	
GP		CL	
GM		OL	
GC			
SW		MH	
SP		CH	
SM		OH	
SC		Pt	

Elevation:

Job No.: S40120	Location: 1600 63rd Street Emeryville, CA
Drilling Method: Hydraulic Hammer	Boring # B3
Drilling Company: Precision	Sheet # 1
Drilling Crew: Michael & Jose	Drilling Time:
Geologist: Fred Hayden	
Sampling Method: Brass Sleeves	8:30 AM
Casing/Sand/Seal Depth: N/A N/A N/A	
Depth to Water/Time: N/A	Date 7/13/94
Surface Conditions: Asphalt	

Recovery	Sample Type	Sample No.	Blows/ 6 in.	PID	Sample No.	Depth in Feet	USGS Code	Soil Description:
						1		ASPHALT with base Gravels
						2		
						3	GP	Grayish brown slightly moist Sandy GRAVEL.
						4		
						5		
						6		
				0.0	B3-7	7	CL	Reddish brown slightly moist Sandy CLAY.
						8		
						9		
				0.0		10		
						11	SC	Greenish gray Clayey moist SAND with Gravel.
				70	B3-12	12		
						13		TD @ 12' No groundwater encountered.
						14		
						15		
						16		
						17		
						18		
						19		
						20		

Recon
Environmental Corp.

Legend
GW GP GM GC SW SP SM SC ML CL OL MH CH OH Pt

Elevation:

Job No.: S40120	Location: 1600 63rd Street Emeryville, CA	
Drilling Method: Hydraulic Hammer		Boring # B4
Drilling Company: Precision		Sheet # 1
Drilling Crew: Michael & Jose		Drilling Time:
Geologist: Fred Hayden		
Sampling Method: Brass Sleeves		8:30 AM
Casing/Sand/Seal Depth:	N/A N/A N/A	
Depth to Water/Time:	N/A	Date 7/13/94
Surface Conditions: Asphalt		

Recovery	Sample Type	Sample No.	Blows/ 6 in.	PID	Sample No.	Depth in Feet	USGS Code	Soil Description:
						1		ASPHALT with base Gravels.
						2		
						3	GC	Dark brown slightly moist Clayey, Sandy GRAVEL, black stains, brick fragments.
						4		
						5		
						6		
				5.0	B4-7	7	CL	Reddish brown slightly moist Sandy CLAY
						8		
						9		
				10		10		Blackish green slightly Sandy CLAY, and Clayey SAND.
						11	CL/ SC	Bluish green moist Silty SAND with Clay (old product odor) brownish mottlings.
				130	B4-12	12		
						13		TD @ 12' No groundwater encountered.
						14		
						15		
						16		
						17		
						18		
						19		
						20		

LITHOLOGY

Depth (feet)	Graphic Log	Description	OVA (ppm)
		ASPHALT FILL - SANDY GRAVEL (GW), gray (10YR 6/1), moist to dry, loose, poorly sorted, angular gravels (up to 1/2" diameter), no odor, brick and glass fragments.	
5		— Grades to clayey gravel.	
		SILTY CLAY (CL), dark green-gray (5G 4/1), stiff, moist, lowplasticity, abundant gravel and medium sand, no odor.	30
10		— Color change to light brown (7.5YR 6/3), trace sand. — Increased amount of fine sand, iron oxide stain.	0
			0
15		GRAVELLY CLAY (CL) to CLAYEY GRAVEL (GC), light brown (7.5YR 6/3), wet, loose, angular gravel, abundant medium grain sand, no odor.	0
		SANDY CLAY (CL) to CLAYEY SAND (SC), dark green-gray (5G 4/1), soft, wet, low plasticity, very fine sand, massive, no odor	0
20		BOTTOM OF HOLE AT 19 FEET.	
25			
30			
35			

SAND SILT CLAY GRAVEL

Drilling Method:	Direct Push	Date:	8-5-99
Sampling method:	Envirocore	Permit No.:	99WR479
Drilling company:	Precision	Geologist:	JH/ BW
Drillers:	Sergio/Jesus		

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SOMA CORPORATION

Lithology for Soil Boring HP-1
1600 63rd Street, Emeryville, California

November 1999
152-002

LITHOLOGY

Depth (feet)	Graphic Log	Description	OVA (ppm)
		ASPHALT	
		FILL - SANDY GRAVEL (GW), gray (10YR 6/1), moist to dry, loose, poorly sorted, angular gravels (up to 1/2" diameter), no odor, brick and glass fragments.	0
5		— Grades to clayey gravel.	
			0
		SILTY CLAY (CL), dark black (10YR 2/1), medium stiff, moist,low plasticity, medium sand, no odor.	0
10		— Medium odor.	80
		— Color change to black to dark green-gray (5G 4/1)	800
		— Strong odor.	
15		GRAVELLY CLAY (CL), dark green-gray (5G 4/1), moist, loose,angular gravel, abundant, medium grain sand, hydrocarbon odor.	450
			400
20		BOTTOM OF HOLE AT 19 FEET.	
25			
30			
35			

SAND SILT CLAY GRAVEL

Drilling Method:	Direct Push	Date:	8-5-99
Sampling method:	Envirocore	Permit No.:	99WR479
Drilling company:	Precision	Geologist:	JH/ BW
Drillers:	Sergio/Jesus		

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SOMA CORPORATION

Lithology for Soil Boring HP-2

1600 63rd Street, Emeryville, California

November 1999

152-002

LITHOLOGY

Depth (feet)	Graphic Log	Description	OVA (ppm)
		ASPHALT	
		FILL - SANDY GRAVEL (GW), gray (10YR 6/1), moist to dry, loose, poorly sorted, angular gravels (up to 1/2" diameter), no odor, brick and glass fragments.	0
5		SILTY CLAY (CL), black (10YR 2/1), medium stiff, moist, low plasticity, medium sands, medium hydrocarbon odor.	200
		— Color change to black to dark green-gray (5G 1/4)	200
10		GRAVELLY CLAY (CL), dark green-gray (5G 4/1), moist, loose, angular gravel, abundant, medium grain.	200
		SILTY CLAY (CL), black (10YR 2/1), medium stiff, moist, low plasticity, medium sands, medium hydrocarbon odor.	
15			800
		SANDY CLAY (CL), dark green-gray (5G 4/1), soft, moist, low plasticity, well sorted, fine sand, strong hydrocarbon odor.	700
20		BOTTOM OF HOLE AT 19 FEET.	
25			
30			
35			

SAND SILT

CLAY GRAVEL

Drilling Method:	Direct Push	Date:	8-5-99
Sampling method:	Envirocore	Permit No.:	99WR479
Drilling company:	Precision	Geologist:	JH/ BW
Drillers:	Sergio/Jesus		

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SOMA CORPORATION

Lithology for Soil Boring HP-3

1600 63rd Street, Emeryville, California

November 1999

152-002

LITHOLOGY

Depth (feet)	Graphic Log	Description	OVA (ppm)
0		ASPHALT FILL - SANDY GRAVEL (GW), gray (10YR 6/1), moist to dry, loose, poorly sorted, angular gravels (up to 1/2" diameter), no odor, brick and glass fragments.	0
5		SILTY CLAY (CL), dark green-gray (5G 4/1), slightly moist, bw plasticity, stiff, minor amount of imbedded gravel, mottled, hydrocarbon odor.	0
10		— Increased amount of fine sand.	150 600
15		GRAVELLY CLAY (CL) to CLAYEY SANDY GRAVEL (GC), dark green-gray (5G 4/1), moist, loose, interbedded CL and GC with abundant medium grain sand, hydrocarbon odor.	450
		SILTY CLAY (CL), light brown (7.5YR 6/3), moist, stiff, massive, no odor.	50
20		BOTTOM OF HOLE AT 19 FEET	
25			
30			
35			

SAND SILT

CLAY GRAVEL

Drilling Method:	Direct Push	Date:	8-5-99
Sampling method:	Envirocore	Permit No.:	99WR479
Drilling company:	Precision	Geologist:	JH/ BW
Drillers:	Sergio/Jesus		

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SOMA CORPORATION

Lithology for Soil Boring HP-4

1600 63rd Street, Emeryville, California

November 1999

152-002

LITHOLOGY

Depth (feet)	Graphic Log	Description	OVA (ppm)
		ASPHALT	
		FILL - SANDY GRAVEL (GW), gray (10YR 6/1), moist to dry, loose, poorly sorted, angular gravels (up to 1/2" diameter), no odor, brick and glass fragments.	0
5		— Grades to clayey gravel.	0
10		SANDY SILTY CLAY (CL), dark greenish gray (5G 4/1), wet, stiff, medium plasticity, abundant medium sand, minor fine gravel, strong hydrocarbon odor.	240
			140
15		— Grades to SANDY CLAY (CL), medium sand, wet, strong hydrocarbon odor.	340
		— Hydrocarbon product stain at 15.5 to 16 feet.	
		GRAVELLY CLAY (CL) to CLAYEY SANDY GRAVEL(GC), dark green-gray (5G 4/1), wet, loose, interbedded CL and GC with abundant sand, strong hydrocarbon odor.	100
20		BOTTOM OF HOLE AT 19 FEET.	
25			
30			
35			

SAND SILT

CLAY GRAVEL

Drilling Method:	Direct Push	Date:	8-5-99
Sampling method:	Envirocore	Permit No..	99WR479
Drilling company:	Precision	Geologist:	JH/ BW
Drillers:	Sergio/Jesus		

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SOMA CORPORATION

Lithology for Soil Boring HP-5

1600 63rd Street, Emeryville, California

November 1999

152-002