MEMORANDUM

To: Susan Hugo
Alameda County Environmental Health Department
1131 Harborbay Parkway
Alameda, CA 94502

Ron Gerber
City of Emeryville Redevelopment Agency
2200 Powell Street, Suite 1200
Emeryville, CA 94608-1806

From: Mark Williams

Date: May 22, 1997

Re: Former Standard Brands Paint Store No. 146, 4343 San Pablo Avenue, Emeryville, California

cc: Clif Davenport, McLaren/Hart - Alameda

As requested by Nancy Beresky, please find enclosed the following materials:

- *Subsurface Investigation Report, Standard Brands Paint, Emeryville, California,* dated August 18, 1995, prepared by Environ Corporation
- *Subsurface Investigation Report, Standard Brands Property, Emeryville, California,* dated December 3, 1993, prepared by Environ Corporation
- *Subsurface Environmental Investigation Report for 4443 San Pablo Avenue - Emeryville, California, Vol. 1 of 3,* dated August 31, 1994, prepared by Enviropro, Inc.
- *Subsurface Environmental Investigation Report for 4443 San Pablo Avenue - Emeryville, California, Vol. 2 of 3,* dated August 31, 1994, prepared by Enviropro, Inc.
- *Subsurface Environmental Investigation Report for 4443 San Pablo Avenue - Emeryville, California, Vol. 3 of 3,* dated August 31, 1994, prepared by Enviropro, Inc.

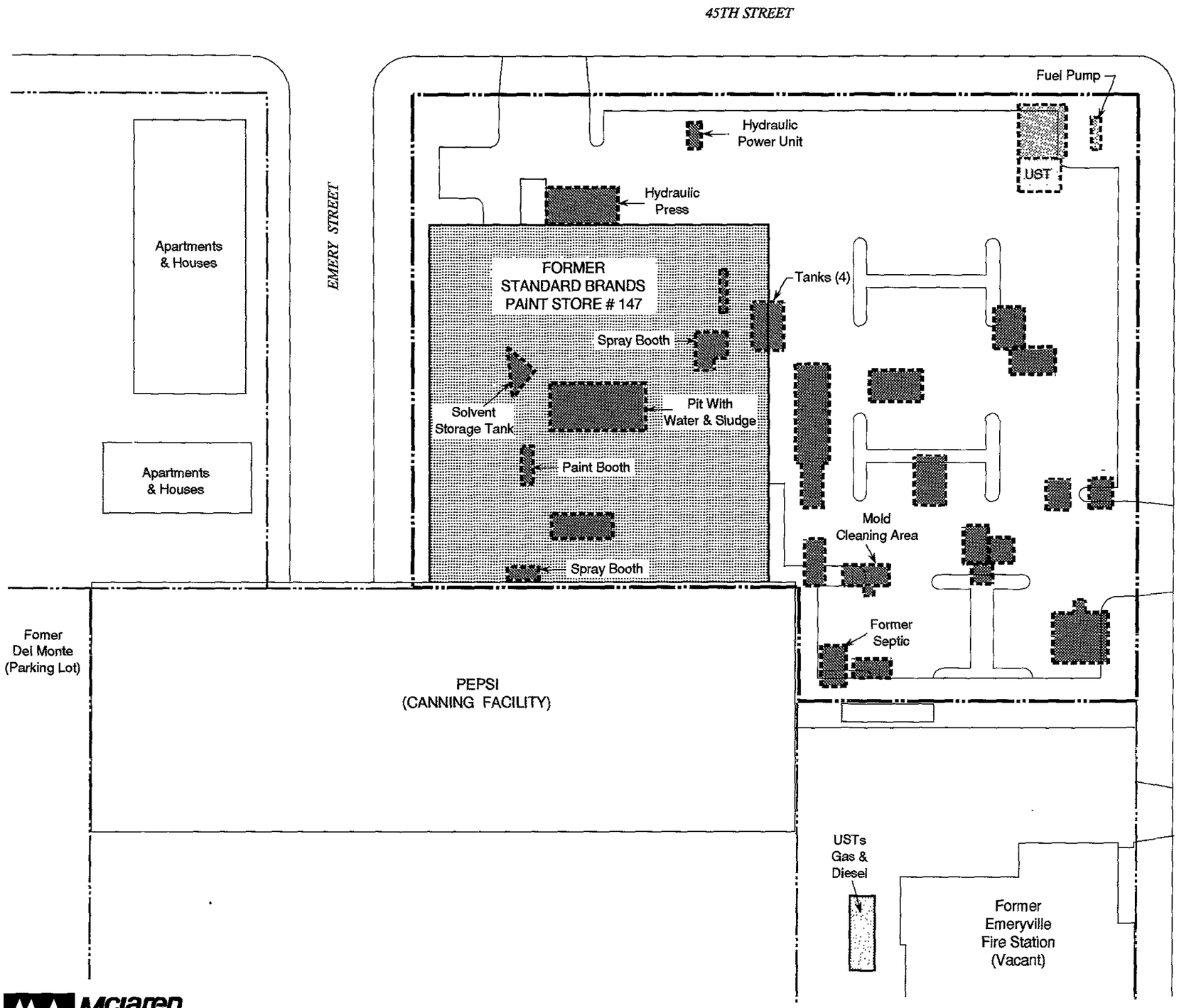
Mark Williams
Associate Geoscientist
McLaren/Hart, Inc.
16755 Von Karman Avenue, Suite 200
Irvine, CA 92606-4918
Phone (714) 756-2667
Direct (714) 752-3238
Fax (714) 756-8460

G:\TYTRANSAME\0602648.001\0522MEMO.WPD

McLaren Hart®
ENVIRONMENTAL ENGINEERING CORPORATION

- McLaren/Hart Figures
  - Former Chemical Use Areas, Oliver Tire & Rubber Co./Oil & Gas Depot
  - Enviropro Boring Locations
  - Enviropro and Environ Locations
  - TPH-Affected Areas
  - Total Recoverable Petroleum Hydrocarbons, Impacted Area >1,000 ppm TRPH
  - Total Petroleum Hydrocarbons as Gasoline Impacted Area
  - Diesel & Mineral Spirits Impacted Area
  - Oil/Motor Oil Impacted Area
  - Volatile Organic Compounds in Soil
  - Volatile Organic Compounds in Groundwater
  - Groundwater Sampling Locations

FORMER CHEMICAL USE AREAS
OLIVER TIRE & RUBBER CO. /
OIL & GAS DEPOT



LEGEND

- Property Boundary
- Neighboring Property Boundaries
- Underground Storage Tanks
- Former Sump (Approximate Location) (From Demo Plan)
- Former Chemical Use Area (From 1971 Plan)
- Former Standard Brands Paint Store
- Former Oil & Gas Depot Location
- Neighboring Properties

Notes:
This Map Show Environ's Interpretation Of Former Oliver Tire and Rubber's Chemical Use Areas Based On A 1971 Plot Plan On File At The Emeryville Building Department.

Source: Taken from Environ report dated Aug. 18, 1995.

1. City of Emeryville Building Department File Map of former Oliver Tire and Rubber Co., 7/29/71.
2. Charles A. Campanella, Inc. Building Demolition Notes Demolition of Oliver Tire Site, Approximately 1985 (locations are approximate).
3. Pacific Aerial Surveys Photo Number AV-28-12-33, 09/16/49.
4. 1950 Sanborn Map.

0 40'
SCALE

McLaren Hart

T9610037™

ENVIROPRO BORING LOCATIONS

AC TRANSIT BUS YARD

45TH STREET

WATTS STREET

EMERY STREET

SAN PABLO AVENUE

Former Del Monte Canning Facility

Former Del Monte (Parking Lot)

Houses & Apartments

FORMER STANDARD BRANDS PAINT STORE # 147

PEPSI (CANNING FACILITY)

UST

Sump

Former Emeryville Fire Station (Vacant)

Disposal Area

RESTAURANT

Fuel Dispensers

G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12 G13 G14 G15 G16 G17 G18 G19 G20 G21 G22 G23 G24 G25 G26

A A'

LEGEND

- Property Boundary
- Neighboring Property Boundaries
- A — A' Cross-section (See Figures 3 Through 7)
- Building
- G1 Boring Location
- G9 Boring With Groundwater Grab Sample Location
- Groundwater Flow Direction

Notes:

1. Enviropro, Inc., 1994 (Borings G1 through G26)

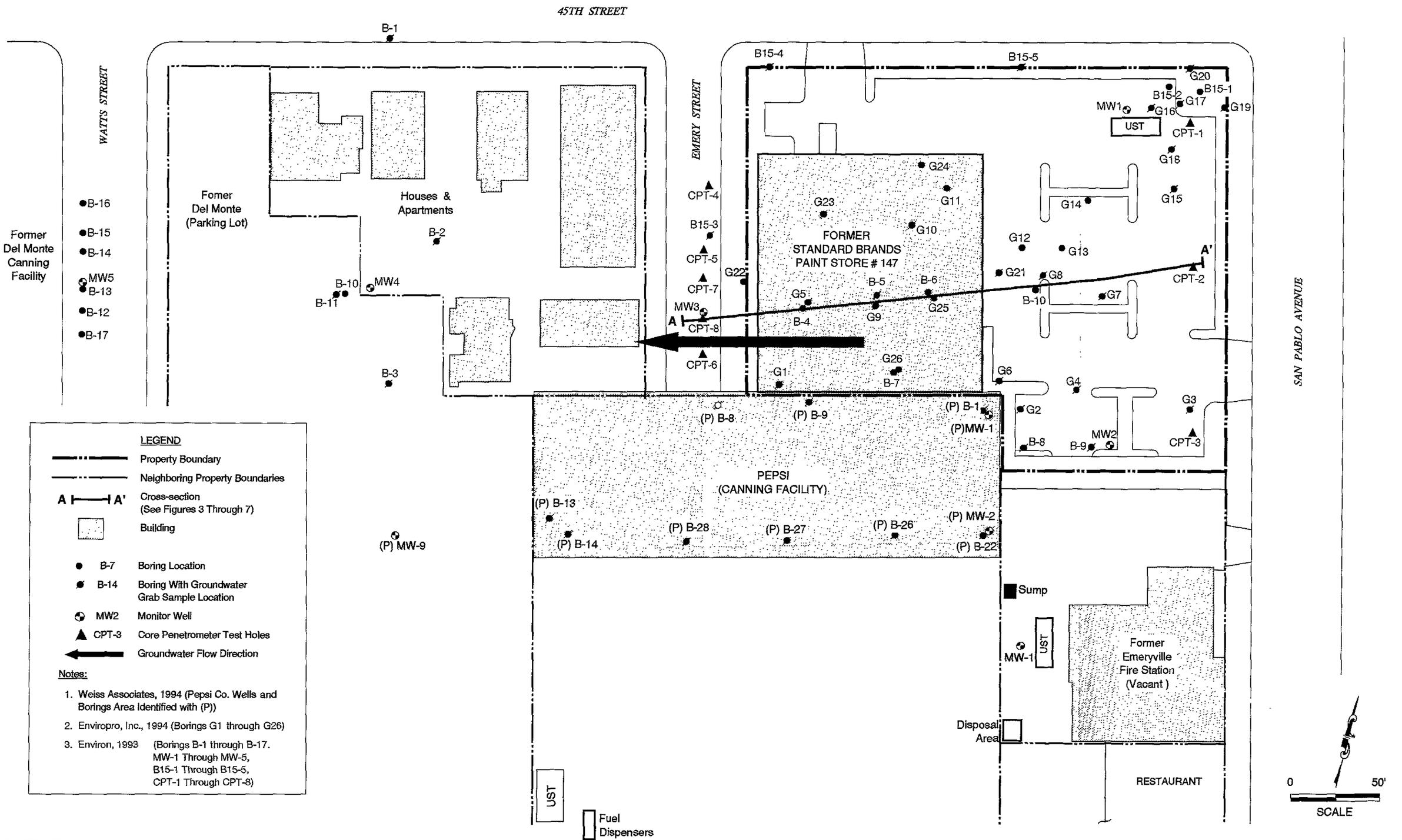
0 50'

SCALE

McLaren Hart

T9610040

ENVIROPRO AND ENVIRON LOCATIONS



LEGEND

- Property Boundary
- Neighboring Property Boundaries
- A — A' Cross-section (See Figures 3 Through 7)
- Building
- B-7 Boring Location
- B-14 Boring With Groundwater Grab Sample Location
- MW2 Monitor Well
- CPT-3 Core Penetrometer Test Holes
- Groundwater Flow Direction

Notes:

1. Weiss Associates, 1994 (Pepsi Co. Wells and Borings Area identified with (P))
2. Enviropro, Inc., 1994 (Borings G1 through G26)
3. Environ, 1993 (Borings B-1 through B-17. MW-1 Through MW-5, B15-1 Through B15-5, CPT-1 Through CPT-8)

McLaren Hart

T9610041*M

TPH-AFFECTED AREAS

McClaren Hart

AC TRANSIT BUS YARD

45TH STREET

WATTS STREET

EMERY STREET

SAN PABLO AVENUE

Former Del Monte Canning Facility

Former Del Monte (Parking Lot)

Houses & Apartments

FORMER STANDARD BRANDS PAINT STORE # 147

PEPSI (CANNING FACILITY)

Former Emeryville Fire Station (Vacant)

RESTAURANT

MH Product

B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8, B-9, B-10, B-11, B-12, B-13, B-14, B-15, B-16, B-17

B15-1, B15-2, B15-3, B15-4, B15-5

MW1, MW2, MW3, MW4, MW5

(P) B-1, (P) B-8, (P) B-9, (P) B-13, (P) B-14, (P) B-28, (P) B-27, (P) B-26, (P) MW-1, (P) MW-2, (P) B-22, (P) MW-9

CPT-1, CPT-2, CPT-3, CPT-4, CPT-5, CPT-6, CPT-7, CPT-8

G1, G2, G3, G4, G5, G6, G7, G8, G9, G10, G11, G12, G13, G14, G15, G16, G17, G18, G19, G20, G21, G22, G23, G24, G25, G26

A, A', B1, B2, C, D, E

UST

Sump

Disposal Area

Fuel Dispensers

0 50'

SCALE

LEGEND

- Property Boundary
- Neighboring Property Boundaries
- A — A' Cross-section (See Figures 3 Through 7)
- Building
- Approximate Area of TPH affected Soil
- B-7 Boring Location
- B-14 Boring With Groundwater Grab Sample Location
- MW2 Monitor Well
- CPT-3 Core Penetrometer Test Holes
- Groundwater Flow Direction

Notes:

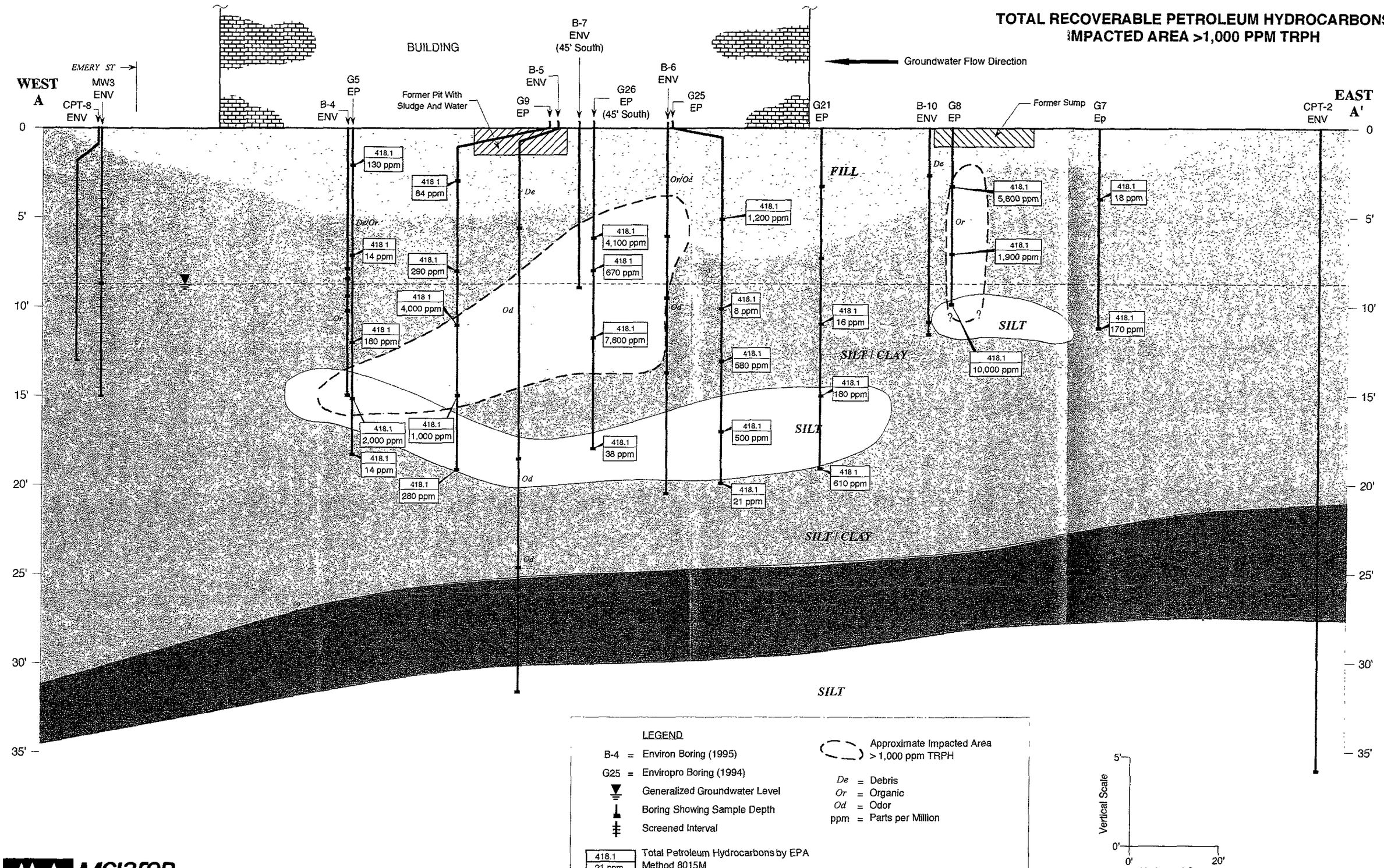
1. Weiss Associates, 1994 (Pepsi Co. Wells and Borings Area Identified with (P))
2. Enviropro, Inc., 1994 (Borings G1 through G26)
3. Environ, 1993 (Borings B-1 through B-17, MW1 Through MW-5, B15-1 Through B15-5, CPT-1 Through CPT-8)

Base Map From Figure 3:
"Subsurface Investigation Report" Environ August 18, 1995

McClaren Hart

T9610043

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
IMPACTED AREA >1,000 PPM TRPH



LEGEND

B-4 = Environ Boring (1995)

G25 = Enviropro Boring (1994)

Generalized Groundwater Level

Boring Showing Sample Depth

Screened Interval

418.1 / 21 ppm — Total Petroleum Hydrocarbons by EPA Method 8015M

Approximate Impacted Area > 1,000 ppm TRPH

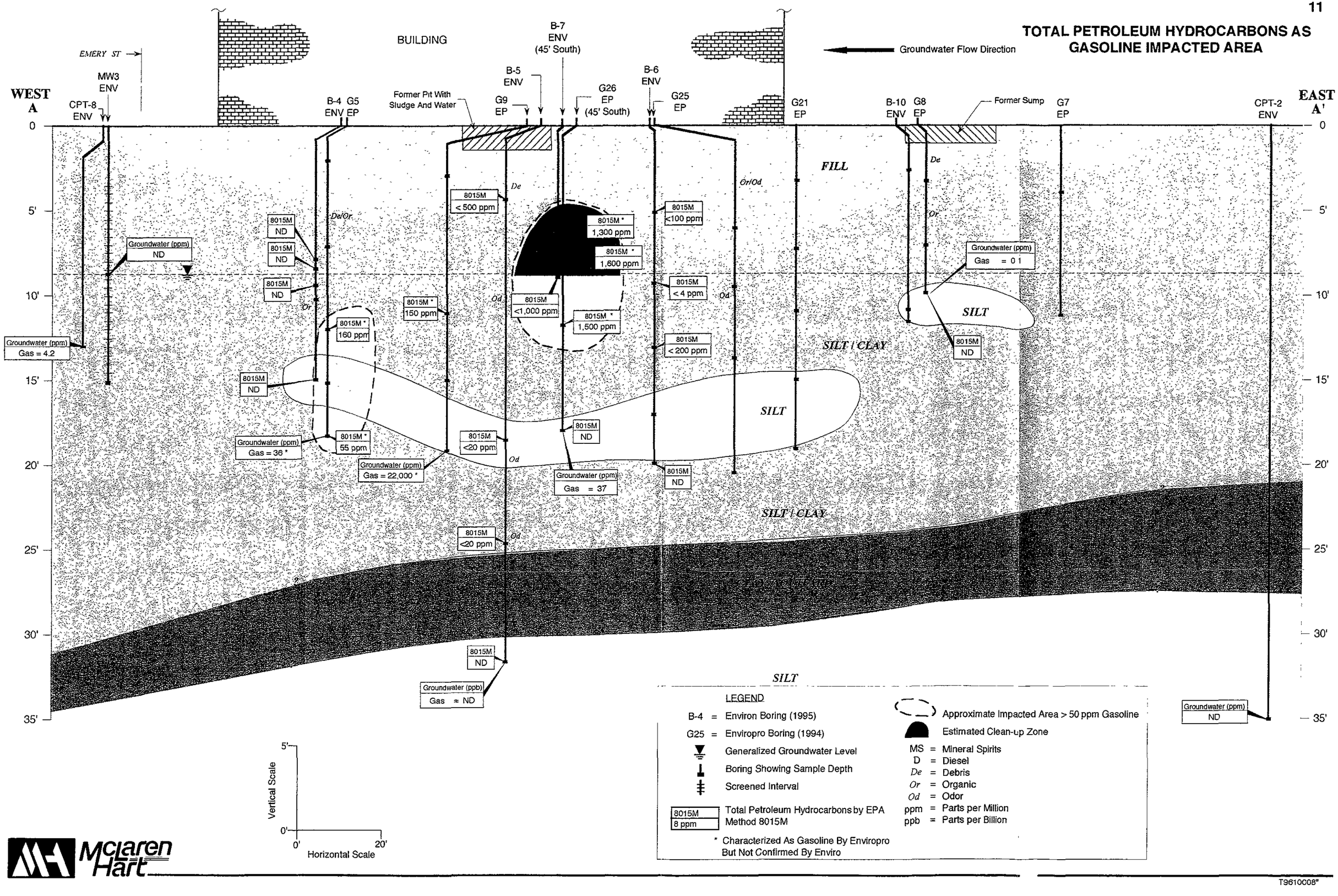
De = Debris
Or = Organic
Od = Odor
ppm = Parts per Million

Vertical Scale: 5' / 0'
Horizontal Scale: 0' / 20'

McLaren Hart

T9610007"

TOTAL PETROLEUM HYDROCARBONS AS GASOLINE IMPACTED AREA



LEGEND

B-4 = Environ Boring (1995)

G25 = Enviropro Boring (1994)

Generalized Groundwater Level

Boring Showing Sample Depth

Screened Interval

8015M / 8 ppm — Total Petroleum Hydrocarbons by EPA Method 8015M

* Characterized As Gasoline By Enviropro But Not Confirmed By Enviro

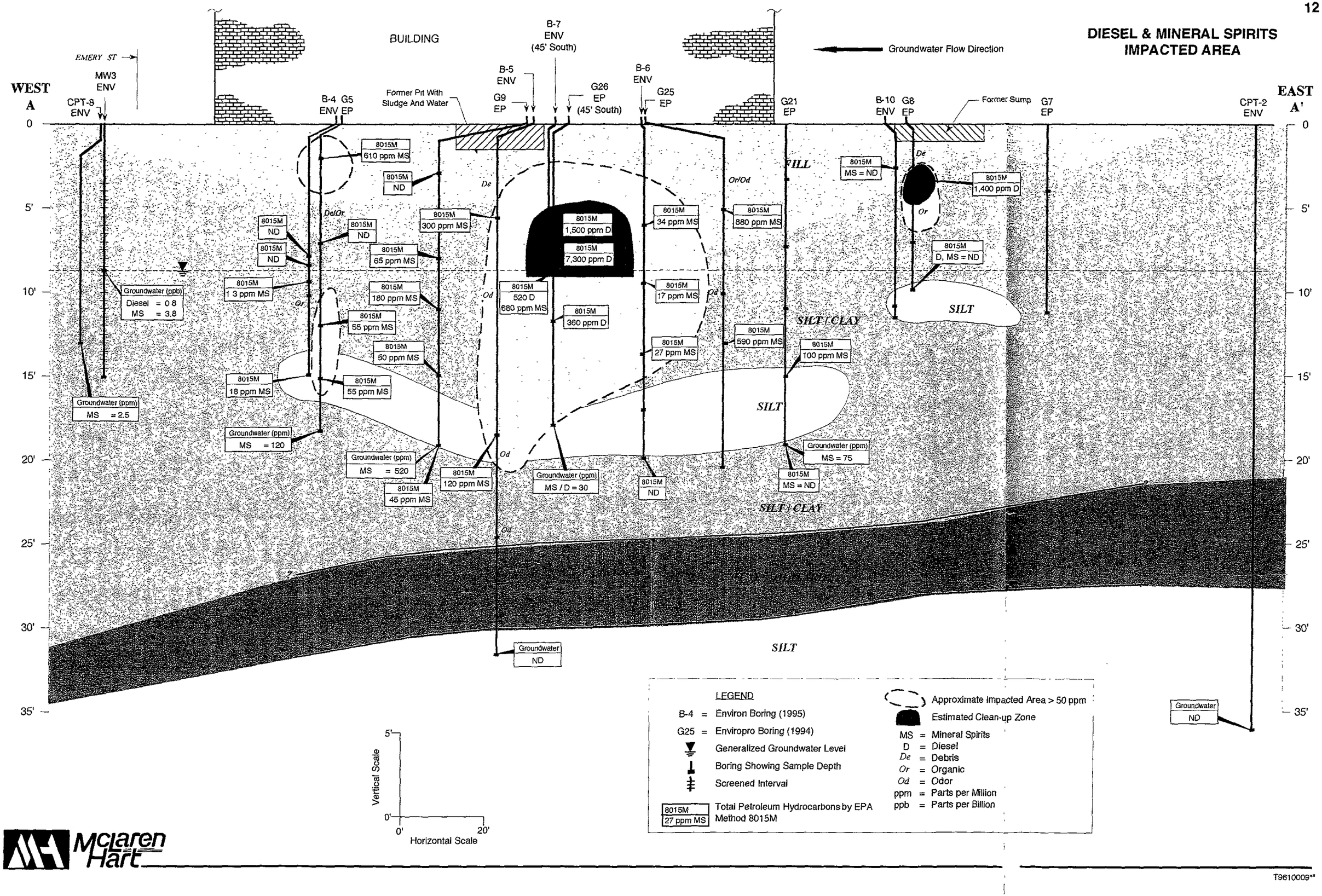
Approximate Impacted Area > 50 ppm Gasoline

Estimated Clean-up Zone

MS = Mineral Spirits
D = Diesel
De = Debris
Or = Organic
Od = Odor
ppm = Parts per Million
ppb = Parts per Billion

McLaren Hart

DIESEL & MINERAL SPIRITS IMPACTED AREA



LEGEND

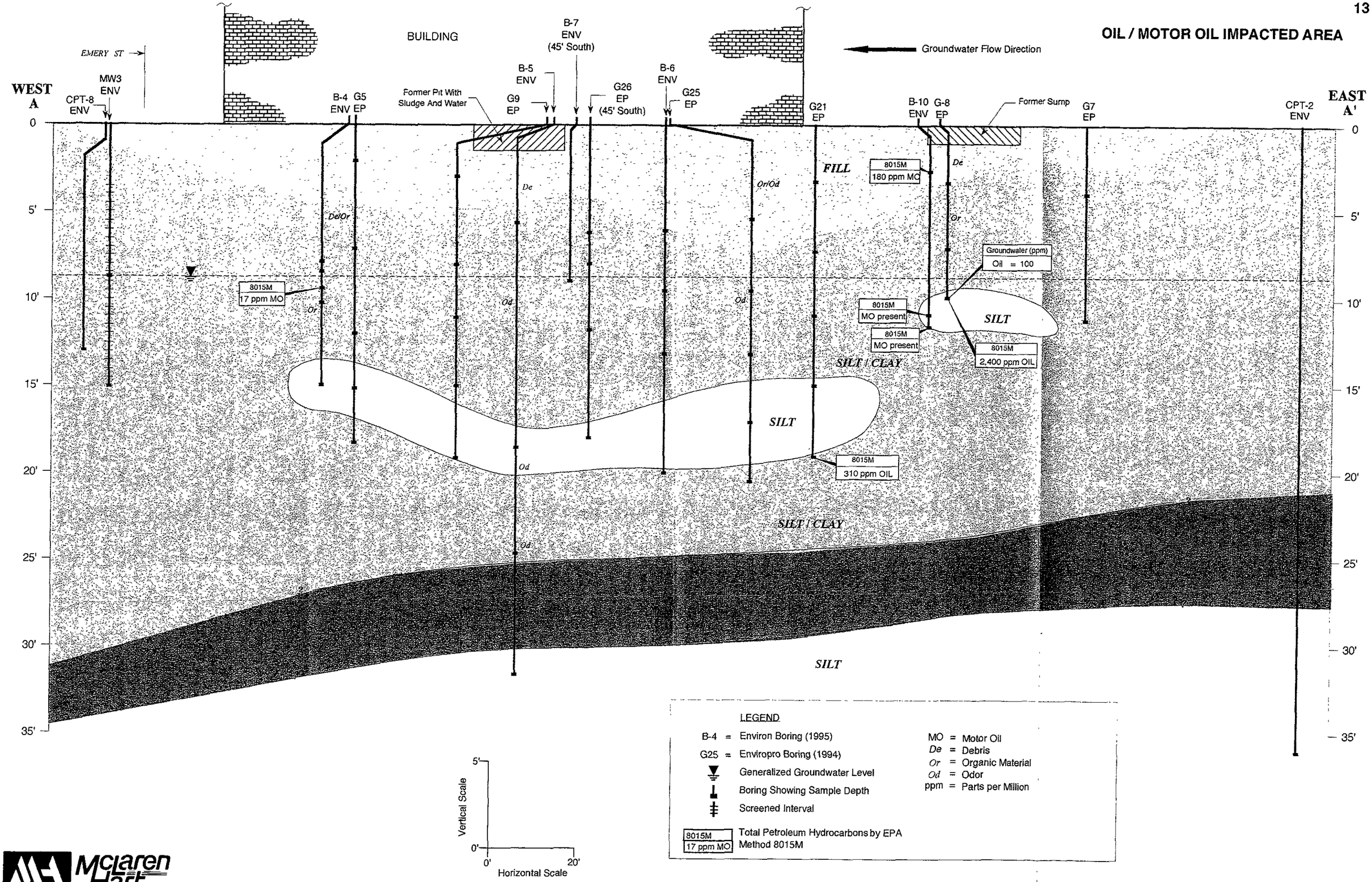
- B-4 = Environ Boring (1995)
- G25 = Enviropro Boring (1994)
- Generalized Groundwater Level
- Boring Showing Sample Depth
- Screened Interval
- 8015M / 27 ppm MS — Total Petroleum Hydrocarbons by EPA Method 8015M
- Approximate Impacted Area > 50 ppm
- Estimated Clean-up Zone
- MS = Mineral Spirits
- D = Diesel
- *De* = Debris
- *Or* = Organic
- *Od* = Odor
- ppm = Parts per Million
- ppb = Parts per Billion

Vertical Scale: 5' / 0'
Horizontal Scale: 0' / 20'

McLaren Hart

T9610009*

OIL / MOTOR OIL IMPACTED AREA



LEGEND

B-4	= Environ Boring (1995)	MO	= Motor Oil
G25	= Enviropro Boring (1994)	*De*	= Debris
	Generalized Groundwater Level	*Or*	= Organic Material
	Boring Showing Sample Depth	*Od*	= Odor
	Screened Interval	ppm	= Parts per Million

8015M / 17 ppm MO = Total Petroleum Hydrocarbons by EPA Method 8015M

Vertical Scale: 5' / 0'

Horizontal Scale: 0' / 20'

McLaren Hart

T9610010""

VOLATILE ORGANIC COMPOUNDS IN SOIL

AC TRANSIT BUS YARD

45TH STREET

EMERY STREET

WATTS STREET

SAN PABLO AVENUE

Chem. Conc.	Depth
TCE 18 ppb	3'
ND	7'
ND	11'

Chem. Conc.	Depth
ND	3'
DCE 6 ppb TCE 79 ppb	7'
TCE 6 ppb	11'

Chem. Conc	Depth
DCE 5 ppb TCE 26 ppb	3'
DCE 71 ppb TCE 79 ppb	10.5'

ND - 10.5'
B-1
B15-4
B15-5
G20
B15-2
B15-1
G17
G19
MW1
G16
UST
CPT-1
G18
ND - 3', 11'
G15
ND - 5', 8', 14',
MC 54 ppb (FP) - 16'
MC 3.9ppm (FP) - 12'
MC 2.2 ppm (FP) - 18'
ND - 5.5', 18.5', 24.5', 32.5'
G24
ND - 8', 17'
G23
ND - 7'
G11
G10
G14
ND - 7'
G13
G12
G21
G8
A'
CPT-2
B-10
G7
ND - 4', 11'
CPT-4
B15-3
ND - 11.5'
CPT-5
ND - 13'
G22
CPT-7
G5
B-5
B-6
G25
MW3
A
B-4
G9
CPT-8
ND - 6', 9.5', 13.5', 20.5'
CPT-6
G26
B-7
ND - 9'
G1
G6
ND - 3', 8', 11'
G4
G3
G2
ND - 3'
B-1
(P) B-8
ND - 13'
(P) B-9
ND - 8.0', 9.0', 15'
TCE 15 ppb - 8.5'
(P)MW-1
B-8
B-9
MW2
CPT-3
ND - 5'
PEPSI
(CANNING FACILITY)
ND - 9', 18'
ND - 9.5', 18'
(P) B-13
(P) B-28
(P) B-27
(P) B-26
(P) MW-2
(P) B-14
(P) B-22
ND - 3', 8', 11'
B-3
ND - 6'
(P) MW-9
Sump
MW-1
UST
Former
Emeryville
Fire Station
(Vacant)
Disposal
Area
RESTAURANT
UST
Fuel
Dispensers
0
50'
SCALE

Former
Del Monte
Canning
Facility

B-16
B-15
B-14
MW5
B-13
B-12
B-17

Former
Del Monte
(Parking Lot)

Houses &
Apartments

B-2
ND - 6'
ND - 4.5'
B-10
MW4
B-11

FORMER
STANDARD BRANDS
PAINT STORE # 147

LEGEND

- Property Boundary
- Neighboring Property Boundaries
- A — A' Cross-section (See Figures 3 Through 7)
- Building
- B-7 Boring Location
- B-14 Boring With Groundwater Grab Sample Location
- MW2 Monitor Well
- CPT-3 Core Penetrometer Test Holes
- Groundwater Flow Direction
- FP False Positive
- DCE Trans 1,2-dichloroethene
- TCE Trichloroethene
- MC Methylene Chloride

Notes:

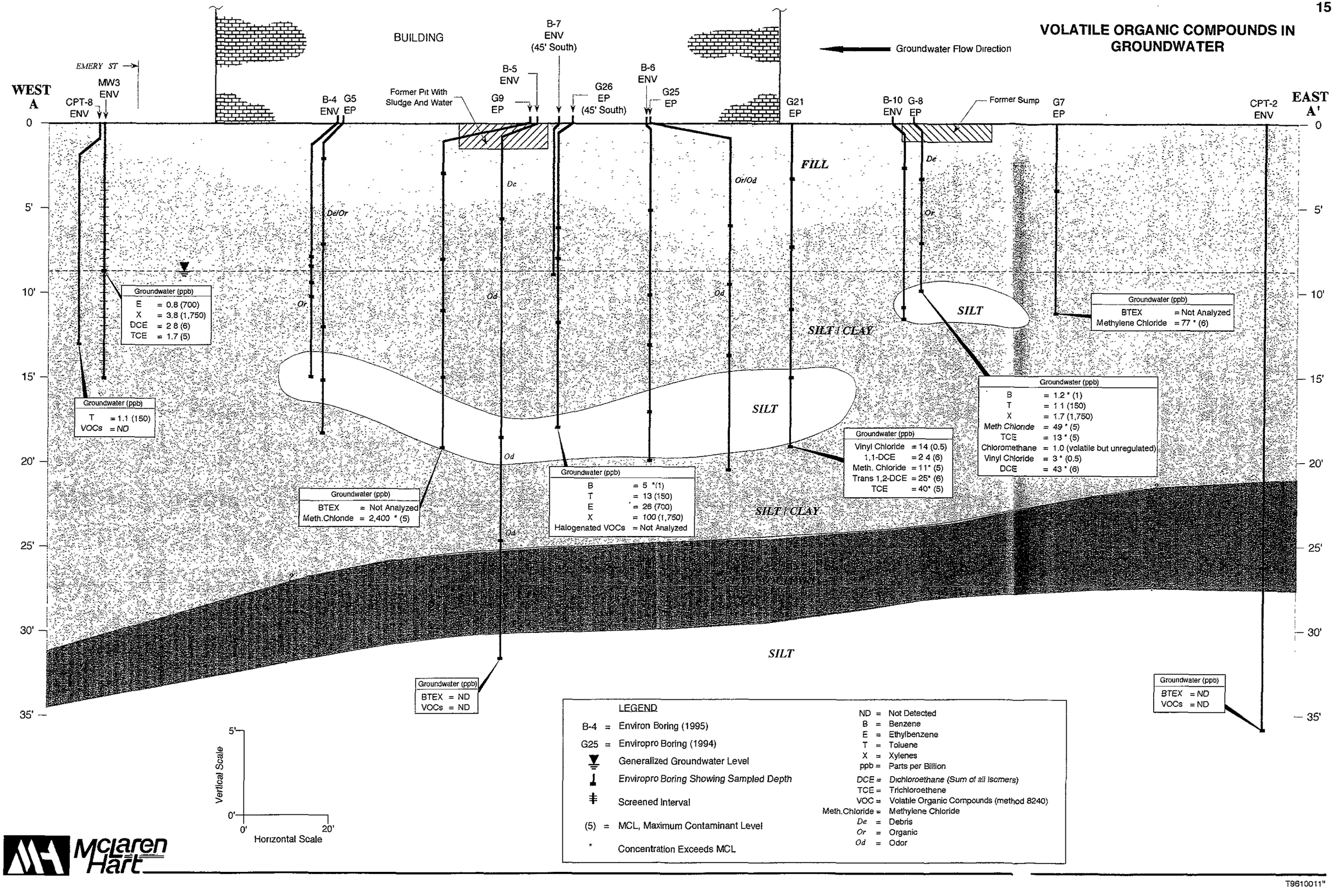
1. Weiss Associates, 1994 (Pepsi Co. Wells and Borings Area Identified with (P))
2. Enviropro, Inc., 1994 (Borings G1 through G26)
3. Environ, 1993 (Borings B-1 through B-17, MW1 Through MW-5, B15-1 Through B15-5, CPT-1 Through CPT-8))

Base Map From Figure 3:
"Subsurface Investigation Report" Environ August 18, 1995

McLaren Hart

T9610042"

VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER



LEGEND

B-4 =	Environ Boring (1995)
G25 =	Enviropro Boring (1994)
	Generalized Groundwater Level
	Enviropro Boring Showing Sampled Depth
	Screened Interval
(5) =	MCL, Maximum Contaminant Level
*	Concentration Exceeds MCL

ND =	Not Detected
B =	Benzene
E =	Ethylbenzene
T =	Toluene
X =	Xylenes
ppb =	Parts per Billion
DCE =	*Dichloroethane (Sum of all isomers)*
TCE =	Trichloroethene
VOC =	Volatile Organic Compounds (method 8240)
Meth.Chloride =	Methylene Chloride
De =	Debris
Or =	Organic
Od =	Odor

McLaren Hart

T9610011

GROUNDWATER SAMPLING LOCATIONS

AC TRANSIT BUS YARD

45TH STREET

WATTS STREET

EMERY STREET

SAN PABLO AVENUE

Former Del Monte Canning Facility

Former Del Monte (Parking Lot)

Houses & Apartments

Commercial Buildings And Apartments

FORMER STANDARD BRANDS PAINT STORE # 147

PEPSI (CANNING FACILITY)

Former Emeryville Fire Station (Vacant)

RESTAURANT

UST

Sump

Disposal Area

Fuel Dispensers

B-1 B-2 B-3 B-11 B15-3 B15-4 B15-5 B-5 B-8 B-9

MW1 MW2 MW3 MW4 MW5 MW-1 MW-2

CPT-1 CPT-2 CPT-3 CPT-4 CPT-5 CPT-6 CPT-7 CPT-8

G1 G2 G3 G4 G5 G6 G7 G8 G10 G15 G16 G17 G18 G19 G20 G21 G23 G-26

(P) B-1 (P) B-9 (P) B-13 (P) B-14 (P) B-22 (P) B-26 (P) B-27 (P) B-28 (P) MW-2

A A'

0 50'

SCALE

LEGEND

- Property Boundary
- Neighboring Property Boundaries
- A — A' Cross-section (See Figures 3 Through 7)
- Building
- B-7 Boring Location
- B-14 Boring With Groundwater Grab Sample Location
- MW2 Monitor Well
- CPT-3 Core Penetrometer Test Holes
- Groundwater Flow Direction

Notes:

1. Weiss Associates, 1994 (Pepsi Co. Wells and Borings Area Identified with (P))
2. Enviropro, Inc., 1994 (Borings G1 through G26)
3. Environ, 1993 (Borings B-1 through B-17, MW1 Through MW-5, B15-1 Through B15-5, CPT-1 Through CPT-8)

Base Map From Figure 3:
"Subsurface Investigation Report" Environ August 18, 1995

McLaren Hart

T9610039"

ENVIRON

December 3, 1993

Mark Zemelman, Esq.
Kaiser Foundation Health Plan, Inc.
Regional Legal Department
One Kaiser Plaza, 21st Floor
Oakland, California 94612

RECEIVED
DEC 22 1993

RECEIVED
MAY 27 1997
By

Re: **Subsurface Investigation Report**
Standard Brands Property
Emeryville, California
ENVIRON Contract 03-3118E

Dear Mark:

This letter presents the results of a preliminary Phase II Investigation at the Standard Brands property at 4343 San Pablo Avenue in Emeryville, California (the Site). This work was performed for Kaiser Permanente (Kaiser), who is considering purchase of the property.

The purpose of this investigation was to conduct a screening-level evaluation of the presence of chemicals in soil and groundwater at the property. The scope of work described below was provided to Standard Brands and approved by Kim Strunk of Standard Brands' Real Estate Department prior to the start of work.

SCOPE OF WORK

Soil and ground water samples were collected for chemical testing to assess if chemical releases have degraded local soil and ground water quality. The sample locations are illustrated on Figure 1 and the results of chemical analyses are listed in Table 1. The rationale for the sampling program is described below.

Title records indicate that Standard Brands purchased the property in 1985, and that the previous occupant was Oliver Tire and Rubber, who owned the property from 1946 to 1985. A former oil and gas depot is identified on the property on historical Sanborn maps and aerial photographs from the late 1940's to the early 1950's. The location of the former depot is shown on Figure 1. Borings B15-1 and B15-2 were drilled to assess the possibility of past releases from the former oil and gas depot; boring B15-1 was drilled at the mapped location of the fuel pumps and boring B15-2 was drilled in the vicinity of a former oil and gas depot building. Three soil samples were collected from each of these borings and each sample was analyzed for Total Petroleum Hydrocarbons

(TPH) as diesel (TPH/D), TPH as gasoline (TPH/G), and benzene, toluene, ethylbenzene and total xylenes (BTEX).

Borings B15-3, B15-4, and B15-5 were drilled outside the downgradient perimeter of the property to screen for potential releases from the former Oliver Tire and Rubber facility (Figure 1). The only available record of the former Oliver Tire and Rubber facility is a rough building demolition plan provided by Standard Brands that shows several sumps (see Attachment C). One sump is identified as containing water and sludge; it is located directly upgradient of location B15-3. Visible soil discoloration was observed during drilling at boring B15-3, and therefore, soil samples were collected at depths of 11.5 and 12.5 feet below ground and tested. The ground water grab samples and soil samples were tested for TPH/D, TPH/G, BTEX compounds, and halogenated volatile organic compounds (VOCs).

INVESTIGATION RESULTS

The results of the Phase II investigation are summarized below. For reference, we have included details of the field investigation and the laboratory reports as attachments. Attachment A details the field procedures used during sample collection and includes graphic and descriptive logs of soil borings B15-1 through B15-5. Attachment B presents the laboratory report by ETC/Mid-Pacific, the California certified laboratory that conducted testing, and a summary of the data quality.

Field Observations

Soil samples collected at the Site showed that native soil consists primarily of silty clay with some intermixed sand and gravel. At all locations except borings B15-1 and B15-2, the native soil was observed to be overlain by 1.5 feet or less of gravelly artificial fill and concrete. The ground water appears to be under semi-confined conditions, as ground water levels rose in the boreholes after it was first encountered. For example, at borehole B15-4, ground water was first noted at a depth of 18.5 feet below ground, but rose to 11.85 feet below ground within one-half hour. Based on observations within B15-4, the depth to ground water at the Site appears to be approximately 11 feet. At B15-1 and B15-2, no saturated coarser units were encountered, and the silty clay yielded ground water very slowly.

During drilling, ENVIRON screened samples by color, odor, and for VOCs using an organic vapor monitor (OVM). Elevated VOC concentrations were detected with the OVM (see Figure A-4) and discolored soil was observed in boring B15-3 from 10 to 16 feet below ground. Odor and discoloration were also noted in boring B15-1 at approximately 10 feet below ground and in B15-2 from 11 to 13.5 feet below ground. In addition, some slight patchy discoloration was observed in boring B15-4; however, there was no odor or significant OVM reading. Soil samples from B15-4 were not submitted

to the laboratory for analysis. No VOCs were observed with the OVM nor were any visible signs of soil discoloration observed in boring B15-5.

During ground water sampling, ENVIRON observed the ground water for evidence of a product layer. No sheen or other visible signs of chemicals were noted in the ground water from the three temporary wells (B15-3 through B15-5). No odors were detected while sampling the ground water at these three locations. Both temporary wells B15-3 and B15-4 went dry during sampling.

Chemical Test Results

The chemical test results are presented on Figure 2 (for soil), Figure 3 (for ground water), and in Table 2. The key findings are described below.

Former Oil and Gas Depot Fuel Pumps

Borings B15-1 and B15-2 were drilled to test soil in this area. As shown on Figure 2, an unknown hydrocarbon in the TPH/G range was detected at a concentration of 1.8 milligrams per kilogram (mg/kg) in the 9.5-foot sample from boring B15-1 and at 69 mg/kg in the 11.0-foot sample from boring B15-2. The 11.0 foot sample from boring B15-2 also had accompanying detections of 0.31 mg/kg ethylbenzene and 1.1 mg/kg of total xylenes. These detections are at the approximate depth of the water table, suggesting that a release upgradient (on or east of the Standard Brands property) may be the origin of the observed chemicals.

Site Perimeter Area

Ground water grab samples were collected in borings B15-3, B15-4, and B15-5 along the outside perimeter of the Site, and the results are shown on Figure 3. Soil samples were also collected at location B15-3 because soil discoloration and elevated OVM readings were observed by ENVIRON's geologist; results are presented on Figure 2.

At boring B15-3, the ground water grab sample contained unknown hydrocarbons in both the TPH/D and the TPH/G range at concentrations of 610 and 70 µg/L, respectively. Trichloroethene (TCE) was also detected at a concentration of 16 µg/L, along with several degradation products: vinyl chloride (8.3 µg/L), trans-1,2-dichloroethene (0.93 µg/L), and cis-1,2-dichloroethene (16 µg/L). At boring B15-3, the soil samples contained unknown hydrocarbons in the TPH/G range at a concentration of 170 mg/kg in the 11.5 foot sample, with accompanying detections of 0.84 mg/kg ethylbenzene and 2.3 mg/kg total xylenes. An unknown hydrocarbon in the TPH/D range was detected at a concentration of 37 mg/kg in sample B15-3 at a depth of 12.5 feet. In ground water grab samples from B15-4 and B15-5, unknown hydrocarbons in the TPH/D range (150 and 560 µg/L, respectively) were detected.

CONCLUSIONS

The test results from this preliminary Phase II investigation indicate that soil and ground water quality beneath the Standard Brands property is affected by hydrocarbons and solvents. Hydrocarbons are present in soil samples at the approximate depth of the water table at each borehole where soil was tested (borings B15-1, B15-2, B15-3). Hydrocarbons were also detected in ground water at each location where ground water was tested (borings B15-3, B15-4, and B15-5). This apparent site-wide ground water contamination by hydrocarbons may have originated on-site and/or upgradient; additional testing would be needed to identify the locations of the releases. TCE and degradation products were detected in ground water at boring B15-3. The hydrocarbon and solvent contamination observed within boring B15-3 is more severe than observed elsewhere and may be related to the former Oliver Tire and Rubber sumps that were located on the Site. However, the precise origin of this contamination was not identified during this screening-level study.

We appreciate the opportunity to serve Kaiser on this project. Please feel free to call if you have any questions.

Very truly yours,

David Harnish, R.G.
Manager

for

Phillip L. Fitzwater
Principal

DEH:PLF:hld

z:\hld\kaiser\standbr.rpt

Enclosures:

Figure 1	Site Plan and Sampling Locations
Figure 2	Soil Chemical Test Results
Figure 3	Ground Water Grab Chemical Test Results
Table 1	Summary of Sampling Program
Table 2	Soil and Ground Water Grab Sample Chemical Test Results
Attachment A	Field Program Documentation Boring Logs
Attachment B	Laboratory Reports and Data Quality Review
Attachment C	Demolition Map of Oliver Tire and Rubber

TABLE 1 - SUMMARY OF SAMPLING PROGRAM
Standard Brands Paints - Preliminary Phase II Site Investigation
Kaiser Permanente/Emeryville, California

Area of Investigation	Boring No.	Soil Sample Depths (ft)	Ground Water Grab Sample	TPH Gas (note 1)	BTEX (note 2)	TPH Diesel, Oil (note 3)	Halogenated VOCs (note 4)
Former Oil and Gas Depot							
Fuel Pumps	B15-1	2.0, 6.5	no	x	x	x	--
		9.5		x	x		
		12.5				x	
Depot Building	B15-2	2.0, 6.0	no	x	x	x	--
		11.0		x	x		
		11.5				x	
Downgradient Boundary							
Emery Street	B15-3		yes	x	x	x	x
		11.5		x	x		x
		12.5				x	
Emery/45th Corner	B15-4	--	yes	x	x	x	x
45th Street	B15-5	--	yes	x	x	x	x
Total Samples:							
Soil		10	--	7	7	7	1
Ground Water		--	3	3	3	3	3

Notes:
(1) TPH/Gasoline tested by modified EPA Method 8015.
(2) Benzene, toluene, ethylbenzene, and xylene (BTEX) tested by modified EPA Method 8015.
(3) TPH/Diesel, motor oil, kerosene and other hydrocarbons tested by modified EPA Method 8015
(4) Halogenated volatile organic compounds (VOCs) tested by EPA Method 8010.

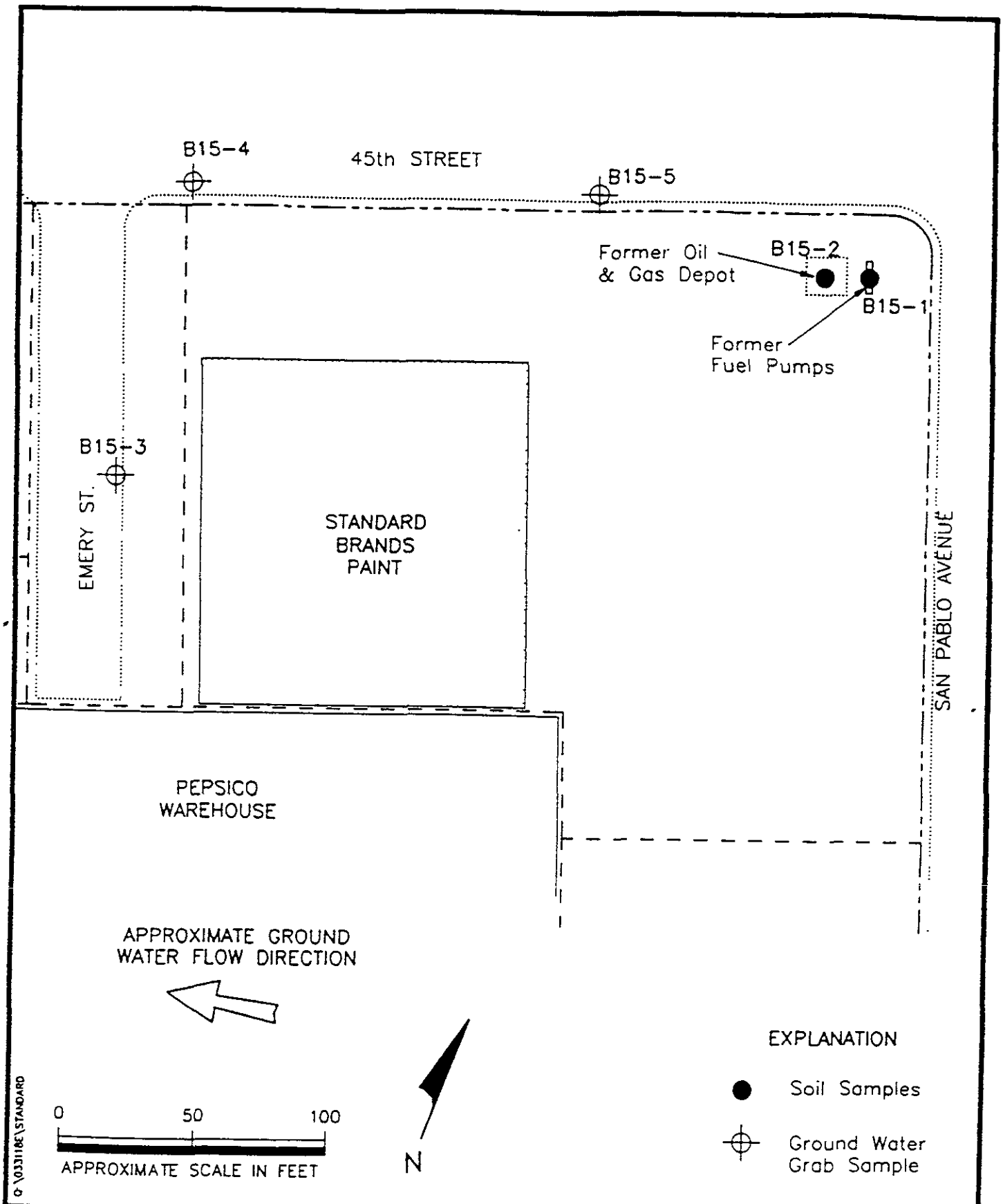
TABLE 2: SOIL AND GROUND WATER GRAB SAMPLE CHEMICAL TEST RESULTS
Standard Brands Paints - Preliminary Phase II Site Investigation
Kaiser Permanente/Emeryville, California

ENVIRON Sample ID	EPA Method 8015 (Modified) Extractable Hydrocarbons				EPA Method 8015 (Modified) Purgeable Hydrocarbons						EPA Method 8010 Halogenated Hydrocarbons
	Diesel	Kerosene	Motor Oil	Unknown	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline	Unknown	
Soil Samples (concentrations in mg/kg)											
B15-1@2.0	<1.0	<1.0	<10.0	ND	<0.005	<0.005	<0.005	<0.005	<1	ND	NA
B15-1@6.5	<1.0	<1.0	<10.0	ND	<0.005	<0.005	<0.005	<0.005	<1	ND	NA
B15-1@9.5	NA	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	<1	1.8	NA
B15-1@12.5	<1.0	<1.0	<10.0	ND	NA	NA	NA	NA	NA	NA	NA
B15-2@2.0	<1.0	<1.0	<10.0	ND	<0.005	<0.005	<0.005	<0.005	<1	ND	NA
B15-2@6.0	<1.0	<1.0	<10.0	ND	<0.005	<0.005	<0.005	<0.005	<1	ND	NA
B15-2@11.0	NA	NA	NA	NA	<0.02	<0.02	0.31	1.1	<4	69	NA
B15-2@11.5	<1.0	<1.0	<10.0	ND	NA	NA	NA	NA	NA	NA	NA
B15-3@11.5	NA	NA	NA	NA	<0.02	<0.02	0.84	2.3	<4	170	ALL ND
B15-3@12.5	<1.0	<1.0	<10.0	37	NA	NA	NA	NA	NA	NA	NA
Water Samples (concentrations in µg/L).											
B15-3	<88	<88	<880	610	<0.5	<0.5	<0.5	<0.5	<5	70	**vinyl chloride = 8.3** **trans-1,2-DCE = 0.93** **cis-1,2-DCE = 16** **TCE = 16** **chlorobenzene = 1.2**
B15-4	<50	<50	<500	150	<0.5	<0.5	<0.5	<0.5	<5	ND	ALL ND
B15-5	<50	<50	<500	560	<0.5	<0.5	<0.5	<0.5	<5	ND	ALL ND
Trip Blank	NA	NA	NA	NA	<0.5	<0.5	<0.5	<0.5	<5	ND	**chloroform = 0.67**

Notes:

ND = Not detected
NA = Not analyzed
<0.005 = Not detected above reporting limit

trans-1,2-DCE = trans-1,2-Dichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene

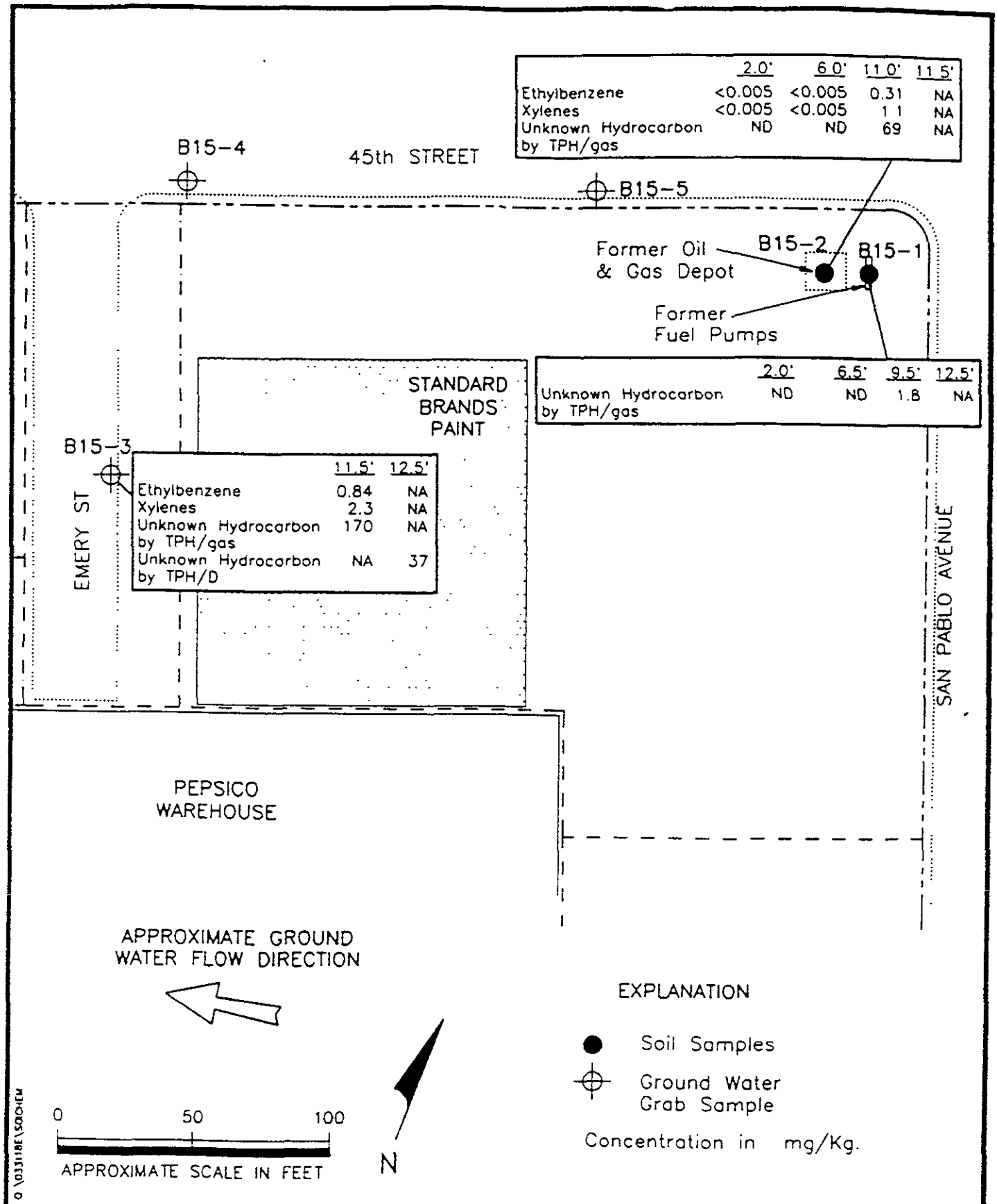


ENVIRON
Counsel in Health and Environmental Science

Site Plan and Sampling Locations
Standard Brands Paint (Property 15)
Kaiser/Emeryville Site
Emeryville, California

Figure 1

Drafter: DC | Date: 12/16/93 | Contract Number: 03-3118E | Approved: | Revised:



	2.0'	6.0'	11.0'	11.5'
Ethylbenzene	<0.005	<0.005	0.31	NA
Xylenes	<0.005	<0.005	1.1	NA
Unknown Hydrocarbon by TPH/gas	ND	ND	69	NA

	2.0'	6.5'	9.5'	12.5'
Unknown Hydrocarbon by TPH/gas	ND	ND	1.8	NA

	11.5'	12.5'
Ethylbenzene	0.84	NA
Xylenes	2.3	NA
Unknown Hydrocarbon by TPH/gas	170	NA
Unknown Hydrocarbon by TPH/D	NA	37

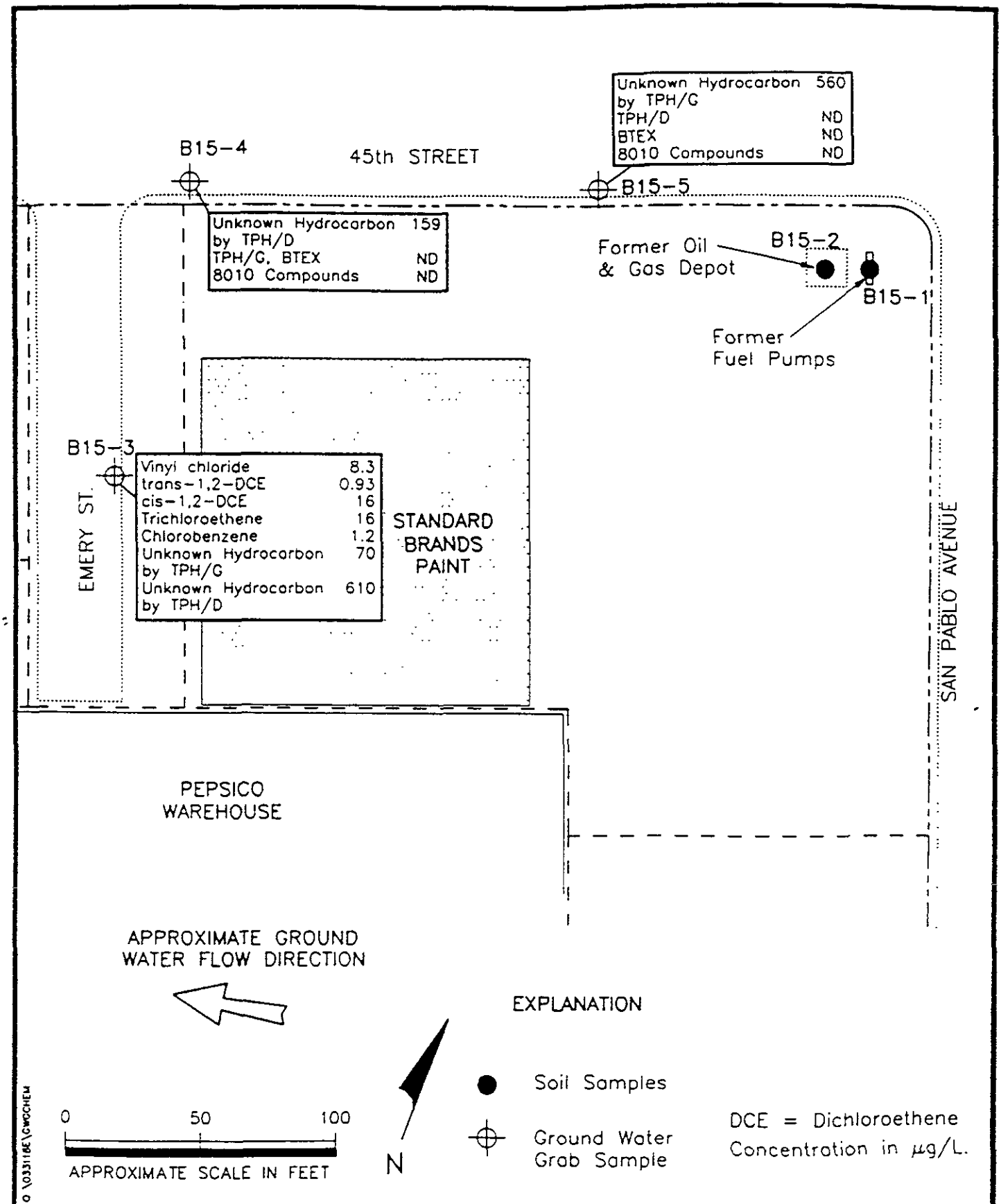
ENVIRON
Counsel in Health and Environmental Science

Soil Chemical Test Results
Standard Brands Paint (Property 15)
Kaiser/Emeryville Site
Emeryville, California

Figure 2

Drafter: DC | Date: 12/16/93 | Contract Number: 03-3118E | Approved: | Revised:

Q:\03118E\SOICHEM



ENVIRON
Counsel in Health and Environmental Science

Ground Water Grab Chemical Test Results
Standard Brands Paint (Property 15)
Kaiser/Emeryville Site
Emeryville, California

Figure 3

Drafter: DC | Date: 12/16/93 | Contract Number: 03-3118E | Approved | Revised:

ATTACHMENT A

FIELD PROGRAM DOCUMENTION
BORING LOGS

ATTACHMENT A

FIELD PROGRAM DOCUMENTATION

Field Methods

A total of five soil borings were drilled and sampled continuously using a limited access rig with a hydraulically-driven coring system. ENVIRON used field and sampling procedures that regulatory agencies currently consider to be acceptable and that provide technically defensible results. For each boring, soil samples were screened for the potential presence of VOCs using an Organic Vapor Monitor (OVM); soils were described according to the United Soil Classification System by an ENVIRON geologist; and a log containing the field data for each location (soil description, OVM readings, sample depths, depth to groundwater, samples sent for chemical testing) was maintained.

Prior to drilling each borehole, drilling rods and sampling equipment were cleaned with a high-pressure hot water washer to minimize the potential for cross contamination. Three unsaturated soil samples from borings B15-1 and B15-2 were collected in stainless-steel tubes at discrete depths. The sample tubes were covered with Teflon™, capped and sealed with non-adhesive silicon tape, labeled, and placed in an ice cooler for transport to the analytical laboratory under strict chain-of-custody. Borings B15-1 and B15-2 were completed at depths of 15.5 and 16.0 feet below ground surface, respectively.

Borings B15-3, B15-4 and B15-5 were completed to depths of 24.5, 21.5 and 19.0 feet below ground surface, respectively, and 10 feet of temporary 0.010-inch slotted PVC well screen was emplaced in each (9-19 feet at B15-3, and 11.5-21.5 feet at B15-4 and B15-5). The soil at B15-4 readily yielded water. The soil at B15-3 and B15-5 yielded water slowly and both went dry during sampling; it took approximately two hours for the temporary wells to recharge before sampling could be completed. Samples were collected at each location using a pre-cleaned stainless-steel bailer and a dedicated nylon rope. Strict chain-of-custody protocols were followed for all ground water grab samples. Soil samples were collected from location B15-3 using the procedures outlined above. Upon completion, all borings were promptly backfilled using a cement-bentonite grout, and any damage to concrete and asphalt surfaces was repaired.

The remainder of this Appendix presents boring logs.

MAJOR DIVISIONS			GRAPHIC SYMBOL	SOIL CODE	DESCRIPTIONS
COARSE-GRAINED SOILS More than half is coarser than #200 sieve	GRAVELS more than half coarse fraction is larger than no. 4 sieve	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 12% FINES		GM	SILTY GRAVELS, SILTY GRAVELS WITH SAND
				GC	CLAYEY GRAVELS, CLAYEY GRAVELS WITH SAND
	SANDS more than half coarse fraction is smaller than no 4 sieve	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 12% FINES		SM	SILTY SANDS, WITH OR WITHOUT GRAVEL
				SC	CLAYEY SANDS, WITH OR WITHOUT GRAVEL
FINE-GRAINED SOILS	SILTS AND CLAYS liquid limit 50 or less			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, CLAYEY SILTS OF LOW PLASTICITY
				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 DIATOMACEOUS, 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

SOIL SAMPLE RECOVERY KEY

- Soil Sample (relatively undisturbed) Complete Recovery
- Soil Sample (disturbed) Partial Recovery
- Continuous Core Run Sample Recovery
- Continuous Core Run No Recovery

ENVIRON
Counsel in Health and Environmental Science

Key to Unified Soil Classification System
Kaiser-Standard Brands Phase II
San Pablo Avenue
Emeryville, California

DRAWN BY	CONTRACT NUMBER	DATE	APPROVED	REVISED
RS	03-3118E	11/93		

FIGURE
A-1

131090

Surface Elev N/A

Coordinates N/A

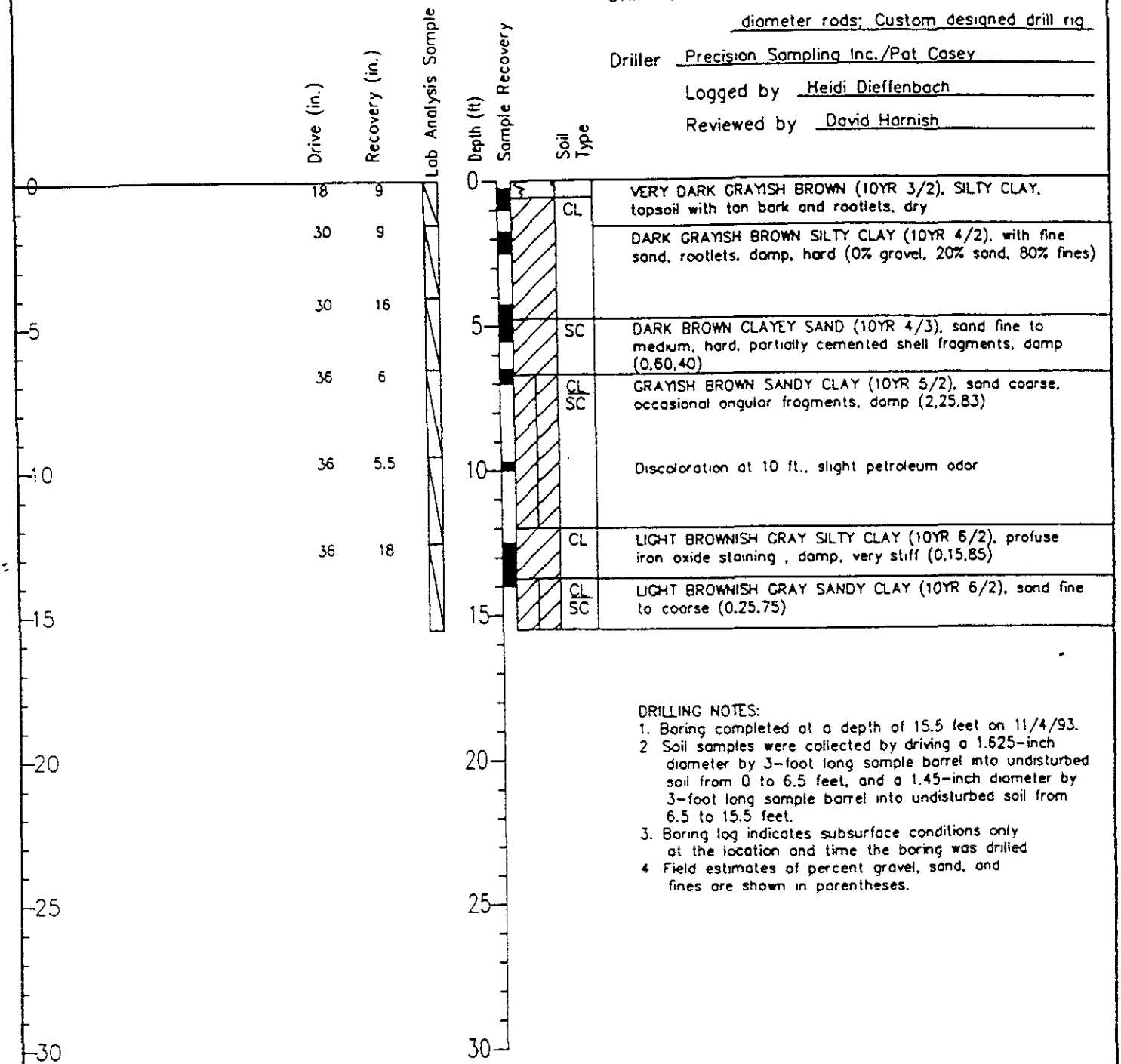
Drill Date: Start 11/4/93 Finish 11/4/93

Drill Method Hydraulic-driven core barrel inside 2-inch diameter rods; Custom designed drill rig

Driller Precision Sampling Inc./Pat Casey

Logged by Heidi Dieffenbach

Reviewed by David Harnish



VERY DARK GRAYISH BROWN (10YR 3/2), SILTY CLAY, topsoil with tan bark and rootlets, dry

DARK GRAYISH BROWN SILTY CLAY (10YR 4/2), with fine sand, rootlets, damp, hard (0% gravel, 20% sand, 80% fines)

DARK BROWN CLAYEY SAND (10YR 4/3), sand fine to medium, hard, partially cemented shell fragments, damp (0,60,40)

GRAYISH BROWN SANDY CLAY (10YR 5/2), sand coarse, occasional angular fragments, damp (2,25,83)

Discoloration at 10 ft., slight petroleum odor

LIGHT BROWNISH GRAY SILTY CLAY (10YR 6/2), profuse iron oxide staining , damp, very stiff (0,15,85)

LIGHT BROWNISH GRAY SANDY CLAY (10YR 6/2), sand fine to coarse (0,25,75)

DRILLING NOTES:

1. Boring completed at a depth of 15.5 feet on 11/4/93.
2. Soil samples were collected by driving a 1.625-inch diameter by 3-foot long sample barrel into undisturbed soil from 0 to 6.5 feet, and a 1.45-inch diameter by 3-foot long sample barrel into undisturbed soil from 6.5 to 15.5 feet.
3. Boring log indicates subsurface conditions only at the location and time the boring was drilled
4. Field estimates of percent gravel, sand, and fines are shown in parentheses.

ENVIRON
Counsel in Health and Environmental Science

Job No 03-3118E Approved: 12/2/93

LOG OF BORING
Kaiser-Standard Brands Phase II
San Pablo Avenue
Emeryville, California

Page 1 of 1

Boring B15-1

FIGURE
A-2

Surface Elev N/A

Coordinates N/A

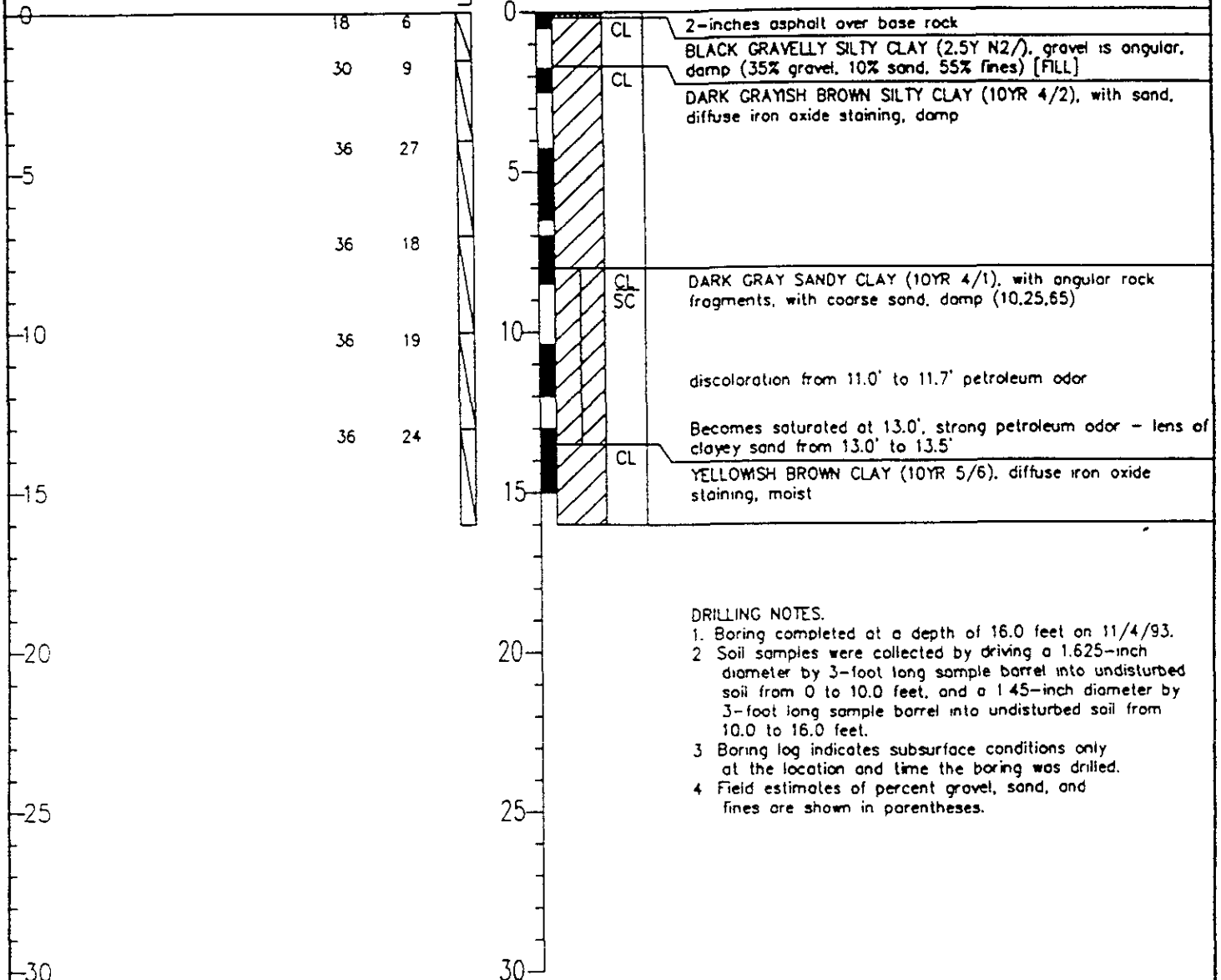
Drill Date: Start 11/4/93 Finish 11/4/93

Drill Method Hydraulic-driven core barrel inside 2-inch diameter rods; Custom designed drill rig

Driller Precision Sampling Inc./Pat Casey

Logged by Heidi Dieffenbach

Reviewed by David Hornish



DRILLING NOTES.

1. Boring completed at a depth of 16.0 feet on 11/4/93.
2. Soil samples were collected by driving a 1.625-inch diameter by 3-foot long sample barrel into undisturbed soil from 0 to 10.0 feet, and a 1.45-inch diameter by 3-foot long sample barrel into undisturbed soil from 10.0 to 16.0 feet.
3. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
4. Field estimates of percent gravel, sand, and fines are shown in parentheses.

ENVIRON
Counsel in Health and Environmental Science

Job No 03-3118E Approved: 12/2/93

LOG OF BORING
Kaiser-Standard Brands Phase II
San Pablo Avenue
Emeryville, California

Page 1 of 1

Boring B15-2

FIGURE
A-3

Surface Elev. N/A

Coordinates N/A

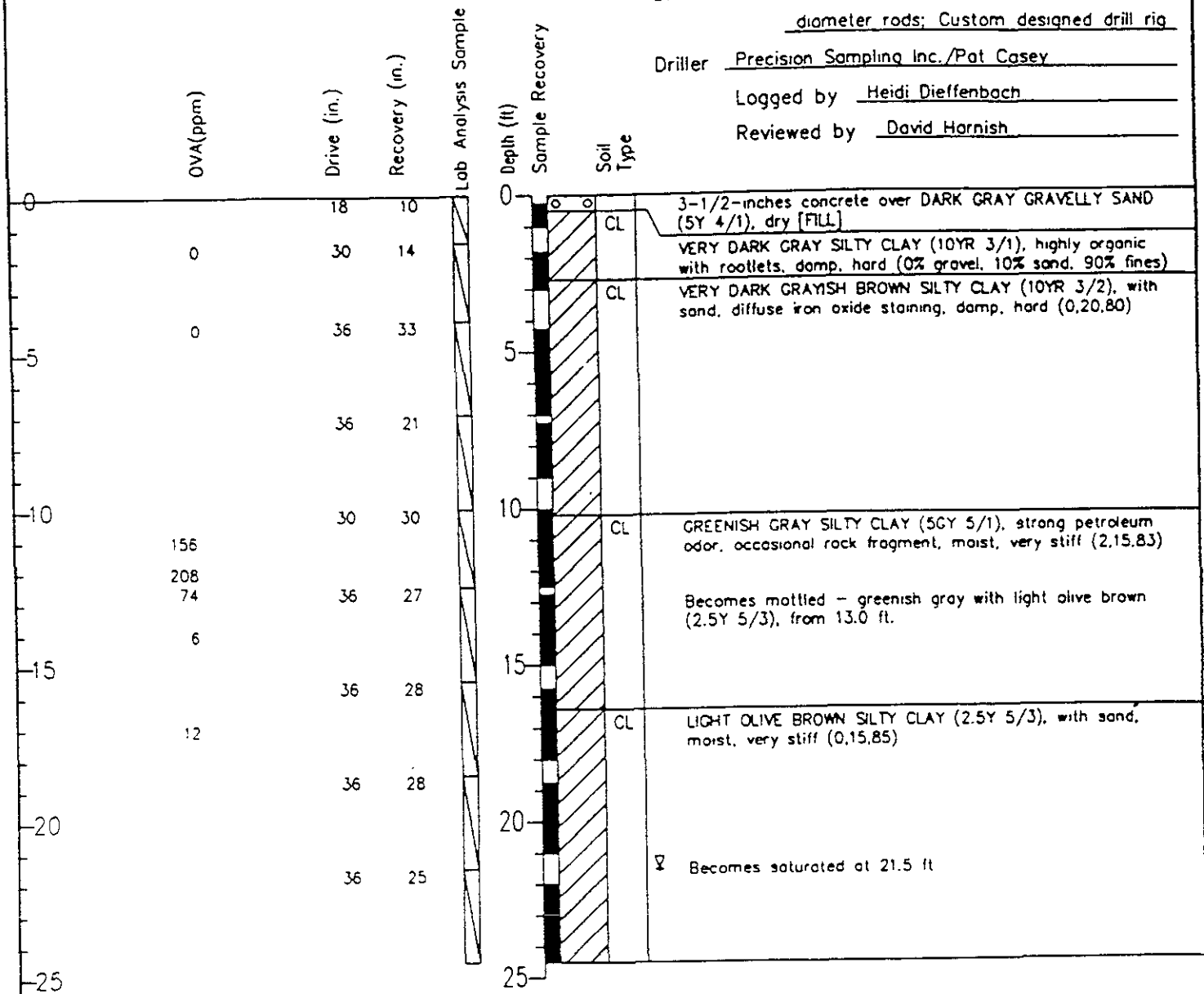
Drill Date: Start 11/4/93 Finish 11/4/93

Drill Method Hydraulic-driven core barrel inside 2-inch diameter rods; Custom designed drill rig

Driller Precision Sampling Inc./Pat Casey

Logged by Heidi Dieffenbach

Reviewed by David Harnish



DRILLING NOTES.

1. Boring completed at a depth of 24 5 feet at 1510 PM on 11/4/93
2. Soil samples were collected by driving a 1 625-inch diameter by 3-foot long sample barrel into undisturbed soil from 0 to 12.5 feet, and a 1 45-inch diameter by 3-foot long sample barrel into undisturbed soil from 12.5 to 24.5 feet.
3. Once the boring was completed, a 1-inch PVC well casing with 0 010-inch slotted screen was placed in the borehole The screen was set from 11.5 to 21 5 feet
4. A ground water grab sample was collected at 6.15 PM on 11/4/93 The temporary well recharged very slowly. A volume complete of groundwater was not obtained for TPH/D analysis.
5. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
6. Field estimates of percent gravel, sand, and fines are shown in parentheses.
7. Depth to water in temporary PVC casing measured at 14 98 feet below ground surface at 6:00 PM on 11/4/93.

ENVIRON
Counsel in Health and Environmental Science

Job No 03-3118E Approved: 12/2/93

LOG OF BORING
Kaiser-Standard Brands Phase II
San Pablo Avenue
Emeryville, California

Boring B15-3

FIGURE A-4

Surface Elev. N/A

Coordinates N/A

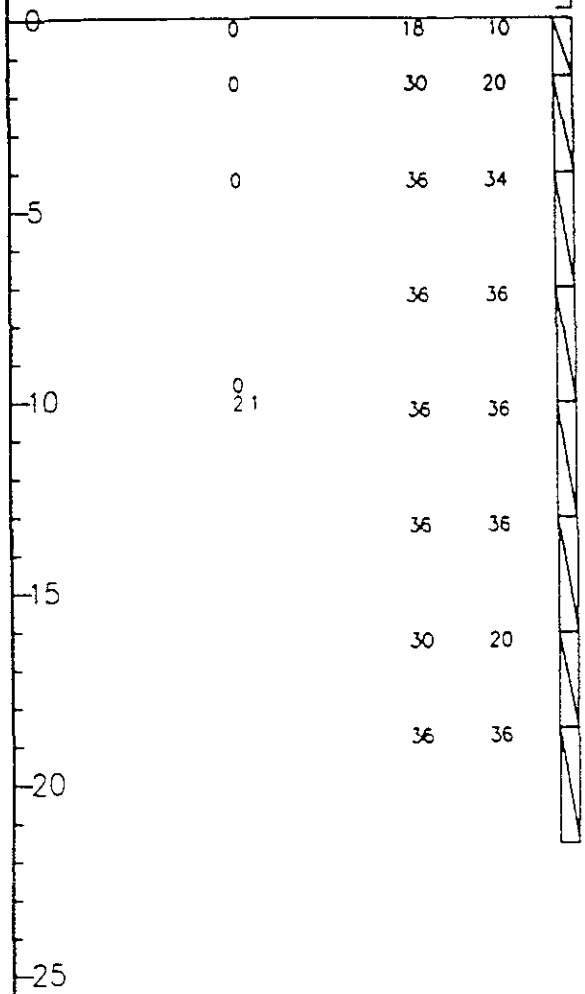
Drill Date: Start 11/4/93 Finish 11/4/93

Drill Method Hydraulic-driven core barrel inside 2-inch diameter rods; Custom designed drill rig

Driller Precision Sampling Inc./Pat Casey

Logged by Heidi Dieffenbach

Reviewed by David Harnish



Soil Type	
CL	3-1/2-inches concrete over DARK GRAY GRAVELLY SAND (5Y 4/1), [FILL]
CL	BLACK SILTY CLAY (2.5Y N2/), highly organic, with rootlets, damp, hard (0% gravel, 15% sand, 85% fines)
CL	DARK GRAYISH BROWN SILTY CLAY (10YR 4/2), with fine sand, diffuse iron oxide staining, damp, hard (0,20,80) Color becomes DARK GRAY (10YR 4/1), from 6.0 ft. Becomes moist from 7.0 ft. and very stiff A 3/4-inch sandstone cobble at 9.0 ft.
CL	LIGHT OLIVE GRAY SILTY CLAY (5Y 6/2), some sand, occasional white rock fragments, rootlets, moist, patchy greenish gray staining (5G 5/1) (3,25,78) Patchy greenish gray staining does not occur past 10.5 ft One-inch lense of sandstone cobbles at 11.0 ft. Trace iron oxides from 10.5 ft. 6-inch lense of abundant iron oxides
SC	1-inch lens of gravelly clay at 15.7 ft. LIGHT OLIVE BROWN SANDY CLAY (2.5Y 5/3), pervasive iron oxide staining, fine to coarse sand, moist (0,45,55) ▽ Becomes wet at 18.5 ft. 3-inch lense of sand at 18.5 ft Coarse sand grades out from 19.5 ft.

DRILLING NOTES

1. Boring completed at a depth of 21.5 feet at 1305 PM on 11/4/93
2. Soil samples were collected by driving a 1.625-inch diameter by 3-foot long sample barrel into undisturbed soil from 0 to 18.5 feet, and a 1.45-inch diameter by 3-foot long sample barrel into undisturbed soil from 18.5 to 21.5 feet.
3. Once the boring was completed, a 1-inch PVC well casing with 0.010-inch slotted screen was placed in the borehole. The screen was set from 11.5 to 21.5 feet.
4. A ground water grab sample was collected at 2.00 PM on 11/4/93.
5. Boring log indicates subsurface conditions only at the location and time the boring was drilled
6. Field estimates of percent gravel, sand, and fines are shown in parentheses.
7. Depth to water in temporary PVC casing measured at 11.85 feet below ground surface at 1:50 PM on 11/4/93

ENVIRON
Counsel in Health and Environmental Science

Job No 03-3118E Approved 12/2/93

LOG OF BORING
Kaiser-Standard Brands Phase II
San Pablo Avenue
Emeryville, California

Page 1 of 1

Boring B15-4

FIGURE
A-5

Surface Elev N/A

Coordinates N/A

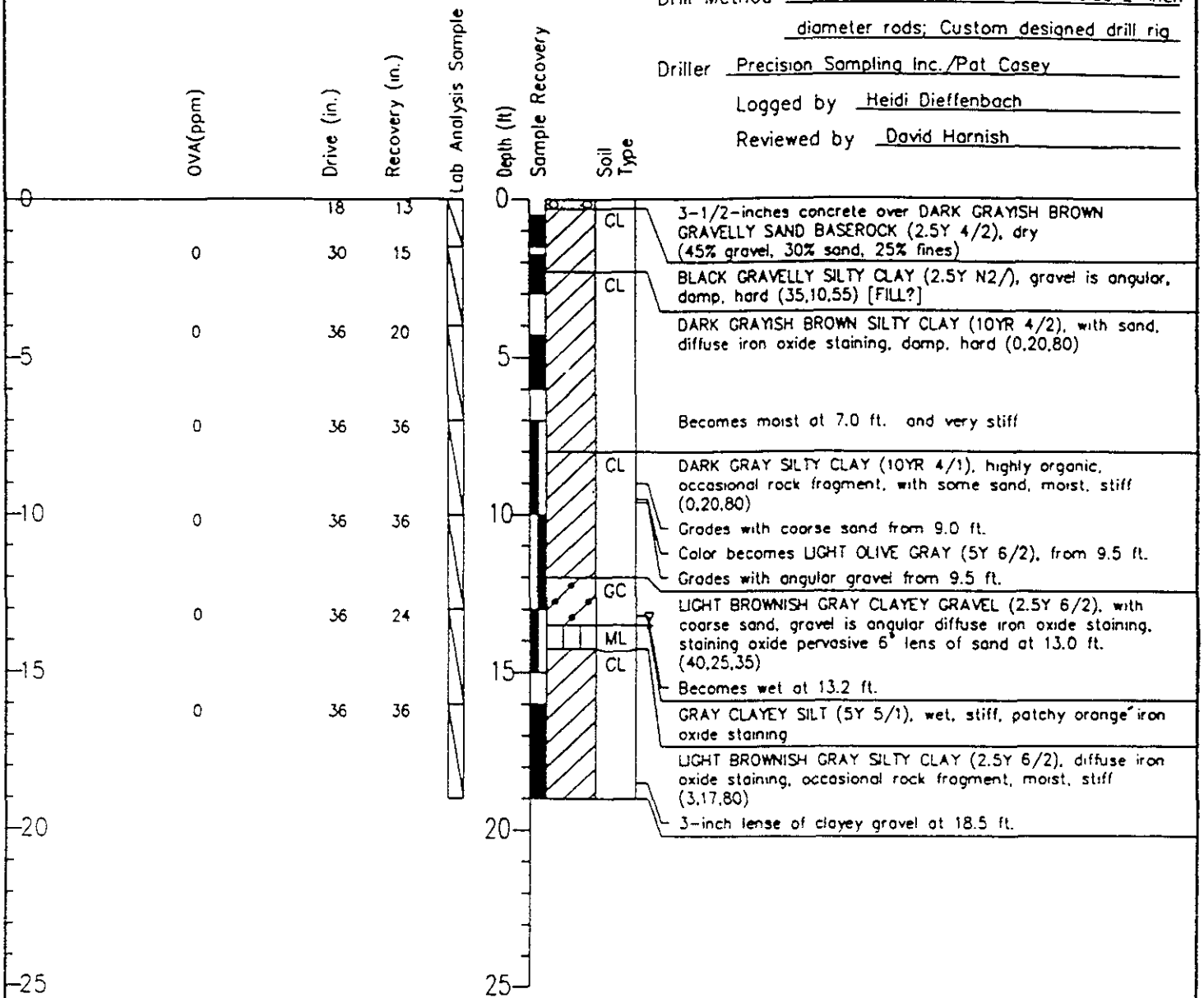
Drill Date: Start 11/4/93 Finish 11/4/93

Drill Method Hydraulic-driven core barrel inside 2-inch diameter rods; Custom designed drill rig

Driller Precision Sampling Inc./Pat Casey

Logged by Heidi Dieffenbach

Reviewed by David Harnish



DRILLING NOTES.

1. Boring completed at a depth of 19.0 feet at 1005 AM on 11/4/93
2. Soil samples were collected by driving a 1.625-inch diameter by 3-foot long sample barrel into undisturbed soil from 0 to 19 feet
3. Once the boring was completed, a 1-inch PVC well casing with 0.010-inch slotted screen was placed in the borehole. The screen was set from 9 to 19 feet
4. The temporary well recharged very slowly and samples were collected at 3:30 PM and 5:00 PM on 11/4/93
5. Boring log indicates subsurface conditions only at the location and time the boring was drilled.
6. Field estimates of percent gravel, sand, and fines are shown in parentheses.
7. Depth to water in temporary PVC casing measured at 14.68 feet below ground surface at 2:55 PM on 11/4/93.

ENVIRON
Counsel in Health and Environmental Science

Job No 03-3118E Approved: 12/2/93

LOG OF BORING
Kaiser-Standard Brands Phase II
San Pablo Avenue
Emeryville, California

Page 1 of 1

Boring B15-5

FIGURE
A-6

ATTACHMENT B

LABORATORY REPORTS AND DATA QUALITY REVIEW

ATTACHMENT B

LABORATORY REPORTS AND DATA QUALITY REVIEW

The analytical reports for soil and ground water grab samples collected during the Phase II investigation are included in this attachment. The chemical analyses were performed by ETC/Mid Pacific Environmental Laboratory, located in Mountain View, California.

Data Quality Review

The ground water grab samples collected were submitted to the laboratory with a trip blank. The trip blank was analyzed for TPH/G, BTEX and halogenated VOCs. The compounds tested were all below the detection limit, with the exception of chloroform (0.67 μg/L). None of the ground water samples had chloroform detections. Chloroform is a common laboratory contaminant, and it s presence in the trip blank, but not the samples, indicates sample results are not affected. The samples were all analyzed within specified holding times for each analysis.

The internal laboratory quality control program consisted of method blanks, matrix spike samples, and laboratory control spike samples. The results of the laboratory quality control program indicate that the test results in this report are of sufficient quality to support the findings presented.

ETC/MID-PACIFIC
625 B Clyde Avenue
Mountain View, CA 94043
(415) 964-0844
FAX (415) 961-7113

Environ
5820 Shellmound St. Suite 700
Emeryville, CA 94608

November 19, 1993
MPELI Order#: 93-11-018
Date Received: 11/05/93

Attn: David Harnish

Subject: Analysis of 10 Soils Samples

Work ID: Kaiser-Phase 2 03-3118E

P.O. #: 03-3118E

Pages in report: 21

Analysis of soil samples for purgeable halogenated organic compounds was performed according to USEPA Method 8010 (Test Methods for Evaluating Solid Waste -- SW846, 3rd Ed.,1986).

Analysis of soil samples for higher boiling petroleum hydrocarbons (diesel, kerosene, & oil) was performed according to guidelines established in the Regional Water Quality Control Board (RWQCB) Leaking Underground Fuel Tank (LUFT) manual. This is also known as the modified 8015 protocol based on USEPA Method 8015 (Test Methods for Evaluating Solid Waste -- SW846, 3rd Ed.,1986).

Analysis of soil samples for lower boiling petroleum hydrocarbons (benzene, toluene, ethylbenzene, xylenes, and gasoline) was performed according to guidelines established in the Regional Water Quality Control Board (RWQCB) Leaking Underground Fuel Tank (LUFT) manual. This is also known as the modified 8015 protocol based on USEPA Method 8015 (Test Methods for Evaluating Solid Waste -- SW846, 3rd Ed.,1986).

NOTES

Method 8010:
The method blank associated with sample B15-3 @11.5 (QC batch S143A) had Methylene chloride present as a laboratory contaminant at 0.74 ug/Kg.

TPH-EXTRACTABLES:
In the analysis of sample B15-3 @12.5, a chromatographic pattern was observed that did not match the pattern of any of our in-house standards for this method. This component was semi-quantitated by comparison with the diesel standard, and reported as "Unknown Hydrocarbon".

TPH-PURGEABLES:
In the analysis of samples B15-2 @11.0, B15-3 @11.5, and B15-1 @9.5, a chromatographic pattern was observed that did not match the pattern of any of our in-house standards for this method. This component was semi-quantitated by comparison with the gasoline standard, and reported as "Unknown Hydrocarbon".

All analyses were conducted in batches of 20 samples or less. Each QC batch consisted of a method blank, a matrix spike, a matrix spike duplicate and a laboratory control sample. The QC information is in a separate QC report at the end of the regular report. To find the associated QC data, identify the batch number for the analysis of interest and look for that number in the QC report for that test. Occasionally a sample will be associated with a sub-batch, which will end in a letter other than "A". The main batch will include the original blank, MS, MSD, and LCS. The sub-batch will contain the additional blank associated with the sample and LCS.

All analytes reported above detection limits on gas chromatography analyses have been confirmed by a second dissimilar column.

Samples were diluted when one or both of the following situations exists:

1) one or more analytes is present at a level above the linear calibration range of the instrument; or
2) compounds are present at levels that could damage the instrument.

The following flags and abbreviations may be used in this report:

ND - Not detected above the detection limit stated.
** - See other analysis.
Freon 113 - 1,1,2-Trichloro-1,2,2-trifluoroethane. Not an 8010 compound.
MS(D) - Matrix spike (duplicate)
LCS(D) - Laboratory control sample (duplicate)
RPD - Relative percent difference
N/A - Not applicable
Q - surrogate recovery outside the QC limits

Lab ID	Sample ID	Analysis	Batch
9311018-05B	B15-3 @ 11.5	8010 Volatiles by GC /soil	S143A
9311018-01B	B15-2 @ 2.0	TPH as Diesel by GC /soil	0276A
9311018-02B	B15-2 @ 6.0	TPH as Diesel by GC /soil	0276A
9311018-04A	B15-2 @ 11.5	TPH as Diesel by GC /soil	0276A
9311018-06A	B15-3 @ 12.5	TPH as Diesel by GC /soil	0276A
9311018-07B	B15-1 @ 2.0	TPH as Diesel by GC /soil	0276A
9311018-08B	B15-1 @ 6.5	TPH as Diesel by GC /soil	0276A
9311018-10A	B15-1 @ 12.5	TPH as Diesel by GC /soil	0276A
9311018-01A	B15-2 @ 2.0	TPH as Gas,BTEX by GC/soil	S184A
9311018-02A	B15-2 @ 6.0	TPH as Gas,BTEX by GC/soil	S184A
9311018-03A	B15-2 @ 11.0	TPH as Gas,BTEX by GC/soil	S184A
9311018-05A	B15-3 @ 11.5	TPH as Gas,BTEX by GC/soil	S184A
9311018-07A	B15-1 @ 2.0	TPH as Gas,BTEX by GC/soil	S184A
9311018-08A	B15-1 @ 6.5	TPH as Gas,BTEX by GC/soil	S184A
9311018-09A	B15-1 @ 9.5	TPH as Gas,BTEX by GC/soil	S184A

If you should have any technical questions, please contact the undersigned at (415) 964-0844.

Approved by: David C. Richmond
Client Services

Environ

Analytical Results - TPH as Diesel by GC /soil

Client ID: B15-2 @ 2.0
MPELI ID: 9311018-01B
Matrix: SOIL
QC Batch: 0276A

Collected: 11/04/93
Received: 11/05/93
Extracted: 11/08/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, mg/kg

PARAMETER	RESULT	LIMIT
Diesel	ND	1.00
Kerosene	ND	1.00
Motor Oil	ND	10.0

Environ

Analytical Results - TPH as Gas,BTEX by GC/soil

Client ID: B15-2 @ 2.0
MPELI ID: 9311018-01A
Matrix: SOIL
QC Batch: S184A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, ug/kg

PARAMETER	RESULT	LIMIT
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
Total Xylenes	ND	5.0
Gasoline	ND	1000

SURROGATE	%RECOVERY	LIMITS
Bromofluorobenzene	78	42-137

Environ
Analytical Results - TPH as Diesel by GC /soil

Client ID: B15-2 @ 6.0
MPELI ID: 9311018-02B
Matrix: SOIL
QC Batch: 0276A

Collected: 11/04/93
Received: 11/05/93
Extracted: 11/08/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, mg/kg

PARAMETER	RESULT	LIMIT
Diesel	ND	1.00
Kerosene	ND	1.00
Motor Oil	ND	10.0

Environ

Analytical Results - TPH as Gas,BTEX by GC/soil

Client ID: B15-2 @ 6.0
MPELI ID: 9311018-02A
Matrix: SOIL
QC Batch: S184A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, ug/kg

PARAMETER	RESULT	LIMIT
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
Total Xylenes	ND	5.0
Gasoline	ND	1000

SURROGATE	%RECOVERY	LIMITS
Bromofluorobenzene	93	42-137

Environ

Analytical Results - TPH as Gas,BTEX by GC/soil

Client ID: B15-2 @ 11.0
MPELI ID: 9311018-03A
Matrix: SOIL
QC Batch: S184A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/09/93
Dilution factor: 4.00

Concentration, ug/kg

PARAMETER	RESULT	LIMIT
Benzene	ND	20
Toluene	ND	20
Ethylbenzene	310	20
Total Xylenes	1100	20
Gasoline	ND	4000
Unknown Hydrocarbon	69000	4000

SURROGATE	%RECOVERY	LIMITS
Bromofluorobenzene	89	42-137

Environ

Analytical Results - TPH as Diesel by GC /soil

Client ID: B15-2 @ 11.5
MPELI ID: 9311018-04A
Matrix: SOIL
QC Batch: 0276A

Collected: 11/04/93
Received: 11/05/93
Extracted: 11/08/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, mg/kg

PARAMETER	RESULT	LIMIT
Diesel	ND	1.00
Kerosene	ND	1.00
Motor Oil	ND	10.0

Environ
Analytical Results - 8010 Volatiles by GC /soil

Client ID: B15-3 @ 11.5
MPELI ID: 9311018-05B
Matrix: SOIL
QC Batch: S143A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/10/93
Dilution factor: 1.00

Concentration, ug/kg

PARAMETER	RESULT	LIMIT
Chloromethane	ND	5.0
Vinyl Chloride	ND	5.0
Bromomethane	ND	5.0
Chloroethane	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
2-Chloroethylvinyl ether	ND	50
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	ND	5.0
Bromoform	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
Freon 113	ND	5.0

SURROGATE	%RECOVERY	LIMITS
Bromochloromethane	90	66-126

Environ

Analytical Results - TPH as Gas,BTEX by GC/soil

Client ID: B15-3 @ 11.5
MPELI ID: 9311018-05A
Matrix: SOIL
QC Batch: S184A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/09/93
Dilution factor: 4.00

Concentration, ug/kg

PARAMETER	RESULT	LIMIT
Benzene	ND	20
Toluene	ND	20
Ethylbenzene	840	20
Total Xylenes	2300	20
Gasoline	ND	4000
Unknown Hydrocarbon	170000	4000

SURROGATE	%RECOVERY	LIMITS
Bromofluorobenzene	102	42-137

Environ

Analytical Results - TPH as Diesel by GC /soil

Client ID: B15-3 @ 12.5
MPELI ID: 9311018-06A
Matrix: SOIL
QC Batch: 0276A

Collected: 11/04/93
Received: 11/05/93
Extracted: 11/08/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, mg/kg

PARAMETER	RESULT	LIMIT
Diesel	ND	1.00
Kerosene	ND	1.00
Motor Oil	ND	10.0
Unknown Hydrocarbon	37	1.00

Environ

Analytical Results - TPH as Diesel by GC /soil

Client ID: B15-1 @ 2.0
MPELI ID: 9311018-07B
Matrix: SOIL
QC Batch: 0276A

Collected: 11/04/93
Received: 11/05/93
Extracted: 11/08/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, mg/kg

PARAMETER	RESULT	LIMIT
Diesel	ND	1.00
Kerosene	ND	1.00
Motor Oil	ND	10.0

Environ

Analytical Results - TPH as Gas,BTEX by GC/soil

Client ID: B15-1 @ 2.0
MPELI ID: 9311018-07A
Matrix: SOIL
QC Batch: S184A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, ug/kg

PARAMETER	RESULT	LIMIT
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
Total Xylenes	ND	5.0
Gasoline	ND	1000

SURROGATE	%RECOVERY	LIMITS
Bromofluorobenzene	72	42-137

Environ

Analytical Results - TPH as Diesel by GC /soil

Client ID: B15-1 @ 6.5
MPELI ID: 9311018-08B
Matrix: SOIL
QC Batch: 0276A

Collected: 11/04/93
Received: 11/05/93
Extracted: 11/08/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, mg/kg

PARAMETER	RESULT	LIMIT
Diesel	ND	1.00
Kerosene	ND	1.00
Motor Oil	ND	10.0

Environ

Analytical Results - TPH as Gas,BTEX by GC/soil

Client ID: B15-1 @ 6.5
MPELI ID: 9311018-08A
Matrix: SOIL
QC Batch: S184A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, ug/kg

PARAMETER	RESULT	LIMIT
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
Total Xylenes	ND	5.0
Gasoline	ND	1000

SURROGATE	%RECOVERY	LIMITS
Bromofluorobenzene	83	42-137

Environ

Analytical Results - TPH as Gas,BTEX by GC/soil

Client ID: B15-1 @ 9.5
MPELI ID: 9311018-09A
Matrix: SOIL
QC Batch: S184A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, ug/kg

PARAMETER	RESULT	LIMIT
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
Total Xylenes	ND	5.0
Gasoline	ND	1000
Unknown Hydrocarbon	1800	1000

SURROGATE	%RECOVERY	LIMITS
Bromofluorobenzene	79	42-137

Environ

Analytical Results - TPH as Diesel by GC /soil

Client ID: B15-1 @ 12.5
MPELI ID: 9311018-10A
Matrix: SOIL
QC Batch: 0276A

Collected: 11/04/93
Received: 11/05/93
Extracted: 11/08/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, mg/kg

PARAMETER	RESULT	LIMIT
Diesel	ND	1.00
Kerosene	ND	1.00
Motor Oil	ND	10.0

8010 Volatiles in Soil

Sample Spiked: E-SB-133 @ 10.5 (7B)

QC Batch#: S143A
Units: ug/kg
Prep Date: 11/09/93

Analysis Dates
Blank: 11/09/93
MS: 11/09/93
MSD: 11/10/93
LCS: 11/09/93

Analytes	Blank Result	Blank Limit	Spike level	%Recovery MS	%Recovery MSD	%Recovery LCS	QC LIMITS	RPD
Dichlorodifluoromethane	ND	5.0						
Chloromethane	ND	5.0						
Vinyl Chloride	ND	5.0						
Bromomethane	ND	5.0						
Chloroethane	ND	5.0						
Trichlorofluoromethane	ND	5.0						
1,1-Dichloroethene	ND	5.0	250	66	31	88	28-167	72
Methylene Chloride	0.74	5.0						
trans-1,2-Dichloroethene	ND	5.0						
1,1-Dichloroethane	ND	5.0						
cis-1,2-Dichloroethene	ND	5.0						
Chloroform	ND	5.0	250	75	60	92	49-133	22
1,1,1-Trichloroethane	ND	5.0						
Carbon Tetrachloride	ND	5.0	250	72	53	90	43-143	30
1,2-Dichloroethane	ND	5.0	250	70	60	91	51-147	15
Trichloroethene	ND	5.0	250	79	63	96	35-146	23
1,2-Dichloropropane	ND	5.0						
Bromodichloromethane	ND	5.0						
2-Chloroethylvinyl ether	ND	50						
trans-1,3-Dichloropropene	ND	5.0						
1,1,2-Trichloroethane	ND	5.0						
Tetrachloroethene	ND	5.0	250	123	104	90	26-162	17
Dibromochloromethane	ND	5.0						
Chlorobenzene	ND	5.0	250	62	56	84	38-150	10
Bromoform	ND	5.0						
1,1,2,2-Tetrachloroethane	ND	5.0						
1,3-Dichlorobenzene	ND	5.0						
1,4-Dichlorobenzene	ND	5.0	250	64	59	78	42-143	8.1
1,2-Dichlorobenzene	ND	5.0						
Freon 113	ND	5.0						
Bromochloromethane (surr)	75%		20	86	83	89	66-126	

Tot. Pet. Hydrocarbon/soil

Sample Spiked: B15-2 @ 6.0

QC Batch#: 0276A
Units: mg/kg
Prep Date: 11/08/93

Analysis Dates
Blank: 11/09/93
MS: 11/09/93
MSD: 11/09/93
LCS: 11/09/93

	Blank		Spike	%Recovery			QC	
Analytes	Result	Limit	level	MS	MSD	LCS	LIMITS	RPD
Diesel	ND	1	2000	95	90	99	57-105	5.4
Kerosene	ND	1						
Motor Oil	ND	10						

Gas BTEX in soil

Sample Spiked: B15-2 @ 2.0

QC Batch#: S184A
Units: ug/kg
Prep Date: 11/08/93

Analysis Dates
Blank: 11/09/93
MS: 11/09/93
MSD: 11/09/93
LCS: 11/09/93

Analytes	Blank Result	Blank Limit	Spike level	%Recovery MS	%Recovery MSD	%Recovery LCS	QC LIMITS	RPD
Benzene	ND	5	125	54	56	66	39-150	3.6
Toluene	ND	5	125	55	58	65	46-148	5.3
Ethylbenzene	ND	5	125	63	66	70	32-160	4.7
Total Xylenes	ND	5	125	63	66	70	32-160	4.7
Gasoline	ND	1000						
Bromofluorobenzene (surr)	97%		1250	73	79	85	42-137	

ENVIRON

Counsel in Health and Environmental Science

9311 018

CHAIN-of-CUSTODY FORM

Sheet 1 of 2
5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: Kaiser - Standard Brands Phase II

CASE NO.: 03-3118E

	ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: TPH gas · BTEX	TPH-diesel	COMMENTS
1	B15-2 @ 2.0'	11/4/93	HMP	soil	1	X	X	Rec'd Cool 11/5/93
2	B15-2 @ 6.0'				1	X	X	Please send result attn David Hamish
3	B15-2 @ 11.0'				1	X		
4	B15-2 @ 11.5'				1		X	Standard T.A.T.
5	B15-3 @ 11.5				1	X		
6	B15-3 @ 12.5				1		X	
7	B15-1 @ 2.0				1	X	X	
8	B15-1 @ 6.5				1	X	X	
9	B15-1 @ 9.5				1	X		
	TOTAL				9	7	6	

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Heidi Doffenbacher	11/5/93	0900	[signature]	ETC/MP	11/5/93	0900

ENVIRON

Counsel in Health and Environmental Science

9311-018

CHAIN-of-CUSTODY FORM

Sheet 2 of 2

5820 Shellmound St., Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: Kaiser-Standard Brands Phase II

CASE NO.: 03-3118E

ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (Initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: TPH gasoline BTEX	TPH diesel	COMMENTS
10 B15-1 @ 12.5	11/4	HWD	Soil	1		X	Please send results attn David Harnish Standard
TOTAL				1		1	

Rec'd Cool 11/5/93

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Heidi Dieffenbach	11/5/93	0900	[signature]	ETC/MP	11/5/93	0900

ETC/MID-PACIFIC
625 B Clyde Avenue
Mountain View, CA 94043
(415) 964-0844
FAX (415) 961-7113

Environ
5820 Shellmound St. Suite 700
Emeryville, CA 94608

November 19, 1993
MPELI Order#: 93-11-016
Date Received: 11/05/93

Attn: David Harnish

Subject: Analysis of 4 Water Samples

Work ID: Kaiser-Phase 2 03-3118E

P.O. #: 03-3118E

Pages in report: 19

Analysis of water samples for purgeable halogenated organic compounds was performed according to USEPA Method 8010 (Test Methods for Evaluating Solid Waste -- SW846, 3rd Ed.,1986).

Analysis of water samples for higher boiling petroleum hydrocarbons (diesel, kerosene, & oil) was performed according to guidelines established in the Regional Water Quality Control Board (RWQCB) Leaking Underground Fuel Tank (LUFT) manual. This is also known as the modified 8015 protocol based on USEPA Method 8015 (Test Methods for Evaluating Solid Waste -- SW846, 3rd Ed.,1986).

Analysis of water samples for lower boiling petroleum hydrocarbons (benzene, toluene, ethylbenzene, xylenes, and gasoline) was performed according to guidelines established in the Regional Water Quality Control Board (RWQCB) Leaking Underground Fuel Tank (LUFT) manual. This is also known as the modified 8015 protocol based on USEPA Method 8015 (Test Methods for Evaluating Solid Waste -- SW846, 3rd Ed.,1986).

NOTES

Method 8010:
Chloroform was present in the method blank at 0.67 ug/L in QC batch A030A.

TPH-EXTRACTABLES:
In the analysis of samples B15-3, B15-4, and B15-5, a chromatographic pattern was observed that did not match the pattern of any of our in-house standards for this method. This component was semi-quantitated by comparison with the diesel standard, and reported as "Unknown Hydrocarbon".

Sample B15-3 was received at less than 1 Liter (approx. 650 mL) for TPH-Extractables analysis. Therefore the reporting limits are raised in the final report.

TPH-PURGEABLES:
In the analysis of sample B15-3, a chromatographic pattern was observed that

did not match the pattern of any of our in-house standards for this method. This component was semi-quantitated by comparison with the gasoline standard, and reported as "Unknown Hydrcarbon".

All analyses were conducted in batches of 20 samples or less. Each QC batch consisted of a method blank, a matrix spike, a matrix spike duplicate and a laboratory control sample. The QC information is in a separate QC report at the end of the regular report. To find the associated QC data, identify the batch number for the analysis of interest and look for that number in the QC report for that test. Occasionally a sample will be associated with a sub-batch, which will end in a letter other than "A". The main batch will include the original blank, MS, MSD, and LCS. The sub-batch will contain the additional blank associated with the sample and LCS.

All analytes reported above detection limits on gas chromatography analyses have been confirmed by a second dissimilar column.

Samples were diluted when one or both of the following situations exists:

1) one or more analytes is present at a level above the linear calibration range of the instrument; or
2) compounds are present at levels that could damage the instrument.

The following flags and abbreviations may be used in this report:

ND - Not detected above the detection limit stated.
** - See other analysis.
Freon 113 - 1,1,2-Trichloro-1,2,2-trifluoroethane. Not an 8010 compound.
MS(D) - Matrix spike (duplicate)
LCS(D) - Laboratory control sample (duplicate)
RPD - Relative percent difference
N/A - Not applicable
Q - surrogate recovery outside the QC limits

Lab ID	Sample ID	Analysis	Batch
9311016-03A	B15-5	8010 Volatiles by GC /H2O	A030A
9311016-02A	B15-4	8010 Volatiles by GC /H2O	A030A
9311016-04A	KAI110493TB	8010 Volatiles by GC /H2O	A030A
9311016-01A	B15-3	8010 Volatiles by GC /H2O	B333B
9311016-01C	B15-3	TPH as Diesel by GC /H2O	0264A
9311016-02C	B15-4	TPH as Diesel by GC /H2O	0264A
9311016-03C	B15-5	TPH as Diesel by GC /H2O	0264A
9311016-01B	B15-3	TPH as Gas,BTEX by GC /H2O	I111A
9311016-02B	B15-4	TPH as Gas,BTEX by GC /H2O	I111A
9311016-03B	B15-5	TPH as Gas,BTEX by GC /H2O	I111A
9311016-04B	KAI110493TB	TPH as Gas,BTEX by GC /H2O	I111A

If you should have any technical questions, please contact the undersigned at (415) 964-0844.

Approved by: David C. B. Richter
Client Services

Environ

Analytical Results - 8010 Volatiles by GC /H2O

Client ID: B15-3
MPELI ID: 9311016-01A
Matrix: WATER
QC Batch: B333B

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, ug/L

PARAMETER	RESULT	LIMIT
Dichlorodifluoromethane	ND	0.50
Chloromethane	ND	0.50
Vinyl Chloride	8.3	0.50
Bromomethane	ND	0.50
Chloroethane	ND	0.50
Trichlorofluoromethane	ND	0.50
1,1-Dichloroethene	ND	0.50
Methylene Chloride	ND	0.50
trans-1,2-Dichloroethene	0.93	0.50
1,1-Dichloroethane	ND	0.50
cis-1,2-Dichloroethene	16	0.50
Chloroform	ND	0.50
1,1,1-Trichloroethane	ND	0.50
Carbon Tetrachloride	ND	0.50
1,2-Dichloroethane	ND	0.50
Trichloroethene	16	0.50
1,2-Dichloropropane	ND	0.50
Bromodichloromethane	ND	0.50
2-Chloroethylvinyl ether	ND	5.0
trans-1,3-Dichloropropene	ND	0.50
1,1,2-Trichloroethane	ND	0.50
Tetrachloroethene	ND	0.50
Dibromochloromethane	ND	0.50
Chlorobenzene	1.2	0.50
Bromoform	ND	0.50
1,1,2,2-Tetrachloroethane	ND	0.50
1,3-Dichlorobenzene	ND	0.50
1,4-Dichlorobenzene	ND	0.50
1,2-Dichlorobenzene	ND	0.50
Freon 113	ND	0.50

SURROGATE	%RECOVERY	LIMITS
Bromochloromethane	86	66-126

Environ

Analytical Results - TPH as Diesel by GC /H2O

Client ID: B15-3
MPELI ID: 9311016-01C
Matrix: WATER
QC Batch: 0264A

Collected: 11/04/93
Received: 11/05/93
Extracted: 11/08/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, ug/L

PARAMETER	RESULT	LIMIT
Diesel	ND	88
Kerosene	ND	88
Motor Oil	ND	880
Unknown Hydrocarbon	610	88

Environ

Analytical Results - TPH as Gas,BTEX by GC /H2O

Client ID: B15-3 Collected: 11/04/93
MPELI ID: 9311016-01B Received: 11/05/93
Matrix: WATER Analyzed: 11/08/93
QC Batch: I111A Dilution factor: 1.00

Concentration, ug/L

PARAMETER	RESULT	LIMIT
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
Total Xylenes	ND	0.50
Gasoline	ND	50
Unknown Hydrocarbon	70	50

SURROGATE	%RECOVERY	LIMITS
Bromofluorobenzene	91	58-127

Environ
Analytical Results - 8010 Volatiles by GC /H2O

Client ID: B15-4
MPELI ID: 9311016-02A
Matrix: WATER
QC Batch: A030A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, ug/L

PARAMETER	RESULT	LIMIT
Dichlorodifluoromethane	ND	0.50
Chloromethane	ND	0.50
Vinyl Chloride	ND	0.50
Bromomethane	ND	0.50
Chloroethane	ND	0.50
Trichlorofluoromethane	ND	0.50
1,1-Dichloroethene	ND	0.50
Methylene Chloride	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
1,1-Dichloroethane	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
Chloroform	ND	0.50
1,1,1-Trichloroethane	ND	0.50
Carbon Tetrachloride	ND	0.50
1,2-Dichloroethane	ND	0.50
Trichloroethene	ND	0.50
1,2-Dichloropropane	ND	0.50
Bromodichloromethane	ND	0.50
2-Chloroethylvinyl ether	ND	5.0
trans-1,3-Dichloropropene	ND	0.50
1,1,2-Trichloroethane	ND	0.50
Tetrachloroethene	ND	0.50
Dibromochloromethane	ND	0.50
Chlorobenzene	ND	0.50
Bromoform	ND	0.50
1,1,2,2-Tetrachloroethane	ND	0.50
1,3-Dichlorobenzene	ND	0.50
1,4-Dichlorobenzene	ND	0.50
1,2-Dichlorobenzene	ND	0.50
Freon 113	ND	0.50

SURROGATE	%RECOVERY	LIMITS
Bromochloromethane	73	66-126

Environ

Analytical Results - TPH as Diesel by GC /H2O

Client ID: B15-4
MPELI ID: 9311016-02C
Matrix: WATER
QC Batch: 0264A

Collected: 11/04/93
Received: 11/05/93
Extracted: 11/08/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, ug/L

PARAMETER	RESULT	LIMIT
Diesel	ND	50
Kerosene	ND	50
Motor Oil	ND	500
Unknown Hydrocarbon	150	50

Environ

Analytical Results - TPH as Gas,BTEX by GC /H2O

Client ID: B15-4
MPELI ID: 9311016-02B
Matrix: WATER
QC Batch: I111A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/08/93
Dilution factor: 1.00

Concentration, ug/L

PARAMETER	RESULT	LIMIT
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
Total Xylenes	ND	0.50
Gasoline	ND	50

SURROGATE	%RECOVERY	LIMITS
Bromofluorobenzene	84	58-127

Environ

Analytical Results - 8010 Volatiles by GC /H2O

Client ID: B15-5 Collected: 11/04/93
MPELI ID: 9311016-03A Received: 11/05/93
Matrix: WATER Analyzed: 11/09/93
QC Batch: A030A Dilution factor: 1.00

Concentration, ug/L

PARAMETER	RESULT	LIMIT
Dichlorodifluoromethane	ND	0.50
Chloromethane	ND	0.50
Vinyl Chloride	ND	0.50
Bromomethane	ND	0.50
Chloroethane	ND	0.50
Trichlorofluoromethane	ND	0.50
1,1-Dichloroethene	ND	0.50
Methylene Chloride	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
1,1-Dichloroethane	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
Chloroform	ND	0.50
1,1,1-Trichloroethane	ND	0.50
Carbon Tetrachloride	ND	0.50
1,2-Dichloroethane	ND	0.50
Trichloroethene	ND	0.50
1,2-Dichloropropane	ND	0.50
Bromodichloromethane	ND	0.50
2-Chloroethylvinyl ether	ND	5.0
trans-1,3-Dichloropropene	ND	0.50
1,1,2-Trichloroethane	ND	0.50
Tetrachloroethene	ND	0.50
Dibromochloromethane	ND	0.50
Chlorobenzene	ND	0.50
Bromoform	ND	0.50
1,1,2,2-Tetrachloroethane	ND	0.50
1,3-Dichlorobenzene	ND	0.50
1,4-Dichlorobenzene	ND	0.50
1,2-Dichlorobenzene	ND	0.50
Freon 113	ND	0.50

SURROGATE	%RECOVERY	LIMITS
Bromochloromethane	69	66-126

Environ

Analytical Results - TPH as Diesel by GC /H2O

Client ID: B15-5
MPELI ID: 9311016-03C
Matrix: WATER
QC Batch: 0264A

Collected: 11/04/93
Received: 11/05/93
Extracted: 11/08/93
Analyzed: 11/10/93
Dilution factor: 1.00

Concentration, ug/L

PARAMETER	RESULT	LIMIT
Diesel	ND	50
Kerosene	ND	50
Motor Oil	ND	500
Unknown Hydrocarbon	560	50

Environ

Analytical Results - TPH as Gas,BTEX by GC /H2O

Client ID: B15-5
MPELI ID: 9311016-03B
Matrix: WATER
QC Batch: I111A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/08/93
Dilution factor: 1.00

Concentration, ug/L

PARAMETER	RESULT	LIMIT
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
Total Xylenes	ND	0.50
Gasoline	ND	50

SURROGATE	%RECOVERY	LIMITS
Bromofluorobenzene	93	58-127

Environ

Analytical Results - 8010 Volatiles by GC /H2O

Client ID: KAI110493TB
MPELI ID: 9311016-04A
Matrix: WATER
QC Batch: A030A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/09/93
Dilution factor: 1.00

Concentration, ug/L

PARAMETER	RESULT	LIMIT
Dichlorodifluoromethane	ND	0.50
Chloromethane	ND	0.50
Vinyl Chloride	ND	0.50
Bromomethane	ND	0.50
Chloroethane	ND	0.50
Trichlorofluoromethane	ND	0.50
1,1-Dichloroethene	ND	0.50
Methylene Chloride	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
1,1-Dichloroethane	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
Chloroform	0.67	0.50
1,1,1-Trichloroethane	ND	0.50
Carbon Tetrachloride	ND	0.50
1,2-Dichloroethane	ND	0.50
Trichloroethene	ND	0.50
1,2-Dichloropropane	ND	0.50
Bromodichloromethane	ND	0.50
2-Chloroethylvinyl ether	ND	5.0
trans-1,3-Dichloropropene	ND	0.50
1,1,2-Trichloroethane	ND	0.50
Tetrachloroethene	ND	0.50
Dibromochloromethane	ND	0.50
Chlorobenzene	ND	0.50
Bromoform	ND	0.50
1,1,2,2-Tetrachloroethane	ND	0.50
1,3-Dichlorobenzene	ND	0.50
1,4-Dichlorobenzene	ND	0.50
1,2-Dichlorobenzene	ND	0.50
Freon 113	ND	0.50

SURROGATE	%RECOVERY	LIMITS
Bromochloromethane	74	66-126

Environ

Analytical Results - TPH as Gas,BTEX by GC /H2O

Client ID: KAI110493TB
MPELI ID: 9311016-04B
Matrix: WATER
QC Batch: I111A

Collected: 11/04/93
Received: 11/05/93
Analyzed: 11/08/93
Dilution factor: 1.00

Concentration, ug/L

PARAMETER	RESULT	LIMIT
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
Total Xylenes	ND	0.50
Gasoline	ND	50

SURROGATE	%RECOVERY	LIMITS
Bromofluorobenzene	91	58-127

8010 Volatiles in H2O

QC Batch#: A030A
Units: ug/L
Prep Date: N/A

Analysis Dates
Blank: 11/08/93
MS: 11/08/93
MSD: 11/08/93
LCS: 11/08/93

Analytes	Blank Result	Blank Limit	Spike level	%Recovery MS	%Recovery MSD	%Recovery LCS	QC LIMITS	RPD
Dichlorodifluoromethane	ND	0.50						
Chloromethane	ND	0.50						
Vinyl Chloride	ND	0.50						
Bromomethane	ND	0.50						
Chloroethane	ND	0.50						
Trichlorofluoromethane	ND	0.50						
1,1-Dichloroethene	ND	0.50	10	94	99	97	28-167	5.2
Methylene Chloride	ND	0.50						
trans-1,2-Dichloroethene	ND	0.50						
1,1-Dichloroethane	ND	0.50						
cis-1,2-Dichloroethene	ND	0.50						
Chloroform	ND	0.50	10	112	114	122	49-133	1.8
1,1,1-Trichloroethane	ND	0.50						
Carbon Tetrachloride	ND	0.50	10	112	113	105	43-143	0.8
1,2-Dichloroethane	ND	0.50	10	99	118	108	51-177	18
Trichloroethene	ND	0.50	10	112	114	116	35-146	1.8
1,2-Dichloropropane	ND	0.50						
Bromodichloromethane	ND	0.50						
2-Chloroethylvinyl ether	ND	5.0						
trans-1,3-Dichloropropene	ND	0.50						
1,1,2-Trichloroethane	ND	0.50						
Tetrachloroethene	ND	0.50	10	95	98	118	26-162	3.1
Dibromochloromethane	ND	0.50						
Chlorobenzene	ND	0.50	10	95	98	96	38-150	3.1
Bromoform	ND	0.50						
1,1,2,2-Tetrachloroethane	ND	0.50						
1,3-Dichlorobenzene	ND	0.50						
1,4-Dichlorobenzene	ND	0.50	10	87	97	98	42-143	11
1,2-Dichlorobenzene	ND	0.50						
Freon 113	ND	0.50						
Bromochloromethane (surr)	70%		10	77	90	83	66-126	

8010 Volatiles in H2O

Sample Spiked: HP-931029-GW-EFF

QC Batch#: B333A
Units: ug/L
Prep Date: N/A

Analysis Dates
Blank: 11/05/93
MS: 11/05/93
MSD: 11/05/93
LCS: 11/05/93

Analytes	Blank Result	Blank Limit	Spike level	%Recovery MS	%Recovery MSD	%Recovery LCS	QC LIMITS	RPD
Dichlorodifluoromethane	ND	0.50						
Chloromethane	ND	0.50						
Vinyl Chloride	ND	0.50						
Bromomethane	ND	0.50						
Chloroethane	ND	0.50						
Trichlorofluoromethane	ND	0.50						
1,1-Dichloroethene	ND	0.50	10	80	86	98	28-167	7.2
Methylene Chloride	ND	0.50						
trans-1,2-Dichloroethene	ND	0.50						
1,1-Dichloroethane	ND	0.50						
cis-1,2-Dichloroethene	ND	0.50						
Chloroform	ND	0.50	10	91	89	97	49-133	2.2
1,1,1-Trichloroethane	ND	0.50						
Carbon Tetrachloride	ND	0.50	10	86	87	96	43-143	1.2
1,2-Dichloroethane	ND	0.50	10	101	98	102	51-177	3.0
Trichloroethene	ND	0.50	10	93	93	101	35-146	0
1,2-Dichloropropane	ND	0.50						
Bromodichloromethane	ND	0.50						
2-Chloroethylvinyl ether	ND	5.0						
trans-1,3-Dichloropropene	ND	0.50						
1,1,2-Trichloroethane	ND	0.50						
Tetrachloroethene	ND	0.50	10	88	90	102	26-162	2.2
Dibromochloromethane	ND	0.50						
Chlorobenzene	ND	0.50	10	84	81	91	38-150	3.6
Bromoform	ND	0.50						
1,1,2,2-Tetrachloroethane	ND	0.50						
1,3-Dichlorobenzene	ND	0.50						
1,4-Dichlorobenzene	ND	0.50	10	81	79	87	42-143	2.5
1,2-Dichlorobenzene	ND	0.50						
Freon 113	ND	0.50						
Bromochloromethane (surr)	88%		10	91	87	90	66-126	

8010 Volatiles in H2O

QC Batch#: B333B
Units: ug/L
Prep Date: N/A

Analysis Dates
Blank: 11/09/93
LCS: 11/09/93

Analytes	Blank Result	Blank Limit	Spike level	%Recovery LCS	QC LIMITS
Dichlorodifluoromethane	ND	0.50			
Chloromethane	ND	0.50			
Vinyl Chloride	ND	0.50			
Bromomethane	ND	0.50			
Chloroethane	ND	0.50			
Trichlorofluoromethane	ND	0.50			
1,1-Dichloroethene	ND	0.50	10	107	28-167
Methylene Chloride	ND	0.50			
trans-1,2-Dichloroethene	ND	0.50			
1,1-Dichloroethane	ND	0.50			
cis-1,2-Dichloroethene	ND	0.50			
Chloroform	ND	0.50	10	103	49-133
1,1,1-Trichloroethane	ND	0.50			
Carbon Tetrachloride	ND	0.50	10	99	43-143
1,2-Dichloroethane	ND	0.50	10	112	51-177
Trichloroethene	ND	0.50	10	110	35-146
1,2-Dichloropropane	ND	0.50			
Bromodichloromethane	ND	0.50			
2-Chloroethylvinyl ether	ND	5.0			
trans-1,3-Dichloropropene	ND	0.50			
1,1,2-Trichloroethane	ND	0.50			
Tetrachloroethene	ND	0.50	10	118	26-162
Dibromochloromethane	ND	0.50			
Chlorobenzene	ND	0.50	10	116	38-150
Bromoform	ND	0.50			
1,1,2,2-Tetrachloroethane	ND	0.50			
1,3-Dichlorobenzene	ND	0.50			
1,4-Dichlorobenzene	ND	0.50	10	97	42-143
1,2-Dichlorobenzene	ND	0.50			
Freon 113	ND	0.50			
Bromochloromethane (surr)	94%		10	98	66-126

Tot. Pet. Hydrocarbon/H2O

QC Batch#: 0264A
Units: ug/L
Prep Date: 11/08/93

Analysis Dates
Blank: 11/09/93
LCS: 11/09/93
LCSD: 11/09/93

Analytes	Blank Result	Blank Limit	Spike level	%Recovery LCS	%Recovery LCSD	QC LIMITS	RPD
Diesel	ND	50	2000	92	93	52-122	1.1
Kerosene	ND	50					
Motor Oil	ND	500					

Gas BTEX in Water

Sample Spiked: B15-3

QC Batch#: I111A
Units: ug/L
Prep Date: N/A

Analysis Dates
Blank: 11/08/93
MS: 11/08/93
MSD: 11/08/93
LCS: 11/08/93

Analytes	Blank Result	Blank Limit	Spike level	%Recovery MS	%Recovery MSD	%Recovery LCS	QC LIMITS	RPD
Benzene	ND	.5	10	111	109	107	39-150	1.8
Toluene	ND	.5	10	108	106	103	46-148	1.9
Ethylbenzene	ND	.5	10	112	108	109	32-160	3.6
Total Xylenes	ND	.5	20	111	107	108	32-160	3.7
Gasoline	ND	50						
Bromofluorobenzene (surr)	90%			99	91	103	58-127	

ENVIRON

Counsel in Health and Environmental Science

93-11-016

CHAIN-of-CUSTODY FORM

Sheet 1 Of 1
5820 Shellmound St, Suite 700
Emeryville, California 94608
(510) 655-7400

PROJECT NAME: Kaiser – Standard Brands Phase II

CASE NO.: 03-3118E

	ENVIRON SAMPLE ID.	COLLECTION DATE	COLLECTED BY (initials)	MATRIX	TOTAL NO. OF CONTAINERS	ANALYSES: 8010	TPHgas + BTEX	TPH-diesel										COMMENTS
																		Rec'd Cool 11/5/93
1	B15-3	11/4/93	HMP	water	7	3	3	1										Please send resu
2	B15-4	11/4/93	"	"	7	3	3	1										attn David Harnis
3	B15-5	11/4/93	"	"	7	3	3	1										
4	KAI110493TB	11/4/93	"	"	3	1	2											Standard TAT
	TOTAL	X	X	X	29	10	11	3										

Relinquished by:	Date:	Time:	Received by:	Company:	Date:	Time:
Heidi Dufferbrack	11/5/93	0830	[signature]	ETC/MP	11/5/93	0830

ATTACHMENT C

DEMOLITION MAP OF OLIVER TIRE AND RUBBER

CHAS. S. CAMPANELLA, INC.
BUILDING DEMOLITION
5401 SAN LEANDRO STREET, OAKLAND, CALIFORNIA 94601 (415)-536-4800

FOR STANDARD BRANDS

NOT TO SCALE.
APPROXIMATE LOCATIONS OF EA