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

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

StID 3014

March 15, 1999

Ms. Karen Petryna
Equiva Services LLC
P.O. Box 6249
Carson, CA 90749

Re: Fuel Leak Site Case Closure for Kin's Shell Station, 1601 Webster Street, Alameda, CA

Dear Ms. Petryna:

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

SITE INVESTIGATION AND CLEANUP SUMMARY

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

- up to 100ppm TPH as gasoline and 0.026ppm benzene exists in soil beneath the site;
- up to 3,800ppb TPHg and 190ppb benzene exists in groundwater beneath the site; and,
- a site safety plan must be prepared for construction workers in the event of excavation/trenching is proposed in the vicinity of residual soil and groundwater contamination.

If you have any questions, please contact me at (510) 567-6762.

eva chu
Hazardous Materials Specialist

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

c: Vivian Day, City of Alameda, Planning Dept, City Hall, Room 190, Alameda, CA 94501
files (shell1-5)

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REMEDIAL ACTION COMPLETION CERTIFICATION

StID 3014 - 1601 Webster Street, Alameda, CA
(1-550 gallon waste oil tank removed in June 1987)

March 15, 1999

Ms. Karen Petryna
Equiva Services LLC
P.O. Box 6249
Carson, CA 90749

Dear Ms. Petryna:

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

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

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

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

Sincerely,

Mee Ling Tung, Director

cc: Richard Pantages, Chief of Division of Environmental Protection
Chuck Headlee, RWQCB
Dave Deaner, SWRCB
Steve McKinley, City of Alameda Fire Department
files-ec (shell1-4)

RB# 01-1337

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: **August 5, 1998**

Agency name: **Alameda County-HazMat** Address: **1131 Harbor Bay Pkwy**
City/State/Zip: **Alameda, CA 94502** Phone: **(510) 567-6700**
Responsible staff person: **Eva Chu** Title: **Hazardous Materials Spec**

II. CASE INFORMATION

Site facility name: **Kins Shell Station**
Site facility address: **1601 Webster St, Alameda, CA 94501**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **3014**
URF filing date: SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
Shell Oil **Alex Perez**	**P.O. Box 8080** **Martinez, CA 94553**	**(925) 335-5000**

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	550	Waste Oil	Removed	6/1987

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Unknown**
Site characterization complete? **YES**
Date approved by oversight agency: **10/24/96**
Monitoring Wells installed? **Yes** Number: **4**
Proper screened interval? **Yes, from 5' to 20'bgs in MW-2**
Highest GW depth below ground surface: **4.49'** Lowest depth: **9.20' in MW-2**
Flow direction: **NNE to NNW**
Most sensitive current use: **Gasoline Service Station**
Are drinking water wells affected? **No** Aquifer name: **Merritt Sand**
Is surface water affected? **No** Nearest affected SW name: **NA**
Off-site beneficial use impacts (addresses/locations): **None**

Report(s) on file? **YES** Where is report(s) filed? **Alameda County**
1131 Harbor Bay Pkwy
Alameda, CA 94502

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal w/destination)	Date
Tank	1 UST	Unknown	6/1987
Soil	36 cy	Chem Waste Mgmt, in Kettleman City	6/26/87
Groundwater	650 gal	Chem Waste Mgmt, in Kettleman City	7/14/87

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	Before[1]	After[2]	Before[3]	After[4]
TPH (Gas)	11,000	100	33,000	3,800
TPH (Diesel)				
Benzene	6.3	0.026	2,500	190
Toluene	12	0.017	3,700	5.0
Ethylbenzene	96	1.8	2,000	260
Xylenes	700	5.4	9,600	340
MTBE	<25			<2.5
Oil & Grease	133		244,000[5]	5,000
Heavy metals				
Other HVOCs			see Note 6	ND
Other SVOCs			ND	NA

NOTE:
1. soil sample from vadose zone, from soil borings, 4/90
2. soil sample collected at 5' bgs during dispenser replacement, 8/87
3. highest detected concentrations from monitoring wells
4. most recent sampling event, 4/98
5. grab water sample from waste oil tank pit
6. 7.9ppb cis 1,2-DCE; 1.1ppb 1,2 DCA; 11ppm TCA

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? **Undetermined**
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? **Undetermined**
Does corrective action protect public health for current land use? **YES**
Site management requirements: **None**
Should corrective action be reviewed if land use changes? **YES**
Monitoring wells Decommissioned: **None, pending site closure**
Number Decommissioned: **0** Number Retained: **4**
List enforcement actions taken: **None**
List enforcement actions rescinded: **NA**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Eva Chu** Title: **Haz Mat Specialist**

Signature: Eva Chu Date: 10/7/98

Reviewed by

Name: Madhulla Logan Title: **Haz Mat Specialist**

Signature: Madhulla Logan Date: 8/20/98

Name: **Thomas Peacock** Title: **Supervisor**

Signature: Thomas Peacock Date: 9-29-98

VI. RWQCB NOTIFICATION

Date Submitted to RB: 10/9/98 RB Response: Chuck Headlee

RWQCB Staff Name: **Chuck Headlee** Title: **EG**

Signature: Date: 10/16/98

VII. ADDITIONAL COMMENTS, DATA, ETC.

The site is currently an active gasoline service station. A 550 gallon steel waste oil UST was removed in June 1987 and replaced with a fiberglass UST. The tank was in "poor" condition with more than 77 holes of various sizes. Groundwater was encountered at ~9.5'bgs. A soil sample collected at 9.5'bgs contained 14ppm TPH, 133ppm TPG, and 0.029ppm 1,1,1-TCA but no BTEX. The grab water sample collected from the excavation at 12.5'bgs contained 132ppm TPH, 244ppm TOG, 11ppm TCA, and low levels of BTEX. (See Figs 1 and 2, and Table 1)

In September 1987, a groundwater monitoring well, S-1, was installed adjacent to the NE side of the waste oil pit. Two additional wells, MW-1 and MW-2, were installed in April 1990 to verify groundwater flow direction beneath the site. After five sampling events only well MW-2 revealed elevated levels of petroleum hydrocarbons (as well as 200ppb methylene chloride and 1.1ppb 1,2DCA). Well MW-1 also contained up to 7.9ppb cis 1,2 dichloroethene. (See Fig 3, Tables 2 and 3)

In October 1992 and February 1993 seven soil borings (BH-C through BH-I) and well MW-3 were drilled to access groundwater quality adjacent to well MW-2 and downgradient of the fuel USTs. No petroleum hydrocarbons were detected in soil downgradient of the fuel USTs. However, hydrocarbons were detected in soil samples from borings BH-D through BH-F at a maximum of 170ppm TPHg. Hydrocarbons were detected in all grab groundwater samples with the highest concentrations detected near the former pump islands and product lines. (See Fig 3, Tables 2 and 3)

In March 1995 a groundwater oxygenation system (bubbles generated with an air compressor) was installed in well MW-2. Hydrocarbon levels decreased so the system was turned off in March 1996. Groundwater has been sampled on a quarterly basis from April 1990 to April 1998. Only well MW-2 has consistently contained gasoline constituents. However, the current levels of hydrocarbons in groundwater do not appear to pose a risk to human health, based on RBCA Tier 1 Look-Up Tables for benzene. (See Table 4)

In August 1997 three gasoline dispensers and a short portion of the product piping were replaced. Soil samples (D-1 and D-2) were collected beneath the dispensers and beneath the exposed piping (P-1 through P-4). The highest hydrocarbon concentrations in soil were found in sample D-2 at a depth of 5'bgs. Up to 11,000ppm TPHg, and 6.3, 7.8, 96, and 440ppm BTEX, respectively, were detected. MTBE was not detected above the detection limit of 25ppm. No soil overexcavation was conducted at the vicinity of the dispensers due to the close proximity of the USTs. (See Fig 4, Table 5)

Although elevated hydrocarbon contamination remain in soil at ~5'bgs in the vicinity of the existing pump islands, the potential for vapors to migrate from soil to ambient air to affect human health of onsite workers is not significant for the current use scenario, that of an active gasoline service station. No further action is warranted at this time. Hydrocarbon-impacted soil will be remediated when closure is proposed for the tanks/service station.

In summary, case closure is recommended because:

- the leak and ongoing sources have been removed;
- the site has been adequately characterized;
- the dissolved plume is not migrating;
- no water wells, surface water, or other sensitive receptors are likely to be impacted; and,
- the site presents no significant risk to human health or the environment.

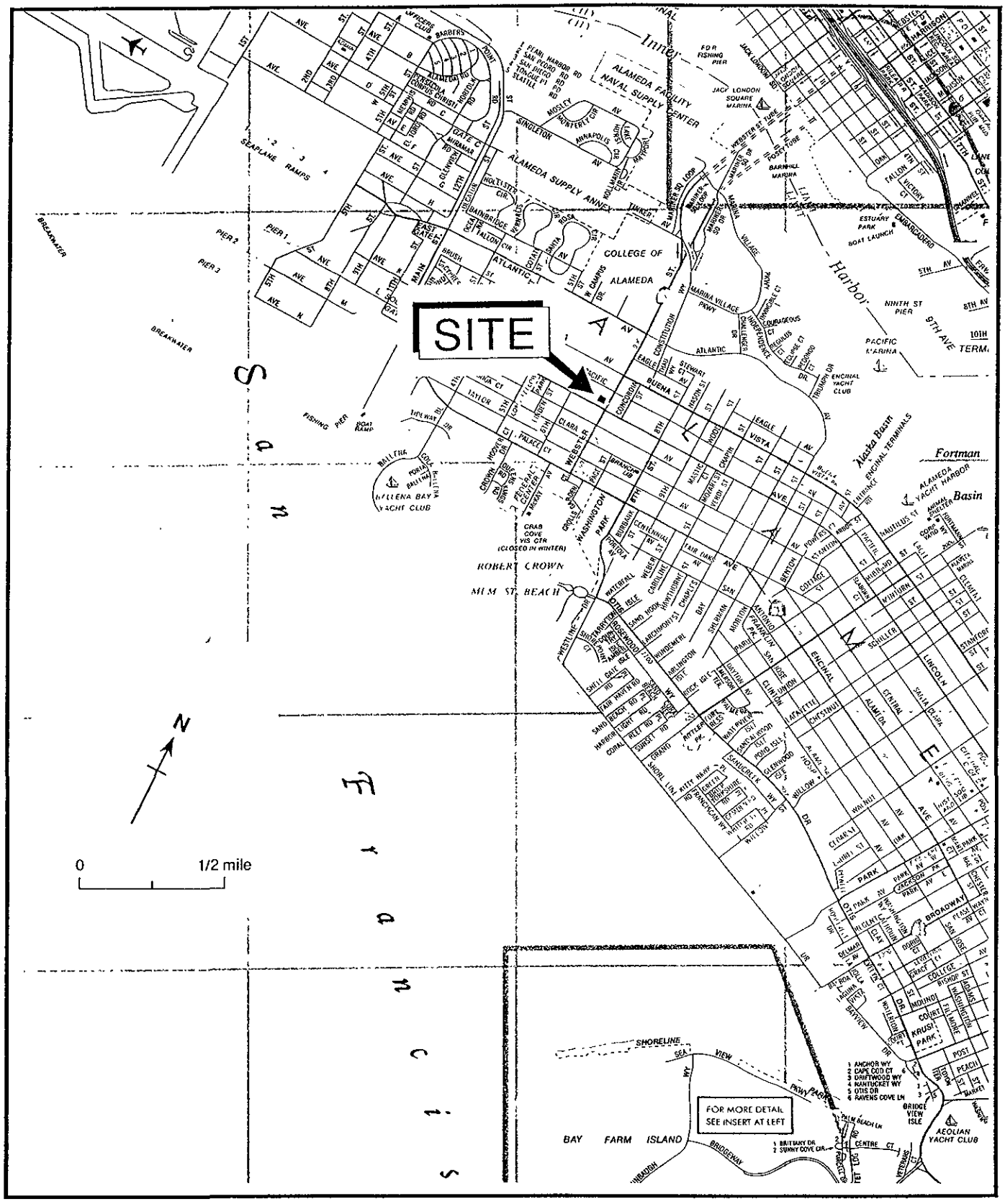


Figure 1. Site Location Map - Shell Service Station, WIC# 204-0072-0403, 1601 Webster Street, Alameda, CA

8/20/90

ORIGINAL SAMPLING REPORT 87177-B-1 page 2 diagram

BLAINE
TECH SERVICES INC SAMPLING REPORT 87177B1 6-26-87 SHELL STATION, 1601 WEBSTER STREET, ALAMEDA, CA.

MAP REF: THOMAS BROS. ALAMEDA COUNTY P. 11 A-3

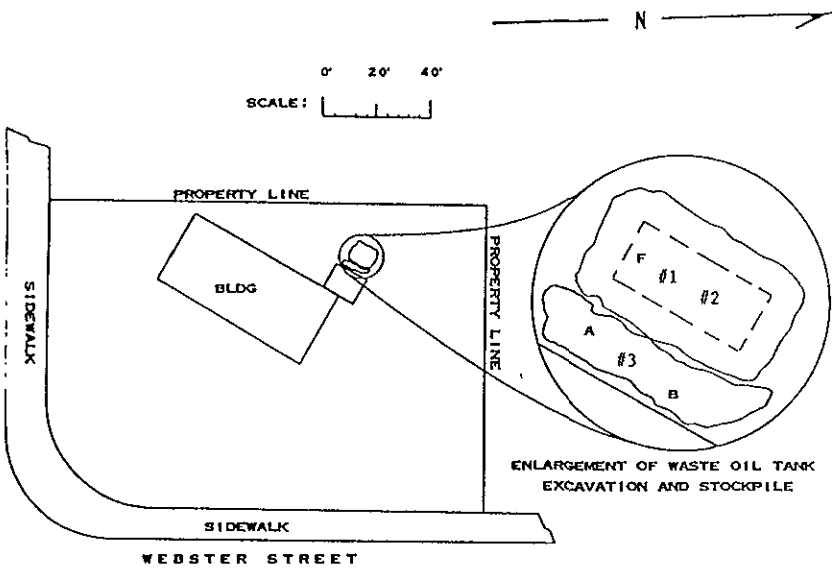
LEGEND: F = FILL END

#1 SOIL FROM 9.5'
ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS (TPH) - HIGH BOILING FRACTION, TOTAL OIL AND GREASE (TOG), AND EPA 8010 AT SOIL AND WATER LABORATORY
S & W LAB NO. 178B7-3
ANALYSIS FOR EPA 8020 AT SEQUOIA ANALYTICAL LABORATORY
SEQUOIA LAB NO. 7061989

#2 SUBSURFACE WATER SAMPLE
ANALYSIS FOR TPH, TOG, AND EPA 601
S & W LAB NO. 178B7-4
ANALYSIS FOR EPA 602
SEQUOIA LAB NO. 7061990

#3 STOCKPILE SOIL COMPOSITE AT SAMPLE POINTS A-B
ANALYSIS FOR TOTAL LEAD (TTLC), SOLUBLE LEAD (STLC), ORGANIC LEAD, AND FLASHPOINT
SEQUOIA LAB NO.7061991

SAMPLING PERFORMED BY RICHARD C. BLAINE
DIAGRAM PREPARED BY BRENT E. ADAMS



PAGE 2

Fig 2

TABLE 1. Analytic Results for Soil and Ground Water, Shell Service Station WIC #204-007-204, 1601 Webster Street, Alameda, California

Sample ID	Date Sampled	Sampled By	Analytic Lab	Analytic Method	TPH	BETX	TOG	PCBs	VOCs	SVOCc	Metals
					<----------parts per million---------->						
Soil #1	6-26-87	BT	S&W	3550/5020/8010	14	NA	133	NA	*3	NA	NA
Soil #1	6-26-87	BT	SEQ	8020	NA	<0.05	NA	NA	NA	NA	NA
Water #2	6-26-87	BT	S&W	8015/601/503E	132	NA	244	NA	*4	NA	NA
Water #2	6-26-87	BT	SEQ	602	1.6	*5	NA	NA	NA	NA	NA
S-1 Water[2]	9-7-87	PEG	IT	624	NA	<0.005	NA	NA	*6	NA	NA
S-1 Water[2]	9-11-89	WA	IT	8015/8020/503E GC/624/625/6010	<0.05	ND[3]	<1	<0.5	ND[1]	ND[2]	*7
S-1, 4'	9-4-87	PEG	IT	8015/503E	50	NA	130	NA	NA	NA	NA
S-1, 9.5'	9-4-87	PEG	IT	8015/503E/8240	<10	<0.005	30	NA	ND[1]	NA	NA
S-1, 14.5'	9-4-87	PEG	IT	8015/503E	<10	NA	13	NA	NA	NA	NA

Abbreviations:

TPH = Total Petroleum Hydrocarbons
B = Benzene
E = Ethylbenzene
T = Toluene
X = Xylenes
VOCs = Volatile Organic Compounds
NA = Not Assayed
ND[1] = Not detected at detection limits between 0.005 and 0.020 ppm
ND[2] = Not detected at detection limits between 0.010 and 0.050 ppm
ND[3] = Not detected at detection limits between 0.0005 and 0.0003 ppm
BT = Blaine Tech Services, San Jose, CA
PEG = Pacific Environmental Group, Santa Clara, CA
S&W = Soil and Water Laboratory, Boulder Creek, CA
SEQ = Sequoia Analytical Labs, Redwood City, CA
IT = International Technology Corp., Santa Clara, CA
WA = Weiss Associates

Analytic Method:

3550 = Sonification Extraction
5020 = Headspace Extraction
8010 = Gas Chromatography with "Hall" Detector
8020 = Gas Chromatography with Photoionization Detector
8015 = Gas Chromatography with Flame Ionization
503E = Gravimetric Quantitation of Non-volatile Hydrocarbons
602 = Gas Chromatography/Mass Spectroscopy
8240 = Gas Chromatography/Mass Spectroscopy
625 = Gas Chromatography/Mass Spectroscopy
624 = Gas Chromatography/Mass Spectroscopy
6010 = Inductively Coupled Plasma Spectroscopy (ICP)

Footnotes:

1 = Water sample from tank excavation
2 = Water sample from monitoring well S-1
*3 = 29.4 ppb 1,1,1-trichloroethane
*4 = 10.55 ppb 1,1,1-trichloroethane and 58.73 ppb methylene chloride
*5 = 0.00037 ppm benzene, 0.045 ppm toluene, 0.2 ppm xylenes
*6 = 0.12 ppm acetone
*7 = 0.02 ppm chromium and 0.03 ppm zinc

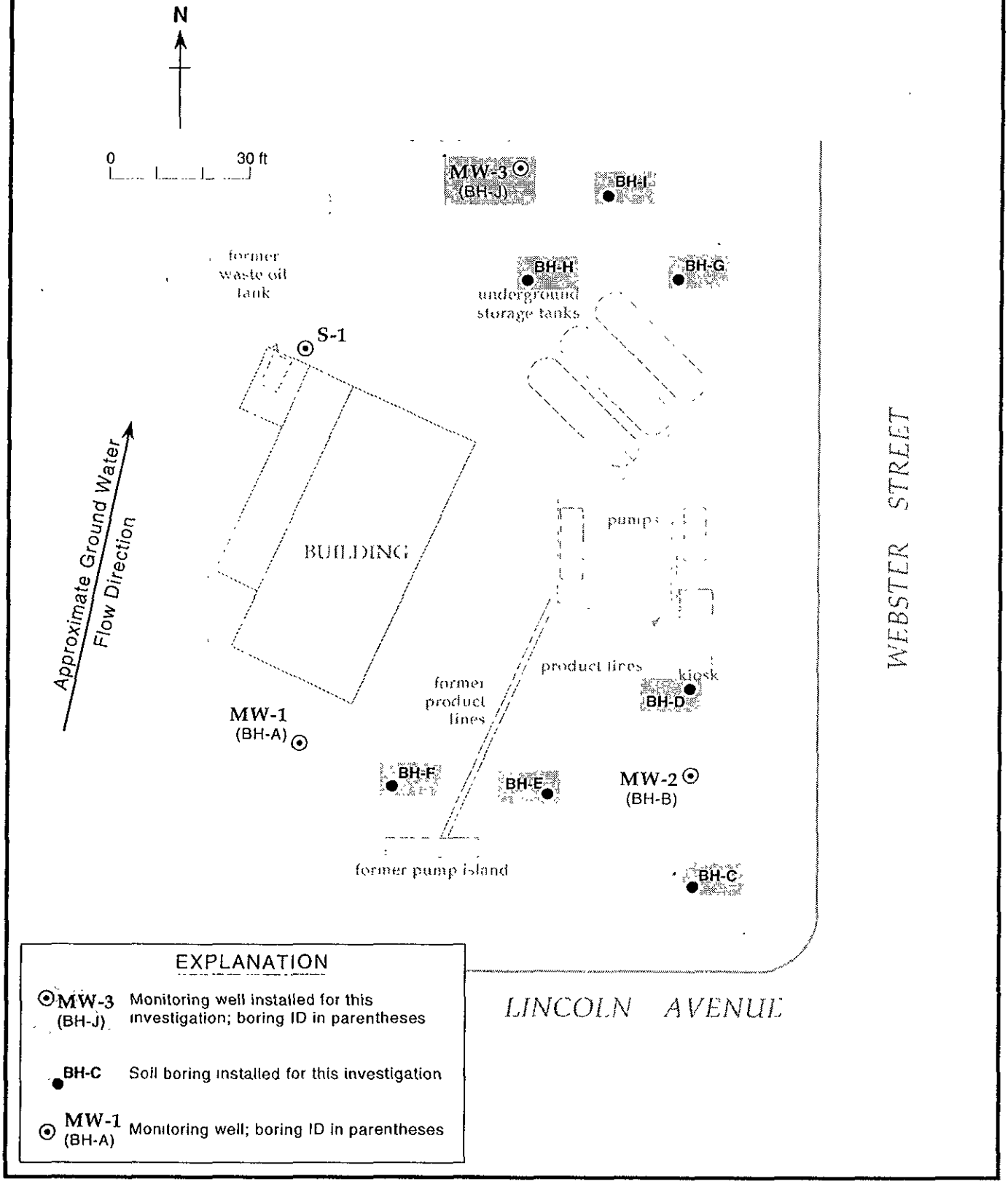


Figure 3. Monitoring Well and Soil Boring Locations - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Table 4. Analytic Results for Soil - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Soil Boring (Well ID)	Sample Depth (ft)	Date Sampled	Approximate Ground Water Depth (ft)	TPH-G	TPH-D	B	E	T	X	HVOCs	TOG
				<----------parts per million (mg/kg)---------->							
BH-A	4.8	4-3-90	8.5	<1	---	<0.0025	<0.0025	0.0032	0.0030	---	---
(MW-1)	7.8	4-3-90		<1	<1[a]	<0.0025	<0.0025	0.0029	<0.0025	ND	<50
	10.8	4-3-90		<1	---	0.0026	<0.0025	0.010	0.0037	---	---
BH-B	5.2	4-3-90	7.5	<1	---	<0.0025	<0.0025	0.0048	0.013	---	---
(MW-2)	6.8	4-3-90		1.3	<1[a]	0.0034	0.010	0.017	0.079	ND	<50
	10.2	4-3-90		20	---	0.530	0.750	3.800	4.000	---	---
	15.2	4-3-90		32	---	0.15	0.67	1.8	2.6	---	---
	20.2	4-3-90		<1	---	0.0049	0.0047	0.023	0.029	---	---
BH-C	5.5	10-12-92	9.5	<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
	11.0	10-12-92		<0.5	---	<0.005	<0.005	<0.005	<0.005	0.0017[b]	<30
BH-D	5.5	10-12-92	9.5	100	---	<0.005	1.8	<0.005	5.4	ND	<30
	10.5	10-12-92		<0.5	---	<0.005	0.007	<0.005	0.032	ND	<30
BH-E	5.5	10-22-92	10.0	14	---	0.026	0.20	0.40	1.2	0.072[b]	<30
	10.5	10-22-92		170	---	<0.005	3.6	3.0	22	ND	110
	13.5	10-22-92		0.87	---	0.11	0.019	0.097	0.089	ND	<30
BH-F	5.5	10-22-92	10.5	<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
	10.5	10-22-92		26	---	0.065	0.65	0.27	3.6	0.070[b]	47
BH-G	5.5	10-22-92	10.5	<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
	10.0	10-22-92		<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
BH-H	5.5	10-22-92	10.5	<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
	10.0	10-22-92		<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
BH-I	5.5	10-22-92	10.5	<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
	10.5	10-22-92		<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
MW-3	5.5	02-19-93	5.5	<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30
(BH-J)	10.5	02-19-93		<0.5	---	<0.005	<0.005	<0.005	<0.005	ND	<30

-- Table 1 continues on next page --

Table 2. Analytic Results for Ground Water Grab Samples - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Sample ID	Date Sampled	Approximate Ground Water Depth (ft)	TPH-G	TPH-D	B	E	T	X	VOCs	TOG
			<----------parts per million (mg/kg)---------->							
BH-C	10-12-92	9.5	0.074	---	0.0005	<0.0005	<0.0005	<0.0005	ND	---
BH-D	10-12-92	9.5	24	---	4.2	4.4	<0.0005	2.8	ND	---
BH-E	10-22-92	10.0	26	---	6.9	2.2	13	12	ND	<7
BH-F	10-22-92	10.5	3.1	---	0.17	0.31	0.11	0.55	ND	<14
BH-G	10-22-92	10.5	0.15	---	0.0039	0.0038	0.0098	0.013	ND	<6
BH-H	10-22-92	10.5	26	---	1.6	1.9	0.28	2.8	ND	<6
BH-I	10-22-92	10.5	0.053	---	0.0014	0.0031	0.0013	0.053	ND	<8
DTSC MCLs			NE	NE	0.001	0.680	0.10[a]	1.750	0.05[b]	NE

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel by modified EPA Method 8015
B = Benzene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
T = Toluene by EPA Method 8020
X = Xylenes by EPA Method 8020
VOCs = Volatile organic compounds including halogenated volatile organic compounds by EPA Method 624
TOG = Total oil and grease by APHA Standard Method 503D&E
<n = Not detected at laboratory reporting limit of n ppm
DTSC MCL = California Department of Health Services Maximum Contaminant Level
NE = DHS action levels not established
ND = No VOCs detected
--- = Not analyzed of not applicable

Notes:

a = DTSC recommended action level for drinking water
b = MCL for 1,2-dichloroethane

Table 4 **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
MW-1 (2nd Qtr)	04/11/90	8.22	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10,000	---	---
	07/18/90	9.14	<50	---	<0.5	<0.5	<0.5	<0.5	3	<0.5	<5,000	---	---
	10/18/90	10.37	<50	---	<0.5	<0.5	<0.5	<0.5	7.9	<0.5	<5,000	---	---
	01/25/91	10.41	<50	---	<0.5	<0.5	<0.5	<0.5	5.6	<0.5	---	---	---
	04/11/91	7.37	<50	---	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	---	---	---
	07/18/91	8.86	<50	---	<0.5	<0.5	<0.5	<0.5	4.4	<0.5	---	---	---
	10/17/91	10.47	<50	---	<0.5	<0.5	<0.5	<0.5	7.2	<0.5	---	---	---
	01/24/92	9.18	<50	---	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	---	---	---
	04/23/92	6.95	<50		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/02/92	8.01	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	10/02/92	9.81	<50	---	<0.5	<0.5	<0.5	<0.5	2	<0.5	---	---	---
	01/05/93	7.26	<50	---	<0.5	<0.5	<0.5	<0.5	2	<0.5	---	---	---
	04/08/93[a]	5.85	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/20/93[b]	6.83	<50	---	<0.5	<0.5	<0.5	<0.5	0.76	<0.5	---	---	---
	10/15/93	8.07	<50	---	<0.5	<0.5	<0.5	<0.5	0.71	<0.5	---	---	---
	01/07/94	7.82	<50	---	<0.5	<0.5	<0.5	<0.5	3.1	0.85	---	---	5.5
	04/13/94	6.91	<50	---	<0.5	<0.5	<0.5	<0.5	3.6	0.95	---	---	---
	07/26/94	7.51	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	2.8
	10/06/94[c]	8.71	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	4.0
	04/20/95	5.50	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	---
	04/10/96	5.78	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	<2.5	---
	07/12/96	6.65	---	---	---	---	---	---	---	---	---	---	---
	10/17/96	7.48	---	---	---	---	---	---	---	---	---	---	---
	04/08/97	6.16	<1,000	---	<10	<10	<10	<10	<1.2	<1.2	---	3,000	2.6
	04/17/98	**5.10**	**<50**	**---**	**<0.50**	**<0.50**	**<0.50**	**1.3**	**<0.50**	**<0.50**	**---**	**<2.5(<2.0)**	**7.8**
MW-2 (2nd & 4th Qtr)	04/11/90	7.69	580	430	20	4.9	1.2	73	<0.5	1.1	<10,000	---	---
	07/18/90	8.56	1,400	---	110	310	71	310	<0.5	0.7	<5,000	---	---
	10/18/90	9.76	1,900	1,300[d]	110	470	89	400	<0.5	0.9	<5,000	---	---
	01/25/91	9.78	8,100	---	430	1,200	480	2,600	<0.5	0.8	---	---	---
	04/11/91	6.87	2,600	---	130	150	250	330	<0.5	<0.5	---	---	---
	07/15/91	8.27	1,300	---	100	59	84	120	<0.5	0.8	---	---	---
	10/17/91	9.89	2,100	---	180	260	150	520	<0.5	0.6	---	---	---
	01/24/92	8.60	7,100	---	450	450	960	1,600	110	<0.5	---	---	---
	04/23/92	6.48	16,000	---	320	740	650	2,600	<2.5	<2.5	---	---	---
	07/02/92	7.37	33,000	---	2,500	3,700	2,000	9,600	<50	<50	---	---	---

cont.

Table 4 **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
	10/02/92	9.20	7,000	---	960	650	570	1,200	<50	<50	---	---	---
	01/05/93	6.80	8,900	---	550	500	600	1,900	<2	<2	---	---	---
	04/08/93	5.40	13,000	---	670	580	900	2,900	0.68	<0.5	---	---	---
	04/08/93[dup]	5.40	13,000	---	830	740	1,100	3,700	0.64	<0.5	---	---	---
	07/20/93	6.05	10,000	---	1,200	630	1,100	4,000	0.87	<0.5	---	---	---
	07/20/93[dup]	6.05	12,000	---	1,200	600	1,100	3,800	0.80	<0.5	---	---	---
	10/15/93	7.04	24,000	---	1,400	3,400	1,200	5,200	<0.5	<0.5	---	---	---
	10/15/93[dup]	7.04	19,000	---	1,200	2,800	1,000	4,400	<0.5	<0.5	---	---	---
	01/07/94	6.99	27,000	---	1,300	2,700	1,900	7,900	<10	<10	---	---	3.6
	01/07/94[dup]	6.99	33,000	---	1,100	2,300	1,700	6,900	<10	<10	---	---	3.6
	04/13/94	6.20	16,000	---	460	93	820	2,700	<25	<25	---	---	---
	04/13/94[dup]	6.20	18,000	---	500	100	880	3,000	<25	<25	---	---	---
	07/26/94	6.63	25,000	---	1,600	1,500	1,500	6,800	<0.4	<0.4	---	---	3.2
	07/26/94[dup]	6.63	28,000	---	1,700	1,600	1,600	7,300	<0.4	<0.4	---	---	3.2
	10/06/94	7.75	15,000	---	850	650	1,000	4,000	<0.4	<0.4	---	---	2.4
	10/06/94[dup]	7.75	17,000	---	1000	630	1,200	4,500	<0.4	<0.4	---	---	2.4
	01/26/95	4.49	3,200	---	63	14	300	1,000	<0.4	<0.4	---	---	1.6
	01/26/95[dup]	4.49	3,100	---	31	13	140	820	<0.4	<0.4	---	---	1.6
	04/20/95	5.28	<50	---	4.4	<0.5	1.3	3.3	<0.4	<0.4	---	---	---
	04/20/95[dup]	5.28	<50	---	0.5	<0.5	0.6	3.3	<0.4	<0.4	---	---	---
	07/12/95	5.84	<50	---	1.1	1.1	<0.5	<0.5	---	---	---	---	10.4
	07/12/95[dup]	5.84	<50	---	0.9	0.8	<0.5	<0.5	---	---	---	---	10.4
	10/12/95	6.68	370	---	20	3.0	8.2	92	<0.5	<0.4	---	---	6.4
	01/11/96	6.29	90	---	3.8	<0.5	3.5	3.0	0.6	<0.4	---	---	5.8
	04/10/96	5.48	61	---	9.9	<0.5	3.6	1.8	---	---	---	<2.5	---
	04/10/96[dup]	5.48	54	---	10	<0.5	4.0	1.7	---	---	---	<2.5	---
	07/12/96	6.02	510	---	25	1.9	39	61	<1.0	<1.0	---	3.3	2.3
	07/12/96[dup]	6.02	510	---	24	2.0	38	59	<1.0	<1.0	---	5.5	2.3
	10/17/96	6.95	4,100	---	130	13	280	590	0.52	<0.5	---	26	2.2
	10/17/96[dup]	6.95	3,500	---	120	12	230	510	0.58	<0.5	---	(<20)	2.2
	04/08/97	5.83	1,500	---	77	19	120	32	0.59	<0.50	---	5.7	2.6
	10/16/97	7.98	4,000	---	160	<5.0	250	140	<2.5	<2.5	---	44	2.4
	10/16/97[dup]	7.98	4,000	---	170	<5.0	270	98	<1.0	<1.0	---	<2.5	2.4

Cont.

Table 4 **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
	04/17/98	**4.71**	**3,800**	**---**	**190**	**5.0[j]**	**260**	**340**	**<0.50**	**<0.50**	**---**	**<25(8.3)**	**1.8**
	04/17/98[dup]	**4.71**	**310**	**---**	**16**	**<0.50**	**<0.50**	**7.4**	**---**	**---**	**---**	**<2.5**	**1.8**
MW-3 (2nd & 4th Qtr)	02/25/93	5.37	58	140	<0.5	<0.5	2.5	6.4	<0.5	1.5	<5,000	---	---
	04/08/93	5.48	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/20/93[e]	6.38	<50	---	1.2	<0.5	<0.5	<0.5	<0.5	2.8	---	---	---
	10/15/93[f]	7.53	60	---	<0.5	<0.5	<0.5	<0.5	<0.5	0.55	---	---	---
	01/07/94	7.38	74	---	<0.5	<0.5	<0.5	0.76	<0.5	0.91	---	---	4.6
	04/13/94	6.50	<50	---	<0.5	<0.5	<0.5	<0.5	<1.3	<1.3	---	---	---
	07/26/94	7.00	750[g]	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	1.7
	10/06/94	8.10	1,900[g]	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	3.0
	01/26/95	5.00	580[g]	---	<0.5	<0.5	<0.5	1.3	<0.4	<0.4	---	---	1.3
	04/20/95	5.24	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	---
	07/12/95	6.10	50	---	4.2	2.9	<0.5	0.9	---	---	---	---	7.2
	10/12/95	6.98	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	7.1
	10/12/95[dup]	6.98	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	7.1
	01/11/96	6.48	50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	6.4
	01/11/96[dup]	6.48	50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	---	---	---
	04/10/96	5.57	200	---	<2.0	<2.0	<2.0	<2.0	---	---	---	670	---
	07/12/96	6.23	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	230	3.5
	10/17/96	7.18	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<2.5	3.0
	04/08/97	5.75	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	240	3.0
	10/16/97	7.76	<50	---	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	---	100	2.2
	04/17/98	**4.47**	**<50**	**---**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**---**	**<2.5**	**6.4**
S-1 (2nd Qtr)	09/04/87[h]		---	---	<5	<5	<5	<5	<0.5	<0.5	---	---	---
	09/11/89[i]	9.82	<50	<100	<0.5	<1	<1	<3	<0.5	<0.5	<1,000	---	---
	04/11/90	8.41	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10,000	---	---
	07/18/90	9.31	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5,000	---	---
	10/18/90	10.43	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5,000	---	---
	01/25/91	10.49	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/11/91	7.68	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/18/91	8.95	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/17/91	10.62	<50	---	<0.5	<0.5	<0.5	<5	---	---	---	---	---

Cont. Table 4 **Analytical Results for Ground Water** - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	T	E	X	c-1,2-DCE	1,2-DCA	TOG	MTBE	DO (mg/L)
			← (Concentrations in µg/L) →										
	01/24/92	9.32	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/23/92	7.27	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/02/92	8.19	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/02/92	9.95	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/05/93	7.64	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/08/93	6.10	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/20/93	7.18	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/15/93	8.39	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/07/94	8.19	<50	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---
	04/13/94	7.22	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	6.8
	07/26/94	7.82	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/06/94	9.01	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	2.6
	04/20/95	6.82	<50	---	<0.5	<0.5	<0.5	<0.5	<0.4	<0.4	---	---	6.0
	04/10/96	5.80	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/12/96	6.60	---	---	---	---	---	---	---	---	---	<2.5	---
	10/17/96	7.63	---	---	---	---	---	---	---	---	---	---	---
	04/08/97	6.00	<50	---	0.73	<0.50	<0.50	1.7	---	---	---	---	---
	04/08/97[dup]	6.00	<50	---	1.0	0.64	0.65	2.4	---	---	---	3.8	2.8
	04/17/98	4.62	86	---	3.2	3.8[j]	2.0	13	---	---	---	<2.5	2.8
Trip Blank	07/18/90		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	7.1
	10/18/90		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/25/91		<50	---	<0.5	<0.5	<0.5	0.8	---	---	---	---	---
	04/11/91		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/18/91		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/17/91		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/24/92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/23/92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/02/92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/02/92		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/05/93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	04/08/93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	07/20/93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	10/15/93		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	01/07/94		<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---

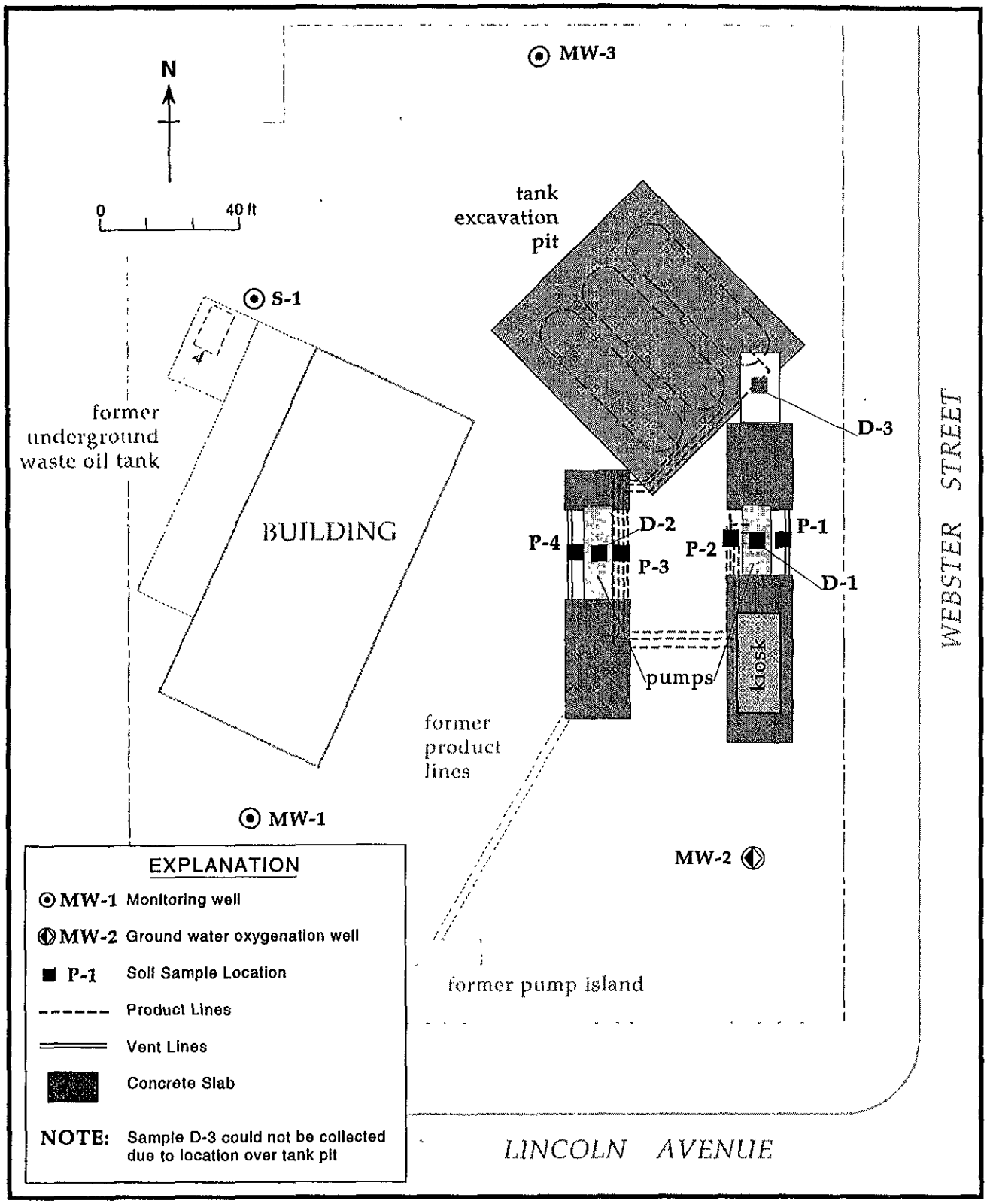


Figure 4: Dispenser Sample Locations - August 27, 1997 - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Table 5 Dispenser and Pipe Trench Sample Analytic Data - Shell Service Station - WIC# 204-0072-0403, 1601 Webster Street, Alameda, California

Sample ID, Depth	TPPH	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
			(Concentrations reported in milligrams per kilogram)			
August 27, 1997 Samples:						
D-1, 5'	10,000	<25	<5.0	12	81	700
D-2, 5'	11,000	<25	6.3	7.8	96	440
D-2, 10' below dup	760	<6.2	2.4	4.1	10	66
P-1, 5'	140	<1.2	<0.25	0.91	0.82	5.9
P-2, 5'	3,600	<6.2	1.9	1.9	36	220
P-3, 5'	1,700	<6.2	<1.2	<1.2	4.0	23
P-4, 5'	230	<1.2	<0.25	<0.25	1.2	3.4

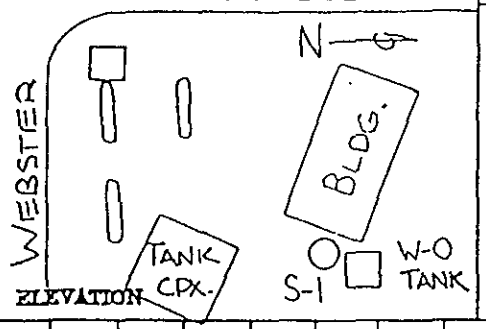
Abbreviations and Notes:

TPPH = Total purgable petroleum hydrocarbons as gasoline by modified EPA method 8015.

MTBE = Methyl tert-butyl ether by EPA Method 8020.

Benzene, ethylbenzene, toluene, xylenes by EPA method 8020.

LOCATION MAP

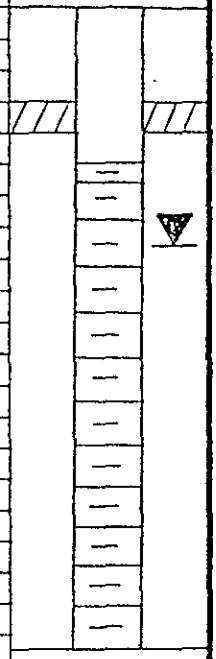


PACIFIC ENVIRONMENTAL GROUP, INC. | PAGE 1 OF 1

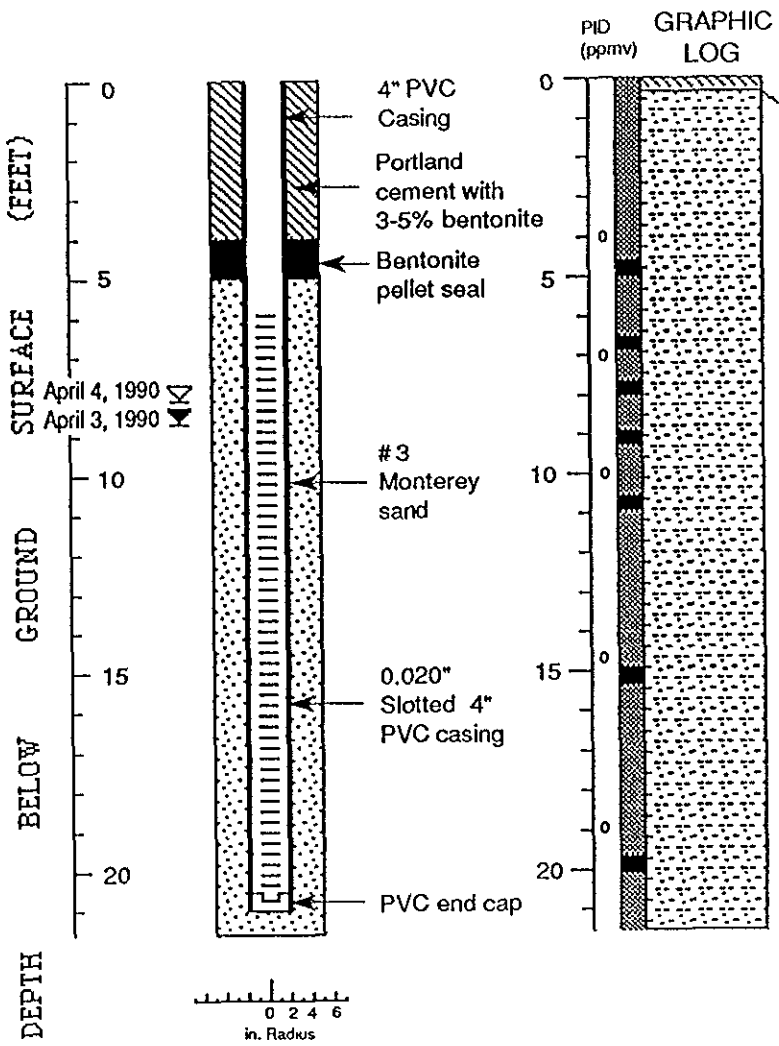
WELL/BORING NO. S-1 | PROJECT NO. 100-84.01
LOGGED BY: E.L. | CLIENT: G.R. SHELL
DRILLED BY: BAYLAND | DATE DRILLED: 9-4-87
DRILLING METHOD: HSA | LOCATION: WEBSTER & LINCOLN
SAMPLING METHOD: CAL MOD | HOLE DIAMETER: 8"
CASING TYPE: SCH 40 PVC | HOLE DEPTH: 20½'
WELL DEPTH: 20'
BLANK INTERVAL: 0-5' | GRAVEL PACK: 12x20 | SEAL: BENT-CONC.
SCREEN INTERVAL: 5-20' | SCREEN DIAMETER: 3" | SLOT SIZE: 0.020"

MOISTURE CONTENT	DENSITY	PENETRATION RESISTANCE (BLOWS/FT)	DEPTH	SAMPLE RECOVERY	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
							ASPHALT & GRAVEL-FILL
			2			CL	CLAY-FILL; MODERATE PLASTICITY; 20-30% FINE SAND TO FINE GRAVEL; NPO.
						SM	
MSt		P 350	4				SILTY SAND; DARK BROWN; 15-20% SILTY FINES; FINE GRAINED; NPO.
			6				@ 3½': AS ABOVE; NPO.
			8				
						CL	@ 8½': DRILLER FELT CONTACT WITH CLAY.
MSt	VD	13/25/45	10			SC-SP	CLAY; YELLOWISH BROWN; LOW PLASTICITY; 20-30% FINE TO MEDIUM SAND; NPO.
			12				CLAYEY SAND TO SAND; REDDISH BROWN; 10-15% L.P. FINES; FINE TO MEDIUM GRAINED; FeO STAINING; NPO.
		8/13/19	14				@ 14': AS ABOVE; MOTTLED GREY; NPO.
Wt	D		16				
			18			SP	SAND; REDDISH BROWN; 5-10% L.P. FINES; FINE TO MEDIUM GRAINED; NPO.
SAT	VD	12/22/33	20				
			22				BOTTOM OF BORING AT 20½ FEET.
			24				
			26				
			28				
			30				
			32				
			34				
			36				
			38				
			40				

WELL COMPLETION



WELL MW-1 (BH-A)



EXPLANATION

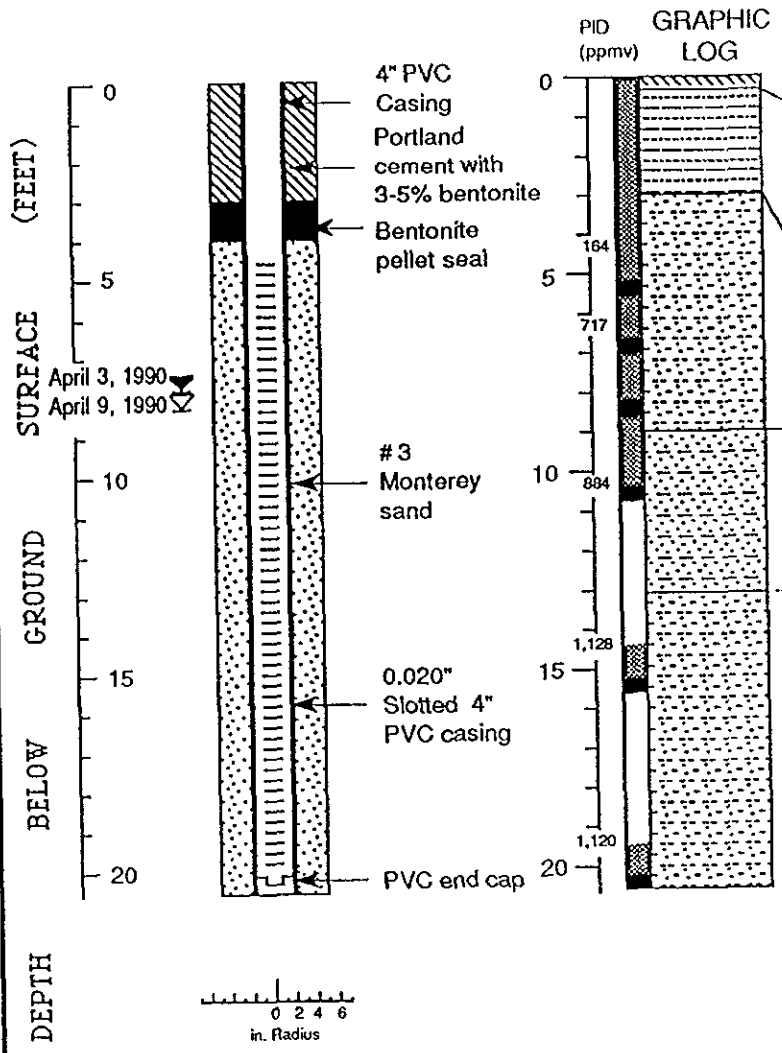
- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Uncertain contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged by:	Robert Kitay
Supervisor:	Richard Weiss; EG 1112
Drilling Company:	Soils Exploration Services, Vacaville, CA
Driller:	Russ Ellis
Drilling Method:	Hollow stem auger
Date Drilled:	April 3, 1990
Well Head Completion:	4" Locking well plug, traffic-rated
Type of sampler:	Split-barrel (2")
Ground Surface Elevation:	14.15 ft above msl

Well Construction and Boring Log - Well MW-1 (BH-A)

Shell Service Station
1601 Webster Street
Alameda, California

WELL MW-2 (BH-B)



EXPLANATION

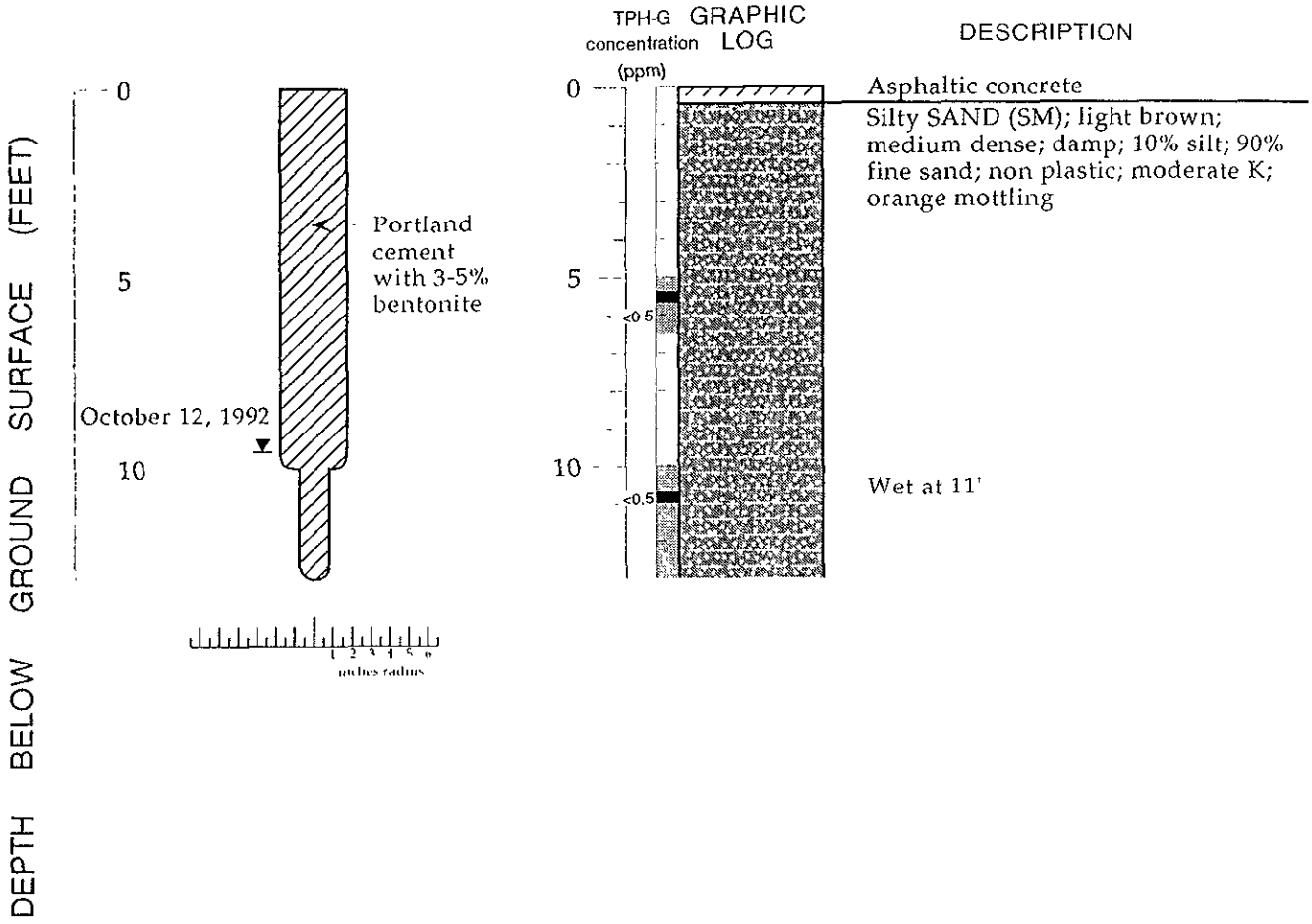
- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Uncertain contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged by: Robert Kitay
Supervisor: Richard Weiss; EG 1112
Drilling Company: Soils Exploration Services, Vacaville, CA
Driller: Russ Ellis
Drilling Method: Hollow stem auger
Date Drilled: April 3, 1990
Well Head Completion: 4" Locking well plug, traffic-rated vault
Type of sampler: Split-barrel (2.0")
Ground Surface Elevation: 13.61 ft above msl

Well Construction and Boring Log - Well MW-2 (BH-B)

Shell Service Station
1601 Webster Street
Alameda, California

BORING BH-C



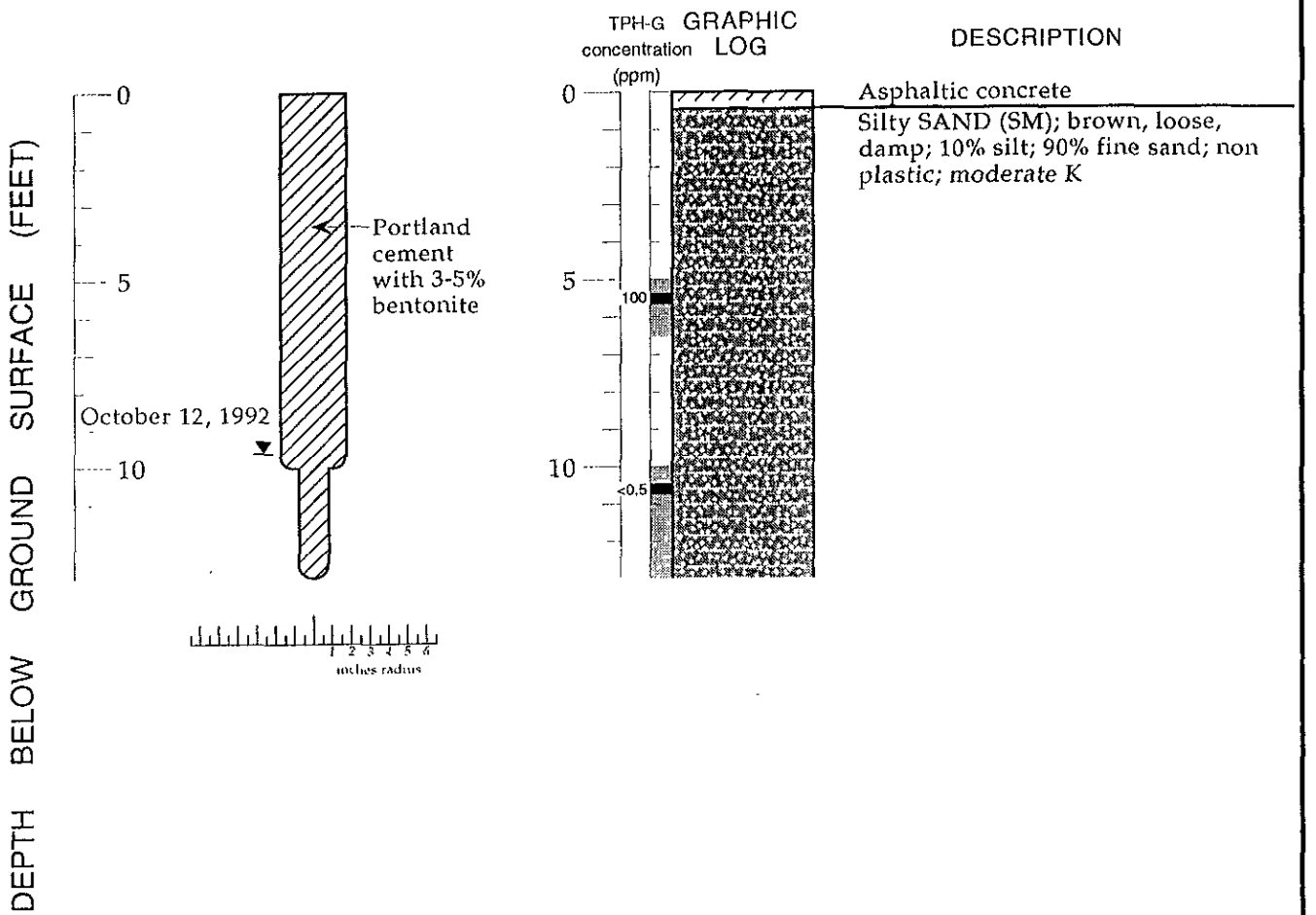
EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approximate)
- Uncertain contact
- Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Scott Fitchie & Chad Little
Drilling Method: Cuttingless system
Date Drilled: October 12, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-C - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

BORING BH-D



EXPLANATION

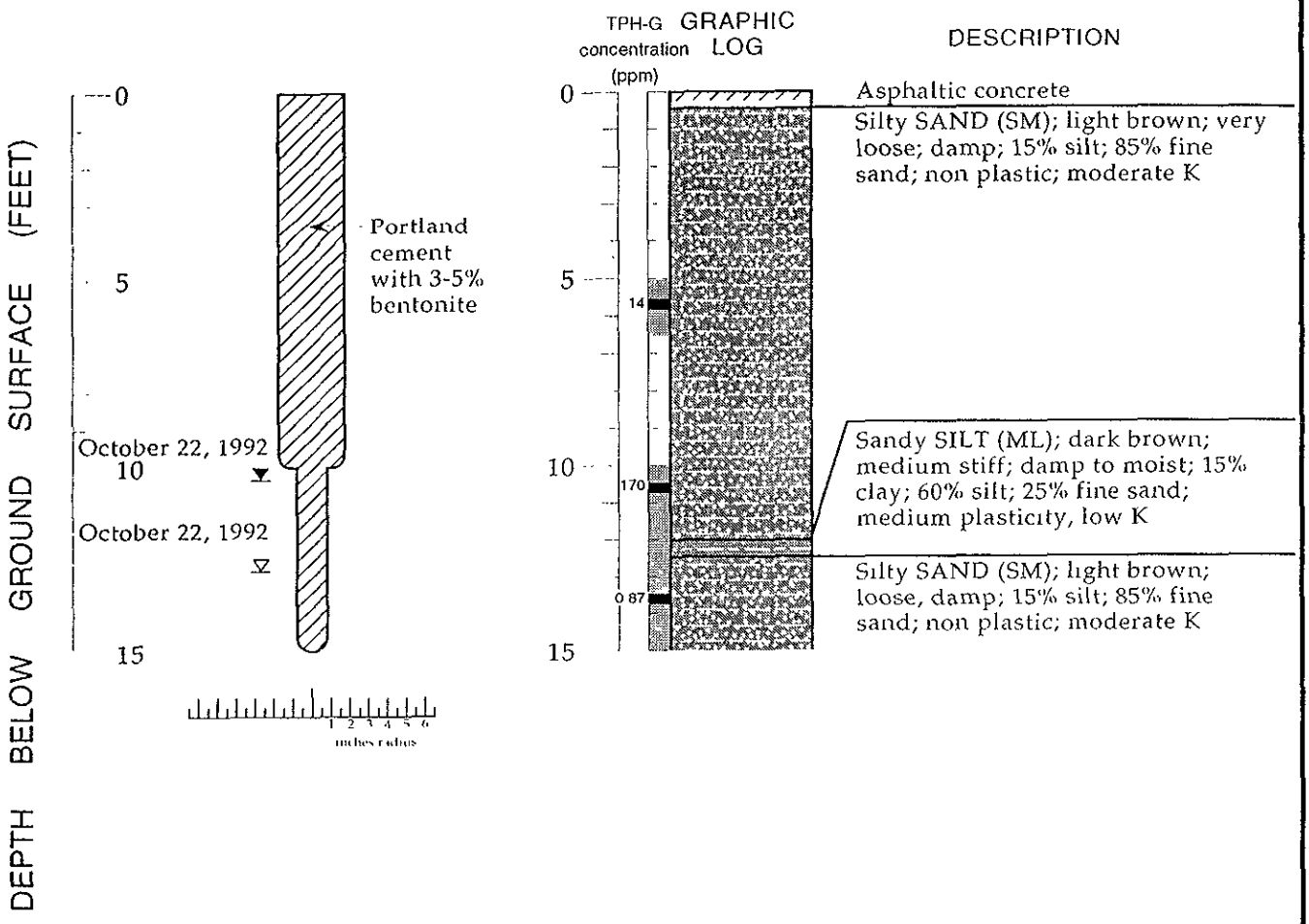
- ▼ Water level during drilling (date)
- ▽ Water level (date)
- ——····—— Contact (dotted where approximate)
- —?—?— Uncertain contact
- //////// Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Scott Fitchie & Chad Little
Drilling Method: Cuttingless system
Date Drilled: October 12, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-D - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

BORING BH-E



EXPLANATION

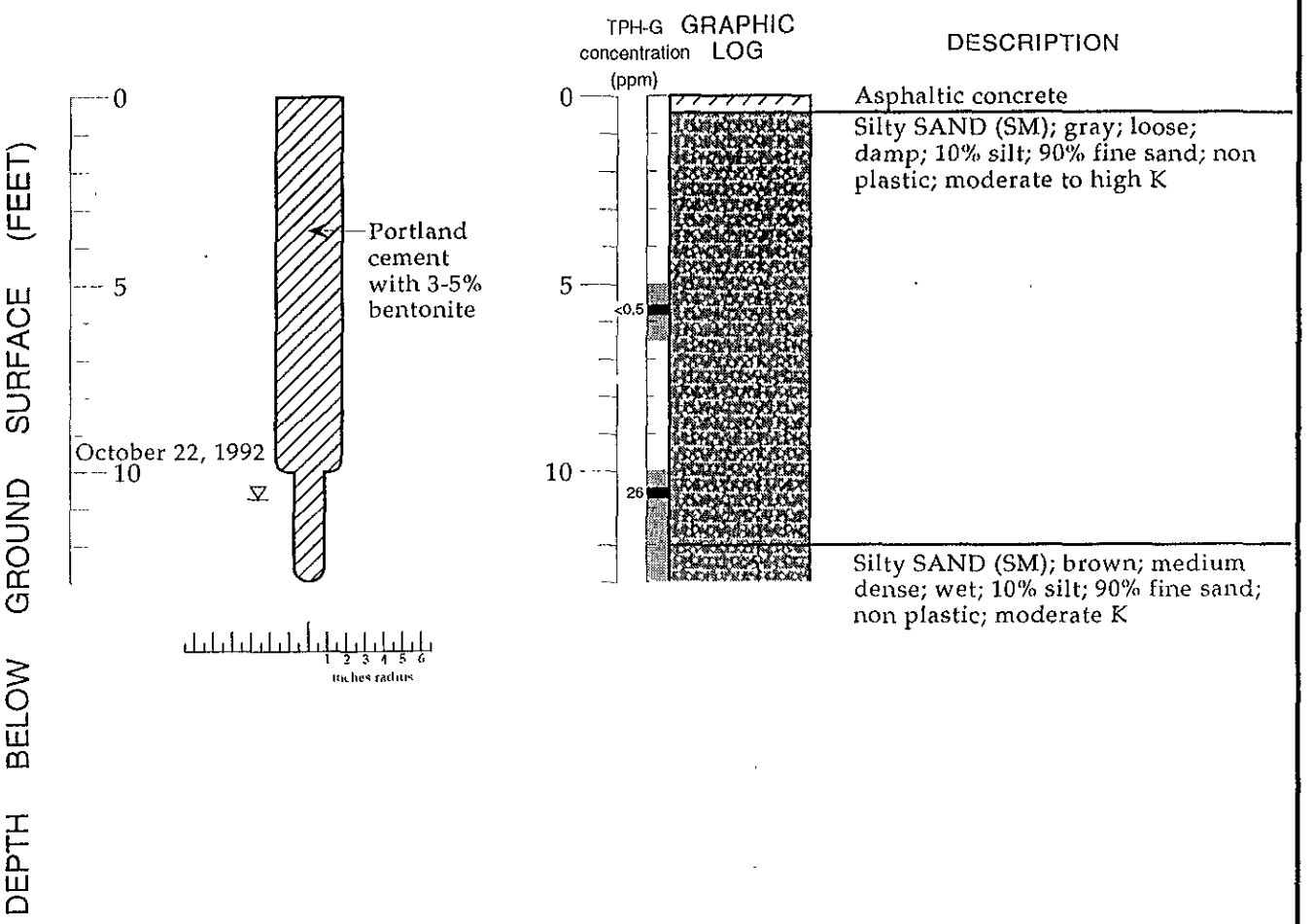
- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approximate)
- Uncertain contact
- Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Mike Duffy & John Sousa
Drilling Method: Cuttingless system
Date Drilled: October 22, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G. Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-E - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

BORING BH-F



EXPLANATION

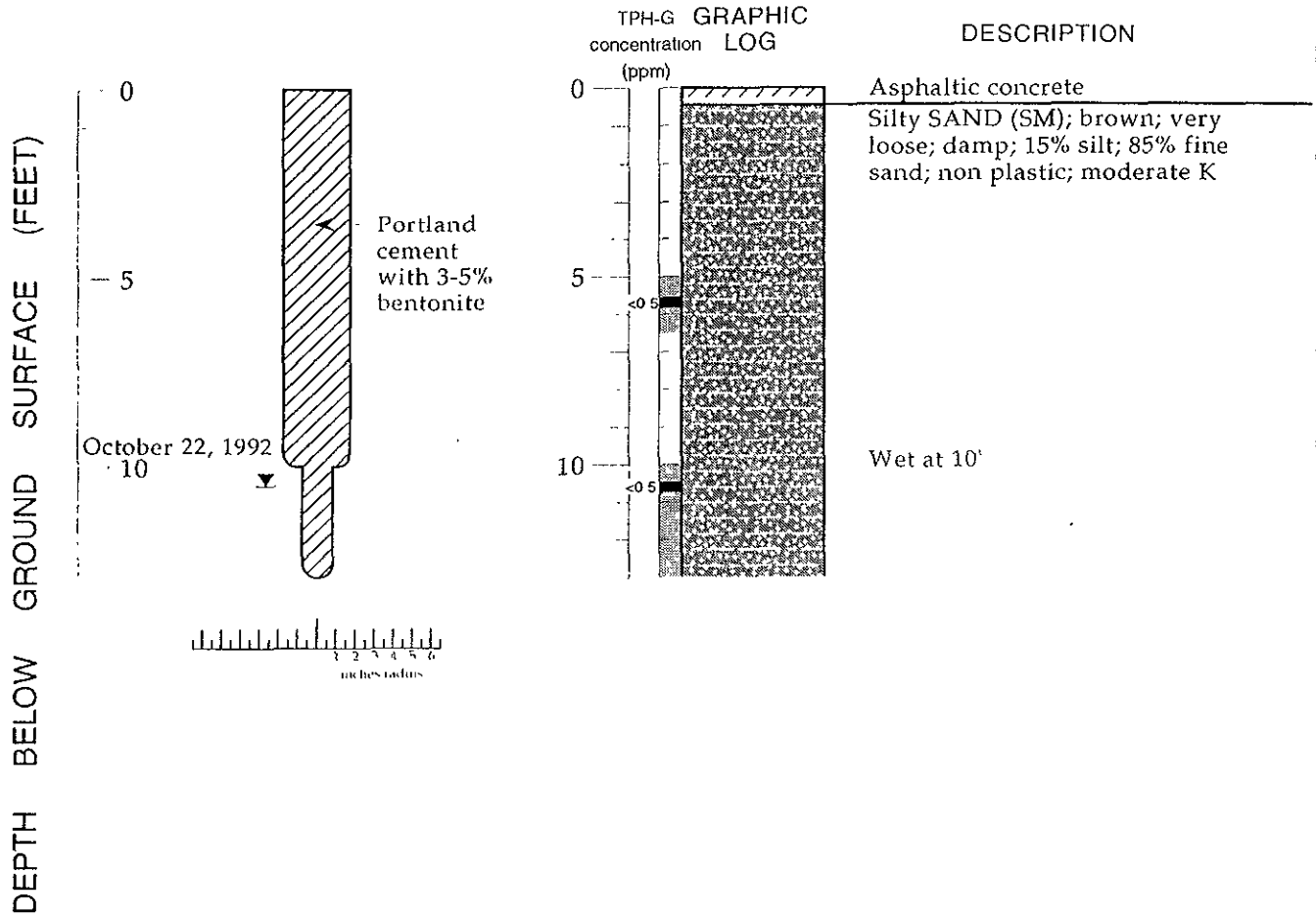
- ▼ Water level during drilling (date)
- ▽ Water level (date)
- ——····—— Contact (dotted where approximate)
- —?—?— Uncertain contact
- //////// Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Mike Duffy & John Sousa
Drilling Method: Cuttingless system
Date Drilled: October 22, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-F - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

BORING BH-G



EXPLANATION

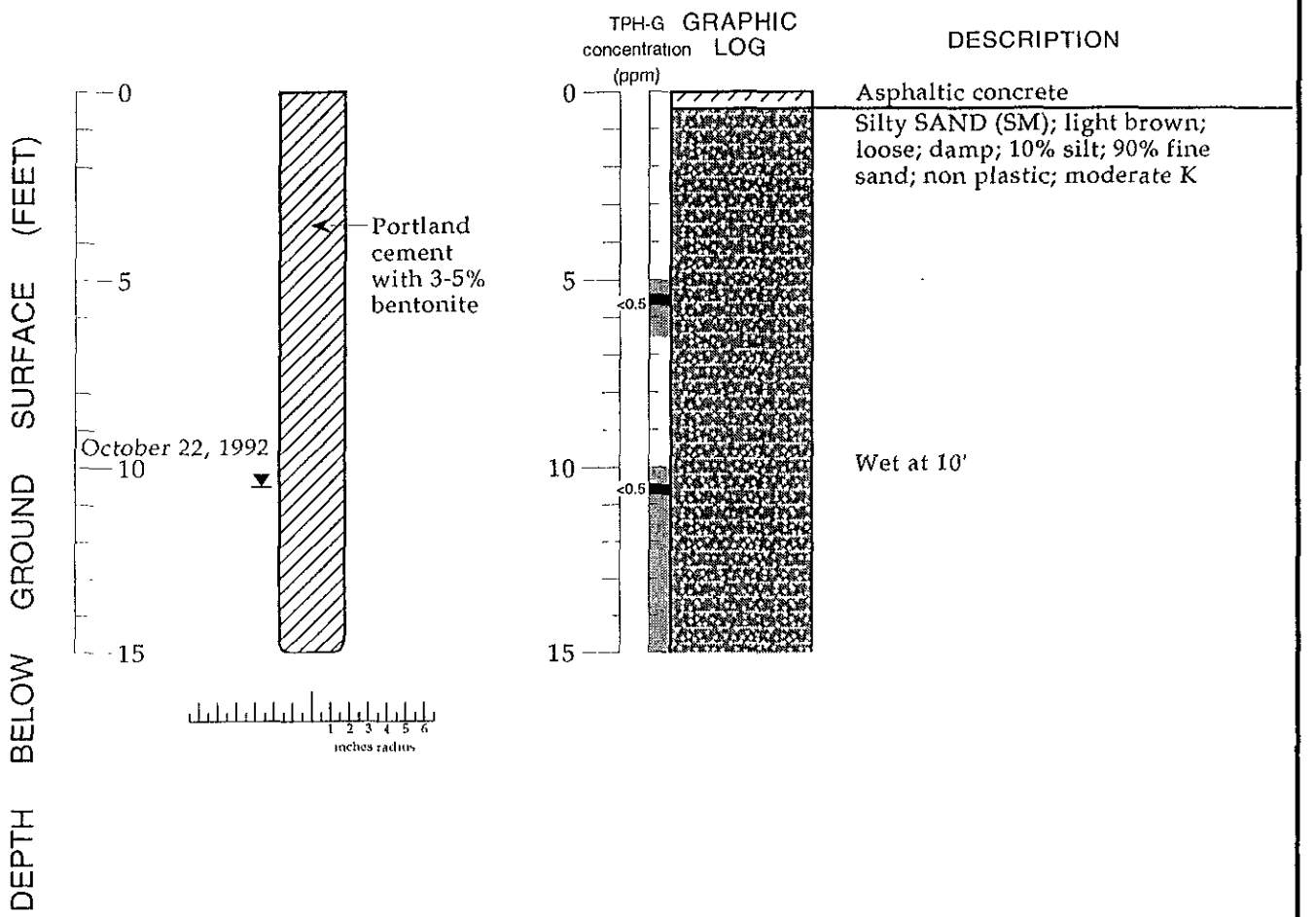
- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approximate)
- Uncertain contact
- Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Mike Duffy & John Sousa
Drilling Method: Solid flight auger
Date Drilled: October 22, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-G - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

BORING BH-H



EXPLANATION

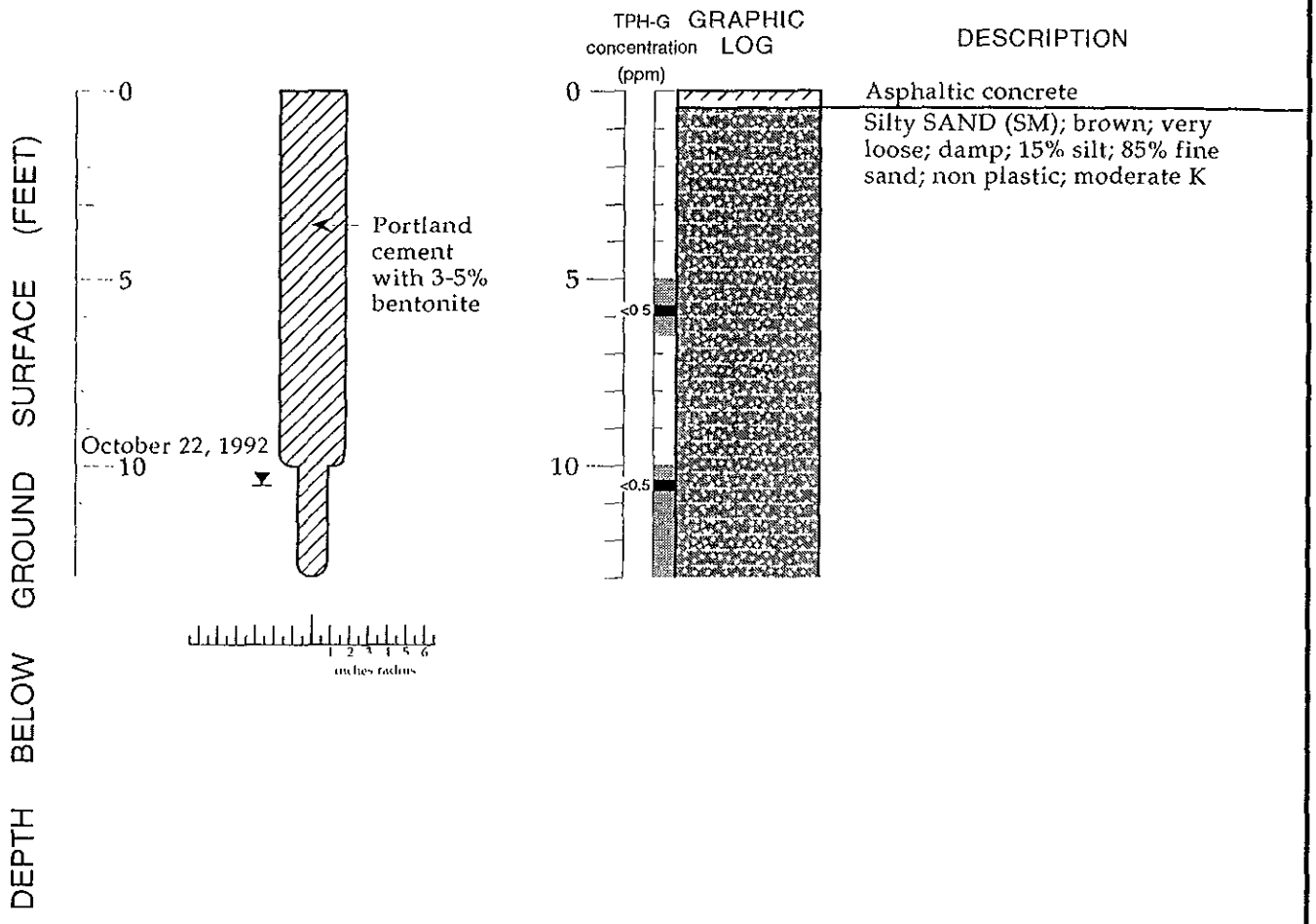
- ▼ Water level during drilling (date)
- ▽ Water level (date)
- ——..... *Contact (dotted where approximate)*
- —?—?— Uncertain contact
- ////////// Gradational contact
- *Location of recovered drive sample*
- Location of drive sample sealed for chemical analysis
- *Cutting sample*
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Mike Duffy & John Sousa
Drilling Method: Solid flight auguer
Date Drilled: October 22, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-H - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

BORING BH-I



EXPLANATION

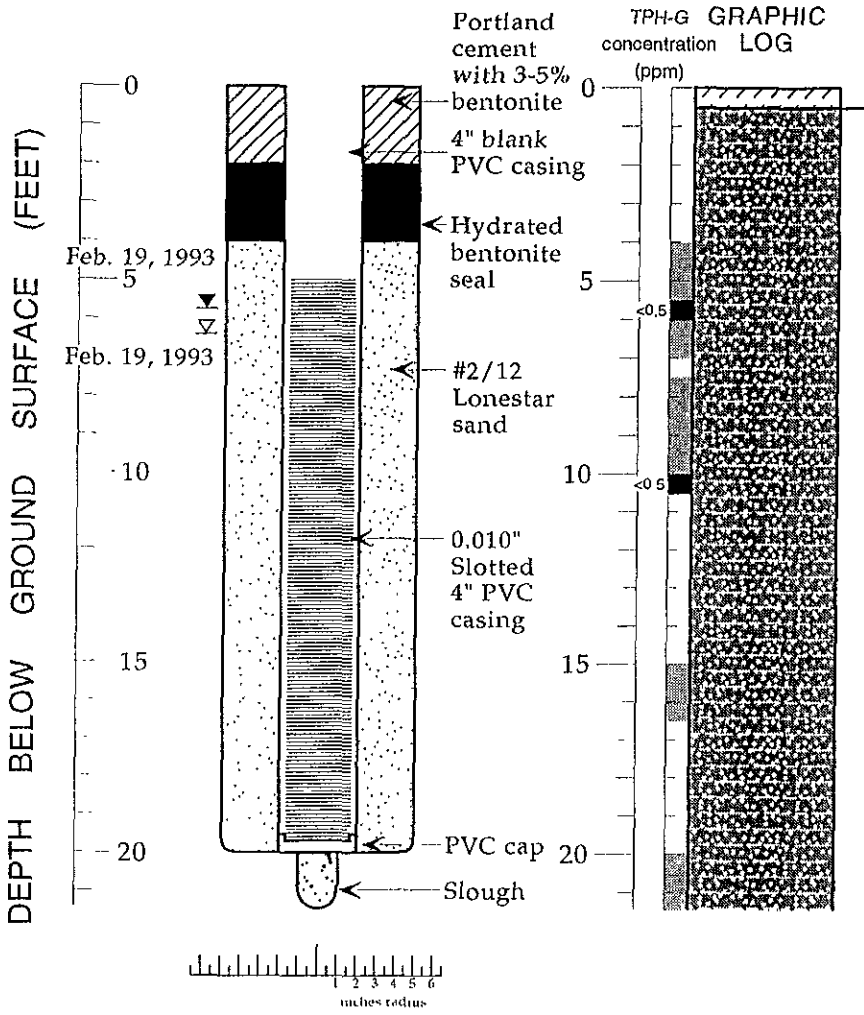
- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approximate)
- Uncertain contact
- Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
Supervisor: N. Scott MacLeod
Drilling Company: Soils Exploration Drilling, Vacaville, CA
License Number: C57-582696
Driller: Mike Duffy & John Sousa
Drilling Method: Solid flight auger
Date Drilled: October 22, 1992
Type of Sampler: Split barrel (2" ID)
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-I - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

12/22/92

WELL MW-3 (BH-J)



DESCRIPTION
Asphaltic concrete
Silty SAND (SM); dark brown; soft; damp; 5% clay; 25% silt; 70% fine sand with clasts up to 0.5"; moderate K
Light brown; very loose; moist; 10% silt; 90% medium sand; moderate to high K at 4.2'
Wet at 5.5'
Medium dense; 5% silt; 95% medium grain sand; high K at 10.0'
Orange and gray mottling; medium dense at 15.0'
Gray mottling; medium dense at 20.0'

EXPLANATION

- ▼ Water level during drilling (date)
- ▽ Water level (date)
- ——····—— Contact (dotted where approximate)
- —?—?— Uncertain contact
- ////////// Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce Fremstad
Supervisor: N. Scott MacLeod; RG 5747
Drilling Company: *Soils Exploration Services, Vacaville, CA*
License Number: Lic. #C57-582696
Driller: Mike Duffy
Drilling Method: Hollow-stem auger
Date Drilled: February 19, 1993
Well Head Completion: 4" locking well-plug, traffic-rated vault
Type of Sampler: Split barrel (2" ID)
Ground Surface Elevation: feet above mean sea level
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Well MW-3 (BH-J) - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

3/31/93