



Earth and Environmental Technologies

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TECHNICAL MEMORANDUM

DATE: September 16, 1998

TO: Rick Huey and Nnamdi Madakor
Washington State Department of Ecology, Northwest Regional Office

FROM: Doug Hillman, Hart Crowser

RE: Summary of Groundwater Assessment Results and Request for Ecology Assistance
J-4063-08

CC: Alan R. Jacobson, Jacobson International, Inc.
Franklin L. Dennis, Patton Boggs, L.L.P.

This memo summarizes results of previous groundwater assessment activities conducted at the Jacobson Terminals, Inc. (Jacobson) property and documents the source and extent of the chlorinated solvent groundwater contaminant plume at the site. The data presented herein, combined with data collected at the upgradient Fentron Building Products, Inc. (Fentron) site, indicate that the chlorinated solvent groundwater contaminant plume underlying the Jacobson property and the adjacent U.S. Army Corps of Engineers property originated from one or more releases at the upgradient Fentron site.

This memo is being submitted to the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). We request Ecology's opinion regarding our proposal that under Ecology's "plume" policy (Policy 540A), Jacobson is an innocent land owner who is exempt from all owner/operator liability for the chlorinated solvent groundwater contaminant plume. This report specifically addresses groundwater quality issues at this site and does not review soil quality concerns resulting from the upgradient source.

SITE LOCATION

The Jacobson property is located at 5355 28th Avenue NW, along the ship canal in the Ballard district of Seattle (Figure 1). The Jacobson property is bordered on the south and east by the ship canal, on the west by U.S. Army Corps of Engineers Hiram Chittenden Locks (Corps) property, and on the north by the Fentron site.





SITE HISTORY

The Jacobson property has been a marine support facility since 1975. There is no historical record of chlorinated solvents ever being used at the property. Groundwater assessment activities have been conducted at the property beginning in 1996. Groundwater exploration locations are shown on Figure 2. The following paragraphs describe the four groundwater sampling events completed to date.

In April 1993, a groundwater recovery system was activated by Fentron north of the Fentron/Jacobson property boundary in an attempt to capture a chlorinated solvent groundwater contaminant plume (EMCON, 1996). In March 1996, Jacobson installed and sampled four monitoring wells (JT-1 through JT-4) south of the Fentron/Jacobson property boundary to assess the chemical quality of the groundwater migrating downgradient of the Fentron site. In June/July 1996, a geoprobe rig was used to collect groundwater samples (GP-1 through GP-6) at six additional locations in this same area. The groundwater data collected from the monitoring wells and geoprobe sample locations (summarized in the following section) indicated that the chlorinated solvent groundwater contaminant plume had migrated from the Fentron site onto the Jacobson property at that time.

In August 1996, the Corps and Jacobson conducted an independent remedial action to remove petroleum- and PCB-contaminated soils along and near the mid-point of their adjacent property line. Approximately 64 tons of contaminated soil were excavated and shipped off site for disposal. Also at that time, three monitoring wells were installed and sampled for confirmation purposes. HC-MW-1 and HC-MW-3 were installed on the Corps property and HC-MW-2 was installed on the Jacobson property. PCBs were not detected and petroleum hydrocarbons (WTPH-D) were not detected above the MTCA Method A cleanup level in any of the groundwater samples (Hart Crowser, 1997). Samples were not analyzed for volatile organic compounds (VOCs) at that time. Ecology issued a No Further Action (NFA) letter on August 4, 1998, for the petroleum and PCB release.

In April 1998, a strataprobe rig was used to collect groundwater samples at eight additional locations (HC-1 through HC-8) to define the extent of the chlorinated solvent groundwater contaminant plume south of the Fentron/Jacobson property boundary. At that time, one existing monitoring well (HC-MW-3) was also sampled and analyzed for VOCs. These data are summarized in the following section.





GROUNDWATER CONDITIONS AT JACOBSON PROPERTY

Hydrogeology

Subsurface soil conditions underlying the Jacobson property are highly variable with soils ranging from gravelly sand at shallower depths to sandy silt at deeper depths. Heterogeneous fill consisting of gravelly sand to silty sand, and containing variable amounts of wood, shells, and construction debris, is present from the ground surface to depths of approximately 16 to 22 feet at the site. Below the fill is a native, medium stiff to very stiff silt to sandy silt. At a depth of approximately 20 to 25 feet, the density of the subsurface soils increases markedly. The depth to groundwater ranges from approximately 2 to 11 feet.

Boring logs for explorations at the site are presented in Attachment A.

While the direction of groundwater flow has not been measured at the Jacobson property, multiple measurements have been made at the Fentron site. Three groundwater systems have been characterized at the site. The unconfined shallow groundwater system is present at depths of 2 to 15 feet within the fill deposits. The semi-confined intermediate groundwater system is present at depths of 16 to 28 feet within native sand and silt deposits. The confined deep groundwater system is present below the intermediate system within native sand and silt deposits. Water level measurements from the shallow and intermediate groundwater systems indicate that the direction of groundwater flow is to the south or southeast (from the Fentron site, under the Jacobson property, to the ship canal) as shown on the two groundwater flow direction figures included in Appendix B.

Chemical Quality

The chlorinated ethene data collected for the Jacobson groundwater are presented in Table 1. The columns are arranged according to the sequential breakdown of the chlorinated ethenes, specifically tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE), and vinyl chloride (VC). Cis-1,2-DCE is the most prevalent DCE isomer, which is typical for the natural breakdown of the chlorinated ethenes. Selected geoprobe (GP-5 and GP-6) and the strataprobe (HC-1 through HC-8) locations were sampled at two depths. In general, the first sample represents the shallow groundwater system and the second sample represents the intermediate groundwater system. A definite trend in concentration with depth is not apparent, most likely due to the highly variable subsurface conditions.

The extent of the PCE, TCE, cis-1,2-DCE, and VC plumes are shown on Figures 3 through 6, respectively. Plume boundaries are shown for both where the surface water standard was exceeded and where the chemical was first detected. In cases where data exist at two depths, the higher





concentration was used to generate the plume boundaries. The estimated plume boundaries support the finding that the chlorinated solvent groundwater contaminant plume underlying the Jacobson property and the adjacent Corps property originated from one or more releases at the upgradient Fentron site.

GROUNDWATER CONDITIONS AT FENTRON SITE

The Fentron site was used for metal anodizing, metal painting, and light manufacturing from the 1940s until 1989. Chlorinated solvents were used in the metal painting process. Testing of groundwater quality has been conducted at the site since 1987. Groundwater quality data collected at the Fentron site have been compiled and presented by EMCON (1996).

Two primary chlorinated solvent groundwater contaminant plumes are present at the Fentron site. The two plumes (western and eastern) are clearly shown on the four chemical distribution maps included in Appendix B.

At well MW-14I, located south of the southwest corner of the warehouse, immediately upgradient of the Jacobson property boundary, dense nonaqueous phase liquid (DNAPL) was identified. The product was sampled and analyzed, and determined to be PCE. Well MW-14I was subsequently replaced with a recovery well (RW-9). Contamination dissolved in groundwater south of the warehouse is primarily in the form of PCE (up to 44,000 ug/L) and TCE (up to 18,000 ug/L), with lower concentrations of cis-1,2-DCE (up to 6,500 ug/L) and VC (up to 120 ug/L). This western plume appears to be the source of the chlorinated solvent contamination present in Jacobson groundwater sample locations HC-1, HC-5, GP-1, and JT-1.





One or more historical releases appear to have led to the formation of the eastern plume in the vicinity of RW-5 and MW-15I. Contamination dissolved in groundwater in this area consists of lower PCE (up to 23,000 ug/L) and TCE (up to 4,700 ug/L) concentrations but higher cis-1,2-DCE (up to 19,000 ug/L) and VC (up to 5,500 ug/L) concentrations, relative to those for the western plume. Therefore, the eastern plume contains a higher fraction of breakdown products relative to the western plume. This eastern plume appears to be the source of the chlorinated solvent contamination present in Jacobson groundwater sample locations HC-2, HC-8, GP-4, GP-5, GP-6, JT-3, and JT-4.

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Table 1 - Chlorinated Ethenes in Groundwater Samples

Figure 1 - Site Vicinity Map

Figure 2 - Site and Exploration Plan

Figure 3 - Tetrachloroethene Plume Map

Figure 4 - Trichloroethene Plume Map

Figure 5 - cis-1,2-Dichloroethene Plume Map

Figure 6 - Vinyl Chloride Plume Map

Attachment A - Boring Logs

Attachment B - Figures Excerpted from EMCON Report

Attachment C - Request for Ecology Assistance



Table 1 - Chlorinated Ethenes in Groundwater Samples

Sample ID	Date	Concentration in ug/L					
		Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
JT-1	3/15/96	11	120	4 U	72	4 U	4.9
JT-2	3/15/96	20 U	8 U	8 U	290	15	76
JT-3	3/15/96	10 U	4 U	4 U	10 U	4 U	12
JT-4	3/15/96	5 U	2 U	2 U	5 U	2 U	2 U
GP-1-D	7/1/96	5.9 /5.7	3.8 /3.64	0.5U /ND	40 /32.5	0.5U /ND	31 /32
GP-2-D	7/1/96	390 /286	680 /599	3.1 /1.34	1700 /1280	16 /6.35	56 /93.3
GP-3-D	7/1/96	5.3 /5	7.1 /6.4	0.5U /ND	6.4 /4.96	0.5U /ND	0.5 /ND
GP-4-D	6/15/96	0.6 /ND	0.8 /ND	1.1 /ND	500 /368	0.5U /ND	300 /263
GP-5-D	6/15/96	0.5U /ND	0.5U /ND	0.5U /ND	91 /51.8	0.5U /ND	160 /108
GP-5-S	6/15/96	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U
GP-6-D	6/15/96	0.5U	0.5U	0.8	340	0.5U	990
GP-6-S	6/15/96	0.5U /ND	0.5U /ND	0.5U /ND	0.6 /ND	0.5U /ND	0.5U /ND
HC1-W-1	4/17/98	11	28	1 U	625	1.6	7.5
HC1-W-2	4/17/98	39	21	1 U	16	1 U	5 U
HC2-W-1	4/17/98	1 U	1 U	1 U	1 U	1 U	5 U
HC2-W-2	4/17/98	1 U	1 U	1 U	7	1 U	5 U
HC3-W-1	4/17/98	1 U	1 U	1 U	1 U	1 U	5 U
HC3-W-2	4/17/98	1 U	1 U	1 U	1 U	1 U	5 U
HC4-W-1	4/17/98	1 U	1 U	1 U	1 U	1 U	5 U
HC4-W-2	4/17/98	1 U	1 U	1 U	1 U	1 U	5 U
HC5-W-1	4/8/98	1 U	1 U	1 U	1 U	1 U	5 U
HC5-W-2	4/8/98	1 U	120	1 U	160	1 U	5 U
HC6-W-1	4/8/98	1 U	1 U	1 U	1 U	1 U	5 U
HC6-W-2	4/8/98	1 U	1 U	1 U	1 U	1 U	5 U
HC7-W-1	4/8/98	1 U	1 U	1 U	1 U	1 U	5 U
HC7-W-2	4/8/98	1 U	1 U	1 U	1 U	1 U	5 U
HC8-W-1	4/8/98	1 U	1 U	1 U	1 U	1 U	5 U
HC8-W-2	4/8/98	1 U	1 U	1 U	110	1 U	5 U
HC-MW-3	4/8/98	1 U	1 U	1 U	1 U	1 U	5 U

Notes:

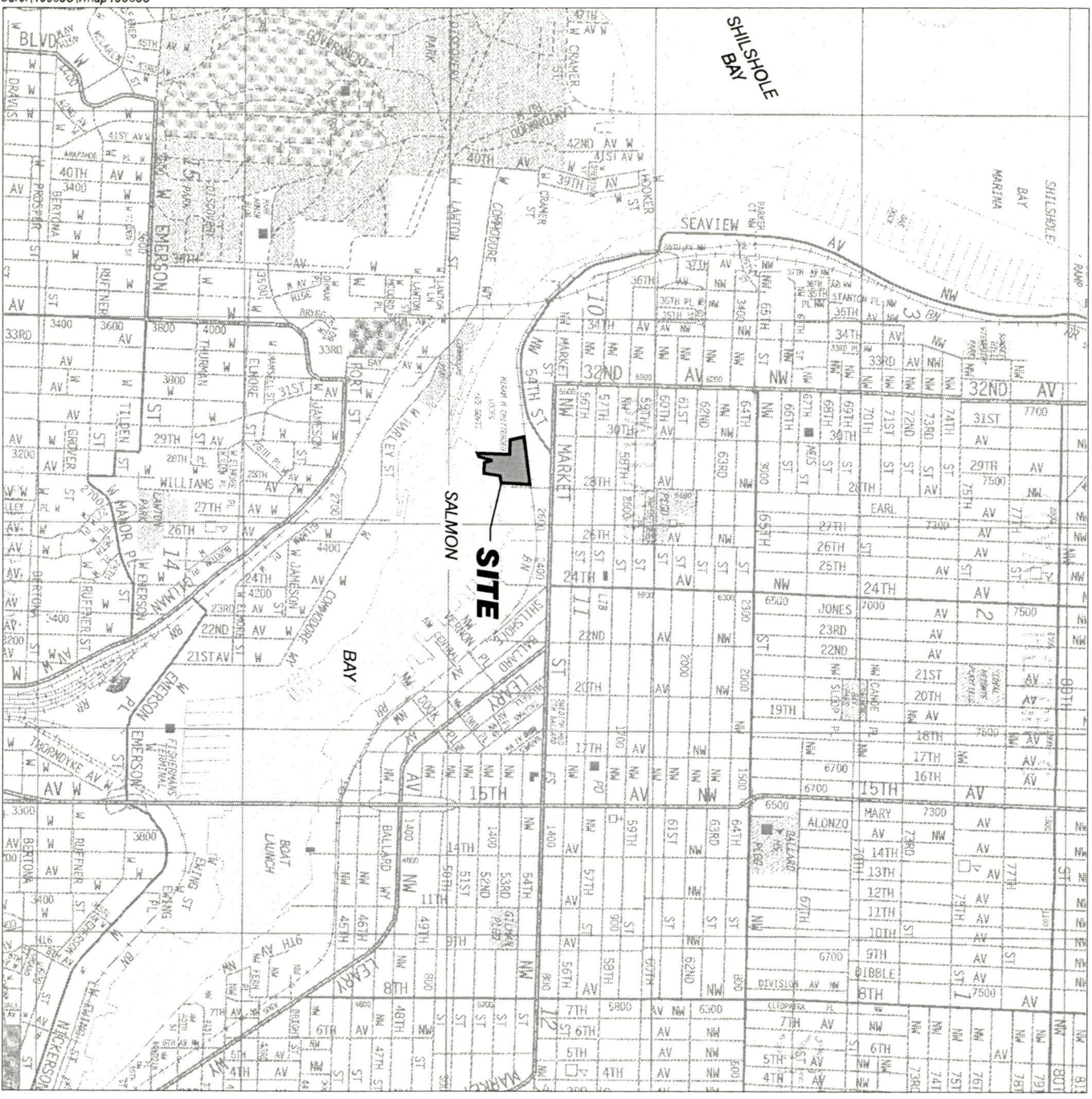
Split samples were collected from GP borings.

U = Not detected at detection limit indicated.

ND = Not detected.

Vicinity Map

Core\406308\map406308



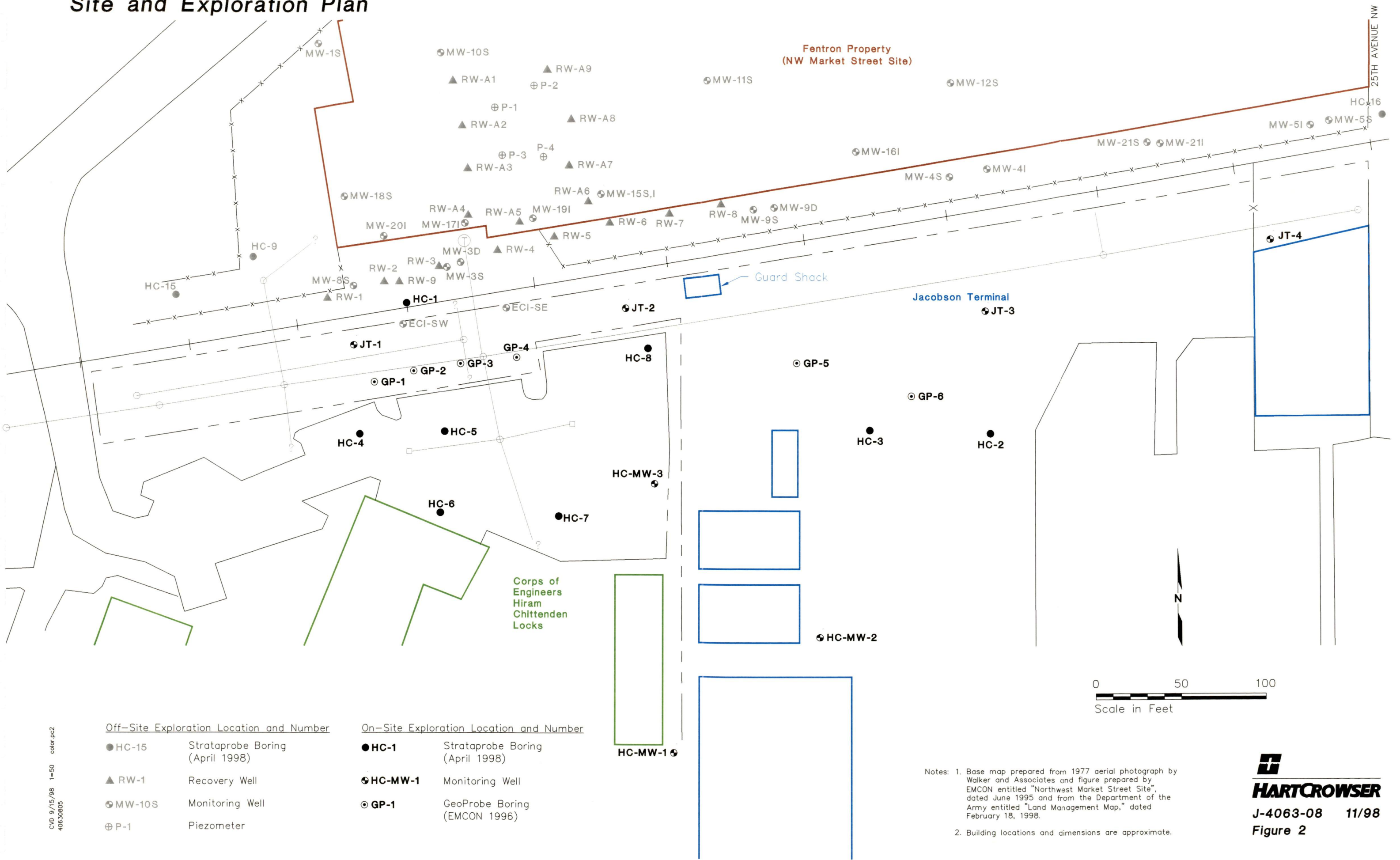
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Figure 1

Site and Exploration Plan



Off-Site Exploration Location and Number

- HC-15 Strataprobe Boring (April 1998)
- ▲ RW-1 Recovery Well
- ⊙ MW-10S Monitoring Well
- ⊕ P-1 Piezometer

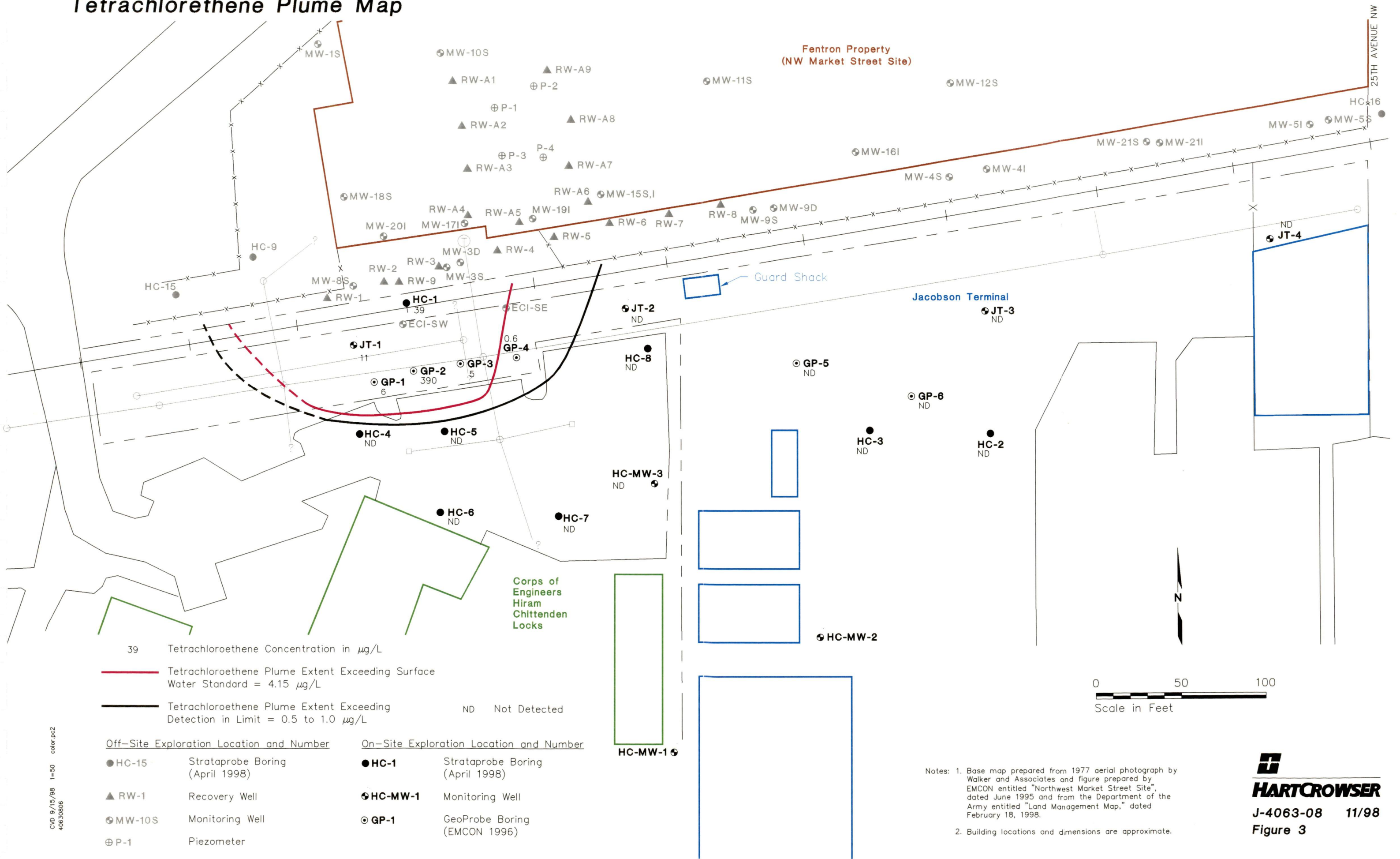
On-Site Exploration Location and Number

- HC-1 Strataprobe Boring (April 1998)
- ⊙ HC-MW-1 Monitoring Well
- ⊙ GP-1 Geoprobe Boring (EMCON 1996)

Notes: 1. Base map prepared from 1977 aerial photograph by Walker and Associates and figure prepared by EMCON entitled "Northwest Market Street Site", dated June 1995 and from the Department of the Army entitled "Land Management Map," dated February 18, 1998.
2. Building locations and dimensions are approximate.

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Tetrachlorethene Plume Map

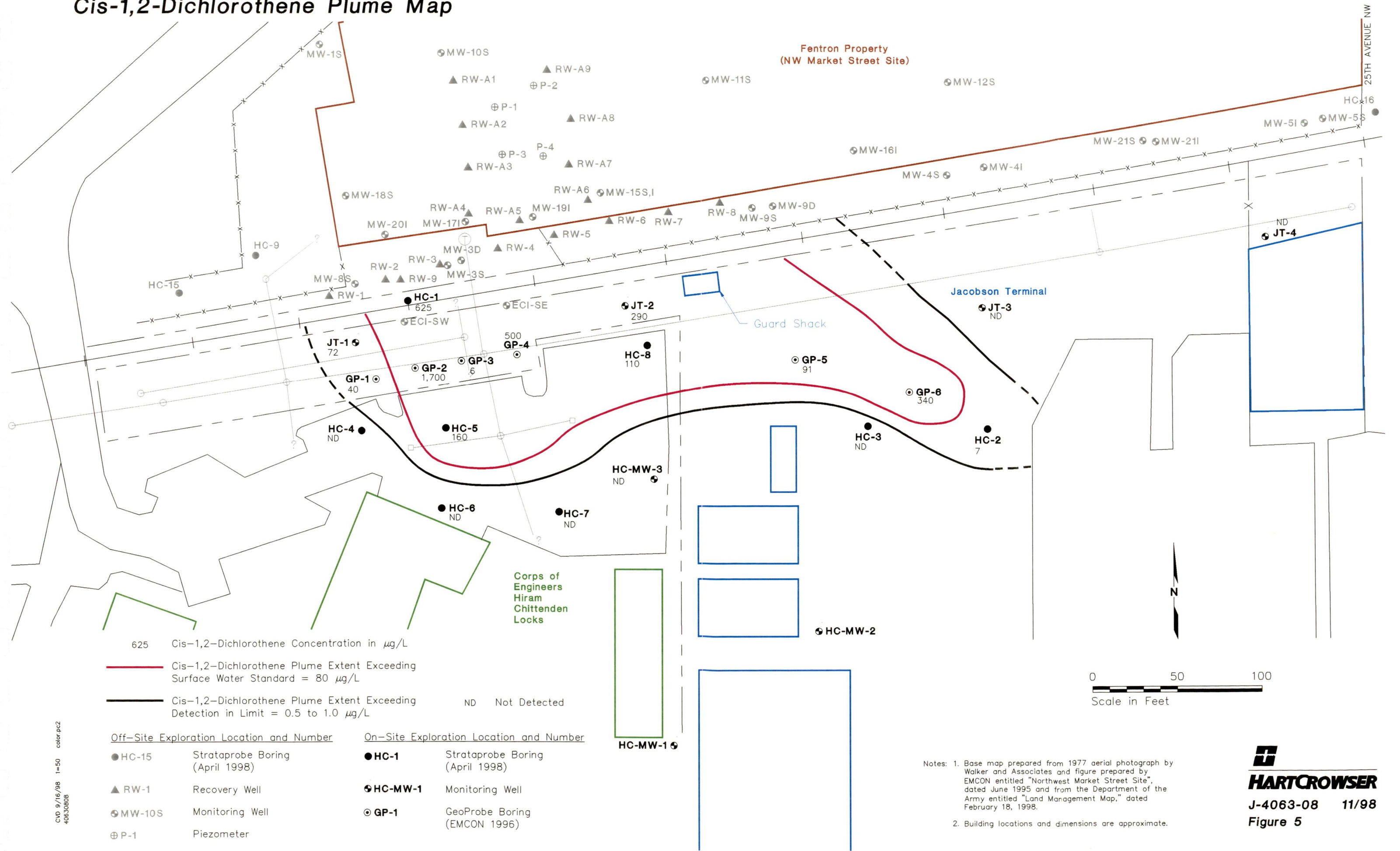


Notes: 1. Base map prepared from 1977 aerial photograph by Walker and Associates and figure prepared by EMCON entitled "Northwest Market Street Site", dated June 1995 and from the Department of the Army entitled "Land Management Map," dated February 18, 1998.

2. Building locations and dimensions are approximate.

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40630806

Cis-1,2-Dichloroethene Plume Map



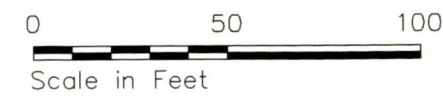
625 Cis-1,2-Dichloroethene Concentration in µg/L

— Cis-1,2-Dichloroethene Plume Extent Exceeding Surface Water Standard = 80 µg/L

— Cis-1,2-Dichloroethene Plume Extent Exceeding Detection in Limit = 0.5 to 1.0 µg/L

ND Not Detected

Off-Site Exploration Location and Number		On-Site Exploration Location and Number	
● HC-15	Strataprobe Boring (April 1998)	● HC-1	Strataprobe Boring (April 1998)
▲ RW-1	Recovery Well	● HC-MW-1	Monitoring Well
⊙ MW-10S	Monitoring Well	⊙ GP-1	GeoProbe Boring (EMCON 1996)
⊕ P-1	Piezometer		

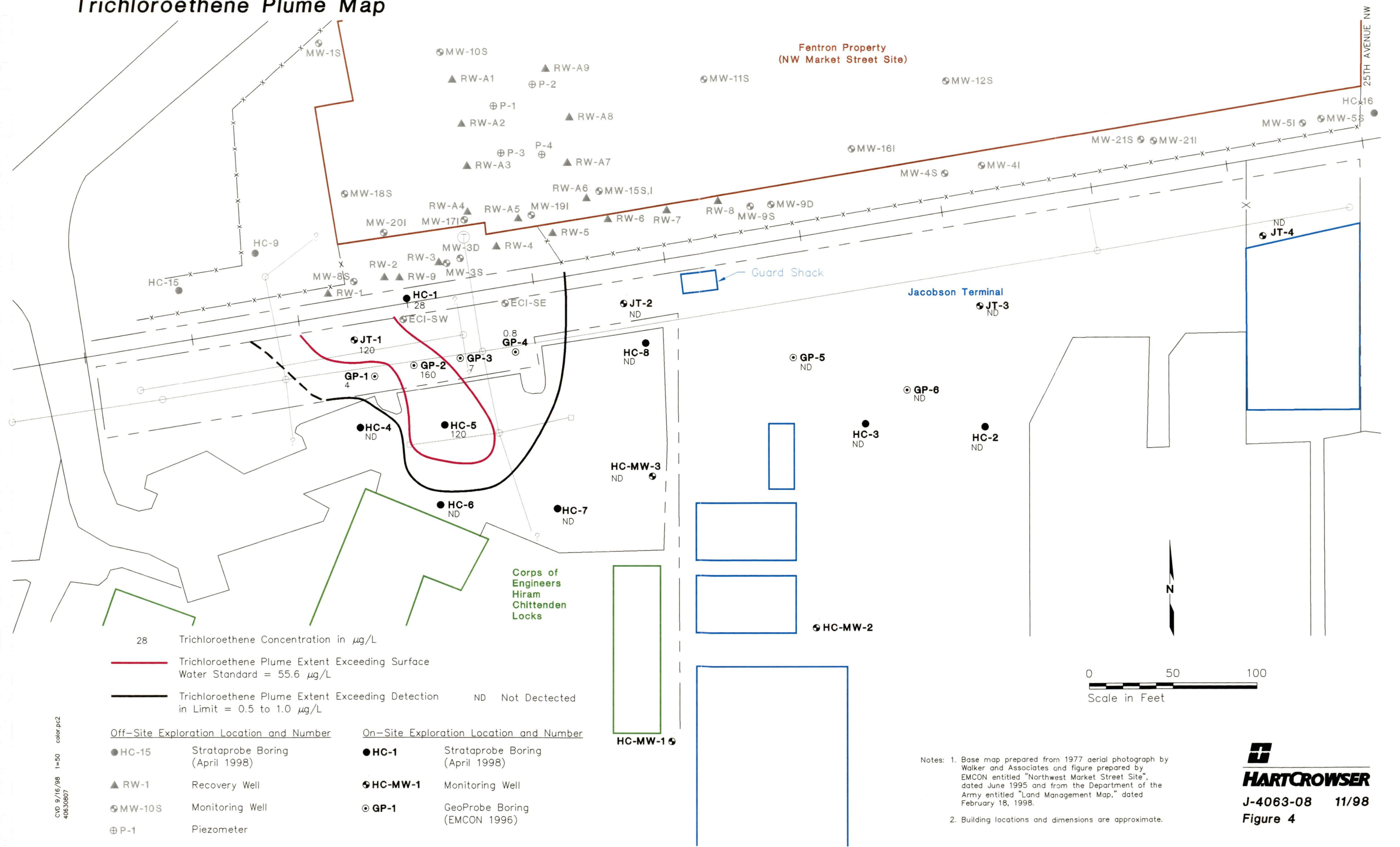


Notes: 1. Base map prepared from 1977 aerial photograph by Walker and Associates and figure prepared by EMCON entitled "Northwest Market Street Site", dated June 1995 and from the Department of the Army entitled "Land Management Map," dated February 18, 1998.

2. Building locations and dimensions are approximate.

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40630608

Trichloroethene Plume Map



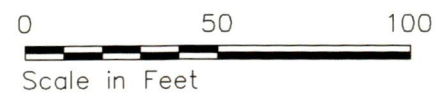
28 Trichloroethene Concentration in µg/L

Trichloroethene Plume Extent Exceeding Surface Water Standard = 55.6 µg/L

Trichloroethene Plume Extent Exceeding Detection in Limit = 0.5 to 1.0 µg/L

ND Not Detected

Off-Site Exploration Location and Number		On-Site Exploration Location and Number	
● HC-15	Strataprobe Boring (April 1998)	● HC-1	Strataprobe Boring (April 1998)
▲ RW-1	Recovery Well	● HC-MW-1	Monitoring Well
● MW-10S	Monitoring Well	● GP-1	GeoProbe Boring (EMCON 1996)
⊕ P-1	Piezometer		

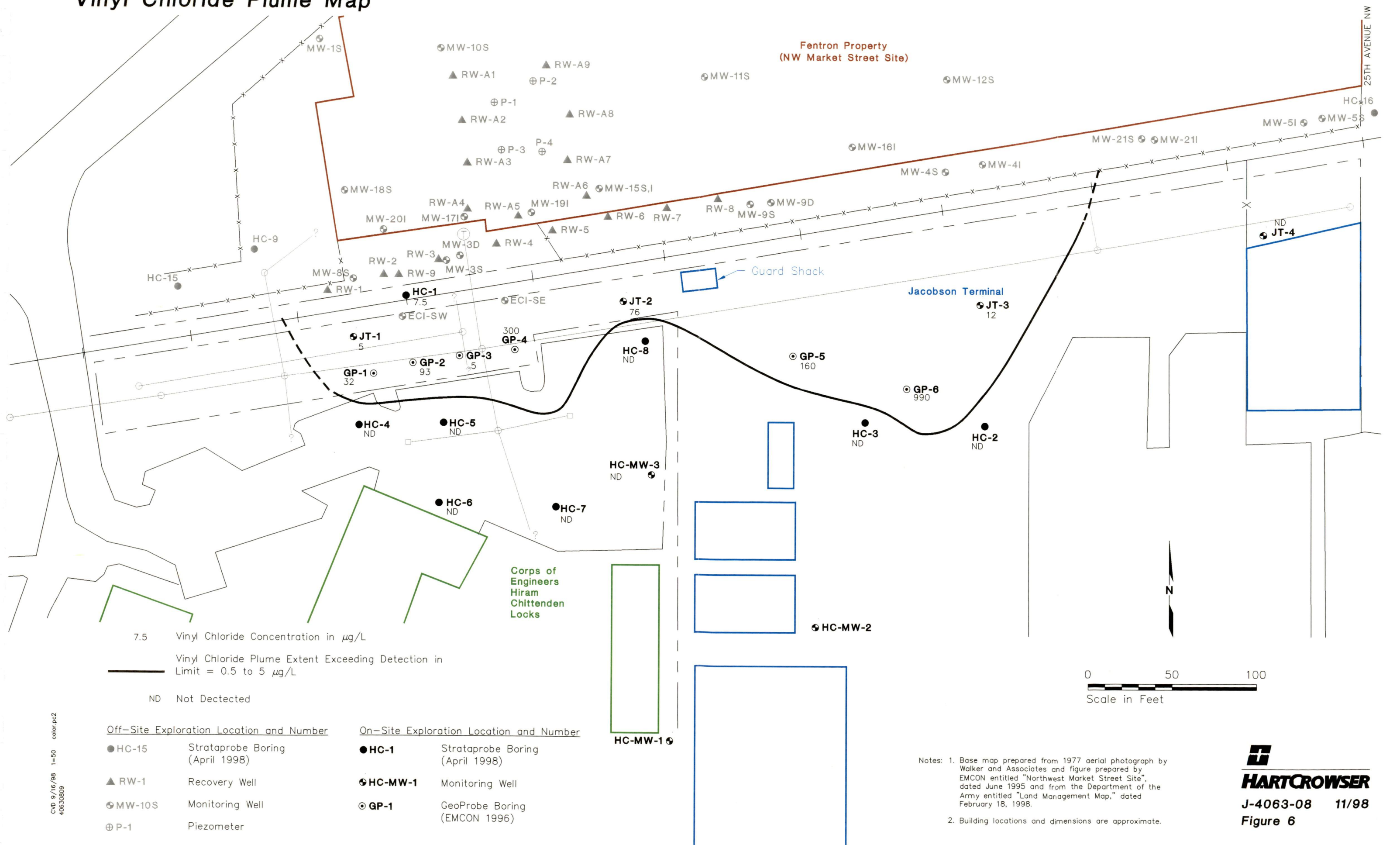


Notes: 1. Base map prepared from 1977 aerial photograph by Walker and Associates and figure prepared by EMCON entitled "Northwest Market Street Site", dated June 1995 and from the Department of the Army entitled "Land Management Map," dated February 18, 1998.

2. Building locations and dimensions are approximate.

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40630807

Vinyl Chloride Plume Map



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**ATTACHMENT A
BORING LOGS**

Key to Exploration Logs

Sample Description

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:

Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENT, additional remarks.

Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance.

Soil density/consistency in test pits is estimated based on visual observation and is presented parenthetically on the test pit logs.

SAND or GRAVEL	Standard Penetration Resistance (N) in Blows/Foot	SILT or CLAY	Standard Penetration Resistance (N) in Blows/Foot	Approximate Shear Strength in TSF
Density		Consistency		
Very loose	0 - 4	Very soft	0 - 2	<0.125
Loose	4 - 10	Soft	2 - 4	0.125 - 0.25
Medium dense	10 - 30	Medium stiff	4 - 8	0.25 - 0.5
Dense	30 - 50	Stiff	8 - 15	0.5 - 1.0
Very dense	>50	Very stiff	15 - 30	1.0 - 2.0
		Hard	>30	>2.0

Moisture

Dry	Little perceptable moisture
Damp	Some perceptable moisture, probably below optimum
Moist	Probably near optimum moisture content
Wet	Much perceptable moisture, probably above optimum

Minor Constituents

Estimated Percentage

Not identified in description	0 - 5
Slightly (clayey, silty, etc.)	5 - 12
Clayey, silty, sandy, gravelly	12 - 30
Very (clayey, silty, etc.)	30 - 50

Legends

Sampling Test Symbols

BORING SAMPLES

	Split Spoon
	Shelby Tube
	Cuttings
	Core Run
*	No Sample Recovery
P	Tube Pushed, Not Driven

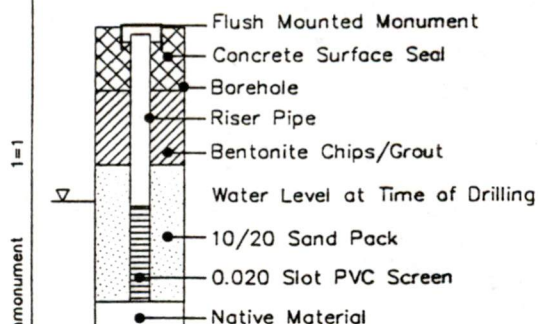
TEST PIT SAMPLES

	Grab (Jar)
	Shelby Tube
	Bag

Test Symbols

GS	Grain Size Classification
CN	Consolidation
TUU	Triaxial Unconsolidated Undrained
TCU	Triaxial Consolidated Undrained
TCD	Triaxial Consolidated Drained
QU	Unconfined Compression
DS	Direct Shear
K	Permeability
PP	Pocket Penetrometer Approximate Compressive Strength in TSF
TV	Torvane Approximate Shear Strength in TSF
CBR	California Bearing Ratio
MD	Moisture Density Relationship
AL	Atterberg Limits
	Water Content in Percent
PID	Photoionization Reading
CA	Chemical Analysis

Groundwater Observations



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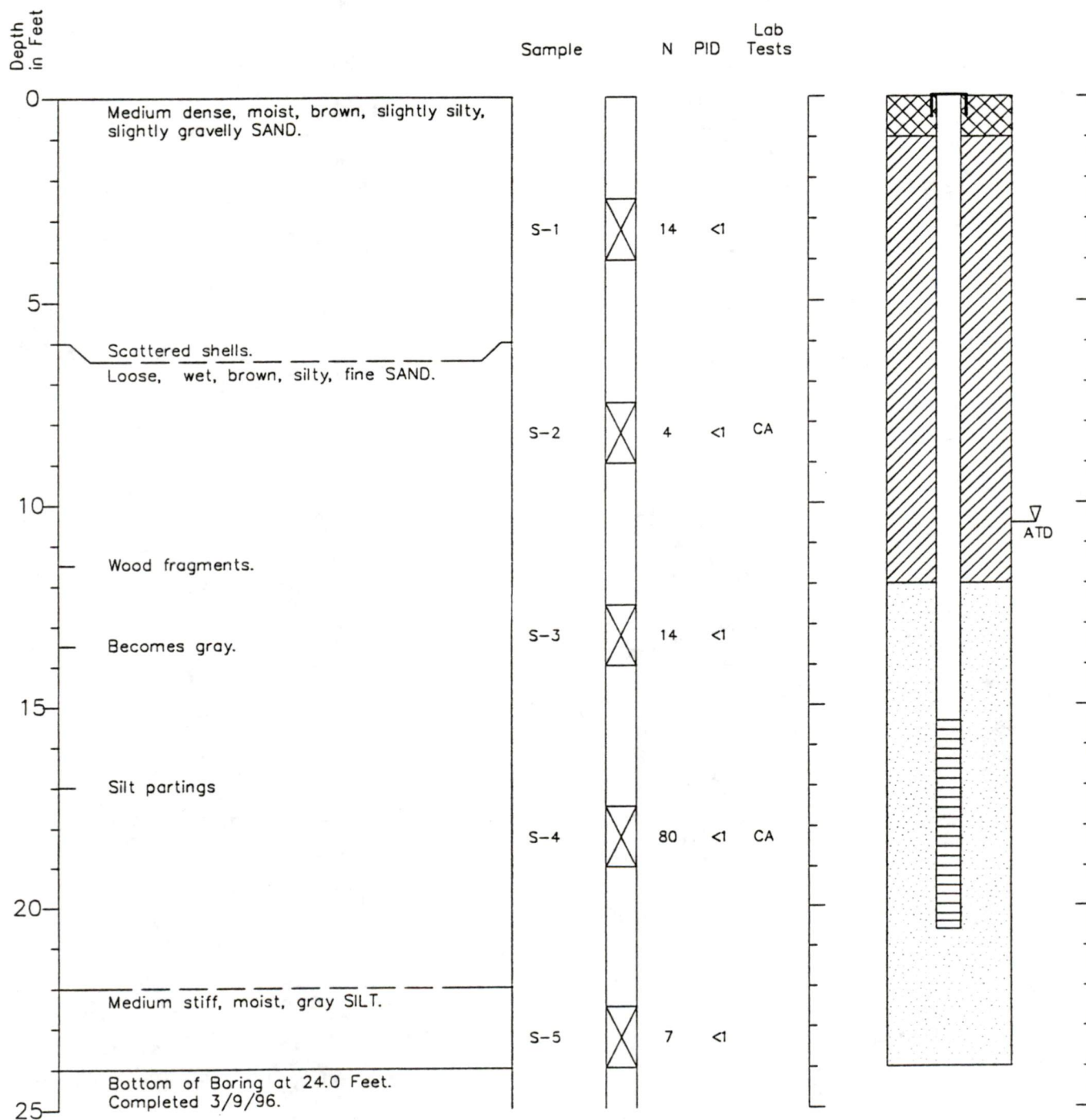
J-4063-01 11/97

Figure A-1

Boring Log and Construction Data for Monitoring Well MW-1 (JT-1)

Geologic Log

Monitoring
Well Design



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. PID reading taken with an 11.8 volt OVM meter.



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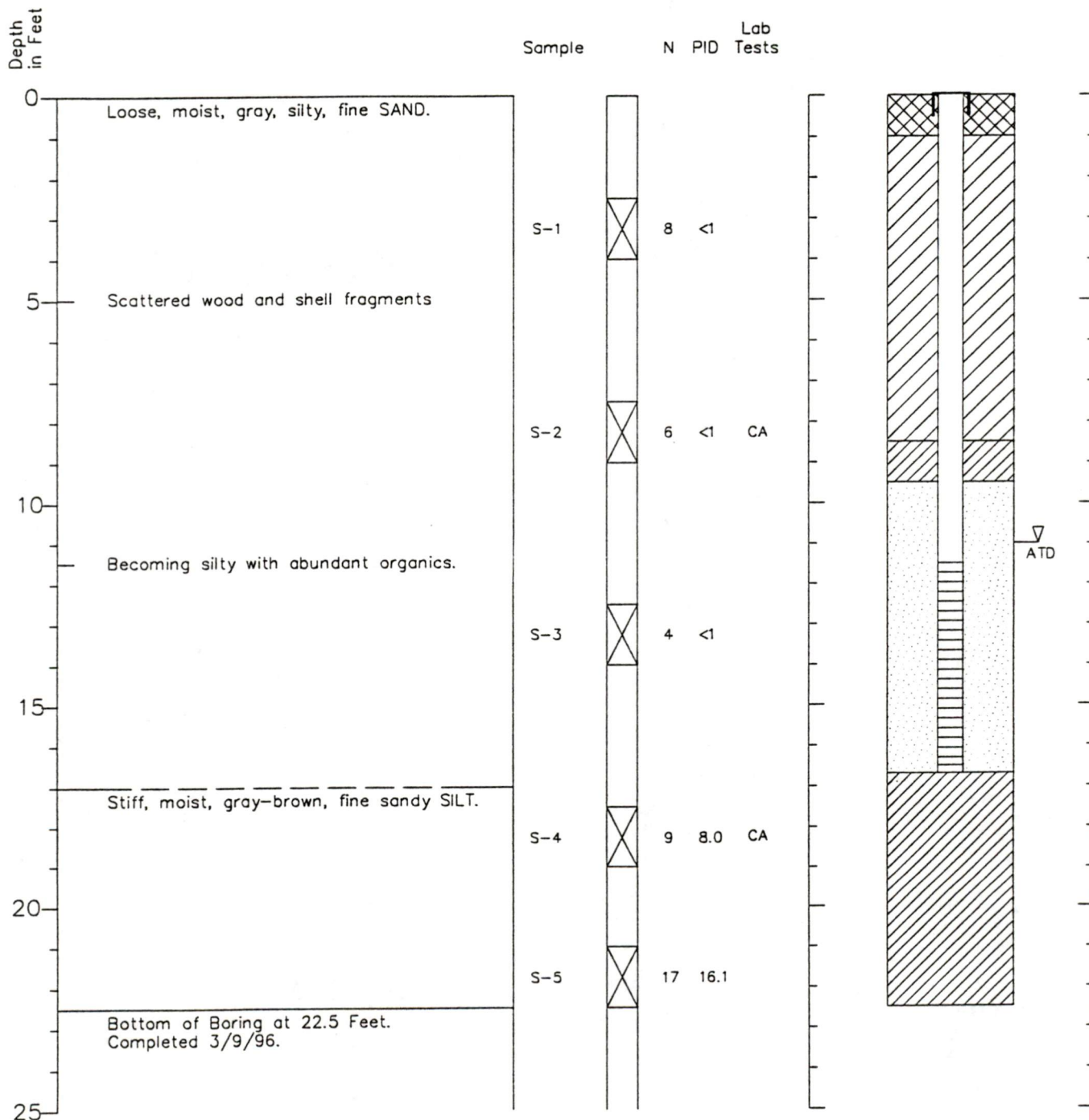
J-4063-01 3/96

Figure A-2

Boring Log and Construction Data for Monitoring Well MW-2 (JT-2)

Geologic Log

Monitoring
Well Design



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. PID reading taken with an 11.8 volt OVM meter.

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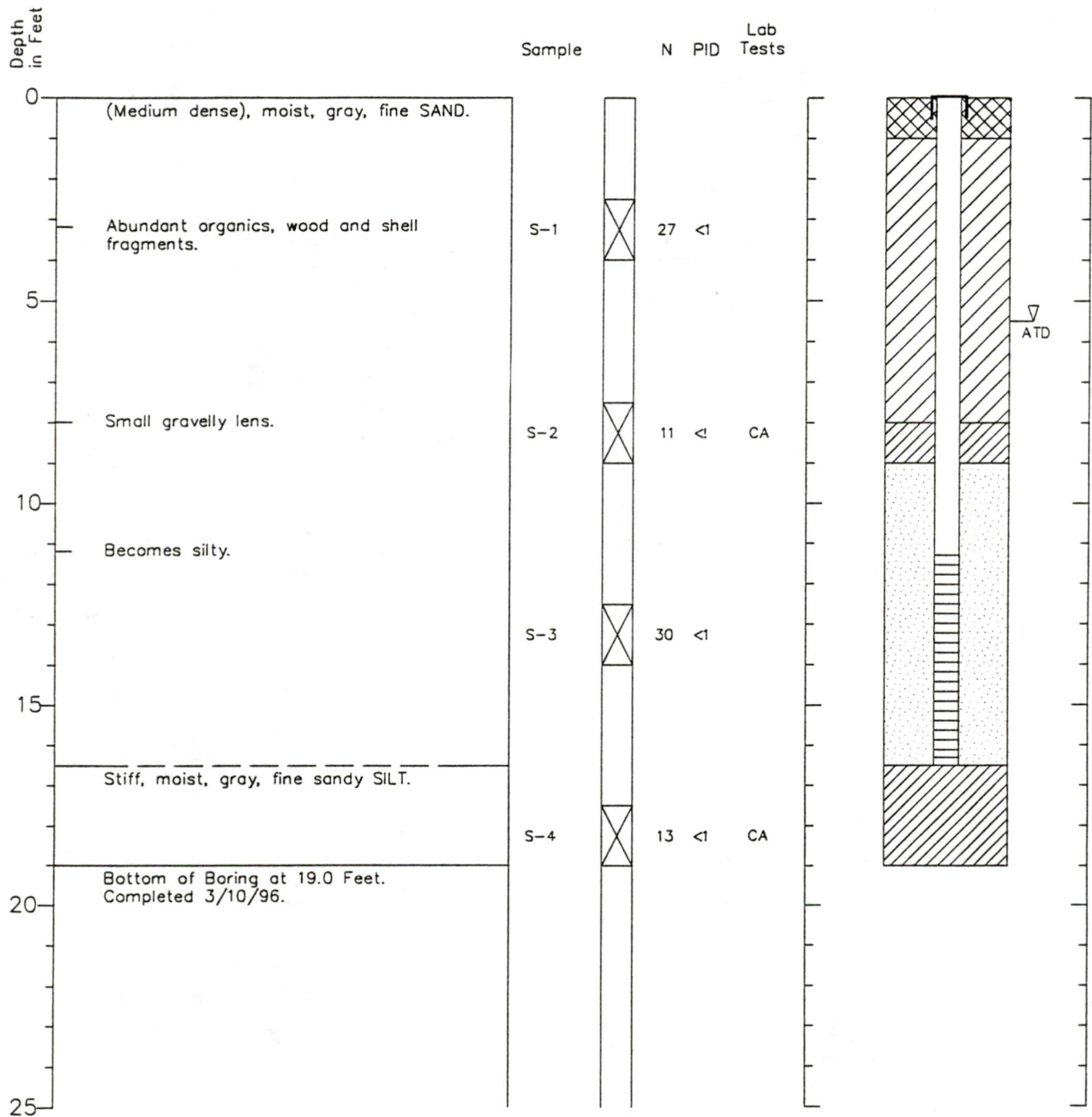
J-4063-01 3/96

Figure A-3

Boring Log and Construction Data for Monitoring Well MW-3 (JT-3)

Geologic Log

Monitoring Well Design

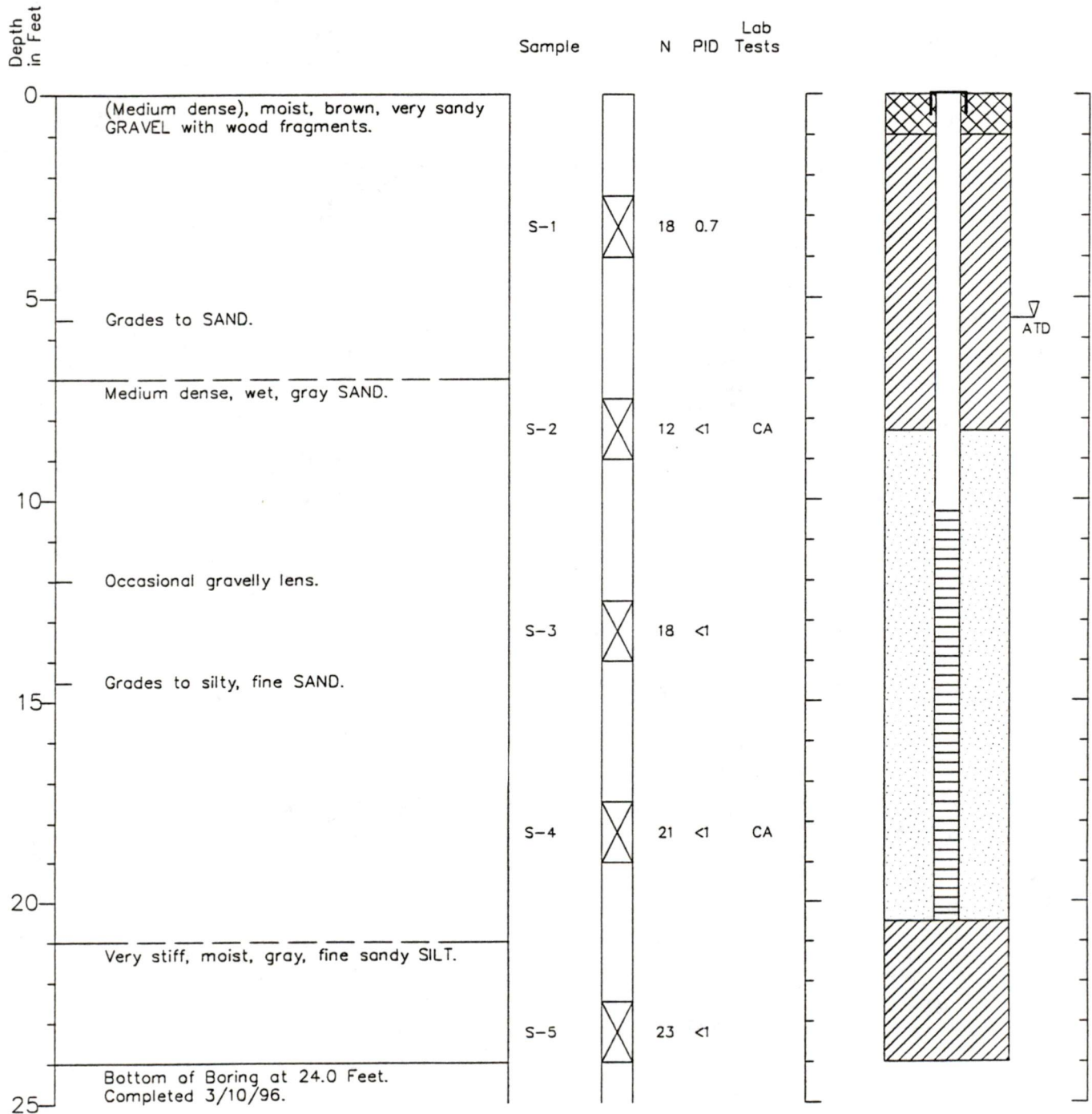


1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. PID reading taken with an 11.8 volt OVM meter.

Boring Log and Construction Data for Monitoring Well MW-4 (JT-4)

Geologic Log

Monitoring
Well Design



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. PID reading taken with an 11.8 volt OVM meter.



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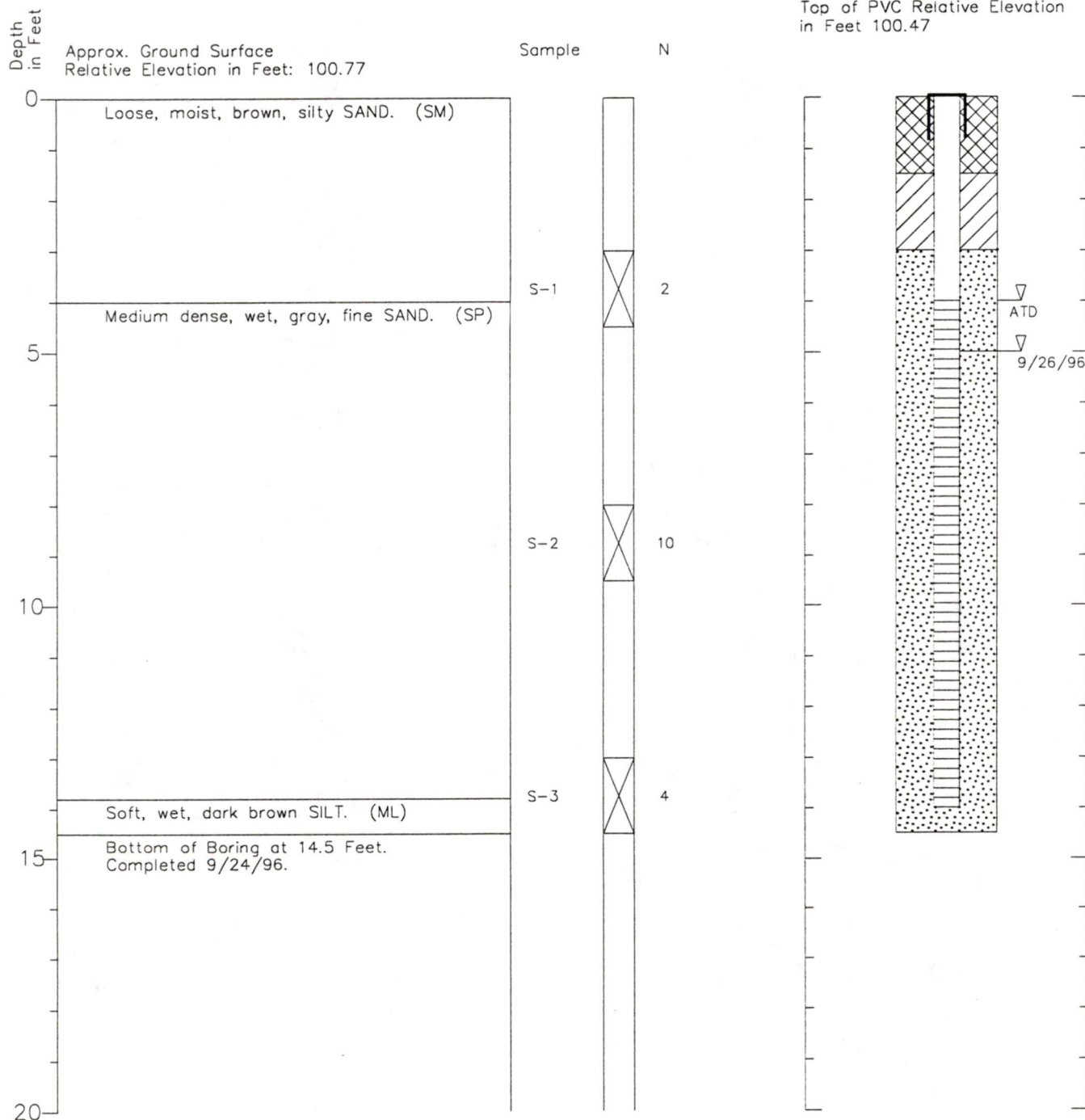
Figure A-5

Boring Log and Construction Data for Monitoring Well HC-MW-1

Geologic Log

Monitoring Well Design

Casing Stickup in Feet: -0.30
Top of PVC Relative Elevation in Feet 100.47



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated is at time of drilling (ATD) or for date specified. Level may vary with time.
4. Ground surface elevation based on an assumed elevation of 100.00 feet on top of HC-MW-2 PVC casing.



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J-4617

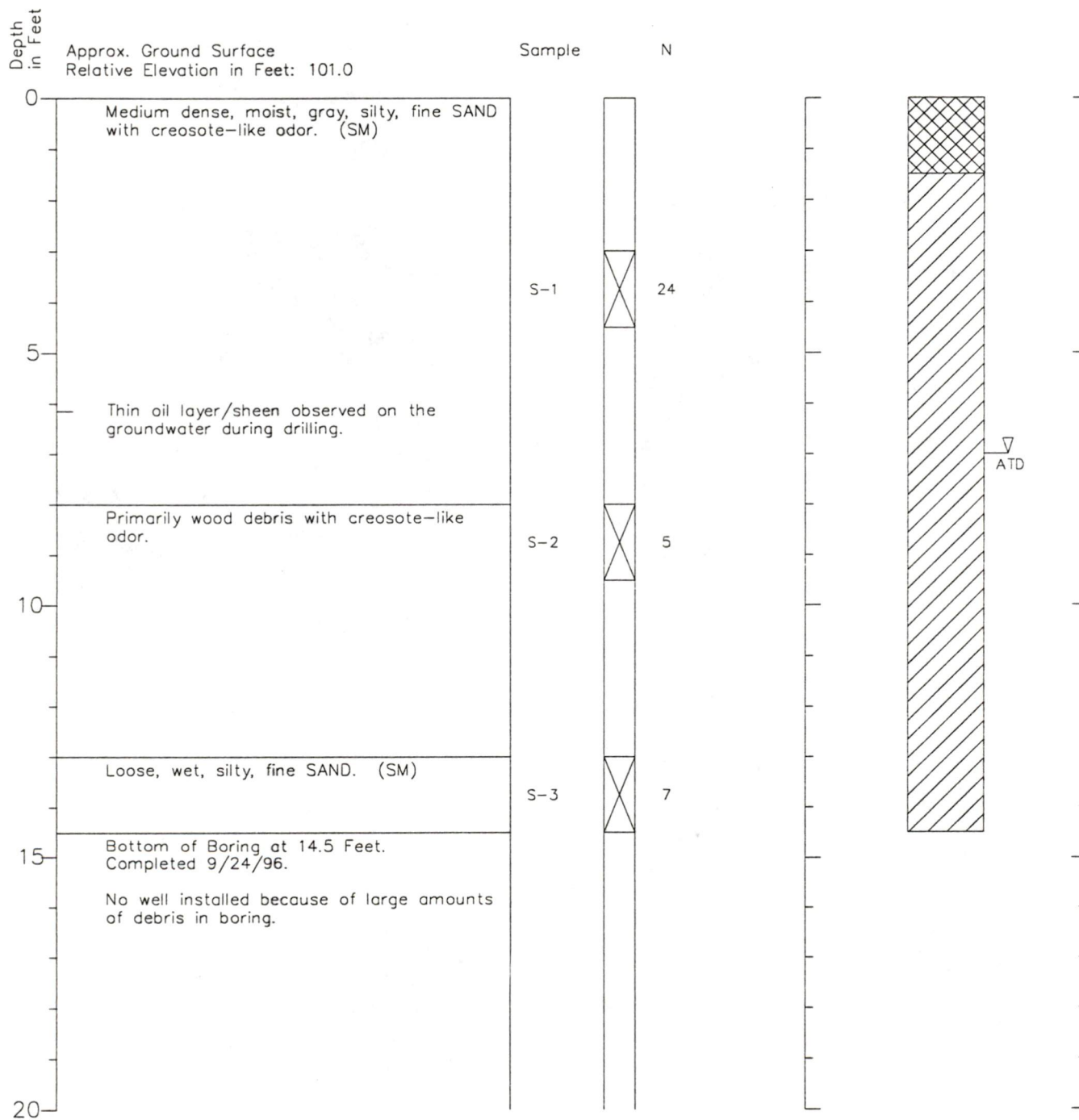
9/96

Figure A-2

Boring Log HC-SB-1

Geologic Log

Backfilled Boring



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated is at time of drilling (ATD) or for date specified. Level may vary with time.
4. Ground surface elevation based on an assumed elevation of 100.00 feet on top of HC-MW-2 PVC casing.



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J-4617

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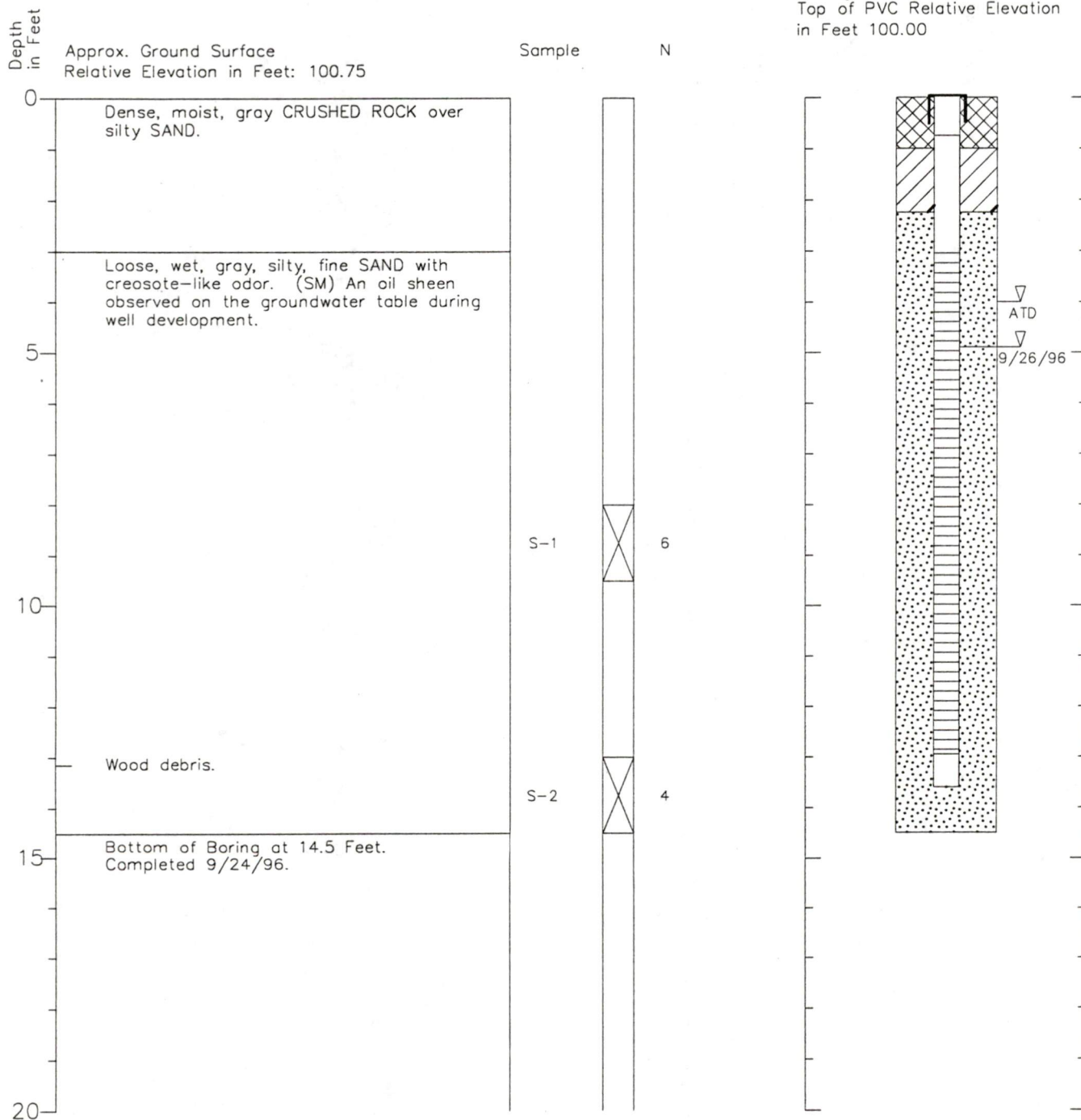
Figure A-3

Boring Log and Construction Data for Monitoring Well HC-MW-2

Geologic Log

Monitoring Well Design

Casing Stickup in Feet: -0.75
Top of PVC Relative Elevation in Feet 100.00



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated is at time of drilling (ATD) or for date specified. Level may vary with time.
4. Ground surface elevation based on an assumed elevation of 100.00 feet on top of HC-MW-2 PVC casing.

acad log 1=1



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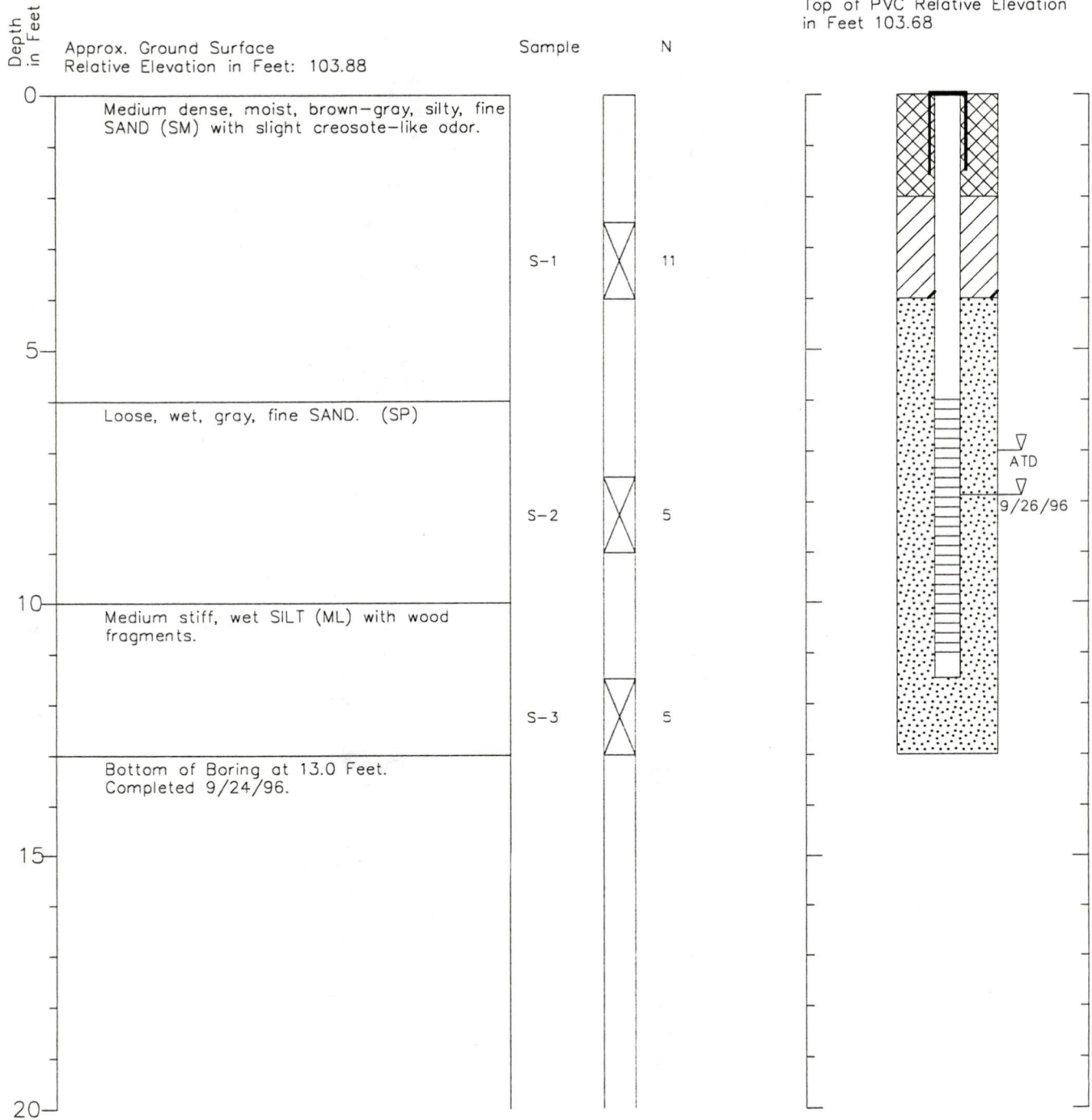
Figure A-4

Boring Log and Construction Data for Monitoring Well HC-MW-3

Geologic Log

Monitoring Well Design

Casing Stickup in Feet: -0.20
Top of PVC Relative Elevation in Feet 103.68



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated is at time of drilling (ATD) or for date specified. Level may vary with time.
4. Ground surface elevation based on an assumed elevation of 100.00 feet on top of HC-MW-2 PVC casing.



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Figure A-5

Strataprobe Log HC-1

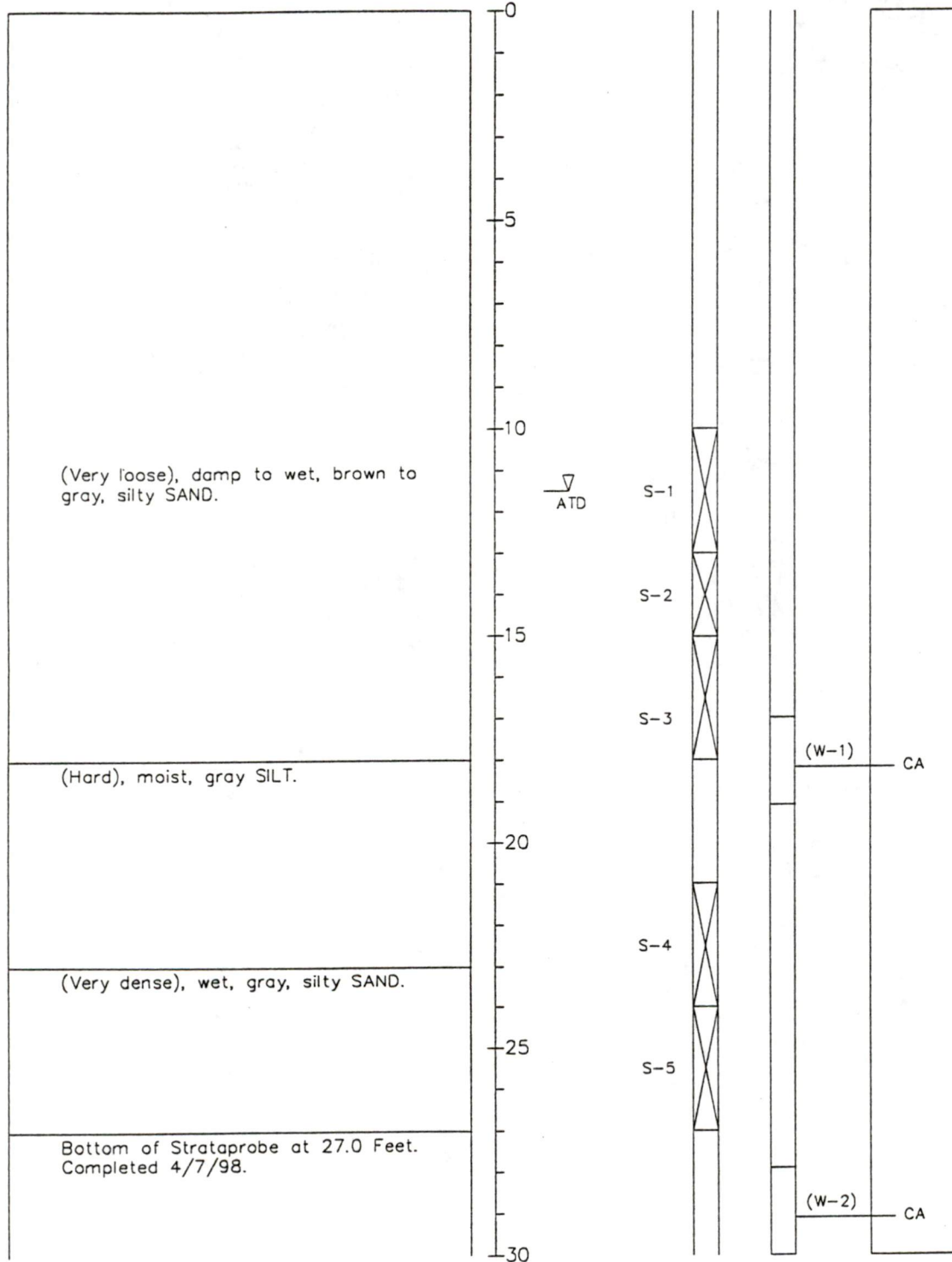
Soil Descriptions

Depth
in Feet

Soil
Sample

Groundwater
Sample

LAB
TESTS



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.



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Figure A-2

Strataprobe Log HC-2

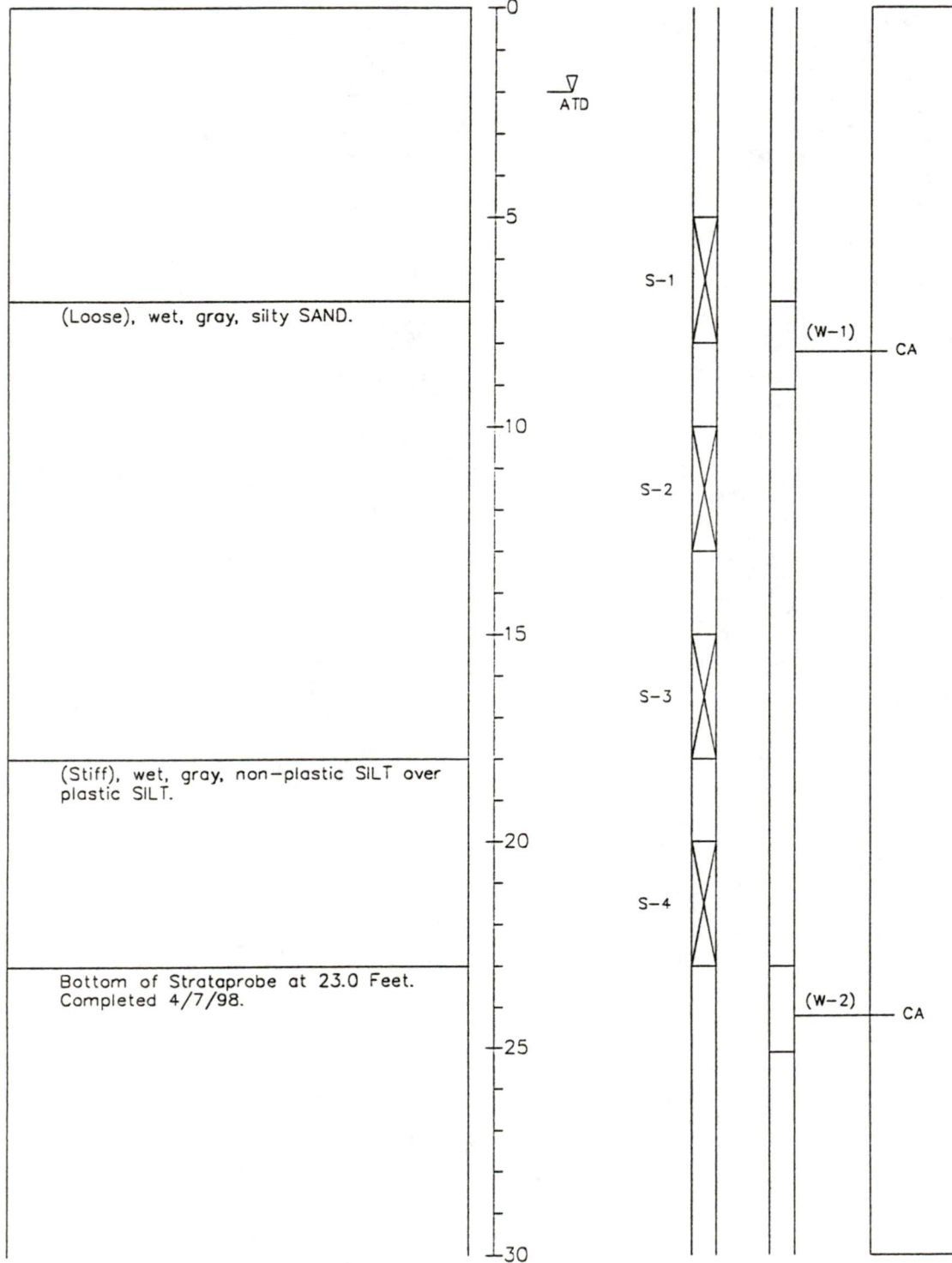
Soil Descriptions

Depth
in Feet

Soil
Sample

Groundwater
Sample

LAB
TESTS



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

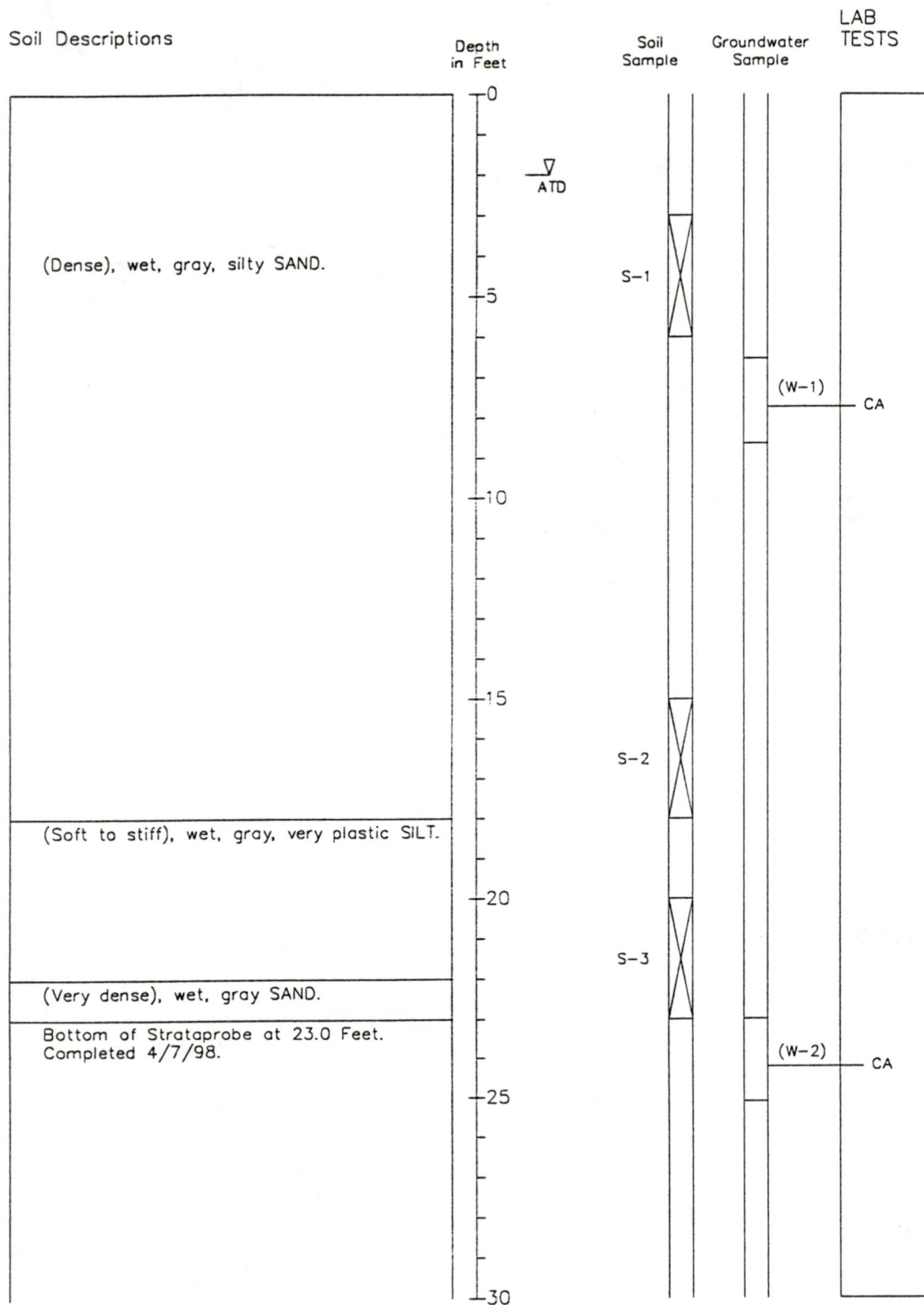


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Figure A-3

Strataprobe Log HC-3



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.



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4/98

Figure A-4

Strataprobe Log HC-4

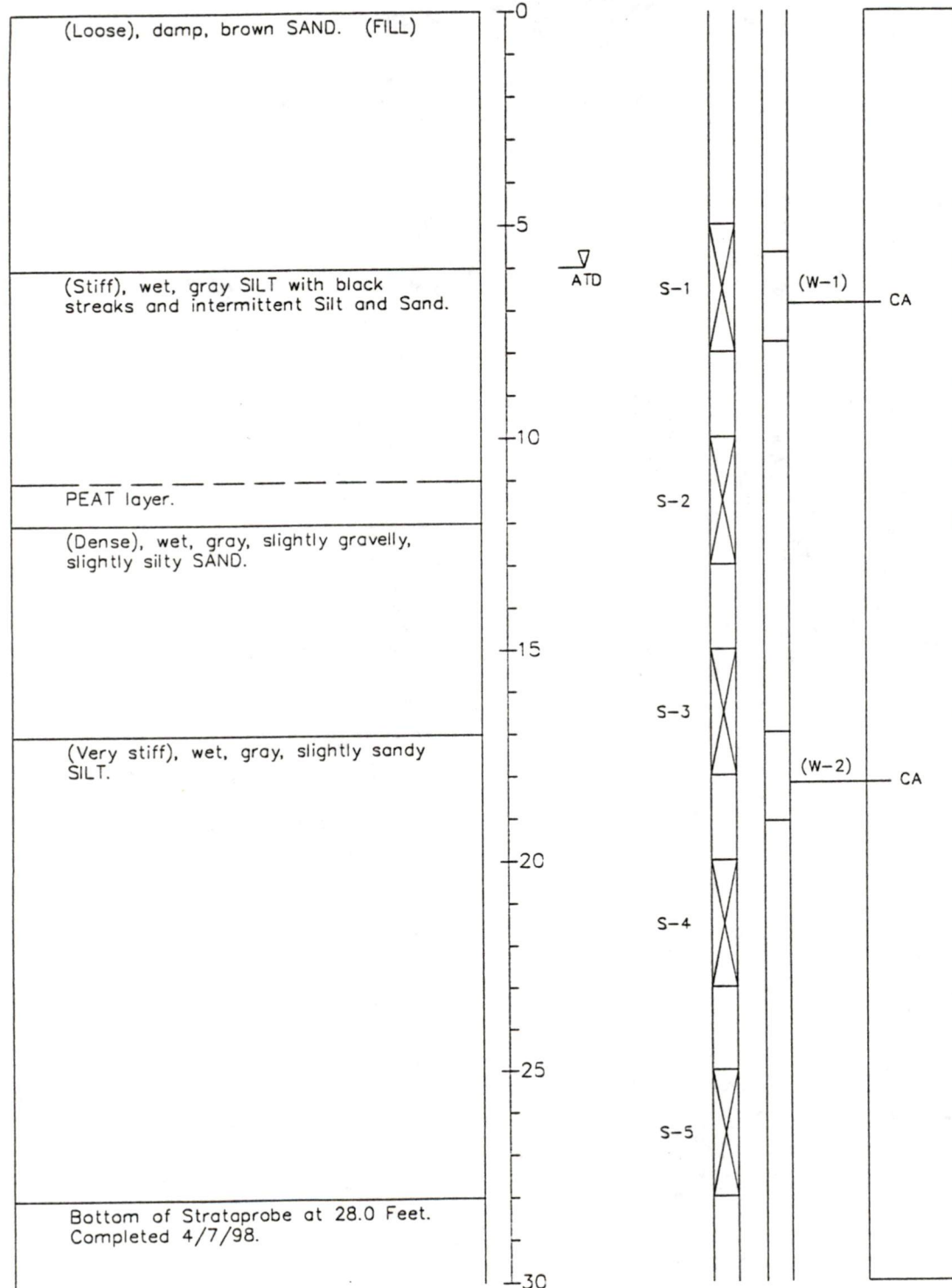
Soil Descriptions

Depth
in Feet

Soil
Sample

Groundwater
Sample

LAB
TESTS



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

ACAD LOG



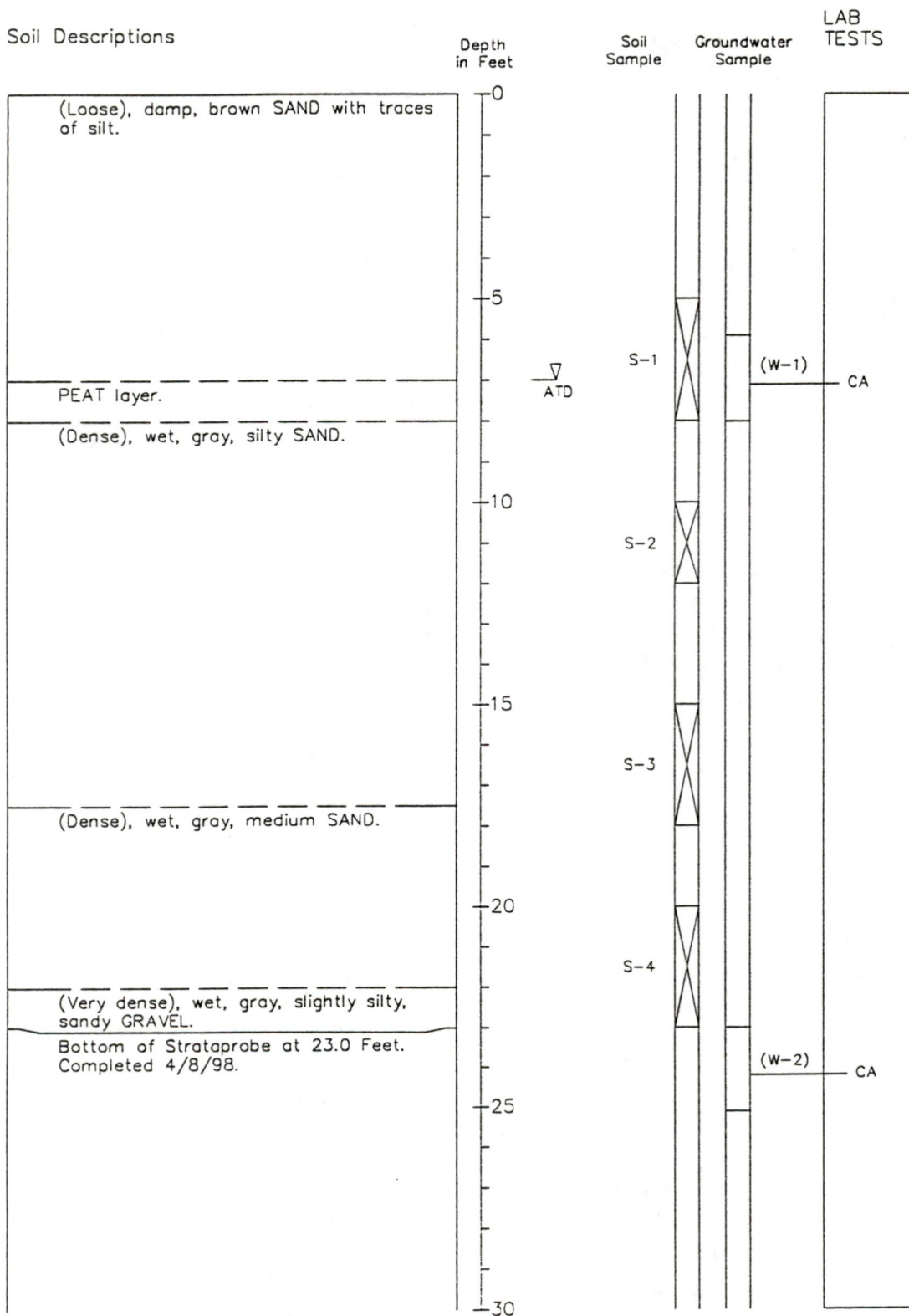
HARTCROWSER

J-4063-08

4/98

Figure A-5

Strataprobe Log HC-5



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

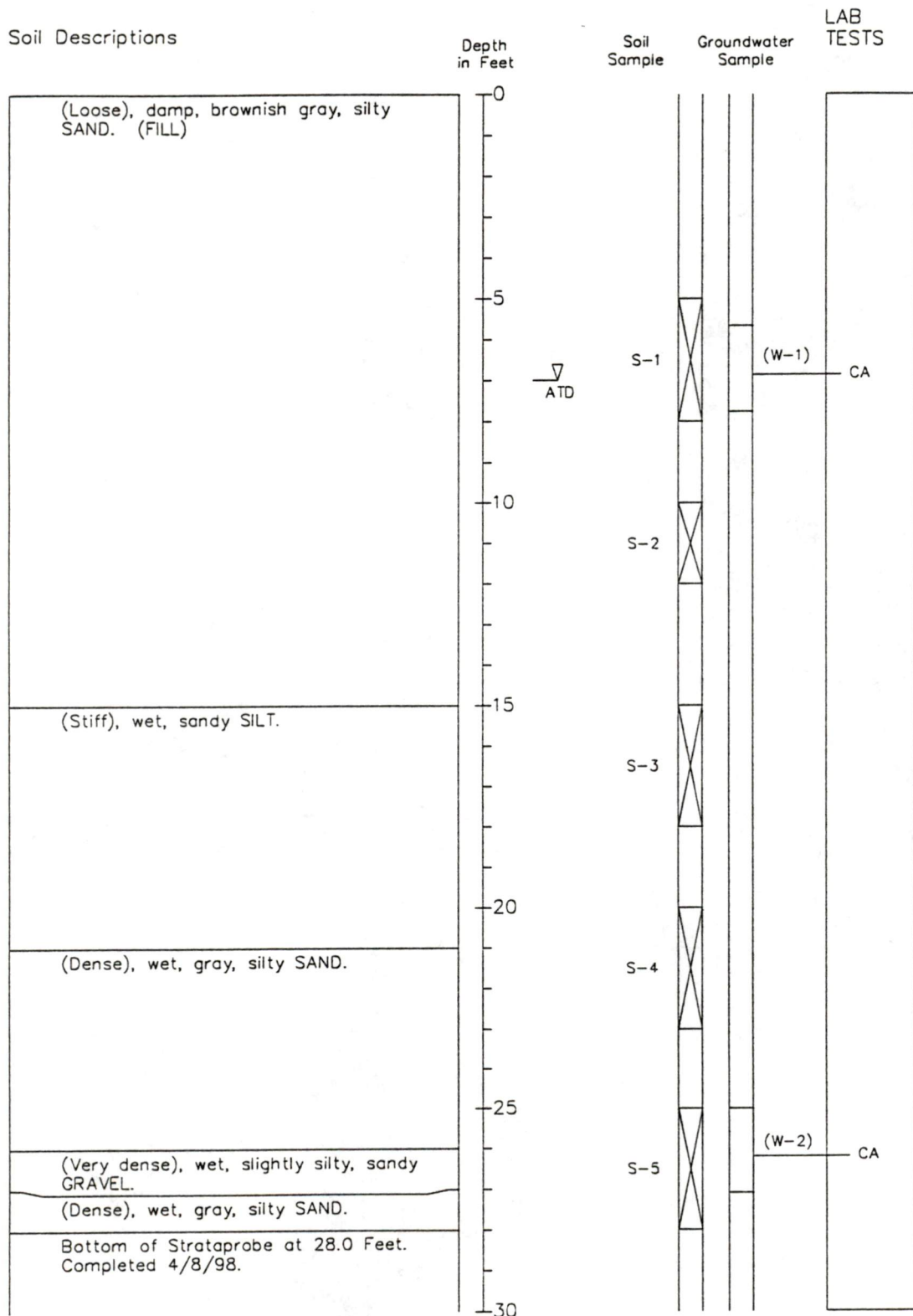


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Figure A-6

Strataprobe Log HC-6



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

Strataprobe Log HC-7

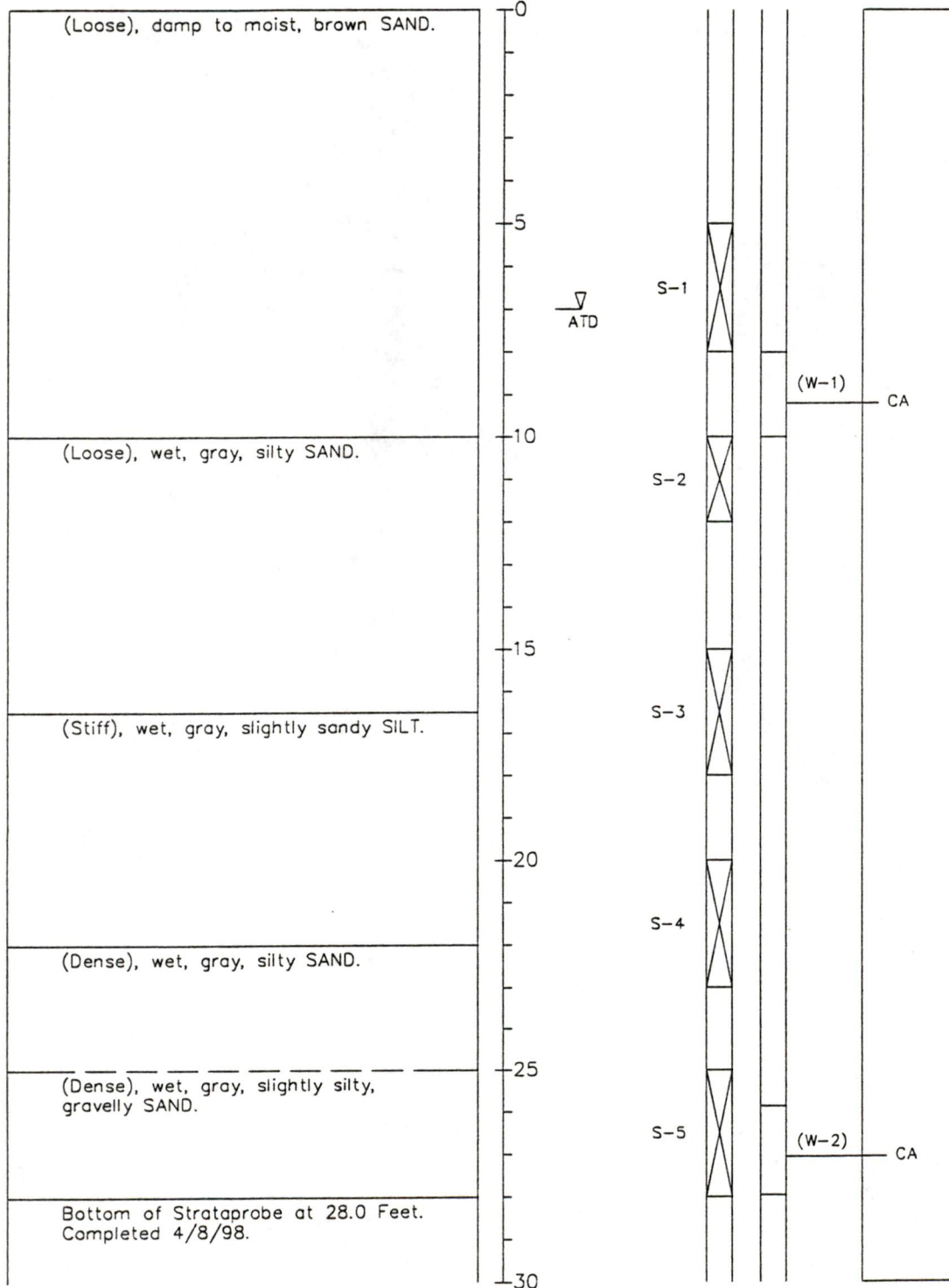
Soil Descriptions

Depth
in Feet

Soil
Sample

Groundwater
Sample

LAB
TESTS



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

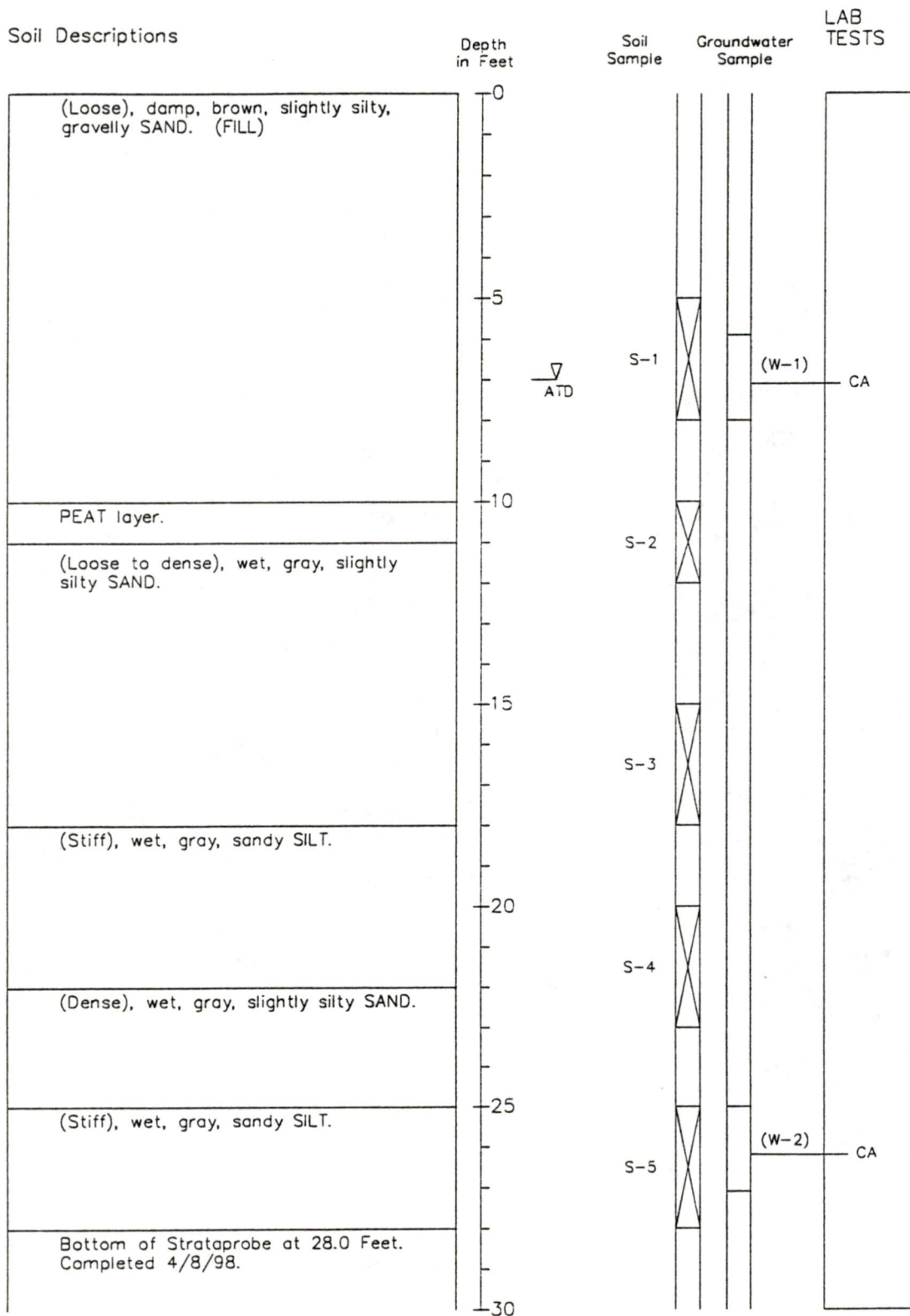


HARTCROWSER

J-4063-08 4/98

Figure A-8

Strataprobe Log HC-8



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

LOG OF EXPLORATORY BORING

PROJECT NAME NW Market Street
 LOCATION 2801 NW Market Street, Seattle, Washington
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Geoprobe
 LOGGED BY Nick Garson

BORING NO. GP- 1
 PAGE 1 OF 2
 GROUND ELEV. NA
 TOTAL DEPTH 26.00'
 DATE COMPLETED 07/01/96

SAMPLE METHOD (SAMPLE NUMBER)	NCOMP (RECOVERY PERCENT)	BLOWS PER 6 INCHES (PID ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
GPS-1-0.5 (SS)	NA (4")	NA (1.0)						0 to 0.25 foot: ASPHALT
GPS-1-2 (GP)	NA (17")	NA (0.1)						0.25 to 1.5 feet: GRAVELLY SAND (SW), brown, fine to coarse, approximately 15 to 20 percent fine to medium gravel, trace fines, damp. (FILL)
GPS-1-4 (GP)	NA (18")	NA (0.1)		5				1.5 to 7.5 feet: SAND (SP), brown, fine, less than 5 percent fines, scattered sea shell fragments from 2.0 to 4.0 feet bgs and wood debris, damp to moist. (FILL)
GPS-1-6 (GP)	NA (14")	NA (1.0)						
GPS-1-8 (GP)	NA (16")	NA (0.1)	▽					7.5 to 8.3 feet: SILT (ML), gray, low plasticity, approximately 5 percent fine sand, scattered rootlets and wood debris, moist to wet. (FILL)
GPS-1-10 (GP)	NA (14")	NA (0.1)		10				8.3 to 10.5 feet: SAND (SP), gray, fine, less than 5 percent fines, scattered roots and rootlets, moist to wet. (FILL)
GPS-1-12 (GP)	NA (15")	NA (0.1)						10.5 to 14.0 feet: SILT (ML), gray to brown (alternating), less than 5 percent fine sand (approximately 5 to 10 percent medium sand, trace coarse sand, trace fines, wet. (NATIVE SOIL)
GPS-1-14 (GP)	NA (15")	NA (0.1)		15				14.0 to 17.6 feet: SAND (SP), olive green (color change to gray at 17.0 feet bgs), fine, approximately 5 to 10 percent medium sand, trace coarse sand, trace fines, wet. (NATIVE SOIL)
GPS-1-16 (GP)	NA (20")	NA (0.1)						
GPS-1-18 (GP)	NA (NA)	NA (0.1)		20				17.6 to 17.8 feet: SILT (ML), gray, low plasticity, wet. (NATIVE SOIL)
								17.8 to 19.8 feet: SAND (SP), gray, fine, trace medium sand, trace to approximately 5 percent fines, wet. (NATIVE SOIL)



REMARKS

(1) GP = Soil samples collected with 1.5- x 24-inch stainless steel Geoprobe sampler with plastic liner. (2) SS = Soil samples collected with 1.5- x 18-inch stainless steel split spoon sampler. (3) White triangle = Field estimate of water level at time of drilling. (4) Reference elevation = Ground surface. (5) Photolonization detector (PID) results in parts per million (ppm). (6) NA = Not applicable/not analyzed.

LOG OF EXPLORATORY BORING

PROJECT NAME NW Market Street
LOCATION 2801 NW Market Street, Seattle, Washington
DRILLED BY Cascade Drilling, Inc.
DRILL METHOD Geoprobe
LOGGED BY Nick Garson

BORING NO. GP- 1
PAGE 2 OF 2
GROUND ELEV. NA
TOTAL DEPTH 26.00'
DATE COMPLETED 07/01/96

SAMPLE METHOD (SAMPLE NUMBER)	NCOMP (RECOVERY PERCENT)	BLOWS PER 6 INCHES (PID ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
GPS-1-20 (GP)	NA (18")	NA (0.1)						19.8 to 21.0 feet: SANDY SILT/SILTY SAND (ML/SM) , gray, fine, low plasticity, approximately equal amounts of silt and sand, dense. (NATIVE SOIL)
GPS-1-22 (GP)	NA (24")	NA (0.1)						21.0 to 22.0 feet: SANDY SILT (ML) , gray, low plasticity, approximately 15 to 20 percent fine sand, moist to wet. (NATIVE SOIL)
GPS-1-24 (GP)	NA (24")	NA (0.1)		25				22.0 to 22.25 feet: SAND (SP) , gray, fine trace fines, wet. (NATIVE SOIL)
								22.5 to 25.0 feet: CLAY (CL) , gray, sticky, highly plastic, moist to wet. (NATIVE SOIL)
								25.0 to 26.0 feet: SILTY SAND (SP) , gray, fine, approximately 10 to 15 percent low plasticity, approximately 5 percent medium sand, very dense, moist to wet. (GLACIAL TILL)
								Total depth drilled = 26.0 feet. Total depth sampled = 26.0 feet.
				30				BORING ABANDONMENT DETAILS: 0 to 0.5 foot: Surface completed with Jet Set and black dye to match asphalt. 0.5 to 26.0 feet: Boring backfilled with injected bentonite grout slurry as sample rods were pulled out of borehole.
				35				NOTE: During groundwater sampling, a temporary well screen was placed at 18.5 to 22.5 feet bgs.
				40				



REMARKS

(1) GP = Soil samples collected with 1.5- x 24-inch stainless steel Geoprobe sampler with plastic liner. (2) SS = Soil samples collected with 1.5- x 18-inch stainless steel split spoon sampler. (3) White triangle = Field estimate of water level at time of drilling. (4) Reference elevation = Ground surface. (5) Photoionization detector (PID) results in parts per million (ppm). (6) NA = Not applicable/not analyzed.

LOG OF EXPLORATORY BORING

PROJECT NAME NW Market Street
 LOCATION 2801 NW Market Street, Seattle, Washington
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Geoprobe
 LOGGED BY Nick Garson

BORING NO. GP- 2
 PAGE 1 OF 2
 GROUND ELEV. NA
 TOTAL DEPTH 25.00'
 DATE COMPLETED 07/01/96

SAMPLE METHOD (SAMPLE NUMBER)	NCOMP (RECOVERY PERCENT)	BLOWS PER 6 INCHES (PID ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
GPS-2-0.5 (SS)	NA (5")	NA (0)						0 to 0.25 foot: ASPHALT
GPS-2-2 (GP)	NA (14")	NA (150)						0.25 to 2.0 feet: GRAVEL (GW), brown, fine to coarse, approximately 5 percent fine to coarse sand, trace fines, damp. (FILL)
GPS-2-4 (GP)	NA (17")	NA (0.7)		5				2.0 to 7.0 feet: SAND (SP), brown, fine, trace fines, damp. (FILL)
GPS-2-6 (GP)	NA (14")	NA (0.5)						
GPS-2-8 (GP)	NA (14")	NA (1.0)						7.0 to 8.0 feet: SILT (ML), gray, low plasticity, trace to 5 percent fine sand, scattered wood debris, damp to moist. (FILL)
GPS-2-10 (GP)	NA (13")	NA (3.0)		10				8.0 to 10.0 feet: SILTY SAND/SANDY SILT (SM/ML), gray, fine sand, low plasticity fines, scattered shell fragments and rootlets, moist to wet. (FILL)
GPS-2-12 (GP)	NA (12")	NA (0.5)						10.0 to 11.5 feet: SAND (SP), dark gray, fine, approximately 5 percent fines, scattered rootlets and wood debris, wet. (FILL)
GPS-2-14 (GP)	NA (14")	NA (1.0)		15				11.5 to 12.0 feet: SILTY SAND (SM), dark gray, approximately 10 to 15 percent low plasticity fines, scattered rootlets, wet. (FILL)
GPS-2-16 (GP)	NA (24")	NA (0.1)						12.0 to 14.0 feet: SILT (ML), dark brown to gray, abundant wood debris, fragments of whitish-tan medium to coarse grained sized material, soft, wet. (NATIVE SOIL)
GPS-2-18 (GP)	NA (19")	NA (0)		20				14.0 to 17.5 feet: SAND (SP), dark gray, fine, trace medium sand, approximately 5 percent fines, trace rootlets, wet. (NATIVE SOIL)
								17.5 to 18.0 feet: SILT (ML), gray, low plasticity, trace fine sand, wet. (NATIVE SOIL)
								18.0 to 19.5 feet: SILTY SAND (SM), gray, fine, approximately 5 to 15 percent low plasticity fines, wet. (NATIVE SOIL)



REMARKS

(1) GP = Soil samples collected with 1.5- x 24-inch stainless steel Geoprobe sampler with plastic liner. (2) SS = Soil samples collected with 1.5- x 18-inch stainless steel split spoon sampler. (3) White triangle = Field estimate of water level at time of drilling. (4) Reference elevation = Ground surface. (5) Photoionization detector (PID) results in parts per million (ppm). (6) NA = Not applicable/not analyzed.

LOG OF EXPLORATORY BORING

PROJECT NAME NW Market Street
 LOCATION 2801 NW Market Street, Seattle, Washington
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Geoprobe
 LOGGED BY Nick Garson

BORING NO. GP- 2
 PAGE 2 OF 2
 GROUND ELEV. NA
 TOTAL DEPTH 25.00'
 DATE COMPLETED 07/01/96

SAMPLE METHOD (SAMPLE NUMBER)	NCOMP (RECOVERY PERCENT)	BLOWS PER 6 INCHES (PID ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
GPS-2-20 (GP)	NA (12")	NA (0.1)						19.5 to 21.0 feet: SILT (ML), gray, low plasticity, trace fine sand, wet. (NATIVE SOIL)
GPS-2-21 (GP)	NA (20")	NA (0)						21.0 to 25.0 feet: SILTY SAND (SM), gray, fine, approximately 10 to 15 percent low plasticity fines, wet, dense. (GLACIAL TILL)
GPS-2-24 (GP)	NA (20")	NA (0)						
				25				Total depth drilled = 25.0 feet. Total depth sampled = 25.0 feet.
				30				BORING ABANDONMENT DETAILS: 0 to 0.5 foot: Surface completed with Jet Set and black dye to match asphalt. 0.5 to 25.0 feet: Boring backfilled with bentonite grout slurry as sample rods were pulled out of borehole.
				35				NOTE: During groundwater sampling, a temporary well screen was placed at 18.0 to 22.0 feet bgs.
				40				



REMARKS

(1) GP = Soil samples collected with 1.5- x 24-inch stainless steel Geoprobe sampler with plastic liner. (2) SS = Soil samples collected with 1.5- x 18-inch stainless steel split spoon sampler. (3) White triangle = Field estimate of water level at time of drilling. (4) Reference elevation = Ground surface. (5) Photoionization detector (PID) results in parts per million (ppm). (6) NA = Not applicable/not analyzed.

LOG OF EXPLORATORY BORING

PROJECT NAME NW Market Street
 LOCATION 2801 NW Market Street, Seattle, Washington
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Geoprobe
 LOGGED BY Nick Garson

BORING NO. GP- 3
 PAGE 1 OF 2
 GROUND ELEV. NA
 TOTAL DEPTH 26.00'
 DATE COMPLETED 07/01/96

SAMPLE METHOD (SAMPLE NUMBER)	NCOMP (RECOVERY PERCENT)	BLOWS PER 6 INCHES (PID ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
GPS-3-0.5 (SS)	NA (11")	NA (0)						0 to 0.25 foot: ASPHALT
GPS-3-2 (GP)	NA (18")	NA (0)						0.25 to 0.5 foot: GRAVELLY SAND (SW), brown, fine to coarse, approximately 15 to 20 percent fine to medium gravel, trace fines, damp. (FILL)
GPS-3-4 (GP)	NA (12")	NA (0)		5				0.5 to 2.0 feet: SILTY SAND (SM), brown, fine, approximately 10 to 15 percent low plasticity fines, trace medium sand, damp. (FILL)
GPS-3-6 (GP)	NA (9")	NA (0)						2.0 to 7.5 feet: SAND (SP), brown, fine, approximately 5 percent medium to coarse sand at 7.5 feet, trace rootlets, trace fines, damp to wet. (FILL)
GPS-3-8 (GP)	NA (18")	NA (0)						7.5 to 11.5 feet: SANDY SILT (SM), gray, low plasticity, approximately 10 to 15 percent fine sand, scattered rootlets and wood debris, wet. (FILL)
GPS-3-10 (GP)	NA (17")	NA (0)		10				
GPS-3-12 (GP)	NA (13")	NA (0)						11.5 to 12.5 feet: SAND (SP), gray, fine, trace fines, trace rootlets, wet. (FILL)
GPS-3-14 (GP)	NA (19")	NA (0)		15				12.5 to 13.5 feet: SANDY SILT (ML), gray, low plasticity, approximately 10 to 15 percent fine sand, scattered rootlets and wood debris, wet. (FILL)
GPS-3-16 (GP)	NA (NA)	NA (4.1)						13.5 to 14.0 feet: SAND (SP), gray to dark brown, fine, trace fines, trace rootlets, wet. (NATIVE SOIL)
GPS-3-18 (GP)	NA (14")	NA (0)		20				14.0 to 15.25 feet: SANDY SILT (ML), gray, low plasticity, approximately 10 to 15 percent fine sand, scattered rootlets, wet. (NATIVE SOIL)
								15.25 to 18.0 feet: SAND (SP), dark brown, trace to approximately 5 percent low plasticity fines, trace rootlets, wet. (NATIVE SOIL)
								18.0 to 19.8 feet: SANDY SILT (ML), gray, low plasticity, approximately 10 to 15 percent fine



REMARKS

(1) GP = Soil samples collected with 1.5- x 24-inch stainless steel Geoprobe sampler with plastic liner. (2) SS = Soil samples collected with 1.5- x 18-inch stainless steel split spoon sampler. (3) White triangle = Field estimate of water level at time of drilling. (4) Reference elevation = Ground surface. (5) Photoionization detector (PID) results in parts per million (ppm). (6) NA = Not applicable/not analyzed.

LOG OF EXPLORATORY BORING

PROJECT NAME NW Market Street
 LOCATION 2801 NW Market Street, Seattle, Washington
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Geoprobe
 LOGGED BY Nick Garson

BORING NO. GP- 3
 PAGE 2 OF 2
 GROUND ELEV. NA
 TOTAL DEPTH 26.00'
 DATE COMPLETED 07/01/96

SAMPLE METHOD (SAMPLE NUMBER)	NCOMP (RECOVERY PERCENT)	BLOWS PER 6 INCHES (PID ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
GPS-3-20 (GP)	NA (NA)	NA (0)						sand, scattered rootlets, wet. (NATIVE SOIL)
								19.8 to 21.7 feet: CLAY (CL), gray, sticky, highly plastic, wet. (NATIVE SOIL)
GPS-3-22 (GP)	NA (NA)	NA (0)						21.7 to 23.0 feet: SILTY SAND (SM), gray, fine to coarse, approximately 10 to 15 percent fine sand, scattered rootlets, wet. (NATIVE SOIL)
GPS-3-24 (GP)	NA (NA)	NA (0)						23.0 to 25.75 feet: SANDY SILT (ML), gray, low plasticity, approximately 15 to 20 percent fine sand, wet. (NATIVE SOIL)
				25				25.75 to 26.0 feet: SILTY SAND (SM), fine, gray, approximately 15 to 20 percent low plasticity fines, very dense, wet. (GLACIAL TILL)
								Total depth drilled = 26.0 feet. Total depth sampled = 26.0 feet.
				30				BORING ABANDONMENT DETAILS: 0 to 0.5 foot: Surface completed with Jet Set and black dye to match asphalt. 0.5 to 26.0 feet: Boring backfilled with injected bentonite grout slurry as sample rods were pulled out of borehole.
				35				NOTE: During groundwater sampling, a temporary well screen was placed at 22.0 to 26.0 feet bgs.
				40				



REMARKS

(1) GP = Soil samples collected with 1.5- x 24-inch stainless steel Geoprobe sampler with plastic liner. (2) SS = Soil samples collected with 1.5- x 18-inch stainless steel split spoon sampler. (3) White triangle = Field estimate of water level at time of drilling. (4) Reference elevation = Ground surface. (5) Photoionization detector (PID) results in parts per million (ppm). (6) NA = Not applicable/not analyzed.

LOG OF EXPLORATORY BORING

PROJECT NAME NW Market Street
 LOCATION 2801 NW Market Street, Seattle, Washington
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Geoprobe
 LOGGED BY Nick Garson

BORING NO. GP- 4
 PAGE 1 OF 2
 GROUND ELEV. NA
 TOTAL DEPTH 24.00'
 DATE COMPLETED 06/15/96

SAMPLE METHOD (SAMPLE NUMBER)	NCOMP (RECOVERY PERCENT)	BLOWS PER 6 INCHES (PID ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
GPS-4-0.5 (SS)	NA (16")	NA (1.0)						0 to 0.5 foot: ASPHALT
GPS-4-2 (GP)	NA (16")	NA (1.0)						0.5 to 1.5 feet: GRAVELLY SAND (SW), brown, fine to coarse, approximately 5 to 10 percent fine gravel, damp. (FILL)
GPS-4-4 (GP)	NA (9")	NA (0.3)		5				1.5 to 5.0 feet: SAND (SP), brown, fine, trace medium sand, trace fines, trace shell fragments, damp. (FILL)
GPS-4-6 (GP)	NA (12")	NA (1.0)						5.0 to 6.0 feet: SILTY SAND (SM), dark brown, fine, approximately 10 to 15 percent low plasticity fines, trace medium sand, damp. (FILL)
GPS-4-8 (GP)	NA (14")	NA (0.3)						6.0 to 10.5 feet: SAND (SP), reddish brown, fine, trace fines, trace shell fragments, damp to wet. (FILL)
GPS-4-10 (GP)	NA (17")	NA (1.5)		10				10.5 to 14.5 feet: SILTY SAND WITH WOOD DEBRIS (SM), gray, fine, approximately 10 to 15 percent low plasticity fines, scattered wood debris, wet. (FILL)
GPS-4-12 (GP)	NA (16")	NA (0.3)						
GPS-4-14 (GP)	NA (18")	NA (0.3)		15				14.5 to 14.6 feet: CLAY (CL), gray, sticky, high plasticity, wet. (FILL)
GPS-4-16 (GP)	NA (14")	NA (0.3)						14.6 to 16.0 feet: SILTY SAND WITH WOOD DEBRIS (SM), gray, fine, approximately 10 to 15 percent low plasticity fines, scattered wood debris, wet. (FILL)
GPS-4-18 (GP)	NA (16")	NA (0.3)						16.0 to 18.0 feet: SILTY SAND (SM), gray to brown, fine, approximately 10 to 15 percent low plasticity fines, trace medium sand, wet. (NATIVE)
				20				18.0 to 20.3 feet: CLAY (CL), gray, sticky, high



REMARKS

(1) GP = Soil samples collected with 1.5- x 24-inch stainless steel Geoprobe sampler with plastic liner. (2) SS = Soil samples collected with 1.5- x 18-inch stainless steel split spoon sampler. (3) White triangle = Field estimate of water level at time of drilling. (4) Reference elevation = Ground surface. (5) Photoionization detector (PID) results in parts per million (ppm). (6) NA = Not applicable/not analyzed.

LOG OF EXPLORATORY BORING

PROJECT NAME NW Market Street
 LOCATION 2801 NW Market Street, Seattle, Washington
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Geoprobe
 LOGGED BY Nick Garson

BORING NO. GP- 4
 PAGE 2 OF 2
 GROUND ELEV. NA
 TOTAL DEPTH 24.00'
 DATE COMPLETED 06/15/96

SAMPLE METHOD (SAMPLE NUMBER)	NCOMP (RECOVERY PERCENT)	BLOWS PER 6 INCHES (PID ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
GPS-4-20 (GP)	NA (NA)	NA (0.3)						plasticity, wet. (NATIVE SOIL)
								20.3 to 21.7 feet: CLAY (CL), gray, sticky, high plasticity, wet. (NATIVE SOIL)
								21.7 to 22.0 feet: SAND (SP), gray, fine, very dense, wet. (GLACIAL TILL/NATIVE SOIL)
GPS-4-22 (GP)	NA (NA)	NA (0.3)						22.0 to 24.0 feet: SANDY SILT (ML), gray, low plasticity, approximately 10 to 15 percent fine sand, very dense, moist. (GLACIAL TILL/NATIVE SOIL)
				25				Total depth drilled = 24.0 feet. Total depth sampled = 24.0 feet.
				30				
				35				
				40				

BORING ABANDONMENT DETAILS:

0 to 0.5 foot: Surface completed with Jet Set and black dye to match asphalt.
 0.5 to 24.0 feet: Bentonite chips hydrated with potable water.

NOTE: During groundwater sampling, a temporary well screen was placed at 16.5 to 20.5 feet bgs.



REMARKS

(1) GP = Soil samples collected with 1.5- x 24-inch stainless steel Geoprobe sampler with plastic liner. (2) SS = Soil samples collected with 1.5- x 18-inch stainless steel split spoon sampler. (3) White triangle = Field estimate of water level at time of drilling. (4) Reference elevation = Ground surface. (5) Photoionization detector (PID) results in parts per million (ppm). (6) NA = Not applicable/not analyzed.

LOG OF EXPLORATORY BORING

PROJECT NAME NW Market Street
 LOCATION 2801 NW Market Street, Seattle, Washington
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Geoprobe
 LOGGED BY Nick Garson

BORING NO. GP- 5
 PAGE 1 OF 2
 GROUND ELEV. NA
 TOTAL DEPTH 20.00'
 DATE COMPLETED 06/15/96

SAMPLE METHOD (SAMPLE NUMBER)	NCOMP (RECOVERY PERCENT)	BLOWS PER 6 INCHES (PID ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
GPS-5-0.5 (SS)	NA (18")	NA (0.5)						0 to 0.5 foot: ASPHALT
GPS-5-2 (GP)	NA (24")	NA (0.3)						0.5 to 2.0 feet: SILTY SAND (SM), brown, fine, approximately 10 to 15 percent low plasticity fines, approximately 5 percent medium to coarse sand, trace to approximately 5 percent fine to medium gravel, trace wood debris, damp. (FILL)
GPS-5-4 (GP)	NA (18")	NA (2.5)		5				2.0 to 2.5 feet: SAND (SP), gray, fine, less than 5 percent fines, damp. (FILL)
GPS-5-6 (GP)	NA (18")	NA (1.5)						2.5 to 4.0 feet: SILTY SAND (SM), gray, fine, approximately 10 to 15 percent low plasticity fines, trace medium to coarse sand, damp to wet. (FILL)
GPS-5-8 (GP)	NA (6")	NA (1.0)						4.0 to 4.5 feet: SAND (SP), gray, fine, less than 5 percent fines, wet. (FILL)
GPS-5-10 (GP)	NA (12")	NA (1.0)		10				4.5 to 6.0 feet: SILTY SAND (SM), gray, fine, approximately 10 to 15 percent low plasticity fines, trace medium to coarse sand, wet. (FILL)
GPS-5-12 (GP)	NA (24")	NA (1.0)						6.0 to 6.3 feet: SAND (SP), gray, fine, less than 5 percent fines, wet. (FILL)
GPS-5-14 (GP)	NA (24")	NA (1.0)		15				6.3 to 8.0 feet: WOOD DEBRIS, reddish brown, wet. (FILL)
GPS-5-16 (GP)	NA (24")	NA (1.0)						8.0 to 8.25 feet: SAND (SP), gray, fine, approximately 5 percent low plasticity fines, wet. (FILL)
GPS-5-18 (GP)	NA (24")	NA (NA)		20				8.25 to 10.0 feet: WOOD DEBRIS, reddish brown, wet. (FILL)
								10.0 to 11.0 feet: SILT WITH SAND (ML), brown, low to medium plasticity, approximately 5 percent fine sand, trace rootlets, wet. (NATIVE SOIL)
								11.0 to 13.0 feet: SAND (SP), gray, fine, approximately 15 percent low plasticity fines, trace medium sand, wet. (NATIVE SOIL)
								13.0 to 15.0 feet: SILTY SAND (SM), gray, fine, approximately 15 percent low plasticity fines, trace medium sand, wet. (NATIVE SOIL)
								15.0 to 16.0 feet: SILT (ML), gray, medium plasticity, trace fine sand, wet. (NATIVE SOIL)
								16.0 to 18.0 feet: CLAY (CL), gray, sticky, highly



REMARKS

(1) GP = Soil samples collected with 1.5- x 24-inch stainless steel Geoprobe sampler with plastic liner. (2) SS = Soil samples collected with 1.5- x 18-inch stainless steel split spoon sampler. (3) White triangle = Field estimate of water level at time of drilling. (4) Reference elevation = Ground surface. (5) Photoionization detector (PID) results in parts per million (ppm). (6) NA = Not applicable/not analyzed.

LOG OF EXPLORATORY BORING

PROJECT NAME NW Market Street
 LOCATION 2801 NW Market Street, Seattle, Washington
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Geoprobe
 LOGGED BY Nick Garson

BORING NO. GP- 5
 PAGE 2 OF 2
 GROUND ELEV. NA
 TOTAL DEPTH 20.00'
 DATE COMPLETED 06/15/96

SAMPLE METHOD (SAMPLE NUMBER)	NCOMP (RECOVERY PERCENT)	BLOWS PER 6 INCHES (PID ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
				25				plastic. (NATIVE SOIL) 18.0 to 20.0 feet: SAND (SP), gray, fine, approximately 5 percent medium sand, trace fines, wet. (NATIVE SOIL/GLACIAL TILL) Total depth drilled = 20.0 feet. Total depth sampled = 20.0 feet. BORING ABANDONMENT DETAILS: 0 to 0.5 foot: Surface completed with Jet Set and black dye to match asphalt. 0.5 to 20.0 feet: Bentonite chips hydrated with potable water. NOTE: During groundwater sampling, a temporary well screen was placed at 11.5 to 15.5 feet bgs. 4-8'
				30				
				35				
				40				



REMARKS

(1) GP = Soil samples collected with 1.5- x 24-inch stainless steel Geoprobe sampler with plastic liner. (2) SS = Soil samples collected with 1.5- x 18-inch stainless steel split spoon sampler. (3) White triangle = Field estimate of water level at time of drilling. (4) Reference elevation = Ground surface. (5) Photoionization detector (PID) results in parts per million (ppm). (6) NA = Not applicable/not analyzed.

LOG OF EXPLORATORY BORING

PROJECT NAME NW Market Street
 LOCATION 2801 NW Market Street, Seattle, Washington
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Geoprobe
 LOGGED BY Nick Garson

BORING NO. GP- 6
 PAGE 1 OF 2
 GROUND ELEV. NA
 TOTAL DEPTH 24.00'
 DATE COMPLETED 06/15/96

SAMPLE METHOD (SAMPLE NUMBER)	NCOMP (RECOVERY PERCENT)	BLOWS PER 6 INCHES (PID ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
GPS-6-0.5 (SS)	NA (4")	NA (1.0)						0 to 0.3 foot: ASPHALT
GPS-6-2 (GP)	NA (24")	NA (1.0)						0.3 to 2.0 feet: GRAVELLY SAND (SW), brown, fine to coarse, approximately 5 to 10 percent fine to medium gravel, damp. (FILL)
GPS-6-4 (GP)	NA (16")	NA (2.0)		5				2.0 to 5.0 feet: SAND (SP), gray, fine, trace fines, scattered shell fragments, damp to wet. (FILL)
GPS-6-6 (GP)	NA (12")	NA (1.0)						5.0 to 6.0 feet: SILTY SAND (SM), brown, fine, approximately 10 to 15 percent low plasticity fines, trace medium sand, wet. (FILL)
GPS-6-8 (GP)	NA (12")	NA (0.6)						6.0 to 7.8 feet: SAND (SP), dark brown, fine, approximately 5 percent medium sand, trace rootlets and shell fragments, wet. (FILL)
GPS-6-10 (GP)	NA (14")	NA (1.0)		10				7.8 to 11.0 feet: WOOD DEBRIS, reddish brown, wet. (FILL)
GPS-6-12 (GP)	NA (24")	NA (1.0)						11.0 to 12.5 feet: SANDY SILT WITH WOOD DEBRIS (ML), dark brown to black, low to medium plasticity, approximately 10 to 15 percent fine sand, scattered dark brown wood debris, wet. (FILL)
GPS-6-14 (GP)	NA (21")	NA (0.3)		15				12.5 to 17.5 feet: SAND (SP), brown, approximately 5 percent medium to coarse sand, trace fines, wet. (NATIVE SOIL)
GPS-6-16 (GP)	NA (24")	NA (0.3)						17.5 to 18.0 feet: SILTY SAND (SM), gray, fine, approximately 10 to 15 percent low plasticity fines, trace medium sand, wet. (NATIVE SOIL)
GPS-6-18 (GP)	NA (24")	NA (1.0)		20				18.0 to 19.5 feet: SILT (ML), gray, low plasticity, trace fine sand, wet. (NATIVE SOIL)



REMARKS

(1) GP = Soil samples collected with 1.5- x 24-inch stainless steel Geoprobe sampler with plastic liner. (2) SS = Soil samples collected with 1.5- x 18-inch stainless steel split spoon sampler. (3) White triangle = Field estimate of water level at time of drilling. (4) Reference elevation = Ground surface. (5) Photoionization detector (PID) results in parts per million (ppm). (6) NA = Not applicable/not analyzed.

LOG OF EXPLORATORY BORING

PROJECT NAME NW Market Street
 LOCATION 2801 NW Market Street, Seattle, Washington
 DRILLED BY Cascade Drilling, Inc.
 DRILL METHOD Geoprobe
 LOGGED BY Nick Garson

BORING NO. GP- 6
 PAGE 2 OF 2
 GROUND ELEV. NA
 TOTAL DEPTH 24.00'
 DATE COMPLETED 06/15/96

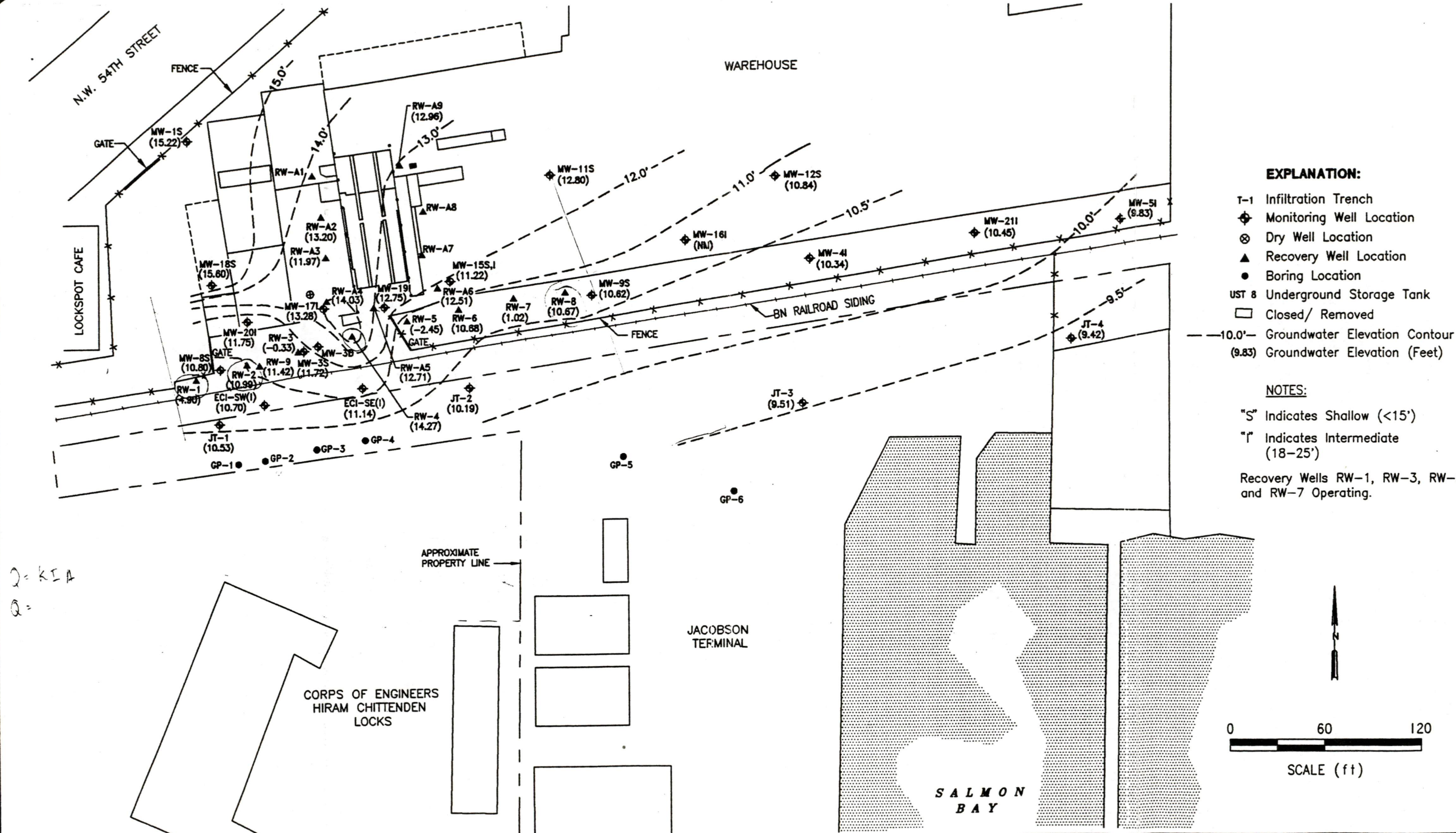
SAMPLE METHOD (SAMPLE NUMBER)	NCOMP (RECOVERY PERCENT)	BLOWS PER 6 INCHES (PID ppm)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
GPS-6-20 (GP)	NA (24")	NA (0.3)						19.5 to 22.0 feet: CLAY (CL), gray, sticky, high plasticity, wet. (NATIVE SOIL)
GPS-6-22 (GP)	NA (24")	NA (0.3)						22.0 to 23.0 feet: SILTY SAND (SM), gray, fine, approximately 10 to 15 percent low plasticity fines, very dense, wet. (GLACIAL TILL/NATIVE SOIL)
								23.0 to 24.0 feet: SAND (SP), gray, fine, trace medium sand, trace fines, moist. (GLACIAL TILL/NATIVE SOIL)
				25				Total depth drilled = 24.0 feet. Total depth sampled = 24.0 feet.
				30				BORING ABANDONMENT DETAILS: 0 to 0.5 foot: Surface completed with Jet Set and black dye to match asphalt. 0.5 to 24.0 feet: Bentonite chips hydrated with potable water.
				35				NOTE: During groundwater sampling, one temporary well screen was placed at 4.0 to 8.0 feet bgs, and a second temporary well screen was placed at 14.5 to 18.5 feet bgs.
				40				



REMARKS

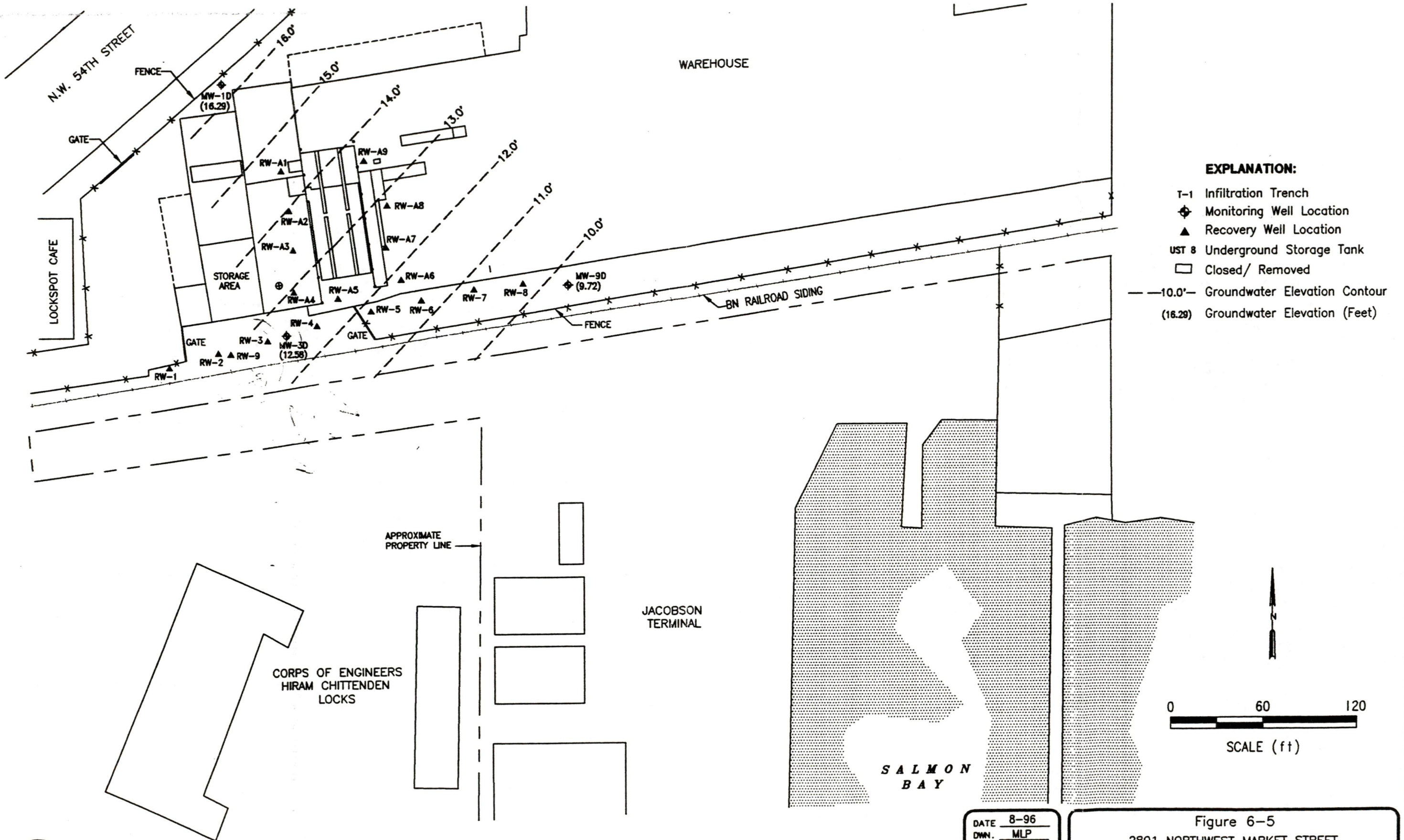
(1) GP = Soil samples collected with 1.5- x 24-inch stainless steel Geoprobe sampler with plastic liner. (2) SS = Soil samples collected with 1.5- x 18-inch stainless steel split spoon sampler. (3) White triangle = Field estimate of water level at time of drilling. (4) Reference elevation = Ground surface. (5) Photoionization detector (PID) results in parts per million (ppm). (6) NA = Not applicable/not analyzed.

ATTACHMENT B
FIGURES EXCERPTED FROM EMCON REPORT



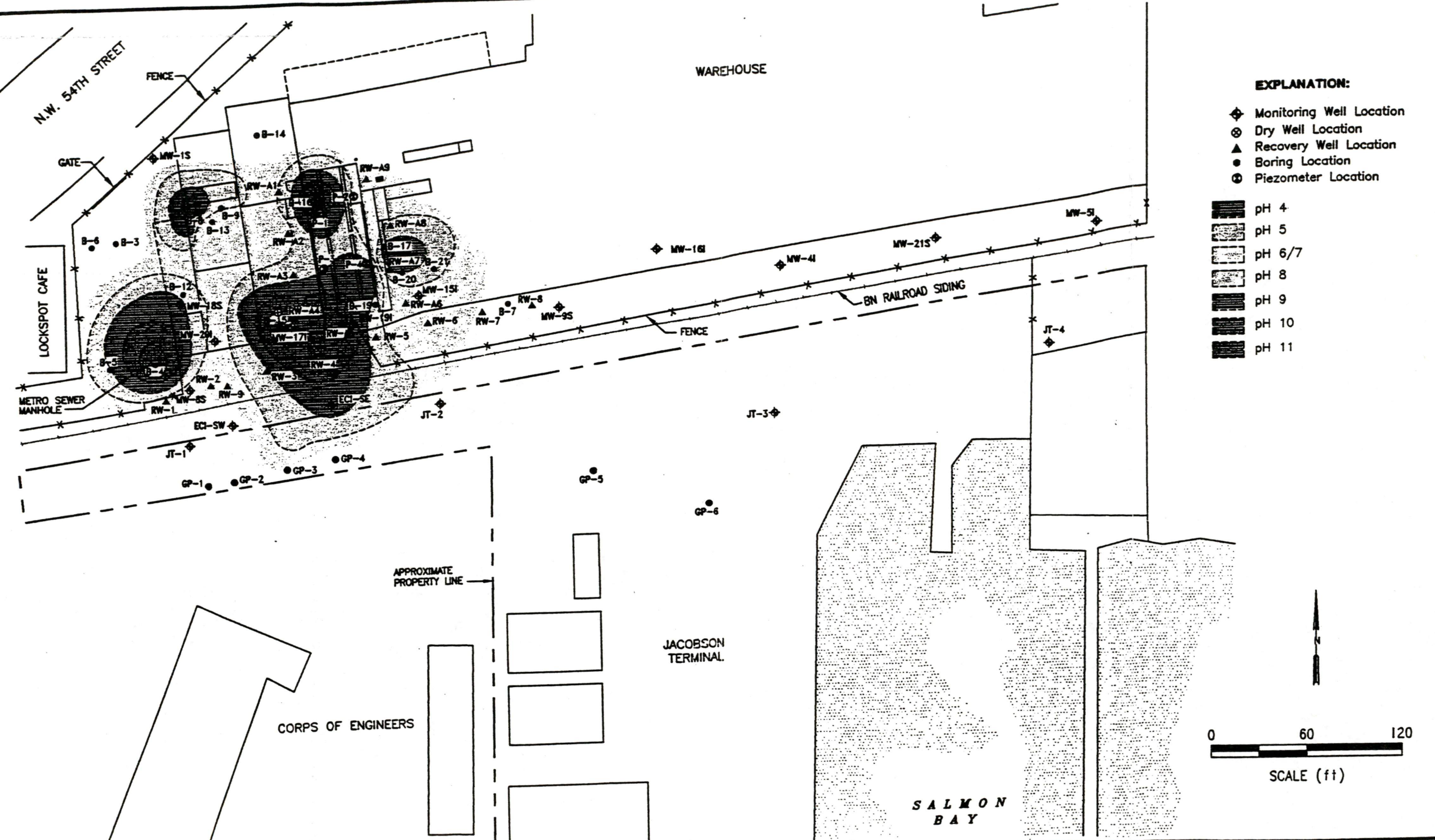
DATE 8-96
 DWN. MLP
 REV. _____
 APPR. _____
 PROJECT NO.
 40302-004.010

Figure 6-4
 2801 NORTHWEST MARKET STREET
 SEATTLE, WASHINGTON
WATER LEVEL MAP
"SHALLOW INTERMEDIATE SYSTEM"
 (7/16/96)



DATE 8-96
DWN. MLP
REV.
APPR.
PROJECT NO.
40302-004.010

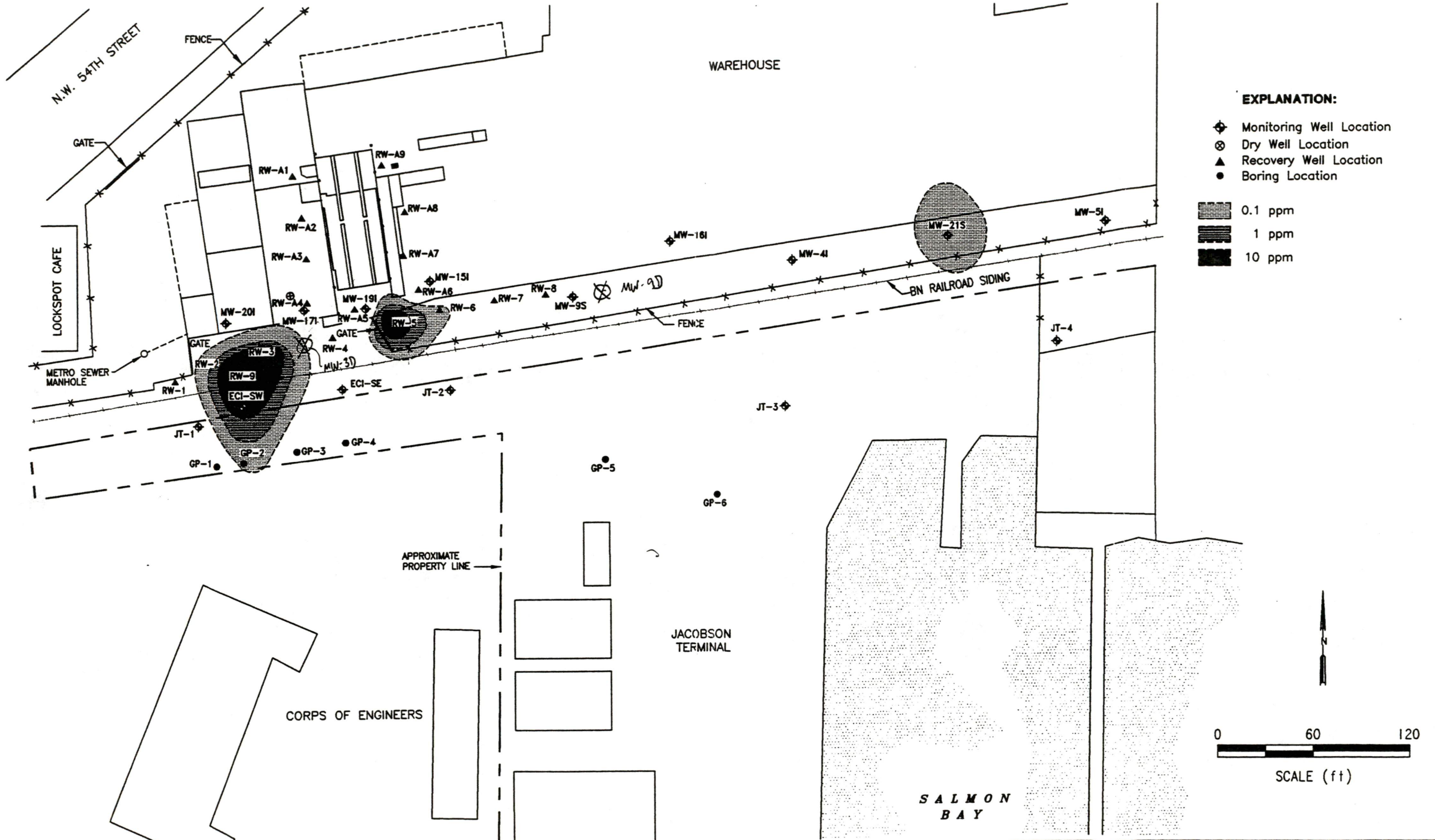




DATE 1-96
OWN. MLP
REV.
APPR.
PROJECT NO.
40302-004.010

Figure 7-1
2801 NORTHWEST MARKET STREET
SEATTLE, WASHINGTON
PH IN GROUNDWATER





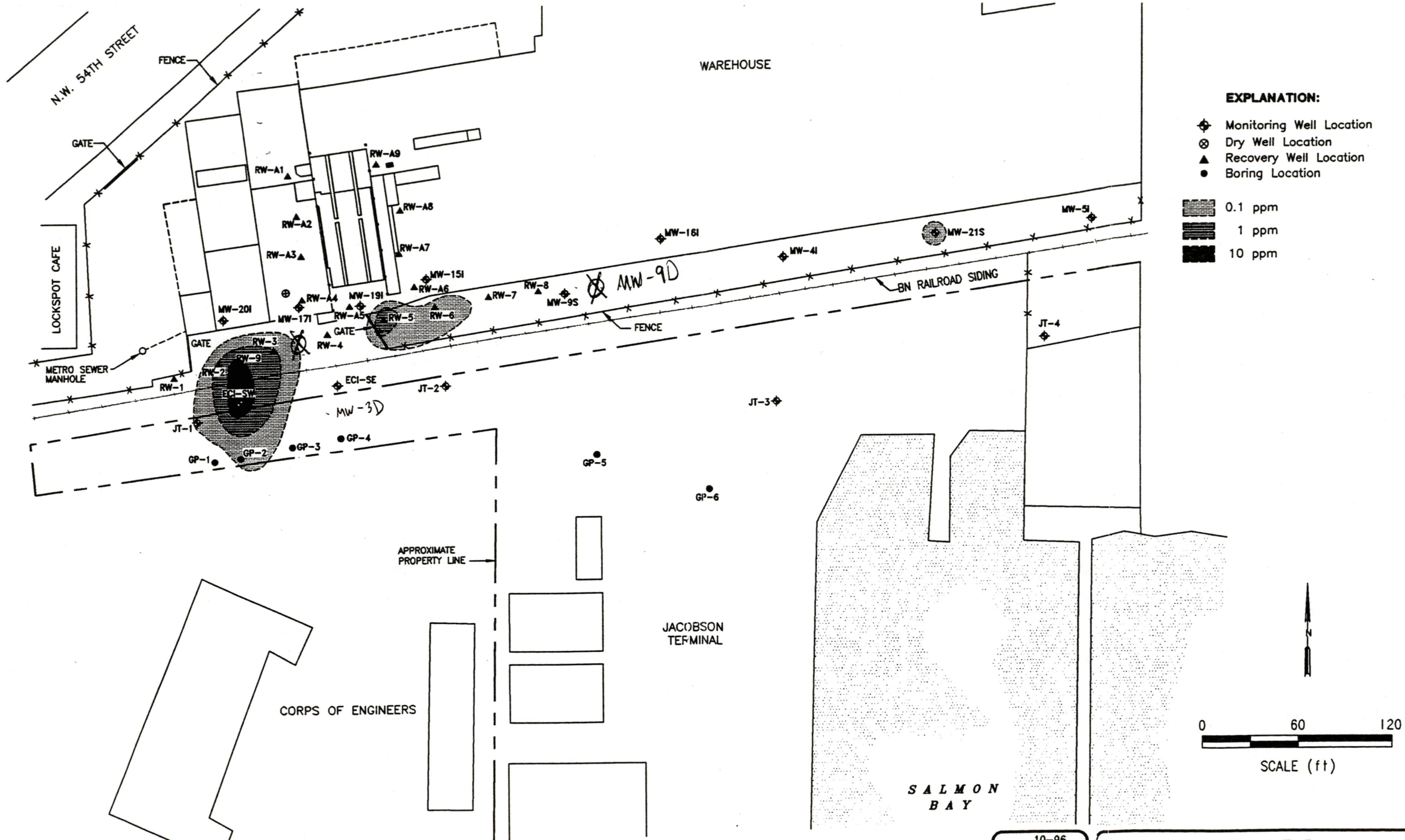
- EXPLANATION:**
- ◆ Monitoring Well Location
 - ⊗ Dry Well Location
 - ▲ Recovery Well Location
 - Boring Location

- 0.1 ppm
- 1 ppm
- 10 ppm

DATE 10-96
 DWN. MLP
 REV. _____
 APPR. _____
 PROJECT NO.
 40302-004.010

Figure 7-2
 2801 NORTHWEST MARKET STREET
 SEATTLE, WASHINGTON
PCE CONCENTRATIONS IN GROUNDWATER





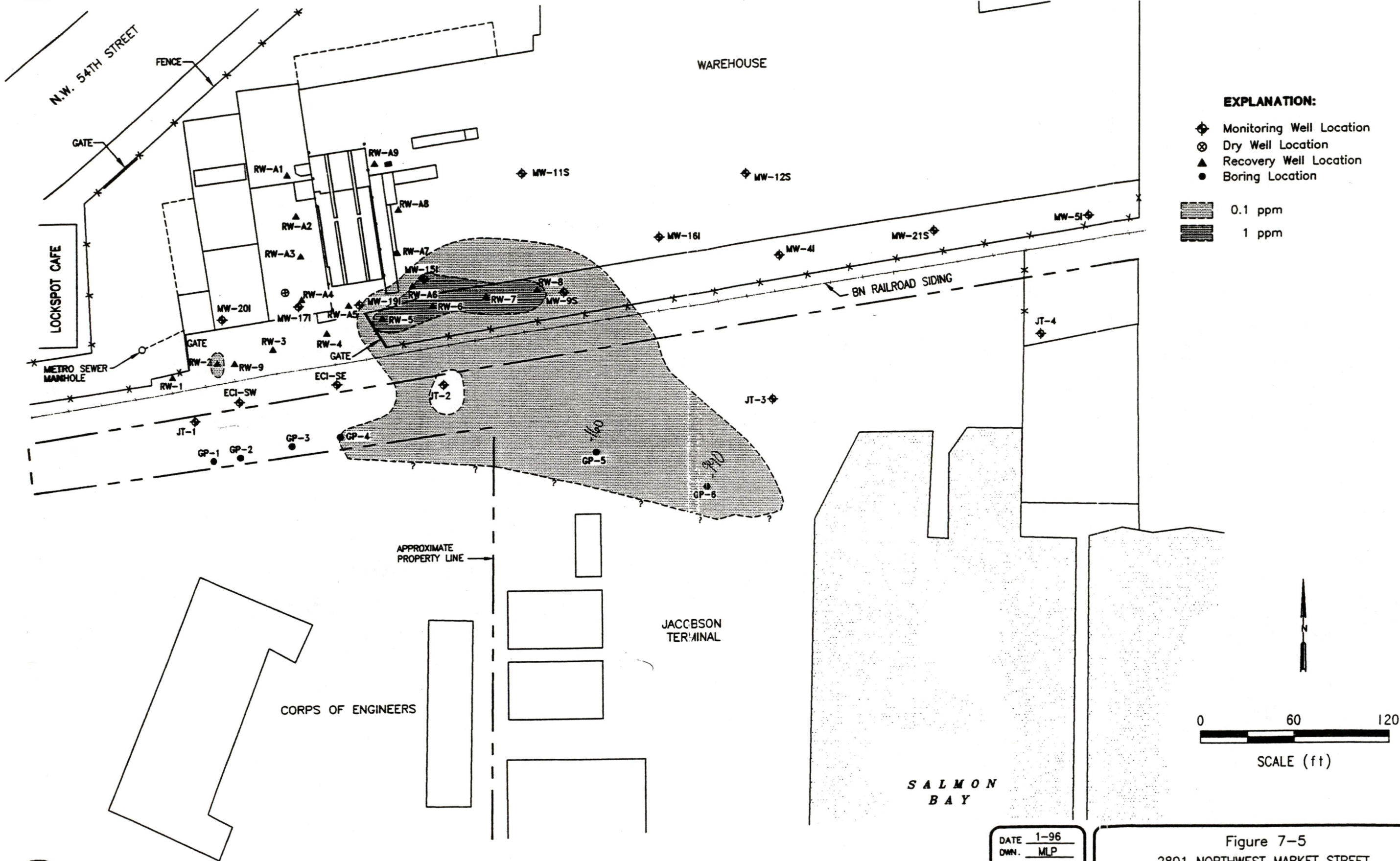
DATE 10-96
DWN. MLP
REV. _____
APPR. _____
PROJECT NO.
40302-004.010

Figure 7-3
2801 NORTHWEST MARKET STREET
SEATTLE, WASHINGTON
TCE CONCENTRATIONS IN GROUNDWATER



DATE 10-96
DWN. MLP
REV.
APPR.
PROJECT NO.
40302-004.010

Figure 7-4
2801 NORTHWEST MARKET STREET
SEATTLE, WASHINGTON
CIS 1, 2-DCE CONCENTRATIONS IN GROUNDWATER



DATE 1-96
 DWN. MLP
 REV. _____
 APPR. _____
 PROJECT NO.
 40302-004.010

Figure 7-5
 2801 NORTHWEST MARKET STREET
 SEATTLE, WASHINGTON
VINYL CHLORIDE IN GROUNDWATER



ATTACHMENT C
REQUEST FOR ECOLOGY ASSISTANCE



Voluntary Cleanup Program

Washington State - Department of Ecology - Toxics Cleanup Program

Request For Assistance Form

Have you discussed this site with an Ecology representative in the past?

If yes, what is that person's Name?

And the appropriate date? Is this a leaking underground storage tank site?

Please submit the following with this form to the appropriate Ecology office (see back of form)

- ☐ Site Summary (ECY 020-73) ☐ Any other existing reports on this site
☐ A Check or Money Order for \$500 made out to "Department of Ecology"

Applicant completes this section:

Applicant Name:		Phone:
Applicant Address:		Site Location:
City:	State:	Zip:
Site Name:		
Alternate Name:		
Site Owner Address:		Phone:
City:	State:	Zip:

I, _____, request the assistance of the Department of Ecology. With this Application I have enclosed \$500. I understand that: this payment is the equivalent of approximately eight (8) hours of staff review and/or assistance on the cleanup of my contaminated site; actual charges will depend on specific staff and charge-out rates of that staff; if total charges are greater than \$500, I will be billed for and I agree to pay the remainder, and any excess payments will be refunded to me.

Signature of Applicant

Date

For Office Use only:

Date:	Hours:	Rate:	Staff Name:
Date:	Hours:	Rate:	Staff Name:
Date:	Hours:	Rate:	Staff Name:
Date:	Hours:	Rate:	Staff Name:

For Office Use only: Receipts

Amount Date Pd Rec. #

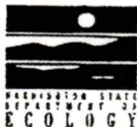
For FISCAL USE ONLY

173-02-94-005000-5000-

(LUST/Non-LUST) (Office)

LUST/Non-LUST: LUST - 30 Non-LUST - 20

OFFICE: NWRO - 40 SWRO - 50 ERO - 60
CRO - 70 IND - 80 HDQR - 90



Voluntary Cleanup Program

Washington State - Department of Ecology - Toxics Cleanup Program

Request For Assistance Form

Have you discussed this site with an Ecology representative in the past?

If yes, what is that person's Name?

And the appropriate date? Is this a leaking underground storage tank site?

Please submit the following with this form to the appropriate Ecology office (see back of form)

- ☐ Site Summary (ECY 020-73) ☐ Any other existing reports on this site
☐ A Check or Money Order for \$500 made out to "Department of Ecology"

Applicant completes this section:

Applicant Name:		Phone:
Applicant Address:		Site Location:
City:	State:	Zip:
Site Name:		
Alternate Name:		
Site Owner Address:		Phone:
City:	State:	Zip:

I, _____, request the assistance of the Department of Ecology. With this Application I have enclosed \$500. I understand that: this payment is the equivalent of approximately eight (8) hours of staff review and/or assistance on the cleanup of my contaminated site; actual charges will depend on specific staff and charge-out rates of that staff; if total charges are greater than \$500, I will be billed for and I agree to pay the remainder; and any excess payments will be refunded to me.

Signature of Applicant

Date

For Office Use only:

Date:	Hours:	Rate:	Staff Name:
Date:	Hours:	Rate:	Staff Name:
Date:	Hours:	Rate:	Staff Name:
Date:	Hours:	Rate:	Staff Name:

For Office Use only: Receipts

Amount Date Pd Rec. #

For FISCAL USE ONLY

173-02-94-005000-5000-

(LUST/Non-LUST) (Office)

LUST/Non-LUST: LUST - 30 Non-LUST - 20

OFFICE: NWRO - 40 SWRO - 50 ERO - 60

CRO - 70 IND - 80 HDQR - 90

VCP Voluntary Cleanup Program

Washington State - Department of Ecology - Toxics Cleanup Program

Site Summary

This summary is a required component of your request for assistance under the Voluntary Cleanup Program

Which of the following apply? _____ Requesting assistance on a planned cleanup.
_____ Requesting assistance on a ongoing cleanup.
_____ Requesting review of a completed cleanup.

Note: If you submitted your Request for Assistance (ECY 020-74) previously without a Site Summary (this form) or this is a revised Site Summary, please provide this completed form to Ecology at least five (5) working days prior to the meeting/site visit/documentation review (whichever comes first).

A) Site Identification:

Name of Site: _____

Alternate Name(s) for Site: _____

Street Address of Site: _____

City: _____ State: _____ Zip: _____

County: _____ UBI Number: _____

Mailing Address (if different from above): _____

City: _____ State: _____ Zip: _____

Township _____

If known:

Latitude: Degree _____ Minute _____ Second _____

Longitude: Degree _____ Minute _____ Second _____

Method Used to calculate Lat/Long: _____

How large (in Acres) is the site? _____

Please attach two maps to this form.

1) An area map, showing general location of the site in relation to surrounding bodies of water, cities, highways, and streets. (Please mark site location.)

2) A site diagram showing surrounding cross-streets, labeled building outlines, sampling and well locations, etc.

B) Person/Organization making request for Assistance/Review:

Name: _____

Firm: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Telephone Number: _____ Extension: _____

Fax Number: _____ E-Mail Address: _____

Which best describes your involvement with the site? (Check as many as apply.)

Current Owner _____ Former Owner _____ Potential Purchaser _____
 Current Operator _____ Former Operator _____ Other (specify) _____
 Environmental Consultant for The Clorox Company
 Attorney for _____
 Insurance Carrier for _____
 Other (specify) _____ for _____

C) Release Information:

Date of Release(if known): _____ Date of Discovery: _____

Drinking Water: Number of Drinking Water Supply Wells within 1/2 mile _____

Are there any drinking water systems affected? _____ yes _____ no

If yes, has alternate drinking water been provided? _____ yes _____ no

If Drinking Water systems are affected, are the systems public, private, or both?

Aquatics: Are there any creeks, streams, ponds, wetlands, or shorelands...

on or adjacent to the site? _____ yes _____ no

Within 1/4 mile of the site? _____ yes _____ no

Where are they located? _____

Are they impacted by contamination from the site? _____ yes _____ no _____ unknown

General Hazardous Substance Categories: Please complete the chart below. List the contaminants known or suspected at the site prior to cleanup, and mark the appropriate medium (i.e. soil) with: **C** (confirmed and above MTCA); **B** (confirmed but below MTCA); **S** (suspected); **N/A** (not-applicable); **O** (tested & not present); or **U** (unknown).

Contaminant	Class (for office)	Affected Soil	Media: Ground-water	Surface Water	Air	Sediment	Date of Release (if known)
Example: Lead		C	O	S	U	S	1967-82
1)							
2)							
3)							
4)							
5)							
6)							

D) Report Information of Assessment or Remediation Work Done to Date

Assessment:

Has site assessment work been done at this site? Yes _____ No _____ In-progress _____

If Yes, when? _____ Were results reported to Ecology? Yes _____ No _____ Date _____

Describe: (list reports in "E" below):

Remediation:

Has any site cleanup work been done at the site? Yes _____ No _____ In-progress _____
If yes, please continue to answer the remaining questions in this section to the best of your ability.

When was the cleanup work done? _____

Were results reported to Ecology? Yes _____ No _____ Date _____

Describe: (list reports in "E" below) _____

Does contamination remain on-site after cleanup activities? Yes _____ No _____

If yes, describe: (list reports in "E" below) _____

For each contaminant listed in **Part C) Release Information (above)**, please describe the quantity of the contaminant (in pounds) which was removed or treated as a result of the cleanup activities:

Contaminant	Class (for office use)	Pounds of Contaminant				
		Incinerated	Washed	Removed	Treated	Contained
Example: Lead		10	20	40	10	60
1)						
2)						
3)						
4)						
5)						
6)						

As a result of the cleanup:

How many acres of land were returned to **unrestricted** use? _____

How many acres of land were returned to **restricted** use? _____

How many cubic feet of contaminated soil was remediated or contained? _____

How many gallons of contaminated groundwater was remediated or contained? _____

How many people are now at reduced risk as a result of the cleanup action? _____

How many pounds of potential pollution was prevented as a result of the cleanup action? _____

METHODS/TREATMENTS USED	SOIL	GROUNDWATER	SURFACE WATER	DRINKING WATER	AIR	WASTES	
Method A							
Method B							
Method C							
Have these levels been met throughout the site? Y or N							
<u>Destruction or Detoxification</u>							
Carbon Adsorption ¹							
Biological Treatment							
Chemical Destruction							
Incineration							
¹ Carbon followed by regeneration; use of granular activated carbon followed by landfilling would be classified in these tables as volume reduction and off-site landfill							
<u>Media Transfer</u>							
Air Stripping/Air Sparging							
Aeration/Vapor Extraction							
Thermal Desorption							
<u>Immobilization</u>							
Vitrification							
Solidification/Stabilization							
<u>Reuse/Recycling²</u>							
Specify							
² For example, reuse of free petroleum product recovered in a pump and treat system.							
<u>Separation/Volume Reduction</u>							
Solvent Extraction							
Soil Washing							
Physical Separation ³							
³ For example, oil/water separators.							
<u>Land Disposal/Containment</u>							
Containment or On-site Landfill							
Off-site Landfill							
<u>Institutional Controls</u>							
Specify							
<u>Others</u>							
Specify Treatment Method							

E) Documentation:

Please list titles of all site reports below. Include name of consulting firm & year completed. (If there is not enough room for the entire list, please attach additional page(s) as necessary.)

Title: _____ By: _____ Date: _____

Is additional information concerning the contaminants treated or removed,
or cleanup or remediation methods used available in a database? Yes ____ No ____
If yes, what programming software is used? _____
Is a copy included for our use? Yes ____ No ____

F) Property Type:

Commercial ____ Industrial ____ Residential ____ Other ____ (Please specify) _____

Property currently being used? ____ Yes ____ No ____

Plans for change in use? ____ Yes ____ No ____ If yes, please specify: _____

G) Standard Industrial Classification (SIC) Codes:

List all that apply. If none apply, or if you don't know your SIC code, list activities conducted at the site (i.e. automotive repair and maintenance, construction equipment storage. etc.).

H) Dangerous Waste Facilities:

Does the facility have a dangerous waste identification number? No ____ Yes ____

If Yes, What is the number? WAD _____

I) Tank Information:

Complete this table for ALL tanks, whether underground (UST) or aboveground (AST), including unregulated tanks.

(* Unleaded, leaded, diesel, bunker-C, waste oil, heating oil, aviation fuel, other (identify))

(**Tank status: Left in Place, Removed, Closed in Place)

Tank ID	AST/UST	Size	*Product	Was free product encountered?		**Tank status
				on GW	in excavation	
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

J) Owner/Operator History

(Please photocopy and attach copies if additional owners and/or operators are known)

Type (code) of Owner/Operator (for below):

Private(1) Municipal(2) County (3) Federal (4) State(5) Tribal(6) Mixed(7) Other (8) Unknown (9) Public
Entity Acquisition via Bankruptcy (10) Financial Institution Acquisition via Bankruptcy (11)

1) Current Site Owner: _____ Type: _____
Street Address: _____
City: _____ State: _____ Zip: _____
Contact Person (if different than owner, above): _____
Street Address: _____
City: _____ State: _____ Zip: _____
Telephone Number: _____ Extension: _____
Fax Number: _____ E-Mail Address: _____
Dates of Ownership: _____ to _____

2) Current Facility Operator: _____ Type: _____
Street Address: _____
City: _____ State: _____ Zip: _____
Contact Person (if different than owner, above): _____
Street Address: _____
City: _____ State: _____ Zip: _____
Telephone Number: _____ Extension: _____
Fax Number: _____ E-Mail Address: _____
Dates of Operation: _____ to _____

3) Former Site Owner: _____ Type: _____
Street Address: _____
City: _____ State: _____ Zip: _____
Contact Person (if different than owner, above): _____
Street Address: _____
City: _____ State: _____ Zip: _____
Telephone Number: _____ Extension: _____
Fax Number: _____ E-Mail Address: _____
Dates of Ownership: _____ to _____

4) Former Facility Operator: _____ Type: _____
Street Address: _____
City: _____ State: _____ Zip: _____
Contact Person (if different than owner, above): _____
Street Address: _____
City: _____ State: _____ Zip: _____
Telephone Number: _____ Extension: _____
Fax Number: _____ E-Mail Address: _____
Dates of Operation: _____ to _____

K) Other Involved Parties:

(Please photocopy and attach copies if additional parties are involved)

1) Environmental Consultant:

Representing: _____
Firm: _____
Street Address: _____
City: _____ State: _____ Zip: _____
Telephone Number: _____ Extension: _____
Fax Number: _____ E-Mail Address: _____

2) Site Control Person if other than Owner/Operator. (This must be a person who is on-site during normal working hours and is authorized and qualified to answer questions about the site, or a person who is available during normal business hours and has knowledge about the site and the remediations)

Name: _____
Relation to site/owner/operator: _____
Firm: _____
Street Address: _____
City: _____ State: _____ Zip: _____
Telephone Number: _____ Extension: _____
Fax Number: _____
Dates of Involvement with site: _____ to _____

3) Name: _____
Relation to site/owner/operator: _____
Firm: _____
Street Address: _____
City: _____ State: _____ Zip: _____
Telephone Number: _____ Extension: _____
Fax Number: _____
Dates of Involvement with site: _____ to _____

4) Name: _____
Relation to site/owner/operator: _____
Firm: _____
Street Address: _____
City: _____ State: _____ Zip: _____
Telephone Number: _____ Extension: _____
Fax Number: _____
Dates of Involvement with site: _____ to _____