

SOIL CLASSIFICATION SYSTEM

| MAJOR DIVISIONS | | GROUP SYMBOL | GROUP NAME |
|----------------------|--|-----------------------------------|---|
| COARSE GRAINED SOILS | GRAVEL | GW | WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL |
| | MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE | GP | POORLY-GRADED GRAVEL |
| | SAND | GM | SILTY GRAVEL |
| | | GC | CLAYEY GRAVEL |
| FINE GRAINED SOILS | MORE THAN 50% OF COARSE FRACTION PASSES NO. 200 SIEVE | SW | WELL-GRADED SAND, FINE TO COARSE SAND |
| | MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE | SP | POORLY-GRADED SAND |
| | SILT AND CLAY | SM | SILTY SAND |
| | | SC | CLAYEY SAND |
| HIGHLY ORGANIC SOILS | LIQUID LIMIT LESS THAN 50 | ML | SILT |
| | SILT AND CLAY | CL | CLAY |
| | | OL | ORGANIC SILT, ORGANIC CLAY |
| | MORE THAN 50% PASSES NO. 200 SIEVE | MH | SILT OF HIGH PLASTICITY, ELASTIC SILT |
| | CH | CLAY OF HIGH PLASTICITY, FAT CLAY | |
| | OH | ORGANIC CLAY, ORGANIC SILT | |
| | PT | PEAT | |

NOTES:

- Field classification is based on visual examination of soil in general accordance with ASTM D2488-83.
- Soil classification using laboratory tests is based on ASTM D2487-83.
- Descriptions of soil density or consistency are based on interpretation of blowcount data, visual appearance of soils, and/or

SOIL MOISTURE MODIFIERS:

- Dry - Absence of moisture, dusty, dry to the touch
- Moist - Damp, but no visible water
- Wet - Visible free water or saturated, usually soil is obtained from below water table

LABORATORY TESTS:

CA Chemical Analysis

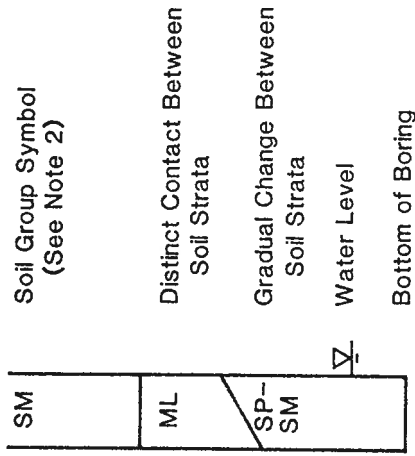
VAPOR CONCENTRATION DATA:

Vapor concentration given in parts per million

SHEEN CLASSIFICATION SYSTEM:

- NS No visible sheen
- SS Slight sheen
- MS Moderate sheen
- HS Heavy sheen

SOIL GRAPH:



Soil Group Symbol
(See Note 2)

Distinct Contact Between
Soil Strata

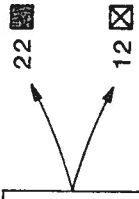
Gradual Change Between
Soil Strata

Water Level

Bottom of Boring

BLOW-COUNT/SAMPLE DATA:

Blows required to drive a split-barrel sampler (2.4-inch I.D.) 12 inches or other indicated distances using 300 pound hammer falling 30 inches.



Location of relatively
undisturbed sample

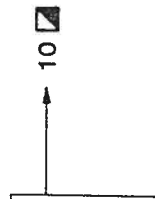
Location of disturbed sample

P indicates sampler pushed with weight of hammer or hydraulics of drill rig.

P

Location of sampling attempt
with no recovery

Blows required to drive a split-barrel sampler (1.5-inch I.D.) 12 inches or other indicated distances using 140 pound hammer falling 30 inches.



Location of sample attempt
using Standard Penetration
Test procedures

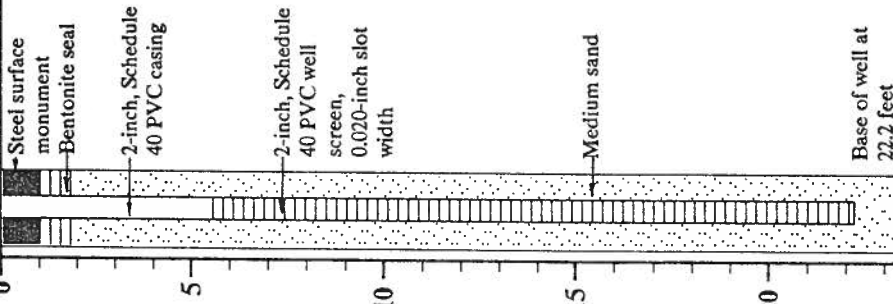
NOTES:

1. Information presented in the attached text and the Key To Boring Log Symbols is required to adequately explain the data on the boring logs.

MONITOR WELL NO. MW-1

WELL SCHEMATIC

Casing Elevation: 100.94
Casing Stickup: -0.40



Vapor
Conc.(ppm)
Sheen

100
NS

18

110
NS

18

220
NS

50/4"

190
NS

50/2"

Group
Symbol

ML

SM

SM

ML

DESCRIPTION

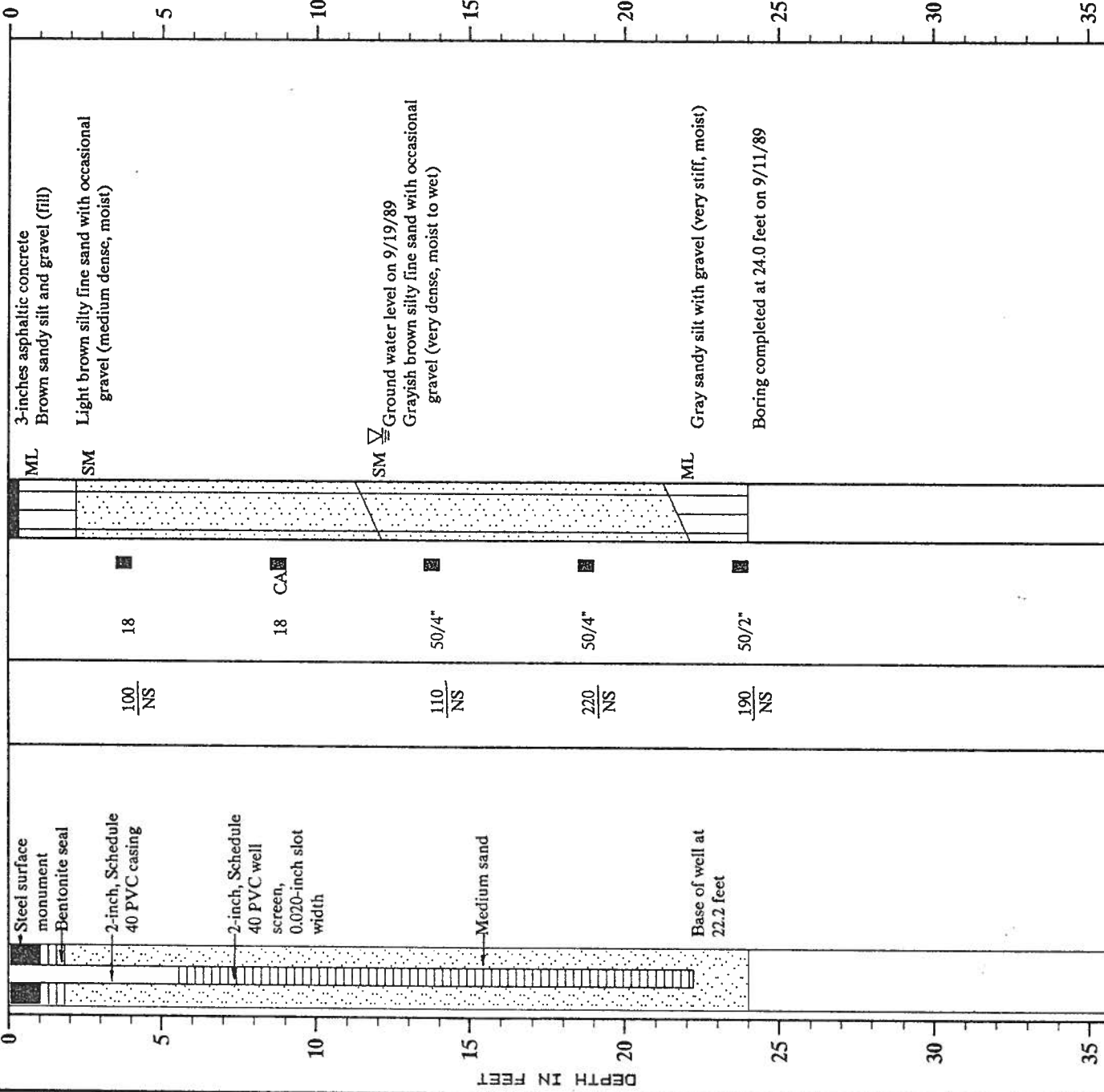
Surface Elevation: 101.34

3-inches asphaltic concrete
Brown sandy silt and gravel (fill)
Light brown silty fine sand with occasional
gravel (medium dense, moist)

Ground water level on 9/19/89
Grayish brown silty fine sand with occasional
gravel (very dense, moist to wet)

Gray sandy silt with gravel (very stiff, moist)

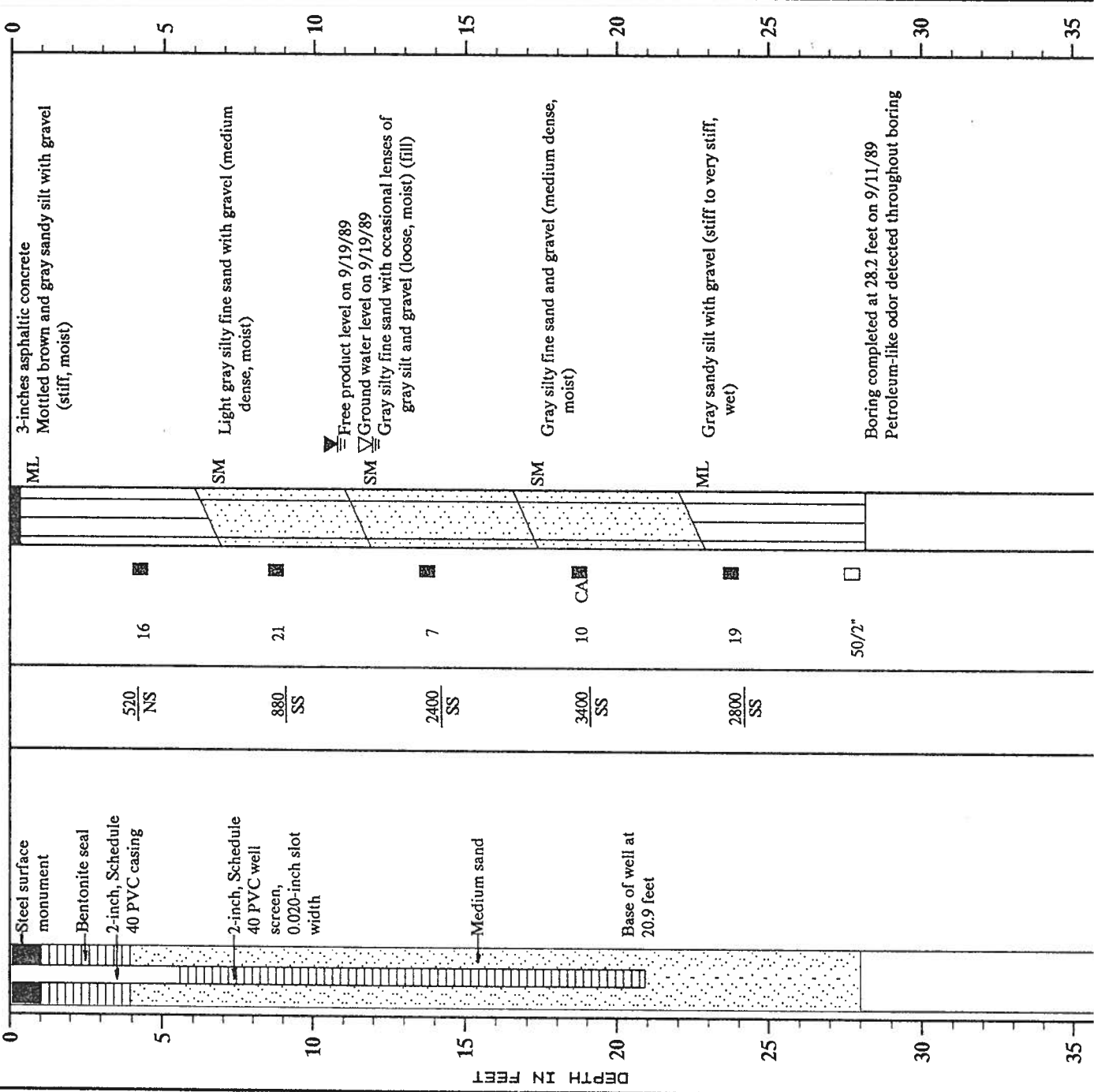
Boring completed at 24.0 feet on 9/11/89



MONITOR WELL NO. MW-2

WELL SCHEMATIC

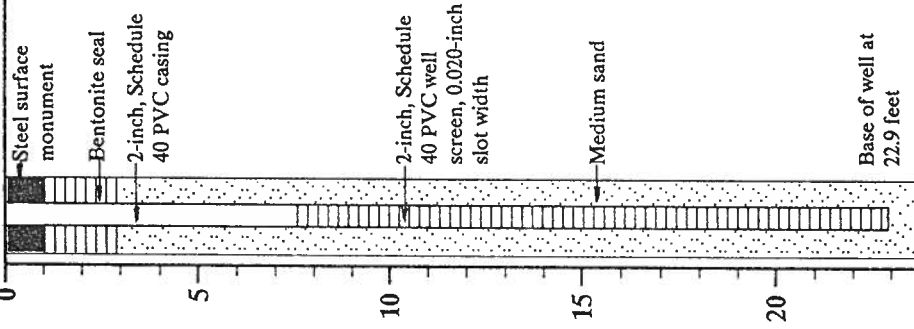
Casing Elevation: 98.58
 Casing Stickup: -0.39



MONITOR WELL NO. MW-3

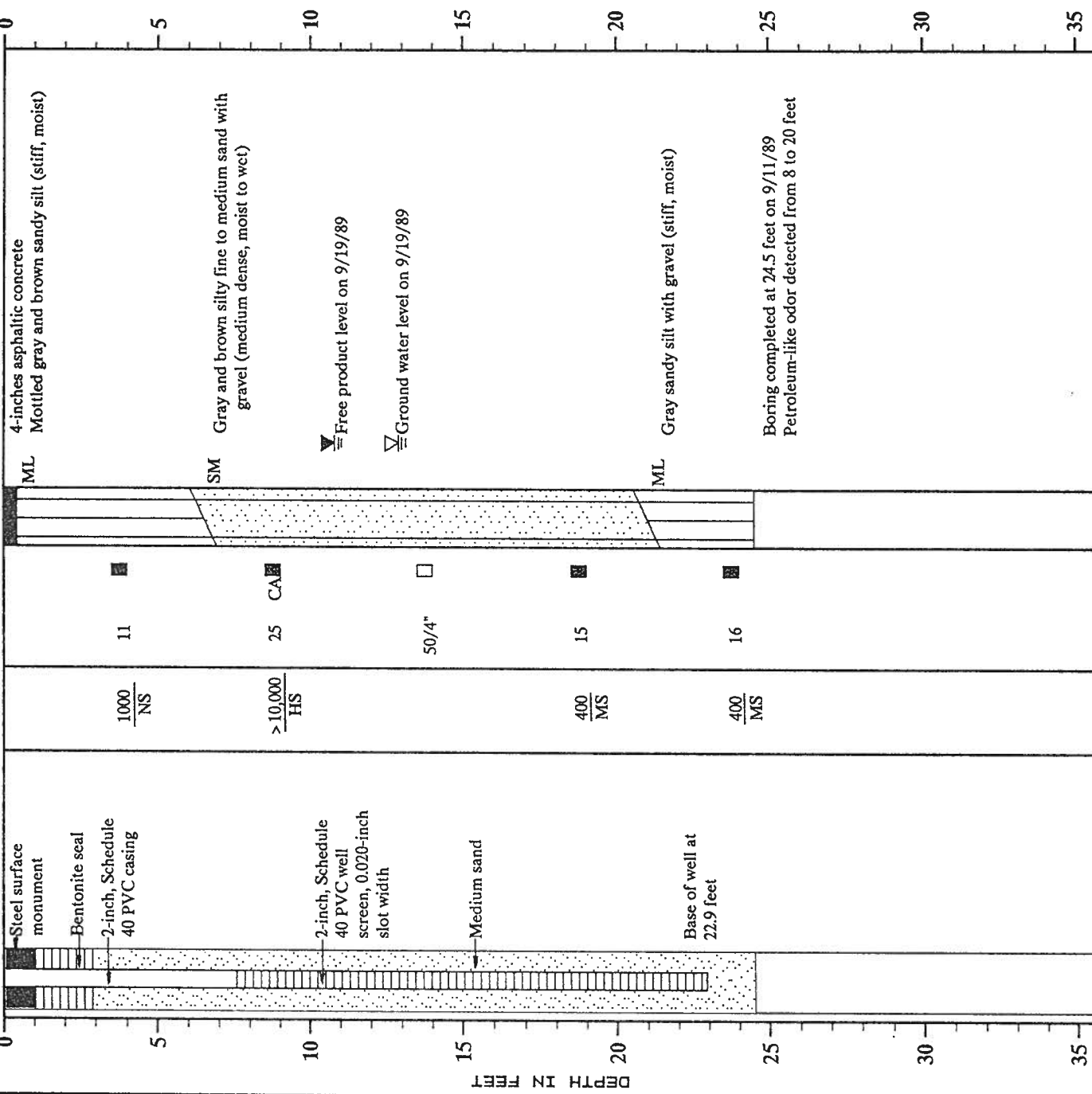
WELL SCHEMATIC

Casing Elevation: 99.63
Casing Stickup: -0.15



DESCRIPTION

Surface Elevation: 99.78



4-inches asphaltic concrete
Mottled gray and brown sandy silt (stiff, moist)

Gray and brown silty fine to medium sand with gravel (medium dense, moist to wet)

Free product level on 9/19/89

Ground water level on 9/19/89

Gray sandy silt with gravel (stiff, moist)

Boring completed at 24.5 feet on 9/11/89
Petroleum-like odor detected from 8 to 20 feet

Vapor Conc. (ppm) Sheen

| Group Symbol | Depth (ft) | Vapor Conc. (ppm) | Sheen |
|--------------|------------|-------------------|-------|
| 11 | 11 | 1000 | NS |
| 25 | 25 | >10,000 | HS |
| 50/4" | 50/4" | | |
| 15 | 15 | 400 | MS |
| 16 | 16 | 400 | MS |

MONITOR WELL NO. MW-4

WELL SCHEMATIC

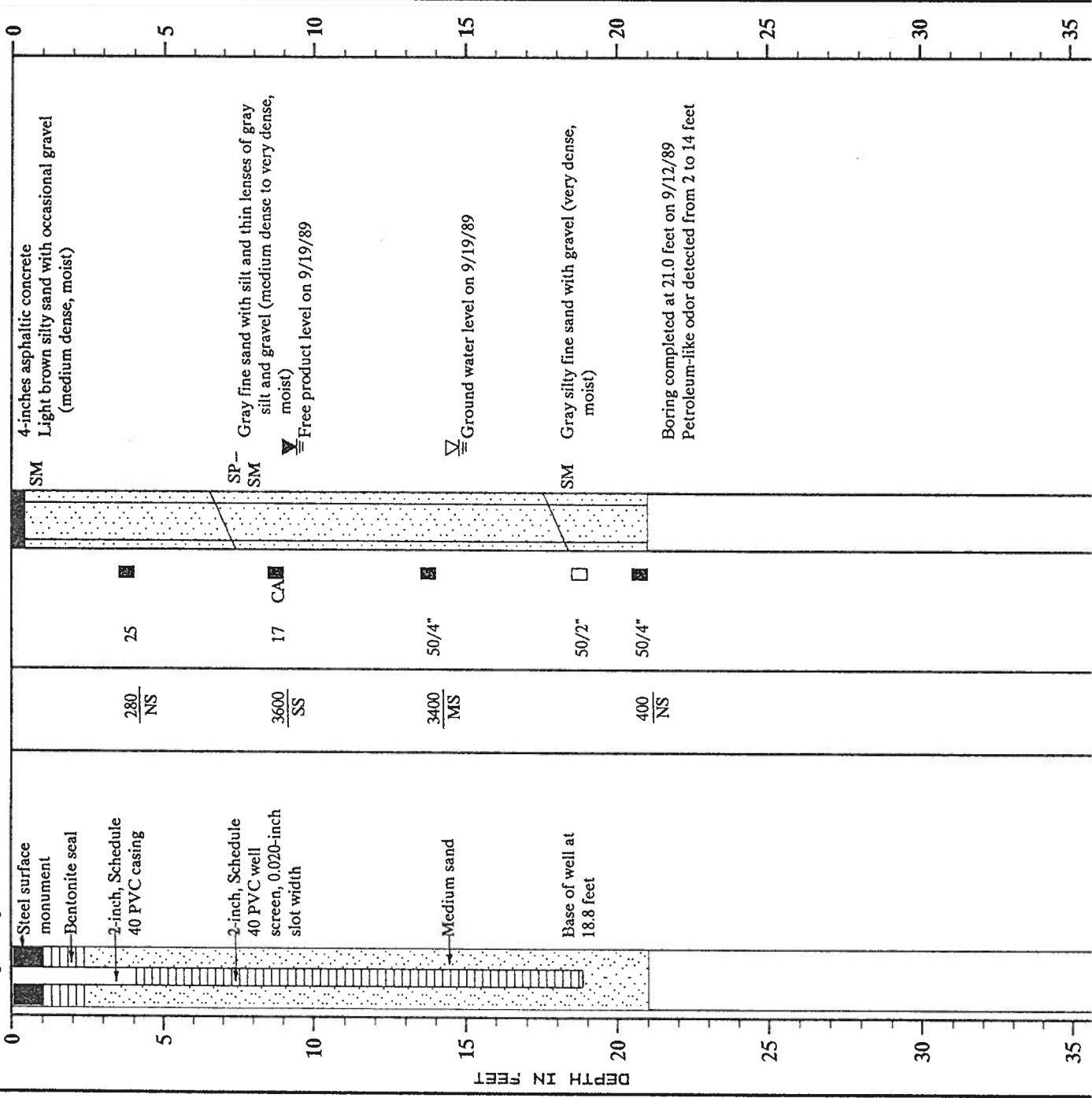
Casing Elevation: 98.38
Casing Stickup: -0.53

Vapor
Conc.(ppm)
Sheen

Group
Symbol

DESCRIPTION

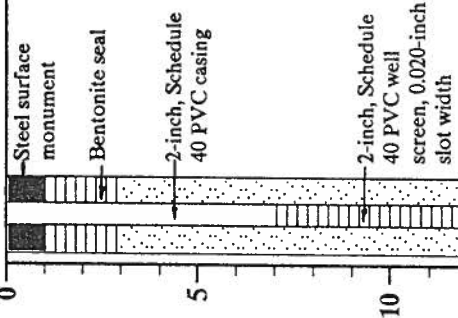
Surface Elevation: 98.91



MONITOR WELL NO. MW-5

WELL SCHEMATIC

Casing Elevation: 90.94
Casing Stickup: -0.30



Vapor Conc. (ppm) Sheen

Blot

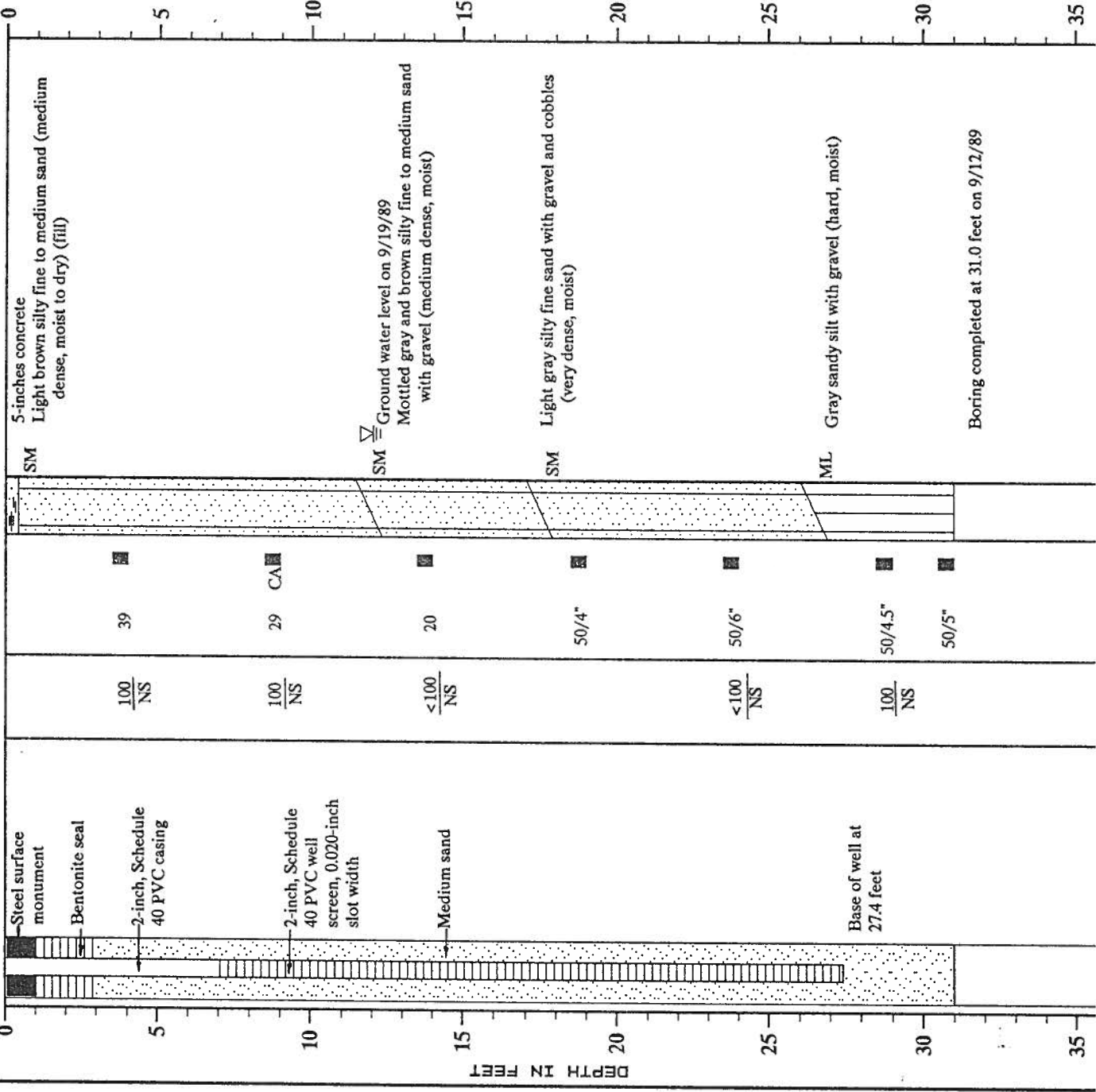
Count

Samples

Group Symbol

DESCRIPTION

Surface Elevation: 91.24

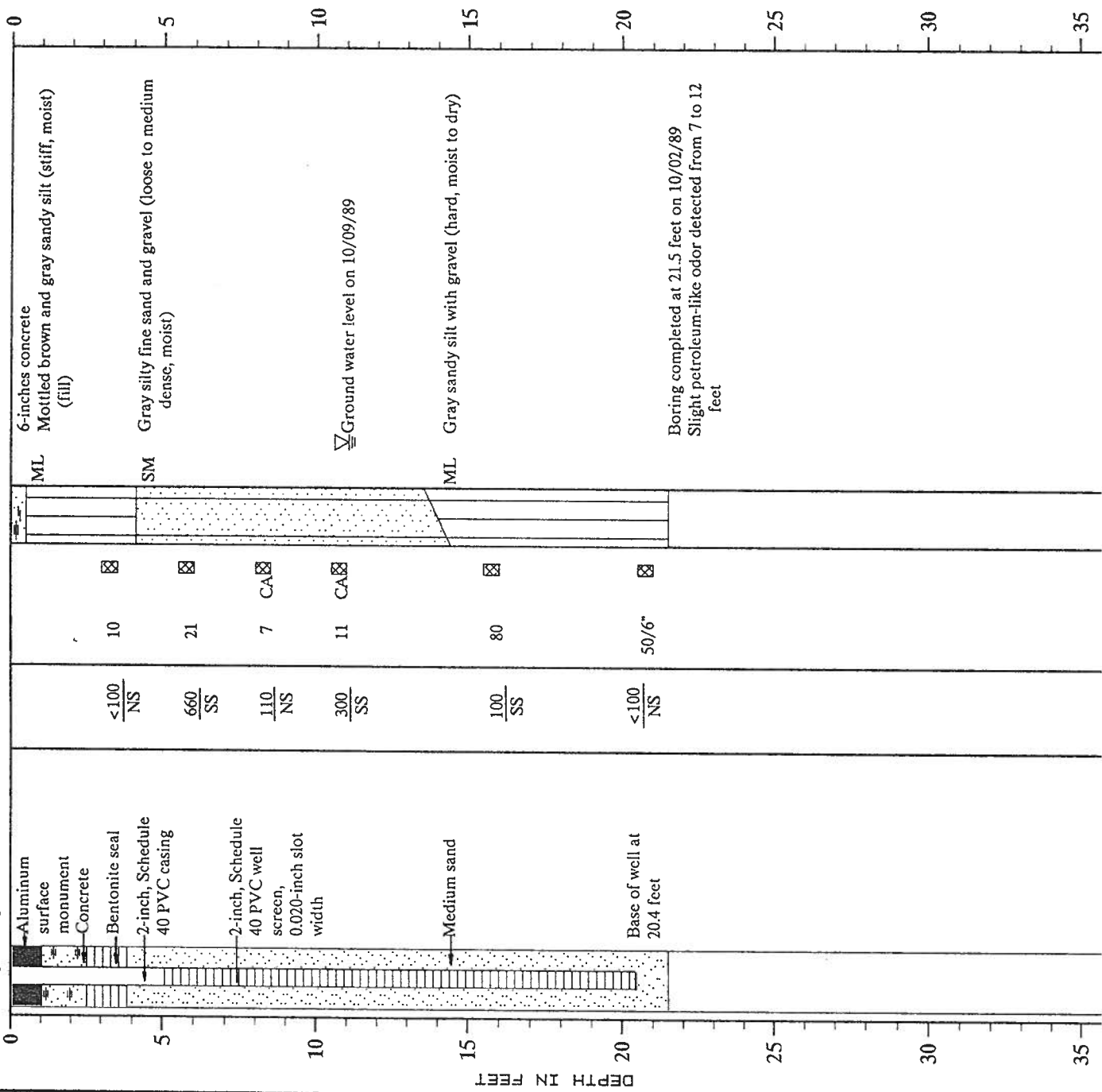


Boring completed at 31.0 feet on 9/12/89

MONITOR WELL NO. MW-6

WELL SCHEMATIC

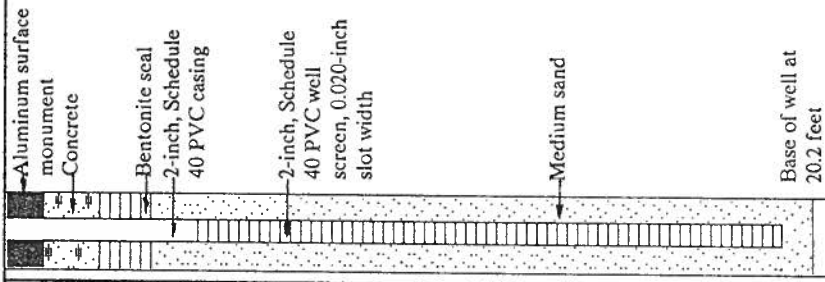
Casing Elevation: 97.92
 Casing Stickup: -0.43



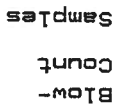
MONITOR WELL NO. MW-7

WELL SCHEMATIC

Casing Elevation: 97.43
Casing Stickup: -0.29

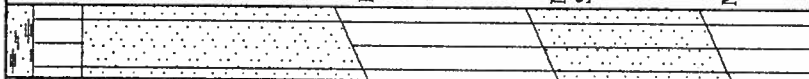


Vapor Conc. (ppm)
Sheen



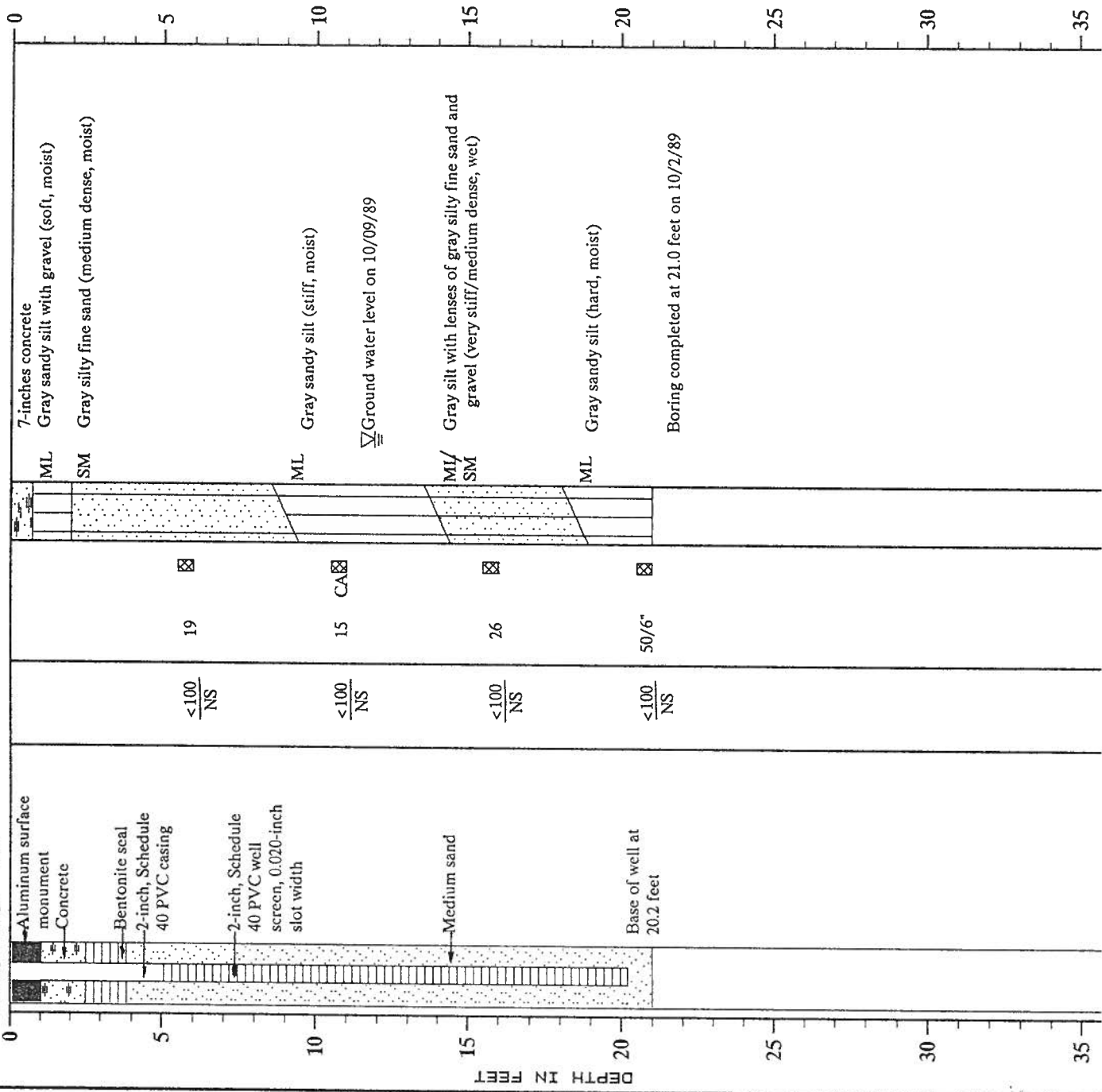
<100 / NS
19
<100 / NS
15 CA
<100 / NS
26
<100 / NS
50/6"

Group Symbol



7-inches concrete
ML Gray sandy silt with gravel (soft, moist)
SM Gray silty fine sand (medium dense, moist)
ML Gray sandy silt (stiff, moist)
Ground water level on 10/09/89
ML/SM Gray silt with lenses of gray silty fine sand and gravel (very stiff/medium dense, wet)
ML Gray sandy silt (hard, moist)

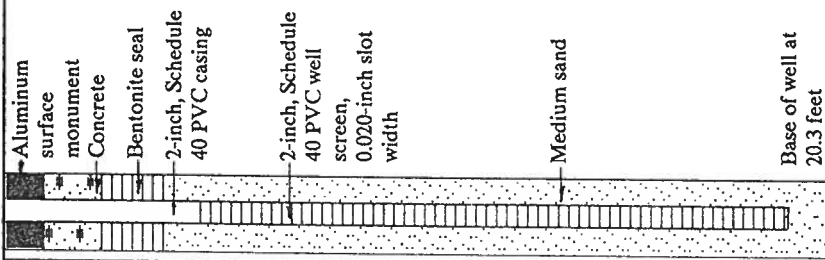
Boring completed at 21.0 feet on 10/2/89



MONITOR WELL NO. MW-8

WELL SCHEMATIC

Casing Elevation: 98.36
 Casing Stickup: -0.22



Vapor Conc.(ppm)
 Sheen

| | | | |
|------------|----------------|-----------|-----------|
| 1200 SS | > 10,000 HS | 700 MS | 100 MS |
|------------|----------------|-----------|-----------|

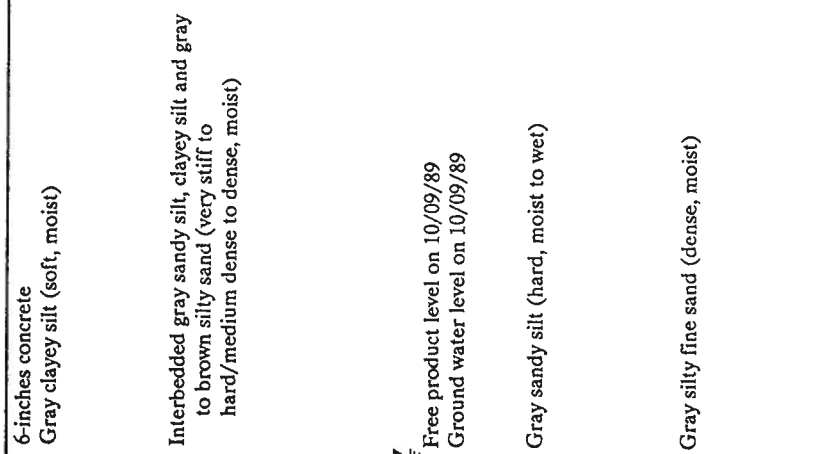
Count
 1
 2
 3
 4
 5
 6
 7
 8
 9
 10

| | | | |
|----|----|----|----|
| 25 | 43 | 41 | 41 |
|----|----|----|----|

Group Symbol

| | | | |
|----|-------|----|----|
| ML | SM/ML | ML | SM |
|----|-------|----|----|

Surface Elevation: 98.58



Free product level on 10/09/89
 Ground water level on 10/09/89

Boring completed at 21.5 feet on 10/03/89
 Petroleum-like odor detected throughout boring

MONITOR WELL NO. MW-9

WELL SCHEMATIC
 Casing Elevation: 99.03
 Casing Stickup: -0.23

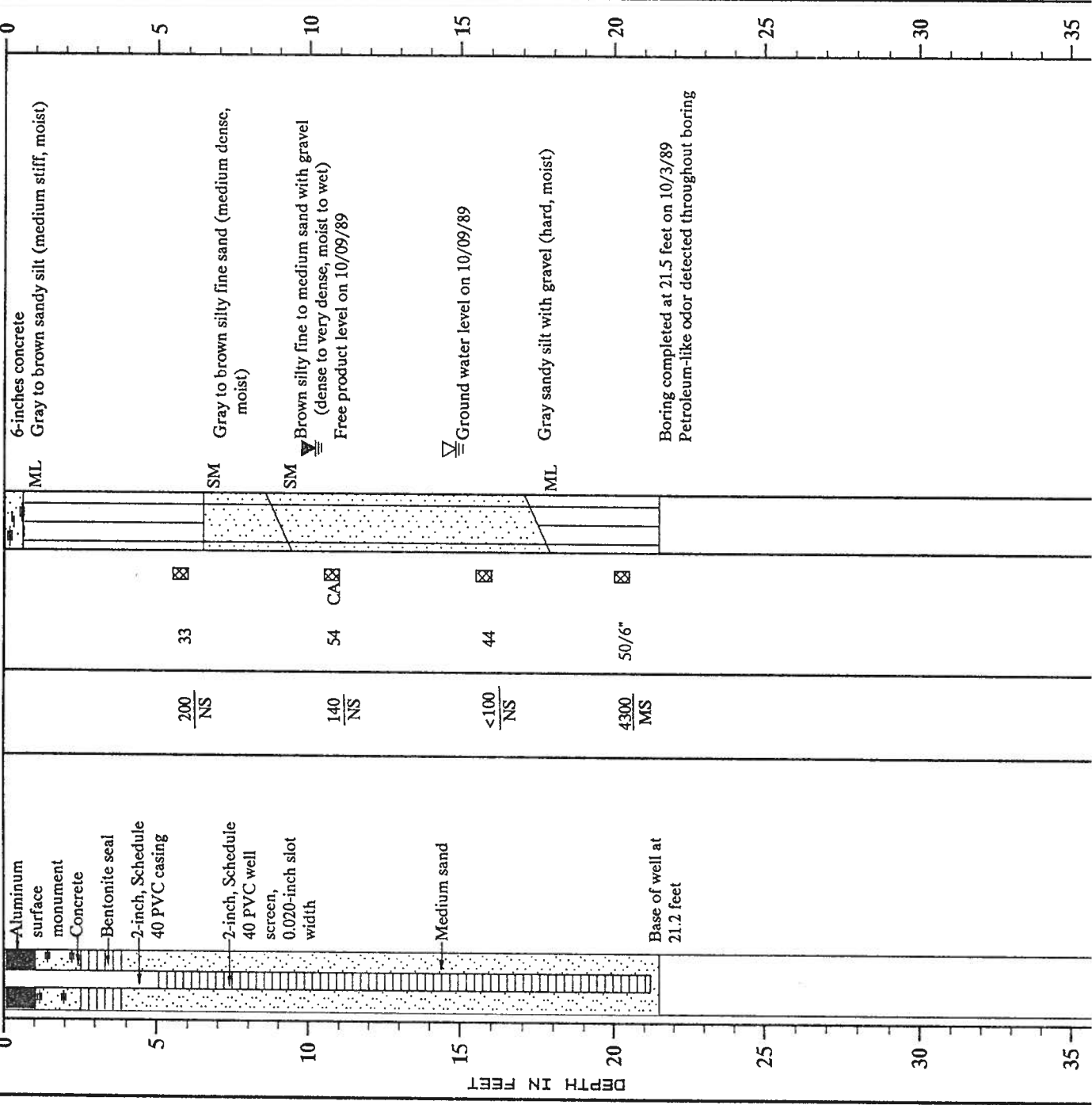
Surface Elevation: 99.26

Vapor Conc.(ppm) Sheen
 200 / NS
 140 / NS
 <100 / NS
 4300 / MS

Block Count
 33
 54
 44
 50/6"

Group Symbol
 ML
 SM
 SM
 ML

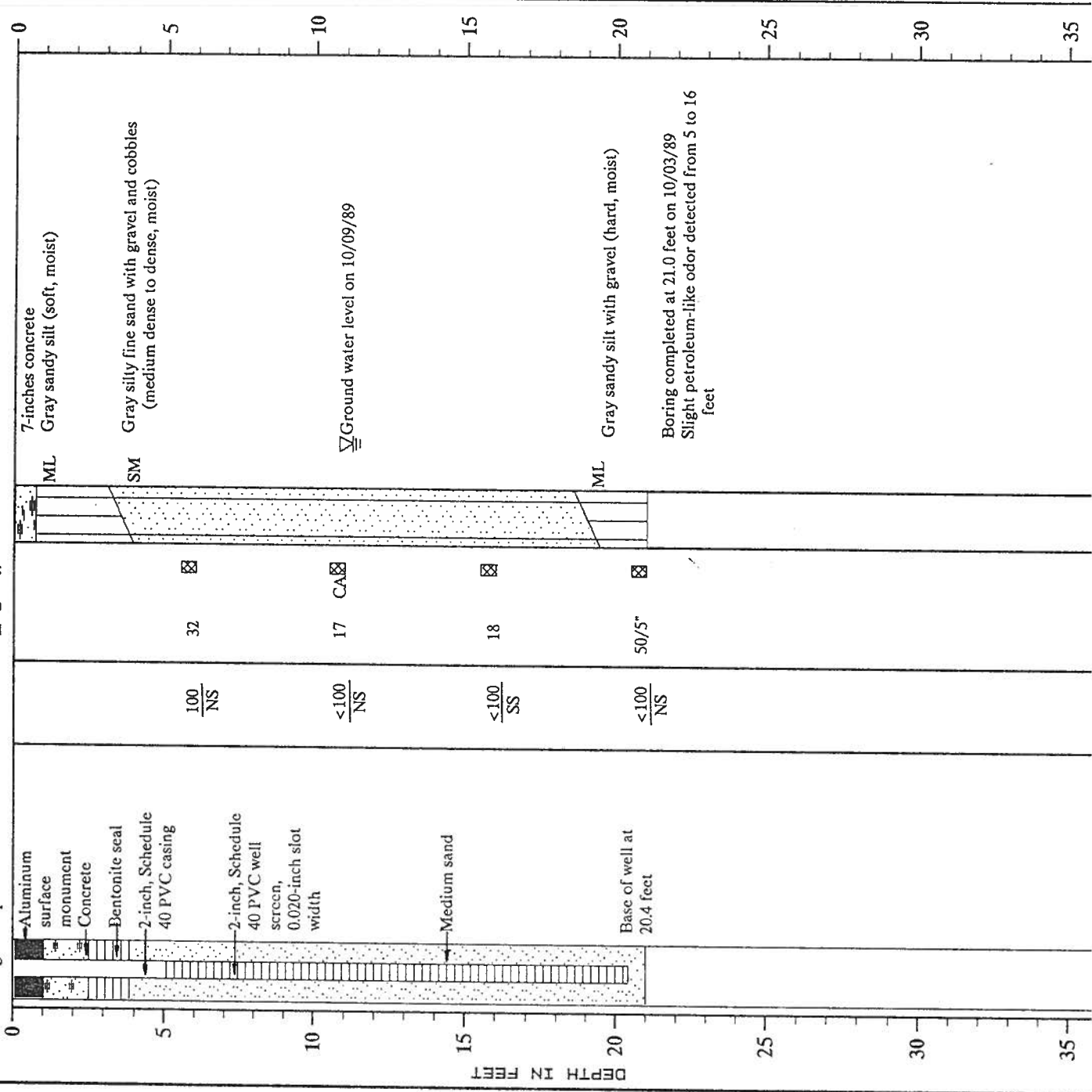
DESCRIPTION
 6-inches concrete
 Gray to brown sandy silt (medium stiff, moist)
 Gray to brown silty fine sand (medium dense, moist)
 Brown silty fine to medium sand with gravel (dense to very dense, moist to wet)
 Free product level on 10/09/89
 Ground water level on 10/09/89
 Gray sandy silt with gravel (hard, moist)
 Boring completed at 21.5 feet on 10/3/89
 Petroleum-like odor detected throughout boring



MONITOR WELL NO. MW-10

WELL SCHEMATIC

Casing Elevation: 97.55
 Casing Stickup: -0.24

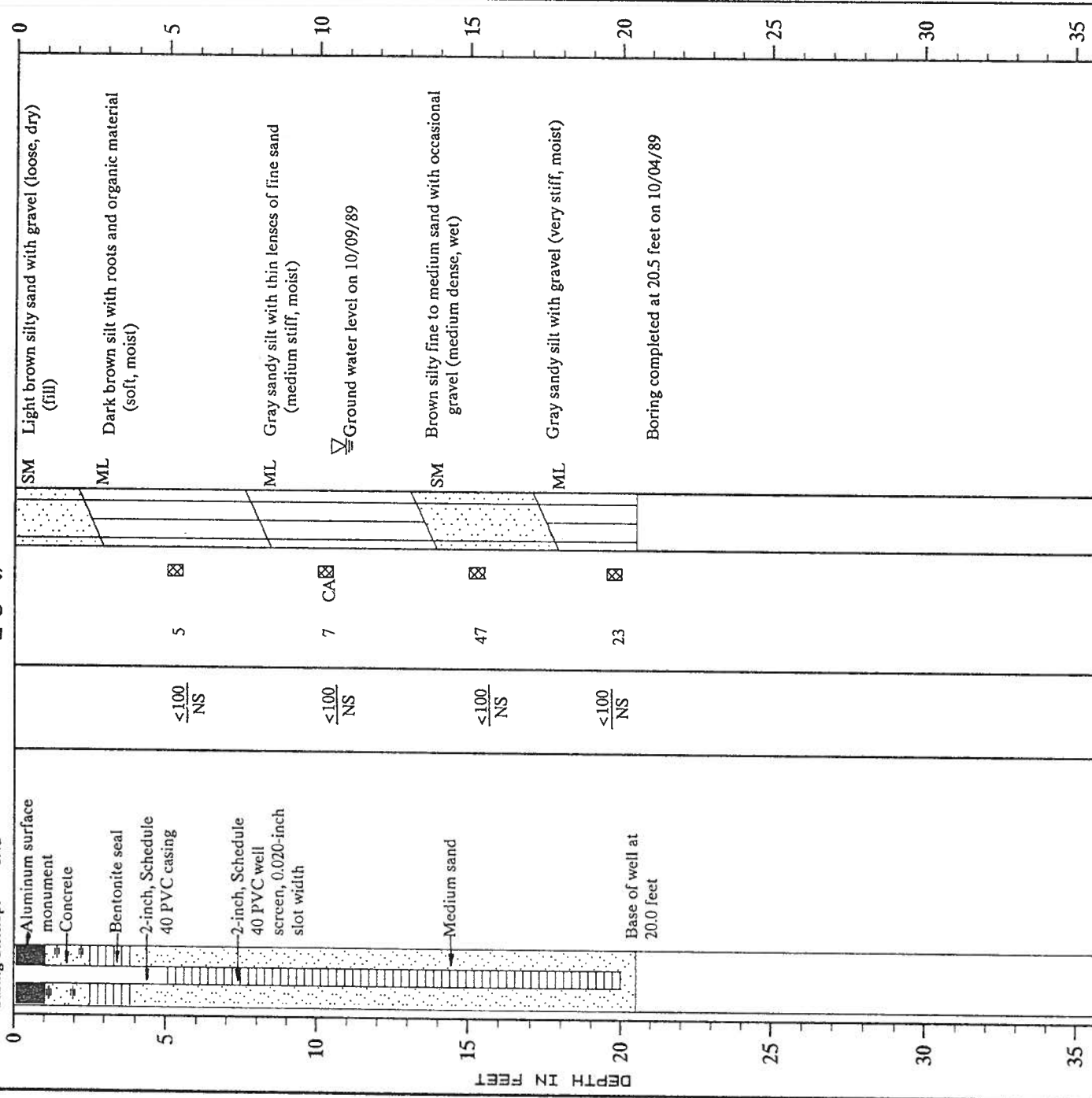


TEP:OKP:CDO 2/8/90

MONITOR WELL NO. MW-11

WELL SCHEMATIC

Casing Elevation: 98.62
Casing Stickup: -0.42



Vapor
Conc.(ppm)
Sheen

5
10
15
20
25
30
35

5
7
47
23

<100
NS

<100
NS

<100
NS

<100
NS

CA

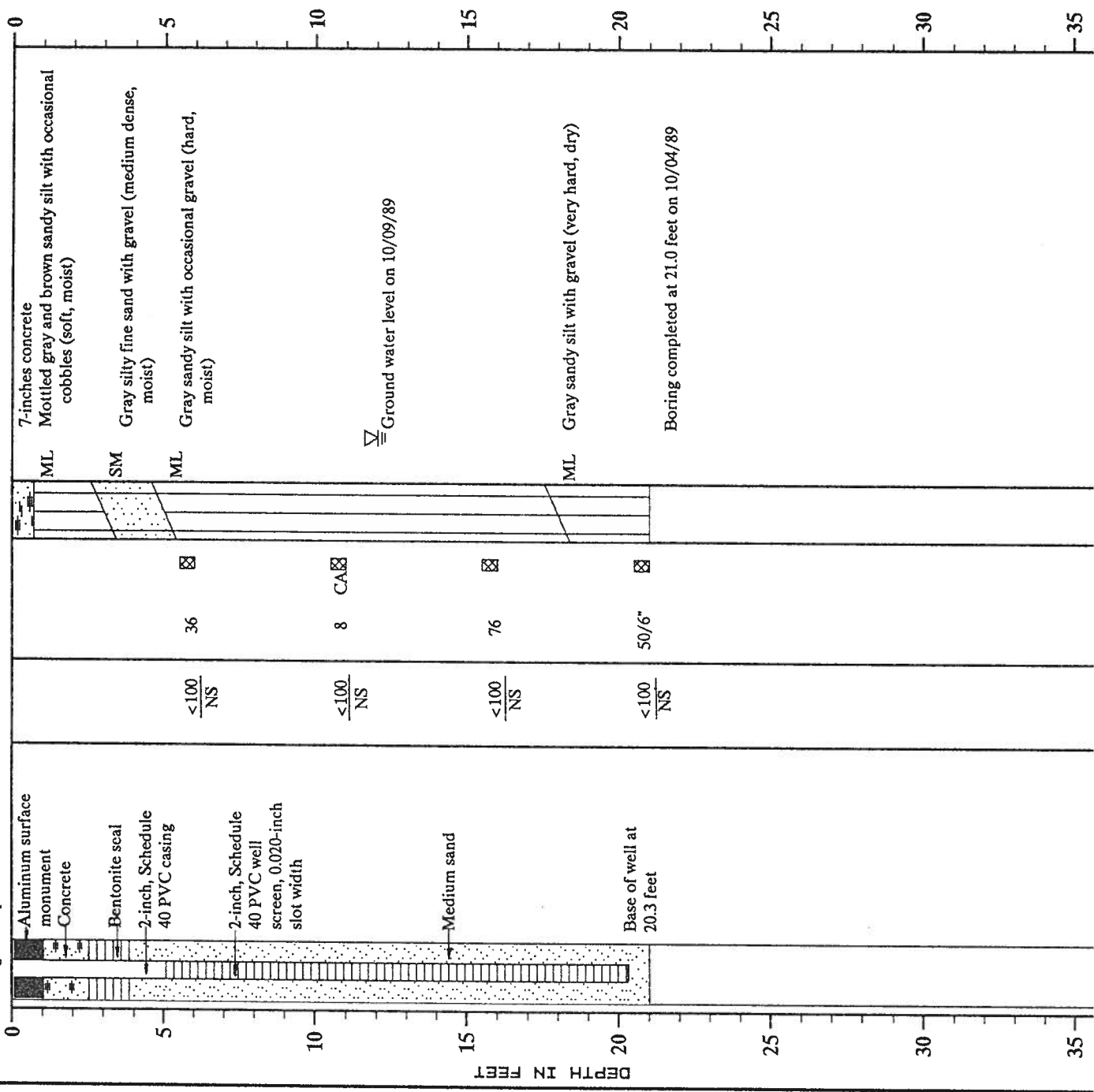
Ground water level on 10/09/89

Boring completed at 20.5 feet on 10/04/89

MONITOR WELL NO. MW-12

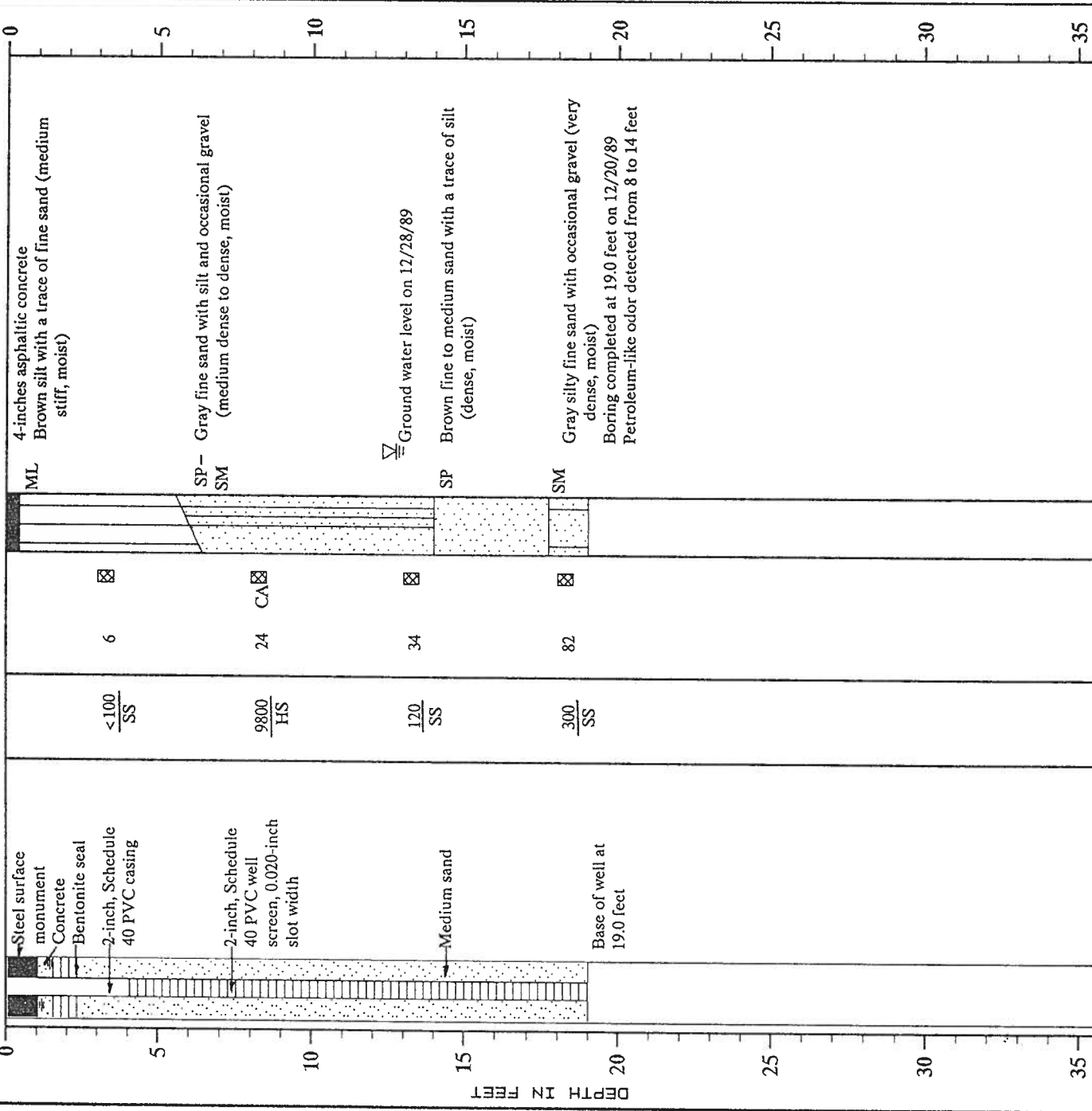
WELL SCHEMATIC
 Casing Elevation: 96.56
 Casing Stickup: -0.24

DESCRIPTION
 Surface Elevation: 96.80



MONITOR WELL NO. MW-13

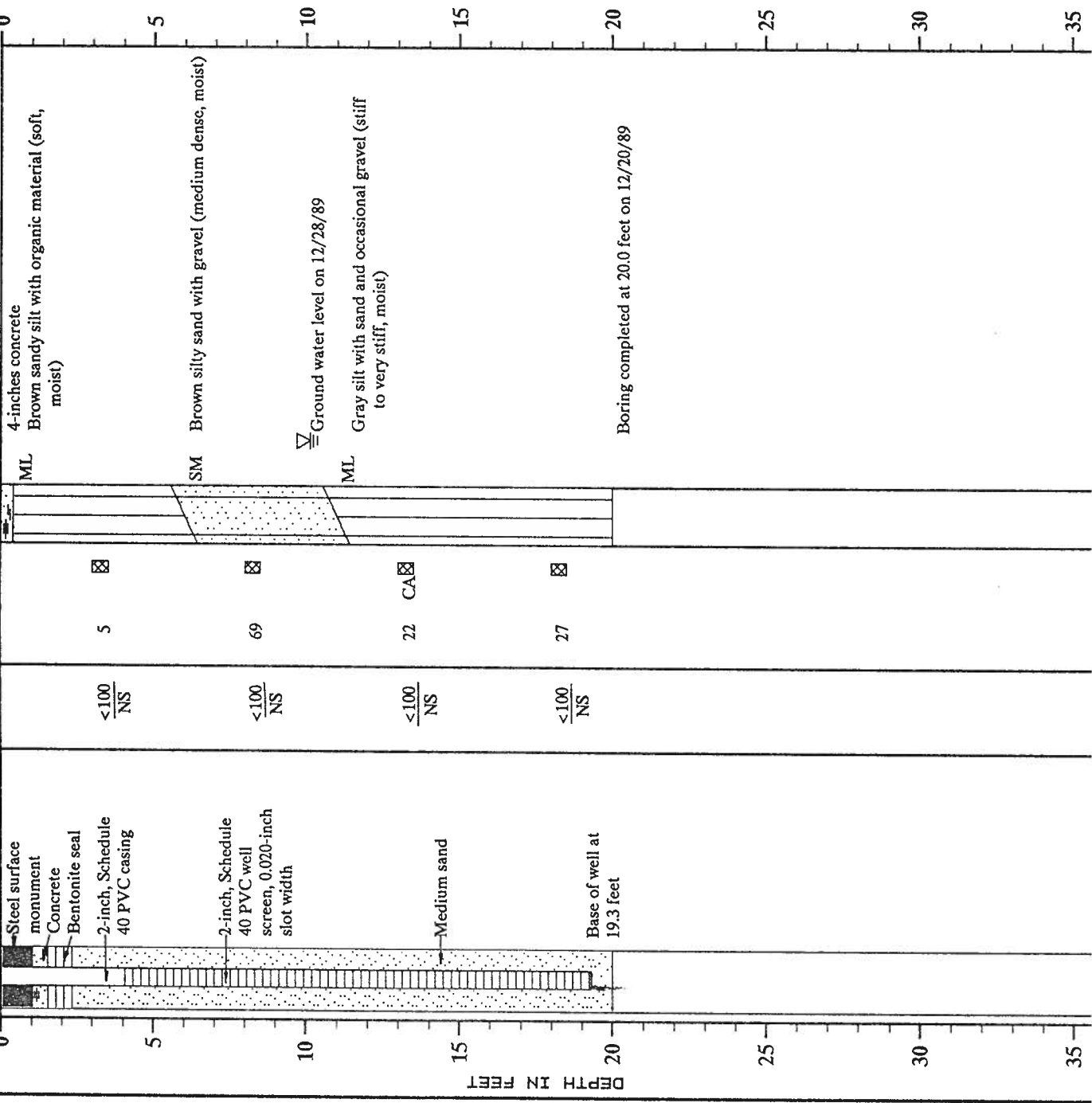
WELL SCHEMATIC
 Casing Elevation: 99.95
 Casing Stickup: -0.32



MONITOR WELL NO. MW-14

WELL SCHEMATIC

Casing Elevation: 98.07
Casing Stickup: -0.47



Vapor Conc.(ppm) Sheen
 5
 69
 22
 27
 <100/NS
 <100/NS
 <100/NS
 <100/NS

Group Symbol

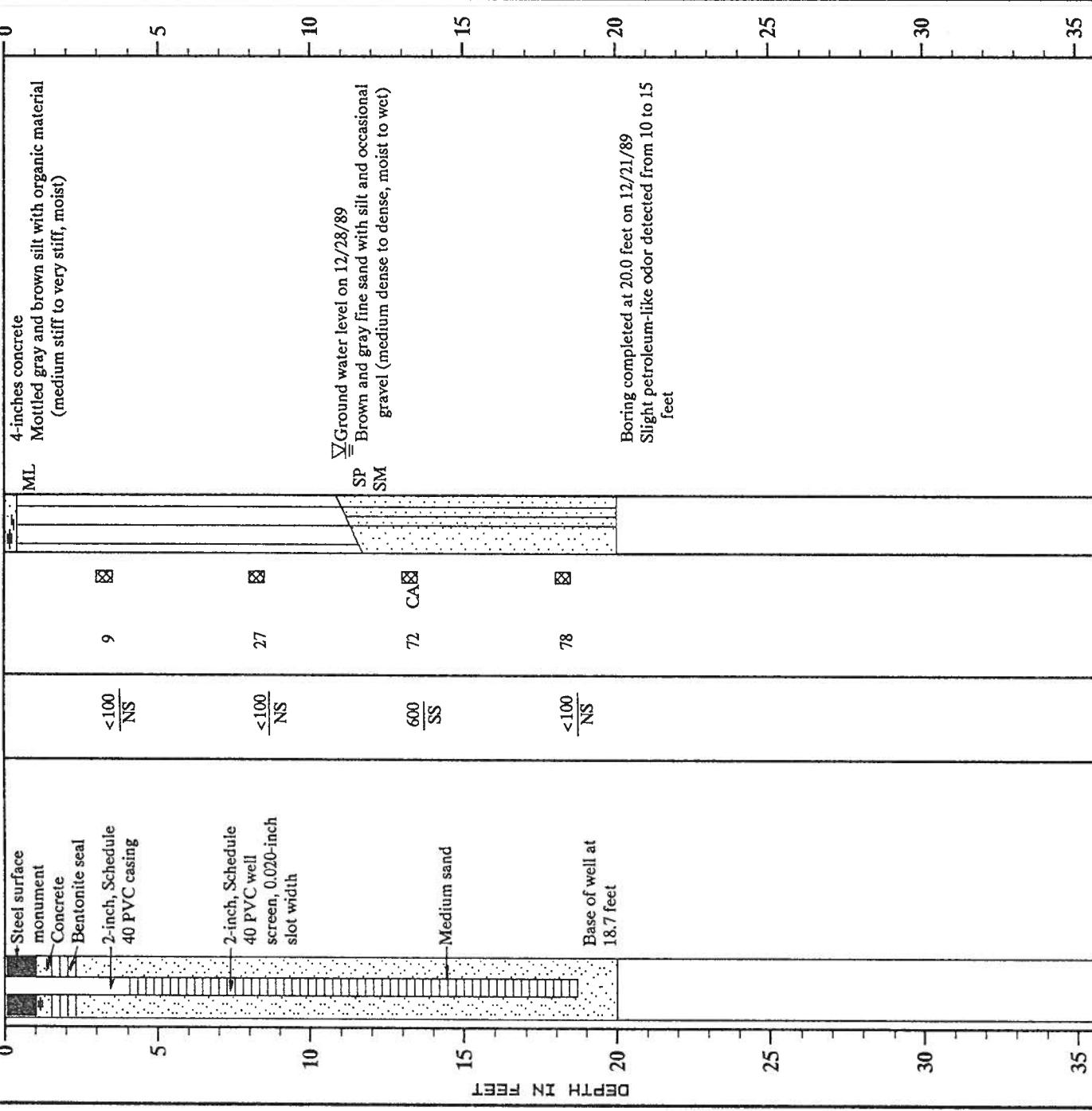
ML
 SM
 ML
 CA

DESCRIPTION
 Surface Elevation: 98.54
 4-inches concrete
 Brown sandy silt with organic material (soft, moist)
 Brown silty sand with gravel (medium dense, moist)
 Ground water level on 12/28/89
 Gray silt with sand and occasional gravel (stiff to very stiff, moist)
 Boring completed at 20.0 feet on 12/20/89

MONITOR WELL NO. MW-15

WELL SCHEMATIC

Casing Elevation: 99.04
Casing Stickup: -0.35



Surface Elevation: 99.39

Group Symbol

Vapor Conc. (ppm) Sheen

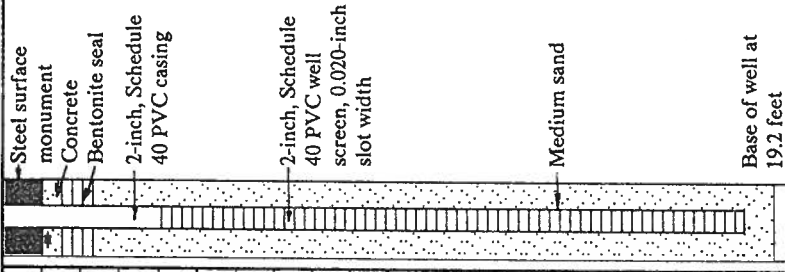
1 3 5 10 15 20 25 30 35

| Depth (ft) | Vapor Conc. (ppm) Sheen | Soil Description | Notes |
|------------|-------------------------|--|---|
| 0 - 4 | | 4-inches concrete | |
| 4 - 10 | <100 / NS | Mottled gray and brown silt with organic material (medium stiff to very stiff, moist) | |
| 10 - 12.5 | <100 / NS | Brown and gray fine sand with silt and occasional gravel (medium dense to dense, moist to wet) | Ground water level on 12/28/89 |
| 12.5 - 15 | 600 / SS | | |
| 15 - 20 | <100 / NS | | Boring completed at 20.0 feet on 12/21/89 Slight petroleum-like odor detected from 10 to 15 feet |
| 20 - 35 | | | |

MONITOR WELL NO. MW-16

WELL SCHEMATIC

Casing Elevation: 99.04
Casing Stickup: -0.30

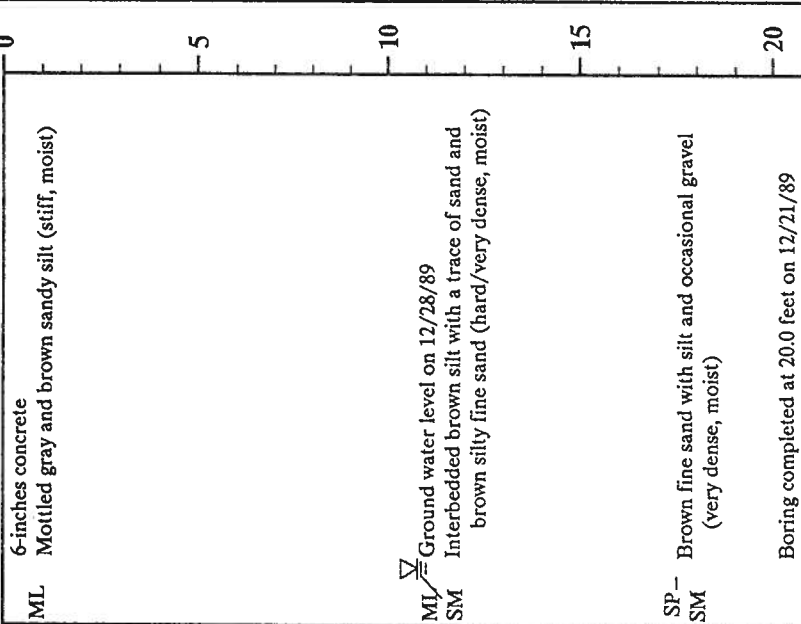


Vapor
Conc. (ppm)
Sheen

| | | |
|------------|-------|-----|
| <100 NS | 13 | ☒ |
| <100 NS | 14 | CA☒ |
| <100 NS | 50/5" | ☒ |
| <100 NS | 50/6" | ☒ |

Samples

Group
Symbol



DESCRIPTION

Surface Elevation: 99.34