

SUBSURFACE EXPLORATION - PENETRATION RESISTANCE AND LOG

Feature

Example

State

Hole No. PR 44

Coordinates N: 1771612

E: 411119

Ground Elevation 19.1

Depth and Elev. of Water Level 9.1

Location See drawing No. 897-513-155

Total Depth 99.5

Date Measured 7-16-91

Date Begun 7-14-91

Finished 7-15-91

Logged by RAL

Reviewed by DPA

NOTES
Water losses, type and size of hole, drilling method and conditions, Caving and other information

CORE RECOVERY-%

BLOWS/ FOOT

WATER CONTENT-%

SAMPLES FOR TESTING

DEPTH (FT.)

GRAPHIC LOG

PENETRATION RESISTANCE

Blows per Foot

Weight of Hammer 140 lb.

Height of Drop 30 in.

0

10

20

30

40

50

CLASSIFICATION AND DESCRIPTION OF MATERIAL

Set Nx Cs to 29.0'
Used 5" drive tube and auger from 0 to 14'

Wash bored from 14' to 26.5'

Used 3" Shelby tube sampler from 26.5' to 47.0'

Hole squeezed at 42.0'

Wash bored from 47' to 64'

0

S-1

S-2

5

10

15

20

25

30

35

40

45

50

55

60

SC

CL

SP-SM

CH

SP-SM

0-2' Clayey SAND, about 80% fine sand, about 20% fines of medium plasticity, brown, moist, (SC)

2'-5' Lean CLAY, about 80% medium plasticity fines, about 20% fine sand, tan, moist (CL)

5'-26.5' Poorly-graded SAND, about 95% fine sand, about 5% nonplastic fines, tan, moist to wet, (SP-SM)

26.5'-39.0' Fat CLAY, high plasticity, soft, light gray to light brown, mottled, moist to wet, (CM)

39.0'-43.0' Silty SAND, about 70% fine sand, about 30% nonplastic fines, tan, saturated, (SP-SM)

43.0'-64.0' Poorly-graded SAND, about 95% fine sand, about 5% non-plastic fines, tan, saturated, (SP-SM)

BLOWS/FOOT

CLASSIFICATION AND DESCRIPTION

PENETRATION

LOGGING INSTRUCTIONS

Record number of blows required for one foot of penetration. If 50 blows result in less than one foot of penetration, record depth penetrated, thus, 50/.4 indicates 0.4 foot penetrated with 50 blows, extrapolated as 125 blows/foot.

Describe soil type, with emphasis on inplace condition. Include Unified Soil Classification symbol. EXAMPLE: POORLY GRADED SAND. 95% prepredominantly medium sand, 5% nonplastic fines, max. size 1/4 inch, firm, moist, gray, uncemented (SP).

Plot, as shown at right.

CL

SP

GW

0

10

20

30

40

125

○

FEATURE

Example

STATE

HOLE NO.

PR 44

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Feature	Example	State
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Hole No. PR 44	Coordinates N: 1771612	E: 411119	Ground Elevation 19.1
Depth and Elev. of Water Level 9.1	Location See drawing No. 897-513-155	Total Depth 99.5	

Date Measured 7-16-91 Date Begun 7-14-91 Finished 7-15-91 Logged by RAL Reviewed by DPA

NOTES Water losses, type and size of hole, drilling method and conditions, Caving and other information	CORE RECOVERY-%	BLOWS/ FOOT	WATER CONTENT-%	SAMPLES FOR TESTING	DEPTH (FT.)	GRAPHIC LOG	PENETRATION RESISTANCE					CLASSIFICATION AND DESCRIPTION OF MATERIAL		
							Blows per Foot							
							Weight of Hammer	140	lb.	Height of Drop	30		in.	
Used 3" Shelby tube sampler from 64' to 99.5'		13			65		0	10	20	30	40	50	64.0'-69.0' Fat CLAY, high plasticity, about 20% fine sand, light gray to light brown, mottled, small amount of lime nodules, moist to wet, (CH)	
		19			70								69.0'-77.0' Silty SAND, about 50% fine sand, about 50% nonplastic fines, strong reaction to HCl, brown, moist to wet, (SM-ML)	
		22	22.3		75									
		18	20.6		80								77.0'-83.0' Clayey SAND, about 50% fine sand, about 50% medium plasticity fines, moderate reaction to HCl, brown, moist to wet, (SC-CL)	
		17			85								83.0'-99.5' Fat CLAY, high plasticity, about 20% fine sand, light, gray to light brown, mottled, small amount of lime nodules, moist to wet, (CM)	
		21	23.5		90									
		36			95									
	Water level at 13.0' on 7-15-91: water level at 10.0' on 7-16. Hole caved to 19.0' on 7-16. Pulled Cs on 7-15 and bailed hole. Filled hole on 7-16.					100								
						105								
						110								
					115									
					120									
					125									

LOGGING INSTRUCTIONS		
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PENETRATION	Plot, as shown at right.	