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Boring Log Interpretation

Course Number: GE-02-102

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Comparative resistance to drilling.

Loss of drilling fluid.

CHAPTER 4.0

BORING LOG PREPARATION

4.1 **GENERAL**

The boring log is the basic record of almost every geotechnical exploration and provides a detailed record of the work performed and the findings of the investigation. The field log should be written or printed legibly, and should be kept as clean as is practical. All appropriate portions of the logs should be completed in the field prior to completion of the field exploration.

A wide variety of drilling forms are used by various agencies. The specific forms to be used for a given type of boring will depend on local practice. Typical boring log, core boring log and test pit log forms endorsed by the ASCE Soil Mechanics & Foundations Engineering Committee are presented in Figures 4-1 through 4-3, respectively. A proposed legend for soil boring logs is given in Figure 4-4 and for core boring logs in Figure 4-5. This chapter presents guidelines for completion of the boring log forms, preparation of soil descriptions and classifications, and preparation of rock descriptions and classifications.

A boring log is a description of exploration procedures and subsurface conditions encountered during drilling, sampling and coring. Following is a brief list of items which should be included in the logs. These items are discussed in detail in subsequent sections:

- C Topographic survey data including boring location and surface elevation, and bench mark location and datum, if available. С An accurate record of any deviation in the planned boring locations. С Identification of the subsoils and bedrock including density, consistency, color, moisture, structure, geologic origin. C The depths of the various generalized soil and rock strata encountered. C Sampler type, depth, penetration, and recovery. C Sampling resistance in terms of hydraulic pressure or blows per depth of sampler penetration. Size and type of hammer. Height of drop. C Soil sampling interval and recovery. С Rock core run numbers, depths & lengths, core recovery, and Rock Quality Designation (RQD) C Type of drilling operation used to advance and stabilize the hole.
- Water level observations with remarks on possible variations due to tides and river levels.

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Project: Project Location: Project Number:		Log of Boring Sheet 1 of					
Date(s)	Logged	Checked					
Drilled	By	By					
Drilling	Drill Bit	Total Depth					
Method	Size/Type	Drilled (meters)					
Drill Rig	Drilled	Hammer Weight/					
Type	By	Drop (N/m)					
Apparent m ATD m	after hrs m af	ter hrs Surface Elevation (meters)					
Comments	Borehole	Elevation Datum					

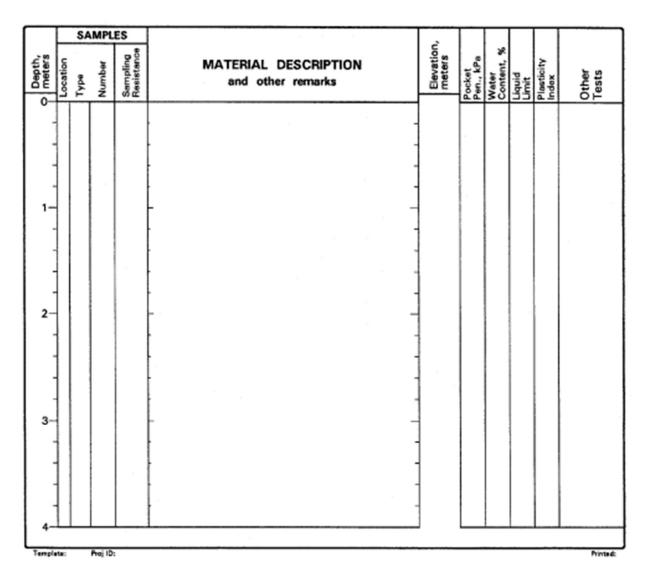


Figure 4-1. Representative Boring Log Form.

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Project: Project Location: Project Number:									Log of Core Boring Sheet 1 of							
Drilled By Drilling Dri Method Siz Drill Rig Dri									By Dri Siz Dri By	ll Bit e/Type Red	m after hrs	Inclin Vertic	Depth d (met ation f cal/Bea ox. Sur tion (n	rom ring		
h, rs	Elevation, meters				CK	co %			λε	3				ory	te, hour	FIELD
Depth, meters	Eleva	Run No.	Box No.	Recovery, %	Frac. Fraq.	R Q D,	Fracture Drawing/	Numbe	Lithology	MATERIAL I	DESCRIPTION		Packer Tests	Laboratory Tests	Drill Rate, meters/hour	NOTES
1-																
Temple	te·	Proi II	٦٠													Printed:

Figure 4-2. Representative Core Boring Log.

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Project: Project Location: Project Number:								Log of ploration Pit					
Date(s)						Logged By		Checke	ed	· · · · · · · · · · · · · · · · · · ·			
Excavated Approximate						By By Approximate Appl Width (meters) Der				proximate oth (meters)			
Length (meters) Excavation										nth (meters) Proximate Trend			
Equipment Groundwater										rend ox. Surface tion (meters)			
Level (m	eters)					Measured		Elevati	on (met	ers)			
Comme	nts				V								
Depth, o meters	Elevation, meters	Sample Type and Number	Pocket Pen., kPa	Graphic Log		MATERIAL DESCR and other rema			Water Content, %	Other Tests			
1— 2—													

Figure 4-3. Representative Exploration Pit Log.

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