



Boring Log Interpretation

Course Number: GE-02-102

PDH: 3

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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.
- C An accurate record of any deviation in the planned boring locations.
- C 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.
- C 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.
- C Comparative resistance to drilling.
- C Loss of drilling fluid.
- C Water level observations with remarks on possible variations due to tides and river levels.



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

Depth, meters	SAMPLES				MATERIAL DESCRIPTION and other remarks	Elevation, meters	Pocket Pen., kPa	Water Content, %	Liquid Limit	Plasticity Index	Other Tests
	Location	Type	Number	Sampling Resistance							
0											
1											
2											
3											
4											

Template: Proj ID: Print:

Figure 4-1. Representative Boring Log Form.

Project: Project Location: Project Number:	Log of Core Boring ____ Sheet 1 of ____
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Date(s) Drilled	Logged By	Checked By
Drilling Method	Drill Bit Size/Type	Total Depth Drilled (meters)
Drill Rig Type	Drilled By	Inclination from Vertical/Bearing
Apparent Groundwater Depth ___ m ATD ___ m after ___ hrs ___ m after ___ hrs		Approx. Surface Elevation (meters)
Comments		Borehole Backfill

[illegible]

Figure 4-2. Representative Core Boring Log.



Project: Project Location: Project Number:					Log of Exploration Pit _____	
Date(s) Excavated			Logged By		Checked By	
Approximate Length (meters)			Approximate Width (meters)		Approximate Depth (meters)	
Excavation Equipment			Excavation Contractor		Approximate Pit Trend	
Groundwater Level (meters)			Date Measured		Approx. Surface Elevation (meters)	
Comments						

Depth, meters	Elevation, meters	Sample Type and Number	Pocket Pen., kPa	Graphic Log	MATERIAL DESCRIPTION and other remarks	Water Content, %	Other Tests
0							
1							
2							
3							
4							

Template:Proj ID:Printed:

Figure 4-3. Representative Exploration Pit Log.



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