SREYAS

INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi | Affiliated to JNTUH, Hyderabad | Accredited by NAAC)

Hyderabad | PIN: 500068

DEPARTMENT OF CIVIL ENGINEERING

WEBINAR ON

SOIL INVESTIGATION

DATE: 06-08-2018

Resource Person: Dr. SasankaMouli

Chief Patron

Sri A. Vinay Kumar Reddy
Chairman

Co – Patron

Sri A. Hriday Reddy
Vice Chairman

D. Paramesh
Convener

MA. Kalam
HOD

Dr. A. Suresh
Principal

REPORT ON SOIL INVESTIGATION

Site investigation is the inspection of the site and study of topography to get a proper information about the soil and groundwater condition.

Purpose of Soil Exploration/ Investigation

The purpose of site exploration is to get detailed information about

1. Order of occurrences and extent of soil and rock strata.
2. Nature and engineering properties of of the soil and rock formation.
3. Location of groundwater and its variation.

The boring methods are used for exploration at greater depths where direct methods fail. These provide both disturbed as well as undisturbed samples depending upon the method of boring. In selecting the boring method for a particular job, consideration should be made for the following:

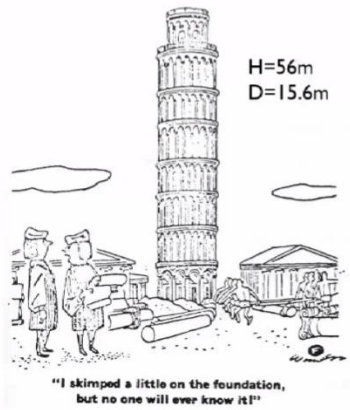
- The materials to be encountered and the relative efficiency of the various boring methods in such materials
- The available facility and accuracy with which changes in the soil and ground water conditions can be determined
- Possible disturbance of the material to be sampled

The different types of boring methods are:

1. Displacement boring
2. Wash boring
3. Auger boring
4. Rotary drilling
5. Percussion drilling

Sample Images

Motivation

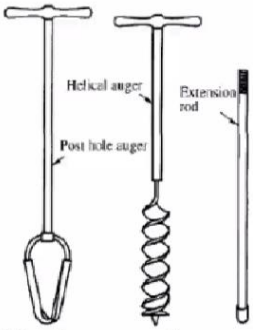


"You pay for geotechnical advice/investigation one way or another"

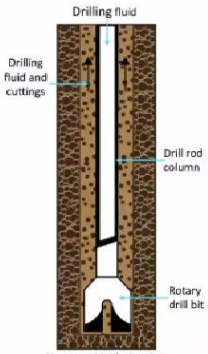
Methods for Drilling a Borehole (IS-1892)

- A large number of methods are available for advancing boreholes to ob samples or details of soil strata.
- The principal methods used worldwide are:
  1. Auger Borehole
  2. Shell and Auger Boring
  3. Percussion Boring
  4. Wash Boring
  5. Rotary Drilling

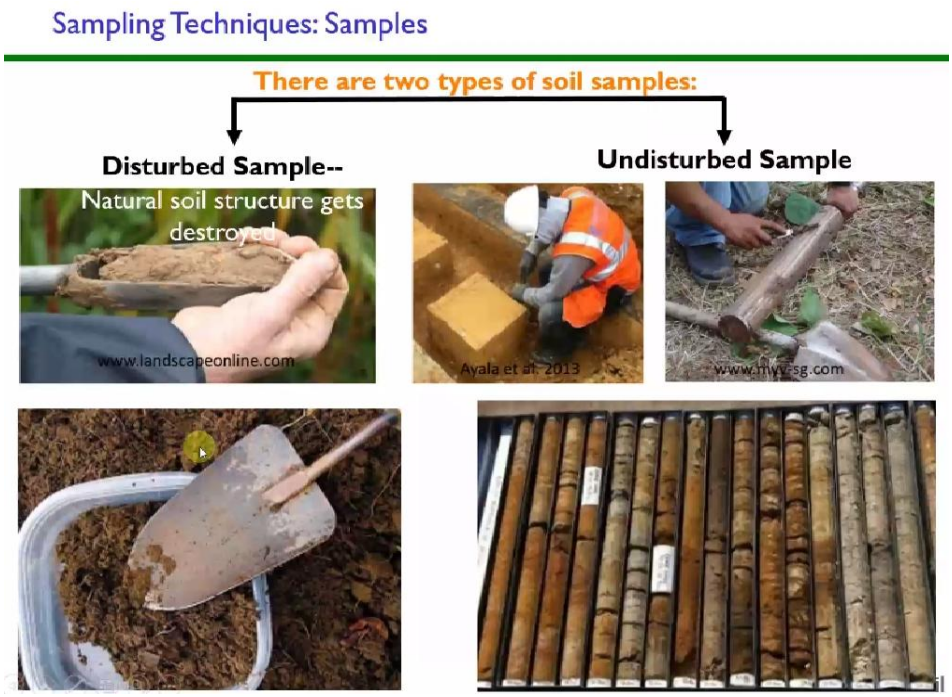
Boreh



Hand operated augers



Rotary Wash Boring


Sampling Techniques: Samples
There are two types of soil samples:
Disturbed Sample--
Natural soil structure gets destroyed
www.landscapeonline.com
Undisturbed Sample
Ayala et al. 2013
www.mwrsg.com