

A  
REPORT ON  
INDUSTRIAL VISIT  
TO  
DBM GEOTECHNICS AND CONSTRUCTIONS PVT. LTD.

At New Eastern Mill, Byculla, Mumbai



On 11st sept 2014

BY STUDENT OF  
B.E CIVIL ENGINEERING  
ACCOMPANIED BY

Hod Dr. K. K. Borgaonkar And Prof. S. S. Karale

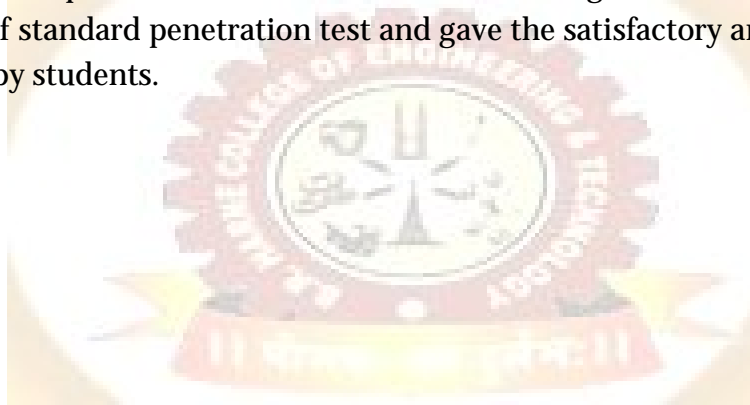
Organized by

B. R. HARNE COLLEGE OF ENGINEERING AND  
TECHNOLOGY

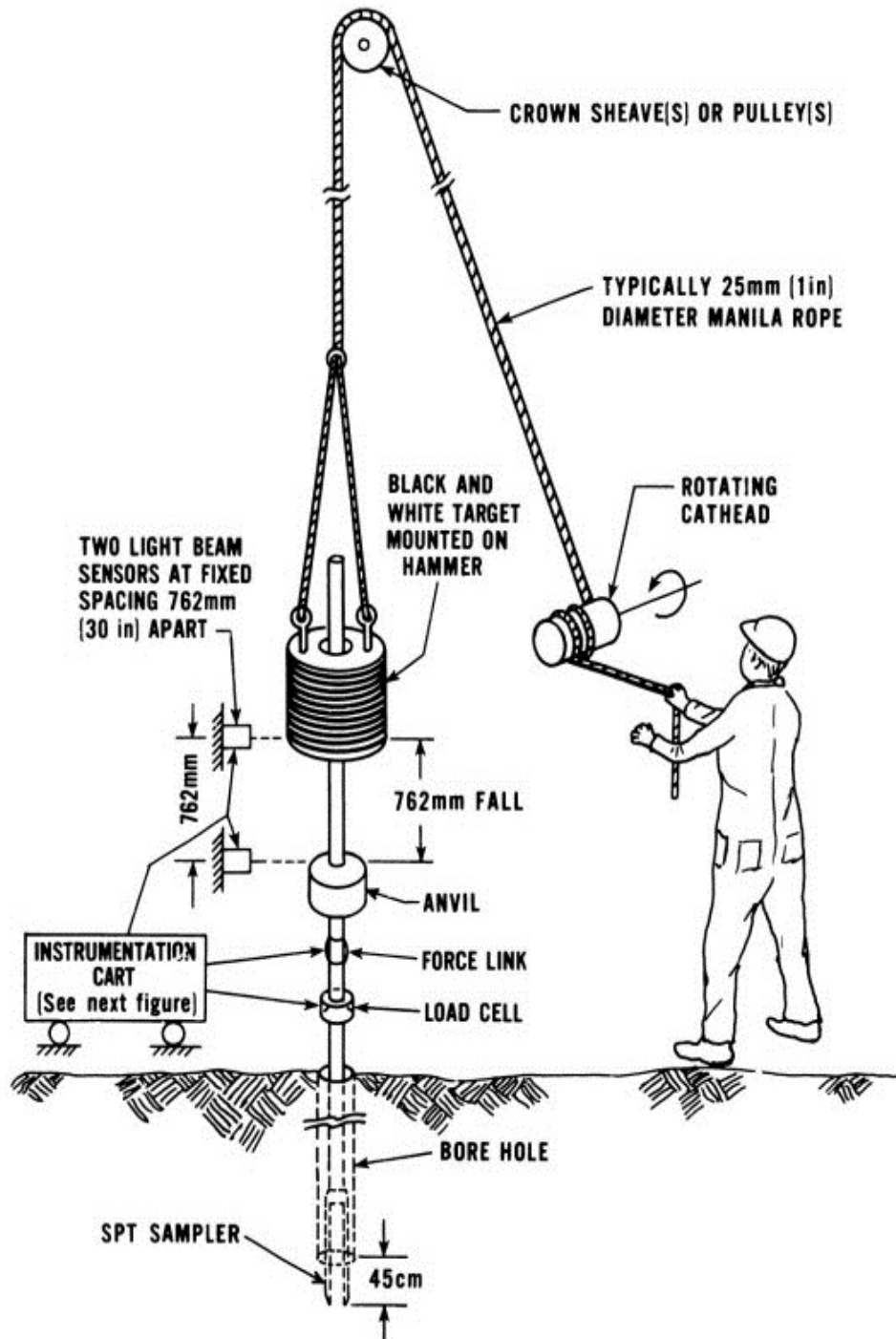


The department of Civil Engineering, B.R. HARNE COLLEGE OF ENGINEERING AND TECHNOLOGY organized a one days educational visit to DBM Geotechnics And Constructions Pvt Ltd on 11th September 2014 for B.E Civil Engineering students. Visit was organized as per mumbai university guidelines and recommendations regarding syllabus of B.E Civil Engineering .

Visit was organized with the prior permission and guidance of honorable principal of brhctet, Vangani Prof. Dr. V. A. PATIL by the initiative and hard efforts of class teacher prof. S. S. KARALE of B.E Civil. Along with the staff members, students of B.E Civil specially Siddhesh Jadhav, Swapnil Bhoir, Mandar Parab from BE Civil engineering takes hard efforts and initiative under the continuous guidance of Prof. S. S. Karale which makes this visit a grand success. Students gathered at byculla station at 10.00 AM, destination was 'New Eastern Mill' at Byculla. On the site, students carefully studied and observed the complete process of STANDARD PENETRATION TEST on soil, which conduct to know the pattern of the soil. Officials at DBM guides the students regarding different aspect of standard penetration test and gave the satisfactory answers to different questions raised by students.



STANDARD PENETRATION TEST (IS: 2131-1981)



- COMPONENTS

- Drilling Equipment
  - ❖ Inner diameter of hole = 100 to 150 mm
  - ❖ Casing may be used in case of soft/non-cohesive soils
- Split spoon sampler = IS:9640-1980
- Drive weight assembly
  - ❖ Falling Weight = 63.5 Kg
  - ❖ Fall height = 75 cm
- Others =Lifting bail, Tongs, ropes, screw jack, etc.

- PROCEDURE

- The bore hole is advanced to desired depth and bottom is cleaned.
- Split spoon sampler is attached to a drill rod and rested on bore hole bottom.
- Driving mass is dropped onto the drill rod repeatedly and the sampler is driven into soil for a distance of 450 mm. The number of blow for each 150 mm penetration are recorded.
- N-value
  - ❖ First 150 mm penetration is considered as seating penetration
  - ❖ The number of blows for the last two 150 mm penetration are added together and reported as N-value for the depth of bore hole.
- The split spoon sampler is recovered, and sample is collected from split barrel so as to preserve moisture content and sent to the laboratory for further analysis.
- SPT is repeated at every 750 mm or 1500 mm interval for larger depths.
- Under the following conditions the penetration is referred to as refusal and test is halted
  - a) 50 blows are required for any 150 mm penetration
  - b) 100 blows are required for last 300 mm penetration
  - c) 10 successive blows produce no advancement

- PRECAUTIONS DURING SPT

- The ht. of free fall Must be 750 mm
- The fall of hammer must be free, frictionless and vertical
- Cutting shoe of the sampler must be free from wear & tear
- The bottom of the bore hole must be cleaned to collect undisturbed sample
- When SPT is done in a sandy soil below water table , the water level in the bore hole MUST be maintained higher than the ground water level.

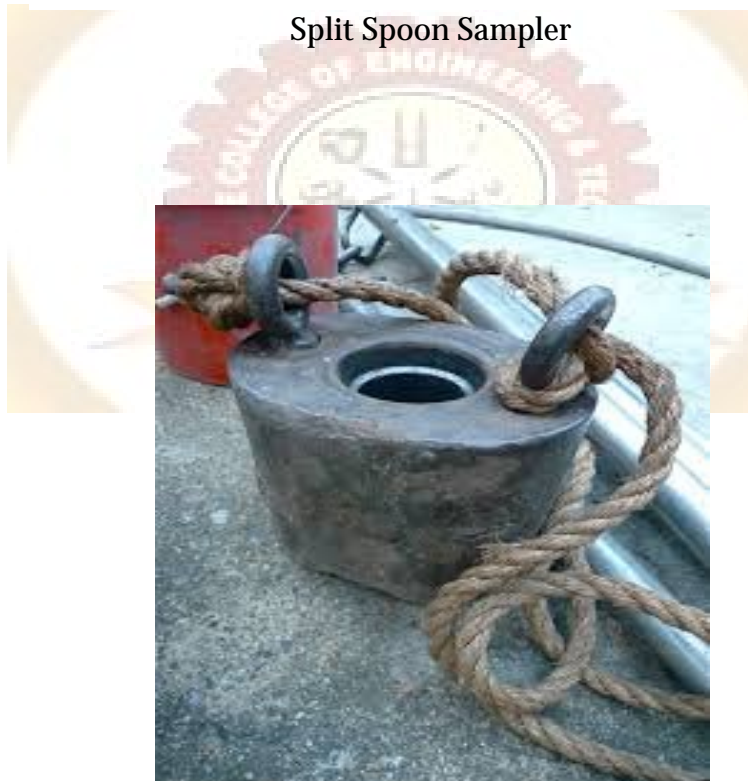
- PHOTOS



Assembling of SPT



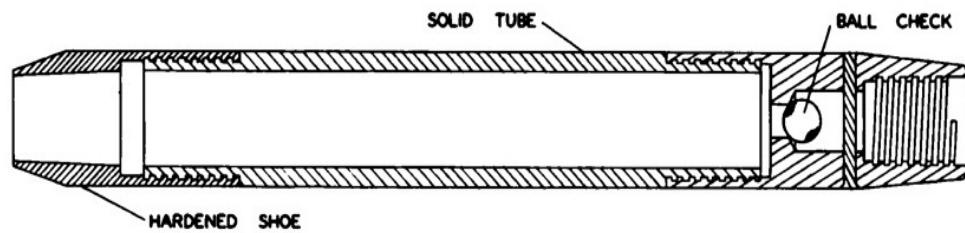
Split Spoon Sampler



Hammer use for penetration



Cutting shoe



Solid tube sampler



Collection Of Sample