

**CHHOTUBHAI GOPALBHAI PATEL INSTITUTE OF
TECHNOLOGY,**
CIVIL ENGINEERING DEPARTMENT,
**FIELD VISIT OF ADVANCED SOIL TESTING AT RAMNAGAR,
RANDER, SURAT.**



***Chhotubhai Gopalbhai Patel Institute of Technology,
Civil Engineering Department,
Uka Tarsadia University***

One day field test visit at Bhikshuk swikar kendra at Ramnagar, Surat on 14/12/2018
B.Tech 6th Semester (Div.-A, B and C)

Field Visit Report

Visit on soil In situ testing and Sampling

This filed visit is arranged with co-operation with Applied Mechanics Department, SVNIT, Surat.

The faculty co-ordinator of SVNIT : Dr.(Mrs.) Shruti Shukla

Date of Visit: 14/12/2018

Total No. of Student: 135 (UG-VI Semester Div- A, B and C)

Total No. of Faculty: 07

Faculty Coordinator: Prof. Vaibhav Pawar & Prof. Grishma Thaker

Other Faculty:- Prof. Anuj Chandiwala, Prof. Yati Tank, Prof. Payal Patel, Prof. Abhishek Raturi and Prof. Minu Tressa

Topics Covered during visit:

In situ field testing, sampling and structural failure and its remedial measures.

The department has arranged an educational field testing site visit to Ramnagar for B.Tech 6th semester students of Civil Engineering Department. The visit was organized with the prior permission and guidance of Hon. Director Dr. R.V.Patil and Head of Civil Engineering Department, Prof. Manoj Gundalia.

Details of Site

Location: Bhikshuk Swikar Kendra, Ramnagar, Rander, Surat.

In-situ penetration tests have been widely used in geotechnical and foundation engineering for site investigation in support of analysis and design. The standard penetration test (SPT) and the cone penetration test (CPT) are two typical in-situ penetration tests. The dynamic cone penetration test shows features of both the CPT and the SPT. The DCPT is similar to the SPT in test. It is performed by dropping a hammer from a certain fall height and measuring a penetration depth per blow for each tested depth. The shape of the dynamic cone is similar to that of the penetrometer used in the CPT.

Dynamic cone penetration test (DCPT) is widely used for field quality assessment of soils. Its application to predict the engineering properties of soil is globally promoted by the fact that it is difficult to obtain undisturbed soil samples, especially when loose or submerged sandy soil is encountered.

On the site there are total 7 borehole driven. The boring operation was done by wash-boring technique. The depth of borehole is 7m. at every meter boring a soil sample is collected using split spoon sampler and Shelby tube sampler.

On the site there were old structures also exist in which students were explained type of failure in structural elements and how to remedies it. Student were explained failure like beam-column junction failure, corrosion failure, shear cracks, bulging of column.



SPT test.



Wash Boring and SPT test



SPT test.



Soil Sampling

Collected Soil Sample







Structural Failures

We are very much thankful to Dr. R.V. Patil (Director – CGPIT) for a kind of Permission. We are thankful to Dr. Manoj Gundalia (Head of the Civil Dept.) for always motivating us in curricular and activities.

We are very much thankful to Dr. Shruti Shukla for giving the permission for this field testing under their coordination at Ramnagar. Our special thanks to Mr. Nayim from Unique Engineering and Advisory Services, to guide us for explaining boring techniques and penetration techniques. He explain very nicely about the load distribution, foundation design, soil strata and various field test. Our faculty members Prof. Anuj Chandiwala, Prof. Vaibhav Pawar, and Prof, Yati Tank, grab the opportunity to explain the structural failures, as the site is previously used as Baggers Accommodation and there still old structure are exists. So thanks to our faculty member for this fruitful effort.

CONCLUSION: - The Field visit of In situ soil testing and sampling at Bhikshuk Swikar kendra, Ramnagar, was very informative and helpful in providing information regarding site explortin program and SPT test. The execution of test and sampling on site was very nice. Soil Testing Field visit proved to be learning and fruitful experience for both students and faculty members. We wish that such type of field visit also planned in future. Chhotubhai Gopalbhai Patel Institute of Technology, Uka Tarsadia University.