

Memorandum of Understanding with Crystal Geotechnics India (MoU)

(March 3, 2021)

Department of Geology, Shri Shivaji Science College, Amravati signed a Memorandum of Understanding (MoU) with Crystal Geotechnics India, Raigad for geotechnical studies. The purpose of the MoU is to promote mutually beneficial partnership between the parties in the field of geology. Awareness and exploration of the relationship between geology, geotechnology and people and better understanding of earth sciences.



Online Field Visit:

31 August 2021

Department of Geology, Shri. Shivaji Science College, Amravati in collaboration with Crustal Geotechnics India, organized online field visit at Mula dam Taluka- Rahuri, distict Ahmednagar. 58 students attended this online field visit. Geology being field subject and due to Covid-19 surcumstances students were unable to physically visit field which is a mandatory part of University syllabus. The purpose of this online field visit was to provide information and awareness about the field work, role of geologist in Geotechnical field. The training was imparted by Mr. Manoj Tupe and Mr. Amit Date, Engineering Geologist, Crustal Geotechnics India, and his colleagues.

This Program was a very enlightening for students and they were able to understand in and outs of field work. The Geologist life in field also the nessesary skill sets of observation required for field Geology.



Department of Geology
Shri Shivaji Science College, Amravati
&
Crustal Geotechnics India



Jointly organizing

Role of Geologist in Geotechnical Field
(detailed express through Online Field Visit
at Mula Dam Ta- Rahuri, Dist.- Ahmednagar)

- Resource Persons -

1. Mr. Manoj Tupe,
Engineering Geologist,
Crustal Geotechnics India.

2. Mr. Amit Date,
Engineering Geologist,
Crustal Geotechnics India

Date and Time

31 August 2021

At 2:00 pm

Dr. G. N. Chaudhari
Offi. Principal
Shri Shivaji Science College,
Amravati

- Convenor -

Dr. Mayura M. Deshamukh
Assistant Professor and Head
Shri Shivaji Science College,
Amravati

- Convenor -

Mr. Manoj Tupe
Engineering Geologist,
Crustal Geotechnics India

- Coordinator -

Mr. Saurabh K. Paunikar
Assistant Professor
Shri Shivaji Science College,
Amravati

Join Telegram Group Link for program detail and joining link:

https://t.me/joinchat/SCYK3mJOgowv_n5h

Boucher of Program

You Tube Link: <https://youtu.be/E01lhfpT-ng>

Topics Covered in Online Field Visit Program: -

Introduction: -

Executive Engineer Ahmednagar, Medium Project Department plans construction of high-level bridge at Mula dam, Wavath-Jambhili, Ahmednagar Maharashtra. The work of Survey and geotechnical investigation was awarded to **M/S. Crustal Geotechnics India**. The field work and laboratory tests for the geotechnical investigation were completed by **Crustal Geotechnics India** in July to September 2021. This final report prepared by **Crustal Geotechnics India** presents results of the geotechnical investigation along with foundation recommendations for the proposed bridge

Hydrogeology: -

The major part of the district is underlain by the basaltic lava flows, which were formed by the intermittent fissure type eruptions during of upper Cretaceous to lower Eocene age. The Deccan Trap has succession of 19 major flows in the elevation range of 420 to 730 m above mean sea level (amsl). These flows are characterised by the prominent units of vesicular and massive Basalt. The Alluvium of Recent age also occurs as narrow stretch along the course of major rivers deposited over the Traps.

Geology of Area: -

Deccan Trap Basalt Deccan Traps occupy about 95% area of the district and it occurs as basaltic lava flows which are normally horizontally disposed over a wide stretch and give rise to table-land type of topography also known as plateau. These flows occur in layered sequence ranging in thickness from 15 to 50 m. Flows are represented by massive portion at bottom and vesicular portion at top and are separated from each other by marker bed known as bole bed. The thickness of weathering varies widely in the district from 5 to 25 m bgl. The weathered and fractured trap occurring in topographic lows form the main aquifer in the district. The ground water occurs under phreatic, semi-confined and confined conditions. Generally the shallower zones down to the depth of 20 m bgl form phreatic aquifer. The water bearing zones occurring between the depths of 20 and 40 m are weathered interflow or shear zones and yield water under semiconfined conditions. Deeper semi-confined to confined aquifers occur below the depth of 40 m as the borewells drilled have shown presence of fractured zones at deeper depths at places. The vesicular portion of different lava flows varies in thickness from 8 to 10 m and forms the potential aquifer zones. However, the nature and density of vesicles, their distribution, inter-connection, depth of weathering and topography of the area are the decisive factors for occurrence and movement of ground water in vesicular units. The massive portion of basaltic flows are devoid of water, but when it is weathered, fractured, jointed or contain weaker zones ground water occurs in it. The yield of the dugwells ranges from 2 to 3655 lpm, whereas that of borewells ranges from 500 lph to about 20000 lph when favourably located.

4.1.2 Soft Rock Formations
4.1.2.1 Alluvium Alluvium occurs in small areas along banks and flood plains of major rivers like Godavari, Pravara, Mula rivers and their tributaries. In the Alluvium the coarse grained detrital material like sand and gravel usually occurring as lenses forms good aquifer. The ground water occurs in phreatic aquifer under water table conditions


in flood plain Alluvium deposits near the river banks. Confined conditions are also found wherever the thick clay deposits confine the ground water below it. From CGWB exploration in Godavari-Pravara Alluvium it is observed that the thickness of Alluvium is less than 30 m and the aquifer thickness is limited to 3m. The yield of the dugwells ranges from about 1 to 53 6 lps, whereas in shallow tubewells it ranges from 0.08 to 7.14 lps.

Some Glimpse from Online Field Visit Program: -



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(detailed express through online field video)
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Total 58 Students Attended the Online Field Visit Program as Each attending student was asked to comment name in comment box for marking attendance.



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Geology and Geomorphology explanation from field

-sd-
Head,
Department of Geology