

Prediction of uniaxial compressive strength (UCS) of Sakesar Limestone in Salt Range - Pakistan by indirect methods

Sohail Akram¹; M. Usman Azhar² and Salman Farooq¹

¹*Institute of Geology, University of the Punjab*

²*Department of Geology, University of Haripur*

usmanazhar85@hotmail.com

Abstract

Intact rock specimens are routinely tested in laboratory for uniaxial compressive strength (UCS) which is an important design parameter in rock engineering. However, laboratory measurement is always expensive, time consuming and is generally not available as part of small projects. Alternatively, indirect tests are relied to estimate UCS of various rocks through developing simple correlations among the results of uniaxial compressive strength (UCS) and indirect tests on the same rock. In the present study, efforts were made to make such correlations for Sakesar Limestone of Central Salt Range. Cored rock specimens were tested for UCS tests, Point Load tests (PLT) and Schmidt Rebound Hammer Tests (SRHT). All the tests' results were analyzed using statistical techniques to find their interrelationships. The developed relations indicated strong correlations between UCS and Point Load Index (PLI), and UCS and Schmidt Rebound number (Rn). From these relations, UCS is predictable from PLT and SRHT with a reasonable precision.