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University of Missouri geotechnical experiment site

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The MU Geotechnical Experiment Site team is conducting laboratory testing on soil samples from a field site consisting of 9 bore holes ranging from a final depth of 20 to 50 foot below the surface. The purpose of this testing is to characterize the soil profile in this location to serve as a base point of soil information for future site testing such as deep foundation and earth retaining structures testing. Tests on the soil samples include water content, atterberg limit, triaxial, and consolidation testing. Triaxial compression tests are performed to find the strength of the soils in unconsolidated, undrained conditions. Soil samples are also tested using a constant rate of strain to produce soil consolidation. Atterberg limits vary throughout the two main soil strata of USCS classification CL and CH of generally stiff clay. Properties range a lower testing bound from one surface level sample with a liquid limit of 31 and plastic index of 13 to an upper extreme found at a ten foot depth constituting a liquid limit of 69 and a plastic index of 52. Compression and recompression indices and maximum past pressure are determined for each sample using a consolidation test. Compression indices of the test site range from 0.030 to 0.330 and the recompression indices range from 0.027 to 0.046. Maximum past pressures are in the region of 750 (psf) to 13000 (psf). The strength of the soil varies throughout the site and also with depth. The change in strength is due to the changing soil properties with depth. Strength values range from 500 psf to 3000 psf.