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EXPERIENCES WITH AUTOMATED GEOTECHNICAL TESTING

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ABSTRACT

Automated geotechnical testing has been available in some form for about 30 years. Tens of papers have been written by researchers describing various types of automated equipment and illustrating their function. Few if any of these papers address the practical issues of using automated testing equipment in a commercial laboratory operation. Our commercial laboratory has used automated testing equipment for eight years to conduct triaxial, unconfined compression, CBR, consolidation, direct shear and large shear box testing. As one of the highest volume testing facilities in the country, we have amassed considerable experience on the benefits and drawbacks of using automated testing equipment. This paper presents some guidelines for assessing the potential benefits of automation to other commercial laboratories. The paper also gives recommendations to improve the implementation of automated testing in a commercial laboratory. We also identify changes to existing standards and the need for additional standards that we believe would improve the overall efficiency and reliability of automated geotechnical laboratory testing.

KEYWORDS: automation, laboratory tests, triaxial testing, compression testing, consolidation testing, information management

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