Cyclic and Static Laboratory Tests on Drammen Clay

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Abstract:
In connection with the foundation design of the first gravity platforms on clay in the North Sea, Shell and the Norwegian Geotechnical Institute initiated a comprehensive research project on laboratory testing of cyclic behavior of plastic clay. The project comprised 129 triaxial and 103 simple shear cyclic and static tests on plastic Drammen clay. The clay was preconsolidated above the in-situ stresses to a vertical preconsolidation stress of 400 kN/m² and unloaded to various consolidation stresses in order to produce overconsolidation ratios ranging from 1 to 50. Both static and cyclic test results are presented. All cyclic tests were after termination of cyclic loading subjected to static loading. Apart from some special tests to study effect of preshearing, the tests were run under undrained conditions.

Subject Headings: Triaxial tests | Vertical loads | Load tests | Statics (mechanics) | Soil tests | Cyclic tests | Static tests | Clays

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