# FEATURE ARTICLES

## A Soil Bore-Hole Direct-Shear Test Device

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A relatively simple device has been developed for measuring internal friction and cohesion in soils. A hole is bored, and two curved contact plates are expanded inside the hole to apply a pressure normal to its sides (Fig. 1). A shearing stress is then applied by pulling or pushing the expanded device axially along the hole (Fig. 2). The result is essentially a direct shear test on soil at the sides of the bore-hole.

Tests were conducted on various soils ranging from sand to clay. The field test data were then compared to laboratory direct and triaxial shear data on thin-walled tube samples from the same depths in the same holes. This was done to determine what empirical factors, if any, might be required to make

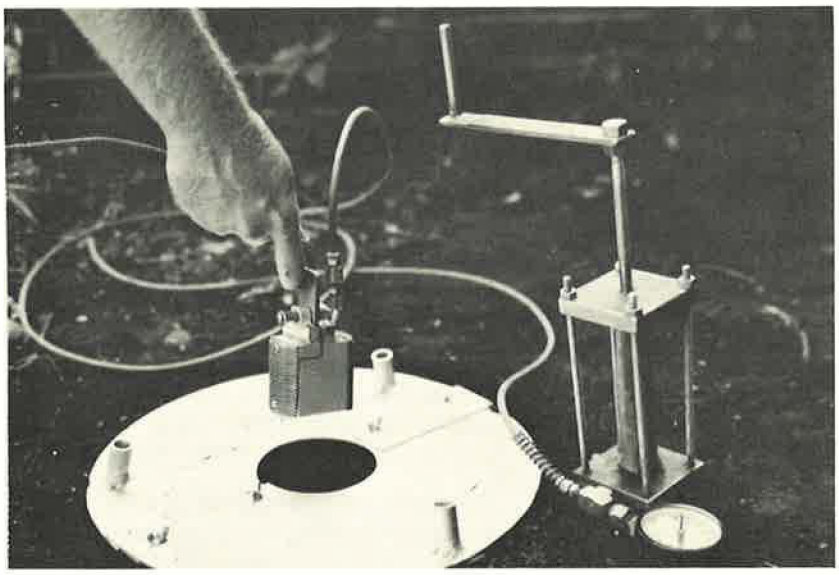

Figure 1. Three-inch bore-hole shear device ready for a test. Pump and gage at right are for expansion of the device inside the hole.