

the ground surface. During frosts the surface upheaved here, the strength decreased and within 4 or 5 years after construction slides occurred. To prevent them a longitudinal drain was cut at the back of the walls to a depth of 5 ft and the slides ceased to occur.

3. Analysing the mechanism of slides Professor Skempton ascertained that no influence of creep was found. But the question arises, whether the most dangerous circle is really the most dangerous potential slip plane. In a dilatant material the slip plane has a tendency to develop nearer the surface of the slope in the points where the weight gives large σ' and deeper where σ' caused by γh is small. The slip surface then approaches a logarithmic spiral. The observations in Fig. 24 show this tendency. The stability along such a slip surface may be about 8% smaller than that of a circle where Dr Bishop's method is used and thus the strength obtained by analysis of the circle may be 8% smaller.

Yours faithfully,
V. MENCL.

Technical University,
Brno, Czechoslovakia.
26 December, 1964.

The Secretary,
The Institution of Civil Engineers.

DEAR SIR,

In their Paper "The moisture characteristics, composition, and structural analysis of a red clay soil from Nyeri, Kenya," (*Géotechnique*, 14:3:262-276) Coleman, Farrar and Marsh have presented a stimulating and widely ranging analytical approach to the problem.

Undoubtedly some British soils lend themselves to this type of treatment as well as the weathered top of lithified strata such as the Mexborough Rock of the Yorkshire Coal Measures. (Geological Survey Memoir, Sheffield, 1957.) In certain areas of South Yorkshire high percentage of haematite, coating constituent grains, and abundance of haematite pellets, raise interesting questions relating to the genesis of the rock and the behaviour of the resultant soil profile.

The Writer feels, however, that the appendix to the Paper is of dubious value, as so many assumptions are involved. Chemical balance equations are of necessity based on assumptions but in this case many points are questionable. Leaching of iron and aluminium from the source rocks which is neglected by the Authors also presupposes that no mineral matter is removed in suspension. The 100 g of red clay must therefore be a minimum figure. The rather large difference between the silica content of the leachate and that of the rivers quoted by Ries and Watson (1936) poses another question—Can one compare solution effects in different environments, especially when soil solutions represent one extreme?

The minerals mentioned in Table 3 are useful pointers in understanding the origin of residual deposits. Many of them, such as the alumina group, are difficult to diagnose optically in more conventional sediments, let alone soils. Cleaning the surfaces in an ultrasonic vibrator helps to resolve this difficulty. Mr T. Deans of the Overseas Geological Survey first mentioned this technique to the Writer.

Yours faithfully,
ROY K. TAYLOR.

Dept of Building and Civil Engineering,
Sheffield College of Technology.
27 December 1964.

REFERENCE

RIES, H. and T. L. WATSON, 1936. "Engineering geology." 5th ed. John Wiley & Sons, New York.