Section 2 — Engineering Geology

Note: Numbers immediately before titles refer to localities on the Locality Map, fig. 1.

TR11-66

14. RESISTIVITY TRAVERSE OF SUSPECTED FAULT ZONE, RISDON BROOK DAMSITE

by D. E. Leaman

During the initial stages of the dam construction, surface material was removed from a suspected fault zone near the toe of the dam. The cleared zone was some 40 feet wide and the eastern margin was marked abruptly by massive outcrops of Ferntree Mudstone. Few outcrops are to be seen across the cleared area.

In order to determine the location of any fault present, a Schlumberger resistivity traverse was made across the cleared strip. The depth of penetration was 20 feet and the potential electrodes were 1 foot apart. Readings were made at foot intervals across the zone.

The resulting profile is shown in fig. 21. A high resistivity represents solid rock, a low resistivity crushed rock. It is therefore concluded that the rock between 0 and 20 feet on the traverse is massive but occasionally jointed, whereas that between 20 and 30 feet is extensively fractured. In the remaining 10 feet between this region and the solid rock at 40 feet extensive crushing has occurred. Thus it is considered that the fault is located within 10 feet of the marked mudstone outcrop at the E end of the traverse.

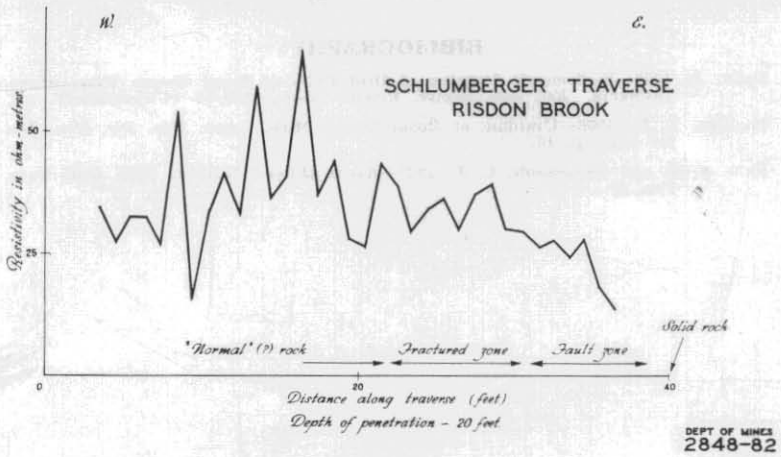

FIGURE 21