

TR11-67-68

14. RESISTIVITY EXAMINATION OF SELECTED QUARRY SITE, RISDON BROOK

by D. E. Leaman

The dam to be constructed at Risdon Brook will be rock fill with a concrete face. It is proposed to quarry dolerite from the upper reaches of Risdon Brook for use as rock fill. Although dolerite boulders outcrop extensively in this region, drilling has shown the presence of deep zones of weathering containing much travertine which is unsuitable as rock fill. Following a small drilling programme a quarry site was selected but after the area was cleared and the soil removed a body of similar unsuitable material was found at this site. The upper limit of the travertine-bearing material is marked by a change from white to brown in the colour of rock fragments turned over during clearing operations.

In order to determine the thickness of weathered travertine-bearing material, resistivity depth probes were placed in the centre of the mass of material. The results obtained are thought to be maxima since the thickness apparently decreases laterally, as indicated in a cut near the creek. Probing was also made of the dolerite higher on the hill in order to ascertain its quality. A drill hole downstream from the site, in which travertine-bearing material was known to occur, was used for calibration purposes.

A sketch section of the area is shown on fig. 22, with the depth probe curves and interpretation. Probes 1 and 2 on the upper half of the hill show good quality dolerite to depths of at least 100 feet (this being the limit of testing at this site). Probes 3 and 4, sited in the weathered material, show 10 and 20 feet respectively of weathered rock, with good quality dolerite below. Further probes were not possible on the lowest part of the hill due to the presence of fill material in which good electrical contacts could not be made.

Generally, jointed or massive fresh dolerite has a resistivity well in excess of 100 ohm-metres, whereas the weathered rock has a range of 10-100 ohm-metres.

5 cm

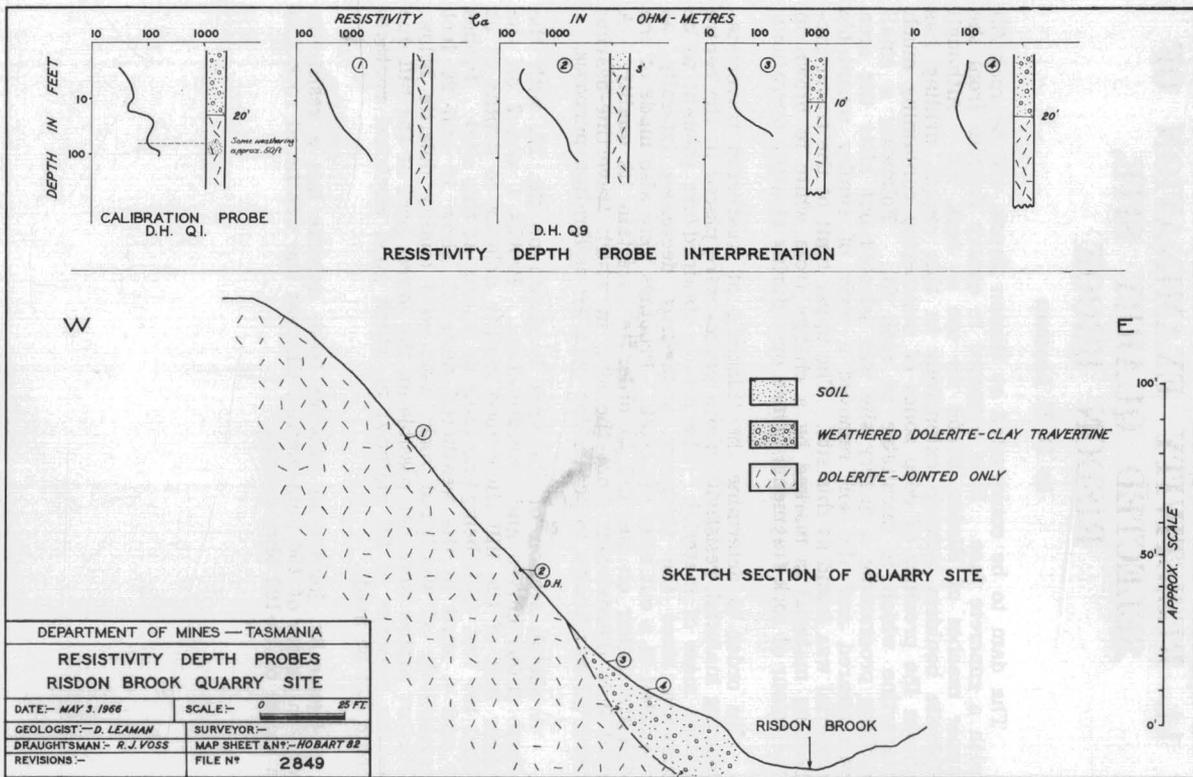


FIGURE 22

DEPARTMENT OF MINES — TASMANIA	
RESISTIVITY DEPTH PROBES RISDON BROOK QUARRY SITE	
DATE:— MAY 3, 1966	SCALE:— 0 25 FT
GEOLOGIST:— D. LEAMAN	SURVEYOR:—
DRAUGHTSMAN:— R. J. VOSS	MAP SHEET & NO.:— HOBART 82
REVISIONS:—	FILE NO:— 2849