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Department of Mines,
Hobart, Tasmania.

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PROPOSED DAM SITE AT GLENORCHY

This is situated on a branch of Humphrey Rivulet about 80 chains south-west of the lower reservoir.

The rock outcropping in the vicinity of the dam site is the typical Tasmanian dolerite, which has intruded a series of Permian mudstones, etc. This intrusion may be either in the form of a flat sheet parallel to the horizontal bedding planes of the mudstone - that is a sill - or as a transgressive body cutting at an angle across the mudstones. These mudstones outcrop in the bed of the rivulet near the lower reservoir and by their hardness appear to be in close contact with the dolerite. This point is some 200 feet vertically below the base of the proposed dam so that even if the dolerite is in the form of a sill it should be at least 200 feet in thickness and provide an excellent foundation for the dam wall.

No faulting or similar structural weaknesses are apparent in the vicinity of the dam site. Jointing is very pronounced in two major directions, 142° and 52° , the dip being vertical and horizontal. This jointing may permit very slight leakage of the water stored in the dam but it is not likely to enlarge the joints and should be almost negligible. The dolerite itself is quite impervious to water. The jointing should not affect the suitability of the rock for foundation purposes.

Solid dolerite occurs in the bed of the creek at the proposed dam site but testing will be necessary on the valley walls to determine the depth to solid bedrock. This depth should not be more than a few feet.

A small dry gully within a few chains of the proposed dam wall may at first sight suggest a structural weakness. It appears, however, to have been caused by normal erosional influences acting along a major joint plane and there is no sign of any faulting.

As there is a possibility of a rock fill dam being constructed, the engineer desires to ascertain the ease of quarrying of the rock. This depends on two factors, jointing and the texture of the rock. Here, right angled jointing is very pronounced and this should help in the removal of the stone. The texture of the dolerite may be compared with that at a working quarry at Creek Road. The Glenorchy dolerite has a coarser texture, consisting of large hornblende crystals, surrounded by smaller laths of plagioclase felspar. The Creek Road dolerite has smaller crystals more intimately interlaced so that the coarser Glenorchy dolerite should be slightly easier to quarry than that at Creek Road.

It is suggested a further visit be made to the site after test holes have been put down.

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GEOLOGIST