

TR 14-36-37

8. Notes on a dolerite quarry, Old Beach

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On 17 April 1969 a request was received from the administrators of the estate of the late F. Fouche for a geologist to examine a quarry and surrounds located on portion of the estate at Old Beach. An examination was carried out on 23 April.

The quarry is located on the SE rise of a small ridge approximately 800 yd NE of the junction of Old Beach Road and Brighton Road at Old Beach.

GEOLOGY

The crest and upper flanks of the ridge are composed of dolerite of Jurassic age, the crest rising to an elevation approaching 400 ft above sea level. Massive siliceous sandstone of Triassic age outcrops on the SE flank of the ridge at approximately the 300 ft contour and dips gently to the west towards the dolerite.

The relationship of the two units is not known but the dolerite shows evidence of intense shearing and the contact may be a faulted one.

Due to shearing effects the dolerite has been deeply weathered to a friable state and in the upper 20 ft of the quarry face the rock can be readily crumbled in the hand. Below this depth the rock is more compact but still friable and is easily excavated by mechanical means, the rock breaking down to useable size during operations with a large percentage of fine material present.

RESERVES

Reliable estimates of the reserves of the material currently being extracted cannot be made without some form of mechanical sampling or testing but some generalisation can be made:

- (1) There is no reason to believe that the effects of weathering will vary to any great extent along the course of the ridge to the NW.
- (2) A weathered halo could be expected on the crest and flanks of the ridge comparable with the weathering pattern exposed in the present quarry face.
- (3) Assuming an approximate 20 ft halo some 34,000 yd³ of potentially fine material would be available per acre in solid state. The ratio of solid state to broken material in yardage should be of the order of 1:1.25.
- (4) A further depth of approximately 20 ft of the more compact material as exposed in the quarry would supply a similar yardage to the above of material suitable for such purposes as general fill and road formation for major works.
- (5) A simple screening device would recover a considerable percentage of 'fines' from this coarser material.

RECOMMENDATIONS

Some form of mechanical equipment such as a back hoe should be used to trench deeply the flanks and crest of the ridge at 150 ft intervals to the NW to confirm the depth of weathering ahead of the quarry face. A similar method should be used to test the SE slope between the sandstone outcrop and the quarry floor.