

TR5-89-91

BRICK-MAKING MATERIALS NEAR DULVERTON

by T. D. Hughes.

The Luck Brick and Pipe Pty. Ltd. operate a brick works at Haines Siding, just north of Dulverton and about ten miles south of Devonport. The brick-making material is quarried on the spot and the Company, wishing to buy more plant to increase production, have to make sure that sufficient reserves can be obtained.

The material consists of Permian beds weathered in situ. These Permian rocks form part of the basal beds of the Permian in this area, and are the same beds that contain the Tasmanite Oil Shale in neighbouring areas. However in this quarry no Tasmanite spores could be seen in the rock. These rocks are mudstones containing sparse pebbles usually about one inch diameter but occasionally up to one foot. The pebbles are composed mainly of quartz and quartzite and are not picked out of the material going to the grinding pan. An overburden of a few inches of gravel is usually scooped off however. In the base of the quarry the flat bedded mudstone is black in colour and quite soft, nearer the surfaces where the weathering is greater it is brown. The usual brick-making mix is two parts of the brown to one of the black and the quarry face is up to 30 feet in height.

This weathered Permian mudstone makes very good bricks but contains two harmful materials. One is magnesium, probably in the form of magnesium carbonate, which in the manufacture forms magnesium sulphate that leaches out on some bricks in the form of white powder. The second annoying constituent of the mudstones is pyrite. This may oxidise to iron oxide which forms hard plate like masses in the bedding planes of the weathered rock or remains in the mix to form hard nodules of oxide in the brick as well as probably supplying the acid radical for the formation of magnesium sulphate. The Mineralogist, G. Everard, reports on this—"Pyrite occurs as a minor constituent of the rock. It is embedded in masses of plates of clay mineral as minute nodules, probably of radiating structure, about 0.005 mm. diameter or less. The nodules are generally rounded, although some points and corners are visible, but there are no crystal faces reflecting light".

The reserves of this weathered rock appear to be very large and the same beds exposed in the quarry should be available at least to the main road. To test this a boring campaign has been laid out and the accompanying plan shows the position of the proposed holes. Two alternative areas should be investigated.

(1) The continuation of the present quarry to the south-east, where holes one to six should test the beds. If the material proves satisfactory in all these holes, then an area of 200 by 200 square yards should be proved at 10 yards of depth, this should give a yardage of four hundred thousand cubic yards.

(2) The second area, across the creek from the quarry and to the east of the road should be tested by bores 11 to 16 and if these prove satisfactory should indicate a similar yardage to No. 1.

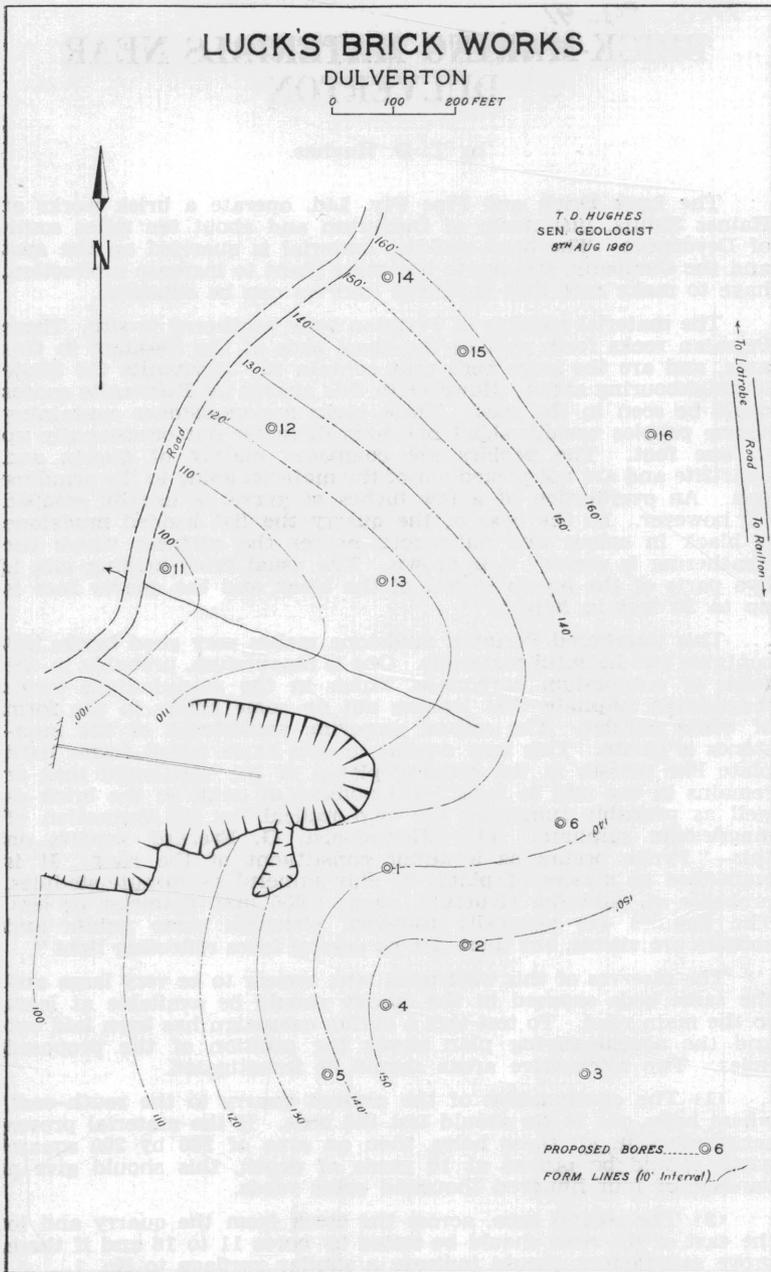


FIGURE 18.

5 cm

Should the material from any of the holes prove unsatisfactory then further holes should be sited closer to the satisfactory material.

The testing of the material is to be undertaken in the Department's Launceston Laboratories by the Ceramic Technologist. (See report on page 251.)