

## Report on excavations at Machen's brickworks, Launceston

*by W. L. Matthews*

Mr V. R. Emms has a house near Machen's brickworks in Kings Meadows and is worried about the possibility of landslips developing because of the excavation activity. An examination was made of the area on 24 April.

The brickworks are using Tertiary sediments which consist of interbedded clay and sand beds. Near Mr Emms house there is an almost vertical cut of about 30'–40' high which the owner of the brickworks states has not been disturbed for twenty years. An examination around the top of this cutting showed a small amount of movement near the edge. A vertical movement of about six inches extending about eight feet from the edge was observed. Mr Emms states that some large trees were planted around the face of the cutting to prevent slipping, which had started to occur some years ago. Some of these have recently been removed.

The exposure in the quarry face shows clay and sand interbedded, the sand in some beds having a high proportion of quartz and would be fairly permeable. Other sand beds contain clay pellets and would have a lower permeability. The clay beds vary in texture but plastic clay beds do occur. Irregular beds of limonitic material occur throughout the quarry face. These do not appear to be continuous laterally but they occur at several levels.

It is surprising that such unconsolidated material has stood so long in an almost vertical face of such a height with little apparent collapsing near the face. There appears to be several factors that might contribute to this. These include the presence of the limonite beds which are fairly hard but only a few inches thick which might help support the face. The fact that probably fairly permeable sand beds occur at fairly shallow depths prevents water from accumulating. The vegetation around the edge of the cut has probably had some stabilising effect.

Some of the trees have been removed from an area about two chains (estimate) south west of Mr Emms' house as the owner of the brickworks intends to get some sandy material for brickmaking from there. The old pit edge comes to within 20'–30' (estimate) of Mr Emms' property, to the east of where the trees have been removed.

Although there is a house next door to Mr Emms' house, this belongs to the brickworks. Mr Emms' land is bounded on three sides by land owned by the brickworks.

As mentioned, it is surprising that the high face has not been subject to more collapse than has occurred. There is some risk that if it is disturbed it will affect the stability of the neighbouring property. The stability could even be affected without any disturbance. In fact, it seems an unwise practice to cut such high steep faces in such material. Stability could be maintained with more certainty if the worked face was terraced.

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