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The stability of an area above the Huon Road at Fern Tree.

P.C. Stevenson

An examination of the area (fig. 1) was made at the request of Crawford, de Bavay & Cripps, architects, of Hobart.

Access to the area is difficult because of its steepness and thick bush cover, and can only be easily achieved either along the lower boundary at the Huon Road or along the Pipeline Track which crosses the lower part of the area. Elsewhere thick bush or cliffs prevent any close examination of the ground.

The area is composed of rocks of the lower part of the Triassic succession overlying the upper part of the Permian, although this simple picture is slightly complicated by faulting (Leaman, 1972). These rocks are hard mudstone, strong quartz sandstone and some minor shale. They are mostly massive in beds ranging from 50 cm to 10 m in thickness and do not in themselves raise any thoughts of instability.

There are however two possible sources of danger in the siting of a house in this region. In any area as steep as this such problems would exist and even though they are minor they cannot be dismissed.

The rocks of this region are slightly permeable to water and in the Pleistocene period of the recent geological past they were subjected to the process known as solifluxion. This is an alternate freezing and thawing of the outcropping parts of the rock, and it results in the spalling of the outer layers which collect as a thick blanket and with further freezing and thawing migrate downslope as a stiff ice-laden sludge. This collects on the steps formed by successive outcropping hard beds and may form deposits up to 8 or 10 m thick. These sludge deposits, now seen as mixtures of clay, gravel and boulders can be a source of instability if they are stripped of protective vegetation and subjected to unnatural water flow (Leaman, 1973). Any structure should therefore be sited with the realisation that this material may be present and can be mobilised by unwise drainage or excavation practices.

The second risk is an obvious one, that any region below rock cliffs and which is steeply sloping, must at some time be subject to rock-fall. Such fall is unpredictable, but careful siting of the dwelling may do something to reduce the slight risk. Some protection could be afforded by a tree belt above the house, and the deliberate removal of the more obvious threats by 'barring down' should be considered, but should only be carried out by a competent quarryman.

In summary the rocks present are essentially of a stable nature and are stably situated, but solifluxion deposits are present (as at the bus terminus on the Huon Road), and a slight risk of rock-fall must always be present.

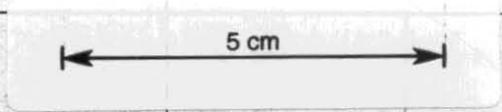
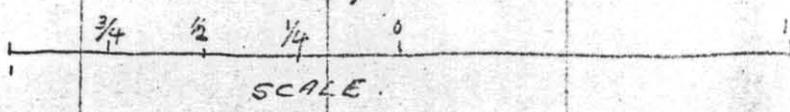
#### REFERENCES

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LANDS & SURVEY MAP.  
SHEET NO 8312-III-S  
LONGLEY.



MOUNTAIN ROAD

↑ FERNTREE

Area  
In Question  
APPROX  
50 Acres.

5245

pipe  
line  
ROAD

H U

MARGATE  
→

LONGLEY  
↑

