

LANDSLIP AT SECONDARY ROAD - BREAM CREEK

The area in which the slip occurs is located  $\frac{1}{2}$  of a mile south-west of Bream Creek, on the road to Copping. The road, which is constructed on slip material, has been affected over a length of nearly 10 chains.

A depressed area, extending 20 chains uphill to the west of the road, has been eroded by small tributaries of an east flowing stream. Former creek channels are now filled over the greater part of their courses by slip material in the form of clay, gravel, and boulders, and similar deposits have accumulated to varying depths in the interchannel areas. Surface pools have formed at various places by the damming effect of these deposits.

Below the road the landslips terminate on the north bank of the principal creek, above which the head waters have combined to form a well defined water course.

GEOLOGY

The bedrock in the locality consists of alternate narrow beds of shales and felspathic sandstones. These rocks were formerly covered by basalt flows. The basalt has since been eroded from the landslip area but still overlies the older rocks, with a thickness up to 100 feet, around the periphery of the exposed shales and sandstones.

Further downstream, at 25 chains east of the road, a wide belt of massive, siliceous, sandstones outcrop below the shales, etc., horizon.

THE LANDSLIPS

The initial slip was started by the headward erosion of small streams, issuing as springs, at the bottom of the basalt. Fallen material at the base of the steep basalt face accumulated on clays, derived by weathering of the underlying shales. The superficial material became over saturated with water and, by reason of the added weight, commenced a down hill slide over the slippery clay surface.

This process has carried on over an extended period and in the past 50 years numerous slides have occurred in which slip material has been built up to depths approximating 20 feet in the vicinity of the road.

A series of 29 shallow holes have been sunk by the Public Works Department, in the vicinity of the most recent earth slip above the road; in an attempt to establish the thickness of the accumulated material over the slip plane. The depths attained by the holes range from  $3\frac{1}{2}$  feet to  $11\frac{1}{2}$  feet in clay, gravel and boulders, without reaching bedrock.

CONCLUSIONS

Although the thickness of the slip deposits will vary considerably over the area bored, it is probable that the deeper portions may extend to 20 feet or more below the surface. However, this can only be proved by extending the holes to bedrock on which the principal slip plane is expected to occur.

2.

This is a large land slip which has proceeded over a long period. Any attempt to arrest the flowage can only be carried out by adequate drainage of the greater portion of the area affected. Unless this is undertaken it is anticipated that earth flowages will occur in the future which are likely to cover the road and possibly dislodge the road surface altogether. As a temporary expedient it may also be necessary to remove large tonnages of the accumulated slip material in close proximity to the road.

If it is found that proper drainage is economically impracticable and a road deviation is contemplated, it is recommended that a crossing of the valley be designed over the area of siliceous Ross Sandstones, in which landslips are not likely to occur.



(F. Blake)  
GEOLOGIST

The Director of Mines,  
HOBART.

24th June, 1957