

Slope stability of Danbury Park.

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Six back-hoe pits were examined on 28 September in order to determine the stability of the area of land referred to the Department of Mines by the Town and Country Planning Commission as Proposal Plan Bd-566.

RESULTS OF TRIAL PITS

Hole 1

<i>Depth (ft)</i>	<i>Description</i>
0 - 1½	Very wet top soil.
1½ - 7	Grey-yellow sandy clay with grey lumps, moist.
7 - 11	Similar to above but becoming more grey and stiffer.
	The walls stood up well and no water appeared in the hole.

Hole 2

0 - 1½	Top soil
1½ - 5½	Bright yellow plastic clay.
5½ - 10½	Grey-yellow clay with approximately 25% (increasing downwards) nodules of grey clay. The clay was also dryer and more brittle towards the bottom. Traces of vegetation at bottom.
	The walls did not stand up well, but no seepage into the hole.

Hole 3

0 - 1	Very wet top soil.
1 - 2	Yellow mottled clay with red spots and some lumps of grey clay. It is not plastic and has a minor sand content.
2 - 10	Grey stiff plastic clay with some red spots and some remnants of vegetation.
	The hole was dry and the walls stood up well.

Hole 4

0 - 1	Brown to yellow doleritic top soil.
1 - 4	Yellow mottled doleritic clay with some silt and sand. The clay is fairly dry and breaks easily into smaller pieces. A few dolerite boulders were found in the clay.
4 - 11	Same as above but containing approximately 5-10% light grey, hard brittle clay.
	The walls did not stand up well and water seeped through the clay into the hole.

Hole 5

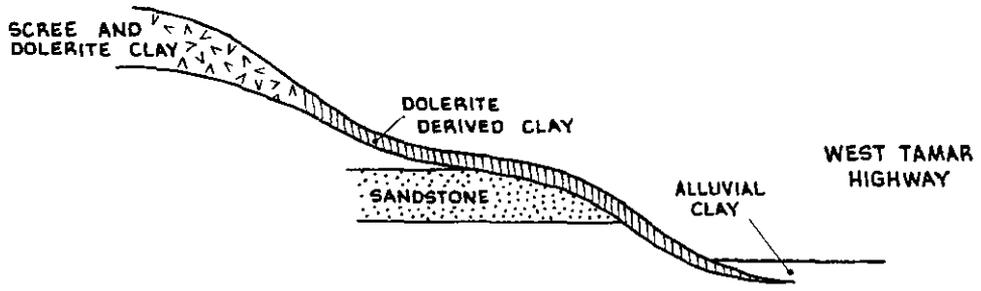
0 - ½	Very wet silty top soil.
½ - 3½	Grey-yellow, mottled moist clay with a few red spots.
3½ - 7½	Light yellow to grey, soft and brittle sandstone.
	The hole was dry and the walls stood up well.

Depth (ft)	Description
<i>Hole 6</i>	
0 - 1	Silty, sandy, wet top soil.
1 - 5	Grey-yellow, mottled moist clay with some red spots.
5 - 7	Light yellow to grey, soft and brittle sandstone.
Hole dry and walls stood up well.	

The clay in Hole 1 may be considered as alluvial, the clay in Hole 2 and the grey clay occurring from 2-10 ft in Hole 3 is a Tertiary sedimentary clay, and the clay in Holes 4, 5 and 6 is derived from dolerite. The latter clay has moved downhill from the dolerite outcrop, and mantles the entire slope.

The sandstone observed in Holes 5 and 6 was estimated to be more than 50 ft in thickness. The upper steep part of the area consists of dolerite scree.

Schematic cross-section



The upper dolerite scree area may be regarded as stable since weathered scree is known to be stable on a slope of up to 20°. The incline of the slope in this area is less than 15°. The doleritic clay is less slip prone than sedimentary clay and is known to slip only on very steep cuts. The lower part of the slope where this clay occurs is almost flat, and thus may be assumed stable. There were no obvious signs of old or new landslides in the area.

CONCLUSION

No evidence is currently available or apparent to suggest that the present stability of the ground will be changed by the building of houses with the density as shown on the proposed plan.

REFERENCE

LONGMAN, M.J.; MATTHEWS, W.L.; ROWE, S.M. 1964. Geological atlas 1 mile series. Zone 7 sheet 39 (8315S). Launceston. Department of Mines, Tasmania.

[7 October 1971]