

**TASMANIA DEPARTMENT OF MINES
UNPUBLISHED REPORT 1979/56**

Test pits on a property near Deviot

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A property located between Deviot Road and the River Tamar, about one kilometre south of Deviot, was examined. The property had been placed mainly in Class V on the Landslip Zone Map of the Tamar Valley, indicating that it had either been subject to recent landslip or was adjacent to such an area. Recent widening of the road forming the western boundary has exposed zones of relatively unweathered basalt at a few points in road cuttings and there are a few exposures of the same material along the foreshore in front of the land.

An arcuate-shaped lower zone, on which a shack is situated, may be an old slip or an erosion feature, as it is situated near the confluence of Deviot Creek and the River Tamar. Recent slips are known to be present north of the property. The land west of the road is hummocky, indicating past movements in this area. The whole lot has a fairly low slope except for the low scarp between the land on which the shack is situated and the rest of the lot.

In view of the new exposures of basalt in road cuttings, at least part of the lot may be underlain by relatively unweathered basalt at shallow depth. If this was the case, the zoning could be changed (where such basalt was located) to a zone more favourable to development. The underlying material could be examined best with backhoe holes.

Test Pits and Zoning

Four test pits were dug on the property (fig. 1). In view of the material encountered in these pits, together with the recent exposures in nearby road cuttings, some alteration can be made to the landslip zoning of the area, which is currently wholly in Class V on the landslip zone map.

Weathered basalt underlies the flat area at shallow depth around test pits 1 and 2 and in road cuttings near the entrance track to the house. There is only a small drop from the flat area to high tide mark and there is little danger of this area slipping and it can be reclassified as Class II with reasonable safety. This flat extends north along the foreshore and north of the house, where near-surface basalt has not been located. The Class II boundary has been marked 10 m from the base of the small scarp. In the north-west corner of the land, the slope uphill from the scarp is low (about 5°) and a small area has been reclassified as Class III. In test pit 3 a hard layer of boulders was encountered and the clay in both of holes 3 and 4 was stiff. This zone extends no closer than 15 m from the top of the scarp. The method of formation of the scarp has not been determined and it may be an ancient slip or the boundary of an erosional surface. At most points it is quite steep (although only about 3 m high) and the area around it should not be developed with the information available at present. It has been placed in Class IV on the zone map.

It should be reasonably safe to develop the area in Class II. If the area in Class III is developed the special building regulations for Landslip B land should be used. The excavation of deep cuttings or excessive clearing, particularly around the scarp, should be avoided as these could change the stability of the area. Good surface drainage should be maintained on the land and if the Class III area is built on, the safest place for discharge of sullage and stormwater, from a stability viewpoint, would be the flat area between the scarp and the river.

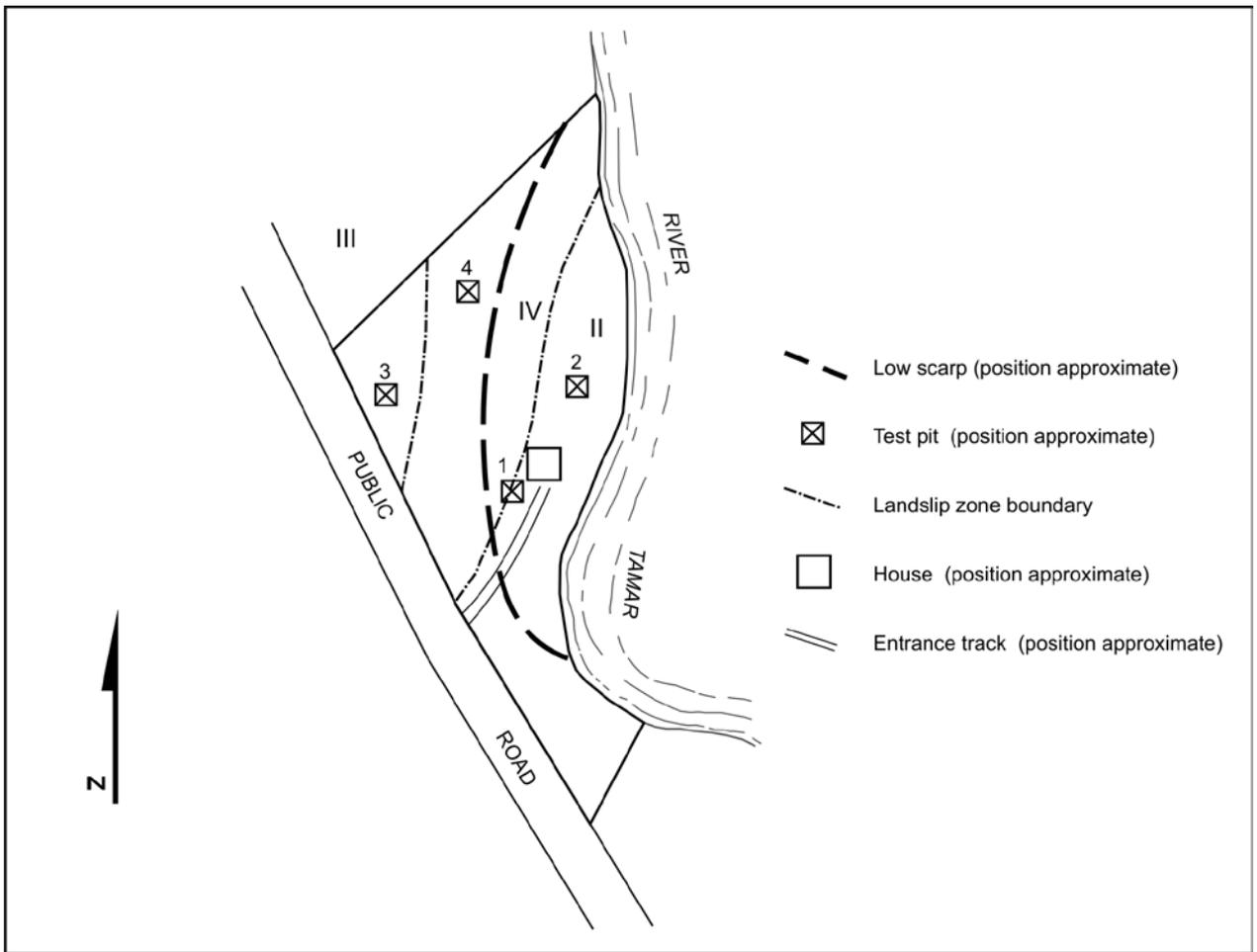


Figure 1

Test Pits

Hole 1

<i>Depth (m)</i>	<i>Description</i>
0 – 0.5	Light grey silty soil with iron oxide pisolites.
0.5 – 0.9	Brown clay with iron oxide pisolites becoming less abundant with depth. Clay is plastic but hard.
0.9 – 2.1	Weathered brown coarse-grained basalt. Hard but capable of being excavated slowly with a backhoe.

No free water in hole.

Hole 2

<i>Depth (m)</i>	<i>Description</i>
0 – 0.8	Light grey silty soil, some iron oxide pisolites near the surface but these become very common at the base.
0.8 – 1.4	Probable weathered basalt. Relatively hard rounded basalt pieces in a matrix of softer material with an igneous texture. Backhoe unable to dig any further.

Hole dry.

Hole 3

<i>Depth (m)</i>	<i>Description</i>
0 – 0.2	Loose silty soil.
0.2 – 0.6	Silty brown clay with basalt, slightly weathered boulders.
0.6 – 1.8	Dark brown stiff plastic clay, a few fractures but fairly massive.
1.8 – 2.1	Boulders of basalt with some quartz fragments embedded in hard matrix. Very difficult digging.

Hole dry.

Hole 4

<i>Depth (m)</i>	<i>Description</i>
0 – 0.6	Silty light grey soil, some iron oxide pisolites towards base.
0.6 – 1.5	Mainly iron oxide pisolites with some silty matrix, clayey towards base and more compacted. Occasional basalt boulders.
1.5 – 5.1	Brown and dark grey mottled stiff plastic clay, some shear zones, fairly hard. Some quartz fragments in clay at base.

No water coming into hole.

[16 February 1979]