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Stability of land at Don.

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Mr D.G. Jones is planning to buy about 4 ha of land at Don [DQ425415] on which he intends to build one house. At some future date he would probably consider subdividing the land and selling half of it. He requested advice on the stability of the land.

The land is situated about 800 m north of the Bass Highway bridge over the Don River and on the west side of the Don River estuary.

RELIEF AND GEOLOGY

The property is on the slopes between the estuary and the basalt plateau. Angles of slope of the land are variable. A small creek runs through the north-eastern part of the property and where the creek enters the land, there is a small waterfall which cascades over solid rock. The slopes around the creek are generally steeper than at other places on the property.

The main rock types in the area are Tertiary basalt and its weathering products. Basalt crops out in the waterfall and caps the plateau above the property to the west. Basalt talus and soil cover most of the slopes and recent alluvium occurs near the river. Burns (1963) mapped dolerite to the north above river level and to the south Permian mudstone occurs. At various places, low on the slopes of the property, occasional rounded boulders of quartzite can be seen. These could have any of three possible origins: Permian rocks could underlie the area and there could be pebbles remaining after weathering, they could be derived from possible sub-basalt gravel beds or from possible Quaternary deposits.

DISCUSSION OF STABILITY

Burns (1963) mapped a zone of mass movement along these slopes from near the Bass Highway bridge to about one kilometre to the north. Moore (1968) noted some active slips that had developed along the steep slopes surrounding the creek running through the property, during examination of an area of nearby land. The appearance of the land, which has a slightly hummocky nature and occasional areas of internal drainage, suggests that a large area (including the land examined) has been subject to landslip in the past. Old buildings nearby appear to be unaffected by any movement. Although there are some steep portions of land, the site where the house is proposed lies in about the middle of an area of land some 100 m wide which has an average angle of slope of about 7°. Down hill and up hill from this area, the angle of slope increases. Occasional seepages occur on the land and one in particular, near the house site, should be drained if development proceeds, to prevent accumulation of water in the soil.

CONCLUSIONS AND RECOMMENDATIONS

It is apparent that the property forms part of a larger area which has been subject to large scale mass movement in the past. Apart from a small area around the creek in the north-eastern part which is at present in active movement, there has probably been no recent movement on this land.

The area where it is proposed to build the house is fairly gently sloping and is remote from steep slopes. Because there is some doubt as to the rock type underlying this area it would be advisable to dig three or four test pits with a back-hoe to a depth of about 4 m to examine the nature of the subsurface material and also the groundwater conditions.

REFERENCES

BURNS, K.L. 1963. Geological atlas 1 mile series. Zone 7 Sheet 29 (8115N).
Devonport. *Department of Mines, Tasmania.*

MOORE, W.R. 1968. Landslip potential of the C.S. Gibson subdivision, Don
Settlement, Devonport. *Tech.Rep.Dep.Mines Tasm.* 12:106-107.

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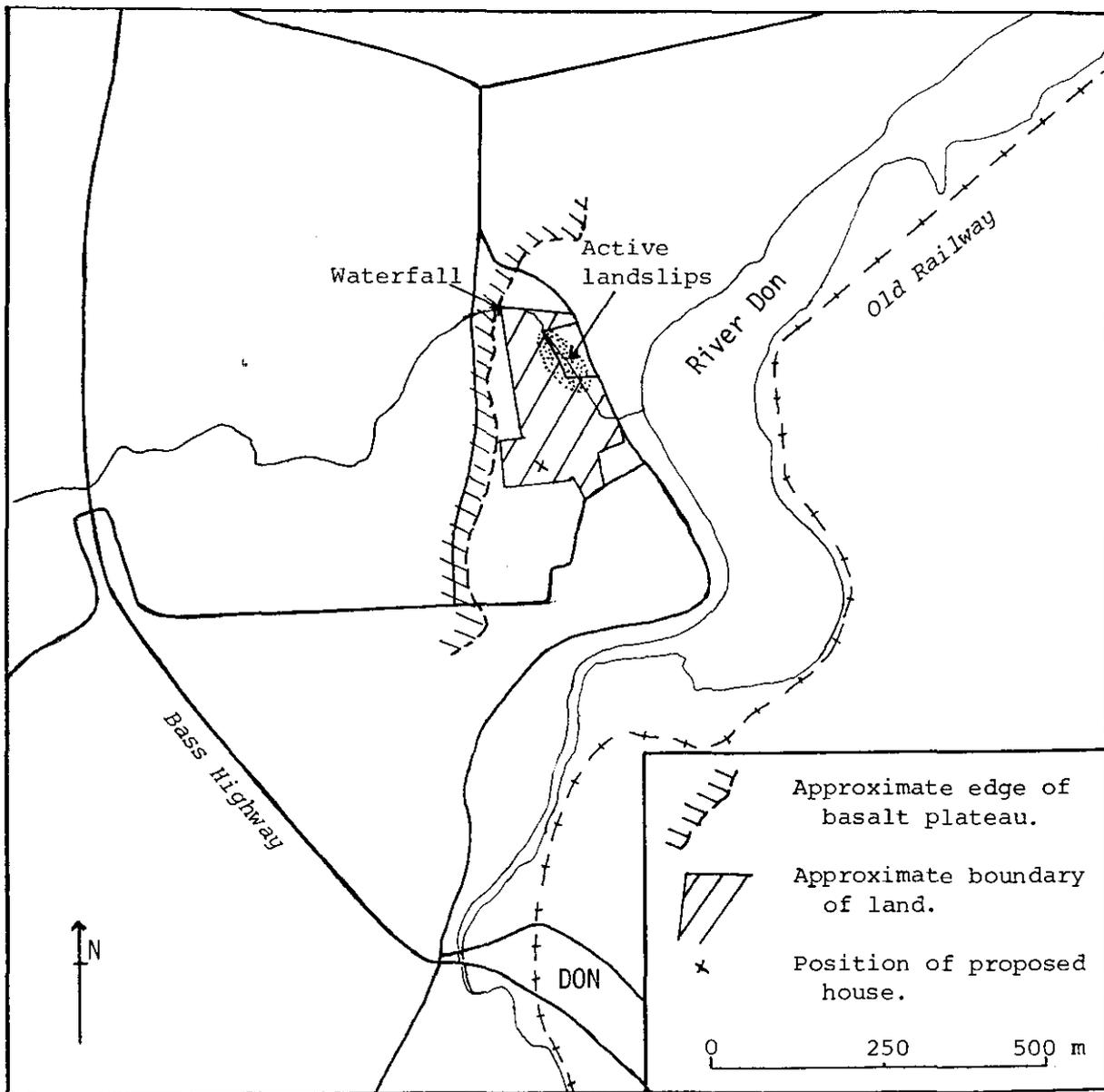


Figure 1.

5 cm