

UR1975-14

Test pits on a property at Don.

W.L. Matthews

Mr D.G. Jones is planning to purchase approximately 4 ha of land at Don [DQ425415] for a residential site. Following the recommendations from an earlier investigation of the stability of the land (Matthews, 1974), four test pits (fig. 1) were dug to examine the nature of the subsurface material and the groundwater conditions.

The land examined appears to occupy a small depression in an uneven pre-basalt surface, assuming the material encountered in the test pits is *in situ*. Permian mudstone occurs under higher land to the south of the test area. The basalt may have moved down hill to its present position due to a landslip. Large blocks of material may be moved relatively undisturbed in this manner. Some seepage was observed in Test Pit 2 which could be decreased with the draining of seepages to the north and south. The draining should take place prior to the commencement of building because of probable contraction of the soil.

RESULTS OF TEST PITS

Hole 1

Depth (m)	Description
0-0.6	Brown chocolate soil, probably basalt derived.
0.6-1.5	Plastic brown clay, no recognisable structure and of medium hardness.
1.5-2.7	Weathered basaltic material, possibly <i>in situ</i> , and with some concentrations of unweathered basalt. No seepage into the hole.

Hole 2

0-0.6	Red-brown basaltic soil.
0.6-1.5	Light grey-cream plastic clay of medium hardness.
1.5-3.2	Fragmented clayey material with occasional quartz pebbles, slightly more compacted at depth and probably underlain by Permian rock. Some seepage at 2.4 m.

Hole 3

0-0.5	Poorly compacted red-brown soil.
0.5-0.9	Relatively soft dark brown-grey plastic clay.
0.9-1.8	Weathered basalt with some limonitic bands, becoming harder at depth.

Hole 4

0-0.3	Dark brown, poorly compacted soil.
0.3-0.8	Dark grey silty material.
0.8-0.9	Nodular iron oxide.
0.9-1.5	Light grey-brown clay, moderately plastic with mica, some silty zones and of medium hardness.
1.5-1.8	Grey-brown micaceous siltstone and fine sandstone. Bedding almost horizontal.

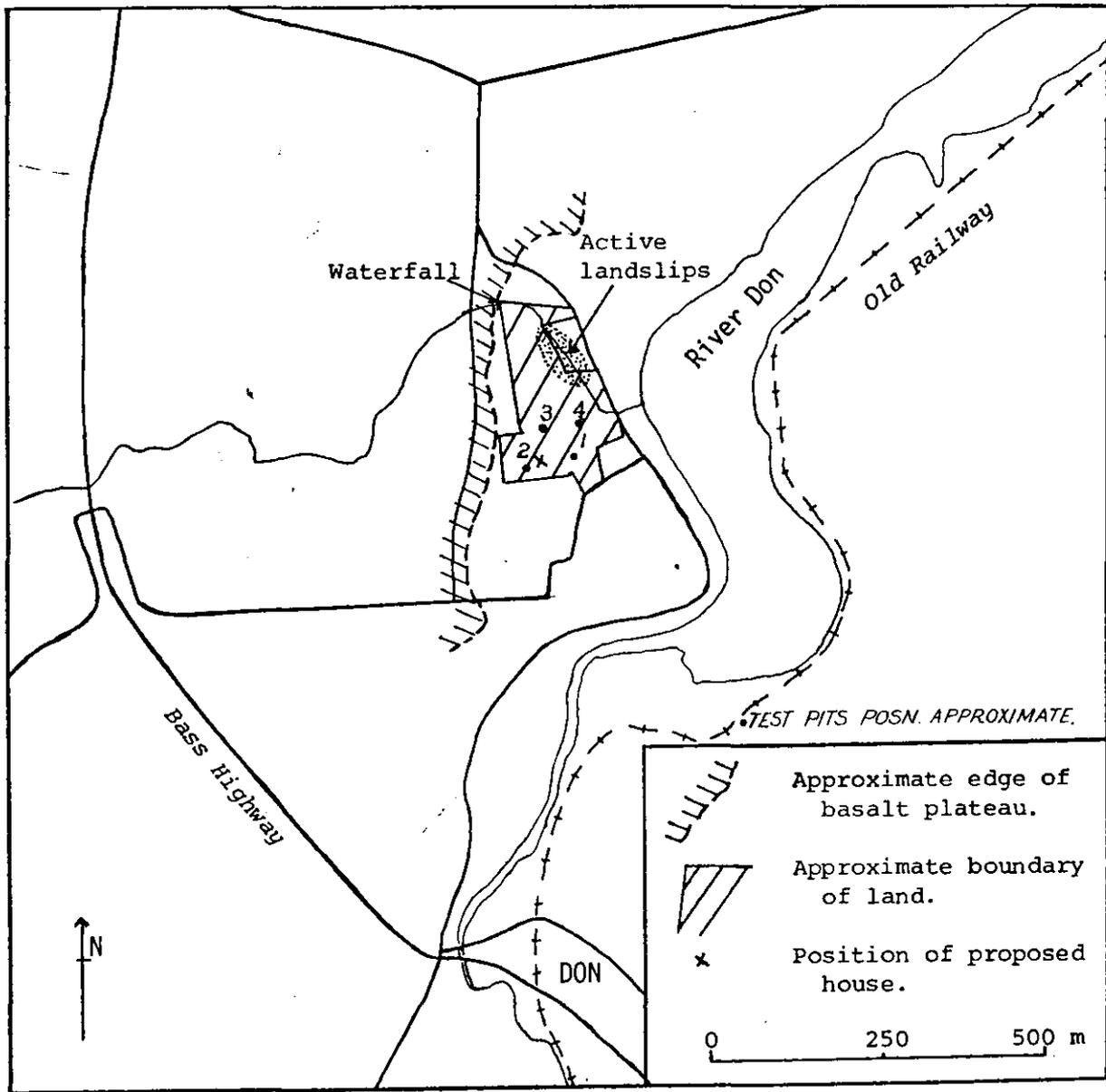


Figure 1.

5 cm

CONCLUSIONS AND RECOMMENDATIONS

Although the topography suggests that the area has probably been subject to movement in the past, the only sign of recent movement is in a small, steep region about the creek on the northern part of the property. There is little risk of unstable conditions developing if only one or two houses are built on low sloping ground, but further subdivision is not advisable. Excavations should be as low as practicable and seepages nearby drained to prevent a build-up of water in the soil.

The proposed site for the initial house would involve little risk of instability but a site closer to Test Pit 1 would probably be more secure.

REFERENCE

MATTHEWS, W.L. 1974. Stability of land at Don. *Unpubl.Rep.Dep.Mines Tasm.* 1974/82.

[4 February 1975]