

1977/45. Test pits on Chugg's property, Evandale.

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Six test pits were dug by back-hoe on A.G. Chugg's property at Evandale [EQ248018]. The pits were located on Lot 2 of the proposed subdivision (fig. 1).

TEST PITS

Area C

The results of the test pits were:

Hole 1

Depth (m)	Description
0-0.5	Brown soil.
0.5-1.2	Weathered red compact silty sandstone.
1.2-1.4	Harder silty sandstone.

Hole 2

0-0.3	Brown soil.
0.3-0.8	Weathered and broken siltstone.
0.8-0.9	Harder siltstone.

Hole 3

0-0.3	Dark brown grey soil with a concentration of pisolitic iron oxide fragments at the base and containing some moisture.
0.3-0.8	Grey and brown plastic clay with some iron oxide pisoliths.
0.8-1.5	Fairly hard silt with iron oxide pisoliths up to 10 mm across but usually smaller in size.
1.5-1.7	Pink mudstone and sandy silt fragments in silt and clay.

Hole 4

0-0.3	Brown soil.
0.3-0.6	Soil and broken siltstone fragments.
0.6-0.7	Harder siltstone with leaf impressions.

These test pits indicate that consolidated Tertiary sediments occur at shallow depth, particularly in the three easterly holes. It is not known whether the hardening has been caused by basalt baking the sediments or by lateritisation. There are no definite old landslips in the immediate vicinity and a small area of land can be reclassified as Class III on the landslip zone map. A house could be built on this site with reasonable safety. It should be sited on the south westerly sloping portion of the land somewhere between test pits 1, 2 and 4. If building proceeds, it should be built as near as possible to the code of building that applies to Landslip B land. Household drainage should be piped away from the house site in a westerly or south-westerly direction for at least 50 m and dispersed in the soil.

Area B

The results of the test pits were:

Hole 1

<i>Depth (m)</i>	<i>Description</i>
0-0.3	Dark grey silty pebbly soil.
0.3-1.4	Grey and brown mottled plastic clay.
1.4-1.5	Boulder beds of mainly dolerite fragments, hard and dry.

Hole 2

0-0.3	Dark grey brown silty soil.
0.3-0.6	Slightly fragmental but fairly plastic brown clay with some iron oxide pisoliths.
0.6-1.3	Grey brown plastic clay slightly moister and softer than the overlying material, some iron oxide pisoliths.
1.3-1.4	Boulder beds of dolerite fragments, boulders a little weathered on outside.

These test pits both ended in dry gravel beds composed mainly of dolerite boulders. Some basalt boulders and quartz pebbles also occur on the surface around the edge of the flat. The area where the test pits were dug has already been reclassified as Class II. If a house is built in this area, it should be sited in the middle of the flat area on Lot 2 and no further than 50 m from the boundary of the two lots. Household drainage should be piped at least 40-50 m south along the ridge top and allowed to disperse in the soil. The presence of plastic clay near the surface suggests the possibility of damage to a house by shrinkage and expansion of the clay as it becomes dry and wet throughout the year. The best solution to overcoming this effect would be to extend the foundations to the gravel layer.

CONCLUSION

Both areas where test pits were dug on Lot 2 are considered to be reasonably safe sites for a house, provided some precautions are taken. Other small areas on the lots, particularly in some of the eastern parts, may also prove to be reasonably safe from the effects of landslips but sub-surface investigations would need to be undertaken before an opinion could be given.

[10 October 1977]

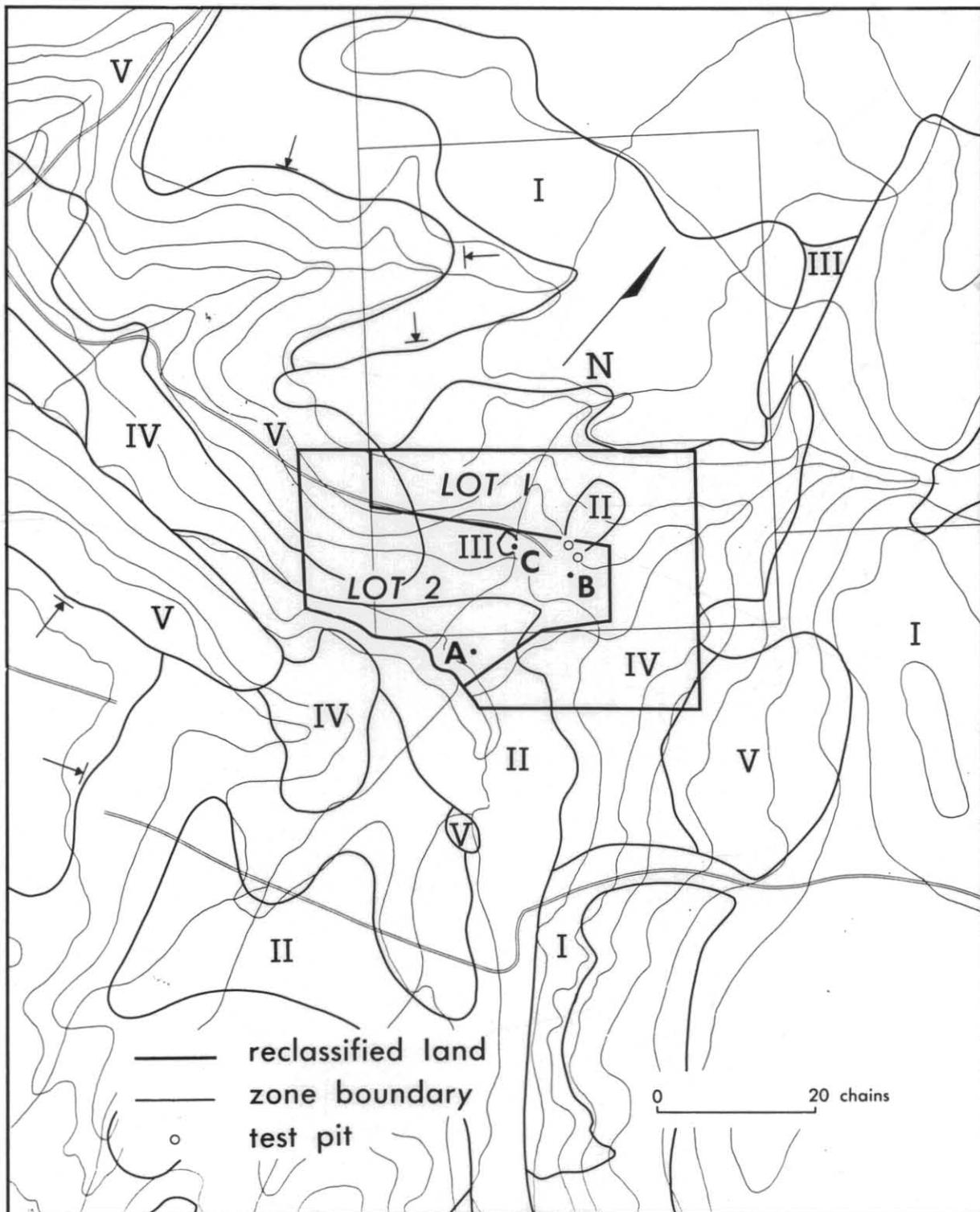


Figure 1. Location of proposed subdivision.

5 cm

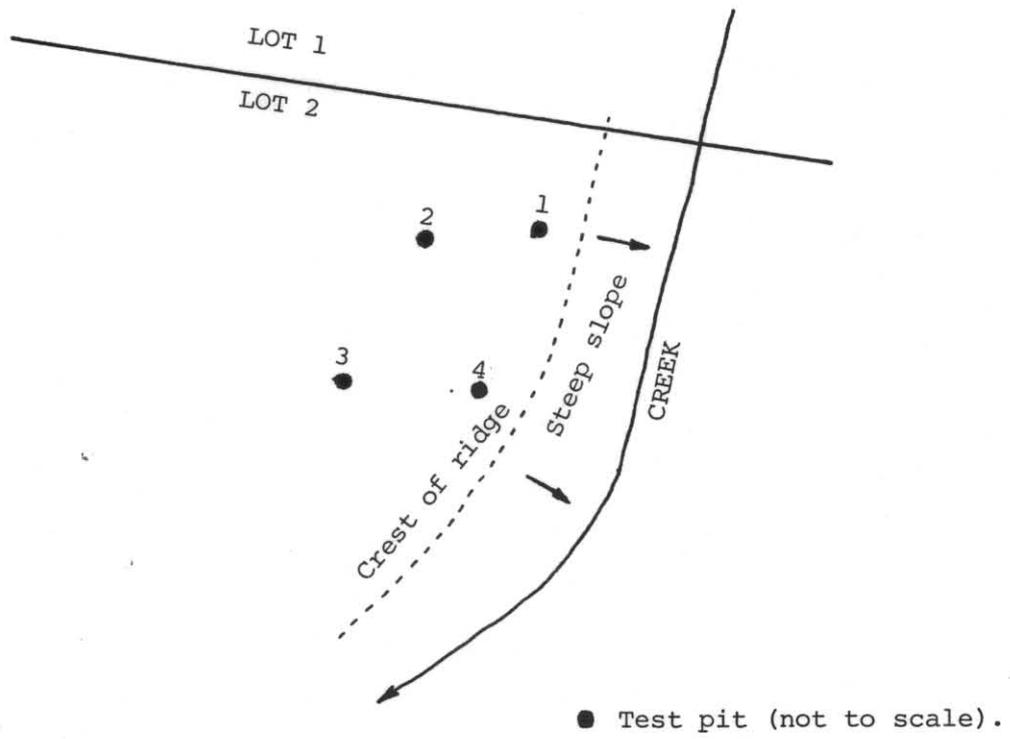


Figure 2. Sketch of test pit positions - Area C.