

1977/49. Test pits on Crowden's property at Kelcey Tier, Devonport.

W.L. Matthews

Four test pits were dug with a back-hoe on J. Crowden's property at Kelcey Tier [DQ438365]. Most of this land has been subject to landslips in the past and seepages are common on the property. From observations of the shape of the land surface a narrow, flat-topped ridge on the northern part of the property has apparently had a stable recent history. Signs of large old slips occur on either side of this ridge and a recent slip has affected a house about 300 m north-east of the property.

Most, if not all the slopes on the property, are underlain at depth by rocks of Permian age, comprising mainly beds of mudstone and siltstone with some sandstone horizons and thin fine-grained conglomerate beds. Outcrops of *in situ* rock are rare and landslide debris covers most of the sloping ground. Dolerite boulders derived from areas further up slope than Crowden's property are common.

TEST PITS

The approximate positions of the test pits are shown on Figure 1.

The logs of the test pits were:

Hole 1

Depth (m)	Description
0-0.8	Dark brown soil and clay with large dolerite boulders (up to 0.8 m).
0.8-2.8	Brown and light grey mottled clay and silty clay with smaller dolerite boulders and some quartz grit boulders. Clay at the base on the eastern side of the pit is fairly soft and plastic.

Hole 2

0-0.5	Dark brown soil.
0.5-2.4	Grey and brown silty clay, fragmental to plastic, containing occasional dolerite boulders up to 0.2 m across.
2.4-2.7	Micaceous silty clay, may be weathered Permian sediments.

Hole 3

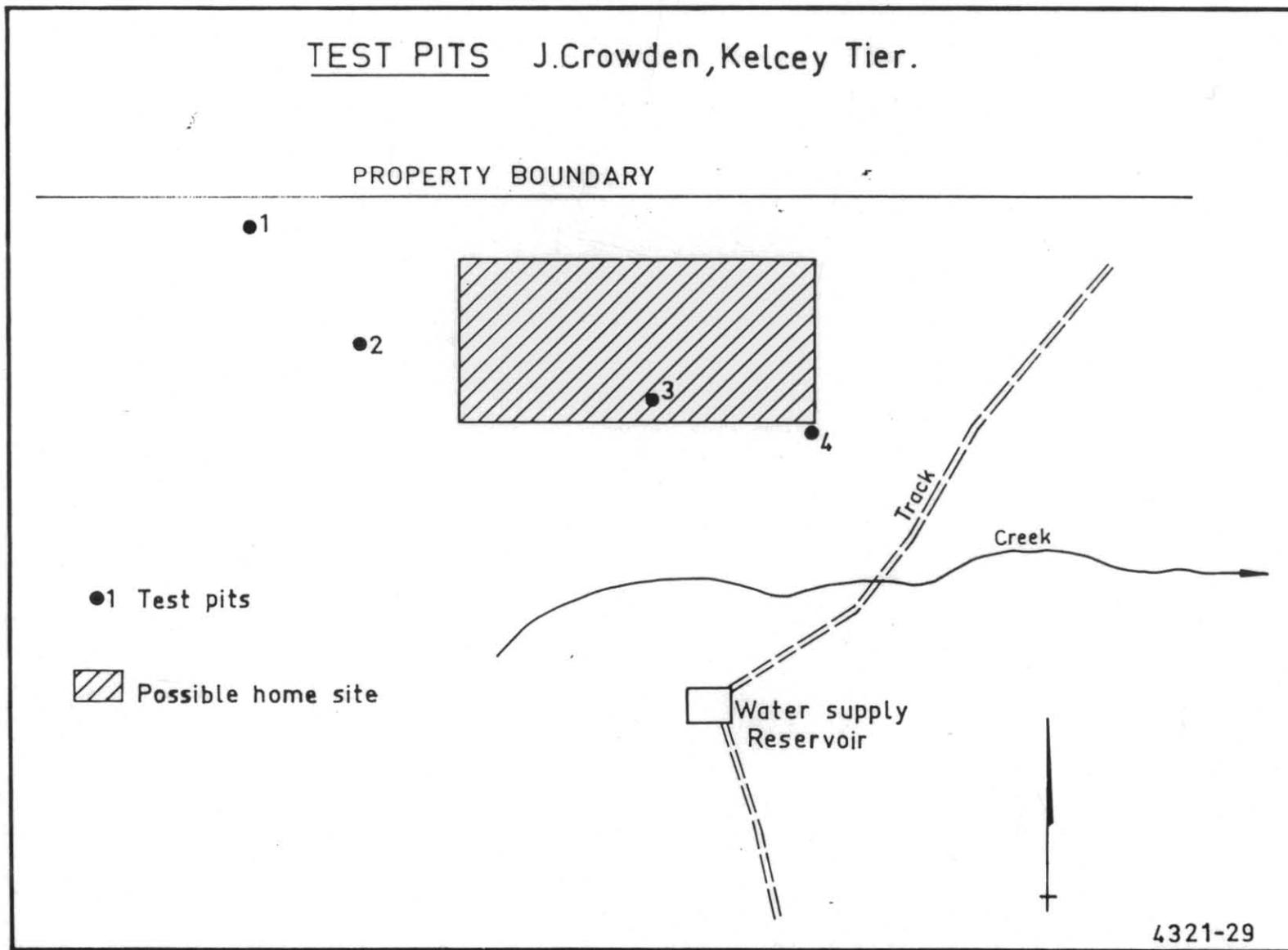
0-0.6	Silty grey soil.
0.6-2.7	Silty grey and brown mottled clay with grey clay becoming predominant with depth. One small dolerite boulder at about 0.8 m from the surface. Below this level, the material may be weathered Permian sediment.

Hole 4

0-0.6	Light brown crumbly soil, some large dolerite boulders.
0.6-1.1	Weathered rock passing into relatively unweathered rock; mottled grey and brown sandy siltstone.

Free water was absent from all holes.

TEST PITS J.Crowden, Kelcey Tier.



49-2

Figure 1.

2/3

CONCLUSIONS

It is apparent from the occurrence of dolerite boulders in the test pits that some landslip material from higher up the slope has been deposited on the ridge where the holes were dug. This material has a shallow depth in holes 3 and 4 and is thicker in holes 1 and 2. Although the ridge is fairly narrow, there seems little risk of unstable conditions affecting a house sited in the stippled area on Figure 1. Some measures should be undertaken to minimise the risk. A house built within the area outlined should be constructed as near as possible in accordance with the code used for the development of landslip B land. Household water should be piped east along the ridge for about 50 m from the house site and allowed to disperse down the south side of the ridge. Trees should not be removed from the steeper surrounding slopes or, if the larger ones are, others should be replanted.

[25 October, 1977]