UR1976-19

1/3

1976/19. Test pits on land at Sutton Street, Burnie.

W.L. Matthews

Four test pits were dug on land at Sutton Street, Burnie [DQ076535] at the request of Philp, Lighton, Floyd and Beattie, Architects, who are examining the possibility of erecting flats on the block. The land is situated in a landslip area which was zoned after a survey of the Burnie area in 1963. The land slopes towards a stream and old landslips occur on the northern slopes. The northern slope has a low angle (about 7°), but the southern section is steeper, with a slope angle of about 15-20°. The block and surrounding land are underlain by deeply weathered Tertiary basalt and thin interbedded sand and gravel beds although the northern part of the block has been modified by surface fill.

TEST PITS

The logs of the test pits are given in Table 1. Much of the material encountered in the pits was soil and clay derived from basalt weathering, but it is uncertain whether this material is *in situ* or has been involved in past movement. The sand and gravel horizons penetrated in the pits appear to be lenticular and irregular in thickness, suggesting that any past movements may have disrupted continuous beds. Visible water seepages occurred only in test pit 4.

RECOMMENDATIONS

Due to its low slope, development of the northern part of the land could take place with reasonable safety providing some precautions are taken. The area near the foot of the slope should be well drained as both surface and underground water will tend to concentrate at the surface near the stream. Any springs or damp areas which develop, particularly near the foot of the slope should be drained to prevent water build-up in the soil. Structures should be built away from the edge of the fill and should be of single storey and low weight. The foundations should extend below the fill as some settlement could be expected even though the fill appears to have been in place for some years. The runoff from Woodward Street should not be allowed to cross the land unless it is piped or carried in sealed drains.

Development is not recommended in the area south of the extended line of the footpath on the south side of Woodward Street (fig. 1) as this land is steeper and subsurface water was found in the test pit in this area.

[8 April 1976]

TABLE 1. Logs of test pits

Test Pit No.	Depth (m)	Description
1	0-1.1	Dark brown fractured dry clay (may be mainly fill).
	1.1-2.4	Dark brown-red clay, fairly compact but friable, if worked becomes slightly plastic, some pisolitic iron oxide fragments.
	2.4-3.1	Light brown and reddish brown mottled clay, a little damp (deeply weathered basalt?). Zones of gravelly clay (quartz) with fragments up to 15 mm occur at 2.6 m.
2	0-0.8	Basalt derived red-brown fractured dry soil.
	0.8-1.1	Fairly compact red-brown clay, becoming dry and fractured towards top.
	1.1-2.1	Sandy clay horizon with thin iron oxide band.
	2.1-2.7	Dark red-brown clay with limonite pisoliths, some quartz grit fragments, fairly compact, dampish.
3	0-0.5	Red-brown dry fractured soil (some or all may be fill).
	0.5-2.0	Mainly red-brown fairly compact clay, some quartz fragments a little damp.
	2.0-2.3	Silty sandy(?) clay, iron oxide nodules.
	2.3-2.9	Mottled dark clay, a little gritty, friable but dampish.
	2.9-3.2	Gritty and gravelly clay (quartz), (bottom of layer not penetrated).
4	0-0.8	Red-brown dry fractured clay soil.
	0.8-1.4	Reddish brown clay (dry).
	1.4-2.3	Mottled cream and brown clay, some unweathered basalt centres, a little damp.
	2.3-3.2	Deeply weathered vesicular basalt, very wet.

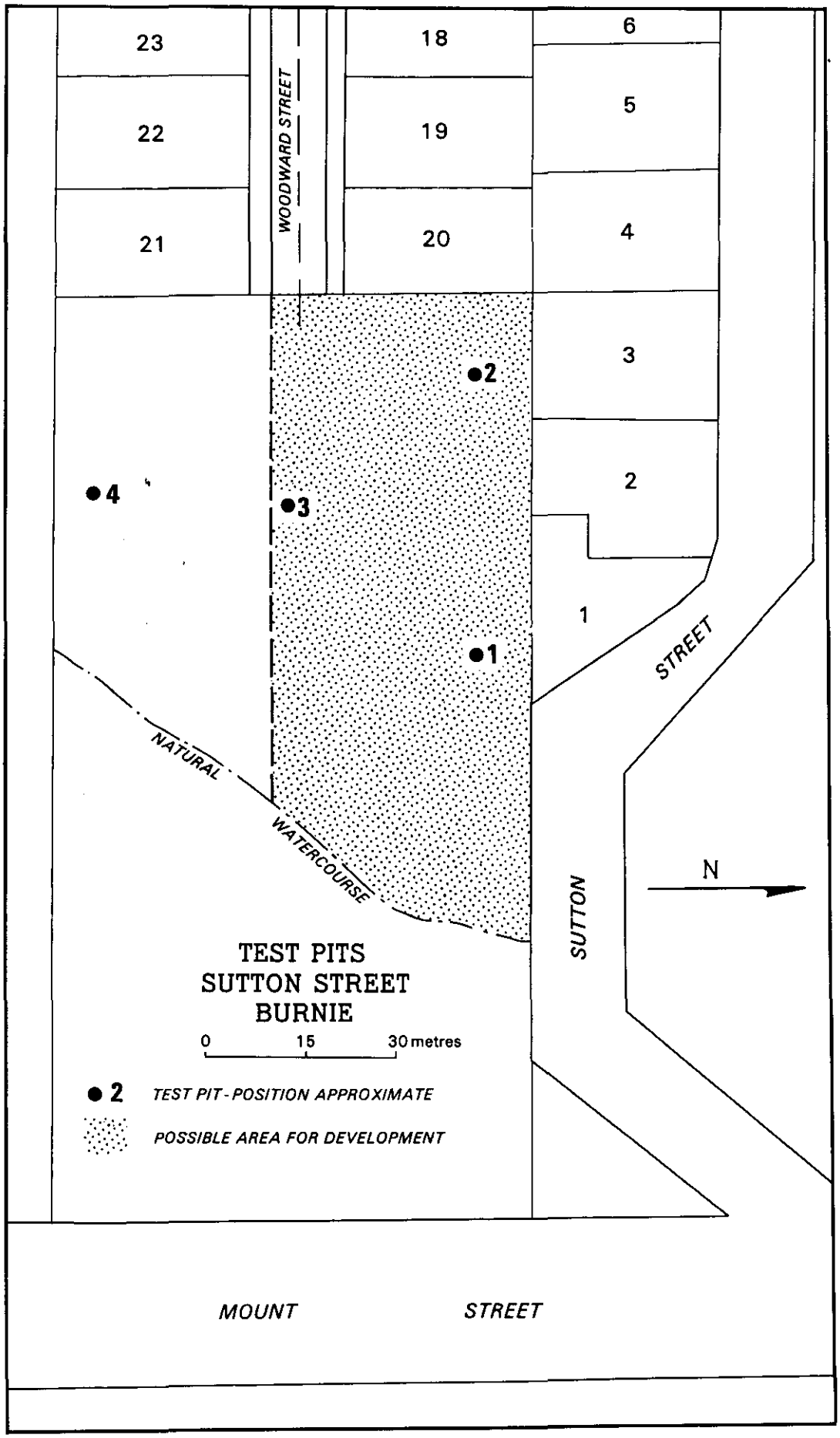
23
22
21
WOODWARD STREET
18
19
20
6
5
4
3
2
1
●1
●2
●3
●4
STREET
NATURAL
WATERCOURSE
SUTTON
N
TEST PITS
SUTTON STREET
BURNIE
0 15 30 metres
● 2 TEST PIT - POSITION APPROXIMATE
POSSIBLE AREA FOR DEVELOPMENT
MOUNT
STREET
5 cm

Figure 1.