

## Further report on the Ambleside subdivision, East Devonport

by W. L. Matthews

Following the first report dealing with the stability of this area (Matthews, 1972), fifteen pits were dug with a backhoe in the approximate positions shown on Figure 1. The materials struck in each hole are listed at the end of this report. The pits indicate that deeply weathered dolerite underlies the whole area. Further investigation of the surface resulted in the finding of one small dolerite outcrop and this is shown on Figure 1. The fact that several holes were dug to 3.6 to 4.6 m indicates the degree of weathering in the dolerite. Holes 10, 14 and 15 show that sandy clay and clay overlie the dolerite in these areas with a varying thickness of cover. These beds are probably accumulations of Tertiary sediments, and areas where they occur on fairly steep slopes (10 to 15°) should be treated with some caution. The soil in some of the higher areas is derived from the weathering of basalt which occurs further up the slopes.

A number of areas have been marked where there is a change in slope or break in topography. These could represent the heels of very old slips or could be the result of differential weathering in the dolerite. A number of seepages have been noted in the proposed subdivision and these also have been shown on Figure 1.

### Recommendations

The steepness of some of the land surface, the seepages, and the possible very old slips suggests that development should proceed only after precautions have been taken. The seepages and streams throughout the area should be drained to prevent accumulations of water in the soil. These drains should have some built-in flexibility so that they are unaffected by small movements. Cuttings around steep parts of the land surface should be avoided or the batter should be low so as to not promote instability, particularly in the crescent-shaped road on the eastern side of the subdivision but also parts of other roads and excavations for houses. Because of the thickness of the sandy clay and clay and the steepness of areas around pits 10, 14 and 15, it is suggested that these areas are not developed as there is some chance of unstable conditions developing if the ground is disturbed.

The blocks in this proposed subdivision are large and allow a wide choice of sites for the houses. It is suggested that the houses, where possible, are built away from steeper portions of the land surface. The P.W.D. is creating quite steep high cliffs in their quarry face. Although slips are not usually regarded as being associated with dolerite in most areas they are not unknown (Leaman, 1972). The depth of weathering in this locality suggests that some precautions should be taken, and houses should be built some distance back from the edge of these cliffs.

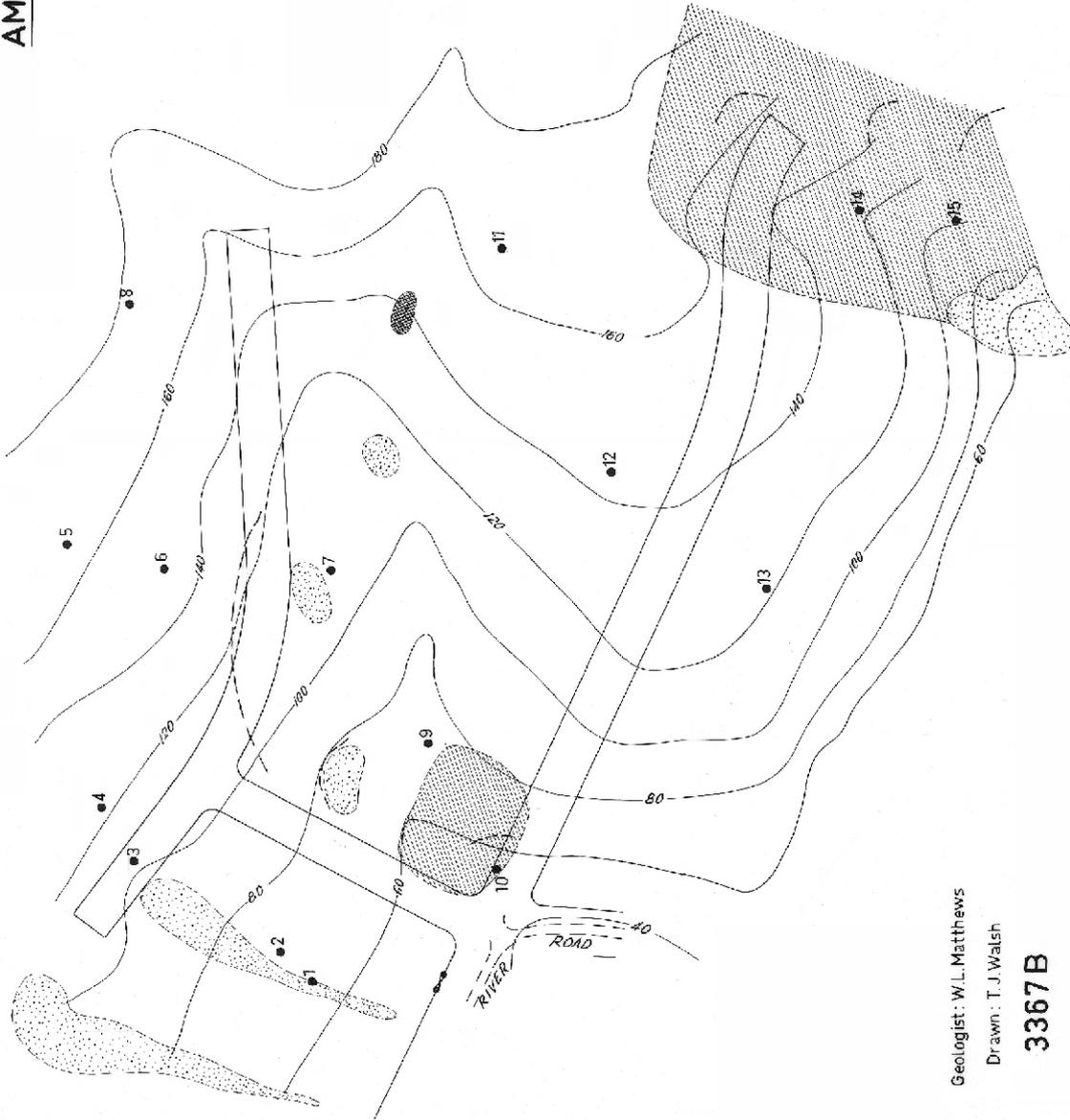
### References

- LEAMAN, D. E. 1972. Landslips, Upper Plenty Road. *Technical Report Department of Mines Tasmania* 15:99-101.
- MATTHEWS, W. L. 1972. Examination of proposed subdivision, East Devonport. *Technical Report Department of Mines Tasmania* 15:55-58.

# AMBLESIDE SUBDIVISION DEVONPORT TEST PITS



- 2 Test pit position & No.
- Seepages
- Breaks in topography
- Dolerite outcrop
- Areas in which development is not recommended
- Contours in feet



Geologist: W.L. Matthews

Drawn: T.J. Walsh

**3367B**

**Figure 1**

## Logs of test pits

### Hole 1

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	2.1	Clay with dolerite boulders. Large seepage in this area, water level 0.6 m below surface.

### Hole 2

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	3.5	Clay.
3.5	3.7	Clay and dolerite boulders. Large seepage, water level 0.6 m from surface.

### Hole 3

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	3.7	Some soil on surface but most of section weathered dolerite with large kernels of unweathered dolerite.

### Hole 4

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	0.6	Soil.
0.6	4.3	Weathered dolerite, less weathered towards bottom. Small seepage at bottom.

### Hole 5

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	0.6	Soil and clay.
0.6	2.1	Weathered dolerite, some unweathered kernels.

### Hole 6

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	0.9	Dolerite boulders (large), some clay.

### Hole 7

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	0.6	Dark soil and weathered dolerite.
0.6	1.8	Weathered dolerite showing some slip surfaces. Small seepage in bottom.

### Hole 8

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	0.8	Soil and weathered dolerite.
0.8	1.5	Weathered dolerite, kernels of unweathered dolerite.

### Hole 9

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	0.6	Soil and weathered dolerite, some unweathered dolerite centres.
0.6	1.2	Weathered dolerite, unweathered dolerite kernels.

### Hole 10

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	0.3	Soil.
0.3	2.6	Brown clay and sandy clay.
2.6	2.7	Weathered dolerite.

### **Hole 11**

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	0.3	Sandy silty soil.
0.3	2.7	Blue-brown clay.
2.7	3.7	Weathered dolerite, some blue clay and iron nodules.

### **Hole 12**

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	0.46	Silty soil.
0.46	1.2	Brown clay, occasional dolerite boulders.
1.2	2.7	Weathered dolerite.

### **Hole 13**

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	1.1	Soil and brown clay, some weathered dolerite.
1.1	1.8	Weathered dolerite (less altered than dolerite in other holes). Small seepage.

### **Hole 14**

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	0.3	Sandy, silty soil.
0.3	0.9	Brown clay.
0.9	2.6	Blue sandy clay and clayey sand beds.
2.6	2.7	Weathered dolerite.

### **Hole 15**

<i>From (m)</i>	<i>To (m)</i>	<i>Description</i>
0	0.3	Brown soil.
0.3	1.4	Grey and brown clay.
1.4	2.4	Fine-grained weathered and unweathered dolerite.

[17 November 1970]