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Examination of a proposed subdivision at Youngtown, St Leonards.

C.J. Knights

The area [EQ147075], owned by A. Gervino, is underlain by dolerite, weathered dolerite and Tertiary sediments. Dolerite crops out on the hill in the south-west of the property, and in the creek. There are no other outcrops. Parts of the land are steep and have hummocky surfaces, similar in appearance to old landslips.

TEST PITS

Seven test pits (fig. 1) were dug by a back-hoe to investigate suspect areas. The pits were dug in order to:

- (1) establish if dolerite is present,
- (2) observe the composition and strength of the soft rocks, and
- (3) locate the presence of subsurface water.

HOLE 1. Depth 1.3 m. Dry hole.

Soil.  
 Sandy, red, mottled clay.  
 Laterite.

HOLE 2. Depth 1.6 m.

Soil.  
 Sandy, red, mottled clay.  
 Laterite.

HOLE 3. Depth 3 m. Dry hole.

Depth (m)

0-1.75 Soil.  
 Mottled red oxidised clays. A vane test at 1.5 m registered a peak strength of 110 kPa and a residual strength of 36 kPa.

1.75-2.0 Pale chert boulders.

2.0 -3.0 Stiff grey clay, red clay and limestone fragments.

3.0 Laterite.

HOLE 4. Depth 1 m. Dry hole.

Soil.  
 Weathered dolerite.

HOLE 5. Depth 2.5 m. Dry hole.

Depth (m)

0-1.5 Soil.  
 Red, mottled clay and clayey sand, soft and hard patches, variable texture.

1.5-2.0 Sandy, grey fissured clay and variable patches of deeply weathered dolerite.

2.5 Deeply weathered, but fairly hard dolerite and organic material.

HOLE 6. Depth 2.5 m. Dry hole.

Soil.  
 Mottled and patchy red clay, mostly damp and pliable.

HOLE 7. Depth 1.5 m. Dry hole.

Soil.

Chocolate brown, very stiff clay and weathered dolerite fragments.

CONCLUSIONS

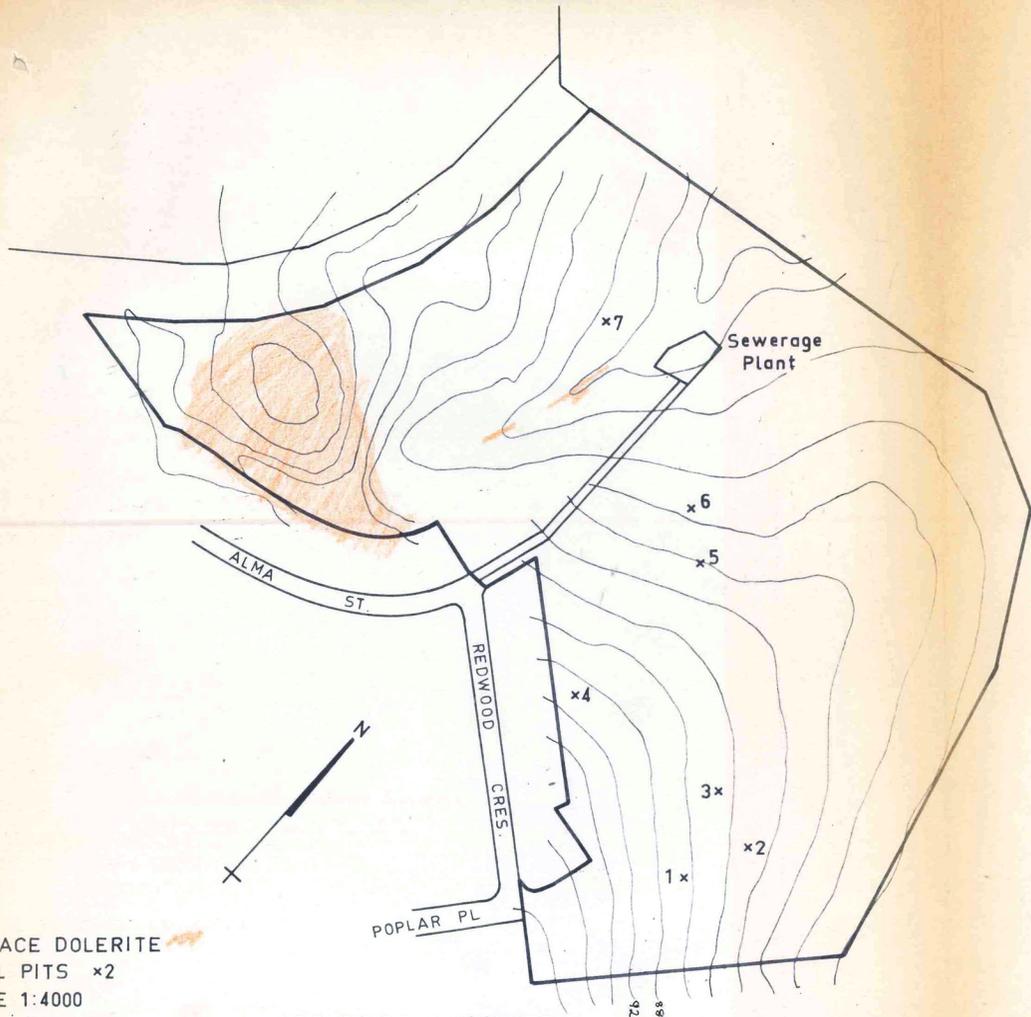
The area appears to be underlain by dolerite which is covered by a variable but relatively thin layer of unconsolidated material. The sides of the hills are covered by scree, which was subjected to deep tropical weathering during Tertiary times, with the formation of clay, laterite, and more sandy disintegration products. This scree is also mixed with Tertiary sediments and plant material.

No water entered the holes, and there were no notably low strength clays.

The subdivision is not considered to be subject to landslip.

[19 February 1974]

# PROPOSED SUBDIVISION - ST. LEONARDS



SURFACE DOLERITE

TRIAL PITS x2

SCALE 1:4000

CONTOUR INTERVAL 4 M.

GEOLOGIST: C. KNIGHTS.

DEPARTMENT OF MINES

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