

TR 10-87-90

## 14. POSSIBLE BUILDING SITES AT GEORGE TOWN

by W. L. Matthews

An examination of three possible areas to be developed as industrial sites, within the town boundaries of George Town, was requested by the Tasmanian Trade Promotion Branch. From surface examination, little can be determined concerning the underlying rocks because recent deposits of gravel, sand and clay cover most of the area. Drilling should be carried out to determine this and the nature of the recent deposits. Dolerite probably underlies two of the areas and basalt could underlie the other.

The geology of the George Town area is relatively simple with basalt occurring along the foreshore of the Tamar Estuary and dolerite to the E. Both rock types and the boundary between them are largely obscured by recent deposits of gravel, sand and clay which have been deposited on terraces. Basalt can be seen as boulders and occasional outcrops along the shoreline from George Town to Bell Bay where it outcrops in excavations. Drilling carried out for the aluminium works at Bell Bay indicated thin lenses of sand and clay interbedded with the basalt but there are no indications of these in the exposures.

The dolerite is exposed in a range of hills E of George Town and occasionally on the terraces. Boulders of dolerite which could indicate a dolerite bedrock also occur at some points on the terraces.

Between George Town and Bell Bay there are extensive gravel deposits which have been worked to their full depth. They consist of rounded quartz and quartzite gravel (with pebbles up to 2 inches in diameter), grit and sand, and they overlie blue clay which is probably weathered basalt. Surface gravel appears to be absent N of the southern town boundary but gravel could be present at depth.

Windblown sand occurs N of the township and some of the sand in the town area may be of this origin but dune features are not apparent, as they are further to the N.

The clay associated with the recent deposits is a brown to almost black plastic clay and is probably derived from weathering of dolerite.

1. Block 1 has an area of almost 45 acres ranging from about 70 to 90 feet above sea level and is underlain mainly by quartz sand with some areas of clay and dolerite. One small outcrop of dolerite occurs in the SW part of the block and as there are no sharp changes in topography it is probable that dolerite underlies the whole area at depth.

2. Block 2 is a flat area about 60 feet above sea level and about 20 acres in extent. The surface is covered mainly by quartz sand with dolerite outcropping on part of the eastern boundary and just S of the area. It seems likely that this block is underlain by dolerite at depth for the same reason as given for block 1.

3. Block 3 of about 50 acres is part of a broad flat about 60 feet above sea level underlain entirely by even-grained quartz sand. The nearest sign of the underlying rocks is in the gravel pits where probable weathered basalt occurs and it is possible the basalt extends to this area.

It is recommended that drilling be carried out on the block selected to determine the depth and nature of the recent deposits and whether the bedrock is basalt or dolerite.

### Appendix

#### PROLINE AUGER DRILLING ON PROPOSED INDUSTRIAL SITE, GEORGE TOWN

Holes 1A, 2A, 2 and 3 were extended as far as the Proline could drill.

As the holes are not cased, there is a certain amount of contamination of samples from upper levels.

Much of the blue-grey to greenish clay is probably weathered basalt.

#### Hole 1A

0'- 3'	Grey sand.
3'- 6'	Brown sand (iron and/or organic staining)
6'- 9'	Sand with some plastic clay.
9'-12'	Sand and blue plastic clay.
12'-15'	Blue clay with probable basalt fragments.
15'-19'6"	Weathered basalt.
	Water table at 2 feet below surface.

#### Hole 2A

0'- 3'	Grey sand.
3'- 6'	Compacted brown sand.
6'- 9'	Sand.
9'-12'	Sand and sandy clay.
12'-15'	Blue clayey sand and sandy clay.
15'-18'	Some sandy clay.
18'-24'	Blue green clay (probable weathered basalt).
24'-27'	Probable weathered basalt.
	Water table at 1 foot 3 inches.

#### Hole 2

0'- 3'	Grey sand.
3'- 6'	Hard brown sand.
6'- 9'	Dark grey sandy clay.
9'-12'	Light brown-orange clay.
12'-15'	Brown clay with basalt fragments.
	Water table at 1 foot 6 inches.

#### Hole 3

0'- 3'	Sand and brown sandy clay.
3'- 6'	Brown clay.
6'- 9'	Brown clay with limonite fragments.
9'-15"	Blue clay (probable weathered basalt).
15'-17'	Weathered basalt with some unweathered centres.
	Water table at 6 feet 6 inches.

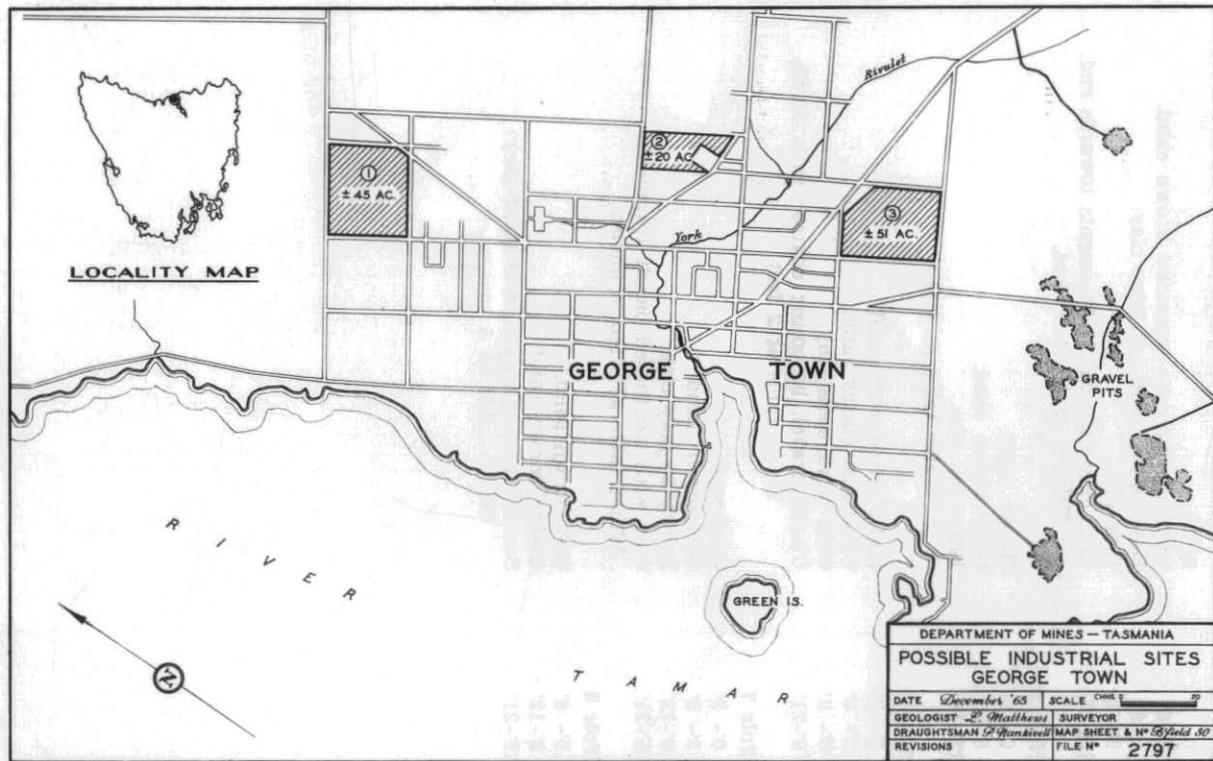


FIGURE 22.

5 cm

*Hole 4*

- 0'- 3' Sand.  
 3'-6' Compact limonite-cemented brown sand.  
 6'-9' Blue clayey sand and blue clay.  
 9'-12' Blue clay.  
 12'-18' Blue clay with basalt fragments towards end.  
 Water table at 1 foot.

*Hole 5*

- 0'- 6' Brown sand.  
 6'-12' Grey clayey sand.  
 12'-18' Blue-grey clay.  
 Water table at 4 feet

*Hole 6*

- 0'- 3' Light grey-brown sand.  
 3'- 6' Grey-blue clayey sand.  
 6'- 9' Grey sand, some clay.  
 9'-21' Clayey gravel, becoming coarser with depth.  
 Water table at 2 feet.

*Hole 7*

- 0'- 3' Grey sand.  
 3'- 9' Soft brown sand.  
 9'-15' Brown to grey clay.  
 15'-21' Clay with weathered basalt fragments.  
 Water table at 2 feet 6 inches.

*Hole 8*

- 0'- 6' Soft brown sand.  
 6'-12' Clayey brown sand.  
 12'-21' Sandy clay and clayey sand (blue-grey).  
 Water table at 8 inches.