

Seismic Survey - Tamar Avenue, George Town

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At the request of the Supervising Geologist of the Engineering Geology Section a seismic survey was conducted at Tamar Avenue, George Town. Hammer methods (using Bison enhancement seismograph) were used so as not to cause any aggravation of the potential slip area upon which houses are already placed (see Stevenson, 1971). The particular area examined covered Allotments 81 to 86. Houses are built on Lots 81, 83 and 85.

Near the roadway there appears to be a shelf of basalt which is sand-covered. At about 30 m east of the road, at least on Blocks 83-86, there is a pronounced escarpment and it is presumed that the basalt ends at this point. The escarpment is not distinct on Blocks 81 and 82, and the slope and escarpment base is also sand-covered. Basalt outcrops on the shore at the extended boundary of blocks 80/81 and overlies plastic clays.

The particular problem was to determine the position of the basalt-clay boundary and thus help finalise recommendations concerning this landslip area.

RESULTS

Spreads were sited on the roadway to examine the definite basalt situation and also arrayed across blocks 81-86 at the foot of the steep slope. No spreads were attempted up the escarpment.

(1) Roadway in the region of Block 86

Description	Velocity (m/s)	Thickness (m)
Sand	310	1
Clay, weathered basalt	1400	3
Basalt	4400	-

(2) Within 50 metres radius of the escarpment base at the boundary of Lots 83/84.

Description	Velocity (m/s)	Thickness (m)
Sand (thins rapidly only to south-west)	300- 380	0-3.5
Basalt talus	950-1050	8 probably 9-11
Clay	1600	-

Due to the topographic variations and layer thickness changes no more complete interpretation is possible. However many steps were noted in the spreads suggestive of side refractions from a much higher velocity material. No consistent high velocity base refractor is present. Spreads across the slope on Lots 81-82 indicated no basalt further than 20 m from the house on Lot 81.

CONCLUSIONS

The figure indicates the inferred position of the basalt margin indicated line. No basalt underlied the gentle western slope on Lots 82 to 86, although basalt talus up to 11 m in thickness overlies clay (fig. 1).

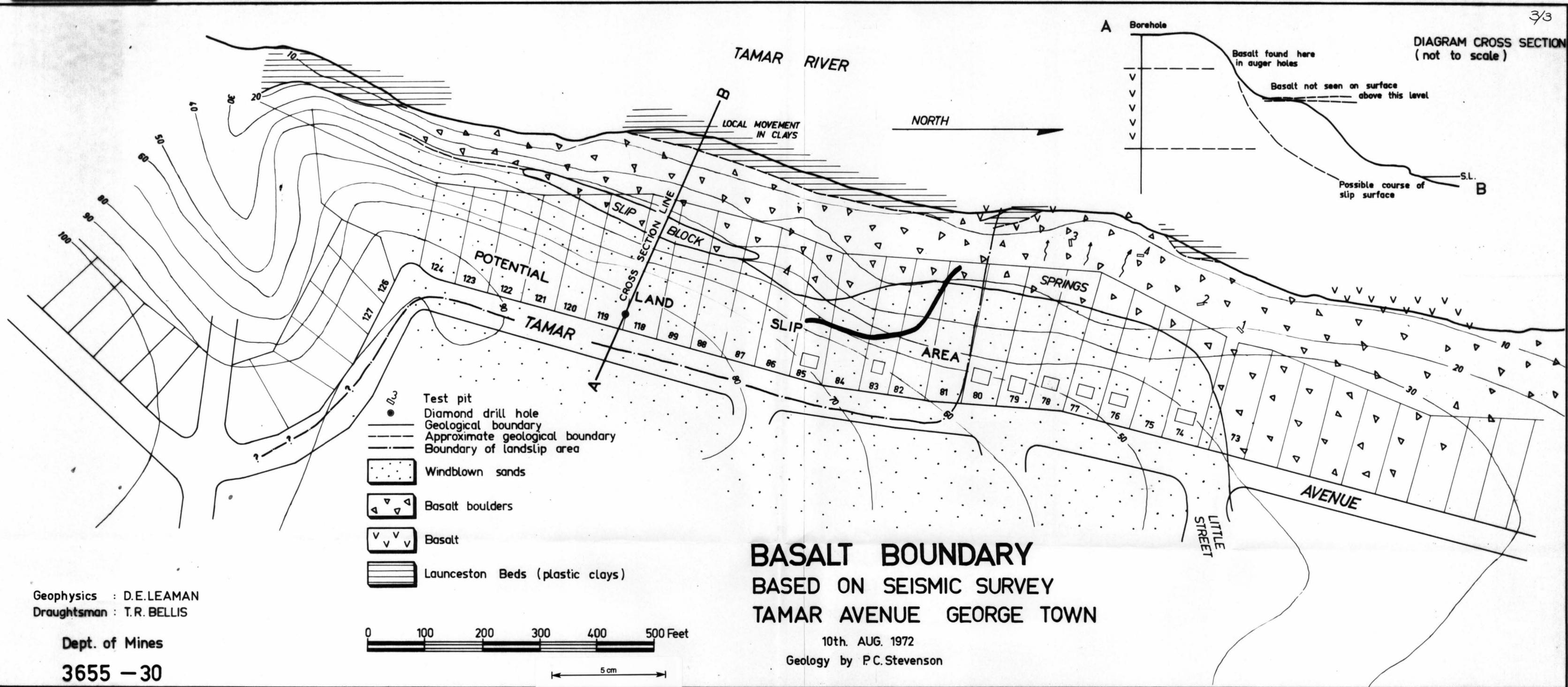
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REFERENCE

STEVENSON, P.C. 1971. Landslip, Tamar Avenue. *Unpubl Rep. Dep Mines Tas.*
1971

[11 August 1972]

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BASALT BOUNDARY BASED ON SEISMIC SURVEY TAMAR AVENUE GEORGE TOWN

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Geology by P.C. Stevenson