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GEOLOGY OF PROPOSED BRIDGE SITE AT LONGREACH, RIVER TAMAR

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LOCATION AND ACCESS

Longreach is part of the River Tamar and is situated in the vicinity of Rowella, 21 miles north-west of Launceston.

Access from Launceston to the west side is by way of West Tamar Highway to within six miles of Rowella, where a secondary road deviates to the locality. On the east side East Tamar Highway passes through the area at a distance of about half a mile from the river.

TOPOGRAPHY

Longreach represents a straight portion of the River Tamar extending north-westerly for a distance of three miles. The width of 76 chains at the northern end narrows progressively towards the south to 29 chains at The Pines.

On the eastern bank the country rises steeply to approximately 100 feet above river level and afterwards continues on a lower grade towards the East Tamar Highway. From the western side the land rises abruptly to 50-80 feet to an undulating plateau at 10 chains from the river. In the vicinity of several small bays the almost precipitous face of the plateau is fronted by a flat terrace rising 10 feet above high water mark and extending inland to 150 feet in width.

GEOLOGY

Bedrock in the area consists of Jurassic dolerite. This rock outcrops continuously along the east bank of the river at Longreach and extends easterly across the East Tamar Highway.

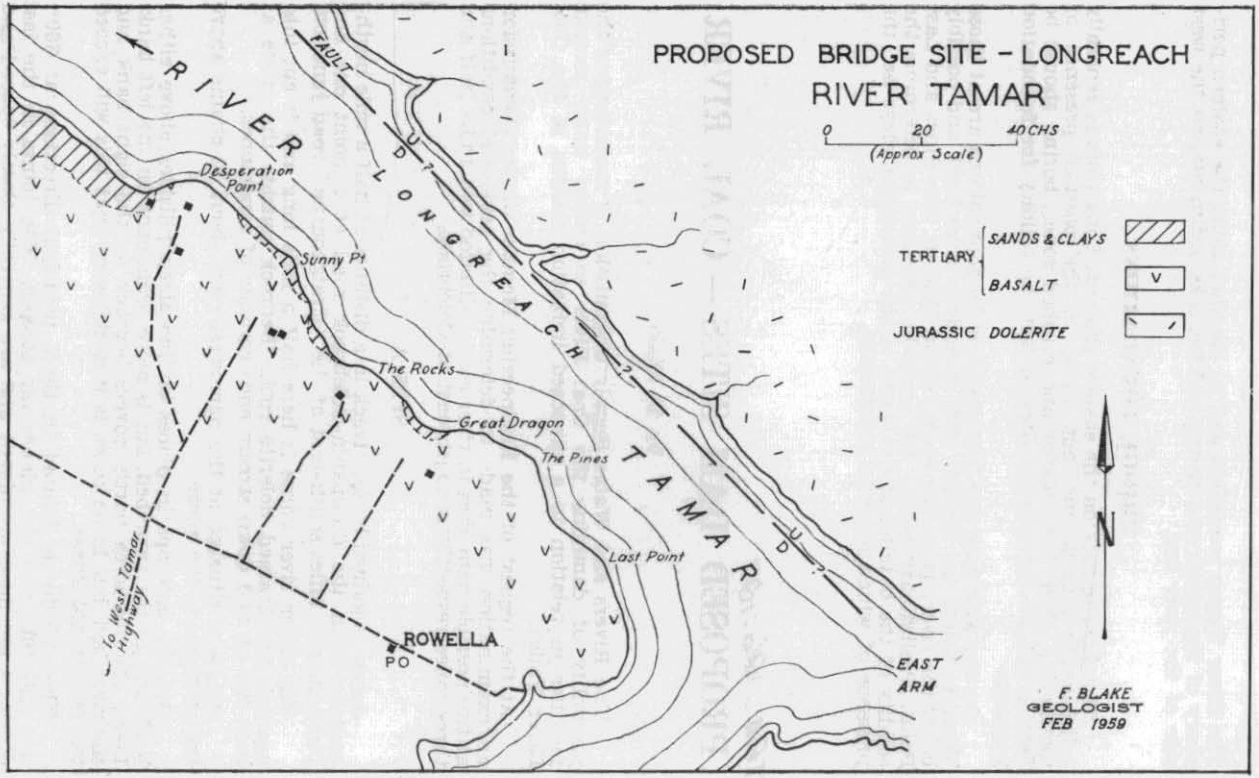
Flows of Tertiary basalt form the plateau west of the river and this rock outcrops down to river level and along the foreshore at Desperation Point, The Rocks, in the vicinity of Great Dragon and from The Pines through to Last Point.

Tertiary clays and sands underlie the basalt and are exposed along the river below H.W.M., in the low terrace above river level between Desperation Point and The Rocks, and in the bay between the latter and Great Dragon. The clays or claystones are generally well consolidated and occur interbedded with narrow bands of sands. The sands are cemented by oxides of iron and in places are very hard. This formation dips at a low angle to the south-west.

STRUCTURE

It is probable that the country in this locality represents a graben resulting from Tertiary faulting and that a north-west trending fault with a downthrow to the west extends through Longreach and East Arm.

Following the faulting, lake deposits in the form of clays and sands, were deposited on the dolerite floor of the graben. The lake deposits were afterwards covered in places by flows of basaltic lava.



5 cm

FIGURE 21.

The River Tamar eventually cut its channel along the eastern periphery of the basalt and re-exposed the lake sediments, on the west side of the river bed.

BRIDGE FOUNDATIONS

The dolerite rock on the eastern shore at Longreach is generally suitable for foundations, but owing to the possible presence of weathering along joint planes and crushed zones, boring should be carried out at any selected sites to test the solidity for foundation purposes.

On the west bank the best positions for foundations are at those localities where the basaltic rock extends to river level, and possibly below the river, as at The Rocks, Great Dragon, The Pines and Last Point. Preliminary boring will again be necessary to determine the solidity of the basalt and the depth to the underlying clays &c., the presence of which must be anticipated.