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COMMONWEALTH OF AUSTRALIA

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DEPARTMENT OF NATIONAL DEVELOPMENT  
BUREAU OF MINERAL RESOURCES  
GEOLOGY AND GEOPHYSICS

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CHANNEL ISLAND WATER SUPPLY, N.T.

by

R.S. Matheson

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On 10th November, 1952 a brief visit was made to Channel Island with Mr. F. Vidgen, Director of Works, to investigate the possibilities of developing an underground water supply for the leprosarium.

The population of the leprosarium is about 200 persons and its present inadequate supply is obtained from roof catchment tanks, augmented when necessary, by using a water barge from Darwin.

Channel Island is situated about 6 miles south-south-east of the port of Darwin, and has an area of approximately  $\frac{1}{2}$  square mile, being about  $\frac{1}{2}$  mile long (north-east to south-west) by  $\frac{1}{2}$  mile wide (north-west to south-east). The island rises to a maximum height of about 100 feet above sea level.

The island is composed of meta-sediments of the Brooks Creek Group, which are intruded by quartz veins, and the Cretaceous section occurring in the Darwin area is entirely lacking.

The meta-sediments, which strike in a north-north-easterly direction and dip steeply, consist chiefly of slates and sandy slates, but a coarse gritty bed occurs in the section along the crest of the ridge on the south-east side of the island. This gritty bed appears to be the most suited to contain supplies of underground seepage water, but it has already been tested by an old bore to a reported depth of about 100 feet with unfavourable results.

In addition to this bore, there is an old well near the landing at the south-west corner of the island, which was sunk to a depth of about 30 feet and showed only a slight seepage of water.

It appears unlikely that a good supply of underground water will be obtained on the island, and this is probably due to the fact that it offers too small a catchment area and the beds are not particularly favourable to allow for the accumulation of good supplies of underground water.

The unfavourable conditions for underground water indicate that the water supplies on Channel Island can only be increased by catchment methods.