

TR16-220

45. Water prospects on the property of I.H. Robinson, Eaglehawk Neck.

D.E. Leaman

The property is situated about 400 m from the Arthur Highway and lies between the Blowhole Road and Lynne Street.

Water is required for the purpose of supplying proposed holiday units.

No rock outcrops occur on the gently sloping property which is covered with an unknown and probably variable thickness of wind-blown sand. Comparison with adjacent properties would suggest that the sand would be more than 2 m thick. The underlying rock is probably dolerite.

#### HYDROLOGY

The western side of the property is bounded by a small perennial stream. Small springs also occur, at least one of which is perennial and gives rise to a boggy, wet patch near the Lynne Street frontage. The springs appear to be related to a near surface hard pan in the sands which results in a perched water table.

Water could be obtained from:

- (1) The dolerite, by casing off the sand and drilling to about 20 m. The water yield would be quite small, probably less than 2,250 l/h in this location but the quality should be suitable for domestic supplies other than drinking. This alternative requires costly drilling.
- (2) The sand, providing that it is indeed of sufficient thickness to have a reasonable groundwater storage. Inexpensive spear bores or wells could recover sufficient water for the required purpose.

#### RECOMMENDATIONS

- (1) Dig small test holes, at least, on the lower western side of the property, to determine the depth to the water table, to sample the water and gain some indication of the thickness of sand.
- (2) Test quality of water for total salt content and check for organic content (there is a septic tank a short distance away).
- (3) If the water is of adequate quality (it may be a little saline due to wind-blown salt from the nearby ocean) and the sand of sufficient thickness a well lined with timber, bricks or concrete liners or a spear would be suitable for this site. The yield would probably be over 700 l/h for a spear, and a small storage tank would be required. A well would be capable of greater yields by virtue of its larger storage and transmission characteristics.