

Underground water prospects at Flowerpot near Woodbridge, southern Tasmania.

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An investigation of the prospects of obtaining underground water to supplement surface irrigation supplies was made at the request of Domeney Bros of Flowerpot. The property, some 4 km south of Woodbridge, lies on both sides of the Channel Highway. The land rises from D'Entrecasteaux Channel and becomes increasingly elevated and undulating to the west.

GEOLOGY

Most of the area is underlain by massive Triassic quartz sandstone dipping 9° S. A dolerite dyke some 100 m wide trends roughly north-west and intersects the property just to the east of the Channel Highway. A spring, issuing from near the contact, supplies a large waterhole.

HYDROLOGY

Leaman (1967, 1971) has investigated the water-bearing potential of Triassic rocks in the Cygnet and Coal River areas. At the time of the earlier report no known bores had been sunk in such rocks in the Cygnet district, but information (1971) is available for similar sediments in the Coal River basin. Some of Leaman's general conclusions may be applied to the Woodbridge area: Triassic sandstones generally yield most water at depths less than 35 m. However, drilling below this level may be necessary if the bore remains dry. Typical yields of successful bores are in the range 15-30 l/min and water qualities can be expected to be fair to good (1000-3000 ppm of total dissolved solids).

Much of the success of a bore in Triassic sandstone depends on the degree of fracturing of such rocks at depth, but unfortunately little is known of this property in the Woodbridge area.

It is possible that the presence of a near-vertical dolerite dyke on the property enhances the prospect of subsurface water supplies. It has been found elsewhere that in such situations, the denser and more impermeable dolerite may effectively 'dam' subsurface water occurring in sediments upslope from it. Much depends on the degree of fracturing and weathering of the dolerite.

RECOMMENDATIONS

A bore placed at least 150 m upslope from the dolerite dyke is likely to meet with success. Although water quality can be expected to be fair to good, the likely yield may be insufficient for direct irrigation of orchards, etc. A small gully draining approximately east on the western side of the Channel Highway, would be a favourable locality in which to attempt drilling. Access is excellent and a large elevated catchment area of Triassic rocks exists to the west.

REFERENCES

- LEAMAN, D.E. 1967. Groundwater resources of the Cygnet district. *Undergr. Wat. Supply Pap. Tasm.* 6.
- LEAMAN, D.E. 1971. The geology and ground water resources of the Coal River Basin. *Undergr. Wat. Supply Pap. Tasm.* 7.

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