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Underground water prospects at Pearn Lane, Bracknell.

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T.C. Dobson requested advice on prospects of obtaining underground water in supplies large enough for irrigation on his property at Pearn Lane, Bracknell.

The property is situated near the western margin of the Tertiary basin and is underlain by Tertiary basalt. The basalt appears to be thin and is underlain by Tertiary clay, the thickness of which is unknown. Just to the north-east of the property there is a small area of dolerite and the presence of this suggests that the Tertiary sediments under the basalt might be thin.

Shallow wells in the district have occasionally met with reasonable success but usually only stock supplies are encountered.

The Mines Department has undertaken groundwater investigations in the district at various localities, the nearest to the property being a hole drilled about 1.5 km to the east along Pearn Lane. Drilling to 153 m encountered clay with sand beds at about 45, 60, 100 and 120 m. The sand beds are the horizons where water is obtained and a pump test was carried out a rate of 135 l/min with a drawdown from 8.5 m to 43.8 m. A bore with a better construction than that used in the test hole could be expected to yield more water with the same drawdown and as can be seen, the maximum available drawdown was not used in the pump test. The water was chemically analysed and contained 763 ppm of dissolved solids.

A 80 m bore in basalt 3.2 km to the north was tested at 170 l/min for 16 hours and had a drawdown from 6.1 m to 16.2 m.

CONCLUSIONS

Although the property is near the margin of the Tertiary basin there is a possibility that sand beds occur within the Tertiary sequence below the surface basalt. If water is struck in sand beds, then some difficulty might be experienced in preventing sand from entering the bore with the water if high pumping rates are used a screen may be needed. It might be necessary to drill to about 120 m before sufficient water is obtained for small scale irrigation supplies.

Basalt occurs at the surface but appears to be fairly thin. Some water could probably be obtained by drilling a shallow hole but this could take some of the water supplying the dams if they are built around springs. Further basalt horizons could occur at depth which could supply some water.

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