

1976/18. Further groundwater investigations at Woodbridge

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Mr Boyes of the Woodbridge Hotel requested further advice on the possibility of boring for groundwater on his property [EN195213]. Domestic water supplies are obtained from a shallow well to the north of the hotel and tank water supplied by roof runoff. The quality of the well water renders it unfit for drinking purposes and causes encrustation of metal water pipes.

The well is brick-lined and extends to a depth of about 2 m below the ground surface. The ground surface at the top of the well is approximately 3 m above H.W.M. and the standing water level at the time of inspection was about 15 cm below this level. Well recharge is fast after pumping and ample water is provided for the hotels requirements.

The result of the well water analysis is given in Table 1. The total dissolved solids result of 1560 ppm is high and renders it unsuitable for drinking purposes. High concentrations of Na and Cl were also found in the water.

Table 1. ANALYSIS OF WATER SAMPLE FROM WELL

Sample No. 760352

		Concentration (ppm)
pH	6.5	
CO ₃		nil
HCO		190
Cl		610
SO ₄		200
SiO ₂		62
Ca		52
Mg		48
Fe		<0.1
Al		<0.2
K		2.1
Na		420
Total dissolved solids	1560	
Hardness (as CaCO ₃)	328	
Alkalinity (as CaCO ₃)	160	

As the well bottom is above H.W.M., it would appear that sea water incursion is not contributing to the high Na and Cl concentrations found in the water and that the well water is entirely received from the surrounding Permian (Ferntree Formation) sandstone. It is therefore not recommended that a hole be drilled near the hotel as it is doubtful that a significant improvement in quality will be achieved.

REFERENCE

CROMER, W.C. 1975. Groundwater investigations at Woodbridge. *Unpubl. Rep.*
Dep. Mines Tasm. 1975/25.

[2 April 1976]