

## 50. Underground water prospects, West Ulverstone

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The Ulverstone Soccer Club requested an examination of land owned by the club to determine the prospects of underground water occurring in sufficient quantities to water the proposed soccer ground and also serve its clubrooms. The land is at West Ulverstone near the Leven River estuary and about 3 km west of the Bass Highway bridge.

## GEOLOGY

The area has been mapped by Burns (1963). Thin Tertiary-Recent alluvium (perhaps 0.6-0.9 m) consisting mainly of gravel and sand overlies most of the club's land but clay is exposed in the north-east corner of the area. Along the foreshore Burns mapped undifferentiated Cambrian rocks which consist of mudstone beds that dip west and strike across the estuary. West of these beds Burns mapped Precambrian rocks belonging to the Rocky Cape Group. These consist of dark siltstone (partly silicified) and phyllite, which dip east and strike across the estuary. A fault, the Ulverstone Fault, was mapped as forming the boundary between these two rock types. Along the foreshore the contact between these two rock types is separated by a body of basic igneous rock (probably dolerite) about 40 m wide and of probable Precambrian (or possibly Jurassic) age. These older rocks almost certainly underlie the proposed soccer fields at depth as similar rocks are exposed along South Road to the north.

## HYDROLOGY

The club will probably need about 270,000-360,000 l/week. The thin gravels could not be expected to hold large quantities of water and the fact that they are elevated above sea level suggests that they would drain unless there are local deep areas. The underlying rocks are similar to rocks which have given regular supplies in other areas and at the rate desired by the soccer club *i.e.* about 1,800 l/h. Some bores have given more than this quantity and with deeper drilling even more might be obtainable. It might be necessary to drill a hole as deep as 30 m which would make the bottom of the bore about 25 m below sea level. Because of the nearness of the estuary, there is a possibility of saltwater intruding inland with sustained pumping from such a depth. It is also unknown whether the supply would be maintained for long periods of continuous pumping. Most bores in similar rock types have been drilled for use as stock supplies and pumping only takes place over periods of a few hours at a time.

## CONCLUSIONS

Rocks similar to those underlying the soccer club's land have yielded supplies of the quantity required by the club. Whether sustained pumping will cause the supply to become depleted or cause salt water intrusion in dry periods is unknown. As it is almost certain that the water would have to be pumped from the bore, the costs of pumping together with costs of drilling and pump maintenance should be carefully compared with the cost of getting a supply from the Ulverstone town supply. If it is decided that a hole is to be drilled, a site in the north-east corner of the property is suggested.

## REFERENCE

BURNS, K.L. 1963. Geological atlas 1 mile series. Zone 7, Sheet 29 (8115N). Devonport. Department of Mines, Tasmania.