18. POSSIBILITY OF OBTAINING UNDERGROUND WATER IN THE VICINITY OF THE PROPOSED TOWNSHIP AT SAVAGE RIVER

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This report concerns the possibility of obtaining large supplies of groundwater at the site of the proposed township at Savage River. Although large surface streams are available in the area the water, in common with that of most Tasmanian West Coast rivers, is stained brown by peaty material. It is proposed to attempt to develop underground water in order to avoid treatment costs and pumping. However, the report indicates that although no reliable data are available concerning the groundwater conditions it appears unlikely that large volumes of water will be obtained. Also the brown colouration may well be present in the groundwater.

The area around the proposed town site is underlain mainly by light brown-grey phyllite, black phyllite, siliceous slate and banded slate. North of the area, thin bands of quartzite are interbedded with the above rock types. Exposure is confined to road cuttings and a few creeks and the quartzite may also occur in the town area. Several foliations have developed in these rocks. The strongest appears to approximate the bedding and regionally strikes about N-S and dips steeply (70°-80°) E, but locally is extremely contorted. The contorted zones often coincide with areas of black phyllite and these appear to have acted as incompetent beds during folding. Urquhart (in press) has called these rocks "Lower Precambrian".

Quartz veining is very common and residual deposits of broken veins up to several feet thick overlie the parent rock. Over a large area, grey-billy, of probable Tertiary age, and up to 10 feet thick, overlies Precambrian rocks. This probably formed when Tertiary basalt flowed over the area resulting in silicification and cementation of quartz boulders and vein material. The basalt has since been eroded away and the only remnants in the vicinity of the townsite are two large boulders of basalt in a small creek. To the W and NW, however, extensive basalt areas have been mapped.

No information is available regarding the possibility of obtaining underground water from metamorphic rocks in Tasmania. Generally in such rocks the groundwater is stored in fractures and joints and the rocks themselves are relatively impermeable. The metasediments in the vicinity are thinly laminated but the laminations appear to be tightly closed due to folding and would therefore yield relatively little underground water. The storage capacity as well as the ability to deliver water is therefore expected to be low. The steeply dipping attitude of the rocks suggests that it is unlikely a change of rock type will be encountered with depth. The quartzites, although more competent and probably having more open jointing, are of limited thickness.

The main reason for attempting to obtain underground water is because of the colour of surface water. However, it cannot be said with any certainty that any underground water in the area would not also be coloured. No indication can be given of the quantity of water which is likely to be obtained from bores in this area.

Reference

URQUHART, G., (in press)—The iron deposits of the Savage and Rocky Rivers region. *Bull Geol. Surv. Tas.*, 48.