WATER SUPPLY OF THE SASSAFRAS - WESLEY VALE AREA.

Certain farmers of this rich agricultural district are anxious to augment their existing water supplies. Opportunity was taken during my visit to them to map the general geology of the District, this had previously been done by A.M. Reid in a map accompanying Mineral Resources No. 8 Volume 1, but certain minor alterations were made.

The area is portion of an undulating plateau, a few hundred feet above sea level, situated between the Mersey River and Port Sorell, in the vicinity of Latrobe. Most of the land is cleared, but a few patches of timber remain. A network of metalled roads traverse the area and because of the high value of the land, holdings are small and homesteads numerous.

Geology.

Over the whole area there is very little actual outcrop. Tertiary sands, clays and gravels and basalt flows predominate. Usually the basalt has a thick coating of red soil and this shows prominently against the grey of much of the Tertiary sands. Some of the Tertiary Deposits also have a reddish tinge and these should not be confused with the basalt. Along the fringes of this basalt plateau may be observed flat lying Permian mudstones and sandstones intruded by a series of dolerite intrusions and it is probable that these rocks underlie the Tertiary rocks over the whole area. Indeed several bores put down, during the search for petroleum indicate this to be so.

Present Water Supplies.

Windmills dot the entire landscape and most of the farmers' water is drawn from fairly shallow wells and is the water actually resting on top of the basalt rock. Surface streams, starting as springs, are also utilised and in the Thirlstane district water for irrigation, both spray and ditch, is obtained from these. As far as I could ascertain no well has penetrated through the basalt, neither is there any record of what water could have been obtained from the oil bores.

Sources of Water.

In addition to any surface streams there are two sources of water available in this district. One is the water that is mainly utilised now and the other underground water that is contained in any sand or gravel beds underlying the basalt. In order to assess the possibilities of this latter supply it is necessary to examine the geological history of the area since Tertiary times. At this period the Permian strata with its dolerite intrusions was being covered with layers of sands, gravels and clays of alluvial origin. A deep channel had been cut in these through which flowed a Tertiary stream comparable with the present Mersey. This area was then a zone of weakness in the earth's crust and sheets of lava were poured out over the undulating hills and valleys from vents probably located at various points. It is possible that there was more than one series of flows with sands and gravels in between. Later erosion has removed much of the basalt and exposed the underlying sediments.

2.

It is not possible to differentiate between those sands which once underlay basalt flows and others that have been laid down subsequent to the outpourings.

Surface water percolates down through joints and fractures in the basalt and should accumulate in the sands below so that except where basalt was laid down directly in dolerite hills water supplies should be obtainable anywhere beneath the basalt. However,some idea of the thickness of the basalt is desirable, before any boring for water is attempted. The bores put down for oil are some help in this direction and certain ones located in what was the old stream bed, Bores 29, 30 and 31, indicate a thickness of basalt from 300 to 500 feet. Bore 28 on the other hand shows the thickness to be only 40 feet showing that it was outside the old valley. Unfortunately these bores are located in only one area but from the evidence of these and the present outcrop I have endeavoured to show the approximate course of the old stream, or in other words where the basalt is thickest.

Individual Queries.

B Ingram, Sassafras.

Mr. Ingram desires to obtain additional supplies for stock and domestic needs. I have indicated to him where I believe additional surface supplies may be obtained and failing this where a bore may penetrate the basalt. It is rather close to the old stream course but I think it is sufficiently far away to make the basalt thickness not more than a hundred feet. There are two dangers, one that the bore position would lie in this course and hence make the basalt thickness too great and the second that dolerite immediately underlies the basalt. However, it is sufficiently favourable to warrant the risk of drilling and sufficient water may be obtained above the basalt.

Mr. R. Lomer, Sassafras.

Mr. Lomer's property is partly covered by basalt soil and partly by alluvial sand. Dolerite comes to the surface to the North-west and it is desirable to locate the bore as far south as possible, near the Bass Highway where the surface shows grey sand. There should be a reasonable chance of obtaining underground water supplies in this area.

Mr. D. McKenzie, Wesley Vale.

This property is located between Wesley Vale and Moriarty and is plentifully supplied with water for stock and domestic purposes. This is obtained from a surface well and pumped by electric pump. However, Mr. McKenzie is desirous of obtaining additional supplies for irrigation of his property. It is considered, however, that no supplies of underground water comparable with those necessary for irrigation, in other words at the rate of several thousand gallons per hour, would be obtained from underground sources.

3.

Drilling in this area should be done as nearly as possible towards the end of the dryest part of the year - that is in March and April. At wetter times the surface soakage might give false ideas of quantities of water that would be available all the year round.

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