DEPARTMENT OF MINES
SOUTH AUSTRALIA

Rept.Bk.No. 19/181

REPORT ON UNDERGROUND WATER PROSPECTS FOR IRRIGATION PURPOSES

Sections 33 & 34, Hd.Belvedere

- Mr. G.T. Heintze Koonunga -

Advice is desired on the prospect of obtaining a supply of water from underground sources by boring for irrigation purposes.

Practically the whole of the rocks and geological structures under-lying the property are concealed by a cover of alluvium and in the south-eastern part, by sands, sandy clays and ferruginous grits. Where exposures of the bedrock occur, they consist of quartz-mica-schists, arenaceous (sandy) schists; mica-schists and a thin band of very hard dense quartzite. These formations (excepting the quartzite) on decomposing form fine clays and silty clays which are carried down into any cracks or joints in the formation by percolating ground water and seal them up. Therefore they are not good aquifers or water-bearing rocks. Exceptions occur where these rocks have been considerably shattered and disturbed by geological earth movements and faults. In such instances the ground water occurs in the fracture zones. Owing to the widespread alluvium cover, it is not possible to ascertain if any faults do occur within the boundaries of the property.

In part, the alluvium is sandy, and it is expected that ground water is passing through it. A well (48ft. deep) sunk beside a dam on the opposite side of the road near the residence cut a supply of water at the junction of the alluvium and underlying mica-schists. A sample of the ground water on analysis indicated a total salinity of 256.2 grains per gallon. This water is too saline for irrigation purposes, but is a very good stock water. It is not expected therefore that any higher quality ground water suitable for irrigation purposes, will be struck in the alluvium within the boundaries of the property under review.

The only place where an experimental borehole might be drilled is in the northern centre of the property. The exact spot is near a gate and close to the road boundary fence and has been pointed out on the site. It is strongly recommended, however, that if this site is tried, that the driller is to be directed to collect a sample bottle of the first ground water struck, for immediate chemical analysis and report, before further drilling is proceeded with.

R.W. SEGNIT

GEOLOGIST.

RWS:JB
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