RB 36/113

DEPARTMENT OF MINES

SOUTH AUSTRALIA

REPORT ON GROUNDWATER PROSPECTS, SEC 3254, HD. MUNTO PARA.

A. J. RIGGS.

This property was visited on 15th December 1953.

REQUIREMENTS:

Applicant requires water for stock and for garden purposes.

LOCATION, TOPOGRAPHY:

This Section and others immediately adjoining occupy the crest and flank of part of a bedrock ridge some three miles south southeast of Cawler township. The ridge attains an elevation of 800 feet above sea level in the vicinity, and extends in a north - south direction, the eastern flank descending very steeply to the South Para River about 500 feet below. The land surface has been cleared of timber and is covered with natural grasses, so that the proportion of surface runoff after rain would be fairly high.

GEOLOGY, HYDROLOGY:

The underlying rocks are shown on the Cawler regional geological sheet as Torrensian slates, phyllites and quartzites, with a prominent quartzite band outcropping not far below the crest and dipping westward. Inspection has shown that this quartzite and the associated slates and phyllites both above and below it have been quite strongly folded on a small scale, and are well jointed, with numerous quartz veins occurring as infilling in the quartz veins.

Permanent water occurs in the South Para River, and a permanent spring exists on Section 3390 at a low elevation. Recently the discharge from this spring was measured at 1200 gallons per hour. A sample of the water submitted by Mr. Riggs for analysis (W2459/53) shows 110 grains per gallon approximate total dissolved salts.

There appears to be two methods by which a water supply could be obtained for the purpose required. A bore located near to the house would penetrate the jointed bedrock below and could reasonably be expected to yield several hundred gallons per hour, but the quality could not be expected to be any better than that available from the spring. In view of the marked topographic relief, it seems likely that drilling would be necessary to a considerable depth, perhaps in excess of 300 feet. A bore of such a depth estimated to cost about £700, and the water would have to be lifted nearly the full distance to the surface.

The alternative would be to utilise the springwater. This is reported to be permanent and in sufficient supply, the disadvantages in its use being that over ½ mile of rising main would be required, and the spring itself is not easy of access. The water quality, 110 grains per gallon, is considered a little higher in salinity than can be recommended for continuous garden use. However if the garden soil is built up of light sandy material, well manured and well drained, it should be possible to water lawns and a considerable variety of plants, trees, and shrubs.

CONCLUSIONS AND RECOMMENDATIONS:

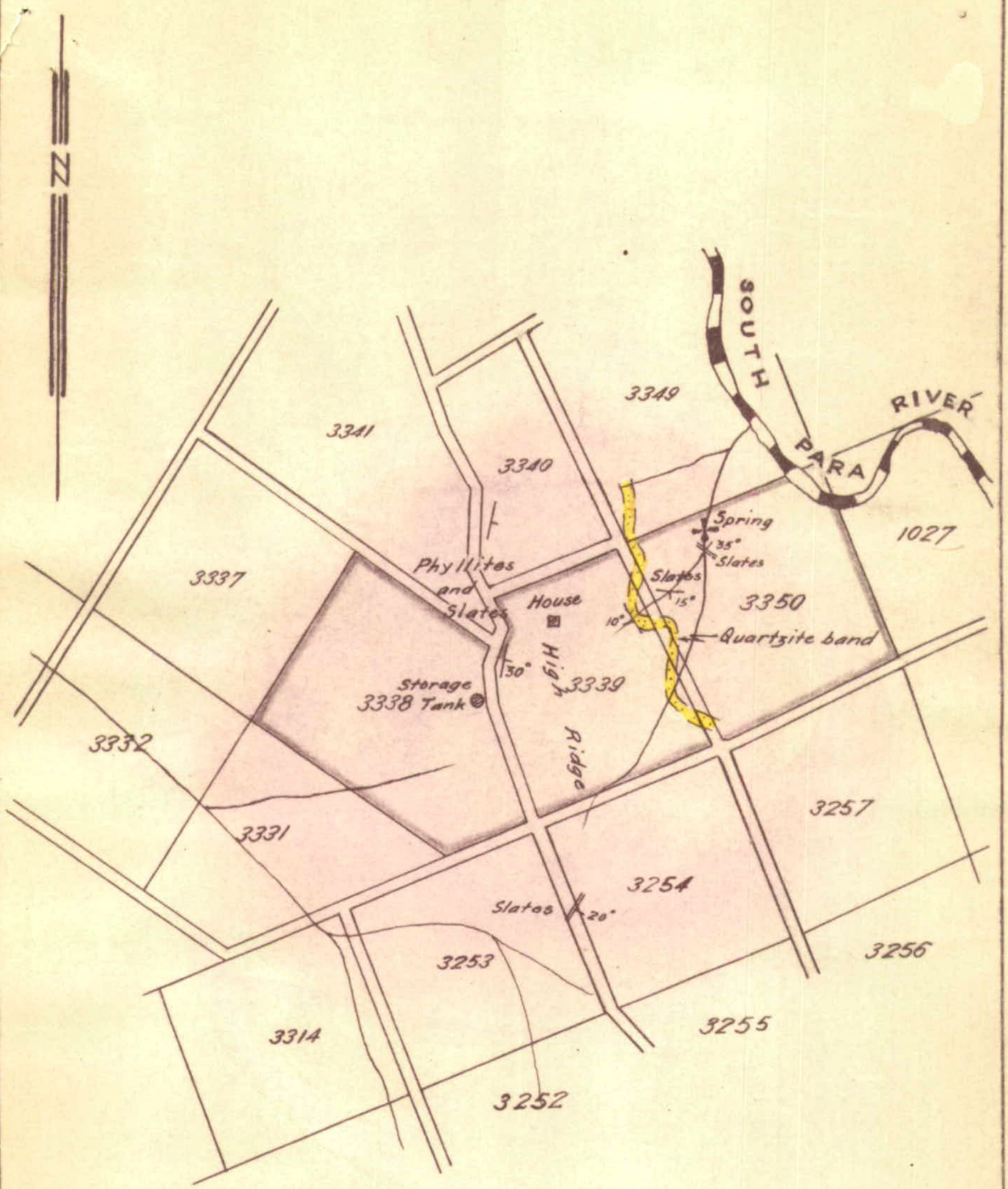
Drilling on or near the hilltop somewhere near the house would be successful as regards a stock supply, at a probable depth of 300 feet or more, estimated to cost at least £700. Water quality might not be altogether satisfactory for garden use.

It is suggested that consideration be first given to utilising the spring water, which could be done by installing a shallow sump to one side of the gully on which the spring is situated, and raising the water to the house, by means of a pump, pump jack and rising main.

W. O. Driscoll 5/4/54

SENIOR GEOLOGIST
HYDROLOGY

EPO' D:EK



Torrensian Series

Quartzite _ _ _ _ _ _ _ _ _ _

Phyllites and Slates _ _ _

To accompany report by E. O'Driscoll.
Senior Geologist.

S. A. DEPT. OF MINES

Approved	Passed	Drn.	UNDERGROUND WATER SURVEY	D.M.	Scale 20 Chns to 1 Inch.
		Tcd. R.J.B.	Hd MUNNO PARA	Req.	S 852
	B.S.G. per R.R.	Ckd.	SECS. 3338/9 3350		Ha 2
Director	C.D.	Exd.	A.J. RIGGS		Date 4-1-54