Hyd corr

Department of Mines
South Australia

Rept. Bk. 48/128
G.S. 1352
D.M. 846/59
Hyd. 725
M 1517

REPORT ON GROUNDWATER PROSPECTS

SECTION 97, HD. WANILLA

A. E. Gameau

This property was inspected on 14/5/59.

REQUIREMENTS:

Advice on the prospects of obtaining water suitable for general irrigation purposes and also for stock. A supply of at least 1,000 gallons per hour is required.

LOCATION, TOPOGRAPHY:

Situated about 3½ miles west of Wanilla railway station, the property occupies gently undulating country with broad shallow gullies. Surface drainage is generally southerly apart from a small area near the western boundary of Section 97. In this area there is a relatively high ridge trending northerly beyond which the drainage is westerly. Average rainfall is approximately 19 inches per annum.

GEOLOGY, HYDROLOGY:

Bedrock of Archaean age, consisting of coarse grained gneiss with some schist, outcrops or occurs at shallow depth in the area. Rocks of this type outcrop in the high ground about ¾ mile north of Section 97. No outcrops were observed within the property but it is possible that bedrock occurs at shallow depth beneath the ridge in the western part of the property. Overlying the bedrock is a succession of sand, clay and gravel which is alluvial in origin and Recent in age. In certain areas this succession, which may exceed 100 feet thickness in parts, overlies sand and clay of Tertiary age.

Within the property it is considered that bedrock generally occurs at shallow depth, overlain by Recent sand, clay and gravel. Water occurs generally in the sands but the quality and supply vary considerably, depending on conditions

of replenishment and permeability of the sand.

Occasionally the sand of the aquifer is fine and causes difficulties during pumping and some bores have been abandoned for this reason. The water is generally suitable in quality for stock purposes but in most cases it is not suitable for the watering of plants. The best quality water apparently occurs where replenishment is good, such as along the gullies. Surface run-off concentrates in the gullies and a proportion of it penetrates downward through the sand and sandy clay to join the water table. However, the lower parts of the gullies, where the soil is generally saline, may yield brackish groundwater.

For this reason it is considered that better quality water may occur at higher levels and accordingly two sites have been suggested, and shown on the accompanying plan. Water is expected to occur at a depth of 40-50 feet and the supply may not exceed 100-200 gallons per hour. The water may not be suitable for use on plants, but as additional stock supplies are required in the western part of the property, drilling is probably warranted.

The supply from an existing bore in the western part of the property has failed because of sand trouble. Cleaning out and installation of a screen may restore the original yield. However it was found difficult to develop a supply from this bore when drilled and therefore it is probably preferable to drill a new bore.

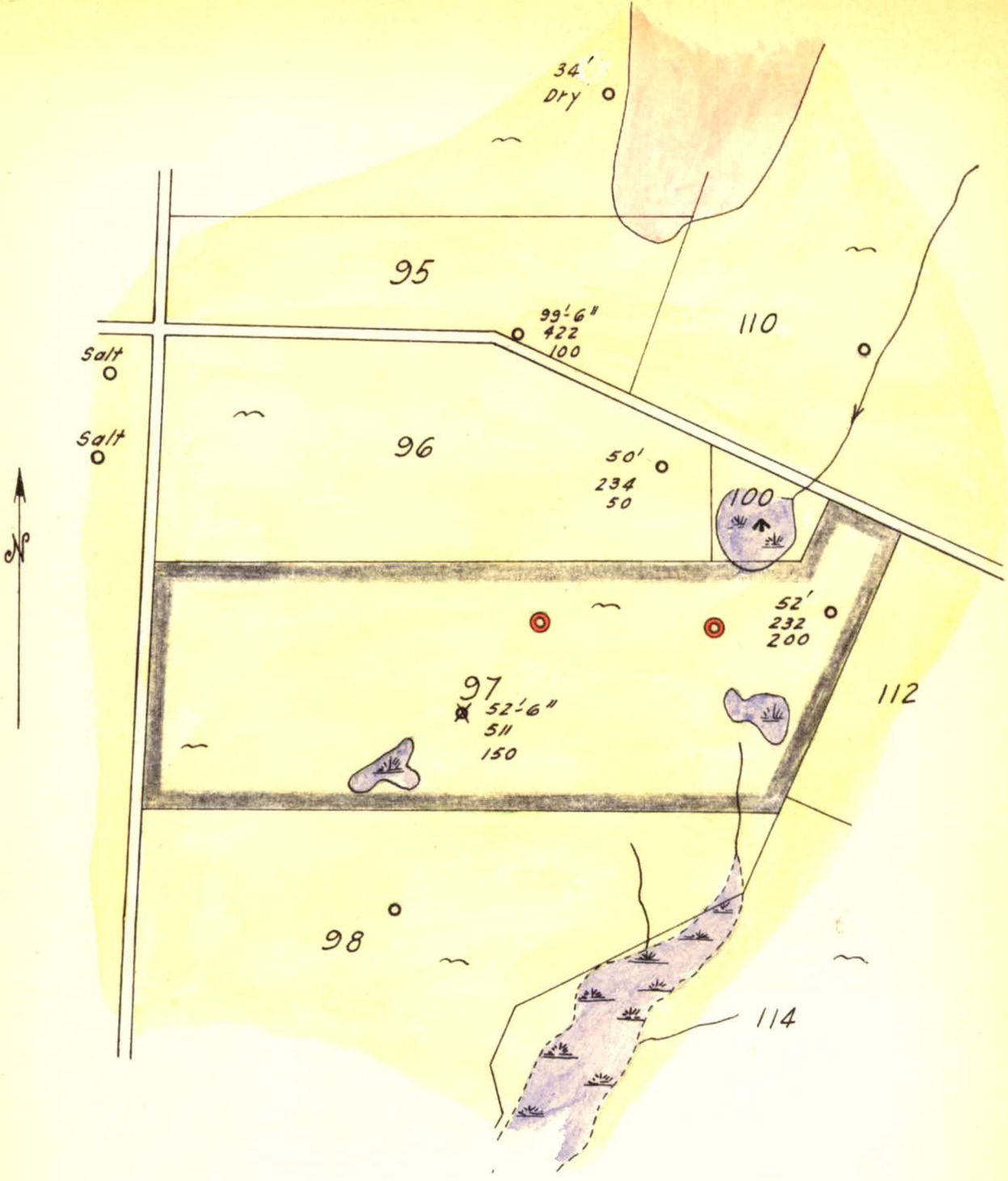
CONCLUSIONS AND RECOMMENDATIONS:

Water suitable for stock should be obtained from sand at a depth of 40-50 feet at the site suggested. A sand screen may be necessary to develop the supply, which is not expected to exceed 100-200 gallons per hour. It is doubtful whether water suitable for irrigation will be obtained but as additional stock supplies are required, drilling is recommended. Stock water may also

be obtained by drilling in the gully along the western boundary of the section, as indicated on the plan.

R. G. SHEPHERD
GEOLOGIST
HYDROLOGY

RGS:CERF
21/5/59



RECENT

Alluvial sand, clay and gravel.....

ARCHEAN

Gneisses and schists.....

Swampy areas.....

Suggested Bore Sites.....

To accompany report by R.G. Shepherd

S.A. DEPARTMENT OF MINES

Approved	Passed	Drn.	UNDERGROUND WATER SURVEY Ho. WANILLA SEC. 97 A.E. GAMEAU	D.M.	Scale 40 ch. to 1"
		Tcd. A.W.		Req.	S2083
		Ckd. R.R.			Dn 10
Director		Exd.			Date 26-5-59

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