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Rept. Bk. No. 48/82
G.S. No. 1306
D.M. 173/59
HYD. 693
M 1413

DEPARTMENT OF MINES
SOUTH AUSTRALIA

REPORT ON GROUNDWATER PROSPECTS

BLOCK 1A, HD. WANILLA

- K.W. HISSEY -

This property was inspected on 17/3/59.

REQUIREMENTS:

Advice on prospects of obtaining a supply suitable for stock purposes near the central part of the property. A supply of several hundred gallons per hour would probably be sufficient.

LOCATION, TOPOGRAPHY:

Situated about 20 miles north west of Pt. Lincoln and to the south of the Coffins Bay road the property occupies undulating limestone country. A number of relatively small soil covered flats occur at intervals.

Average rainfall is approximately 23 inches per annum.

GEOLOGY, HYDROLOGY:

Bedrock of Archean age, consisting of weathered gneiss, outcrops over a small area near the junction of Flinders Highway and Coffins Bay road. There are no other known outcrops of these rocks in the area, the nearest being some 4 miles to the north east in the vicinity of Wanilla. Bedrock may occur as a buried ridge trending southerly near the eastern boundary of block 1A. Several bores, which were drilled in this area as part of the Uley-Wanilla Basin investigations, penetrated bedrock at a depth of 50-60 feet.

Overlying bedrock over a large area south of Flinders Highway is a deposit of calcareous sandstone or aeolianite, capped by dense travertine limestone. Occasional soil covered flats occur throughout the area.

In an area where surface run-off is negligible much of the rainfall penetrates the broken surface limestone and enters the permeable aeolianite beneath. A proportion of this water eventually becomes groundwater.

Moderately large supplies of water have been obtained from aeolianite in the Uley-Wanilla basin, with a salinity of 40-50 grains per gallon. It is considered that groundwater of a similar quality should be obtained by drilling on Block 1A. The quantity available is not known, but moderate supplies could be expected as the aquifer appears to be similar to that of the Uley Basin.

Two shallow wells, which are situated near the northern boundary of the property, yield good quality water, the salinity being 33 and 35 grains per gallon respectively. The supply available is not known and may not be large as the wells have been excavated to only a few feet below the water table. At the time of the inspection the water table in the two wells was found to be at a depth of 6 and 16 feet respectively.

Toward the central part of the property the water table is expected to be at greater depth as the land surface appears to lie at somewhat higher elevation. Bore sites in the depressions are suggested as the depth to water is least in these areas. If bedrock of gneiss is encountered at shallow depth, drilling should be discontinued and tried in depressions further west, away from the known shallow occurrence near the eastern boundary of the property.

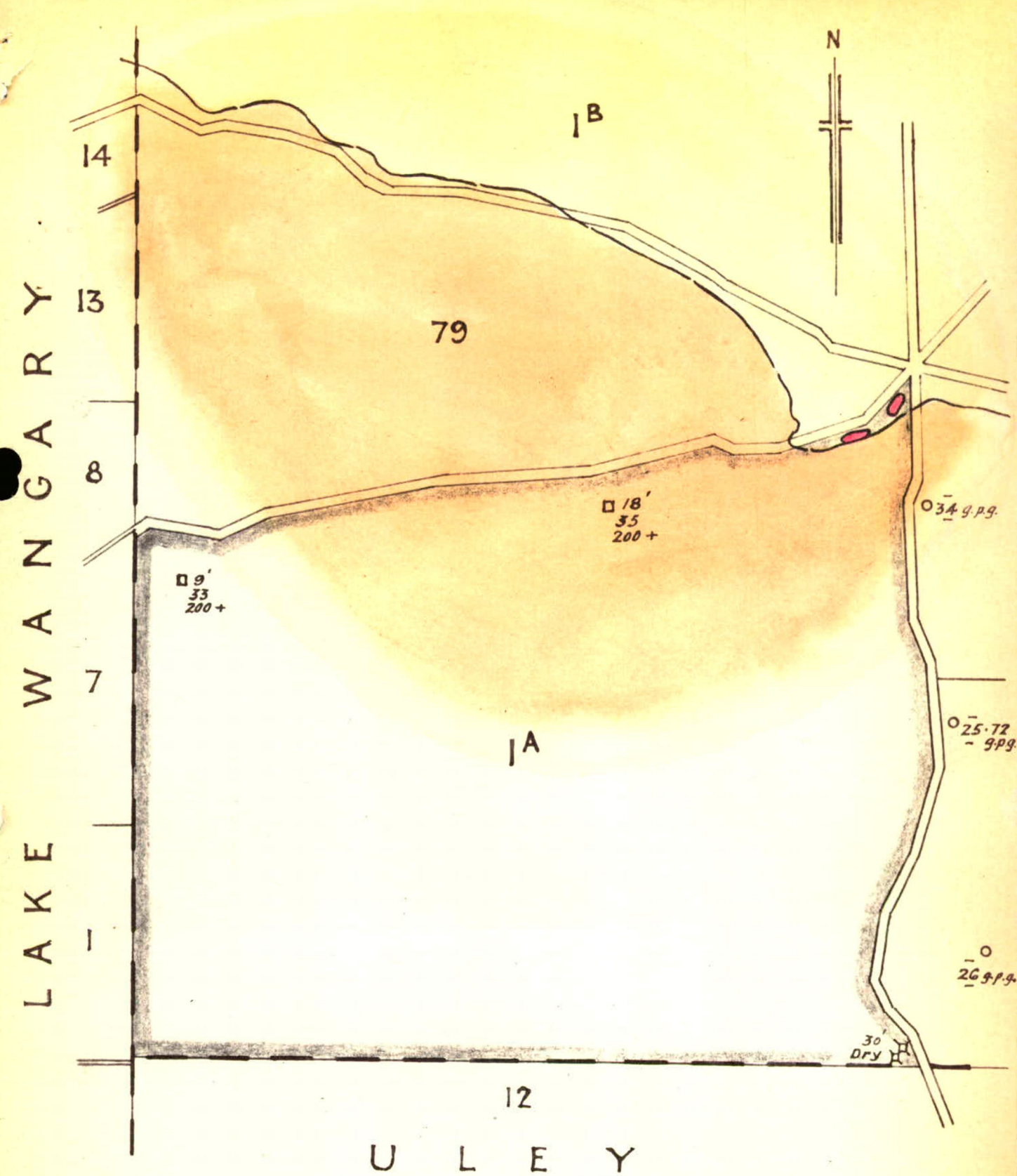
CONCLUSIONS & RECOMMENDATIONS:

Good stock water should be obtainable from the aeolianite at shallow depth in the central part of the property. The depth necessary is not expected to exceed 50-60 feet depending on topography, and it is suggested that drilling be confined to the

depressions, where depth to the water table is least. Bores could be sited where convenient in these areas.

R.G. Shepherd
Geologist
HYDROLOGY

RGS:AGK
1/4/59



RECENT:
Alluvial sand, clay and gravel

PLIESTOCENE:
Calcareous aeolianite with travertine crust

ARCHEAN:
Weathered gneiss

To accompany report by R.G. Shepherd.

S.A. DEPARTMENT OF MINES					
Approved Director	Passed	Drn. Tcd. R.R. Ckd. Exd.	UNDERGROUND WATER SURVEY Hd WANILLA BLK. 1A K.W. HISSEY	D.M. Req.	Scale: 40 Chains to 1in S 2041 Dn 10 Date 9-4-59