

REPORT ON WATER SUPPLY FOR MRS. A.M. HOOPER, WILLOCHRASECTION 112 HUNDRED BOOLCUNDA

Mrs. Hooper's property is situated on the eastern fringe of the Willochra plains near the Boolcunda Creek which drains an extensive stretch of hilly country to the east in the direction of Carrieton.

Water is required for sheep on the north-western sections of the property. At present water is obtained from a well near the house on Section 112 and from a well in Section 172, the property of A. Hilder & Son, near the northeastern corner of Section 152, both being about 90 feet deep and yielding ample supplies of good quality water.

The underground water in this district is stored in a thick series of sediments having a nearly horizontal attitude and forming an artesian basin covering an area of nearly 600 square miles. The waters of the basin are absorbed by the porous gravels and sands chiefly near its margin and in the watercourses draining towards the Willochra creek. The Boolcunda creek is one of these tributary water courses which supply the porous gravel and sand beds which it traverses.

Several distinct aquifers or water-bearing formations of rock are present in this basin, the nearest to the surface being the natural groundwater which is not under hydrostatic pressure as are the deeper or confined waters. Adjacent bores and wells to this property indicate that supplies of good quality groundwater can be obtained at a depth of approximately 90 feet. The quality of the water is due to the property being near Boolcunda creek where absorption of stream water is relatively fast and where the groundwater has a relatively free and short distance of movement from its point of intake to the nearby well. In the lower ground, nearer Willochra, the groundwater becomes progressively more and more saline, until a point is reached where it is too salt for sheep and to develop usable supplies it is necessary to sink deep bores to tap deep seated pressure waters which occur at depths ranging from 400 to 600 feet. These waters were absorbed probably in the

region of Melrose near the southern limit of the basin and have a low salt content judging from their utilization in the irrigation of lucerne.

In the case of Mrs. Hooper's property the results of past boring and well sinking indicate that the groundwater will provide water suitable for sheep, without requiring the sinking of a deep bore to tap the artesian water.

An area is outlined on the accompanying plan in which the prospects are considered excellent for obtaining an adequate supply of groundwater at a depth of about 100 feet, the exact site for the bore to be left to the discretion of the property owner who is more familiar with the relatively higher portions of ground on which the bore should be situated to avoid the flood waters.

(S.B. Dickinson)  
DEPUTY GOVERNMENT GEOLOGIST.

9.3.1943