

DEPARTMENT OF MINES
SOUTH AUSTRALIA

Rep.Bk.No. 15/91
C.P.W. 472/28
D.M. 485/35

ROBINSON BASIN - STREAKY BAY

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I forward herewith seven water analyses taken at various stages of the pumping tests carried out on the Robinson Water Basin near Streaky Bay. You will see that the analyses refer to samples taken at three different stages in the pumping tests, which are referred to in the following paragraphs:

1. The first pumping test commenced on 30/8/34, and finished on 13/9/34. The first pumping test was dealt with by analysing the sample taken at the beginning of the test, and that taken at the end. The composition of the dissolved solids in the water remained sensibly constant, and there does not seem to be any necessity for analysing the samples taken at intermediate times during this test. The small variation between the two samples appears to me to lie within the range of experimental error. It would therefore appear that the salinity curve would be essentially a horizontal straight line.
2. Two further samples collected while pumping into the Streaky Bay township mains was in progress, one on 14.12.34 and the other on 21.12.34, gave similar results. The variations recorded are again probably within the limit of experimental error.
3. The third set of three samples has reference to the second continuous pumping test, which extended from 22.3.35 to 9.5.35. Three samples were analysed, one at the beginning of the test, one on 7.4.35, and the other at the conclusion of the test, and here again the composition of the water remains practically constant, so that a horizontal straight line plotted on the curve would represent the salinity at those dates.

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I note that the Acting District Engineer suggests the advantage of a full salinity curve, and suppose that he has been prompted to make this suggestion by the rather variable results obtained with the use of a salinometer. There does not, however, appear to me to be any real necessity for carrying out further analyses, in view of the practically constant results obtained from the few samples that were analysed. The samples, however, taken at intermediate points during the several pumping tests have been retained in this office, and can be analysed later if the necessity arises.

Commenting on the record of the tests that have been carried out, I would say that it appears to me that:-

1. The general results obtained are entirely satisfactory.
2. The rapid recovery of the water level on the completion of a test indicates that the draught caused during pumping has not materially affected the supply.
3. The effect of rainfall upon the water table generally seems to be much more marked in connection with the rain on March 31st, 1935, than on any other date. Possibly this is due to the fact that the rainfall recorded on the graph is that registered at Streaky Bay, and that the distribution of the rainfall was rather irregular. The sudden rise on March 31st, 1935, looks like the effect of a heavy rain right on the site of the pumping trench.

The quality of the water on the occasion of all the tests seems to me to be excellent, and is such that it can be used for any purpose whatever. The fact that the tests have been carried out continuously throughout the summer months affords a firm basis for confidence in the ability of the test trench to supply the town with water in even the driest part of the year. So far as I can judge, there need be no hesitation about completing the supply from the point of view of either the quality or quantity obtainable.

I do not know whether you have yet given consideration to the matter of reserving the area surrounding the test trench, as a water conservation reserve. It seems to me essential that this should be done, and that the area be reserved to include Wilkalinsie Well. Attached hereto is a sketch of the portion of Section 8 SW, Hd. of Forrest, which should be reserved. The southern boundary of this suggested reserve is half a mile to the south of the test trench, and runs easterly from the western boundary of the Hundred of Forrest, as far as the unmade road, and thence north-easterly to the main road between Streaky Bay and Port Lincoln. This proposal includes the closing of Wilkalinsie Well, which appears to me to be essential, since it is undesirable that sheep would be permitted to water on the intake side of the test trench. I do not know what provisions you will make with regard to providing the land owner with a water supply to replace Wilkalinsie Well. Possibly you may provide him with water, or alternatively you may sink another well to the southeast of the test trench, and to the northeast of Ponkatana Well. The latter position would be quite safe from the point of view of the water supply. I presume also that the Water Conservation Reserve here mentioned will be surrounded with a sheep-proof and rabbit-proof fence.

9.7.35

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