

DEPARTMENT OF MINES

SOUTH AUSTRALIA

REPORT ON A WATER SUPPLY FOR THE  
ENGINEERING & WATER SUPPLY DEPARTMENT CAMP AT MAITLAND

The township and surrounding district was examined on 28th and 29th November, 1955, in company with the Senior Geologist - Hydrology and Mr. D.N. Sett.

REQUIREMENTS:

The E. & W.S. Department requires an estimated maximum of 10,000 gallons per day for general camp use (including domestic purposes) and concrete making.

LOCATION AND TOPOGRAPHY:

Maitland is situated on a southerly trending spur of the central divide of the Yorke Peninsula at an average elevation of 600 feet above sea level. It is approximately 11 miles from Balgowan on the west coast and 15 miles from the active port of Ardrossan on the east coast.

The Yorke Peninsula in its north-south portion consists of a low broad ridge sloping gently to both coasts and even more gently from north to south. It is dissected by a number of short streams flowing intermittently in wide mature valleys. The maximum relief in the vicinity of Maitland is 200 feet over a horizontal distance of 2 miles.

GEOLOGY:

The bedrock geology is obscured over most of the district by a discontinuous sheet of travertine varying from 1 foot to over 10 feet in thickness. Sparse outcrops in pits dug for road material, in road cuttings and spoil from well dumps show that bedrock in the area to the south, west, and east of Maitland consists of sedimentary quartzites, hard blocky siltstones

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and mudstones of presumed Cambrian age. The town itself appears to be underlain by granite, gneissic granite or injection gneisses of presumed Archaeozoic age. An unconfirmed log of a borehole 2 miles west-south-west of the town shows that the presumed Archaeozoic underlies the Cambrian sediments at a depth of 200 feet in this location.

The nearest unconsolidated sediments other than travertine are red clays of unknown age outcropping in low sea cliffs at Balgowan, and the recent sand dunes of the west coast from Balgowan to Point Pearse.

### HYDROLOGY:

The Cambrian and Archaeozoic rocks near Maitland and to the west of the town have been tested by a number of bores which have been either failures or have encountered water too saline for domestic use. Information available on these bores is summarised below.

#### MAITLAND AND DISTRICT BORES AND WELLS

| Hundred   | Sect.                             | Total Depth | Water Levels<br>Cut      Standing |            | Supply                       | Salinity                       | Location             |
|-----------|-----------------------------------|-------------|-----------------------------------|------------|------------------------------|--------------------------------|----------------------|
| Maitland  | 72W                               | 266'        |                                   | 138        | 200gph                       | 984 grg                        | 2 m. WSW of Maitland |
| Maitland  | 22                                | 414'        | 238<br>370                        | 180<br>150 | ?<br>Good?<br>supply         | 534 gpg<br>similar<br>to above | 5 m. S. of Maitland  |
| Maitland  | Park-lands                        | 232'        | no water struck                   |            |                              |                                | W. of Maitland       |
| Maitland  | Show-ground                       | 404'        | 166                               | 248        | 900gph                       | 453 gpg                        | N.E. of Maitland     |
| Maitland  | 42                                | 220'        |                                   | 55         | reported<br>19000<br>g.p.day | 730 gpg                        | 2½ m. S. of Maitland |
| Maitland  | W.(reserve adjacent to 38 S,side) | 190'        |                                   | 60         | reported<br>20000<br>g.p.day | 485 gpg                        | 2 m. S. of Maitland  |
| Kilkerran | 64W                               | 181'        | no water struck                   |            |                              |                                | 6 m. NW of Maitland  |

It is clear from these results that prospects of obtaining a good supply of water, suitable for domestic purposes, from bedrock in the vicinity of Maitland are extremely poor.

On the coast 11 miles west of Maitland the recent dunes and interdune travertinous flats yield small quantities of good water. An area of several acres has been developed by means of shallow trenches and wells by the Point Pearce Native Mission. Undeveloped dunes occur to the north of Point Pearce but a number of wells scattered over a considerable area would be required to develop a supply such as that required for the Engineering and Water Supply camp. In addition to the dune water small supplies may be available from shallow wells in travertine flats. Such a well located in the south western corner of Section 138, Hd. of Kilkerran, had a total salinity of 465 g.p.g. and yielded a stock supply.

#### CONCLUSION:

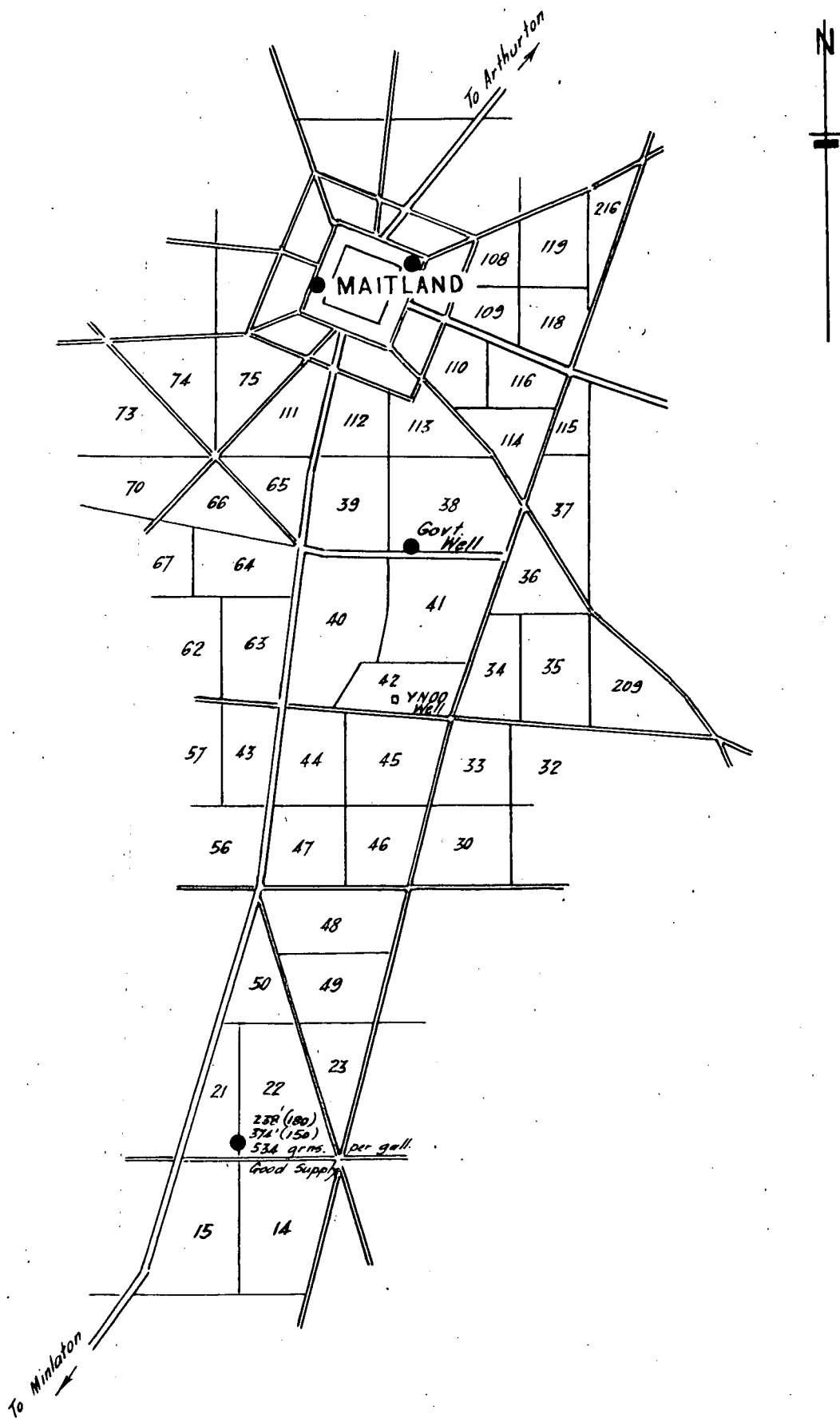
The nearest supply of potable groundwater occurs 11 miles west of Maitland in the sand dunes and interdune travertine flats. Fairly large supplies of saline water are available reasonably close to the township.

The chances of finding potable water close to Maitland are too remote to recommend further drilling and it seems that to obtain a water supply for general camp purposes the Engineering and Water Supply Department will have to cart or otherwise obtain it from a minimum distance of 11 miles. In view of the unknown cost of developing a supply and the uncertainty of obtaining a sufficiently large supply it would probably be more economical to obtain water from the pipe head at Ardrossan.

The amount of water which would have to be carted could be reduced by using water from the Government Well 2 miles south of Maitland (see attached sketch) for purposes for which a high salinity was not objectionable.

*W. J. G. J. G. J. G.*  
GEOLOGIST  
HYDROLOGY SECTION

WJ:AGZ  
7/12/55.



To accompany report by W. Johnson, Geologist.

| S.A. DEPARTMENT OF MINES                          |     |       |        |                       |
|---|-----|-------|--------|-----------------------|
| Approved  | For | Dn.   | D.A.L. | Scale: 40 Chns. to 1" |
|   |     | T. L. | Req.   | <b>S · 1174</b>       |
|   |     | Chf.  |        |                       |
| Date  |     | Enl.  |        | Date 8 · 12 · 55      |
| MAITLAND E & W.S. CAMP<br>SURVEY FOR WATER SUPPLY |     |       |        |                       |