HERMANSBURG
MISSION
Various Reports
+ Plans
Augustine, P.
FIELD TRIP REPORT

Party: P. AUGUSTINE, L. HASKINS. 

Date of Survey: 4th March to 17th March, 1959.

1. The main reason for this visit was to carry out detailed surveys on the recommended dam site and the pump line plus enough work on the rejected dam site to show its unsuitability or otherwise.

2. Tie up the Mission with the recommended dam site for R.Ls. of pump line.

3. Detailed survey of Mission settlement for future reference pertaining to agriculture and irrigation.

4. A further inspection of the catchment area of Sandy Creek to ascertain runoff.

5. Water analysis of pastoral water holes in Finke River.

DETAILED SURVEY OF PROPOSED DAM SITE:

This was done on 50' grids over an area 790'. Traverses were run east, west and upstream of the site so that the general area surrounding the site be shown in some detail. Survey work proved much more difficult in this area owing to the high prevailing winds, and the temperature which averaged between 105 deg. and 112 degrees Fahrenheit.

DETAILED SURVEY OF REJECTED DAM SITE:

This original site was picked by one of the personnel from the Mission.

It is in the nature of a small plateau set in between 2 small creeks and actually is not connected with Sandy Creek. These creeks join Sandy Creek over a half mile south of the dam site area and have a totally different catchment.
DETAILS of REJECTED DAM SITE (contd):

For the greater part of the dam site area, it is bare of any vegetation whatsoever. A traverse was run around almost the complete raised area with lines east and west from each of the four corners. This proved what was actually evident to the naked eye, that the fall from the area to the creek beds was great. Between 7 and 8 feet on the northern ends and 12 feet on the southern end. Further to this the land west of the western creek does not recover anywhere near the height of the dam site. This means that any wing wall from this side would have to be of considerable height and at least 2 to 2½ miles long.

These two creeks have a very good catchment and would appear to have a quick run off, so therefore must have a big influence on the flow further downstream at the recommended dam site. The catchment area of these two creeks only would be about 17 to 20 square miles.

Thus this site would not be an economical one because of the excessive length of wing walls required, as noted in the previous report.

CATCHMENT AREA of SANDY CREEK:

The first 8 miles of Sandy Creek catchment is not very extensive being only up to 2 miles wide, with very little small creek influence. The bed of the creek comprises sand, depth unknown, but at least 3 ft, so the creek flow from this area would not be very quick.

The two creeks mentioned previously appear to have a quick run off and as the beds are mainly gravel the creek flow should be quick.

Further to these two creeks there is another one, which flows into Sandy Creek just above the proposed dam site. This creek's catchment at its head is the same as the previous two creeks but the actual creek only extends about 5 miles.
DETAILED SURVEY of MISSION SETTLEMENT:

As I heard whilst in the area that "Frome", a private oil search company, had only recently finished a complete contour survey of the mission and out-buildings, I did not carry on with this survey.

A copy of this plan, by kind favour of the Finke River Mission, has been received. It proved very detailed but as no bench mark is shown the contours will have to be tied in with the dam survey accurately on another visit. This has only been done approximately at present. A bench mark was established, comprising a marker steel picket painted red and yellow with a 2 ft picket buried 4" underground 2 ft away, in the north east corner of the front fence of the house nearest the garage. Its value in relation to proposed dam site is R.B. 74.38.

This plan of the Mission area will be very useful in laying out a Mission garden should it be decided to establish the main garden at the Mission.

The design of such a garden will be discussed later when the dam site has been finalised.
WATER ANALYSIS PASTORAL WATER HOLES, FINKE RIVER.

The water from fourteen water holes in the Finke River extending from Glen Helen Gorge to 2 miles south of the Mission Settlement were analysed in the field.

Water from these soaks show great variation in salinity. Results of these analyses in parts per million were:

<table>
<thead>
<tr>
<th>SAMPLE NO.</th>
<th>CHLORIDE AS SODIUM CHLORIDE</th>
<th>HARDNESS AS CaCO3</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>M22</td>
<td>1880</td>
<td>930</td>
<td>Xmas Hole 4½ miles Upstream Settlement.</td>
</tr>
<tr>
<td>M23</td>
<td>620</td>
<td>380</td>
<td>8-mile Hole 8 miles Upstream Settlement.</td>
</tr>
<tr>
<td>M24</td>
<td>2980</td>
<td>1530</td>
<td>10-mile Salt Hole 10 miles Upstream Settlement.</td>
</tr>
<tr>
<td>M26</td>
<td>720</td>
<td>540</td>
<td>Redna Hole 18 miles Upstream Settlement.</td>
</tr>
<tr>
<td>M27</td>
<td>2450</td>
<td>760</td>
<td>Alnara Hole - start of Glen Helen Gorge.</td>
</tr>
<tr>
<td>M28</td>
<td>3100</td>
<td>930</td>
<td>Glen Helen Gorge Springs - had 24 points rain previous day.</td>
</tr>
<tr>
<td>M30</td>
<td>3800</td>
<td>2500</td>
<td>Alkrapunda Hole 4 miles Upstream Settlement.</td>
</tr>
<tr>
<td>M31</td>
<td>1120</td>
<td>650</td>
<td>Goat Camp 3 miles Upstream Settlement.</td>
</tr>
<tr>
<td>M32</td>
<td>2500</td>
<td>1540</td>
<td>2-mile Hole 2 miles Upstream Settlement.</td>
</tr>
<tr>
<td>M33</td>
<td>3600</td>
<td>1280</td>
<td>Junction Hole 1 mile Upstream Settlement.</td>
</tr>
<tr>
<td>M34</td>
<td>9060</td>
<td></td>
<td>Settlement Hole.</td>
</tr>
<tr>
<td>M35</td>
<td>1960</td>
<td></td>
<td>Well 100 yds Upstream Settlement Hole.</td>
</tr>
<tr>
<td>M36</td>
<td>3700</td>
<td></td>
<td>Water Hole 2 miles south Settlement.</td>
</tr>
</tbody>
</table>
GENERAL:

Mr Wurst who has been drilling in the area for a considerable number of years was at the time drilling about 1½ miles south of the settlement to try and supplement the domestic water supply.

He struck water at 117 ft in the first hole but had no supply.

The second hole, which is in the same area, water was struck in quantity at 35', but proved unsuitable owing to the high salinity (7320 P.P.M.) This indicates that it is the same water table that is feeding the settlement soak (refer M.34) owing to the similarity of the salinity, 7320 P.P.M. against 9060 P.P.M.

A further hole was sunk a few hundred yards from the second hole and salt water was again struck at 40 ft but the driller sealed it off with cement and drilled through it. To what depth he drilled and any other data is unknown as I left the area before the hole was completed. Mr Wurst did send into me a water sample but I do not know the details of the sample. I placed this sample with A.I.B. Alice Springs on the 5/5/59 for a complete analysis.

This was completed and found unsuitable for all stock owing to the high sulphate and total salt (8905 P.P.M.) content.

F. AUGUSTINE,
Technical Officer.

Plans appended, and additional to those attached to the original report, are as follows:

W 105A - Location of Sandy Creek Water Conservation Schemes.
W 177 (2 sheets) - Proposed Excavated Tank - Detailed Survey Information.
W 203 (2 sheets) - Details of Settlement Area (from "Frome" Survey.)
W 204 - Proposed Pump Line Traverse (from Proposed Dam Site.)
W 205 - Rejected Dam Site.
NOTE:
SCHEME A: Excavated dam with contour banks.
SCHEME B: River diversion, supply channel, excavated dam, pipe line to mission.
SCHEME C: River diversion, supply channel, excavated dam, pipe line to mission.