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Groundwater prospects at Montana, near Deloraine.

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An investigation into groundwater prospects at Brocks Farm, Montana [48/501704] was made at the request of S.A. Brock.

GEOLOGY

The steep ground which rises to the Western Tiers is composed of Permian shale. Numerous erratic pebbles indicate that the rocks are of Lower Permian age.

North of the dam, on the plains, there is a sink hole in Permian shale. This suggests that limestone may be just beneath.

SEISMIC RESULTS

There is little geological background knowledge of this area and so seismic results are inconclusive. A tentative interpretation of the subsurface geology is shown in Figure 1.

GROUNDWATER

Drilling in other areas has shown that Lower Permian rocks are a fairly reliable source of small quantities of groundwater (23-30 l/min).

The prospects of obtaining groundwater from the limestone are less certain. Drilling at Chudleigh showed rather erratic results, but some large supplies were obtained.

Drilling in either of these rocks will need a 'down-the-hole-hammer' type drill.

CONCLUSIONS

In view of the present lack of knowledge of underground water in this area, and the fact that there is a site for another dam, the extension of surface storage is considered to be a more reliable investment than a water bore.

Because of the sink holes a new dam should be constructed so as to avoid extending the storage further out over the plains.

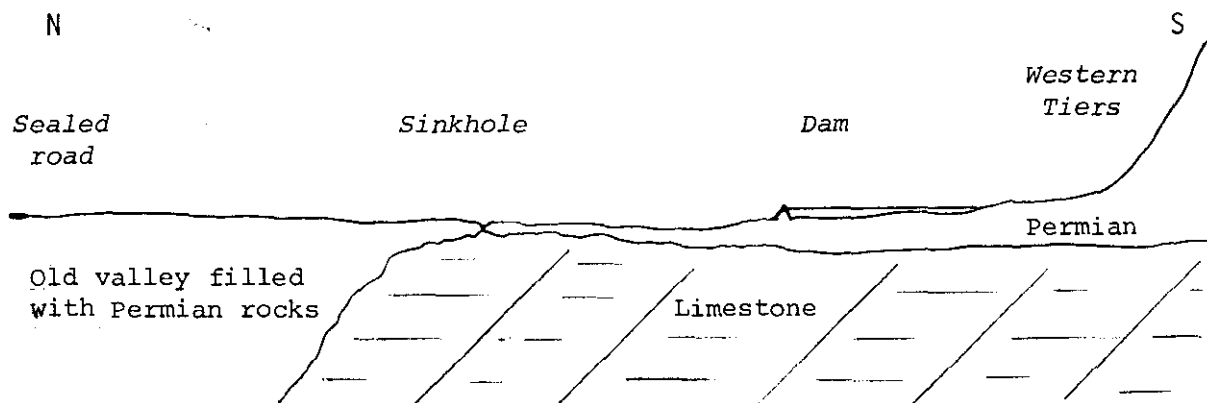


Figure 1. Geological interpretation.

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