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Prospects of underground water at 'Isis Vale', near Campbell Town.

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V. Flood of 'Isis Vale' requested advice on underground water prospects on his property, which is situated about 13 km south-west of Epping Forest, just west of the Macquarie River and south of the Isis River [EP204663].

The property is fairly flat and is underlain by Tertiary sediments, with lateritic material underlying the more elevated areas. Areas of wind-blown and locally derived sand occur on the eastern part of the property. Terrace and flood plain deposits of gravel and clay occur around the courses of the Macquarie and Isis Rivers.

The Mines Department has undertaken groundwater investigations at isolated points around the property. A hole about 1.2 km north-west of the homestead intersected sand beds at intervals to about 18 m followed by sandy clay and clay to 79 m when 4.5 m of conglomerates were encountered. Water was contained in the sand beds and the hole was bailed at about 80 *l*/min with a large amount of fine sand entering the bore with the water. The water contained 900 ppm of dissolved solids.

A hole about 4 km east of the homestead intersected clay and sand beds to 12 m, red clay to 23 m, sandy material to 32 m and conglomerate to 43 m. The hole was pumped at 295 *l*/min for 3 hours with a drawdown to 23 m from the standing water level of 8 m. It seems probable that a large proportion of the water was derived from the conglomerate as very little sand entered the bore. The water contained 535 ppm of dissolved solids.

Two auger holes drilled about 3 km north-west of the homestead struck sand and sandy clay to depths of 19 and 17 m and contained water with 1250 and 1330 ppm of dissolved solids. No pumping was carried out on these holes.

CONCLUSIONS

From the drilling results in surrounding bore holes, there is a good chance that sand beds will occur and contain water. Failing this a conglomerate horizon could be present at lower levels that might contain some water. If water is obtained in sand beds, sand might enter the hole when pumped at high rates. It may be necessary to install a screen to prevent this or if only lower rates are required, slotted casing might be suitable.

The quality of water from surrounding holes suggests that the water will be suitable for stock and may be suitable for irrigation.

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