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## 22. UNDERGROUND WATER AT PROPOSED FACTORY SITE, DELORAINE

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A vegetable processing company is considering building a factory about a mile E of Deloraine township on flat lying country N of the Bass Highway. About 400,000 gallons of water a day are said to be required for the factory. Water from the Meander River, which runs to the N of the area, has been analysed and found to have a high bacterial count making it unsuitable for the process. A request to look at underground water possibilities was made by Mr McNeil of Calstock. Mr J. Berry is the owner of the land on which the factory is proposed to be built.

### GEOLOGY

The geology of the area is fairly simple with a Tertiary basalt plateau S of the factory site and a ridge of Jurassic dolerite between the river and the factory site. The factory site itself is on a flat area which separates the outcropping dolerite from the basalt. There are two distinct levels making up this flat—one the present flood plain level and the other 15-20 feet above river level. The higher level is more extensive and it is on this that the factory site is situated. The surface material on both levels is made up mainly of clay with some rounded boulders of quartz and quartzite.

### HYDROLOGY

The flat area crosses the river to the W of the dolerite ridge and appears to reach the river through a gap in the ridge E of the factory site. It is possible that this flat represents an old river channel to the S of the dolerite. In this case there could be quite extensive gravel deposits which could yield good supplies of water.

The other alternative (probably the more likely) is that the flat is part of a river terrace underlain by a thin veneer of clay and gravel and covering the contact between the dolerite and basalt. The basalt appears to have flowed down a valley which in this area is trending about E-W. It is probable that this valley has some control on the underground water. Gravel and sand often underlie the basalt and if they occur in this area they could yield good supplies of water.

Small supplies of water (say up to 500 g.p.h.) could very likely be obtained from the basalt plateau S of the factory site.

### CONCLUSIONS

Although it is unlikely that 400,000 gallons per day could be obtained from underground supplies, Mr McNeil suggested that it might be possible to use river water for the first part of the process with underground water being used for final washing.

This would require smaller quantities of underground water. It is recommended that test drilling be carried out to determine the material underlying the factory site, and its water-bearing capacity. The southern part of the site would probably be the most suitable area for drilling.