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**PROPOSED DAM SITES — COAL RIVER**

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The Rivers and Water Supply Commission is investigating the possibility of damming the Coal River to obtain water storage facilities in relation to a proposed irrigation scheme in the Coal River Valley.

At the request of the Engineering Member of the Commission an examination was made to determine the geological conditions at two possible dam sites in river gorges situated two and a half and three miles respectively south-east of Colebrook.

**SITE A**

Access is gained by foot track in a distance of half a mile north-easterly from the Campania-Colebrook road at a point one and three-quarter miles south-east of the "Craigbourne" road junction.

The lower river gorge is here half a mile long and is cut into normal fine grained dolerite rock. Bedrock outside the gorge at both the up and down stream ends consists of sandstones.

Site A is situated at the narrowest part about 12 chains above the entrance to the gorge.

Dolerite outcrops in places on the steep hillsides above either bank and in the river bed, but is more prominent on the left bank. Loose dolerite scree partly covers bedrock on the right bank and the river bed, but in no place is it anticipated that this will exceed ten feet in thickness.

The dolerite is jointed in three principal directions at 360°, 50° and 105° and the planes dip steeply. The joints in the last direction are most prominent and are generally closely spaced and

break away on weathered surfaces in a platy form. The rock at the outcrops is comparatively fresh and no sign of deep weathering is apparent.

#### SITE B

This site is little more than a quarter of a mile from the "Craigbourne" road at the Coal River bridge.

Below the bridge the river flows southerly over alluvial flats, underlain by sandstones, for 17 chains before entering the upper gorge. From here the river is deeply entrenched in dolerite along a winding course for a distance of one and three-quarter miles before entering the sandstone basin separating the two gorges.

Site B is located in the gorge about 22 chains downstream from the entrance. Fine grained dolerite outcrops solidly on either bank and in the river bed, which has been swept clean by the stream action. Overburden is at a minimum and is represented by a thin soil cover in places. Here again the dominant joint plane in the dolerite is that striking at  $105^{\circ}$  at a high angle, and no deep weathering along the planes is visible.

#### CONCLUSIONS

The rocks at both sites are generally suitable for dam foundations, but of the two Site B appears more favourable, due to the absence of overburden and the more solid appearance of the dolerite outcrop.

As a safeguard against the possible presence of weathered zones in the bedrock and to prove the overburden thickness, particularly at Site A, drilling is recommended before any decision to construct a dam.