



Division of Mines and Mineral Resources — Report 1990/36

Inspection of a fibre optic cable route at Busbys Hill, Wynyard

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At the request of Telecom Australia an inspection was made of an area at Busbys Hill (397300 mE, 5456600 mN), five kilometres southeast of Wynard, where it was proposed to lay an optic fibre cable.

Busbys Hill and the surrounding land is underlain by basalt of Tertiary age. The basalt is underlain around the northern and western flanks of the hill by Tertiary age sediments of marine origin, while further to the west there are broad areas of Permian tillite (boulder beds and mudstone).

On the western side of Busbys Hill the land is relatively steep and hummocky and there is little doubt that it has been subject to extensive landslide movements in the past. There may have been one large movement, the heel of which is marked by a large arcuate-shaped change in slope behind the hummocky land, or there may have been a series of smaller movements. There are no obvious visible indications of recent movements.

It is proposed to lay the cable on a smoother and flatter piece of land between the hummocky land and the arcuate-shaped change in slope. This location appears to be the safest of any around the western side of the hill even though it will pass through land that has been previously subject to landslide movement. The cable can be sited away from the steeper portions making up the hummocks of the old landslide. A dam that has been constructed in the heel of the slip (near the change

in slope) may have a slight destabilising influence on the slope but it may not be particularly significant.

Other possible routes for the cable were examined. One over the crest of the hill would have little or no risk of being affected by unstable conditions although installation may be more difficult because of the rocky nature of the ground. The removal of large tree butts and the planting of further trees may also endanger the cable.

A route along the eastern side of the hill does not pass through any obvious landslide areas but to run it along this side would require alterations to the line further to the south which may site the cable in landslide prone areas.

In summary, if only the Busbys Hill area is considered, a route over the crest of the hill followed by a line along the eastern side are regarded as safer from a landslide point of view than the proposed route along the western side. However there are difficulties associated with these alternative routes and in any case the risk of large scale reactivation of the zones on the western side is regarded as relatively small. As long as the cable is kept away from steeper portions of the slope and drainage is not significantly altered, the risk of unstable conditions developing and affecting the cable during its life span is regarded as low.

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