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Western Regional Group

The Block-Caving Mining Method and Estimation of Geotechnical Variables

Mark Howson, International Consultant Mining Geologist

19th November 2019

Refreshments at 6pm for 6:30pm Start

Venue: The Hub, Aztec West, Almondsbury

The Western Regional Group is pleased to welcome Mark Howson who will discuss some techniques that were developed for large-scale underground mining including caverns and tunnels.

Towards the end of the last century, concern at the depletion of large-scale open pits mining copper and other commodities led to a focus on underground mining by a method known as Block-Caving. In terms of dollars per tonne of rock extracted, this is the lowest-cost underground mining method. It requires an orebody where the rock mass is weak enough to cave, collapse and fragment when undermined, but strong enough for tunnelling below. Block-Caving is capital-intensive, and once a project is committed to development, there is little scope for change if ground conditions are different to what were expected. Therefore, a good understanding of the geotechnical conditions is an essential pre-requisite.

Due to the cost of deep drilling, geotechnical data tends to be sparse, so techniques based on 'non-parametric geostatistics' were developed for estimating the geotechnical variables into large volumes of rock, both for predicting 'caveability' and for developing the tunnels. This presentation will illustrate the context of Block-Caving, and introduce the estimation techniques. It is based on a paper and presentation given at Massmin 2004, a conference in Chile, a country that has undertaken much of the pioneering of Block-Caving.

Mark is a professional geologist with over 40 years of experience working in over 50 mineral industry operations in over 25 countries in 6 continents, with innovative technical achievements in geology, mineral resources, mine planning and operation at stages from early exploration to production at the end of a mine's life.

Forthcoming Talks: The WRG is constantly on the lookout for fascinating talks. If you would like to present one, or know someone who is willing to do so, please contact the WRG committee (details below) and we will try our very best to accommodate your requests.

Contact: For all enquiries regarding the Western Regional Group and events please contact us using the details below.
Venue: The Hub, Aztec West, Almondsbury, Bristol BS32 4TR.

Entry is free, non-members welcome.

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