

Application of implicit geological modelling use of Leapfrog Central, Oyu Tolgoi Copper and Gold Mine, Southern Mongolia

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Abstract

The Oyu Tolgoi copper and gold mine in Southern Mongolia contains reserves and resources that make it one of the world's largest known copper and gold deposits. The project is expected to be a significant contributor to regional development and is jointly government owned.

There are several deposits that make up Oyu Tolgoi which is a combined open-pit and underground project. They have been mining the Open Pit since 2013 and the underground mine 'Hugo North' is currently under construction and will be mined as a block cave.

Since middle of the 2016 modeling geologists have been using the Leapfrog Central model management platform to track changes in the long and short term resource models for the open pit. Prior to using Leapfrog Geo the geologists used a manual paper based system 'section-by-section' to record and understand surface mapping which they would then digitize to build an explicit model.

Today, models are built in Leapfrog Geo and published to Leapfrog Central, where geologists can discuss, hypothesise and add annotations to areas which need focus and reinterpretation. Leapfrog Central is also allowing the geologists to produce many different versions, facilitating even more flexible modelling and fostering discussions. As a result to upload and store the models in Leapfrog Central, enabling us to work on models and conduct our peer review from different locations. Using Leapfrog Central as a control point not only makes us more efficient, but it also allows us to easily interact and collaborate as a wider team

Due to the successful use in the Open Pit, Leapfrog Central will be introduced to Hugo North and potentially Oyu Tolgoi-wide exploration projects.