Case study:
RIO TINTO’S SUCCESSFUL USE OF CENTRAL

OYU TOLGOI MINE, MONGOLIA COURTESY OF RIO TINTO
Rio Tinto’s Oyu Tolgoi mine in 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.

Since mid-2016 they have been using the Central model management platform to track changes in the long and short term resource models for the open pit.

Rio Tinto’s onsite Geology Manager, Otgonbayar (Oggy) Togtokhbayar says, “We now upload and store our models in Central, enabling us to work on models and conduct our peer review from different locations. Using 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.”

After decades of exploration and drilling, the first major discoveries at Oyu Tolgoi were made in 2001, leading to several years of further exploration, which revealed the deposit’s impressive scale. Exploration continues and even with the reserves currently identified, Oyu Tolgoi is expected to operate for over 50 more years and is being developed with a distinctly long-term view.

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.
The deposits at Oyu Tolgoi are huge, with seven geologists working on the modelling of 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. Explains Oggy, “When we started using Leapfrog Geo it gave our geologists more time to focus on interpretation. It also gave us a good opportunity to update the model daily. Prior to Leapfrog it took us months to update the models manually.”

Today, models are built in Leapfrog Geo and published to Central, where geologists can discuss, hypothesize, and add annotations to areas which need focus and reinterpretation. Managers can look back over model development visually and see how decisions are being made. Continues Oggy, “Before Central we were struggling to keep track of up-to-date models. Now we can easily identify the latest version of the model and see who has modified it and why, enabling us to easily track its evolution.”

Oggy says, “As a manager I really appreciate being able to annotate within the model. I used to rely on PowerPoint extensively, adding slides of comments to demonstrate my review process for the audit trail and for highlighting issues that needed to be resolved. A lot of this is now done collaboratively using Central and if the interpretation doesn’t look right I can easily add annotations, attach drawings and other files to communicate the changes back to the modelling geologist.”

Central is also allowing the geologists to produce many different versions, facilitating even more flexible modelling and fostering discussions.
“Since we’ve been using Leapfrog we have much more confidence in our modelling, as we can now touch every corner of the model with these new tools.”

Oggy Togtokhbayar
Onsite Geology Manager

OUTCOME

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

Central Product Manager Peter Joynt comments, “Central is being developed in collaboration with Rio Tinto Oyu Tolgoi and other industry leaders who need to manage the evolution of models from a central point of truth.

Teams can also collaborate more fully, helping to make advances that wouldn’t be possible without a common platform. There’s much more to come with Central in the future.”

The geology team at Oyu Tolgoi mine, courtesy of Rio Tinto

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