

Going for Gold

How data strategy improved Kinross Gold's business

Jenni Pfeiffer explores how Kinross Gold's geology teams use data to improve strategy and reduce risk across multiple sites.

Working in Technical Services for Kinross Gold, geologic data systems manager Pfeiffer, took an in-depth look into how to improve geoscientific information management (GIM) performance across their sites, globally.

Kinross Technical Services is based out of Toronto and comprises a group of geologists, metallurgists, and engineers whose role is to support the operations, provide expertise and help with special projects.

One of the important functions of the group is to help ensure the business has high confidence in their geoscientific information. Kinross Gold understands this information represents the economic resource, and ultimately defines the value of a mining company's operations. It is very expensive to collect, difficult to manage, and is the basis for critical decisions. Therefore, it not only represents the biggest opportunity, but also the biggest risk if not correctly managed.

Pfeiffer explained how previous routine audits looked at how the operations' data was used and stored, and focussed on resource and reserve estimation methodology. The previous audits lacked structured and detailed evaluation of the data management practices helping drive efficiency, accuracy, and security of data used in estimations and critical decisions.

In short

Company:

- Kinross Gold Corporation

Industry:

- Gold mining

Solution:

- acquire performed an interview-based analysis, providing a maturity rating of GIM data management across sites to inform strategy.

The Challenge:

- Improve efficiency, accuracy, security of data entry processes across four mines.
- Drive consistency of quality assurance/quality checking and validation procedures.
- Reduce cost and risk around managing geoscientific data assets.

The Results:

- Better understanding of GIM practices across Technical Services, senior management and the board.
- Corporate Technical Services team has better, consistent, and more detailed information to base work on.
- Improvements in GIM at sites with advances in maturity already being seen.

The business challenge

Kinross Technical Services had a variable understanding of how geoscientific data was managed across their global sites. In each mine there was a different approach for managing geoscientific data, ranging from Excel spreadsheets, through to sophisticated, configurable software, such as acQuire's GIM Suite.

As an internal initiative to close this gap, each site was asked to self-assess on how they managed their geologic data, as well as other aspects that contribute to resource modelling. However, the results were

inconsistent because they were based on the understanding of individuals at each mine, who had differing knowledge and expectations of how data should be managed.

Kinross Technical Services realised that a standard and formal approach to assessing the performance of their geoscientific information management practices could help to accurately identify further opportunities for improvement, and focus efforts where they add the most benefit.

"We wanted to understand the maturity of our GIM capability across our organisation, and improve the efficiency of data entry procedures. We wanted to look at how QA/QC is treated across the different sites and reduce the cost and risk associated with managing our data assets."



Addressing the issues

Accompanied by acQuire, Kinross Gold's team travelled around the world to two sites in Russia, one in Brazil and one in Mauritania. A cross section from the relevant geoscientific disciplines, from management to the technical personnel, was interviewed, along with representatives from other departments who interact with the geology team.

Using a structured assessment framework developed by acQuire, interviewees were asked questions about their work practices to help determine the maturity of GIM on site.

The assessment included geoscientific processes and systems relating to near mine definition, drilling and grade control. It was not an assessment of the data itself, but rather the practices relating to people, processes and technology. Although acQuire was not tasked to comment on the effectiveness of QA/QC, Kinross Gold's team explained that the process and results, put them in a good place to "make those judgements ourselves."

What was the outcome?

"It's good feedback to show what we should be focusing on; where we should be directing our efforts. That all helps set our GIM strategy across the company. Performing this at different mines, which use different technology, and assesses them in the same way, allows us to share successes that we're seeing at each site."

The findings were compiled and presented to Kinross Gold's management so that they could understand the maturity of Kinross Gold's GIM capability; relative to their company standards and objectives. This new level of information has placed Kinross Gold in a strong position to develop initiatives aimed at:

- Improving efficiency, accuracy, and security of data entry procedures.
- Driving consistency of QA/QC and validation procedures.
- Reducing cost and risk associated with managing geoscientific data assets.

acQuire helped Kinross Gold assess the main GIM activities at their sites and consider how people, process and technology aligned to enable optimised processes and sustainable practices.

The interviews and subsequent report had both expected and unexpected positive results.



Expected results

- The interviews highlighted the status of geoscientific information management across all levels of management and to the board, so there is now an improved understanding of how important it is to manage geoscientific data effectively.
- The results of the maturity rating allowed the Technical Services team to calibrate their GIM processes across sites with different technologies and ultimately work to reduce data quality risk for resource estimation.
- Collaboration in GIM between the sites across the world is improving. The findings from the overall process are being shared with the various geological teams to both recognise best practices and identify areas that can be improved.
- Ultimately the information about the maturity at each site provides opportunities for improvement in GIM that each mine can act on. Now that they have an understanding of the maturity level they're operating at, they can see a pathway for improvement. Since the GIM Assessments, one site with a low maturity rating has implemented a GIM system for grade control. Another site is about to upgrade their GIM system across Technical Services and Exploration, based partly on the recommendations from the GIM Assessment.

Unexpected results

- Working with offices across time zones presents challenges around keeping alignment with the company as a whole. Through the interview process, the technical services team gained deeper insight into how geology departments function at each of the mines, helping them calibrate their approach.
- The interview process gave employees from all levels of the company a voice. People on site really liked to be asked about their work. There was a morale bonus and employees found the process engaging.
- Getting to the mine site and meeting the people who work there provided the local context of each mine. Local conditions were understood better through the interviews, particularly in Mauritania where the number of expatriate workers is being reduced and local workers increasing.

