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Drilling down

EARLY last month, Metals Economics Group (MEG) and the Prospectors and Developers Association of Canada (PDAC) hosted a half-day meeting to discuss issues facing the international exploration community. A summary of the thought-provoking discussions was published recently by MEG.

The need for definitions of what constitutes a 'discovery' was recognised by attendees as key to being able to compare exploration effectiveness over time and across companies. Is a discovery dated from the first drill hole, from the establishment of an inferred resource or is it when a mineable reserve is confirmed? Who is attributed with the discovery if a deposit is sold before its full scope is realised? What about 'rediscoveries', and discovery of significant new zones at existing projects? What metals-price assumptions should be used?

Also discussed was the measurement of returns on investment and the overall effectiveness of exploration. A distinction was made between juniors looking to 'flip' projects (for whom a key metric is the share price), and producers that are looking for mineable reserves to satisfy their own supply pipeline.

One essential for the industry is to get a handle on discovery costs, so that they can be weighed against the costs of acquiring similar reserves. A well-known distortion here is the practice of reporting the cost of discovering reserves by taking only those costs incurred on the project where the reserves were developed. In fact, a company needs to distribute the cost of its entire exploration effort against the amount of reserves discovered to get a more accurate picture of effectiveness.

For the mining industry, assessing cost versus value for greenfield and brownfield mineral discoveries is also crucial. Brownfield discoveries will generally give a relatively short-term financial return but will not help with long-term ore reserve sustainability.

Greenfield discoveries, on the other hand, may provide that much-desired long-life ore reserve, but they are often not fully appreciated financially because discounted cash-flow analysis places relatively little value on income

streams in the far future.

As the MEG/PDAC meeting noted, discoveries are occasional at best, and so the industry needs to be able to measure the likelihood of exploration programmes delivering success. Measures at each stage of exploration, such as the number of magnetic anomalies tested, are useful, although quantity obviously does not substitute for quality.

While adding to numbers of projects that had progressed is one measure, so is moving through projects quickly. One intriguing idea at the meeting was to track the number of projects dropped, as these can be a good measure of efficiency. Of course you also want to see that these projects were not subsequently picked up and developed by others, ie that your decisions were correct.

Looking at exploration trends from a regional perspective, the meeting observed that 'mature' mining districts are becoming more attractive. This is especially so for those areas that have had only relatively shallow drilling undertaken in the past.

Moreover, in many developing countries a lack of infrastructure and restricted access to water are likely to be growing factors in the restriction of exploration success. Conversely, the MEG/PDAC meeting noted the particular importance of delivering power in achieving development of a region's mineral potential.

The high cost of buying and then drilling prospective properties will encourage ever more sophisticated visualisation software (as already developed by the oil industry). This will aid in targeting, and new deposit models could lead to pleasant surprises.

Turning to the global exploration picture, the meeting observed that in recent years junior companies have been spending ever less of the funds raised for exploration on actual exploration (the share is currently less than half). Attendees concluded that this likely reflects both prudence from the exploration community, and the limits on activity dictated by the shortage of personnel and drills. Almost certainly true, but it is not every day you hear the words 'prudence' and 'exploration community' in the same sentence.

Chris Hinde, editor



"The industry needs to be able to measure the likelihood of exploration programmes delivering success"

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