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CIM Position Paper

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▲ Towards development of an industry-wide position on the use of mineral resource assessments

The Canadian Institute of Mining, Metallurgy and Petroleum (CIM) has been asked by the Prospectors and Developers Association of Canada (PDAC) to participate through the Canadian Mineral Industry Federation (CMIF) in the development of an industry-wide position on the use of Mineral Resource Assessments (MRAs). The PDAC is of the opinion that the position to be taken by CMIF should be to support the use of MRAs, as they are the only tool currently available to Mining Departments to influence land-use decisions, and they are a potential mechanism for industry to participate in the process of land-use planning at an early stage.

Following the review of a report on the PDAC proposal by the former president of CIM, David Robertson, the Institute, at its Council meeting on August 20, 1995, passed a motion to become involved, in a technical capacity, in the process of developing an industry-wide position on the use of MRAs. **However, the considered consensus of Council was that, because the resource assessment process is so basically unsuited to the mineral sector and is philosophically and scientifically flawed, the responsible position of industry should be to educate government agencies of their misguided use of MRAs and to convince all concerned of the merits of multiple land-use policies.**

The concept of MRAs arose in the 1960s and 1970s as a method of forecasting future supply areas for commodities (uranium supply was a prominent reason at the time), in face of a perceived, very large increase in demand which could not be met with the then-known supply. The results of the assessments were perceived to be a basis for planning for the future.

Today, the results of MRAs are perceived to be a reasonable basis for "planning for the future" in connection with restrictions on the use of land.

In essence, the use of MRAs has changed from a forward looking positive, predictive process to assess the potential that an area might host resources, to a restricting negative, backward looking process which seeks to identify areas of low resource potential, which can then be assigned special status and be given up for other land use, effectively eliminating any future exploration and evaluation.

The basic concerns with MRAs are:

1. They are a poor basis for prediction. History has repeatedly demonstrated that our knowledge of geology and the controls on location of mineral deposits remains so rudimentary that MRAs do not provide a basis for predicting (let alone planning) the location of future exploration successes. To give two examples:

   Based on information available in Canada only five years ago, the area south of the Lupin-Contwoyto Lake gold camp and north of the Yellowknife gold camp might easily have been rated by an MRA as having low mineral potential and been selected for withdrawal as terrain representative of a northern treeline — barren lands transition ecosystem. Today it is the setting of Lac de Gras, North America's first and the world's next diamond field.

   Likewise, the area on the Labrador coast, midway between Nain and Davis Inlet, which lies outside the conventional area of mineral settings in Labrador, might have been assessed as low mineral potential, been designated for some other use and withdrawn from exploration. Today, as we all know, it is the setting of Voisey's Bay —the most significant new mineral discovery in Canada in decades and a major new world supply source for nickel and cobalt.
2. Demands, techniques and technology are ever changing.

   The ever-changing demands for different commodities and the constant evolution of new exploration techniques and metallurgical technology make it impossible to predict today which commodities and deposit types may be required, which deposits may be economic, or where deposits may be detected in the future.
3. MRAs are seldom of the highest quality and are only, at best, point in time snapshots of our knowledge.

   CIM also has the same practical concerns about the completion and use of MRAs, as expressed by the PDAC—namely: the quality of the information on which they are based; the qualifications and experience level of the individuals conducting MRAs; the limited time frame in which they are conducted and the fact that MRAs are one-time snapshots of our knowledge which are being used in land-use decisions and which are of a permanent nature.

PDAC Proposal

The PDAC, in its position paper dated June 21, 1995, advocates that the mineral industry support the use of MRAs as a tool in the decision-making process for land-use planning. It suggests that this support be conditional on: 1) government acknowledging the shortcomings of MRAs, and 2) government introducing certain practices and safeguards to address those aspects of the process which are possible to improve.

CIM Position—Discussion

The Canadian Institute of Mining, Metallurgy and Petroleum, as an association of mineral industry professionals in Canada, has a clearly stated commitment to natural ecosystems and for environmentally responsible exploration and mining practices. As a co-signatory to the Whitehorse Mining Initiative, it is an advocate of the importance of a sensible balance between environmental protection and sufficient mineral exploration and development to maintain a sustainable mining industry and to continue to create new wealth for the Canadian economy.

Considering these commitments in the context of MRAs, CIM has a duty to point out the fundamental technical flaws in the whole principle of MRAs as they are used today in the process of land-use planning. It is simply not possible to evaluate the mineral resource potential of an area, in the same way that biological resource potential (such as forestry and wildlife) can be pre-evaluated for consideration in the process of land-use planning.

The only true "mineral resource assessment" of any area is the ongoing and open-ended market and knowledge-driven process of mineral exploration itself—a process which is investment-financed. (The only alternative—a complete saturation ground "assessment" by government, using all state-of-the-art geological, geophysical and geochemical methods—would be prohibitively expensive to the taxpayer and may still be inconclusive.)

The fact should also be recognized and pointed out to all concerned that mineral exploration is an assessment process rather than a long-term land use. It is a temporary passing activity which has little or no impact on the natural environment and habitats and which seldom conflicts with other land-use designation.

As all of us in the industry are aware, the actual land-use requirement (the foot print) for the success of exploration—an economic mineral deposit—is very small indeed, and when considered in the context of the value added to society for the temporary use of the land, it far outweighs the value of most other uses. An example of this is Westmin's Myra Falls operation in the context of Strathcona Provincial park on Vancouver Island. Also, mine closure and reclamation procedures and regulations today ensure complete land restoration.

This again underscores the importance of adopting a multiple land-use approach as advocated by the PDAC and as expressed by the CIM Council. It also fits with the declaration of all signatories of the Whitehorse Mining Initiative that not all protected areas have to be single use.

Conclusion

Even with total agreement on methods and highest standards for conducting MRAs and agreement on their proper use in the land-use process, the fact remains that it is not possible to state that mineral deposits do not occur in any particular area.

Given the commitment to proper environmental responsibility by the industry during exploration, mine development, production, closure and reclamation, and the strict regulation and safeguards imposed on our activity by law, there should be less need for the exclusion of large areas from exploration and mining because of environmental and/or other land use conflict.

CIM takes the position that the use of MRAs by governments in land-use planning should be discouraged and that CMIF should work to educate those concerned of their shortcomings and to convince the public and governments that a responsible multiple land-use approach, under strict guidelines, is the only sustainable mode of procedure in an intelligent, caring society.

NEWS BRIEF

The AusIMM 1996 Annual Conference

The AusIMM 1996 Annual Conference promises to be one of the most significant yet. The conference will be held at The Burswood Convention Centre in Perth, Western Australia, from March 24-28, 1996.

The conference theme is "Diversity, the Key to Prosperity" and that diversity makes it of interest to mineral professionals across a range of disciplines. Geologists, engineers, metallurgists, managers, consultants, lawyers, bankers, government officers, human resource consultants and environmentalists will all find sessions in this diverse program that are relevant to them.

Key sessions of the conference will cover: Diversity as the key to successful companies, successful teams; Diversity as a key to income security for mining companies; and Diversity in mineral deposits and modes of exploitation.

A half-day workshop on "Innovative Technology Developments in the Minerals Industry" will be presented, and post-conference tours to Kalgoorlie have been arranged. Social functions include a welcoming reception and a conference/ awards dinner. A complete program has been put together for accompanying persons including a river cruise and a golf tournament.

A Conference Exhibition is being arranged to give conference attendees an insight into services and systems that are available to the industry and to provide suppliers the opportunity to display their wares.

For information, contact: Conventions Department, The Australasian Institute of Mining and Metallurgy, P.O. Box 660, Carlton South, Vic 3053, Australia; Tel.: (03) 9662-3166; Fax: (03) 9662-3662.

SHORT COURSE

Trace Element Geochemistry of Volcanic Rocks: Application for Massive Sulphide Exploration

This short course is designed to introduce participants to the application of volcanic trace-element geochemistry in massive sulphide exploration programs. Topics include: evaluation of modern geochemical analytical techniques; trace-element characteristics of mafic and felsic volcanic and subvolcanic rocks in various tectonic environments; relationships between physical volcanology and trace-element geochemistry; the geochemical systematics of felsic rocks associated with massive sulphide deposits; modern examples of differentiated volcanic sequences associated with massive sulphide deposits; geochemical/ geodynamic case studies of Phanerozoic, Proterozoic, and Archaean VMS-hosting terranes; and computer applications in the analysis of whole-rock trace-element geochemical data. This short course is sponsored by the Mineral Deposits Division of the Geological Association of Canada (MDD-GAC) and will precede the Winnipeg GAC/MAC meeting. The course begins on the afternoon of May 24 and concludes on the afternoon of May 26, 1996.

Short course registration: Professionals — $350; Students — $200. The course includes a comprehensive GAC short course volume to be distributed at the course. Registration for the GAC/MAC conference, this short course, and accommodation can be made using the GAC/MAC WINNIPEG registration form.

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