Reporting and Declaration of Mineral Assets

crirsco

THE COMMITTEE FOR MINERAL RESERVES
INTERNATIONAL RESERVES STANDARDS

Edmundo **TULCANAZA**
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ICMM

AGENDA

The XXI Century and the new scenarios

Mineral resource supply and availability

Mineral resource bankability and financing

Mineral resource framework and coding

The XXI Century and the new scenarios

The XXI Century has reassessed natural resources as a consequence of the growth and development of emergent economies.

This re-assessment of natural resources has moved to States and their governments, to companies, investors, local communities, and workers to increase their interests and attention to know the positive and negative impacts of these new scenarios.

This is part of the reasons why States, companies, local communities, and workers are all eager to have access to real information on their mineral resources, on their real assets, with their potential, vulnerabilities, opportunities and risks.

The XXI Century and the new scenarios

However, opportunities and risks of mineral resources confront the uncertainties affecting the intrinsic nature of these assets and prevent a reliable and complete public information on these resources and their potential.

The information required on the advantages and disadvantages of the geological, metallurgical, geo-mechanical, hydrological, environmental, and other technical data is – at the initiation – fragmentary and insufficient.

The information is strengthened, improved, and expanded through a progressive sequence of studies and engineering phases developed along several periods of time.

The XXI Century and the new scenarios

TWO INTERNATIONAL SYSTEMS
TO REPORT AND CLASSIFY
MINERAL RESOURCES AND RESERVES

For mineral supply and availability

THE UNITED NATIONS FRAMEWORK
CLASSIFICATION FOR FOSSIL ENERGY
AND MINERAL RESERVES AND
RESOURCES (UNFC)

For mineral bankability and financing

COMMITTEE FOR MINERAL RESERVES

INTERNATIONAL REPORTING STANDARDS (CRIRSCO)

Mineral resource supply and availability

UNFC

UNITED NATIONS FRAMEWORK CLASSIFICATION
FOR FOSSIL ENERGY & MINERAL RESOURCES

It is a framework of mineral resource availability

Applies to solid minerals and oil and gas

Based on an assessment of geological knowledge, project feasibility, and socio-economic viability

Can include all possible mineralized material
including uneconomic and undiscovered resources

Mineral resource supply and availability

USE OF UNFC

Provides a framework for setting up broader statistical summaries of a country or regional mineral resource endowment.

Support government strategic mineral resource policies.

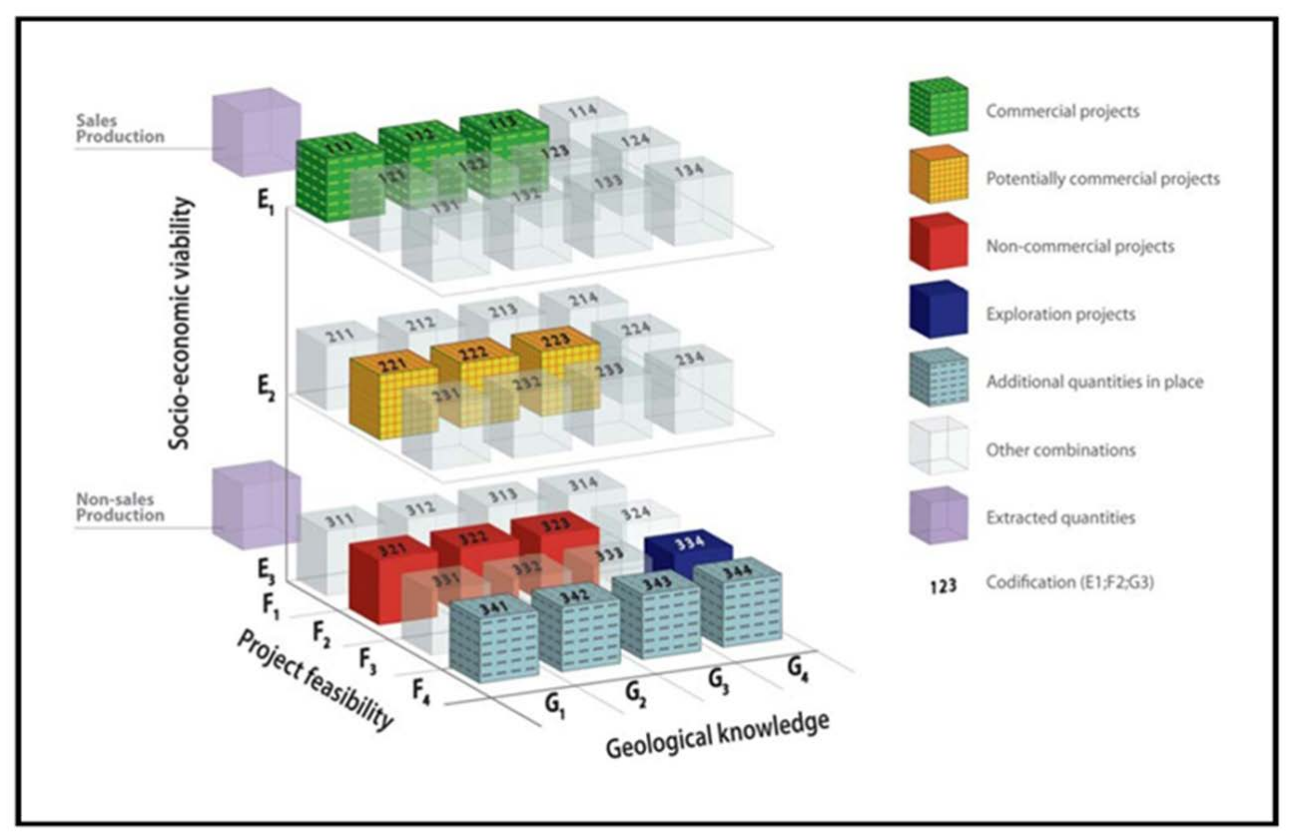
Provides a mechanism for companies to use as an

internal mineral resource management system.

Mineral resource supply and availability

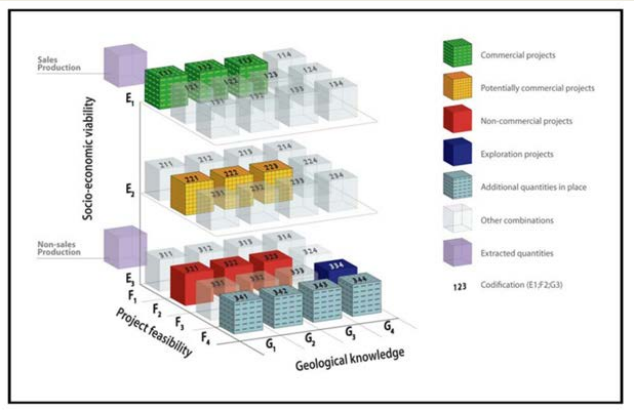
UNFC

UNITED NATIONS FRAMEWORK CLASSIFICATION FOR FOSSIL ENERGY & MINERAL RESOURCES



Mineral resource supply and availability

UNFC



In 2004, the UNFC was complete offering a general framework to account for the availability and status of mineral resources, reserves, and fossil energy minerals. However, for financial and bankability purposes specific codes for minerals (CRIRSCO) and petroleum resources (SPE-PRMS) emerged in such a way that UNFC conceived the idea of complementing its own framework with these two additional standards.

In 2009, recommendations by the UNFC expert team were considered and led to confirm the UNFC as a general classification framework with specific codes for resource and reserve minerals (CRIRSCO) and for fossil energy minerals (SPE-PRMS). A complete mapping correlation system also exist between CRIRSCO and SPE-PRMS.

Mineral resource bankability and financing

CRIRSCO

Increasing level of geological knowledge and confidence

Geoscientists with appropriate experience and professional credentials are responsible for progression down this axis

exploration results

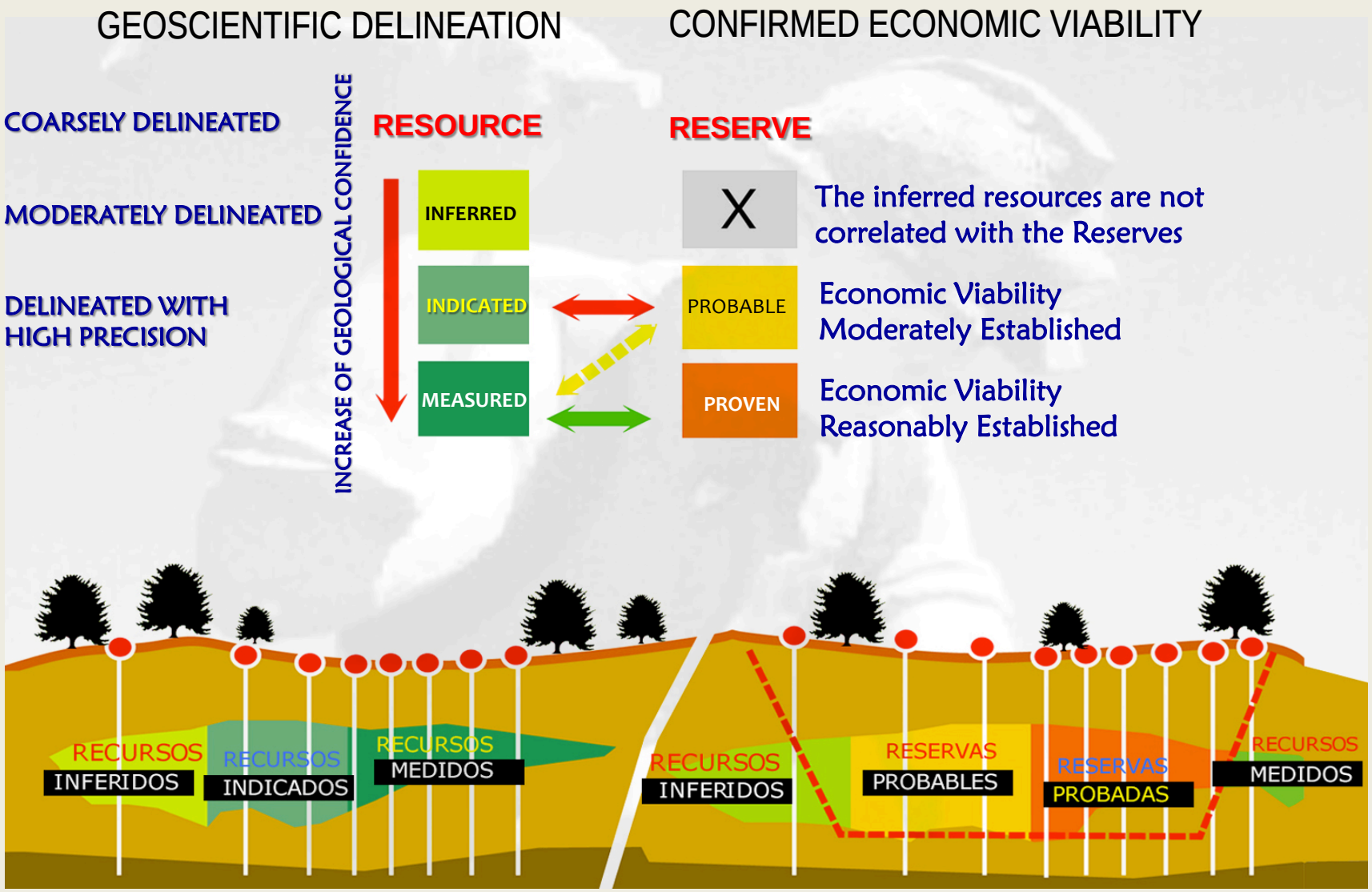
mineral resources	mineral reserves
Inferred	Probable
Indicated	Proven
Measured	

Inclusion of mining, metallurgical, economic, marketing, legal, environmental, infrastructure, social and governmental factors (the "Modifying Factors").

Mining professionals (including geologists and other mine-metallurgical-environmental engineers) may be responsible for progression along this axis

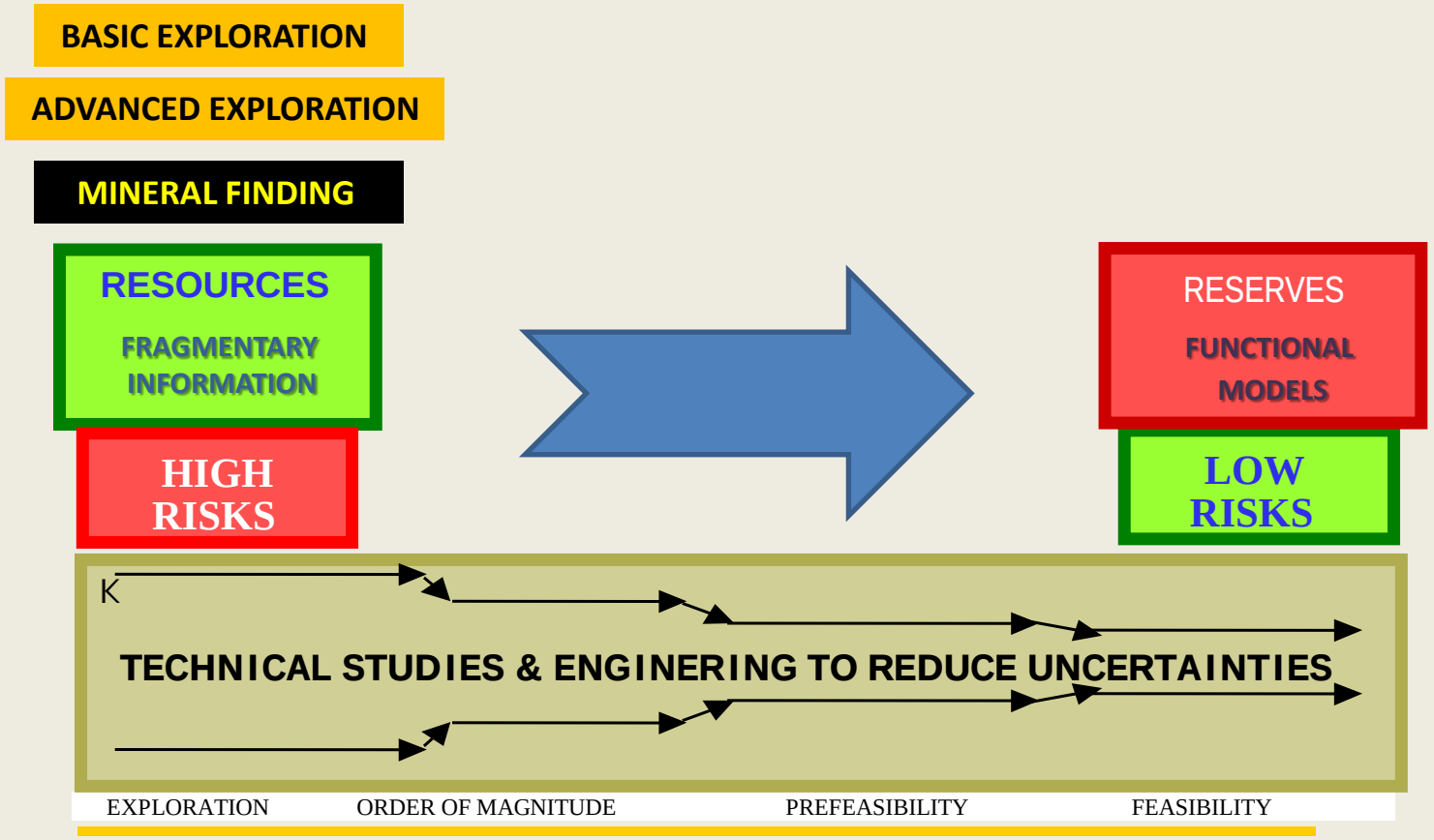
Mineral resource bankability and financing

CRIRSCO



Mineral resource bankability and financing

CRIRSCO

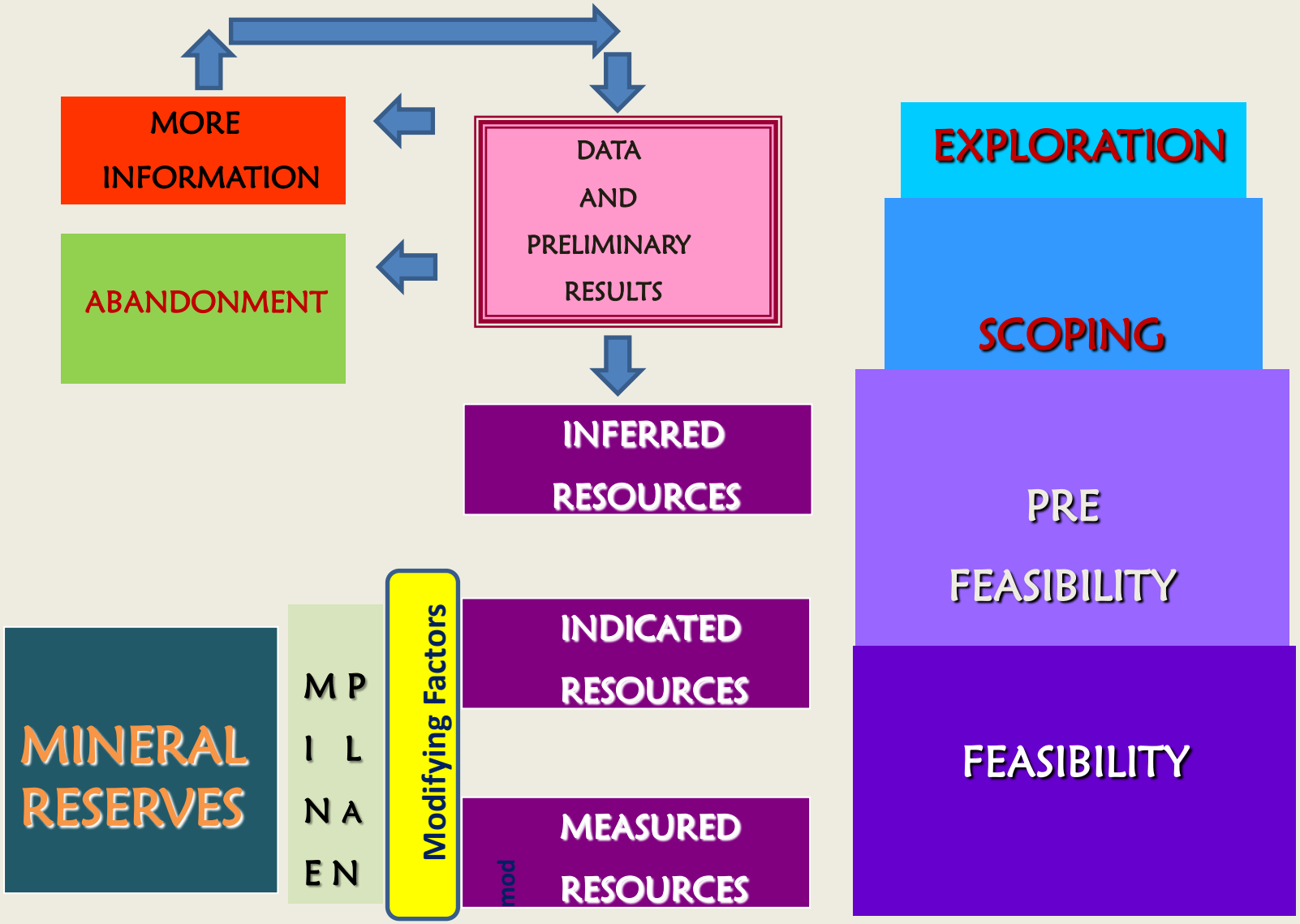


CONVERSION USING MODIFYING FACTORS

Geology, Metallurgy, GeoMechanics, Environment, Costs, Prices

Mineral resource bankability and financing

CRIRSCO

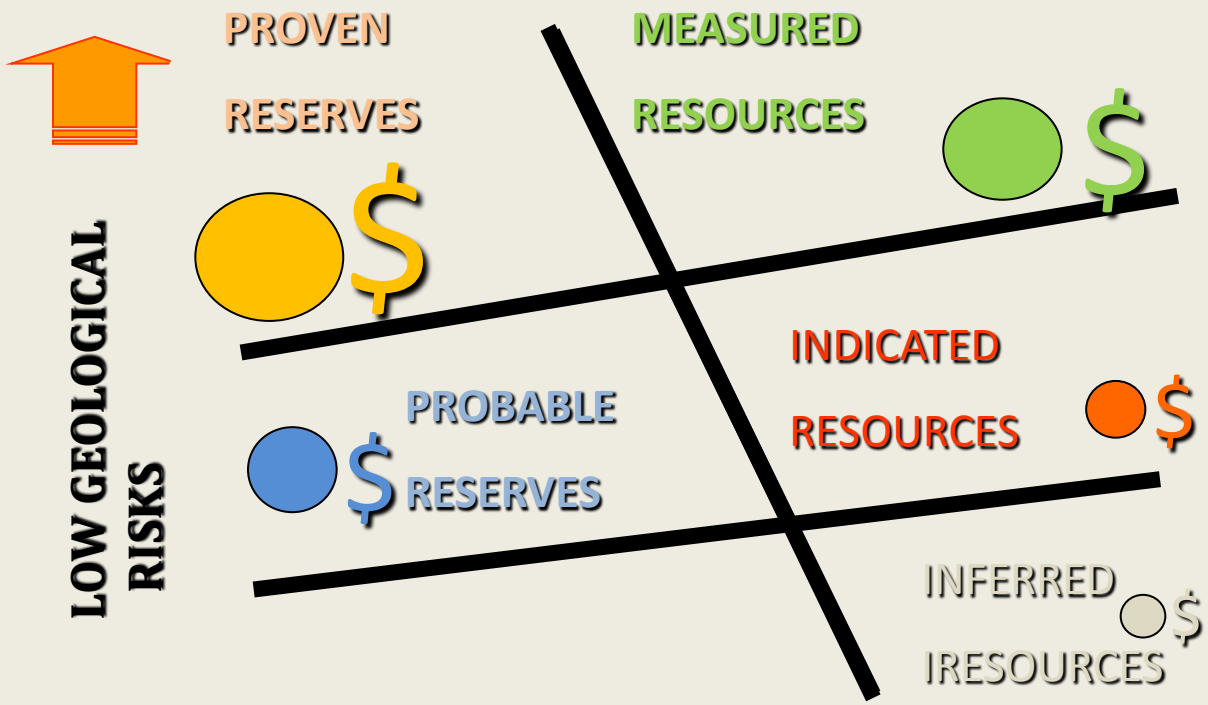


Mineral resource bankability and financing

CRIRSCO

"INSITU" VALUE

MINERAL RESOURCES & RESERVES



HIGH TECHNICAL ECONOMIC RISKS

Mineral resource bankability and financing

CRIRSCO

Committee for Mineral reserve international reporting standards

- CRIRSCO is the "Committee for Mineral Reserves International Reporting Standards" established by a group of National Representative Organizations to sponsor the best practices to inform and report mineral resources and reserves.
- CRIRSCO stimulates and endorses the use of standards for the definition, modeling, validation, estimation, and categorization of mineral resources and their transformation into mineral reserves.
- This information must be provided with transparency, confidence, materiality, and with competence.

Mineral resource bankability and financing

CRIRSCO

COMMITTEE FOR MINERAL RESERVE INTERNATIONAL REPORTING STANDARDS

- CRIRSCO has now nine associated National Organizations (Australia, Brazil, Canada, Chile, Europe, Mongolia, Russia, South Africa, USA-SME) and a strategic partnership with the International Council on Mining and Metals (ICMM).

- Although each country can develop its own code, all codes and standards are aligned within the main principles, practices, formats, and contents.

- Australia (JORC), Brazil (CBRR), Canada (NI 43-101), Chile (CLCODE), Europe (PERC), Mongolia (MRC), South Africa (SAMREC), Russia (NAEN), USA (SME). This is the CRIRSCO-family codes.

Mineral resource bankability and financing

CRIRSCO

- Geoscientific and mining professionals having the technical and ethical requirements established by CRIRSCO are called Competent Persons or Qualified Persons. These professionals must inform and report mineral assets according CRIRSCO standards.

- CRIRSCO-style standards require that publicly reported resource and reserve information is based on work undertaken by Competent Persons, mining professionals with at least five years of experience and relevant qualifications in key areas of the mineral resources industry.

- It is the Competent Person`s responsibility in her/his area of expertise to ensure that analysis, estimates and level of confidence have been performed properly.

Mineral resource bankability and financing

CRIRSCO

- CRIRSCO is recognized by global organizations such as the International Accounting Standards Board (IASB), the United Nations Economic Commission for Europe (UNECE) and the International Council on Mining and Metals (ICMM).

- CRIRSCO has extended their contacts and relations to other mineral resource organizations such as the International Atomic Agency, the Society of Petroleum Engineers, and lately the International Seabed Authority.

- CRIRSCO is currently involved in a number of initiatives which will impact on the future of the mining industry. It has published and maintains on its web site the CRIRSCO International Reporting Template, first published in 2006.

Mineral resource bankability and financing

CRIRSCO

Committee for Mineral reserve international reporting standards

- CRIRSCO looks for new countries to join CRIRSCO. The key advantages of CRIRSCO are the networks it has generated. CRIRSCO is ready to help in the preparation of new codes, in the updates of guidelines, in the discussions of technical issues not only to the national representative organizations but also to the training and education of Competent Persons themselves.

- CRIRSCO objectives to sustain, validate, and back-up correctly mine studies, projects, and ventures with transparency and reliable information is mandatory to have a more credible, trustworthy, and totally sustainable mining industry.

Mineral resource codes and framework

CRIRSCO AND UNFC

CRIRSCO standards require resource reporting based directly upon geoscientific data and the Competent Person qualifications. There are three categories for mineral resources and two categories for mineral reserves. Their attributes must be clearly established,

CRIRSCO standards is recognized and accepted by financial institutions and market-related institutions.

UNFC combines in a 3D classification framework forty-eight different categories of mineral resources from those “non-commercial and non-viable projects” up to “commercial projects”

UNFC framework allows management and classification of mineral endowment and the setting of mineral strategy policies.

THE CHILEAN COMMISSION

In Chile, public reporting of mineral resources and reserves is supported by Law 20.235 approved by the Chilean Congress and promulgated by the Chilean Government in 2007.

The National Organization in charge of the National Registry of Competent Persons is the "Comision Calificadora de Competencias en Recursos y Reservas Mineras". Chile is a member of the CRIRSCO-family.

The Chilean Commission is a self-governing entity with five partners: The Institute of Mining Engineers, the Professional College of Engineers, the Professional College of Geologists, the Society of National Mining, and the Mining Council.

THE CHILEAN COMMISSION

The Chilean Commission has now close to 300 members and will reached its eighth years of activities last November.

The Chilean Commission is recognized by the Chilean Financial Regulator (SVS), the Santiago Stock Exchange, the Toronto Stock Exchange, the Equity Securities & Markets Authority (ESMA, the financial authority of the European Community), the Russian Stock Exchange and the Australian Stock Exchange.

The Chilean Commission is also recognized by the International Accounting Standards Board (IASB).

..... In LatinoAmerica

THE CHILEAN COMMISSION

The role of the Chilean Commission, in addition to manage the National Registry of Competent Persons, is to promote the International Reporting Standards in Latin America, encourage continuing education on mineral resources /reserves among the members, and look after all national matters relative to mineral resources and reserves.

From exploration through mine closure standards for transparent, material, and reliable information will help the mining industry to become better supported, more efficient, less risky, and more valuable.

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GRACIAS !!!