



COMMITTEE FOR MINERAL RESERVES
INTERNATIONAL REPORTING STANDARDS



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The CRIRSCO TEMPLATE

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What is the Template?

- The Template represents the roots of CRIRSCO
- Common concepts, definitions and to a great extent guidance incorporated in all the national reporting codes:

JORC Code, CIM Standard Definitions, Samrec Code, Certification Code (Chile), SME Guide, PERC Code, NAEN code

- Codes for different countries incorporate small changes or other language that is relevant to a country's needs:

The Certification of Exploration Prospects, Mineral Resources and Ore Reserves should constitute a compiled report, presented and defended by the Qualified Competent Person in charge of such certification. When there are doubts or questions in regard to the certification carried out under the responsibility of a Qualified Competent Person, he or she will respond professionally to the organization that accredited its quality as well as legally to regulatory institutions or other entities associated with the Chilean capital markets.

2004 Certification Code (Chile)

Which gives rise to the need for the Template

- Basis for prospective CRIRSCO members to develop National Reporting Codes for Exploration Information, Mineral Resources and Mineral Reserves that contains the concepts that have been agreed among the CRIRSCO members
- Enables international organizations such as the International Accounting Standards Board, UNFC to refer to a common set of standards at a high enough level that individual country differences can be ignored.

- Succeeds the 2006 Template with updated core definitions. Most changes are minor
- Provides some new core definitions to harmonize industry usage
- Contains much of the guidance contained in the 2006 Template

- **Public reports** must be prepared by or under the supervision of **Competent Persons**
 - Must be a member of a professional organization with disciplinary powers including the power to suspend or expel a member
 - Must have a minimum of five years' relevant experience in the style of mineralization or type of deposit being reported

- **Transparency** requires that the reader of a public report is provided with sufficient information, the presentation of which is clear and unambiguous, so as to understand the report and not be misled.
- **Materiality** requires that a Public Report contains all the relevant information which investors and their professional advisors would reasonably require, and reasonably expect to find in a Public Report for the purpose of making a reasoned and balanced judgement regarding the Exploration Results, mineral Resources or Mineral Reserves being reported.

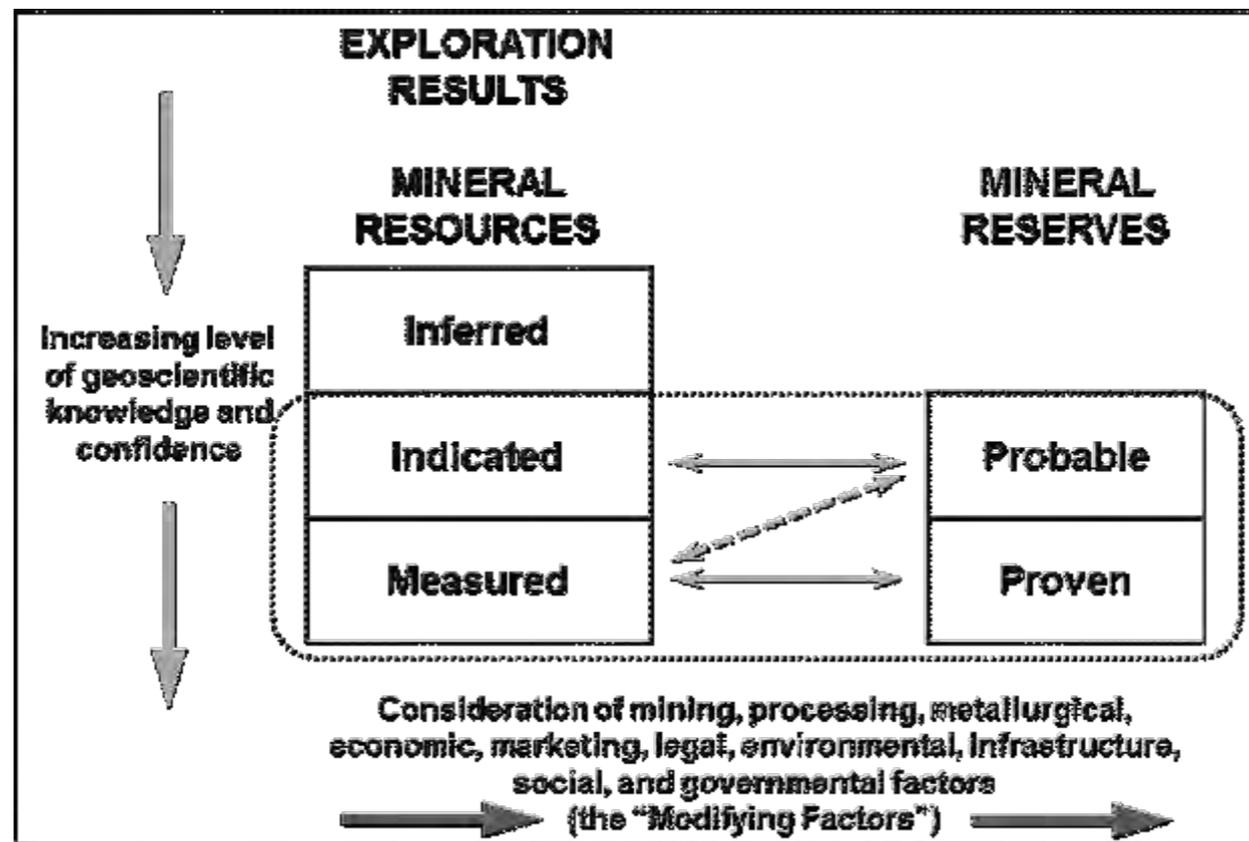
Key Concepts (3)

- **Public Reports** include but are not limited to annual and quarterly reports, press releases, information memoranda, technical papers, website postings and public presentations
- The Template indicates a minimum standard for public reporting. Companies are encouraged to provide information in their Public Reports that is as comprehensive as possible
- Where summary reports are presented, a reference to the Template-compliant Public Report should be given

Key Concepts (4)

- The Template and the National Reporting Codes are pitched at a high enough level as not to be prescriptive.
- Estimation of Mineral Resources and Mineral Reserves is inherently subject to some level of certainty and inaccuracy. **Considerable skill and experience may be needed to interpret pieces of information such as geological maps and analytical samples**
- **It is best left to the Competent Person to interpret and implement the Template**

Framework for Template



The definitions are virtually the same for all codes. There can be country-specific differences in guidance.

CRIRSCO Has Established Standard Definitions for the Following Terms

Public reports and Competent Persons have been defined in previous slides

- Public reports
- Competent Person
- Modifying Factors
- Exploration Target
- Exploration Results
- Mineral Resource
- Inferred Resource
- Indicated Resource

- Measured Resource
- Mineral Reserve
- Probable Reserve
- Proved Reserve
- Scoping Study
- Pre-Feasibility Study
- Feasibility Study

- An Exploration Target is a statement or estimate of the exploration potential of a mineral deposit in a defined geological setting where the statement or estimate, **quoted as a range of tonnes and a range of grade or quality, relates to mineralisation for which there has been insufficient exploration to estimate Mineral Resources.**

- Exploration Results include data and information generated by mineral exploration programmes that **might be of use to investors but which do not form part of a declaration of Mineral Resources or Mineral Reserves.**

- A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that **there are reasonable prospects for eventual economic extraction.**
- The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, **estimated or interpreted from specific geological evidence and knowledge, including sampling.**

Inferred Mineral Resource

- An Inferred Mineral Resource is that part of a Mineral Resource for which **quantity and grade or quality are estimated on the basis of limited geological evidence and sampling.**
- Geological evidence is sufficient to **imply but not verify geological and grade or quality continuity.**
- An Inferred Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. **It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.**

- An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are **estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.**
- Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is **sufficient to assume geological and grade or quality continuity between points of observation.**

- An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and **may only be converted to a Probable Mineral Reserve**.

- A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are **estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.**
- Geological evidence is derived from detailed and reliable exploration, sampling and testing and is **sufficient to confirm geological and grade or quality continuity between points of observation.**

- A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Mineral Reserve or to a Probable Mineral Reserve.

- Modifying Factors are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

- A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource.
- It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors.
- Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

- The reference point at which Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

- A Probable Mineral Reserve is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource.
- The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proved Mineral Reserve.

- A Proved Mineral Reserve is the. **economically mineable part of a Measured Mineral Resource**.
- A Proved Mineral Reserve **implies a high degree of confidence in the Modifying Factors**.

- Technical Studies

- A Scoping Study is an order of magnitude technical and economic study of the potential viability of Mineral Resources that includes **appropriate assessments of realistically assumed Modifying Factors** together with any other relevant operational factors that are necessary to **demonstrate at the time of reporting that progress to a Pre-Feasibility Study can be reasonably justified.**

Prefeasibility Study

- A Pre-Feasibility Study is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, is established and an effective method of mineral processing is determined.
- It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of any other relevant factors which are sufficient for a Competent Person, acting reasonably, to determine if all or part of the Mineral Resource may be converted to a Mineral Reserve at the time of reporting. A Pre-Feasibility Study is at a lower confidence level than a Feasibility Study.

Feasibility Study

- A Feasibility Study is a comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable).
- The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The confidence level of the study will be higher than that of a Pre-Feasibility Study.

Other Features of Template

- Checklist of assessment and reporting criteria
- Generic terms and equivalents
- Recommended rules of conduct and guidelines

Thank You

