

crirSCO

COMMITTEE FOR MINERAL RESERVES
INTERNATIONAL REPORTING STANDARDS

Edmundo Tulcanaza
London,
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CHILE

CRIRSCO INTERNATIONAL TEMPLATE

- The CRIRSCO International Template (CIT) for Reporting Exploration Results, Mineral Resources and Mineral Reserves integrates the minimum standards being adopted in National Reporting Codes worldwide with recommendations guidelines for Public Reporting.
- CIT is advisory only and where national codes exist these will take precedence. The CIT is intended to assist those countries that either do not have a reporting code or whose code is outdated to produce a new code consistent with international best practice.

- **Public Reports** comprise reports prepared for the purpose of informing investors or potential investors and their advisers on Exploration Results, Mineral Resources or Mineral Reserves.
- **Public Reports** include, but are not limited to annual and quarterly company reports, press releases, information memoranda, technical papers, website postings and public presentations.

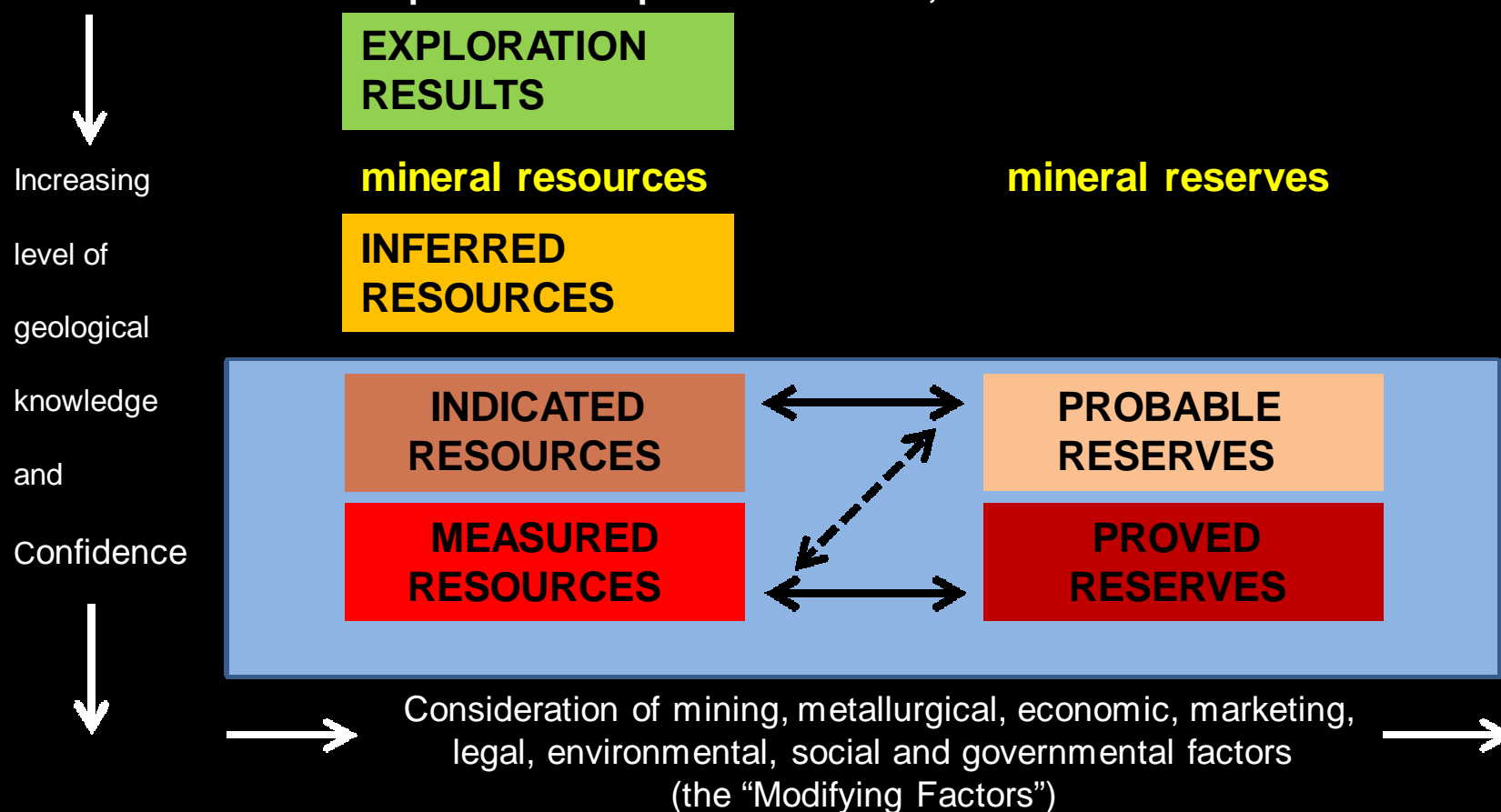
- The main principles governing the application of the CIT are transparency, materiality, and competence. Transparency to provide clear and unambiguous information. Materiality to provide relevant and essential information. Competence to provide this information under the responsibility of a qualified and experienced competent professional.
- The CIT is applicable to all solid minerals, including diamonds, industrial minerals, stone and aggregates, and coal for which Public Reporting is required by relevant regulatory authorities.

- A Public Report concerning a company's Exploration Results, Mineral Resources, and/or Mineral Reserves is the responsibility of the company acting through its Board of Directors. Any such reports must be based on, and fairly reflect the information and supporting documentation prepared by a Competent Person or Persons.
- The report shall be issued with the written consent of the Competent Person or Persons as to the form and context in which it appears.

- A Competent Person is a person who is Member or Fellow of a recognized professional body relevant to the activity being undertaken and who is subject to enforceable Rules of Conduct.
- A Competent Person must have a minimum of five years experience relevant to the style of mineralization and type of deposit under consideration and to the activity which that Person is undertaking.
- Complaints made in respect of the professional work of a Competent Person will be dealt with under the disciplinary procedures of the National professional organization to which the Competent Person belongs.

Public Reports dealing with Exploration Results, Mineral Resources and/or Mineral Reserves must only use the terms set out in the following Figure.

General relationship between Exploration Results, Mineral Resources and Mineral Reserves



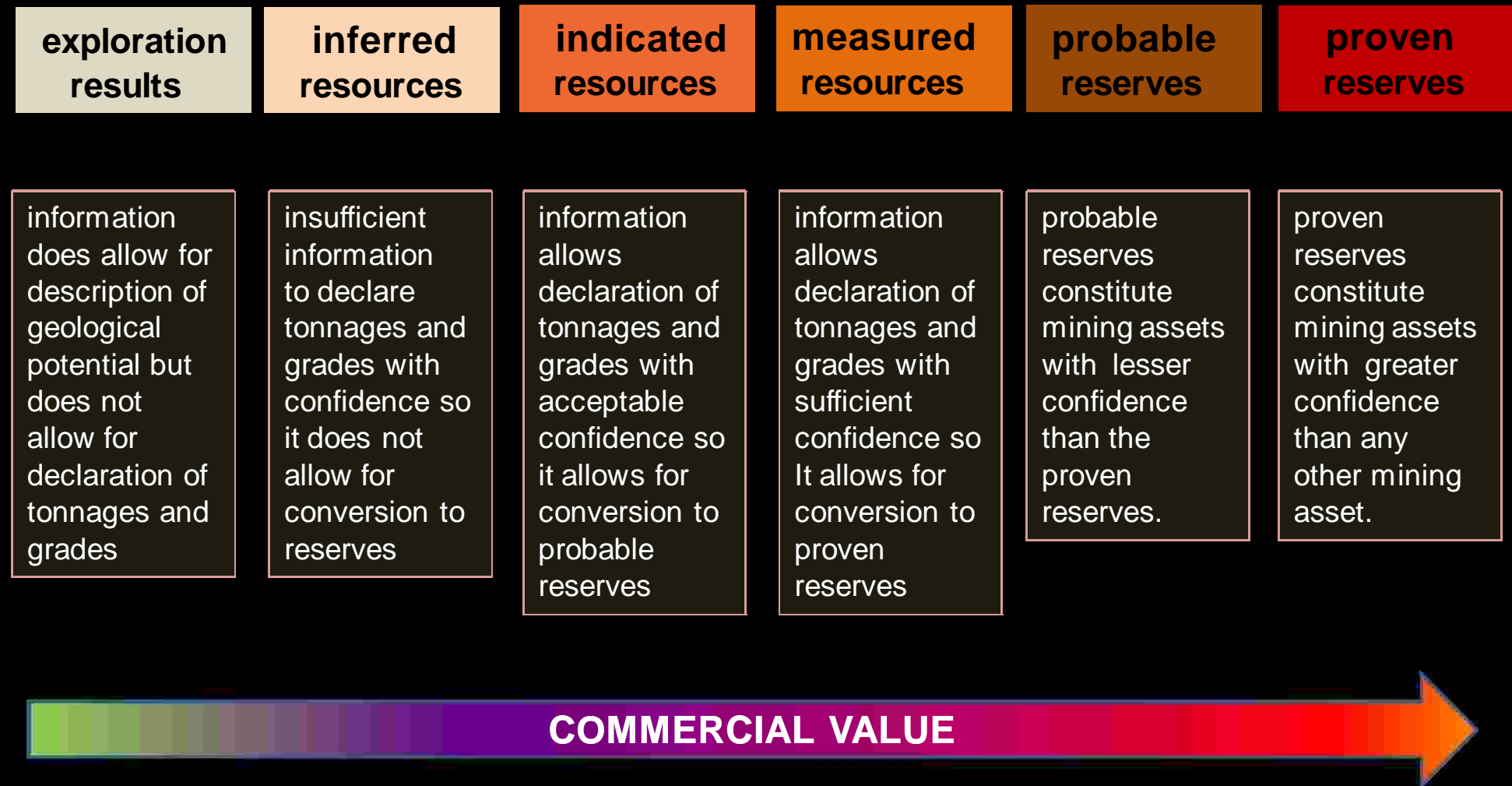
- Modifying Factors are used to convert Mineral Resources to Mineral Reserves and include mining, processing, metallurgical, economic, marketing, legal, environmental, social and governmental considerations.
- Through time and acquisition of information, Modifying Factors are more precise and accurate in such a way that original uncertainties progressively diminish converting mineral resources into mineral reserves.

- A company must disclose any relevant information concerning a mineral deposit that could materially influence the economic value of that deposit to the company. A company must promptly report any material changes in its Mineral Resources or Mineral Reserves.
- Exploration Results include data and information generated by exploration programmes that may be of use to investors but which may not be part of a formal declaration of Mineral Resources or Mineral Reserves.

- This is common in the early stages of exploration when the quantity of data available is generally not sufficient to allow any reasonable estimates of tonnage and grade to be made. Examples include discovery outcrops, single drill hole intercepts or the results of geophysical surveys. It should be made clear in public reports that contain Mineral Exploration Results that it is inappropriate to use such information to derive estimates of tonnage and grade.
- In Public Reports, descriptions of exploration results should not be expressed as to lead to misrepresent them as an estimate of Mineral Resources or Mineral Reserves.

CRIRSCO COMMITTEE FOR MINERAL RESERVES INTERNATIONAL REPORTING STANDARDS

Comisión Calificadora de Competencias en Recursos y Reservas Mineras – CHILE



GEOLOGICAL DELINEATION

ECONOMIC VIABILITY

LOW
CONFIDENCE

MEDIUM
CONFIDENCE

HIGH
CONFIDENCE

INCREASING GEOLOGICAL CONFIDENCE

INFERRED

INDICATED

MEASURED

X

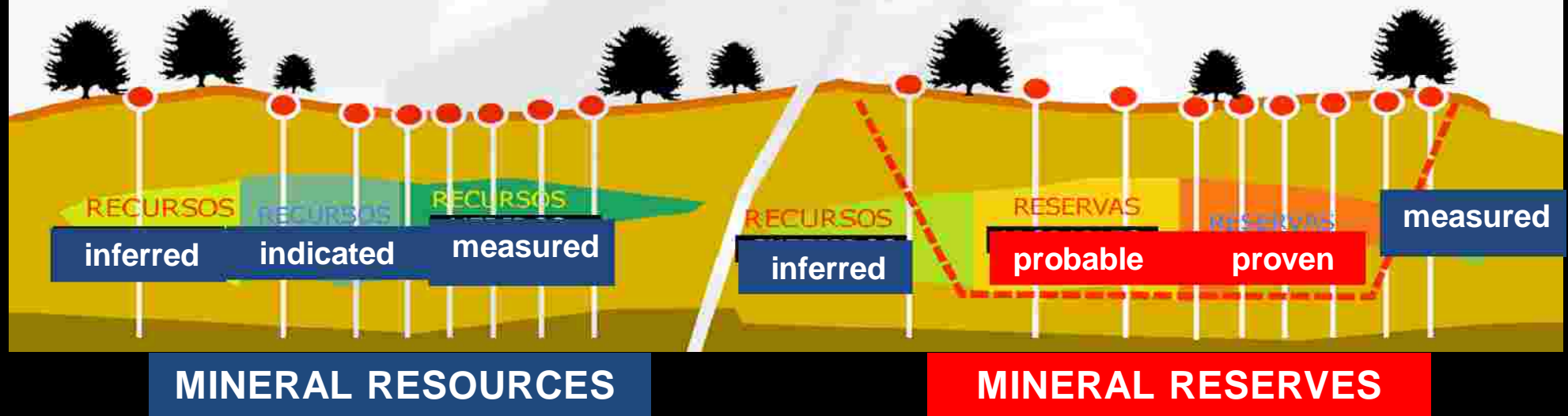
PROBABLE

PROVEN

Inferred Resources do not have correlated Reserves

Economic Viability Reasonably established

Economic Viability pretty much established



MINERAL RESOURCES

MINERAL RESERVES

- Public Reports of Mineral Resources must specify one or more of the categories of “inferred”, “indicated”, and “measured”. Categories must not be reported in a combined form unless details for the individual categories are also provided.
- Mineral Resources must not be reported in terms of contained metal or mineral content unless corresponding tonnages and grades are also presented. Mineral Resources must not be aggregated with Mineral Reserves.

- In order to achieve the required level of confidence in the Mineral Resources and all of the Modifying Factors it is expected that studies to at least a Pre Feasibility level will have been carried out prior to determination of the Mineral Reserves. The study will have determined a Mine Plan that is technically achievable and economically viable and from which the Mineral Reserves can be derived.
- It should be noted that the Template does not imply that an economic operation should have Proved Mineral Reserves . Situations may arise where Probable Mineral Reserves alone may be sufficient to justify extraction, as for example with some alluvial tin, diamond or gold deposits.

- When revised Mineral Reserve and Mineral Resource statements are publicly reported they should be accompanied by reconciliation with previous statements. A detailed account of differences between the figures is not essential but sufficient comments should be made to enable changes to be understood by the reader.
- If any Measured and Indicated Resources have not been modified to produce Mineral Reserves for any reasons, the relevant details of these unmodified Mineral Resources should be included in the report. This is to assist the reader of the report in making a judgment of the likelihood of the unmodified Measured and Indicated Mineral Resources to eventually be converted to Mineral Reserves

- CIT applies to the reporting of all potentially economic mineralized material including mineralized fill, remnants, pillars, low grade mineralization, and others where there are reasonable prospects for eventual economic extraction in the case of Mineral Resources, and where extraction is reasonably justifiable in the case of Mineral Reserves. Unless otherwise stated, all other clauses of the Template apply.
- CIT also address matters that relate to the Public Reporting of Coal Exploration Results, Coal Resources and Coal Reserves.

- The Template also address matters that relate to the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves for diamonds and other gemstones.
- The Template also address matters that relate to the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves for Industrial Minerals, stone and aggregates of all forms and other bulk commodities.

Thanks!

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