

The image shows the CRIRSCO logo, which consists of a stylized globe icon above the word "crirSCO" in a white, lowercase, sans-serif font. Below the logo, the text "COMMITTEE FOR MINERAL RESERVES" and "INTERNATIONAL REPORTING STANDARDS" is written in a smaller, white, uppercase, sans-serif font. In the bottom right corner, there is a small red logo for "ICMM International Council on Mining & Metals".

The Importance of the International Reporting Codes in the Mining Industry
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CRIRSCO



COMMITTEE FOR MINERAL RESERVES INTERNATIONAL REPORTING STANDARDS

- Committee for Mineral Reserves International Reporting Standards
- Supported by ICMM
- Reporting Template

INTERNATIONAL REPORTING TEMPLATE

for the public reporting of

EXPLORATION RESULTS, MINERAL
RESOURCES AND MINERAL RESERVES

November 2013

COMMITTEE FOR MINERAL RESERVES INTERNATIONAL REPORTING STANDARDS

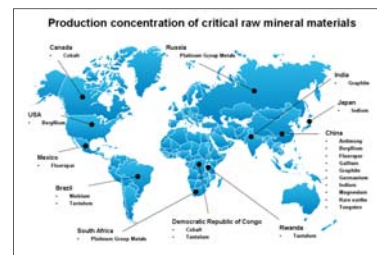




Introduction to Mineral Reporting Codes

The mining industry is a **vital contributor to national and global economies**; never more so than at present with soaring demand for the commodities that it produces. It is a truly **international business** that depends on the **trust and confidence of investors and other stakeholders for its financial and operational well-being**. Unlike many other industries, it is based on **depleting mineral assets**, the **knowledge of which is imperfect** prior to the commencement of extraction. It is therefore essential that the industry **communicates the risks** associated with investment effectively and transparently in order to **earn the level of trust** necessary to underpin its activities.

(CRIRSCO Website)



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Introduction to the Reporting Codes

Mines are based on

- Depleting Assets
- Imperfect knowledge prior to the commencement of extraction

Developing a mining project or mine involves

- Technical expertise
- Substantial capital investment
- Long term investment
- Carries numerous risks




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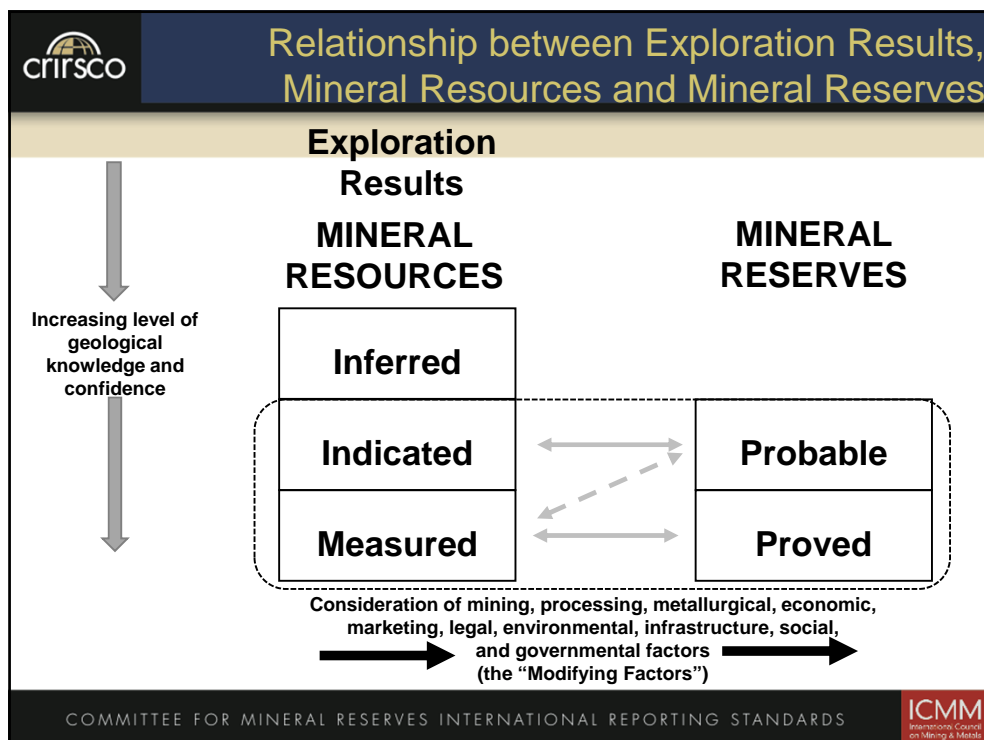
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crirSCO **Pertinent Aspects of the Reporting Codes**

- A **required minimum standard** for the **Public Reporting** of Exploration Results, Mineral Resources and Mineral Reserves
- Considered relevant to **all solid minerals**
- Present information about mineral assets to
 - Investors and potential investors
 - Advisors
 - Satisfy regulatory requirements



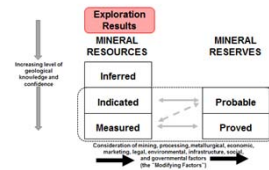

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crirSCO **Exploration Results**

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

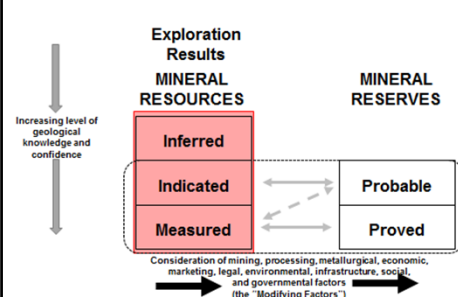
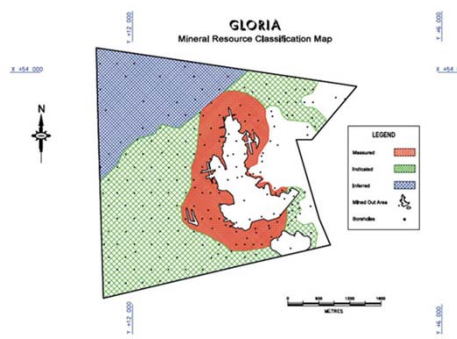
- Examples - discovery outcrops, single drill hole intercepts or the results of geophysical surveys
- A statement or **estimate of the exploration potential** of a mineral deposit in a defined geological setting where the statement or estimate,
- Quoted as a range of tonnes and a range of grade or quality, 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
- Must not be presented so as to **unreasonably imply that potentially economic mineralisation has been discovered**.

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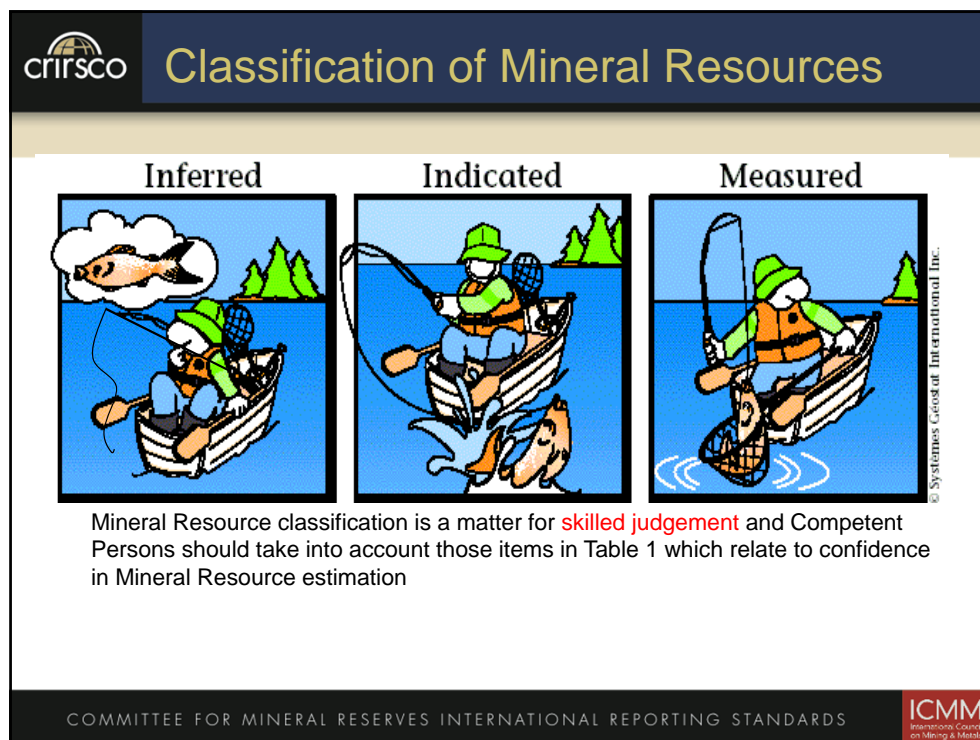
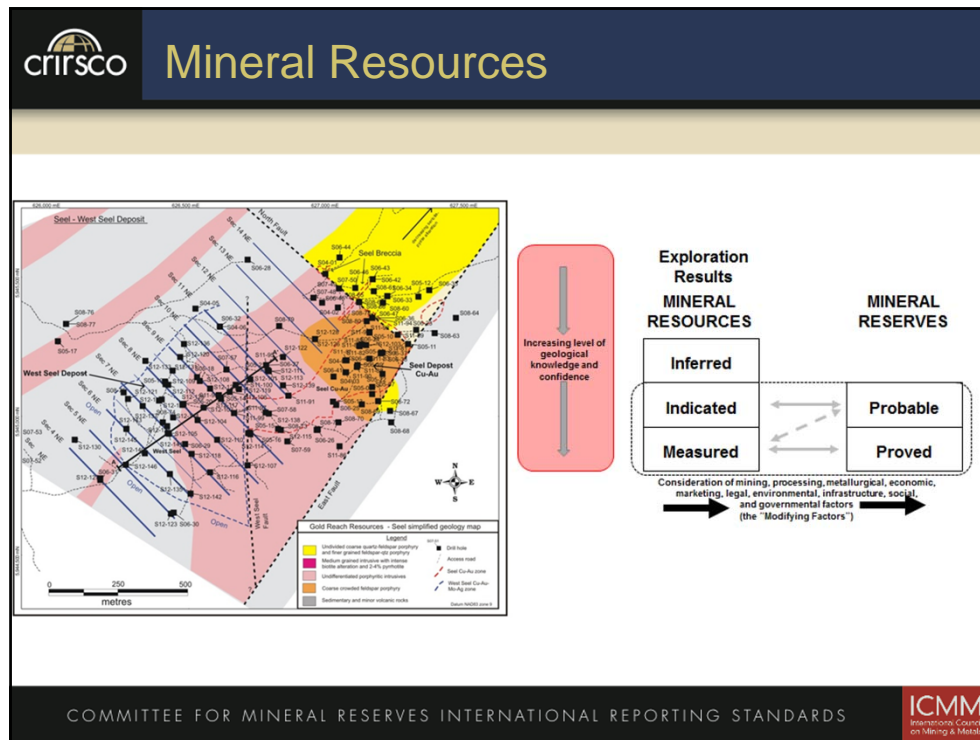
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crirSCO **Mineral Resources**

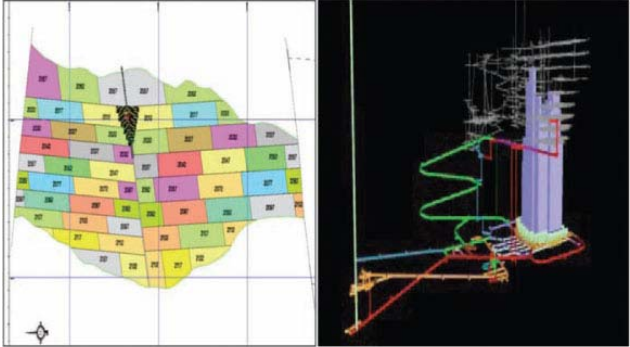
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crir스코 Mineral Reserves

- Prove Viability
- Pre Feasibility Study or Life of Mine Plan



Exploration Results MINERAL RESOURCES MINERAL RESERVES

Inferred

Indicated

Measured

Probable

Proved

Increasing level of geological knowledge and confidence

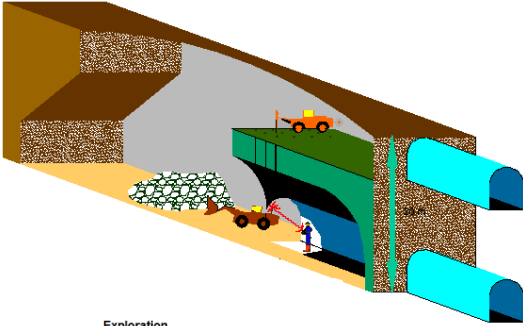
Consideration of mining, processing, metallurgical, economic, marketing, legal, environmental, infrastructure, social, and governmental factors (the "Modifying Factors")

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crir스코 Mineral Reserves

- Modifying Factors
 - mining
 - processing
 - metallurgical
 - economic
 - marketing
 - legal
 - environmental
 - infrastructure
 - social
 - and governmental factors



Exploration Results MINERAL RESOURCES MINERAL RESERVES

Inferred

Indicated

Measured

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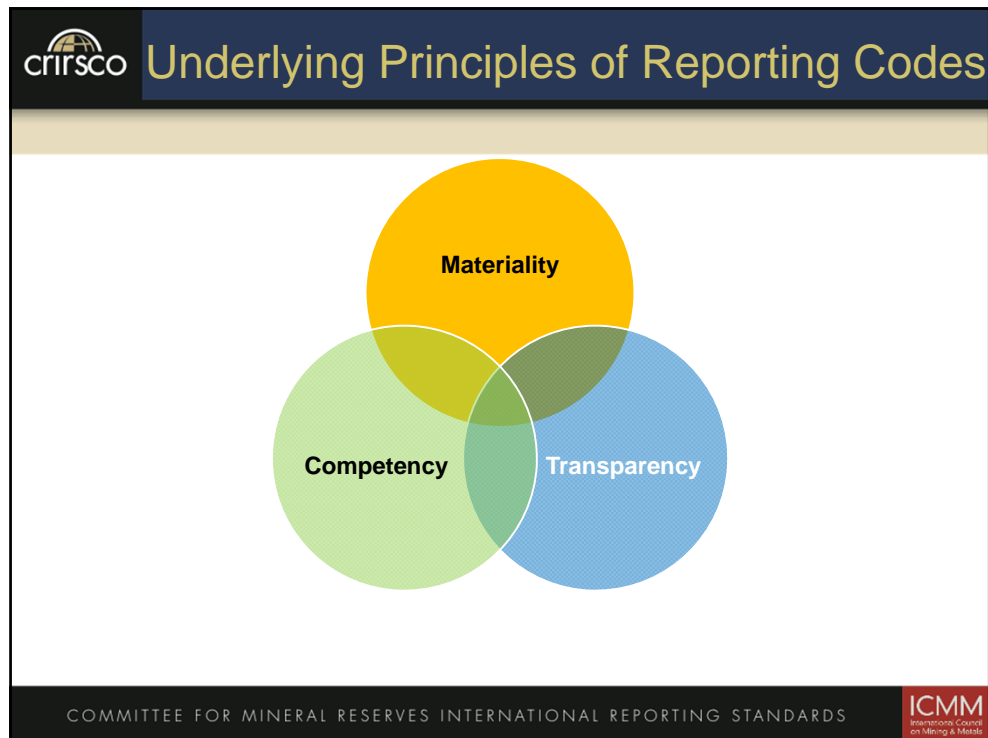
Proved


Increasing level of geological knowledge and confidence

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


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 **Background**

- In Australia in 1960's concern about unacceptable reporting practices - the so-called "**Poseidon nickel boom and bust**"
- Australian Stock exchanges responded with proposal to **self-regulate**, resulting in the Australasian Joint Ore Reserves Committee (JORC) established 1971
- In February 1989, JORC released the first version of the JORC Code
- **US reporting code** derived from Hoover's work in the 1930's published initially by US Geological Survey now SEC Industry Guide 7
- Events during the 1990's such as the **BreX affair** (1997) cause re-examination by the regulatory bodies
- The **Enron**, Shell and other events in the US have lead to greater scrutiny by the US SEC of company reporting, with significant penalties for misrepresentation



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crirSCO Why did the Codes Develop

Good Governance (Self Regulation, Best Practice)

Reliable Reporting (Financial Sector, Valuations)

International Reporting Codes

CO

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Comic panels:
1. "I'M HUNGRY. CAN I HAVE A SNACK?"
2. "SURE, HELP YOURSELF."
3. "YOU CAN HAVE AN APPLE OR AN ORANGE FROM THE FRIDGE."
4. "EVEN THOUGH WE'RE BOTH TALKING ENGLISH, WE'RE NOT SPEAKING THE SAME LANGUAGE."

crirSCO Public Reporting - What it's meant be

Requires that technical information is:

- Signed off by a professional (CP) who takes responsibility for the information
- Based on reasonable assumptions which are clearly explained
- Consistent in its use of standardized terms and definitions
- Unbiased and identifies the potential risks and uncertainties
- Balanced and not misleading
- In a format that allows for comparing similar projects
- Understandable to a reasonably informed investor

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Public Reporting - What it's meant be

- To mitigate the risks
- Obtain financial, political, social support
- Demonstrate level of understanding of the project/mine.
- Need to communicate the risks effectively
- Provide a level of trust and confidence for the investors and other stakeholders.
- Effective communication is provided by the declaration of the Mineral Resources and Reserves.
- Provide a common understanding of the project/mine.



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What the Reporting Codes are not

- It's not a guarantee of good work
- It's not a cookbook for mineral resource or reserve estimation
- It's not confirmation that the project is good



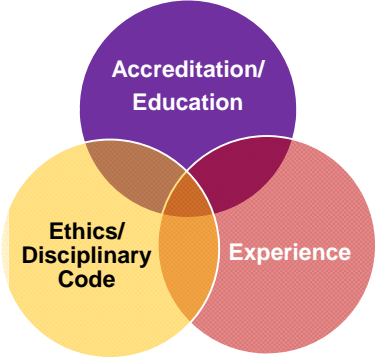
**You can put lipstick on a pig.
„BUT IT'S STILL A PIG !**

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crirSCO **Competent Person**

- Be a **self-regulatory organization** covering professionals in mining or exploration or both;
- Admit members primarily on the basis of their **academic qualifications and experience**;
- Require compliance with the **professional standards of competence and ethics** established by the organization;
- **Have disciplinary powers**, including the power to suspend or expel a member



A minimum of 5 (five) **years experience relevant** to the style of mineralisation and type of deposit or class of deposit under consideration and to the activity which that person is undertaking.

Key question: could the Competent Person **face his or her peers and demonstrate competence in the commodity, type of deposit and activity he/she is undertaking?**

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**TO PROMOTE INTERNATIONAL
BEST PRACTICE IN THE
REPORTING OF MINERAL
EXPLORATION RESULTS,
MINERAL RESOURCES AND
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