



COMMITTEE FOR MINERAL RESERVES
INTERNATIONAL REPORTING STANDARDS



crirSCO
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INTERNATIONAL REPORTING STANDARDS

An overview of the CRIRSCO International Reporting Template
and its relationship with UNFC 2009

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EGRC – 28 April 2015



- Overview of CRIRSCO
- CRIRSCO Members
- International Reporting Template
- UNFC 2009
- Comparisons

To promote best practice in the international public reporting of Mineral Exploration Results, Mineral Resources and Mineral Reserves.

CRIRSCO is an international advisory body without legal authority, relying on its constituent members to ensure regulatory and disciplinary oversight at a national level.

It recognises the truly global nature of the minerals industry and the agreed need for international consensus on reporting standards.

Australasia:	JORC
Canada:	CIM
Chile:	COMISIÓN MINERA DE CHILE
Europe and UK:	PERC IMM
Mongolia	MRC
Russia	NAEN
South Africa:	SAMREC
United States:	SME Guide

INTERNATIONAL REPORTING TEMPLATE

for the public reporting of

EXPLORATION RESULTS, MINERAL RESOURCES
AND MINERAL RESERVES

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- Advisory only
- National Standards/Codes take precedence
- Model for development of new codes

Reports prepared for investors or potential investors

- Annual Reports
- Quarterly Reports
- Information Memoranda
- Websites
- Public Presentations
- Stock Exchange Information Systems

- Materiality
- Transparency
- Competency

- Member or Fellow of professional body with enforceable code of ethics
- Five (5) years experience *relevant* to type of mineralization and deposit and the activity being undertaken

Team approach allowed but leader signs off.

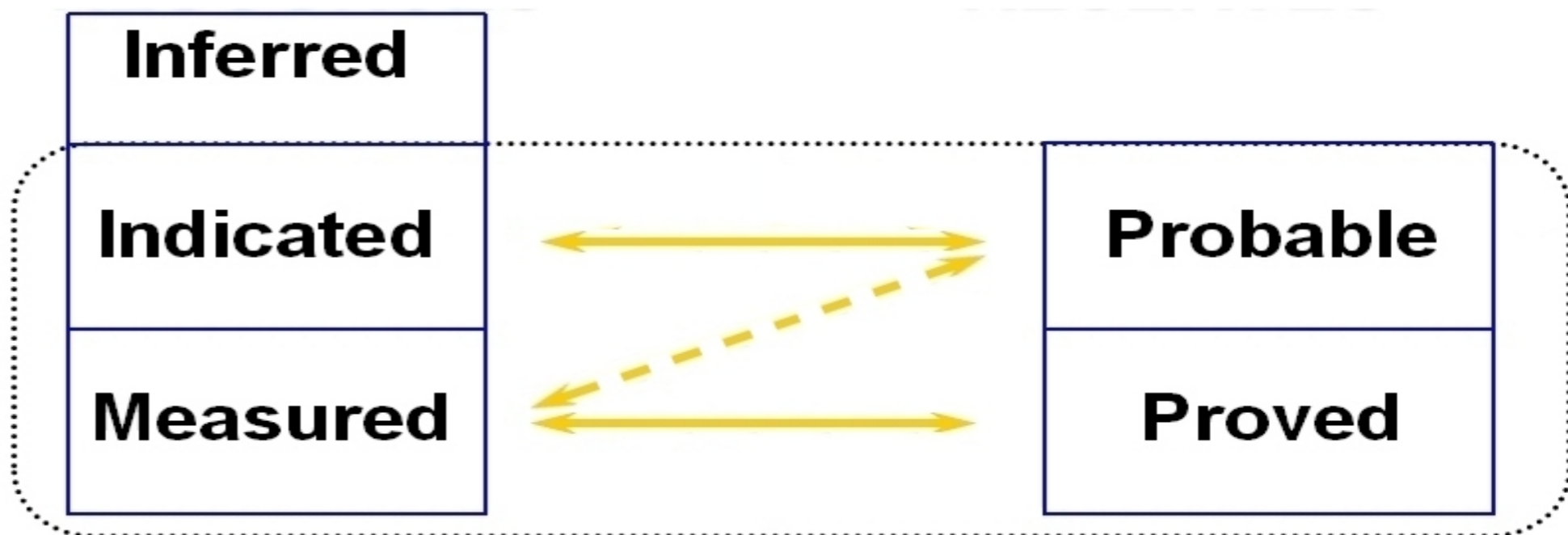
Satisfied in own mind able to face peers and demonstrate competence in the commodity, type of deposit and situation.

Exploration Results

MINERAL RESOURCES

MINERAL RESERVES

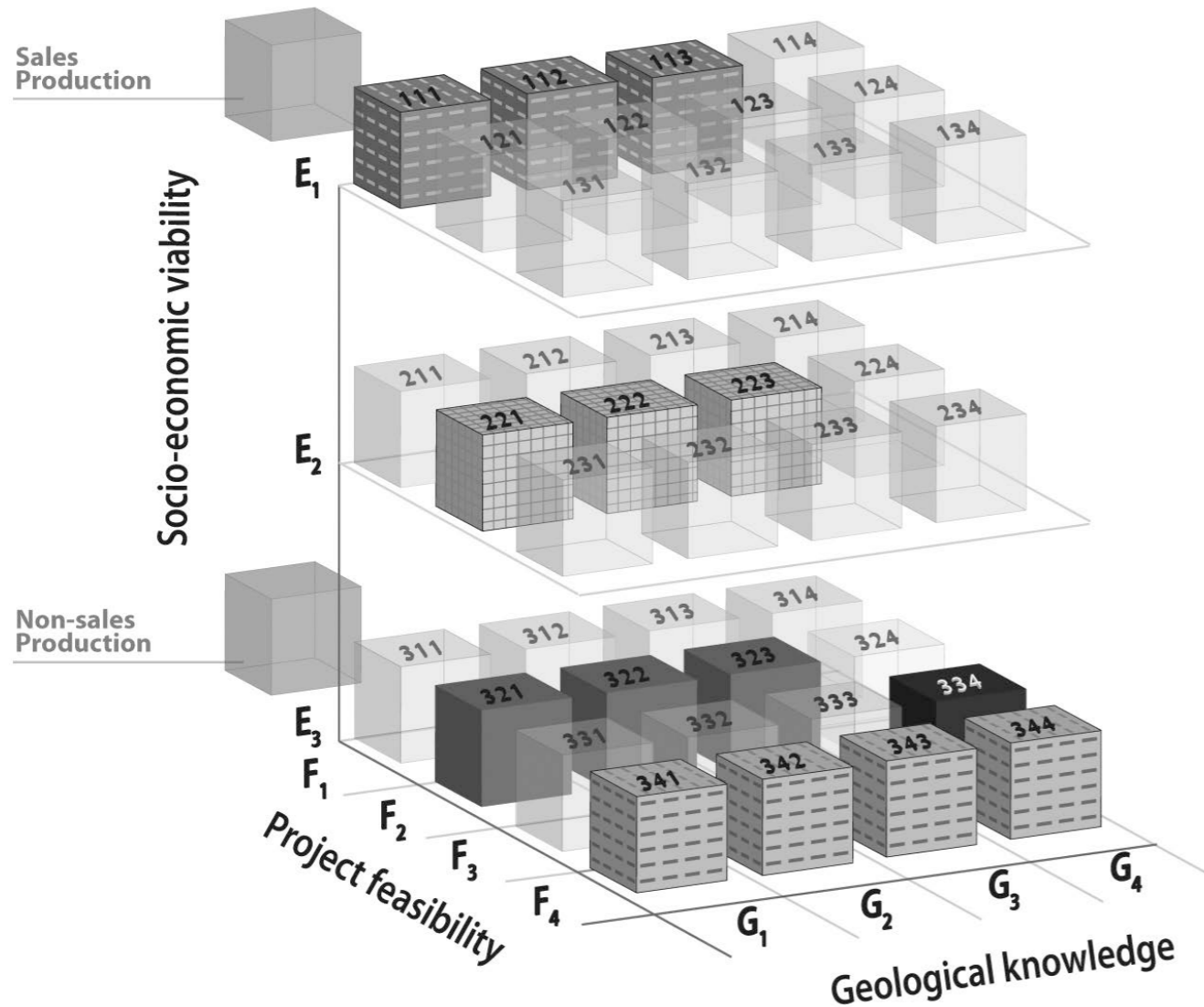
Increasing level of geological knowledge and confidence

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



- Mining
- **Processing**
- Metallurgical
- Economic
- Marketing
- Legal
- **Environmental**
- **Social**
- **Infrastructure**
- Governmental



Generic, Principle based

3 Axis

Economic,

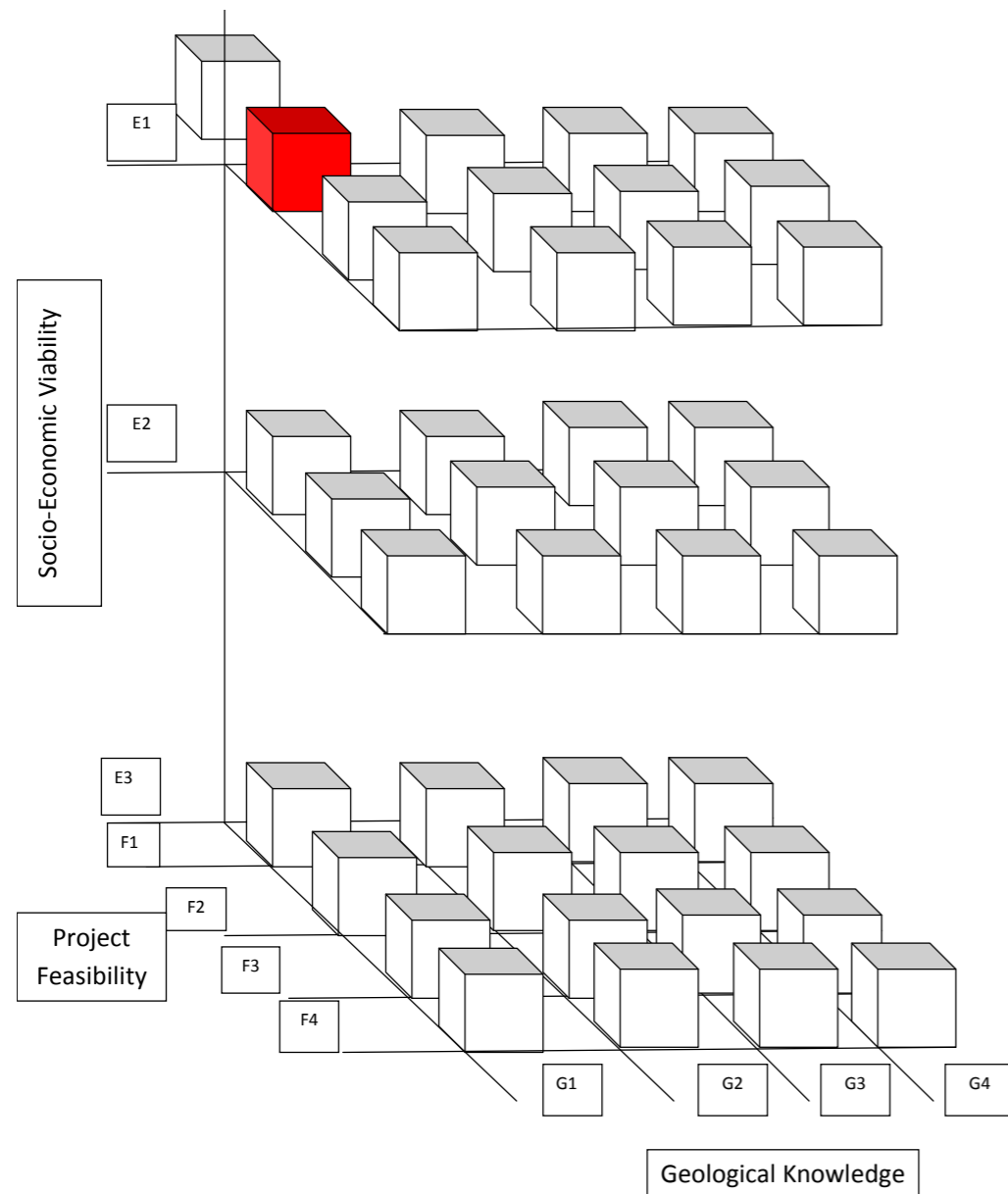
Feasibility,

Geological

Numerical code

Applied directly or as harmonizing tool

CRIRSCO Template		UNFC-2009 "minimum" Categories			UNFC-2009 Class
Mineral Reserve	Proved	E1	F1	G1	Commercial Projects
	Probable			G2	
Mineral Resource	Measured	E2	F2	G1	Potentially Commercial Projects
	Indicated			G2	
	Inferred			G3	
Exploration Target		E3	F3	G4	Exploration Projects



UNFC (2009)

E1; F1; G1

111

- Generic system - solid minerals, nuclear fuel and fossil energy
- Framework classification not a reporting standard
- Allows for non economic mineralization
- No competency requirement
- No Securities Exchange recognition

**Important tool for harmonized generic terminology
at a level suitable for global communication**



ALL SLIDES

WWW.CRIRSCO.COM



- Responsibility of National Reporting Organization (NRO)
- International agreements through Recognized Professional Organizations (RPO)

Australasian Institute of Mining and Metallurgy	AusIMM
Australian Institute of Geoscientists	AIG
Canadian Council of Professional Geoscientists	CCPG
European Federation of Geologists	EFG
The Geological Society	GS
Institute of Geologists of Ireland	IGI
Institute of Materials Minerals and Mining	IMMM
Mining and Metallurgical Society of America	MMSA
Society for Mining Metallurgy and Exploration	SME

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.

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.

- Mapped to CRIRSCO Template
- Mapped to UNFC 2009

UNFC-2009 CLASSIFICATION					CRIRSCO TEMPLATE		NEA/IAEA CLASSIFICATION		
UNFC CLASSES AND SUB-CLASSES		UNFC CATEGORIES			CRIRSCO CLASSES AND SUB-CLASSES				
CLASS	SUB-CLASS	E	F	G	CLASS	SUB-CLASS	IAEA-NEA CATEGORIES		STATUS
COMMERCIAL PROJECTS	ON PRODUCTION	1	1.1	1	MINERAL RESERVES	PROVED	IDENTIFIED RESOURCES	RAR**	EXISTING
				2		PROBABLE			
	APPROVED FOR DEVELOPMENT	1	1.2	1		PROVED			COMMITTED
				2		PROBABLE			
	JUSTIFIED FOR DEVELOPMENT	1	1.3	1		PROVED			
				2		PROBABLE			
POTENTIALLY COMMERCIAL PROJECTS	DEVELOPMENT PENDING	2	2.1	1	MINERAL RESOURCES	MEASURED	IDENTIFIED RESOURCES	RAR**	PROSPECTIVE
				2		INDICATED			
				3		INFERRED			
	DEVELOPMENT ON HOLD	2	2.2	1		MEASURED			
				2		INDICATED			
				3		INFERRED			
NON-COMMERCIAL PROJECTS	DEVELOPMENT UNCLARIFIED	3.2	2.2	1	INVENTORY (NOT DEFINED IN TEMPLATE)	DEVELOPMENT UNCLARIFIED	IDENTIFIED RESOURCES	RAR**	UNCLARIFIED
				2		(NOT DEFINED IN TEMPLATE)			
				3					
	DEVELOPMENT NOT VIABLE	3.3	2.3	1		NOT VIABLE			NOT VIABLE
				2		(NOT DEFINED IN TEMPLATE)			
				3					
EXPLORATION PROJECTS		3.2	3.1	4	EXPLORATION RESULTS		UNDISCOVERED RESOURCES	PROGNOSTICATED RESOURCES	
		3.2	3.2, 3.3	4				SPECULATIVE RESOURCES	