



**crirSCO**  
COMMITTEE FOR MINERAL RESERVES  
INTERNATIONAL REPORTING STANDARDS

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

Roger Dixon

South Africa Representative, CRIRSCO

UNFC Workshop, Geneva - 29 April 2014



- Overview of CRIRSCO
- CRIRSCO Members
- Potential Members
- International Reporting Template
- UNFC 2009
- Mapping Template/UNFC 2009

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
Russia	NAEN
South Africa:	SAMREC
United States:	SME

ASIC Australasia:

JORC Code

CSA Toronto Canada:

NI-43101, CIM Standards

Santiago SX Chile:

The Code for the certification of Exploration Prospects, Mineral Resources and Ore Reserves

ESMA W Europe and UK:

All CRIRSCO aligned incl. (PERC)

AIM:

CIM,IMMM, JORC, NAEN,  
SAMREC, SME

Hong Kong Exchanges (HKE)

JORC, SAMREC NI 43-101

NYSE and NASDAQ

SEC Industry Guide 7

JSE South Africa:

SAMREC Code

Moscow, Russia

NAEN Code

Argentina

China

Indonesia

Mongolia

Peru

Philippines

Turkey

Scandinavia

Columbia

# INTERNATIONAL REPORTING TEMPLATE

for the public reporting of

EXPLORATION RESULTS, MINERAL RESOURCES  
AND MINERAL RESERVES

JULY 2006 - NOVEMBER 2013



- 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**

All relevant information for a reasoned and balanced judgement

- **Transparency**

Sufficient information clear and unambiguous in order that the reader is not misled

- **Competency**

Based on the work of suitably qualified and experienced persons who are subject to an enforceable professional code of ethics

- 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 his/her own mind that he/she is able to face peers and demonstrate competence in the commodity, type of deposit and situation.

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

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



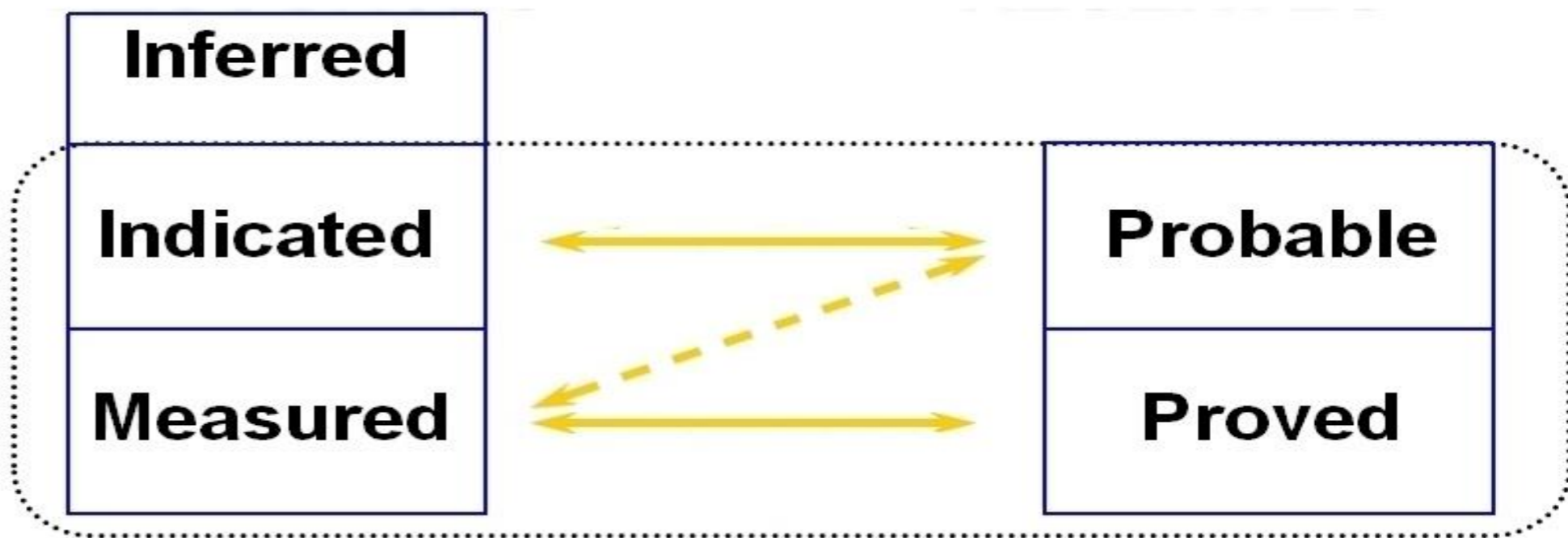
# Fundamental Framework

## 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

**Exploration Results** include data and information generated by exploration programmes that may be of use to investors but is not part of a formal declaration of Mineral Resources or Reserves

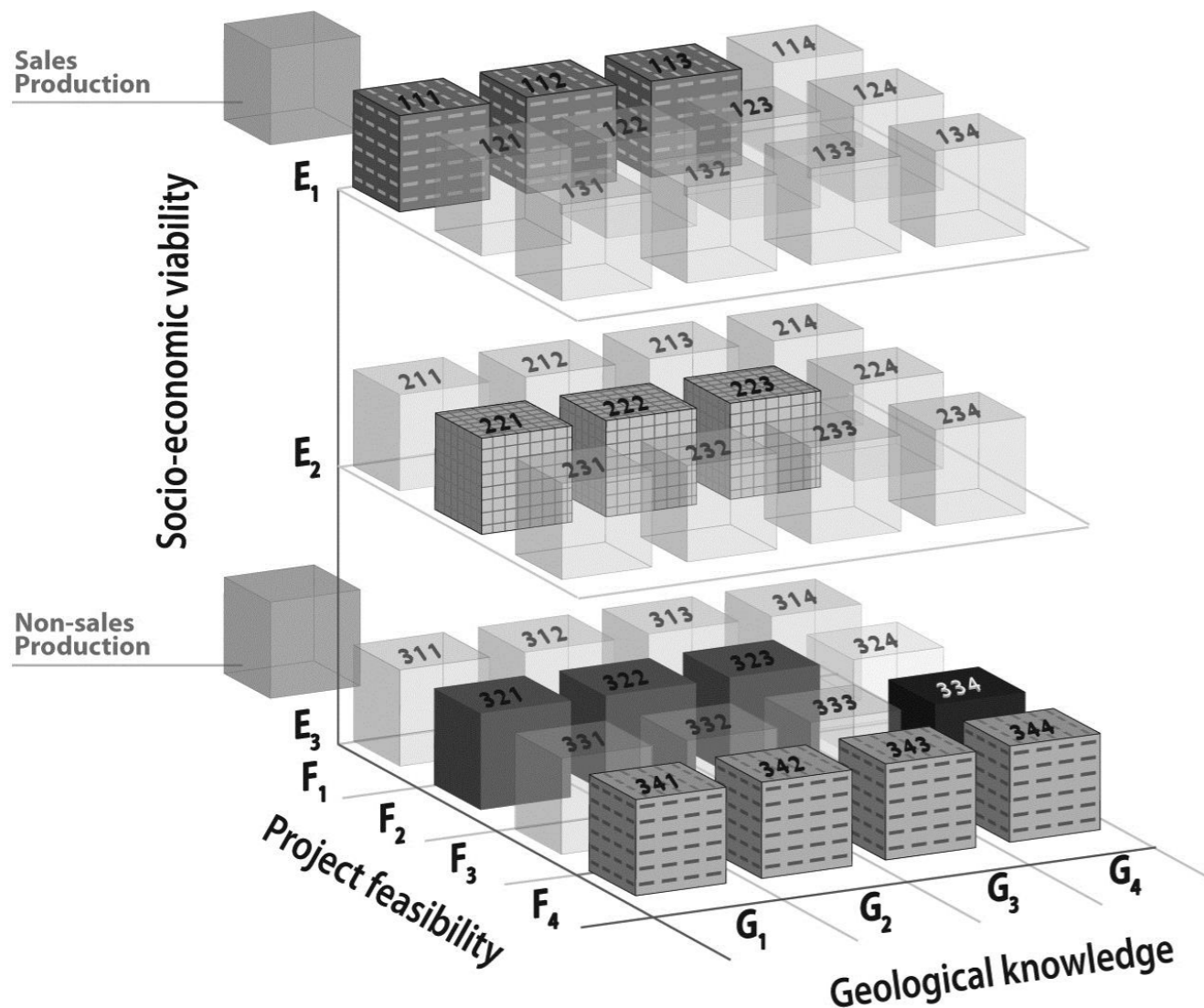
Tonnage and grade not to be reported!

Concentration or occurrence of material of ***economic*** interest in or on the earths crust in such form quality and quantity that there are ***reasonable*** prospects for ***eventual economic*** extraction

Not an inventory of all mineralization!

- The ***economically mineable*** part of Measured and/or Indicated Mineral Resource
- Includes dilution and losses
- Studies at pre-feasibility or feasibility level have been carried out and all modifying factors have been considered
- Demonstrated at time of reporting extraction is reasonably justified
- Proven and Probable

- Must be clearly stated Mineral Resources are ***inclusive or exclusive*** of Mineral Reserves
- The two should never be added together
- If inclusive relevant details of unmodified resources should be reported



Generic, Principle based

3 Axis

**E**conomic,

**F**easibility,

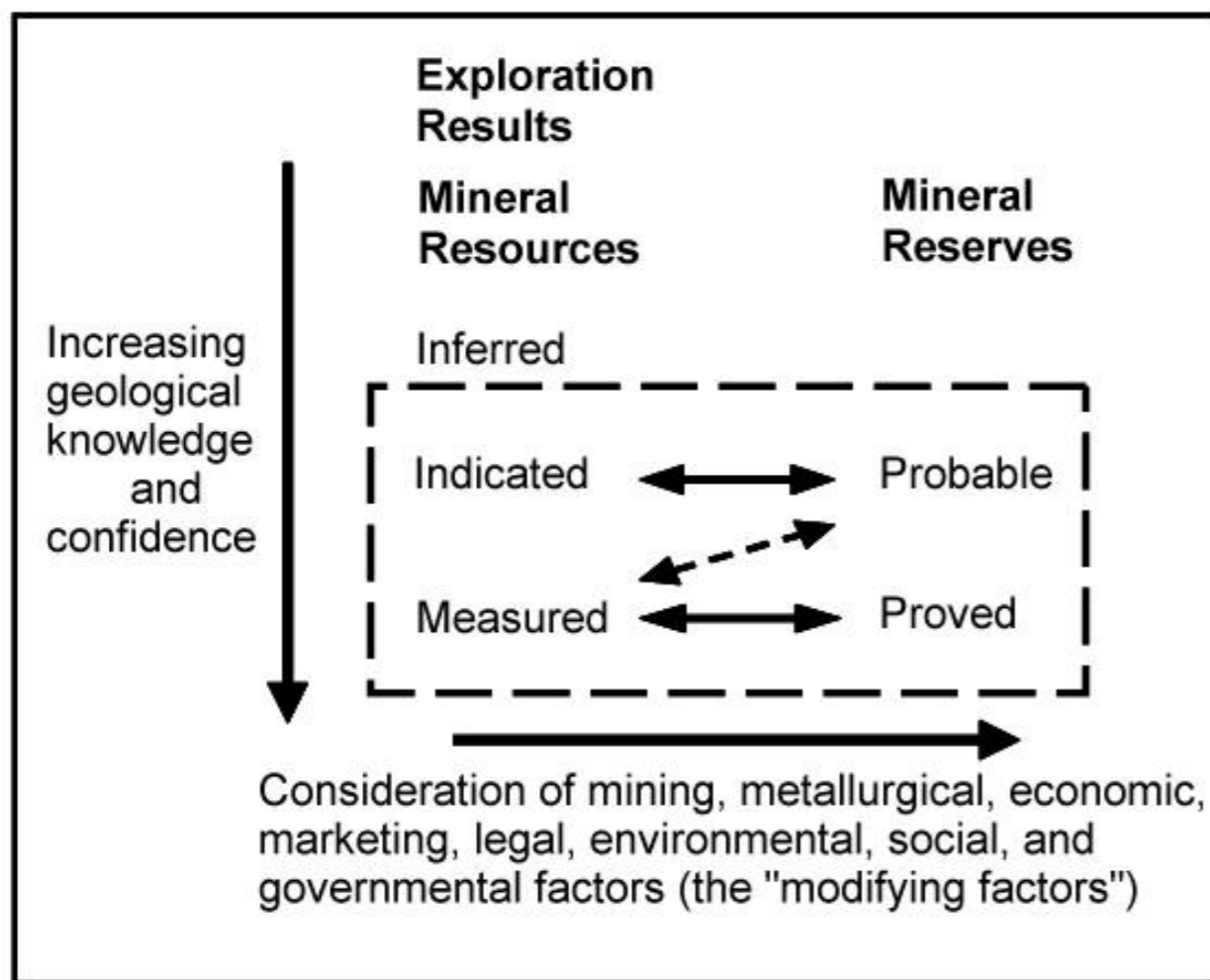
**G**eological

Numerical code

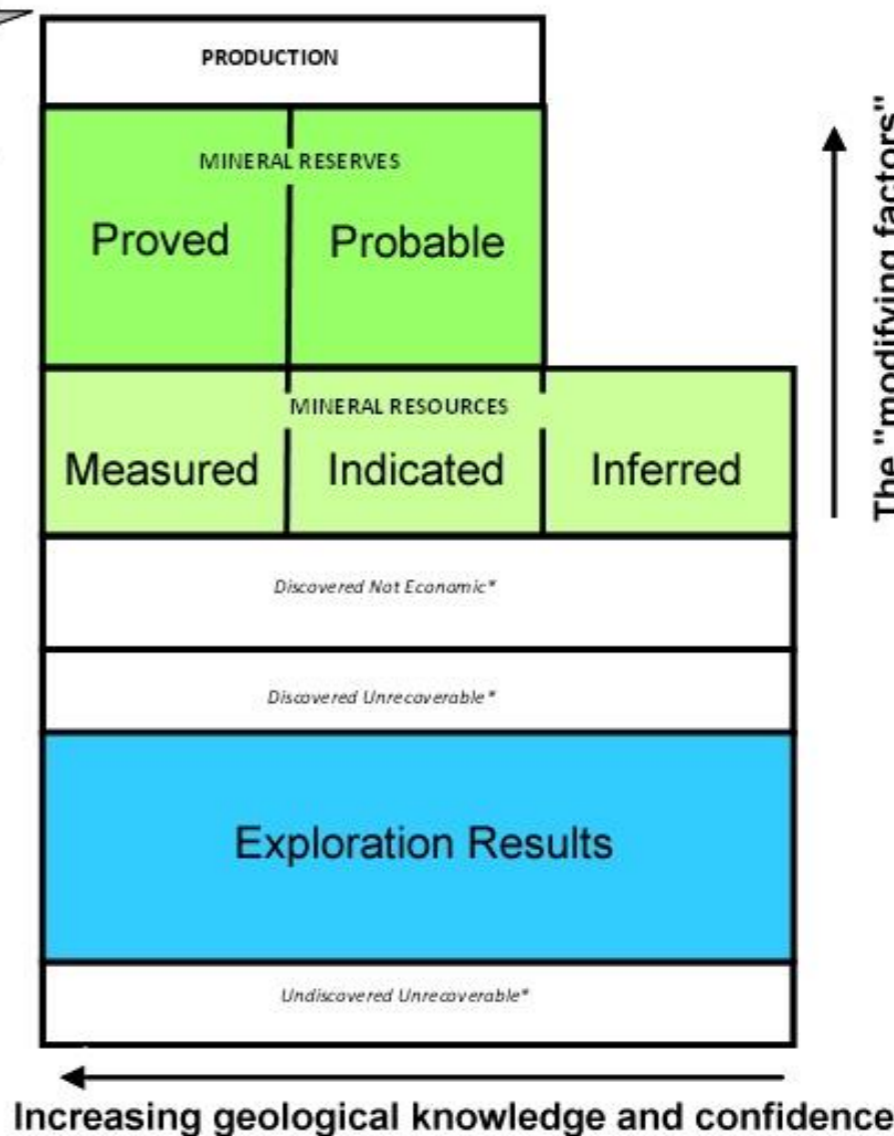
Applied directly or as harmonizing tool

## CRIRSCO classification

Re-oriented to align with Petroleum and UNFC



(a)



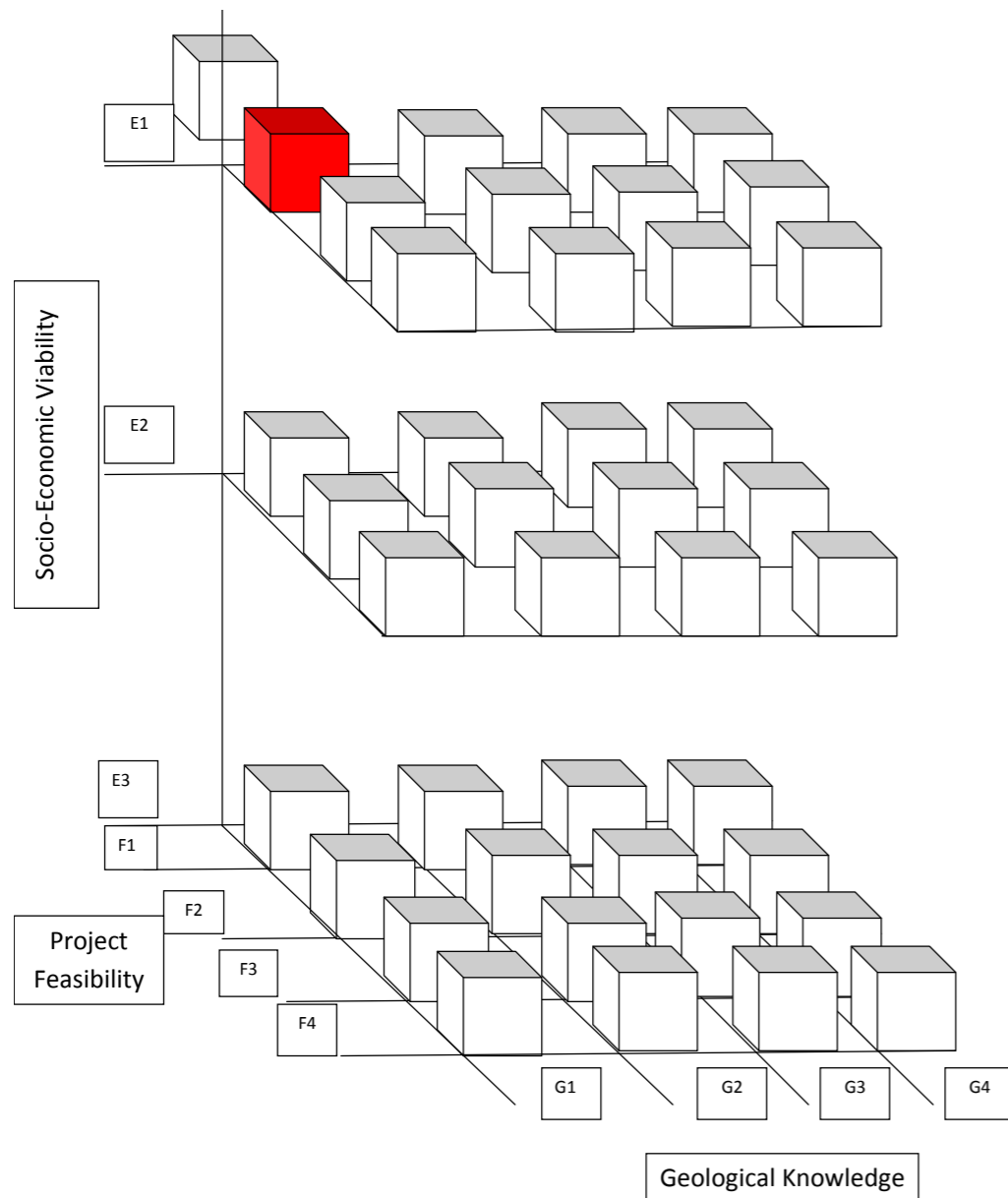
(b)



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 Results		E3	F3	G4	Exploration Projects



Total commodity initially in place	Production	Sales Production			
		Non-sales Production			
		Class	Categories		
			E	F	G
	Future recovery by commercial development projects of mining operations	Mineral Reserves	1	1	1,2
	Potential future recovery by contingent development projects or mining operations	Mineral Resources	2	2	1,2,3
		Discovered Not Economic	3	2	1,2,3
	Discovered Unrecoverable		3	4	1,2,3
	Potential future recovery by successful exploration activities	Exploration Results	3	3	4
	Undiscovered Unrecoverable		3	4	4



UNFC (2009)

E1; F1; G1

111

- Generic system - solid minerals 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**

# Acknowledgements



ALL SLIDES

[WWW.CRIRSCO.COM](http://WWW.CRIRSCO.COM)

- CMMI 1994
- Denver Accord 1997
- UNECE agreement November 1999
- CRIRSCO formed in Cairns, Australia 2002
- Template initiated Reston VA 2003, published 2006

- 1999 Geneva accord solid minerals only
- 2004 UNFC common definitions modified -oil and gas added
- 2004 CRIRSCO re-engaged
- Member ad hoc group of experts - Mapping UNFC 2004, PRMS
- Member EGRC - UNFC 2009 and Specifications task force II
- Member EGRC Bureau and TAG