



COMMITTEE FOR MINERAL RESERVES
INTERNATIONAL REPORTING STANDARDS



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INTERNATIONAL REPORTING STANDARDS

International Reporting Standards with particular reference to coal

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Member SAMREC/SAMVAL

Botswana Coal March 26 2013



Coal
Botswana
2013

- Principle objective CRIRSCO
- CRIRSCO Members
- Recent activities
- Potential Members
- International Reporting Template
- Coal compliance issues

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.

Australia:	JORC Code
Canada:	NI 43-101 + CIM Standards
Chile:	The Code for the certification of Exploration Prospects, Mineral Resources and Ore Reserves
Europe:	PERC Code
South Africa:	SAMREC Code
United States:	SME Guide for Reporting Exploration Information Mineral Resources and Mineral Reserves
Russia	Naen Code

- Ministry Land and Resources (MLR) joint meeting Beijing 2009
- Russian Naen code developed 2010
- Extractive Activities Discussion Paper April 2010
 - International Accounting Standards Board (IASB)
- UNECE 2013
 - Expert Group on Resource Classification (EGRC)
 - Specifications Task Force (STF)

Argentina

Scandinavia

China

Korea

Indonesia

Brasil

Mongolia

Peru

Philippines

INTERNATIONAL REPORTING TEMPLATE

for the public reporting of

EXPLORATION RESULTS, MINERAL RESOURCES
AND MINERAL RESERVES

JULY 2006

- 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
- Transparency- sufficient information to not be misled
- Competency

The Public Report is based on work that is the responsibility 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.

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

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

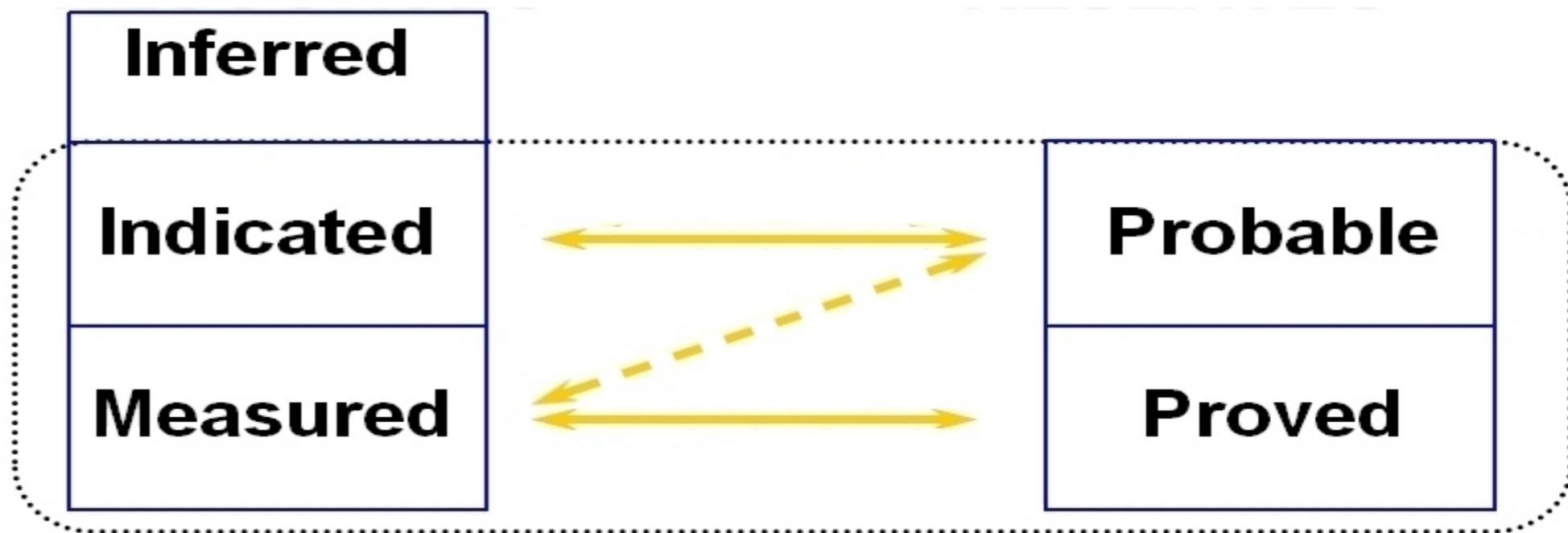
Australasian Institute of Mining and Metallurgy	AusIMM
Australian Institute of Geoscientists	AIG
Canadian Council of Professional Geoscientists	CCPG
European Federation of Geologists	EFG
The Geological Society	GS
Institute of Geologists of Ireland	IGI
Institute of Materials Minerals and Mining	IMMM
Mining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

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").



The terms 'Mineral Resource(s)' and 'Mineral Reserve(s)', and the subdivisions of these as defined above, apply also to coal reporting, but if preferred by the reporting company, the terms 'Coal Resource(s)' and 'Coal Reserve(s)' and the appropriate subdivisions may be substituted

- ‘Marketable Coal Reserves’, representing beneficiated or otherwise enhanced coal product where modifications due to processing have been considered in addition to mining factors such as dilution, may be publicly reported in conjunction with, but not instead of, Coal Reserves.
- The basis of the predicted yield to achieve Marketable Coal Reserves **should be stated**.

- **All Coal Resources must be classified** into Inferred, Indicated and Measured Resources categories.
- Classification **based solely on borehole spacing**, and in particular the translation of a best practice borehole spacing from one coalfield to another coalfield is not competent.

For instance the use of “JORC classification” (as per Aus. Guidelines), just to “*up the Measured and Indicated tonnages*”, in Southern African coal deposits is misleading. The continuity and confidence in typical Australian Coalfields like the Bowen Basin, is an “order of magnitude” better than the coalfields in Southern Africa.

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

- Appropriate **Modifying Factors** have not been applied;
- Appropriate **Coal Processing Modifying Factor discounts** have not been applied to the Saleable Product;
- **Infrastructure Constraints** are not addressed;
- Coal Reserves are not based on a scheduled **Life of Mine Plan**;
- **Economic Model** has not been applied to the Life of Mine Plan;
- Coal Reserves must contain both **ROM and Saleable tonnage estimates** as well as the expected **Product Qualities**;

Coal Resource is in fact not a Coal Reserve

- Gross Tonnes In Situ is the only tonnage reported
- Mineability is not discussed, in terms of expected mining method and selectivity;
- the cut-offs are not applied and are not presented;
- Raw Coal Quality is not reported
- Theoretical Yield and Target Quality are not reported;
- Target Products and Markets are not discussed.
- Reasonable and realistic prospects of eventual economic extraction are not adequately motivated;

A graphic element consisting of a blue square on the left, a black diagonal shape, and a white mountain-like silhouette.

Coal Botswana 2013

 **srk** consulting



ALL SLIDES

WWW.CRIRSCO.COM

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
- Appropriate assessments have been carried out and 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
- Two should never be added together
- If inclusive relevant details of unmodified resources should be reported

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

Compliance Issues

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