Mineral Resources, Mineral Reserves or Pie in the Sky?

Presentation to:

E4m - Centre de Recherche sur la Géologie et l'ingénierie des Ressources Minérales

Faculté des Sciences et de Génie - Université Laval

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Associate Principal Geologist, AMC Consultants
CIM 2016/17 Distinguished Lecturer, Resources & Reserves

Outline

- Introduction
- What is a Mineral Resource and Mineral Reserve?
- The importance of good estimation
- The importance of good classification
- The importance of good reporting
- Qualified / Competent Persons
- National and international reporting standards

What is Pie in the Sky?

Something that is pleasant to contemplate but unlikely to be realized

Introduction

Pat Stephenson

- Graduated from Aberdeen university in Scotland in 1971
- 1971 to 1989. Mining and exploration geologist working in all parts of Australia and in Papua New Guinea.
- 1989 to 2001. Operated one-man consulting business, specializing in Mineral Resource / Reserve estimation, classification and reporting
- 2001 to 2007. Principal Geologist, AMC Consultants in Melbourne
- 2007 to 2014. Director, General Manager, Principal Geologist, AMC Consultants in Vancouver.
- 2014 to 2017. Director, Principal Geologist, AMC Consultants in Vancouver
- 2017. Associate Principal Geologist, AMC Consultants in Vancouver
- 1988 to 2006. Member, Australasian Joint Ore Reserves Committee (JORC). 1992 – 1999, Secretary, 1999 - 2005, Chairman
- 2005 to 2006. Co-Chair, Committee for Mineral Reserves International Reporting Standards (CRIRSCO)
- 2012 to present. Member CIMVal Committee
- 2015 to present. Member VALMIN Committee
- 2016/17. CIM Distinguished Lecturer on Resources and Reserves

AMC Consultants

- Founded 1983 as James Askew Associates
- Seven offices in four countries (Australia, Canada, Singapore, United Kingdom), over 140 employees
- Services:
  - Mining Engineering (including mine planning, operational support, ventilation, backfill)
  - Geology (including Resource estimation and audit, QA/QC reviews)
  - Geotechnical Engineering
  - Feasibility Studies (including scoping studies (preliminary assessments), pre-feasibility studies)
  - Operational optimization
  - Expert reports (including NI 43-101 reports)
  - Over 5,000 assignments in over 90 countries, including over 130 in North / South America
- Clients include:
  - World's largest mining companies (BHP Billiton, Rio Tinto, Anglo, Xstrata, Vale etc.)
  - Corporate advisors
  - Financial institutions
  - Insurance companies
- Vancouver in Canada (Vancouver and Toronto):
  - 16 mining engineers, 4 mining geologists, 3 geotechnical engineers, 1 civil engineer

What is a Mineral Resource and a Mineral Reserve?

What is a Mineral Resource?

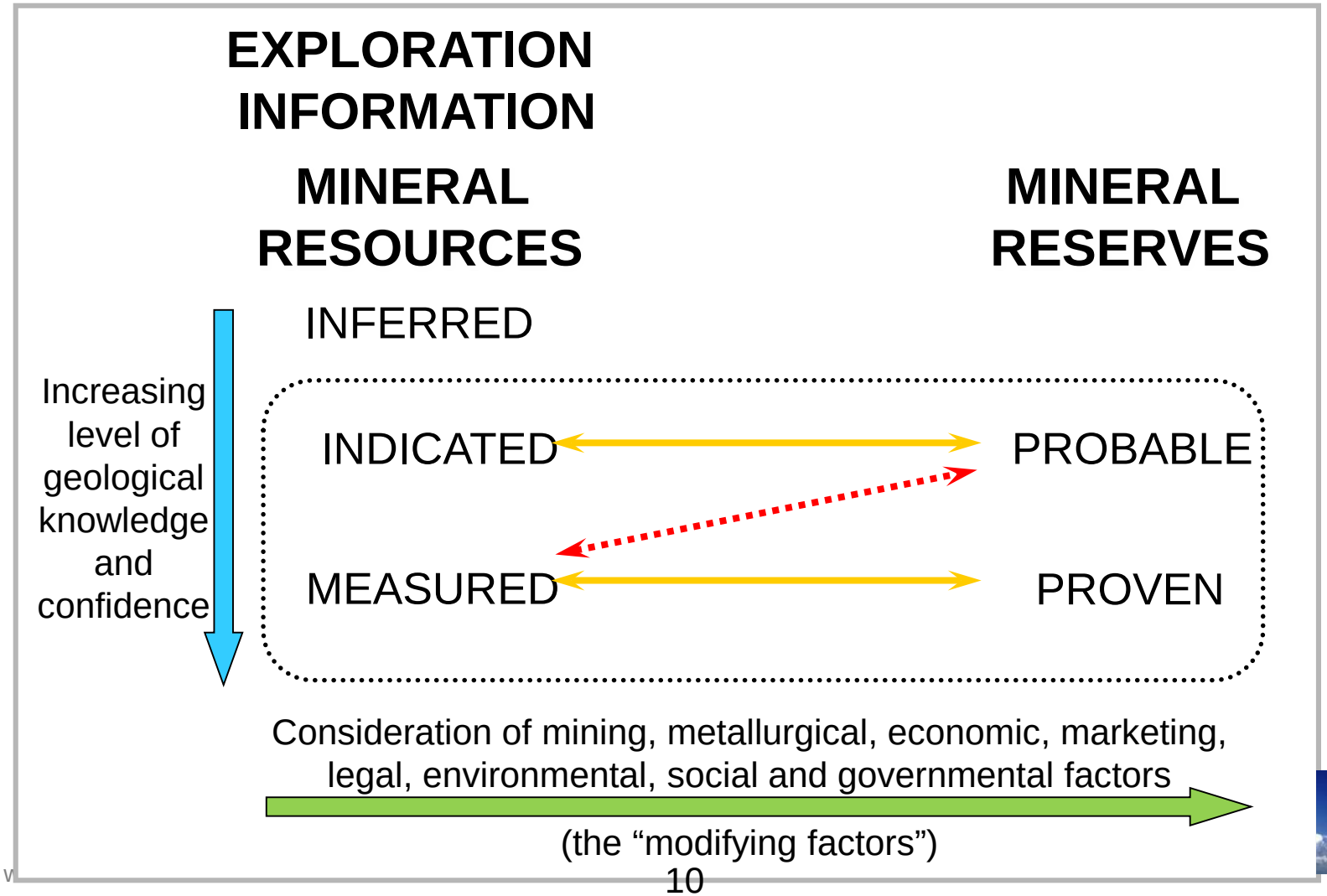
- A Mineral Resource is an estimate of tonnage and grade for a mineralized body, based on sampling of that body.
- The estimate represents a realistic inventory that, under assumed and justifiable technical and economic conditions, might, in whole or in part, become economically extractable.
- Portions of a deposit that do not have reasonable prospects for economic extraction are NOT Mineral Resources.
- Subdivided, in order of increasing geological confidence, into:
  - Inferred Mineral Resources (generally ±25->50%)*
  - Indicated Mineral Resources (generally ±15-25%)*
  - Measured Mineral Resources (generally ±5-15%)*

* Depending on scale or volume

What is a Mineral Reserve?

- A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource, as demonstrated by a study that is equivalent to, or at a higher level than, a prefeasibility study.
- Realistically assumed Modifying Factors (mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors) must be taken into consideration.
- A simple definition is that a Mineral Reserve is an estimate of the tonnage and grade that is expected to be delivered to the mill or treatment plant.
- Subdivided in order of increasing confidence into:
  - Probable Mineral Reserves
  - Proven Mineral Reserves

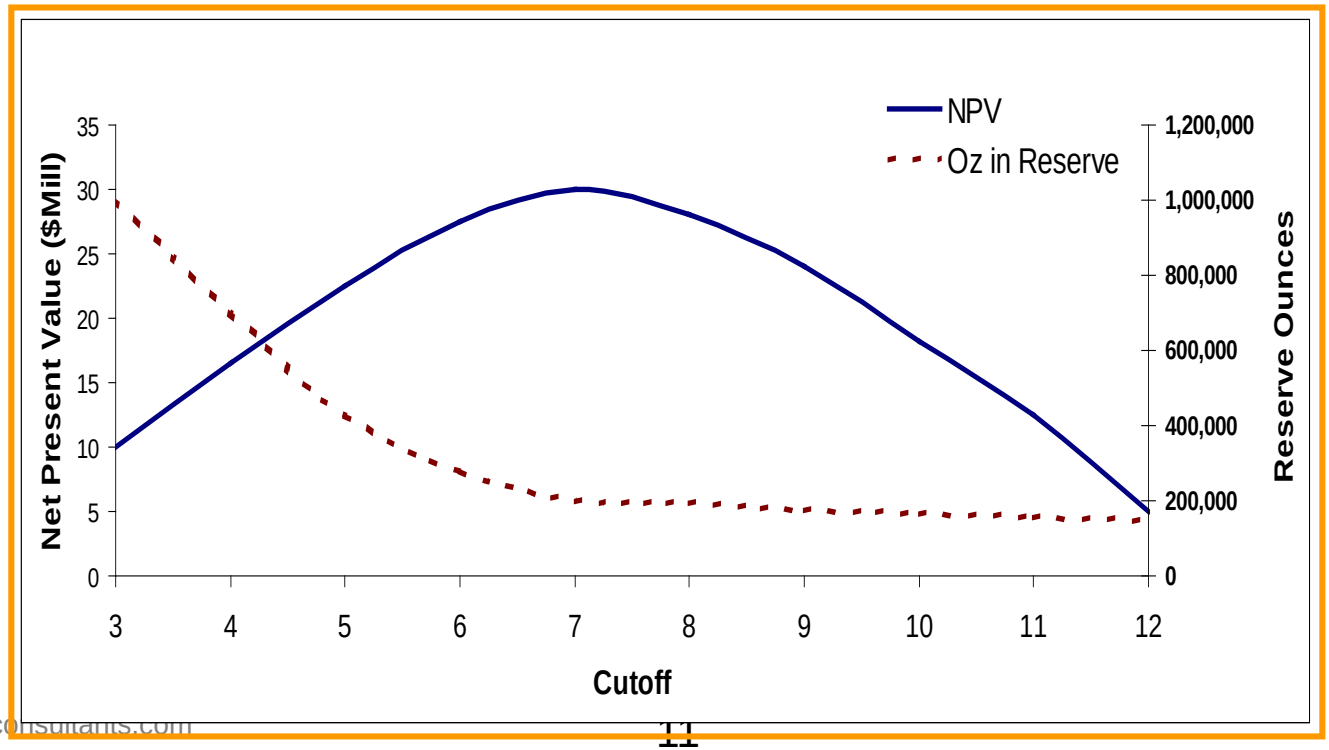
Relationship between Mineral Resources and Mineral Reserves (Figure 1)



Important points

- Resource / Reserve estimates are ESTIMATES, not calculations (don't refer to them as calculations). New information or a different geological interpretation can materially change estimates.

- There is no single correct Resource or Reserve estimate for a given deposit.



What is not a Mineral Resource?

- Portions of a deposit that do not have reasonable prospects for eventual economic extraction.
- Examples include:
  - Estimates at an open pit cut-off grade that are well below a reasonable lower limit of open pit mining
  - Isolated blocks that are remote from existing or reasonably likely mining access and/or are based on single drillholes
  - Estimates in physical locations that renders mining very unlikely or impossible in the longer term, such as within certain national parks, below some bodies of water, below areas that are environmentally, culturally or socially sensitive etc.
  - Estimates made on the basis of unreasonable longer-term projections of metal prices.
  - Pillars and other remnant bodies that have been rendered permanently umineable

What is not a Mineral Reserve?

- Portions of a Measured and/or Indicated Mineral Resources that have been shown not to be economically mineable on the basis of a study that is at least at the level of a pre-feasibility study.
- Measured or Indicated Mineral Resources that have not been subjected to a study that is at least at the level of a pre-feasibility study.
- Estimates based on unreasonable assumptions of Modifying Factors.
- Examples include:
  - Estimates subjected to a scoping study or preliminary economic assessment (PEA) or other study that is not at least at the level of a pre-feasibility study.
  - Estimates in physical locations that renders mining very unlikely or impossible in the short to medium term.
  - Pillars and other remnant bodies that have been rendered unmineable in the short to medium term.
  - Estimates made on the basis of Inferred Mineral Resources.
  - Deposits for which metallurgical treatment characteristics or other aspects of Modifying Factors render the Mineral Resources uneconomic in the short to medium term.

The importance of Good Mineral Resource / Mineral Reserve Estimation

Why do Mineral Resource and Mineral Reserve estimates matter?

First and foremost, because they are fundamental to the viability of all mining projects.

If they are badly flawed, there is a high probability that the project will fail or be seriously compromised.

Who uses Resource and Reserve estimates?

- Company Boards
- Mine management
- Mining professionals
- Accountants
- Banks
- Investors, both small and large (institutional)
- Analysts and brokers.
- Regulatory and statutory bodies
- Governments and government organizations

Who uses Resource and Reserve estimates and for what?

- Company Boards. Approving financial and development decisions. Company valuation. Raising funds.
- Mine management. Making financial and development decisions. Approving operational budgets.
- Mining professionals. Basis for short to long term mine plans. Detailed ore extraction planning. Design of processing plant. Input to permitting.
- Accountants. Depreciation and amortization schedules. Asset impairment decisions, rehabilitation provisions.
- Banks. Whether and how much to lend. Lending conditions.
- Investors. Whether to invest or maintain investment.
- Analysts and brokers. Basis for advice to investors.
- Regulatory and statutory bodies. Listing conditions. Compliance with listing rules and legal requirements.
- Governments and government organizations. Some infrastructure decisions. T and royalty decisions.

Case Study Kelian Gold Mine, Indonesia

- 1994 dispute between CRA and its ex-minority partner in Kelian, Kalimantan Gold.
- Kalimantan alleged that CRA had seriously under-estimated Kelian's Ore Reserves, as production since CRA's takeover had significantly exceeded forecasts.
- Confidential settlement in mid-1997 after both sides combined had spent over US25M prior to court appearances beginning.
- Complex Resource / Reserve estimation and classification issues, involving numerous experts from around the world.

Case Study Gold mine in Africa

- Prior to mine commencement, Consulting Company 1 estimated Mineral Resources* for oxide mineralization that were subsequently shown to be approximately 25% greater than mine production.
- A class action lawsuit was filed.
- Some months later, Consulting Company 2 estimated Mineral Resources* for the oxide mineralization that were approximately 50% less than mine production.
- Consulting Company 2 had the benefit of grade control sample results, mine production information and Mineral Reserve to production reconciliation data that was not available to Consulting company 1.
- The class action lawsuit settled out of court.
- These two estimates, both by experienced and well-respected consulting companies, illustrate the very significant difficulty that can be experienced in making reliable Mineral Resource estimates for some types of mineral deposits.

* *On a contained ounce basis and after allowing for conversion to Mineral Reserves.*

19

Mineral Resource estimation

Requirements for estimating Mineral Resources

- Confident geological interpretation
- High quality, representative samples and assays
- Application of appropriate estimation technique

This comes from

- Mapping and sampling the deposit
- Ensuring the highest standards of sampling and assaying integrity
- Employing experienced, qualified professionals ("Qualified" or "Competent Persons")

Case Study on importance of geology

Rubicon Phoenix Project

Comparison between 2013 and 2016 Quantities and Grades Reported at 4.0 g/t Au [1]

	Quantity (000't)			Grade (g/t Au)			Contained Gold (000'oz)		
Classification	**2013**	**2016**	**Change**	**2013**	**2016**	**Change**	**2013**	**2016**	**Change**
Indicated	4,120	492	-88 %	8.52	6.73	-21 %	1,129	106	-91 %
Inferred	7,452	1,519	-80 %	9.26	6.28	-32 %	2,219	307	-86 %

The 2016 SRK Geological Model benefits from information that was not previously available, including approximately 94,600 m of infill core drilling within a concentrated shallow area of the deposit, and a considerable amount of underground development and limited trial stoping, which exposed the gold mineralization. The new geological information has highlighted the complexity of controls on the distribution of the gold mineralization, its grade, and its continuity. In particular, the distribution of the higher-grade mineralization is controlled by the intersection between the east-west trending D2 structures and the north-trending high-titanium basalt unit. The new data shows that the high-grade gold mineralization is less continuous than indicated in the 2013 SRK Resource Estimate, which was based upon less widely-spaced drilling data that was drilled sub-parallel to the D2 structures. See Figure 2 at the end of this news release for a conceptual diagram of the revised geological understanding of the high-grade mineralization compared to 2013.[1]

[1] Rubicon press release January 11, 2016

Case Study on importance of geology

Rubicon Phoenix Project

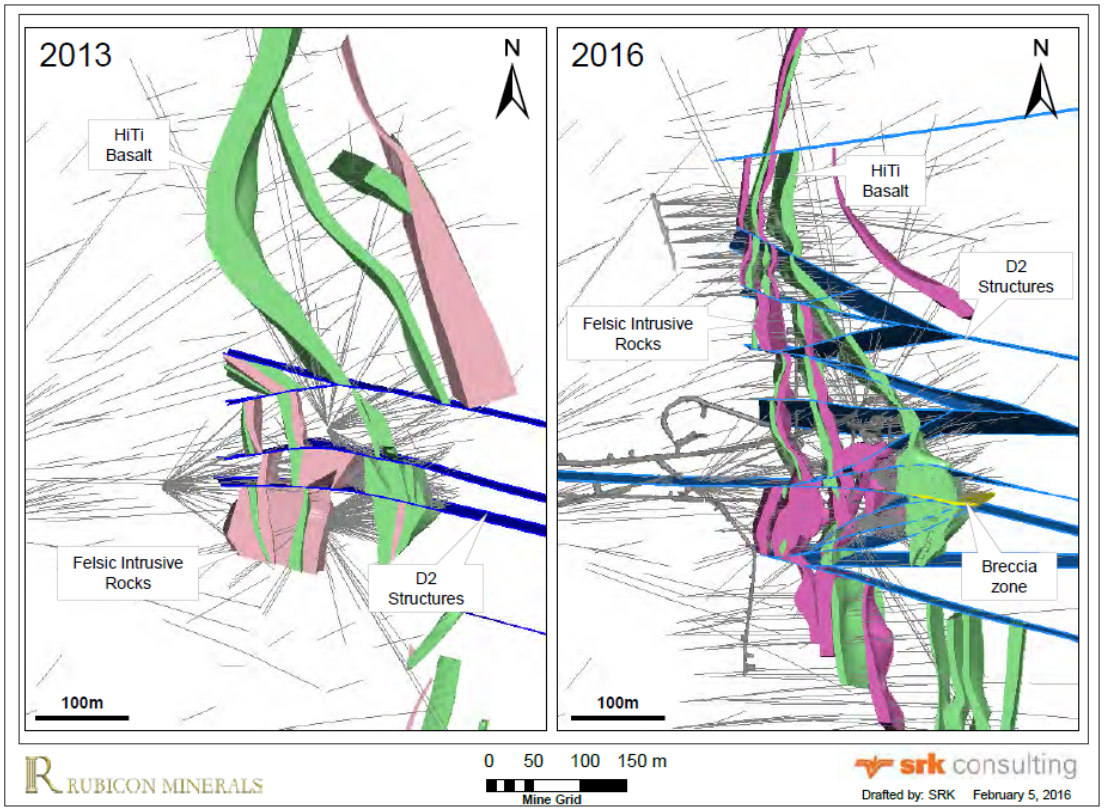


Figure 7: Litho-Structural Model Built in 2013 (Left) and in 2016 (Right)

The 2016 model benefits from information from 94,575 m of core drilling, primarily in the centre of the F2 deposit, and approximately 10,200 m of underground excavations that were not available in 2013.

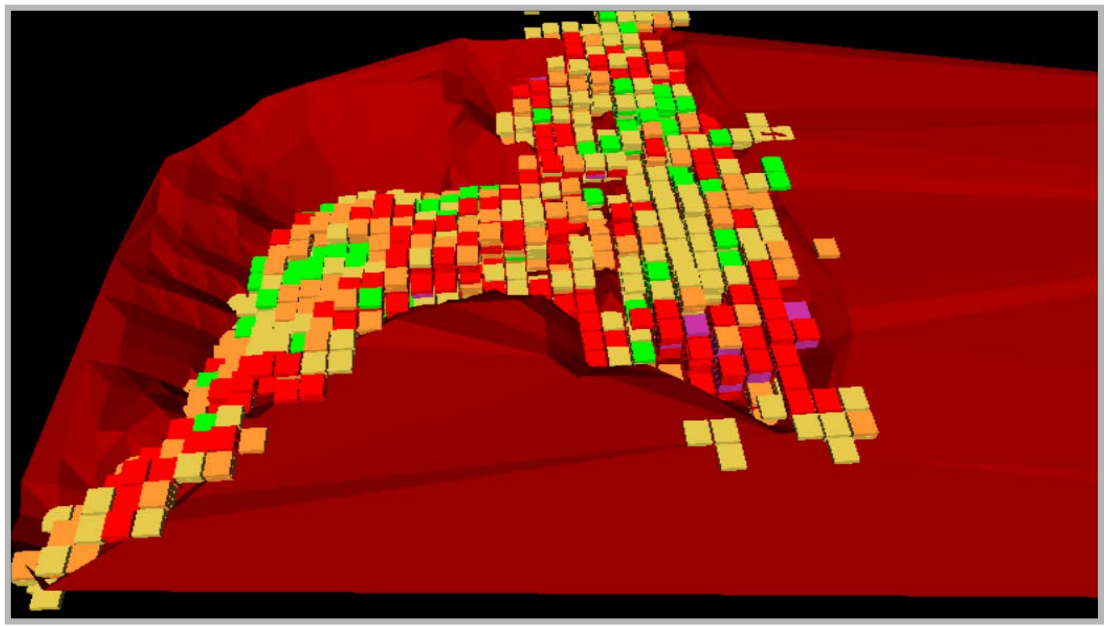
Source: SRK Technical Report Feb 25, 2016, page 25

The challenge of Mineral Resource estimation

Imagine several knitting needles penetrating this room

Common Mineral Resource estimation methods

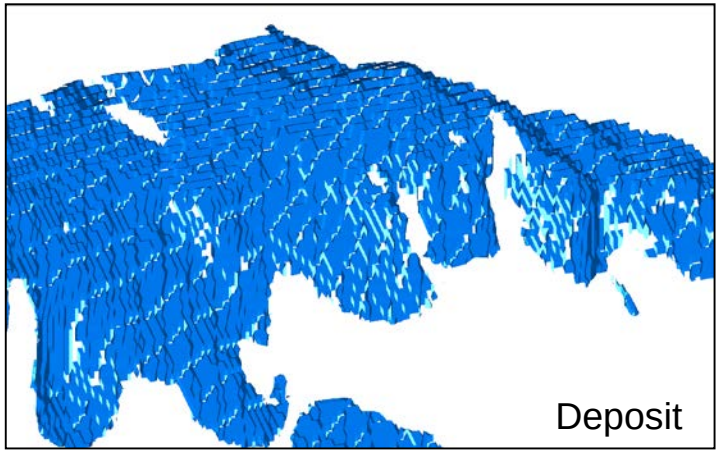
- Polygonal
- Sectional / longitudinal
- Block modelling with kriging or inverse distance

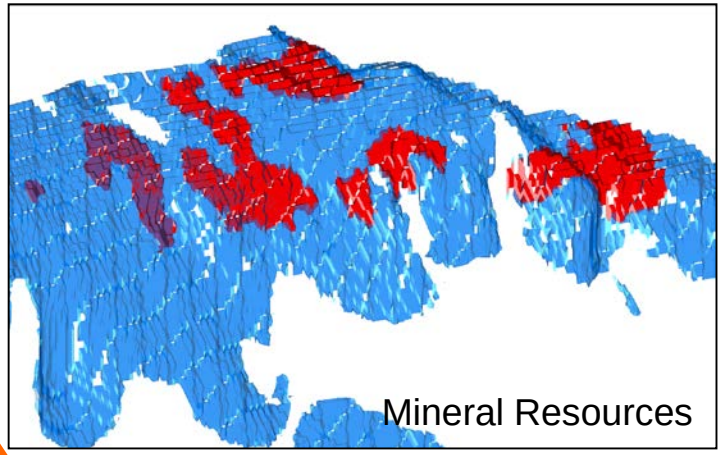


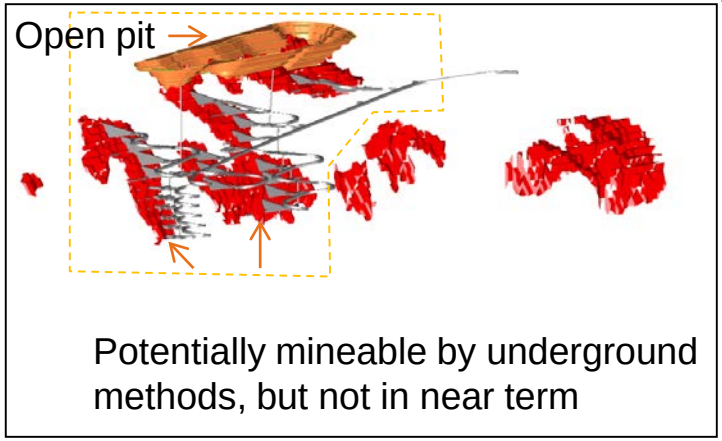
Mineral Reserve estimation

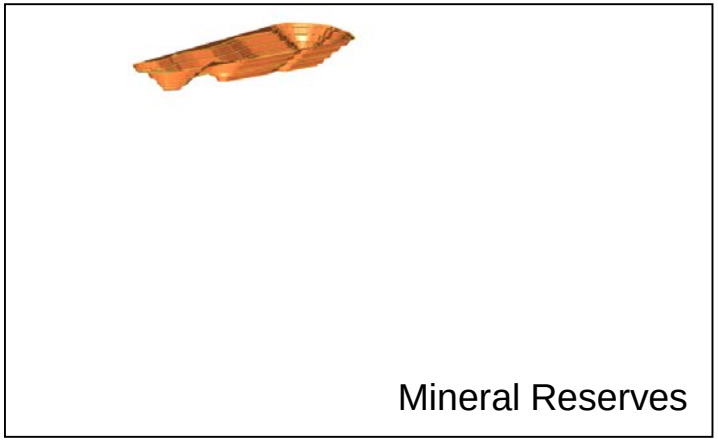
- Based on Measured and / or Indicated Mineral Resource estimate (not Inferred).
- Realistically derived or assumed modifying factors: mining, metallurgical, economic, marketing, legal, environmental, social and governmental.
- Level of study required:
  - Under NI 43-101 and JORC – Pre-Feasibility Study
  - Under SEC Industry Guide 7 – Feasibility Study (for new mines)

Case Study Open Pit Mineral Reserves









Major Factors affecting Mineral Resource / Reserve estimates

- Reliability of geological interpretation
- Amount, distribution and quality of Resource data
- For some deposits, treatment of very high grades
- Assumptions regarding mining and treatment methods
- Assumptions regarding commodity prices and exchange rates
- Experience and judgment of Qualified / Competent Person

The importance of good Mineral Resource / Mineral Reserve classification

Hypothetical example to illustrate the impact of Resource classification on mine life / value

Qualified Person 1

- Classifies Resources 50% Inferred, 50% Indicated
- Therefore 10Mt Ore Reserves
- Therefore mine life 10 years
- Therefore NPV $25M

Qualified Person 2

- Classifies Resources 80% Inferred, 20% Indicated
- Therefore 4Mt Ore Reserves
- Therefore mine life 4 years
- Therefore NPV $5M (possibly no project)

Why are Resources and Reserves classified?

- To convey the Qualified / Competent Person's confidence in the estimates.
- To determine what may be converted to Mineral Reserves (Inferred Resources may not be converted directly to Reserves).
- To guide further exploration and infill drilling.
- To enable end users, who may have less knowledge of the deposit than the Qualified / Competent Person, to be well informed on relative risk.

Classification considerations

- Resource/Reserve classification does not have to be a complicated process but it must reflect the Qualified Person's confidence in the estimate.
- The criteria for classification will be different for each mineral deposit.
- The chosen criteria need to be justified by good geological understanding.
- The following factors need to be considered when determining the classification criteria for a deposit:
  - Drilling/sampling density
  - Quality of sampling and assaying results
  - Confidence in geological controls on mineralization, domains and grade continuity
  - Robustness of grade estimation
  - Cut-off grade

Mineral Resource classification

- Inferred Mineral Resources:
  - Are estimated with a relatively low level of confidence, because of Inadequate geological knowledge, limited sampling data, data of uncertain or poor quality, uncertain geological and / or grade continuity etc.
  - Not sufficient to allow the application of technical and economic parameters to be used for detailed planning.
  - Not convertible directly to Mineral Reserves.
- Indicated Mineral Resources:
  - Are estimated with a reasonable level of confidence.
  - Sufficient to allow the application of technical and economic parameters and to enable an evaluation of economic viability.
  - May be converted directly to Probable Mineral Reserves.
- Measured Mineral Resources:
  - Are estimated with a high level of confidence
  - Sufficient to allow the application of technical and economic parameters to be used for detailed planning.
  - Convertible directly to Proved, or in some cases, Probable Mineral Reserves.

Case Study West African Gold Deposit

- 3M ounce weathered quartz vein gold deposit in West Africa, comprised of laterite and saprolite zones. Two Resource estimates, February 1996 and June 1996, based on essentially same drilling database. Laterite Resource estimates unchanged, but:
  - Feb 1996 saprolite estimate: Measured Resources 5%, Indicated Resources 95%
  - June 1996 saprolite estimate: Measured Resources 95%, Indicated Resources 5%
- The only difference was the estimation technique, ID^2 in February and polygonal in June.
- The auditor rejected the revised classification, causing difficulties for the company which had already published the new estimate and was in the middle of a capital raising.

Case Study Epithermal Gold Deposit, Eastern Europe

- Competent Person classified Resource according to the number of samples (chosen arbitrarily) found within search ellipses.
  - Result: Measured Resource 8%, Indicated Resource 92%
- The result did not accord with his view of the deposit (insufficient resources in the Measured category)
- Response was to include in the drilling database a number of very poor quality holes which had previously been rejected
  - Result: Measured Resources 75%, Indicated Resources 25%
- Auditor questioned the classification
- Question: Why did the Competent Person resort to including poor quality data rather than adjusting the classification criteria?
- **Lesson:** Don't become fixed on certain statistical parameters of blocks to determine Resource classification. Check whether result is consistent with your view of the deposit.

Case Study North American Block Cave Operation

- Mineral Resources classified 70% Measured, 30% Indicated
- Mineral Reserves classified 0% Proved, 100% Probable
- Main reasons:
  - There is considerable uncertainty associated with estimating material movement within block caves.
  - The Measured and Indicated Resources mix together and cannot be mined separately.

Six steps to good Resource classification

1. Subdivide the block model according to measures of grade estimation reliability, such as kriging variance, average distances between samples and blocks, search pass etc. **This is not the final classification.**

2. Read the Mineral Resource definitions and guidelines in the relevant reporting standard to re-familiarize with the meaning and intent of the categories.

3. Create wireframe solids to apply a preliminary classification.

4. Consider all other issues affecting Mineral Resource classification, such as confidence in the geological interpretation, drillhole or sample spacing, data quality and reliability, etc. Adjust the preliminary classification if necessary.

5. Stand back and make sure that the whole thing makes sense. Make any further adjustments if necessary.

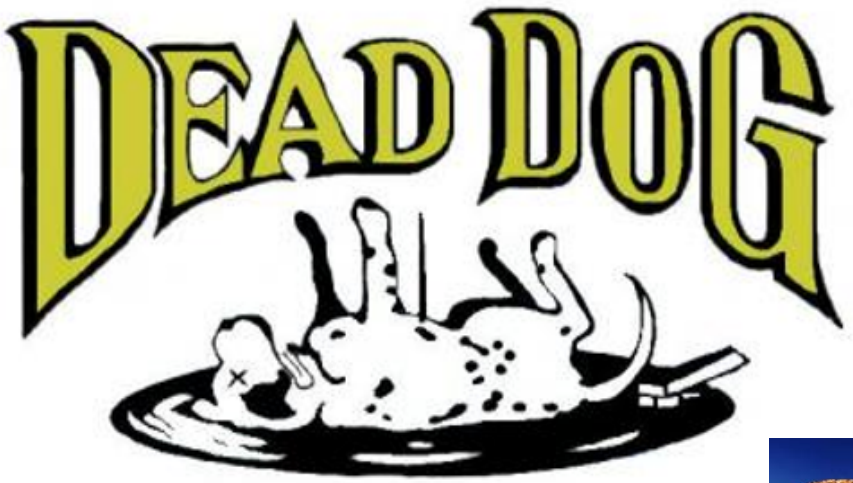
6. Finalize and fully document the estimate and classification.

Mineral Resource classification
It's time to shoot the "Spotted Dog"!

Pat Stephenson (co-authors, Anthony Allman, Dean Carville, Peter Stoker, Peter Mokos, John Tyrrell, Tracie Burrows).

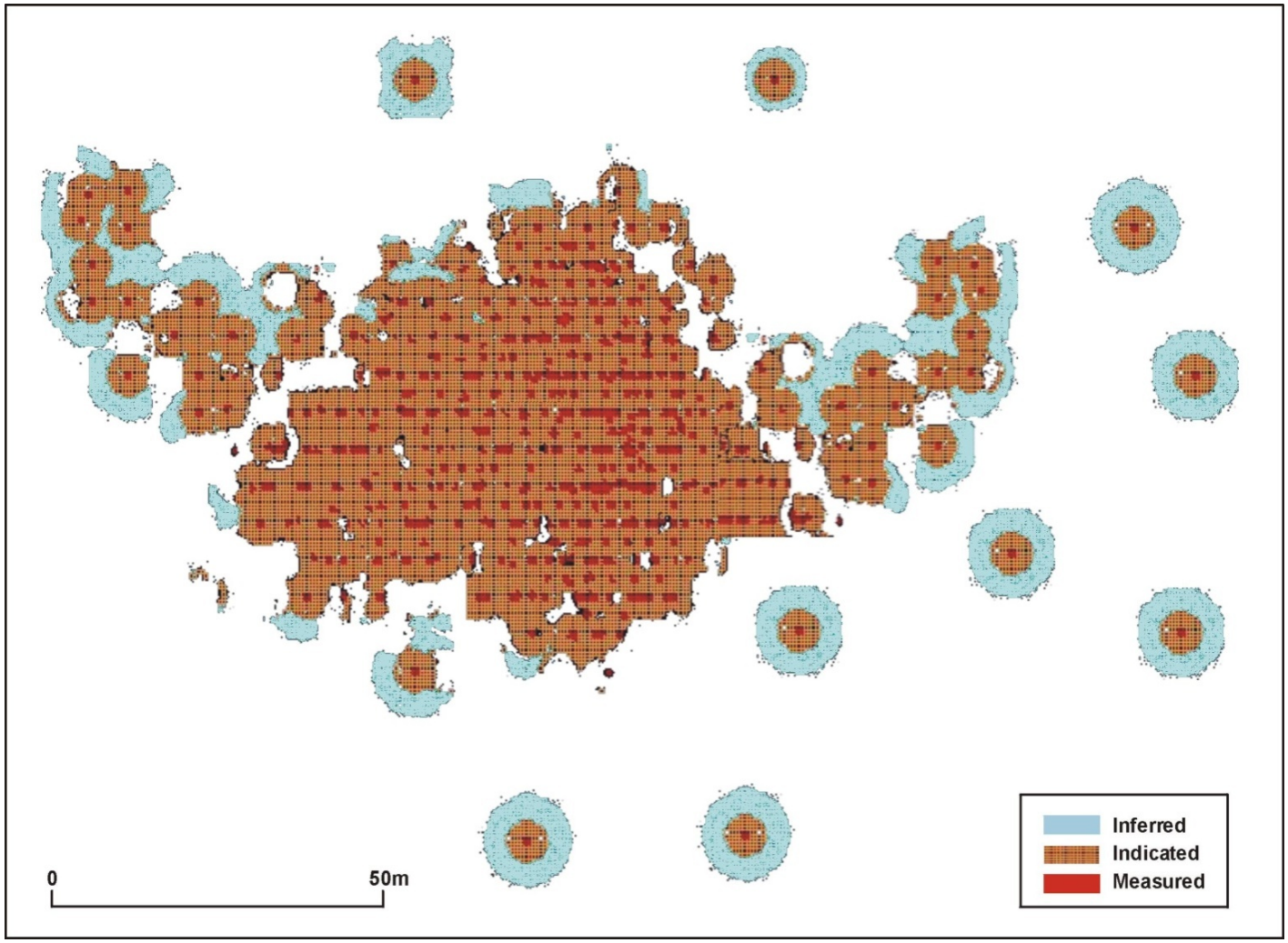
6th International Mining Geology Conference, Darwin, Northern Territory, Australia

August 2006



What is a “Spotted Dog”? This is!!

Case Study open pit gold mine, Australia



What problems does it cause?

Tension

Geologist

Mining Engineer

Problems created by “Spotted Dog” classifications

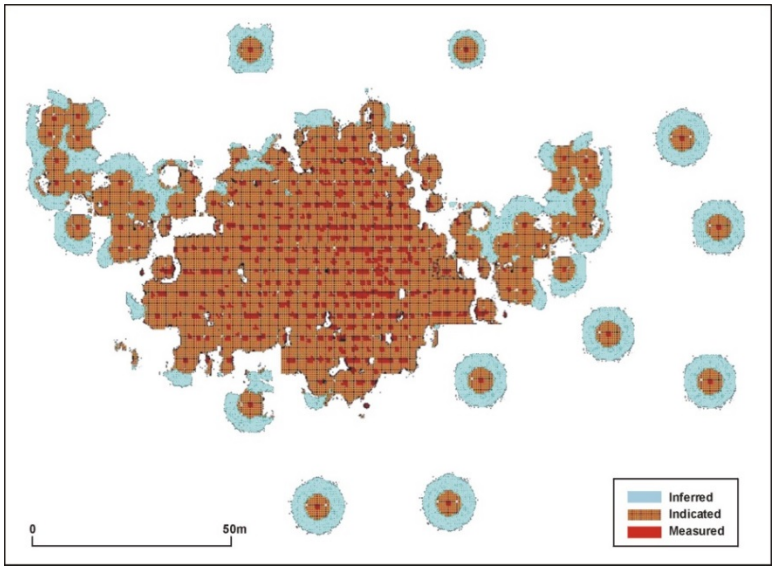
- They usually take no account of uncertainty in the geological interpretation or in the quality of data, both of which may substantially affect Resource classification.
- They imply an unjustified degree of reliance on the attributes of each block, a problem exacerbated when, as is often the case these days, the blocks are very small relative to the drillhole spacing.
- They are inconsistent with the requirements of modern reporting standards which discuss continuity of geology and grade in terms of drillholes plural, implying correlation BETWEEN drillholes, not around individual drillholes.
- They cause real problems in the design of mining shapes, particularly underground, and can result in incorrect estimation of Mineral Reserves.

The answer is to sensibly smooth the classification

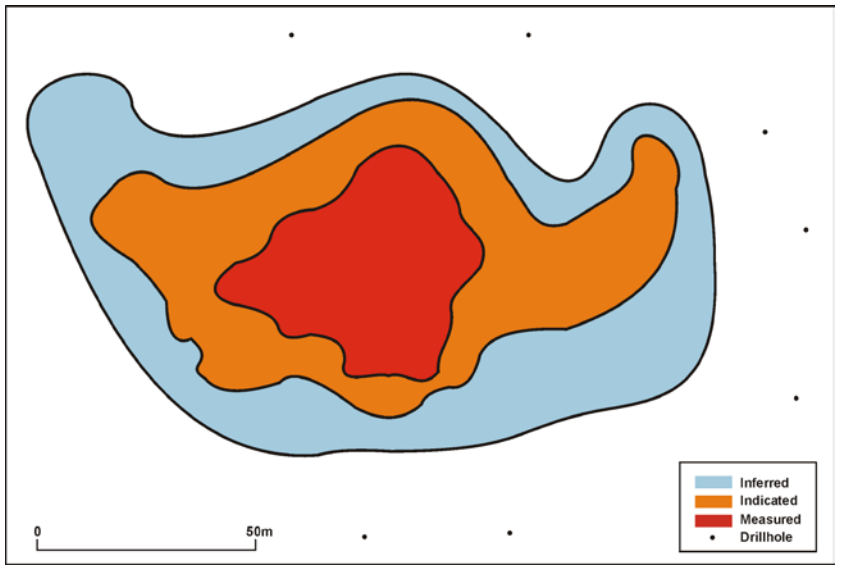
Block-by-block Resource classifications should be smoothed into geologically sensible and coherent zones that reflect a realistic level of geological and grade estimation confidence taking into account the amount, distribution and quality of data.

Example of smoothing

Before



After



A beneficial by-product

Love between species!

Mining engineer

Geologist

Who prepares and classifies the estimates?

(the “Qualified” or “Competent” Person concept)

Qualified / Competent Person concept

- Canada's NI43-101 is a CRIRSCO-style standard (Committee for Mineral Reserves International Reporting Standards)
- CRIRSCO-style standards require publicly reported Reserve and Resource information to be based on work undertaken by a Qualified / Competent Person.
- The Qualified / Competent Person is named in the public report.
- It is the Qualified / Competent Person's responsibility to ensure that the estimates have been performed properly.
- The Qualified / Competent Person may be either an employee (except where an independent Qualified Person is required) or a consultant.
- Concept is of "Responsibility with Accountability."

Qualified / Competent Person concept

- A Qualified / Competent Person must be a member of a professional society that:
  - Requires compliance with professional and ethical standards.
  - Has disciplinary powers, including the power to discipline or expel a member.
- A Qualified / Competent Person must have at least five years' **relevant** experience.
- Some countries are starting to maintain registers of Qualified / Competent Persons.

Am I a Qualified Person?

The questions you should ask yourself are:

- Do I belong to an appropriate professional organisation?
- Do I have at least the required minimum relevant experience?
  - The key qualifier in the definition is the word ‘relevant’.
  - ‘Relevant’ also means that it is not always necessary for a person to have five years experience in each and every type of deposit in order to act as a Qualified Person.
- Am I satisfied that I could face my peers and demonstrate competence in the commodity, type of deposit and situation under consideration?
  - If doubt exists, you should either seek opinions from appropriately experienced colleagues or should decline to act as a Qualified Person.

Empowerment of Qualified Persons

NI 43-101 empowers Qualified Persons:

- Part 8.3 of NI 43-101 requires that the Qualified Person gives consent in writing to inclusion of his / her information in the public report in the form and context in which it appears, thus the public report must fairly reflect the Qualified Person's report.
- Onus is on company to obtain approval, but Qualified Person should encourage observation of the requirement.

Guidance for Qualified Persons

CIM has published several “good practice” guidelines to assist Qualified Persons:

- “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines”
- “Mineral Exploration Best Practices Guidelines”
- “Guidelines for Reporting of Diamond Exploration Results”
- “Paper 88-21 of the Geological Survey of Canada: A Standardized Coal Resource/Reserve Reporting System for Canada”
- Go to www.cim.org

Disciplining of Qualified Person

FOLLOW UP DISCIPLINARY NOTICE
ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS

Suspension of Peter T. George, Cochrane, Alberta

Mr. George entered into a Consent Order dated December 3, 2015, with the Discipline Committee Review Panel in lieu of proceeding to a disciplinary hearing.

Paragraph (b) of the Consent Order required Mr. George to pay a fine in the amount of $15,000 by February 1, 2016. Mr. George complied with this condition of the Consent Order.

Paragraph (c) of the Consent Order required Mr. George to pay $20,000 towards APEGBC's legal costs by February 1, 2016. Mr. George has not complied with this condition of the Consent Order.

Paragraph (e) of the Consent Order required Mr. George to complete to the satisfaction of APEGBC's Discipline Committee, the course entitled "Mineral Project Reporting Under NI 43-101 (a CIM Course), offered by Edumine" by March 3, 2016.

Pursuant to paragraph (f) of the Consent Order, Mr. George has failed to comply with paragraphs (c) and (e) of the Consent Order and is therefore suspended until every default has been remedied in accordance with the terms of the Consent Order.

The full Consent Order is attached to this Notice.

International reciprocal recognition of professional organizations

- Established to facilitate international reciprocity of Qualified / Competent Persons and thereby promote high quality reporting across national boundaries.
- NI 43-101 recognizes 13 “Recognized Foreign Associations” (RFA) plus most USA States that register / license professional geologists & engineers.
- JORC recognizes 24 “Recognised Professional Organizations” (RPO).

The Importance of Good Mineral Resource / Mineral Reserve Reporting

Importance of good internal reporting

- Mineral Resource and Mineral Reserve estimates are the fundamental assets that underpin all existing and potential mining operations.
- It is essential that all users of Resource / Reserve estimates have the information necessary to understand how they are derived.
- External auditors, including from lending organizations, depend on good documentation to provide confidence in the Resources and Reserves.

Importance of good public reporting

- Requirement of securities exchanges and commissions in most mining countries and jurisdictions.
- Improves investors' confidence in the soundness of an exploration or mining company, facilitating the flow of investor funding.
- Improves a company's ability to raise both debt and equity funding.
- Improves a company's ability to operate confidently in non-domestic markets.

National and International Reporting Standards

CRIRSCO

- CRIRSCO was formed in 1994
- Now a committee representing national Resource / Reserve reporting committees in Australia, Brazil, Canada, Chile, Mongolia, Russia, South Africa, UK / Ireland / Western Europe and USA (but not the SEC).
- Mining companies on these stock exchanges account for more than 80% of the listed capital of the mining industry.
- NI 43-101 (which references CIM Definitions Standards), JORC Code, SAMREC Code, PERC Code etc, all belong to the “CRIRSCO-style” of reporting standards

Characteristics of CRIRSCO-style reporting standards

- Principles-based standards:
  - Transparency
  - Materiality
  - Competence
- Minimum standard for public reporting
- Classification system of tonnage/grade estimates according to:
  - geological confidence
  - technical/economic considerations

Characteristics of CRIRSCO-style reporting standards (cont.)

- Require public reports to be based on work undertaken by an appropriately qualified and experience person ("Qualified" or "Competent Person"), who can be held to account through a professional association
- Principle of "responsibility with accountability"
- Provide extensive guidelines on Resource / Reserve estimation

CRIRSCO-style Resource / Reserve reporting standards

- JORC Code (Australasia)
- CIM Standards (Canada, in NI 43-101)
- SAMREC Code (South Africa)
- PERC Code (UK/Ireland/Western Europe)
- Certification Code (Chile)
- NAEN Code (Russia)
- Mongolian Code (Mongolia)
- SME Guidelines (USA)
- CBRR Guide (Brazil)

CRIRSCO is in advanced discussions with:

- China
- Kazakhstan
- India

Reasons for the success of CRIRSCO-type reporting standards

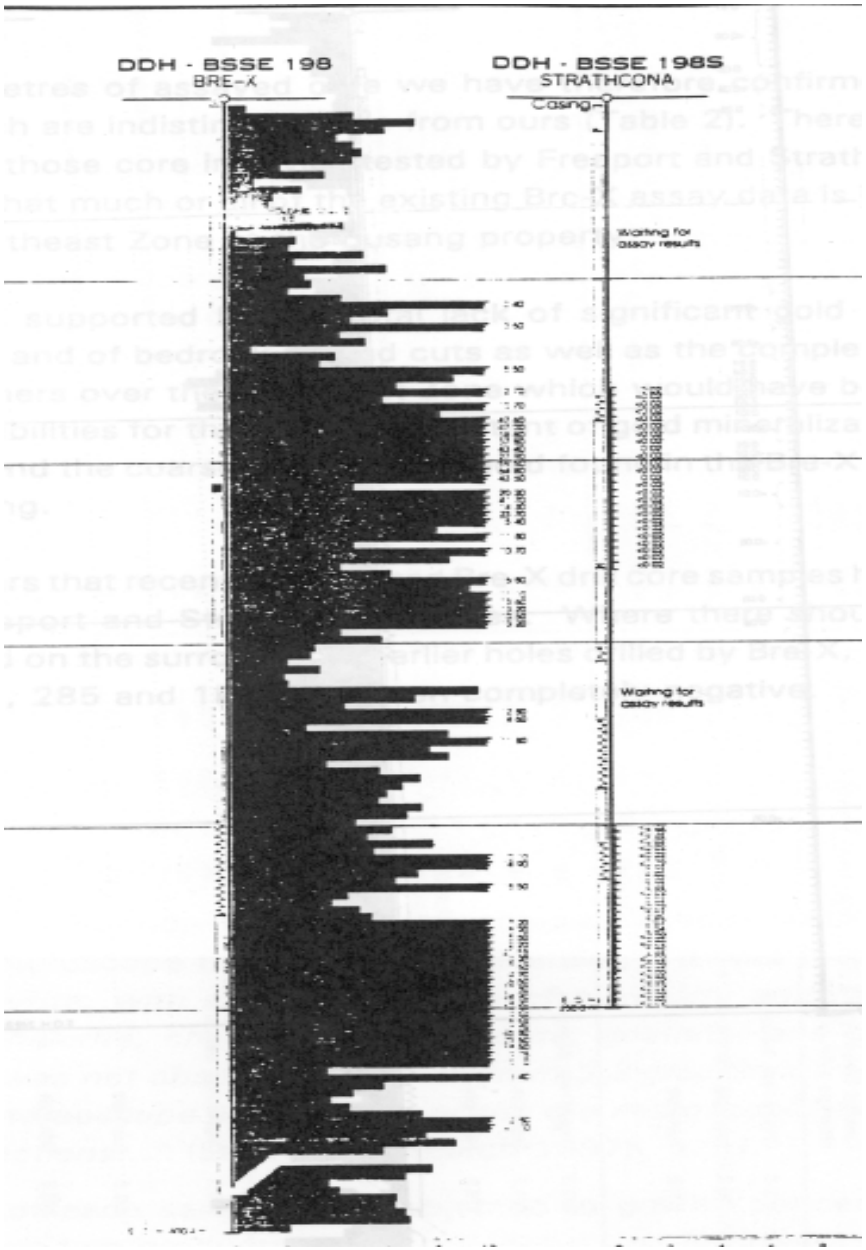
- Simplicity.
- Regulatory backing.
- Intentional avoidance of excessive prescription.
- Qualified / Competent Person system.
- Industry-friendly but designed with the investor in mind.

What we want to avoid

Busang

- Through 1996-97, Toronto-listed Bre-X announced progressively greater Resource estimates for Busang, culminating in 71M oz in February 1997. Freeport McMoran agreed to acquire 15% for US$400M.
- Bre-X started trading on TSX in April 1996, stock price topped $200 in May before splitting 10-for-1. Company then had net market worth of over $6 billion.
- In March 1997, Freeport's due diligence drilling found little or no gold. Bre-X Chief Geologist, Michael de Guzman, commits suicide.
- April/May 1997, independent consultants Strathcona concluded that Busang was a massive fraud, through cleverly executed salting of core samples. Bre-X share price collapses, law suits begin.
- July 2007, last law suit finalized. John Felderhof found not guilty of insider trading

Busang


DDH - BSSE 198
BRE-X
DDH - BSSE 198S
STRATHCONA
Casing
Waiting for assay results
Waiting for assay results

63

Summary

- Mineral Resources and Mineral Reserves matter. The are important to a whole range of range of parties, including mine management, boards, lenders, investors and regulators.
- Mineral Resources and Reserves must be:
  - Estimated well
  - Classified appropriately
  - Reported well and in accordance with the relevant standards
- Qualified Persons estimating Resources and Reserves are accepting a high level of personal responsibility. They should be thorough, comply with industry best practice, and ensure their work is peer reviewed at all stages.
- Poor Resource / Reserve estimation and reporting can threaten the viability of a project and even of the industry (Busang).
- High quality Resource / Reserve estimation and reporting can facilitate the flow of funding, benefitting all parties.

Merci

Thank you