Trends in the Regulation of Mineral Deposit Valuation

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Challenges for Ore Reserve Estimation for Industrial Minerals

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Appraisal and Valuation tend to be used interchangeably although appraisal tends to be preferred in American usage and valuation in British usage.
Mineral property appraisals are used for:

- Securities reporting
- Acquisitions and mergers
- Accounting
- Financing mine development
- Taxation
- Establishment of trusts
- Condemnations
- Owner’s internal planning
International Regulatory Overview

- Australia: JORC & VALMIN
- Canada: Canadian National Instrument 43-101 (currently under development)
- United States
  - SEC: securities reporting
  - USPAP: appraisals for bank loans
  - USFLA: condemnations, takings, etc.
U.S. Securities & Exchange Commission

• Fundamentally based on Hoover, 1909
• Focused on investor protection
• *Resources* not permitted in quantitative disclosure:
  – Noble 1993 estimated resources v reserves
  – The big lie = resource oz x resource tons = value
• Independent appraisal values can and have been used for specific purposes, even for exploration-stage properties
Hoover's Definition of Ore

Principles of Mining 1909

stoped out

Proven

Probable

stoped out

Proven

Probable
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Estimates vs. Recovery

after Noble, 1993, *Mining Engineering*
The Big Lie

\[ \text{tonnes} \times \text{grade} \times \text{price} = \text{value} \]

material omissions:

- cost of extraction and recovery
- recoverable percentage available for sale
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The Savings & Loan Crisis and USPAP
Uniform Standards of Professional Appraisal Practice

- NPV or DCF Methods
- Cost Approach Method
- Comparable Sales Method
Federal Land Acquisitions

How does one provide reasonable and acceptable values for:

• reserves,

• resources, and/or

• exploration-stage property?
Relative Importance of Lands Appraised

- Residential real estate
- Commercial real estate
- Mineral property
- Farm and ranch property

[Diagram showing the relative importance of each category with pie chart]
Comparable Failure for Industrial Mineral Property
Critical for Industrial Minerals

Market
Financing
Australian Standards

- JORC Code: reserve and resource classifications
- VALMIN: requirements for preparing reports

Still mostly focused on stock exchange disclosure rules; however, disclosure of resource categories is allowed.
Canadian Standards

- Canadian Provincial Securities Administrators National Instrument 43-101 in draft to replace National Policy 2-A
- CIM Reserve and Resource Definitions allow for *possible reserves* unlike others
- TSE/OSC Mining Standards Task Force report *Setting New Standards*
Competent or Qualified Person

- Australia: *Competent Person* is a corporate member (Member or Fellow) of AusIMM
- Canada: *Qualified Person* is a member of a “Recognized Professional Association” with 5 years of relevant experience
  - Code of Ethics recognizes financial fraud
  - Code of Ethics enforced
  - Public notification of ethical sanctions
Conclusions

• The regulation of mineral appraisal is evolving as a result of recent events; e.g. development of USPAP and TSE/OSC.

• In the U.S., dominance of real estate appraisal results in emphasis on comparable sales.

• Formal regulation of or qualifications for appraisers.

• International agreement on resource and reserve definitions is a major step forward.