

Trends in the Regulation of Mineral Deposit Valuation

Trevor R. Ellis

Ellis International Services, Inc.

David M. Abbott, Jr.

Henry J. Sandri

Behre Dolbear & Company

Society for Mining, Metallurgy, and Exploration

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

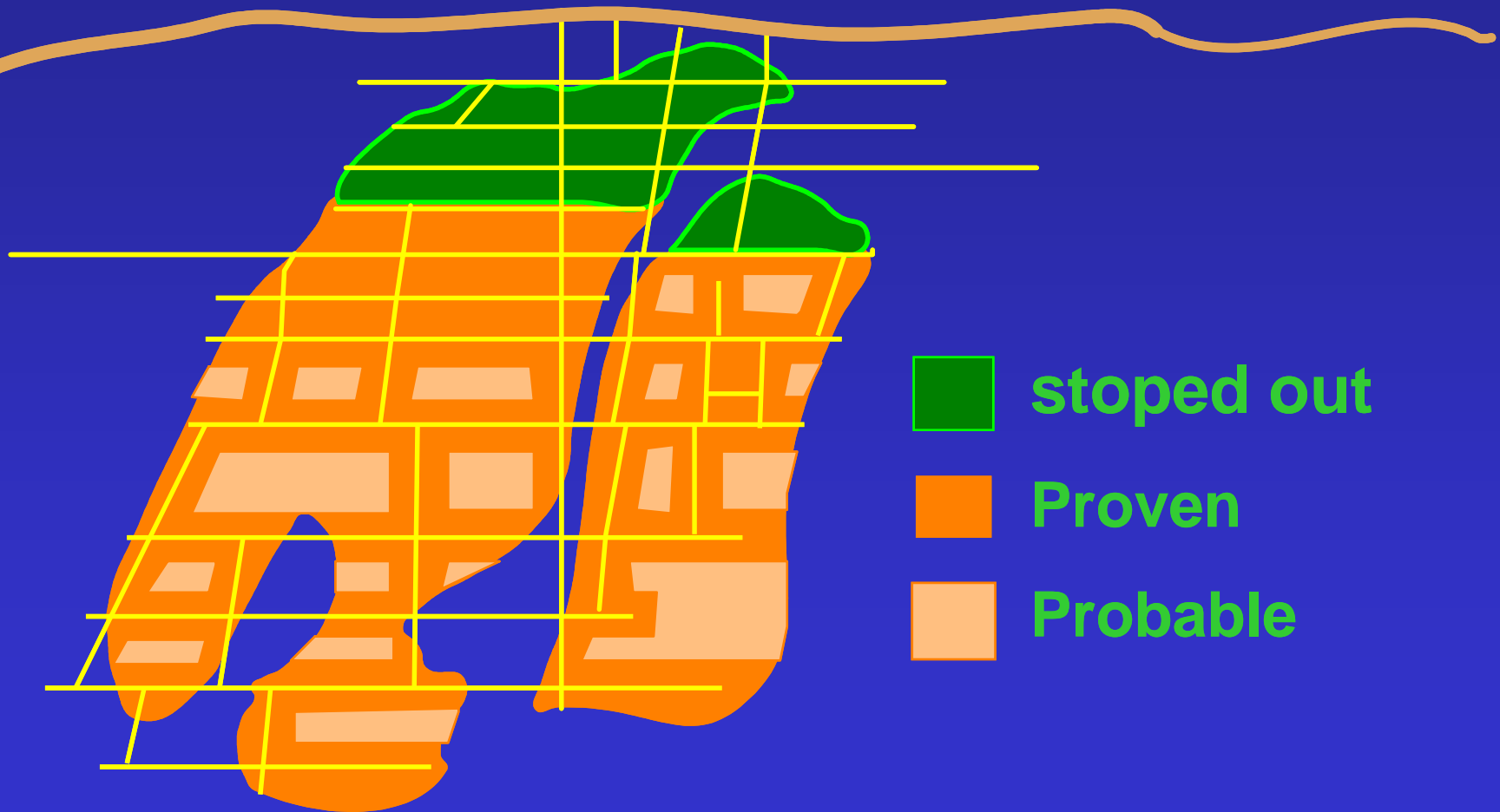
- Australia: JORC & VALMIN
- Canada: Canadian National Instrument 43-101
(currently under development)
- United States
 - SEC: securities reporting
 - USPAP: appraisals for bank loans
 - USFLA: condemnations, takings, etc.

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



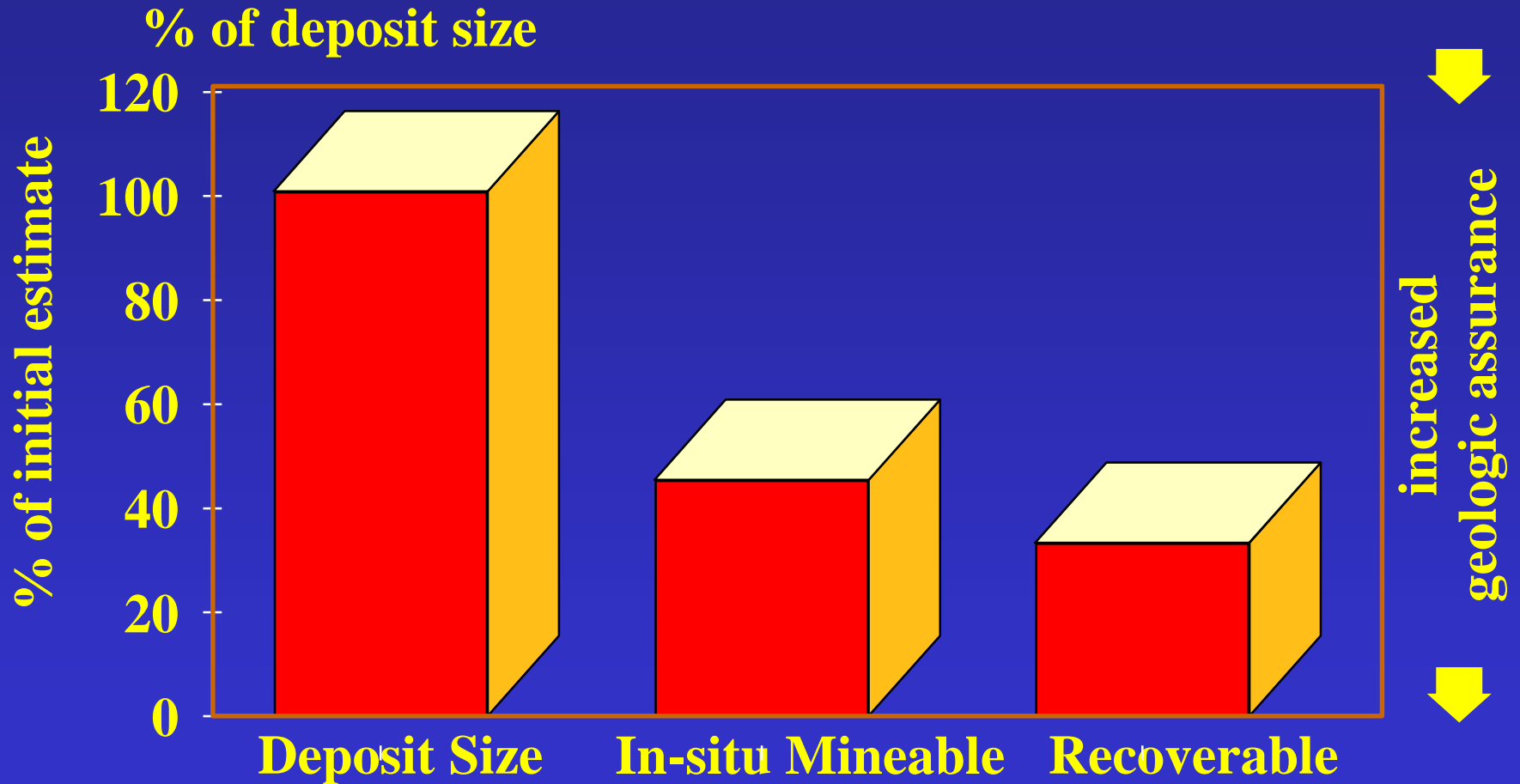
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Estimates vs. Recovery



after Noble, 1993, *Mining Engineering*

The Big Lie

tonnes × grade × price = 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

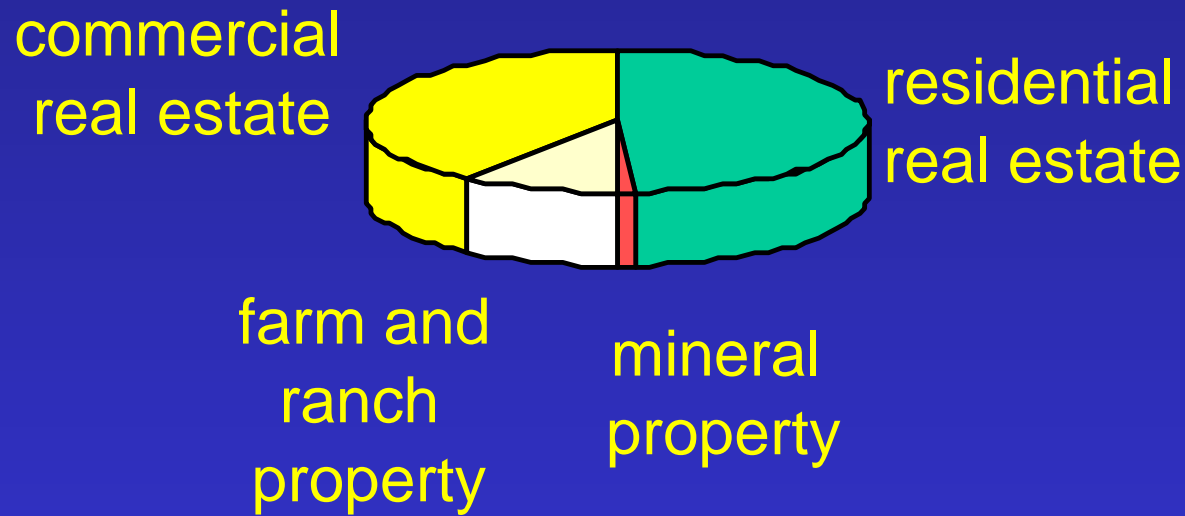
- NPV or DCF Methods
- Cost Approach Method
- Comparable Sales Method

Federal Land Acquisitions

How does one provide reasonable and acceptable values for:

- **reserves,**
- **resources, and/or**
- **exploration-stage property?**

Relative Importance of Lands Appraised



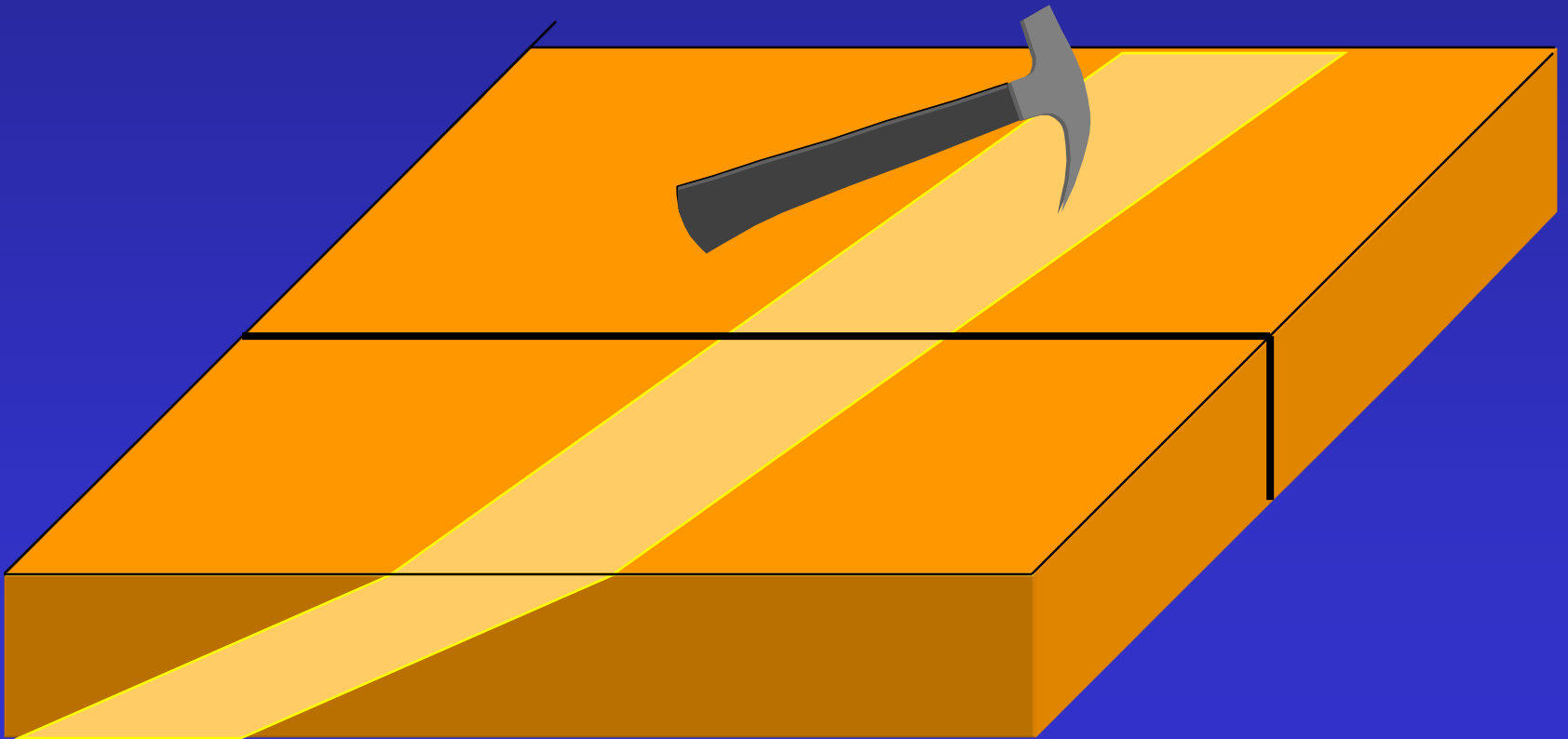
■ residential real estate

■ mineral property

■ farm and ranch property

■ commercial real estate

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.