Valuation of a Coal Property

— Applying Standards to Determine Market Value versus Investment Value

Trevor R. Ellis, CPG, CMA, CGA, FAUSIMM
Mineral Property Appraiser
Ellis International Services, Inc.



Denver, Colorado www.minevaluation.com

What is Investment Value?

R

What is Market Value?

What is Investment Value?

- Commonly termed *Worth*.
- "The value of property to a particular investor, or class of investors, for identified investment objectives." (International Valuation Standards 2005).
- For us NPV of project cash flows at the hurdle DCFROR required for investment approval.

What is Market Value?

- "The estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently, and without compulsion."
- "....reflects the collective perceptions and actions of a market"
- "...objective valuation of identified ownership rights ..." (IVS 2005).

The Common Appraisal Practice of Mining Industry Practitioners

- 1. Calculate an NPV for the coal or mineral property
- 2. Call the NPV Market Value
- 3. Wrap a property description around it
- 4. Label the report an *Appraisal*
- 5. Kick it out the door

The Issues

- The value estimate is not derived from market measurement
- It is an Investment Value or a Use Value
- Ignores the US national appraisal standards
 - Uniform Standards of Professional Appraisal Practice (USPAP)
- Result real property and business appraisers get the mining property appraisal work

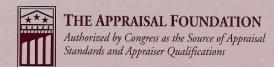
Appraisal Standards Board

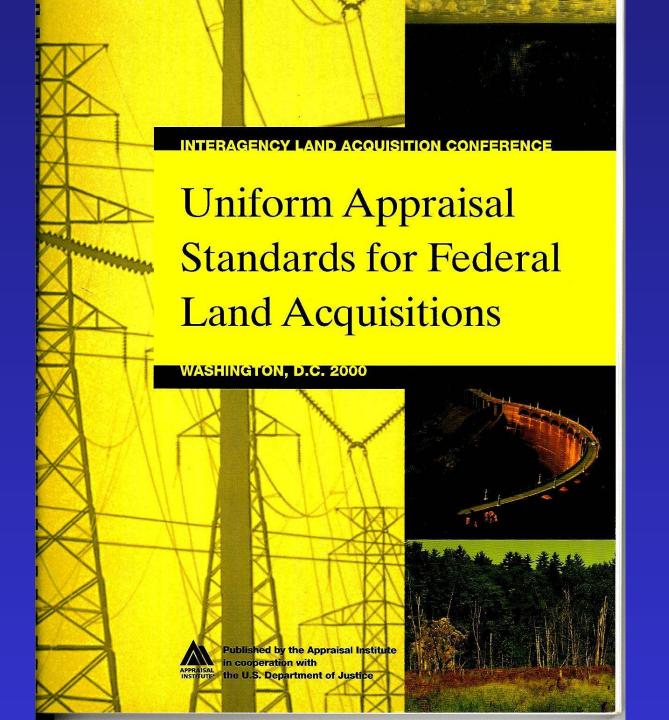
TISTAP 1

Uniform Standards of Professional Appraisal Practice and Advisory Opinions

2005 Edition

Effective January 1, 2005





International Valuation Standards Seventh Edition 2005





International Financial Reporting Standards (IFRSs™)

including International Accounting Standards (IASs™) and Interpretations as at 31 March 2004

INVESTMENT CONVERGENCE PARTNERSHIP
LEADERSHIP MARKETS
BUILDING CONTROL OF THE CON Portugal Romania Russian Federation Serbia and Montanegro TRANSPARENCY INVESTMENT CONVERGENCE PARTNERSHIP LEADERSHIP MARKETS Slovenia Slovak Republic South Africa Spain Swaze Swaziland INVESTMENT CONVERGENCE PARTNERSHIP LEADERSHIP MARKETS
TRANSPARENCY Armenia Aruba Austria Australia Bahamas

CONVERGENCE PARTNERSHIP LEADERSHIP MARKETS B and TRANSPARENCY INVESTMENT CONVERGENCE PARTNERSHIP LEADERSHIP MARKETS F

INVESTMENT CONVERGENCE PARTNERSHIP LEADERSHIP MARKETS Serbia and Montenegro TRANSPARENCY INVESTMENT CONVERGENCE PARTNERSHIP LEADERSHIP MARKETS

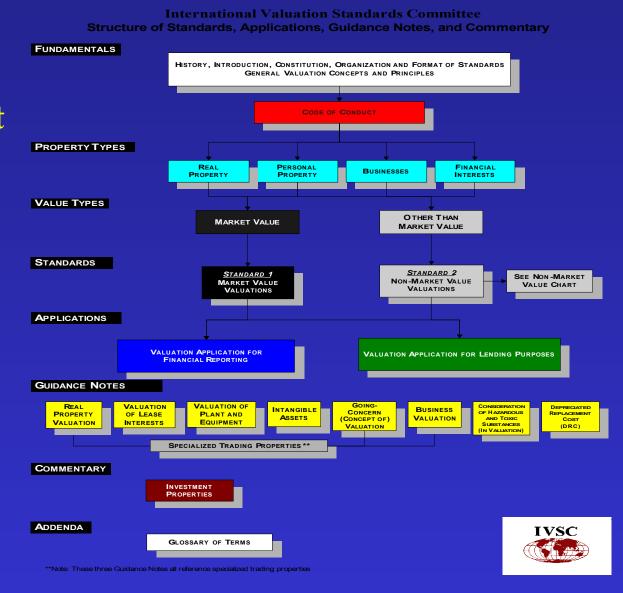
LEADERSHIP MARKETS Tanzania Trinidad and Tobago Turkey Uganda Ukraine United Arab Emirates United Kingdom Zambia Zimbahwa



International **Accounting Standards** Board®

International Valuation Standards – 2003 Structure

- **Fundamentals**
- Code of Conduct
- Property Types
- Value Types
- Standards
- Applications
- Guidance Notes
- Commentary
- Addenda



Market Value of a Mine as a Business

- 1. Determine using business value parameters drawn from the market indicators
- 2. Sum the market value contribution of the component property types:
 - 1. Real Property Interest coal reserves-resources, land surface, buildings, other surface improvements
 - 2. Personal Property mobile equipment
 - 3. Intangible/financial property cash, bonds, debt

- Intended Use and Intended User
- Identify the property interest appraised
- Effective Date of Appraisal and the Report Date
- Exposure Time to Market
- Scope of Work
 - Level of research
 - Appraised as is, or conducted drilling, testing, market study

- Highest and Best Use
 - Legally Permissible
 - Physically Possible
 - Financially Feasible
 - Maximally Productive

- Sales and other transaction analysis
 - Leases, royalty payments, joint ventures
- Reserve-Resource Classification Adjustment
 - SEC Industry Guide 7
 - CRIRSCO
 - United Nations Framework Classification
 - USGS

Three Approaches to Value

- If one not used, state why not
- Sales Comparison Approach
 - Principle of Substitution
 - Does not mean Comparable Sales
 - Can adjust to Subject from very different property

Cost Approach

- Principle of Contribution to Value
- Based on sales analysis
- Methods:
 - Depreciated Replacement Cost
 - Multiples of Exploration Expenditure
 - Kilburn Matrix
 - Rural Appraisal Contribution Method

Income Approach

- Principle of Anticipation
- Extract financial parameters from sales analysis and other market sources
- Methods:
 - NPV of before income tax cash flows
 - NPV of after income tax cash flows (disliked)
 - NPV of royalty income from leasing
 - Income capitalization ratios
- All methods should give similar results
- Use probability factors/analysis

Reconciliation of all value estimates

- Don't pick result from preferred method
- Explain the differences, weaknesses, strengths
- Reconcile to determine the conclusion as to Market Value

Trevor's Observations

- Minerals appraisers who provide high value estimates generally get the most work.
- The common practice of lenders of allowing their client to choose and pay the minerals appraiser, encourages very high appraised values.
- The minerals appraiser who provides a well developed estimate of market value after another consultant has provided an astronomical value to the same client, will generally not get his last invoice paid.