AMERICAN INSTITUTE OF MINERALS APPRAISERS

NEWSLETTER

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IN THIS ISSUE

New Members

So far 2006 has been a good year for AIMA. Subsequent to January 2006, we have gained four new Members and one new Associate Member. They are;

Member

Terry Hankin, Member Number 2006-1
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Associate Member

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For New Members and Associate Member, congratulations and welcome to our Institute. Your Names, address and telephone number will be added to our website directory. The address of it is:

www.mineralsappraisers.org

You (Members and Associate Member) are requested to furnish the Newsletter Editor/Webmaster a description concerning your appraisal specialty. That information will also be posted on our website. FYI, many of our members obtain clients from it. My e-mail address is: dongene32@sbcglobal.net, fax number is 918-665-8343 and telephone number is 918-663-3074.

Abstracts, 2007 SME Annual Meeting Valuation Session

By Donald Warnken, Valuation Session Co-Chairman

I am pleased to announce that there will be seven papers presented at the 2007 SME Annual Meeting Valuation Session. The Meeting will be held in Denver, Colorado on 25 – 28, February 2007 at the Denver Convention Center. AIMA will also hold their annual meeting coincident with the SME annual meeting. The location and other details will be announced later, but start making your plans now to attend.

Titles, Authors and Abstracts are as follows:

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Abstracts, 2007 SME Annual Meeting
Valuation Session, *Continued from page 1*

Paper No. 1

Paper Title: Cost Approach Methods for Mineral Property Valuation

Author: Trevor Ellis, Ellis International Valuation Service Inc

Abstract: The rarely used third approach available for mineral property valuation is misunderstood and wrongly maligned. Most valuers believe that this approach can only be applied to buildings and other structures, plant and equipment. In this paper, the author discussed cost approach methods available for valuation of exploration properties through operating mining properties.

Paper No. 2

Title: Conveyance of Federally Owned Mineral Interest

Author: James Evans, Mineral Appraiser

Abstract: Under certain conditions Federal mineral interests can be conveyed to a private surface owner. Conveyance of the mineral interest can take place where there is "no known mineral value", or the mineral reservation is interfering with, or precluding appropriate mineral development of the surface and that the non-mineral development is a more beneficial use than the mineral development.

It is important that the surface owner provide an appropriate mineral report regarding conditions for the conveyance. Otherwise, the surface owner must pay the Bureau of Land Management for their preparation of a report.

Paper No. 3

Title: Mineral Appraisals and Mineral Appraisers: Why Do You Need Them, and What For?

Author: J S Limb, CMC Inc

Abstract: Most of us are conversant with the need for real estate appraisals e.g. upon the purchase of a house, when making a real estate investment, disputing property tax assessments etc. Mineral appraisals, while less commonly recognized can be an invaluable document for use by mining companies, mineral owners, banks, lawyers, public bodies and numerous others. Minerals are the life blood of a mining operation and their value should be assessed and utilized in the same way that other assets are evaluated.

Paper No. 4

Title: Appraisal of a Lessor's Interest in Mineral Reserves of Restricted Price Commodities

Author: Richard L. Bate, Vice President, John T. Boyd Co.

Abstract: The value of a Lessor's interest in a mineral property is directly related to revenue realized under the terms of the lease. Many leases specify a royalty with a language calling for payment of the greater of a fixed amount per unit (ie per ton) or a percentage of the "fair market value" of the commodity. However, in some cases, there is no open market for the commodity, and thus the "fair market value" may not be defined. This paper will examine methodologies available for determining surrogated for the fair market value of the commodity in such restricted market price situations.

Paper No. 5

Title: Appraising 3 Bad Pennies

Author: Mitchell Albert, Dry Creek Resources

Abstract: Not available at this time.

Paper No. 6

Title: Effects of Latin American Affairs on Mineral Resource Valuation

Author: Stephen D. Olmore, Olmore & Assoc Inc

Abstract: Several Latin American states are in the process of shifting between privatization and increased state ownership, or nationalization, as a result of political changes. Others are considering privatizing after periods of prolonged state ownership or instability. Mineral resource assets will undergo commensurate changes in fair market value that should be considered on a case by case basis by minerals' valuation specialists, although comparisons within geological-political blocs may apply. Increased state ownership is projected for Argentina, Bolivia, and Venezuela. Now may be an opportunity to be prepared for investment activity in Cuba and in Colombia as change is in process.

Paper No. 7

Title: Market Study and Aggregate Mine Appraisal

Author: G L Clark, Associated General Appraisers

Abstract: Which came first the chicken or the egg? Appraising an aggregate mine often considers a similar question. Growing markets are constantly changing and sedom available for quick, current reference. This paper explores the market and value principles an appraiser may want to consider in the analysis. The tools available for small scale study, and how the information can be applied.

Current Standards Development Activities

By Trevor R. Ellis

Standards development activities relevant to minerals and petroleum valuation have reached a rather frenzied level recently. The following is a brief summary.

Two small working groups have begun review work in preparation for the convergence project between the International Valuation Standards (IVSs) and the USA's Uniform Standards of Professional Appraisal Practice (USPAP). A joint press release issued by the International Valuation Standards Committee (IVSC) and The Appraisal Foundation on 19 June 2006 says, "Both parties commit themselves to the ultimate goal of a single set of understandable and enforceable global valuation standards." The rather urgent need for this convergence project has been largely driven by the on-going convergence project for the International Financial Reporting Standards (IFRSs) and the US Generally Accepted Accounting Principles (US GAAP).

It will be interesting to see how this project proposes to resolve the very different formats of the IVSs and USPAP texts. Also, the IVSs has a standard for valuation of minerals and petroleum industry assets, whereas USPAP does not specifically address these assets.

On 20 September 2006, the US Financial Accounting Standards Board (FASB) issued its Statement of Financial Accounting Standards (FAS) No. 157, titled Fair Value Measurements. This standard clarifies market measurement criteria for financial reporting, and will provide consistency across US GAAP. It introduces the unique concept of a fair value hierarchy. The standard includes the conventional appraisal concepts of highest and best use, and three approaches to value. The International Accounting Standards Board (IASB) will rely heavily on this standard as a basis for enhancing its equivalent market measurement criteria for its IFRSs.

In the introductory statement to FAS 157, FASB states:

> "This Statement emphasizes that fair value is a market-based measurement, not an entity-specific measurement. Therefore, a fair value measurement should be determined based on the assumptions that market participants would use in pricing the asset or liability. As a basis for considering market participant assumptions in fair value measurements, this Statement establishes a fair value hierarchy that distinguishes between (1) market participant assumptions developed based on market data obtained from sources independent of the reporting entity (observable inputs) and (2) the reporting entity's own assumptions about market participant assumptions developed based on the best information available in the circumstances (unobservable inputs). The notion of unobservable inputs is intended to allow for situations in which there is little, if any, market activity for the asset or liability at the measurement date. In those situations, the reporting entity need not undertake all possible efforts to obtain information about market participant assumptions. However, the reporting entity must not ignore information about market participant assumptions that is reasonably available without undue cost and effort."

The International Accounting Standards Board's Extractive Activities Project Team is nearing completion of its multi-year research project on the financial reporting concepts for the minerals and petroleum industries, including the reporting of reserves and resources, and the fair valuation of those. This research project has been undertaken by representatives from the Australian, Canadian, Norwegian, and South African accounting standards boards. The cut-off of input to this very in-depth research project is scheduled for 31 October 2006. In the next few months, the team will present its recommendations to the IASB. A number of Working Papers will also be presented, which distill the results of the project team's research. The Board will then proceed to draft the comprehensive Extractive Industries standard that will replace the preliminary IFRS 6 released on December 2004. It will be interesting to see the extent to which the standard includes fair value reporting of minerals and petroleum assets.

The two year development of the IVSC's Extractive Industries Technical Paper is nearing completion. This paper is being developed by the IVSC's Extractive Industries Task Force (chaired by this author), which also developed the extractive industries valuation standard (Guidance Note 14) first published in the IVSs in 2005. The technical paper will provide best practice guidelines to supplement the standards. Its development has paralleled the work of the IASB Extractive Activities Project Team, to support that research and provide supplemental reference for the drafting of the Extractive Activities IFRS. Beyond that, the technical paper will provide best practice guidelines for the spectrum of minerals and petroleum valuation uses.

The completion date is also pending for the convergence project on petroleum and mineral reserve-resource classification standards. This research project is being undertaken primarily by the Society of Petroleum Engineers (SPE) and the minerals industry's Committee for Reserves International Reporting Standards (CRIRSCO), in conjunction with the IASB, the International Organization of Securities Commissions (IOSCO), and the United Nations Economic Commission for Europe (UNECE). Concurrently, the SPE and CRIRSCO have been working on harmonization of the United Nations Framework Classification for Energy and Mineral Resources (UNFC) with the SPE/WPC/AAPG petroleum classification system and the CRIRSCO minerals classification. This also involves enhancement of the UNFC to "code status," for use as a standard for reporting to the securities markets. A December 2005 letter from Sir David Tweedie, IASB Chairman, strongly requested that the two

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Current Standards Development Activities, *Continued from page 3*

industry sectors try to complete the convergence process by the end of 31 October 2006, to allow the outcome to be used by the IASB's project team.

The results of this research will be presented at the United Nations in Geneva, Switzerland, on 11-13 October 2006, to the UNECE Ad Hoc Group of Experts on Harmonization of Fossil Energy and Mineral Resources. Representatives of the IASB will be among the high level delegations present at the meeting to review the results and recommendations. The author will be representing the IVSC.

In light of all of this activity, we can be sure that interesting outcomes lie ahead over the next few years as these standards are finalized and implemented.

Methods for Valuing Previous Exploration Programs During Consideration of Prospective Mineral Ventures

L. T. Gregg[1] and Sam M. Pickering, Jr.[2]

Editors note: Sam Pickering and L.T. Greg presented this paper at the 42nd Industrial Minerals Forum in Asheville, NC

ABSTRACT

Few if any problems in the practice of valuation for potential company acquisition are more difficult and uncertain, and cause more ambiguity, than that of placing a monetary value on previously done mineral exploration. Not the least of this uncertainty comes from the related questions "Value to Whom?" and "Value for What Purpose?" Not just previous **cumulative expenditure** on exploring the mineral prospect, but whether or not **something of real value** has been reliably discovered, establishes exploration value to the potential mineral venture acquisition.

The "Multiples of Exploration Expenditure" method was first proposed in Australia in key papers by Onley (1994) and Lawrence (1994). It established the Prospectivity Enhancement Multiplier or PEM concept. This method shows promise to give an organized, repeatable, objective allocation of value (or lack thereof) to previous exploratory expenditures for prospective acquisition of mineral ventures. Several examples will be given for selected anonymous southeastern U.S. industrial mineral ventures which have recently been considered.

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INTRODUCTION

Few if any problems in mineral appraisal/valuation practice are more difficult and uncertain, and cause more ambiguity, than that of placing a monetary value on exploration. Some minerals appraisers will refuse to accept the assignment, saying "minerals have zero value in the ground". This difficulty and uncertainty arises from a number of reasons, not the least of which is the answer to the related questions "Value to Whom?" and "Value for What Purpose?"

There are three recognized approaches or methods in mineral appraisal or valuation: the Comparable Sales Method, the Income Method, and the Cost Method. For a number of reasons, there is great inherent difficulty in attempting to use the Comparable Sale Method to place a value on any mineral property, much less on exploration which has not yet delineated proven reserves. The Comparable Sale Method is used extensively in valuing real estate. It has little, if any, application to the valuation of mineral exploration. Similarly, the Income approach (Discounted Cash Flow/Net Present Value) to mineral valuation has even less applicability to determining an estimate of the value of exploration than the Comparable Sale Method. Entirely too many assumptions are needed for the DCF/NPV method - production rate(s), production life, mining dilution and head grade, capital and operating costs, product selling price, and so forth. At a given point in the exploration time-line these parameters generally cannot be estimated with any confidence.

DESIRABLE FEATURES OF A USABLE VALUATION METHODOLOGY

At a given point in the exploration time-line of a potential mineral property we can say that X $ have been spent. That is one component of value. The exploration has produced either positive or negative results (in a multi-year program, probably some of each). That is another component of value.

So a usable valuation methodology should (1) be based upon what the explorer has spent to date (adding value to the lease or freehold from what it was worth before it was acquired) and should (2) then attempt to estimate the value of the results of the exploration expenditure.

A methodology based on the Cost Method has been presented in the available published literature that incorporates these principles. The Multiples of Exploration Expenditure (MEE) method is examined below.

MULTIPLES OF EXPLORATION EXPENDITURE

This method was apparently first developed in Australia in the early 1990's. Two key papers (Onley [1994], and Lawrence [1994]) discuss the method in some detail.

The MEE method first tabulates previous exploration expenditures, by year, to arrive at a base value. The level of detail for the tabulations in each year (e.g., lease maintenance, geology/geophysics, drilling, etc.) is discretionary but, as will

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Methods for Valuing Previous Exploration Programs During Consideration of Prospective Mineral Ventures, *Continued from page 4*

be shown in the example below, the more detail that is provided in a given year the more insight can hopefully be derived about the eventual value. Some exploration expenditures will add to value, some will not affect value, and some will/may reduce value. Thus it is necessary to introduce, for each expenditure, a factor called the Prospectivity Enhancement Multiplier, or PEM. The arithmetic product of a given expenditure and its PEM gives a first-order estimate of the value of that expenditure. Summation of the products (of the PEM's and expenditures) over the time period being examined gives an estimate of the value of the exploration.

Selection of a value for a given PEM is admittedly subjective. To reduce this inherent subjectivity some guidelines can be drawn:

- Tabulation of expenditures and selection of PEM's should be done by the geologist most familiar with the project.
- A maintenance expenditure (e.g., annual lease payments) should have a PEM of 1.0, since it neither adds to nor subtracts from value.
- An irrelevant expenditure (e.g., previous core assays for limestone when the current target is kaolin) should have a PEM of 0.0.
- An expenditure which discounts some of the property's mineral potential (e.g., barren core assay along some strike distance) should have a PEM of less than 1.0 but greater than 0.0.
- A positive PEM is one that adds to the value of a given exploration expenditure (e.g., core drilling that shows ore-grade mineralization). A positive PEM should generally be in the range of >1.0 to 3.0; only a "bonanza" assay or "glory hole" would qualify above 3.0.
- Selection of a PEM for geologic mapping and geophysical/geochemical surveys should be done conservatively. If subsequent drilling confirms geological/geophysical/geochemical targets, the PEM selected for the drilling expenditure will reflect the value added.

It should be kept in mind that the acronym PEM consists of three words:

- Prospectivity - what are the prospects on this land for occurrence of economic mineralization?
- Enhancement - how has a given exploration expenditure enhanced or decreased the prospectivity?
- Multiplier - self explanatory.

Should past exploration expenditures by others on a given property (i.e., the one we're trying to value) be included? The key words in resolving this question are relevant, effective, and included.

- Relevant - Expenditures for diamond exploration in kimberlites/lamproites have little, if any, relevance if the current target is copper stockworks.
- Effective - Who did the prior exploration, and what is their reputation and track record? Was it done properly and reported fully (including drill logs, cores, maps, cross-sections, etc. that are available for independent review)?
- Included - Were the past exploration costs included in the acquisition price paid by the current mineral rights holder to the previous explorer?

It is now appropriate to set up a hypothetical MEE problem.

Table 1 (presented on page 6) shows the problem setup and "solution". This hypothetical problem assumes:

- Exploration expenditures by the previous lessee of $220,000 over a two-year period, and "sale" of these data to the current lessee for $75,000 (obviously a distress sale);
- A three-year period of exploration expenditures by the current lessee; and
- For simplicity, no escalation of past costs to current dollars (i.e., end of Year 3).

The "solution" shows that the cumulative exploration expenditure of $525,000 has a value of $1,185,000. The weighted multiplier is 2.3±.

It should be emphasized that this is a hypothetical example using totally artificial (but basically reasonable) numbers. Hopefully, the principle of the MEE method is clear.

REFERENCES

Lawrence, M. J., 1994, An Overview of Valuation Methods for Exploration Properties, in Mineral Valuation Methodologies 1994, The Australasian Institute of Mining and Metallurgy

Onley, P. G., 1994, Multiples of Exploration Expenditure as a Basis for Mineral Valuation, in Mineral Valuation Methodologies 1994, The Australasian Institute of Mining and Metallurgy

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