

INTERNATIONAL INSTITUTE OF MINERALS APPRAISERS

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Cartwright Award

The Cartwright Award from 2016 goes to Tracy Grote, MAI, CCIM for his Case Study - Quarry Impact of Ranch Land. In this presentation Mr. Grote showed the process of analyzing an active ranch in Central Texas and determining its highest and best use via income streams comparing trophy game hunting versus its current quarry and ranch activity. While yours truly was not in attendance, Mr. Grote graciously shared with me his presentation and it looked like a great talk and good analysis. Thank you Tracy and congratulations!

SME 2017 Conference Valuation Session Preview Denver Colorado February 2017

First off on behalf of IIMA, we all want to give a special thank you to the Valuation Session Chairs and other Volunteers as well as Presenters who have dedicated their time and efforts to making the Valuation Sessions a valuable learning opportunity to the greater organization. Thank you all for your efforts.

The following abstracts and presenters for the SME Valuation Sessions are as follows. Note this is a preview of abstracts submitted and the order of the presentations are subject to change.

Mineral Valuation I: Case Studies and Methodologies

No. 1 - The SME Valuation Standards – Present Implementation and Future Role: Trevor Ellis

In January 2016, SME published its "SME Standards and Guidelines for Valuation of Mineral Properties, First Edition, 2016" (SME Valuation Standards). The standards closely align with the "International Mineral Valuation Template," under development by the International Mineral Valuation Committee (IMVAL) since 2012. The author, who chairs the SME Valuation Standards Committee, will address the purpose and application of the standards within the global setting of standards and financial regulations. He will then provide his expectations for continuing enhancements to the SME Valuation Standards and improved harmonization with the other major mineral valuation standards, such as the Canadian CIMVal Standards.

No. 2 - A critique of the “Appraised Value” method for Valuation of grass roots mineral properties: Jose Botin

Most internationally recognized mineral property valuation standards consider four stages of property development: Exploration, Mineral Resource, Development and Production. Depending on the stage, three valuation approaches are recommended. These are: the Income Approach, the Market Approach and the Cost Approach. For mineral properties at the “exploration” stage, the Cost Approach is a primary methodology. Within this approach the “appraised value method” (Roscoe, 2002) is often used. The appraised value method is based on the premises that the fair market value of an exploration property is the sum of the meaningful past exploration expenditures and warranted future costs to test remaining exploration potential. The “appraised value method” carries two important limitations: i) The value of the property is only determined by past and future exploration expenditure; and ii) The value impact from a possible future discovery or lack thereof is not considered. This paper focuses on the merits and limitations of the “appraised value method” for the valuation of greenfield exploration properties and suggests a new conceptual model that takes geological context into account.

No. 3 - The Market Capitalization Approach to Valuation: Graham Davis

There is considerable distrust of the market capitalization approach to valuing mineral assets. CIMVal lists the approach as a secondary valuation method, and the SME Valuation Committee's comments to the IVSC indicate disagreement within that committee as to the approach's validity. This paper provides the theory and practice of the capitalization approach, showing where it may be useful and where it may not be useful. It certainly should be considered a primary approach in single asset companies or in companies where a single asset dominates its portfolio. Worries that the capitalization approach does not take into account acquisition premia are easily addressed.

No. 4 - Sensitivity Analysis: Tools for Litigation in Rapidly Changing Markets: Zach Smith

Since Fall 2014, oil & gas markets have experienced unprecedented volatility with prices fluctuating, in some instances, by over 40% in six weeks. Volatility also results in fluctuating discount rates as risk increases or decreases and may drive financially distressed firms to alter expense deduction practices. This can result in dramatic differences in value over short periods of time rendering direct comparison of “expert” reports submitted for litigation difficult and confuse clients, attorneys, and judges. Sensitivity Analysis can be used to bridge the gap between reports, provide a “test of reasonableness” for opposing reports, and give the stakeholders a framework through which to reconcile differences. This is especially important in localities with relatively few competent oil & gas appraisers where values are frequently dramatically overstated, either through application of incorrect methodology or appraisal of the wrong ownership interest.

No. 5 - Thoughts on valuing deep sea manganese nodule deposits in the CCZ: Chris Wyatt

The existence of deep sea manganese nodules in the Pacific Ocean has been known for some time. Manganese nodule deposits in the Clarion Clipperton Zone (CCZ) have undergone two periods of active exploration and development. The first period lasted more than a decade and ended in the 1980's, with millions of dollars spent but without sustained commercial production. The second period is less than a decade old and is ongoing. Countries and companies are again spending millions of dollars on exploration and development. The level of expenditure indicates there should be substantial value in the development of this resource. This paper looks at how applying standard mineral valuations techniques to a hypothetical manganese nodule deposit located in the CCZ and how the resulting values compare to the level of expenditure.

No. 6 Gold Property Transaction Trends 2014-16 Using a Common Comparison Metric: William Roscoe

We have reviewed transactions over the past three years on more than 100 gold properties containing mineral resources and mineral reserves. The property values derived from the transactions have been

normalized in terms of \$/oz contained gold or gold equivalent where gold is the dominant component. Another useful metric for comparing resource properties is the Metal Transaction Ratio (MTR) which is the \$/oz value divided by the gold price at the transaction date, or its mathematical equivalent, the property value divided by the in situ dollar content of the mineral resources/reserves. Trends in \$/oz value and MTR are examined over the three year period for the properties, in different stages of development, in different political jurisdictions, and with different resource/reserve sizes.

No. 7 The Impact on Mineral Property Valuations of the Proposed SEC Reporting Requirements for Mining Properties from Technical Perspective: Barney Guarnera, John Fogani

The SEC has proposed new requirements for Registrants with mining properties or operations. The purpose of the new requirements is to bring the SEC standards into accord with other geographies regarding the reporting for Mineral Resources and Mineral Reserves as well as for exploration properties. These new requirements will have an impact on valuations performed on mining properties and other mineral assets. Mr. Fognani will review the legal implications of the changes on valuations and Mr. Guarnera will review the technical implications on valuations.

No. 8 The Impact on Mineral Property Valuations of the Proposed SEC Reporting Requirements for Mining Properties from Legal Perspective: John Fogani, Barney Guarnera,

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Mineral Valuation II: Lessons Learned and Fundamental Issues

No. 1 Mineral Appraisal Education: An Overview and Recent Experiences: Darwin Werthessen

Minerals appraisal education is currently provided through a variety of different organizations. The AI, ASA, and ASFMRA provide introductory courses while EduMine is a non-campus based resource for mining and geological material. For professionals entering the minerals appraisal industry, the question of where to begin can be confusing, the uniqueness of minerals appraisal complicating these introductory stages. Beginning minerals appraisers and those currently involved in minerals appraisal education will benefit from this profile of available courses with feedback from select courses attended by the author. Important take-away concepts and course material will be highlighted and an idealized flow-chart of coursework will be presented.

Obtaining licensure creates additional considerations as requirements and criteria vary by location. A brief discussion of general and specific requirements will follow to provide guidance while the benefits of membership to appraisal organizations will be presented and compared. The presentation will conclude with suggestions for those with appraisal backgrounds seeking coursework in mining and geology.

No. 2 - Influence of Market Factors and Freight Logistics on the Valuation of Silica Sand Deposits Utilized for Frac Sand: Evan Mudd and Marc Springer

With end markets often more than 1,000 miles from the mine site, silica sand deposits may appear to have comparable valuations when they are located in geographic proximity and are of similar geologic character. However, sand deposits which share physical attributes and are only several miles apart may support very different value conclusions. Significant departures in value for two similar sites may often be attributed to seemingly micro-scale differences in end-user requirements, deposit size, logistics capability and the local regulatory landscape.

Silica sand that is used to hydraulically fracture oil and gas wells (frac sand) is typically shipped via truck or rail to the well site. Industrial sand may also be extracted from silica sand deposits to serve markets such as foundry or glassmaking where the quality, transportation and grain size distribution are entirely different from frac sand applications. Some facilities have the logistical capability to serve oil, gas and industrial markets. This paper describes seemingly small differences in logistics and market fundamentals that may have significant value implications for silica sand deposits serving frac sand markets.

No. 3 - The Implications of the Use of a Single Financial Model in the Income Approach to Value: Alan K Stagg

It is common in conducting mineral appraisals in which the standard of value is market value for the appraiser to develop a single discounted cash flow model as the basis for the opinion of value. Implicit in this technique is the assumption that there is a one hundred percent probability that the input used in constructing the model will occur. Upon even the most modest reflection, it should be evident that this is not going to be the case. The author's experience in working with those involved in mergers and acquisitions affirms the general use of multiple financial models in establishing a proposed purchase price, with various iterations of the financial model addressing uncertainty (or, risk) and the sensitivity of value to variations in the input. By definition, one would expect an opinion of market value to reflect the practices of market participants, and that the opinion thus would have addressed these issues. In this presentation, the author addresses the probabilistic technique in developing an opinion of market value using the income approach to value and provides examples of its use.

No. 4 - Simplified Comparison of the Major Ore Reserve and Mineral Resource Classification Systems for Mineral Appraisers – Robert Cameron

When conducting an appraisal or issuing an opinion of value, it is important to understand the resource or reserve classification used in technical reports and how they relate to the the framework of the valuation

code being utilized. This paper will present a simple guide that can be used to help an appraiser to properly understand and evaluate the reported resource or reserve classification assumptions. Although the various resource and reserve reporting standards around the world are constantly changing, an understanding of the broad principles discussed will help the appraiser to better set a value on the mineralization being reviewed.

No. 5 - PANEL DISCUSSION - Sales Comparison Approach to Energy Minerals under Fluctuating Commodity Prices - Gustavson, John B.¹; Bate, Richard L.²; Hart, Robert N.³; Melbye, Scott E.⁴; Vass, Rachel L.⁵

Recent history shows drastic changes in energy mineral prices, making valuation adjustments from mineral sales at earlier **sale dates** to the **present date** problematic. The Panel covers valuation of the energy minerals of **coal, oil, uranium** and **natural gas**. Each Panelist will briefly cover 1) Price history of each commodity with reasons for price changes, 2) The Panelist's personal view of near term and long-term price trends, 3) Recent mineral asset (or company sales) with data, which are relevant for valuation, 4) Comparison units (acreage, resources, reserves, other), which are found useful for the Sales Comparison Approach, 5) His/her personal guidance for **adjusting for commodity price** from Date of Sale to Effective Date of valuation.

The Panelists are: **Coal, Richard L. Bate**, John T. Boyd Company, SME; **Oil, Robert N. Hart**, HartPetro Global LLC; **Uranium, Scott Melbye**, Uranium Energy Corp., and **Natural Gas, Rachel L. Vass**, Gauley River Minerals, LLC. **John Gustavson** is the Moderator.

The format will allow each Panelist to entertain 2 questions after each introduction. Additional questions and audience discussion will be deferred to the general discussion period after all introductions.

******Note the panel discussion will likely occur closer to 2 pm******

The valuation sessions and Annual IIMA meeting are great opportunities for Associates and Members to reconnect, learn from one another,

and help advance our organization as a whole forward. If you can make it, this is a great opportunity.

Papers to Be Aired on *YouTube*

Under an agreement with the SME, your Institute will provide audio-synchronized presentations of speakers from our Valuation Sessions over the last six years. Various commodity appraisals will be featured, including petroleum. This important exposure is aimed at providing mineral appraisal education to a broader section of the public.

"The present distribution of DVD's is being expanded to benefit members of the banking, accounting, legal and other professions," said John Gustavson, Co-founder of the Institute in 1991. "DVD's of entire Annual Conference sessions will still be available at a modest cost, but featured presentations can be viewed for free on the SME link to YouTube."

Your Institute is dedicated to provide EDUCATION to both the public and to its members. However, the public is frequently fighting with the concepts of highest and best use, the adjustments in sales comparison and the limits in using discounted cash flow with increasing distance from the producing stage. Therefore, these and other mineral appraisal concepts will be featured first. More candidates will be considered every year or added by request.

Members from our annual Mentor Clinics have independently selected the first 16 presentations to be featured on YouTube. These have been selected on basis of combined appraisal relevance and recording quality (many good papers were poorly recorded and we apologize to the speakers). Other papers were of excellent recording and by experienced speakers, but of little relevance to mineral appraisal. The first selection is listed below in chronological order:

- Gerald Clark, 2011, Scope Of Work: Building Block for the Appraisal.
- Briana Lamphier & Edwin C. Moritz, 2011, Highest and Best Use in Minerals Valuation - Fundamental Step in Approach to Value.

- John B. Gustavson, 2012, Trona Mineral Estate Valuation, Green River, Wyoming.
- Gerald Clark, 2011, Reconciliation in Minerals Appraisals -- The Final Adjustments.
- Daniel Collins, 2012, Comparison of Market Valuation Methods and Applications for Mineral Properties.
- Timothy S. Knobloch, 2013, Appraisal Lessons Learned in the Marcellus Shale.
- John B. Gustavson, 2013, Appraisal and Apportionment of Unleased Oil and Gas Mineral Rights in the Williston Basin, N. Dakota.
- John J. Manes & Tyler N. Quartiero, 2013, Documentation & Recordkeeping on Appraisals Used for Conservation/Donation Purposes.
- Richard W. Jolk, 2014, Fundamental Elements of Mineral Property Value.
- David M. Abbott, Jr., 2015, Enforceable Codes of Professional Ethics --Why, How, and in Practice.
- John B. Gustavson, 2015, Case History: Actual Mineral Property Sales in Pennsylvania.
- Graham A. Davis, 2015, The Comparison Sales Approach to Valuation: Science or Black Magic?
- Marc P. Springer, 2016, A Bear Market or What the Market Will Bear -- Industrial Mineral Market Entry and Absorption Rate.
- Bereket A. Berhe, et al., 2016, Mineral Valuation in a World of Volatile and Cyclical Commodities.
- Robert Frahme, 2016, Reliability of the Mineral Appraisal Report: The New World of Appraisal Review.
- John B. Gustavson, 2016, Which Discount Rate to Use?

The SME website is currently being rebuilt, but ultimately it will feature "buttons" on the SME Mineral Valuation Standards Committee page, which will connect directly to the YouTube site. Likewise, a link will be provided on the IIMA website with a similar connection.

Finally, we plan to issue Press Releases about this educational resource from both the SME and the IIMA. They will be sent to relevant newspapers, magazines and periodicals serving the professionals in the extractive industries as well as in the banking, accounting, legal and comparable professions. Anyone with e-mail addresses for such news media are invited to send them to johngustavson1@aol.com for addition to our media list.

John Gustavson, Chair,
Continuing Education Committee

Marc Springer Featured at Next Short Course

Following the success of the 2015 Appraisal Course in connection with that Annual Meeting, the IIMA will feature a similar CE event in Denver in 2017. The new course is titled *Elements of Mineral Property Appraisal and Avoiding Valuation Pitfalls*.

The venue will be the Downtown conference room of *Gustavson Associates* to whom we are grateful for this courtesy. Space is limited to 10-12 attendees, so keep an eye out for the detailed announcement sometime later this year. The course will run on Wednesday, 22 February, the day after our Valuation Sessions and our IIMA Annual Meeting.

Marc Springer will have his outline ready in November, and he promises to include some or all of these items:

- Federal Mineral Interests, Rights & Authorities
- Federal, State & Local Mine Permitting Regulations and Reclamation Effect on Value
- Mineral & Surface Rights – Split Estates Effect on Value
- Mineral Property Highest & Best Use Assessment
- Approaches to Valuing Mineral Rights
- USPAP & UASFLA for Mineral Rights Market Valuation

This will be an excellent opportunity for our Associate Members to gather ammunition for their Certification. Associates will also be offered a rebate. Other members will benefit from Marc's extensive mineral appraisal experience and can claim CE credits. Details will be published in our next Newsletter and also sent directly by e-mail to all members of the Institute.

See you there!
John Gustavson, Chair
Continuing Education Committee

IMPORTANT DVD NEWS

DVD's with speakers' ACTUAL WORDS and SYNCHRONIZED SLIDES from the LATEST two Valuation Sessions at the recent 2016 SME Annual Meeting are already available!

Also, while supplies last, the 2015 DVD sessions are still available for purchase.

Price of DVDs (when shipping within North America. Added postage may apply when shipping overseas):

- New Twin-set from 2016 \$95
- Last year's Twin-set from 2015 \$95

Please, mail your check made out to the "IIMA" with your name and address and allow 2 weeks for delivery.

Continuing Education. Members of the *International Institute of Minerals Appraisers* may claim up to 6 Hours of Continuing Education Credits when personally having attended the Valuation Sessions. Subsequent hours recorded by our CMA's for your own serious desk study of the DVD material may also be claimed as contact hours toward CE credits.

Older DVD's. Older DVD sets are still available at the following prices:

- 2-set from 2014 \$95
- 2-set from 2013 \$90
- 2-set from 2012 \$90

But WAIT! As a NEW alternative to buying the old DVD sets from years earlier than 2015, the IIMA membership voted at the recent 2016 Annual Meeting to make such earlier papers available to Members for FREE when uploading from the IIMA web site!

This is in the works and the procedure will be announced as soon as it is ready. In the meantime, the older DVD's may still be purchased.

This approach will move forward year by year on a rolling basis, so the two most recent annual sets will be available at a price, while older papers may be uploaded for free by Members.

Please, address any questions to the *IIMA Chair, Continuing Education* at john.gustavson1@aol.com

Welcome New Associates and Members

Congratulations to George Tsang and David Shetler for becoming Certified Mineral Appraisers in 2016!

Also, please welcome Dr. Karsten Eden who is a new Associate Member to IIMA.

Dr. Karsten Eden, CPG, EurGeol is the Minerals and Energy Section Chief at the Trust Land Office in Anchorage, Alaska and manages the Icy Cape Gold and Industrial Heavy Minerals Project. Karsten is a Certified Professional Geologist with 20 years international experience in the supervision and management of mineral exploration and mine development projects in Alaska, Western Australia, West Africa, Scandinavia and Europe. Throughout his career, Karsten has provided consulting services to many international mining companies and has held several corporate geologist positions. He holds a doctorate degree in exploration geology from the University of Technology in Aachen, Germany.

International Chapters Being Formed

Two groups of international IIMA members are in varying stages of forming local chapters. Our Hong Kong members are discussing whether they prefer a Hong Kong chapter or a broader China chapter. So far, all our members there are domiciled in Hong Kong. George Tsang (#2016-02) has offered his office as headquarters for the new chapter. The group is also considering the type of its non-profit registration.

The IIMA Executive Committee is providing US\$1,000 to each new international chapter to assist with start-up expenses. A brief guide is also available upon request. The primary intent with the formation of chapters is to encourage local participation and certification, and will not in any way reduce the overall purposes or operation of the IIMA.

In the meantime, we have not yet heard about progress from the Canadian group, which was represented at the IIMA Annual Meeting by Ross Lawrence (#1999-04). We are available to assist as needed.

John Gustavson, Chair
International Organization Committee

Price Increase -- IIMA Seal and Stamp

The IIMA seal and stamp, which may be applied to appraisals by Certified Minerals Appraisers, only, are still available. The price of the embossing seal is the same as usual, namely \$70.

However, the rubber stamp will go up to \$65 as of 1 May 2016. Order yours now BEFORE 1 May and get the rubber stamp at the old price of \$50.

Additional mailing charges may apply to overseas shipping.

Mail your check to IIMA, 5757 Central Avenue, Suite D, Boulder, CO 80301.

New certificates reflecting the name change as well as rubber stamps are now available. The Logo is shown below:



As members, you may choose to use your current AIMA certificate as the American Institute of Mineral Appraisers is a registered trade name and recognized trademark within the industry. Or you can order new certificates.

Rubber Stamp



Embossing Seal



A rubber stamp with your professional seal and an embossing seal are available through the IIMA HQ office to all Certified Minerals Appraisers for \$50 and \$70, respectively. Your old stamps and seals are still valid.

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Special thanks to the contributions made. The strength of the IIMA organization is through the commitment, education, and contributions of its members. We are always looking for articles to enhance our profession and welcome any material that members may provide. Thanks!

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