

INTERNATIONAL INSTITUTE OF MINERALS APPRAISERS

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SME Conference and IIMA Annual Meeting RE-Cap

Free beer, nachos and lessons learned from some of our most seasoned members – Monday night mentor-mentee clinic and evening social was a great event!

Don Warnken, Fred Pirkle, Trevor Ellis, and I gave brief and informal talks about the value of the mentor-mentee relationship and some lessons learned over years of experience. John Gustavson and Tim Knobloch also chimed in as well as other members in the room. Truly, there is no text book that can teach what we do as highly specialized mineral appraisers and cover all possible scenarios. The way we learn and get better is in these collective think-tank environments where we share ideas, thoughts, opinions that we help each other improve collectively as a group. It was a great opportunity and I hope everyone got as much out of it as I did. It was a great evening!

Special Thanks goes to Stagg Resource Consultants and John Manes for being Silver Sponsors, donating

\$200 each. Thank you. We also recognize the charitable giving of Charles Howard, James Knobloch Petroleum Consultants, Tracy Grote, John Gustavson, Matt Chapman, and Bill Roscoe for being Bronze Sponsors. The donations helped to fund our Monday Social. Thank you!

Brian Groff led the Valuation Sessions as Chair and kept us on task. The presentations on Tuesday went great. I must admit, the talks seem to get better each year. The Cartwright Award Section is later in the newsletter with a chronology of past winners. But I want to say that all the talks were excellent and the selection of the top talk was no easy task.

For lunch Tuesday we held the IIMA Annual Meeting. The venue was nice, the food was excellent, and again it was another opportunity to catch up with everyone.

Overall, I thought this was a very worthwhile and fun experience in Minnesota. The IIMA organization is comprised of such a talented group and it is great catching up and learning. Thank you!

Matthew Chapman Newsletter Editor

Professional Geologists (FAPG) 2017 Hero of the Industry Award

In October 2017, Frederic (Fred) L. Pirkle, PhD, P.G. was awarded the Florida Association of Professional Geologists (FAPG) 2017 Hero of the Industry Award. Each year, FAPG bestows this honor upon individuals that have made significant contribution to Florida's mining industry. For the past 40 years, Fred has been recognized as a leader in the mining industry, and as a dedicated mentor and educator.

Fred received a B.S. in Geology from Florida State University, a M.S. in Geology from the University of Florida, and a PhD in Geology from The Pennsylvania State University. In addition to his academic credentials, he is a registered Professional Geologist in eight states, and is a Certified Minerals Appraiser from the American Institute of Minerals Appraisers. He began his working career with Bendix and Conoco, where he conducted uranium exploration and investigations into hydrocarbon source rocks. Later he moved onto a position with DuPont at their mineral sands operations in Florida. Eventually he led teams of scientists and technicians in efforts to explore for titanium and zircon bearing deposits both domestically and overseas. He currently serves as a Principal Geologist with Gannett Fleming in their Jacksonville, Florida office.

His professional affiliations include serving as a past President of the Southeastern Geological Society and the International Institute of Minerals Appraisers. Fred also has served on the Society of Mining Engineers (SME) Mineral Valuation and Standards Committee since its inception in 2012. He has also been a member of the International Mineral Valuation Committee (IMVAL) since its inception in 2012 having attended the initial organizational meeting in Brisbane, Australia.

In addition to his distinguished professional mining career, Fred also serves as a teacher and mentor to the next generations of geologists and mining professionals. Over the past 15 years, he has served as an Adjunct Professor at Florida State College at Jacksonville where he teaches Earth and Space

Science courses and labs. Fred has authored or co-authored numerous publications, led field trips for various professional societies, and has inspired and mentored countless geology students and professionals.

INTERNATIONAL INSTITUTE OF MINERALS APPRAISERS ANNUAL MEETING MINUTES

27 February 2018

Location: Monello Restaurant, Minneapolis,
Minnesota

Call to Order

John Manes, 2016-2017 IIMA President, gave the meeting call to order at 12:35 PM.

Welcome

John Manes welcomed all attendees.

Attendance

A sign-in sheet was circulated.

Total: 19 in attendance, Certified Members: 10 including 5 Officers, Associate Members: 7, Affiliate: 1, Guests: 1

Establishment of Quorum

A call for members and proxies was performed by John Manes

A Quorum was established.

Appointment of Secretary of the Annual Meeting Minutes

Evan Mudd was appointed by John Manes to take notes for the Minutes and present them to David Shetler, 2018 IIMA Secretary.

Approval of 2018 Agenda

A copy of the agenda was distributed. Chris Wyatt motioned to approve the agenda, the motion was

seconded by Matt Chapman. All members voted in favor of 2018 Meeting Agenda and it was approved.

Approval of 2017 Meeting Minutes

John Manes asked the members to approve the Minutes from the 2017 Annual Meeting, as published in the Newsletter. John Gustavson motioned to approve the minutes, and Fred Pirkle seconded the motion. All members voted in favor of approval of the 2017 Meeting Minutes.

New Members

John Manes announced new members

New Certified Members:

1. Brian Groff, Member # 2017-01, 05/11/2017
2. Zach Smith, Member # 2017-02, 05/26/2017
3. Donald Lumm, Member # 2017-03, 7/13/2017
4. Wes Casto, Member # 2017-04, 10/17/2017
5. Don Swartz, Member # 2017-05, 12/21/17

New Associate Members:

1. David Falkenstern, Associate # 2017-01, 02/29/2017
2. Betsy Suppes, Associate # 2017-02, 05/23/2017
3. Devin Fitzgerald, Associate # 2017-03, 11/16/2017
4. Dennis Noll, 2017-04, Associate # 12/2/2017

New Affiliate:

Michael Morgan, Affiliate # 2017-01, 11/17/2017

Introduction of Guests:

Guests present in the meeting room were introduced. William Roscoe, Past Chair of the International Mineral Valuation Committee was introduced.

Treasurer's Report

The Treasurer's Report was presented by Charles Howard.

John Gustavson motioned to approve the treasurers' report and Fred Pirkle seconded the motion. It was carried unanimously.

Election of 2018-2019 IIMA and AIMA Officers

John Manes reported that 27 of 40 members submitted ballots. All ballots unanimously voted for the four candidates:

- Tim Knobloch – President

- John Gustavson – Vice President
- Charles Howard – Treasurer
- David Shetler - Secretary

Newsletter Editor Report

Editor, Matt Chapman submitted the following report to be included in the minutes.

Matt Chapman will continue as Newsletter Editor. Evan Mudd will join as Assistant Newsletter Editor. Please continue to submit articles and news to us as the Newsletter provides a great opportunity to connect our Membership and Strengthen our organization as a whole. On behalf of Evan and myself, we appreciate your continued support and opportunity to serve in this role. Thank you all.

Committee Reports

Certification Committee Report: Given by the Chair, Timothy Knobloch.

Tim thanked those who have participated as part of the confidential Ad-Hoc Committees for the five membership applications and reported that after proper application materials were provided, Ad Hoc Committees were formed and voted to approve the following five applicants.

1. Brian Groff
2. Zach Smith
3. Donald Lumm
4. Wes Casto
5. Don Swartz

Continuing Education Committee Report: Given by the Chair, John Gustavson.

John stated that the purpose of the Continuing Education Committee is twofold:

1. To assemble and make available applicable materials
2. To give notice of upcoming courses that may be available

Matt Chapman recommended that certain applicable surface appraisal courses be included for CE credit - highest and best use and approaches to value were given as examples. No decision was made at the time of the meeting.

Ethics Committee Report: Given by John Manes on behalf of Chair, William (Bill) Bagby.

John stated that there were no violations and nothing to report

International Organization Committee Report:

Given by the Chair, John Gustavson.

John stated that there was nothing to report. The international membership is as follows:

- Canada – 4 members (2 CMAs and 2 Associates)
- Hong Kong – 3 members (2 CMA’s and 1 Associate)
- Australia – 1 member (1 CMA)
- South Africa – 1 member (1 CMA)

In view of the fact that no international groups had stepped forward to form Chapters, John recommended that this Committee not be continued until the need arises.

Membership Committee Report: Given by the Chair, John Manes.

John reported that there are currently 67 members total: 40 certified, 21 associate, 5 affiliate, and 1 Emeritus. John commented that there are 3 potential candidates for membership in the pipeline. Fred Pirkle mentioned three additional candidates as well.

Mentoring Committee Report: Chair, Rachel Vass, was absent but submitted the following report.

Unfortunately, there were relatively few new Associate member applications this year. We did successfully place each new Associate Member with a Mentor!

New Mentoring Relationships	
Associate	CMA
David Falkenstern	Jeff Kern
Devin Fitzgerald	Tim Knobloch
Donald Lumm	Matt Chapman
Dennis Noll	Charles Howard or Rachel Vass

Our focus for the last two years has been to try to motivate Associate Members to apply for Certified Membership status.

Standards Harmonization Committee Report:

Given by the Chair, Trevor Ellis.

In the SME-IIMA Mineral Valuation sessions in February 2017, Ellis presented a paper on mineral valuation standards and their harmonization status.

Website Committee Report: Given by the Chair, John Manes.

John reported that the new Website up and Operating User Area:

- Account Information – Certain items in this area can now be modified
- Payments – It is now possible to purchase presentations and pay annual dues on website
- Continuing Education – Working out the bugs in this area, the file share is functional

Old Business:

Valuation Short Course was cancelled due to light response. This attempt was made to test a Sunday venue and through the SME. It failed due to high cost and possibly the Sunday schedule and will not be repeated.

New Business:

- Results of 2018-19 Election were announced by John Manes. Introduction of Tim Knobloch, 2018 President and 2018 Secretary, David Shetler. John Gustavson moved to thank John Manes for a job well done. Seconded by acclamation.
- Proposed Ethics Code Amendment – John Gustavson tabled this matter until a later date
- Combining Membership and Mentoring Committees – Fred Pirkle-chair, Rachel Vass-co-chair
- Expanded Newsletter Committee – Matt Chapman-chair, Evan Mudd, co-chair
- IIMA Plans for SME 2019 Conference in Denver – Assignments pending, John Gustavson volunteered assistance
- Proposed 2018 Budget – Charles Howard /John Manes. The 2018 Budget vote was continued due to limited time, with a vote among certified members to be taken at a later date.
- Other New Business from the Floor (if any)

Approval of the 2018 Budget vote was tabled to be voted on later by electronic means.

2019 IIMA Annual Meeting Venue:

At this point Tim Knobloch 2018 IIMA president took over as Chair of the meeting.

The 2019 SME Annual Conference and IIMA Annual Meeting will be held in Denver, CO, ~ 25-26 February 2019. Program chair and session chairs to be determined.

Meeting Adjournment:

John Gustavson motioned to adjourn the meeting and the motion was seconded by John Manes. It was carried by unanimous vote. The meeting was adjourned at approximately 1:45 PM.

**Respectfully submitted, David Shetler,
IIMA Secretary**

Michael Cartwright Award

To provide a little history and also recognize Michael Cartwright in honor and memory as a friend and colleague, I think it appropriate to share the history of the Michael Cartwright Award.

Michael Cartwright was one of the earliest members of AIMA, American Institute of Mineral Appraisers along with several other of our colleagues.

One year, I believe it was in Phoenix, Michael Cartwright felt that the presentations had gone downhill. He got up and took a \$100 bill out of his pocket and presented it to whom he thought had given the best presentation.

He did it again the following year, but after that, due to his heart problems, he could not travel and so handed it over to me. I made one presentation of \$100 out of my pocket, but Michael reimbursed me. The tradition stuck and the honor of winning the award is much more than the \$100 dollars but it is the recognition of your peers for job well done!

Bill Bagby 2006-03

2018 Cartwright Award Winner

Congratulations Donnie Lumm, PhD: "Desktop Data Evaluation and Qualifications for Coal Reserve Estimation and Valuation".

Past Cartwright Award Winners

2007, Gerald Clark
2008, Robert Frahme
2009, Michael Cartwright
2010, George Silver
2011, John Lizak
2012, Matthew Chapman
2013, Michael Cartwright passed away.
No Award Given
2014, Robert Frahme
2015, No Award Given
2016, Tracy Grote
2017, Graham Davis
2018, Donnie Lumm

Alternate for the “Suggested Counting of Continuing Education Credits”, as set Forth in the February 2018 Newsletter

In the February 2018 IIMA Newsletter, I was perplexed at the modification made by this Institute regarding the acceptability certain continuing education (CE) credits.

IIMA has made great advances in continuing education in recent years but this modification, presumably a new policy, is a step backwards. The modification appears on Page 8 of the last newsletter, under the sub-heading “Suggested Counting of CE [Continuing Education] Units”. Item 2 in that

subsection states the following regarding allowable CE units:

The subject of any lecture needs to be narrowly Mineral AND Appraisal focused. Pure geology/engineering courses generally do not count. [This part is not a modification] Likewise, general surface real estate exposure time does not count. [This part is a modification]

I found the modification incongruent with the general intent of the Institute to be a professional appraisal organization. The modification is not in the intellectual interest of IIMA, its certified members, and most importantly, not in the interest of providing the best possible appraisal services to our clients.

Denying CE credits for pure geology/engineering courses is a long-standing policy and is based upon the theory that we already require recognized degrees in geology/engineering and as an appraisal organization, CE credits must be closely tied to appraisal. I'll set that issue aside for the moment and return to it below.

What is new and far more damaging to the intellectual integrity of IIMA, its members and to quality of appraisal work provided to our clients is the denial of CE credits for classes in so called "surface" real estate.

It has long been acknowledged by IIMA and statutorily that the mineral estate is real estate, albeit "special use" real estate for appraisal purposes. "Special use" is an appraisal term reserved for real estate for which the appraiser must have special qualifications. There are many forms of "special use" real estate and mineral property is only one of them. For example, other "special use" appraisal assignments may address general aviation airports, marinas, hospitals, air rights, docks and piers, golf courses, ski areas, churches, rights-of-way, etc. Our "special use" real estate appraisal assignments just happen to address mineral properties.

The procedures and practices employed in appraising all "special use" real estate, including mineral property, derive almost entirely from long-established and generally accepted appraisal

procedures employed in the appraisal of any other commercial real estate, whether "special use" property or not. These generally accepted appraisal procedures are referred to by the Appraisal Institute as the "body of knowledge".

Many years ago, I served for a time on the "Body of Knowledge Committee" for the Appraisal Institute. Our purpose was an on-going assessment of the training that designated appraisers need if they are to provide a high level of professional service to clients and be a credit to the Appraisal Institute. Appraisal of any "special use" property, including mineral property appraisal, would naturally require additional education and experience, over and above the "body of knowledge".

Here is a sampling of the appraisal classes designed to accumulate that "body of knowledge", at least according to the Appraisal Institute:

- Appraisal Principles and Procedures;
- Capitalization Theory and Techniques;
- Highest and Best Use Analysis;
- Market Analysis;
- Financial Analysis;
- Decision Analysis;
- Business Practices and Ethics;
- Condemnation Appraisal;
- Report Writing;
- Case Studies;
- Review of Appraisal Reports under Standard 3.

These are some of the core appraisal courses, applying to all real estate, that are no longer acceptable for CE credits under IIMA's new policy.

Can it be IIMA's position is now that mineral property appraisal is so much less complex than other forms of commercial real estate appraisal (and other "special use" property) that acquisition of this "body of knowledge" is not required of IIMA members and by this modification, now not even allowed for CE credits?

While these courses, widely available online and in-class from the CCIM Institute, the Appraisal Institute, RICS, and other recognized sources, are in commercial real estate and may or may not address

“special use” appraisal assignments, it is incumbent upon any appraisal practitioner to have a strong command of this “body of knowledge” to make appropriate applications in any appraisal assignment, especially in “special use” appraisal assignments, including those of mineral property.

IIMA requires none of these classes for certification, requiring instead, only one undefined mineral appraisal class, hours unspecified. And now, based upon this new modification, IIMA discourages taking them even for CE credit.

Returning now to the theory that we have all earned recognized degrees in geology/engineering and CE units in those areas are disallowed because this is an appraisal organization and they are not appraisal-related:

I’ve looked at a random sampling of university curricula in geology and I’ve seen numerous resumes from job applicants who are recent geology graduates. My general observation is that it is surprisingly easy today to obtain a degree, ostensibly in “Geology”, that is really a degree in environmental studies, generally deficient in mining or petroleum geology exposure. I understand the marketing reasons for universities to do that but IIMA is not involved in environmental consulting.

Recognizing that graduates of such “geology” programs may find their way into IIMA, perhaps it is time to allow some CE credits for pure geology/engineering classes in an attempt to remedy certain deficiencies inherent in today’s geological/engineering curricula for professionals who actually practice mining and petroleum geology, not environmental analysis.

Summarizing, as an appraisal organization, IIMA disallows one whole category of CE credit because it is not sufficiently real estate appraisal-oriented. Further, IIMA now further disallows another whole category of CE credit, perhaps because it is too real estate appraisal-oriented in that its subject of study is the wrong kind of real estate. And, the second category is the only source of the “body of knowledge” upon which all real estate appraisal is founded.

I implore IIMA, in the interest of its members, their clients and its own intellectual integrity to reconsider these positions regarding CE requirements.

Finally, I am now in the final stages of retiring from 50½ years of professional life in mining geology, mineral property appraisal, and commercial real estate appraisal. I am moving into retired status in the Appraisal Institute, IIMA, AIPG, Gustavson Associates, and my various state Certified General Appraiser licensures. Nearly four years after moving to the mountains of central Idaho to effect that life change, I have finally emptied my pipeline of appraisal assignments and litigation.

I have been completing CE units in appraisal and passing appraisal examinations since the 1970s and have completed all of the CE and passed all of the appraisal examinations I’ll ever need. So, by this article, I’m not advocating on my own behalf to continue allowing CE requirements to be met by commercial real estate appraisal classes because it no longer matters to me as an individual. Rather, this article attempts to maintain the intellectual integrity of this Institute of appraisers as one that is worthy of public respect as an appraisal organization.

I am apprehensive that by disallowing education in the “body of knowledge” of appraisal, a kind of parochialism will ensue that will diminish IIMA’s reputation as an appraisal organization. I therefore implore the Executive Committee to reconsider the modification set forth in the last Newsletter.

It is with the best intentions for the future of IIMA and as a cordial farewell, that I write this article and I care deeply about public respect for this Institute and its members. Education and knowledge are fundamental to its success. The public’s respect requires widening, not narrowing in scope the CE required by this Institute.

Robert B. Frahme, CPG, MAI, CMA
Certified General Appraiser: Idaho, California
Chief Appraiser
Gustavson Associates
Past President, IIMA

Response to Bob Frahme

Bob is totally right. These are necessary appraisal classes designed to accumulate the “body of knowledge” needed by real estate appraisers (including minerals appraisers):

- Appraisal Principles and Procedures;
- Capitalization Theory and Techniques;
- Highest and Best Use Analysis;
- Market Analysis;
- Financial Analysis;
- Decision Analysis;
- Business Practices and Ethics;
- Condemnation Appraisal;
- Report Writing;
- Case Studies;
- Review of Appraisal Reports under Standard 3.

There are undoubtedly others that qualify. The IIMA Executive Committee will confirm that and duly notify all members.

In the meantime, we wish Bob Frahme all well in his retirement and still hope to see him and have his input at our meetings and in the Newsletter.

John Gustavson, V.P. and Chair, Continuing Education.

IIMA Code of Ethics Ad Hoc Committee

At my direction, I have asked Bill Bagby, chair of the Ethics Committee, to put together an *ad hoc* Ethics Committee (Committee) to evaluate the IIMA Code of Ethics. This in part stems from Bill’s survey recent survey sent to members regarding attendance at ethics courses. The Committee consists of five IIMA certified members. The Committee is charged with reviewing and evaluating the IIMA Code of Ethics as to currency and applicability to the professional practice of Minerals Appraisal. The Committee is given broad scope due to the special nature and requirements of Minerals Appraisal; (1)

education and experience in mineral deposit types, geology, occurrence, economics of extraction, and market conditions, etc. for metal deposits, industrial minerals, and energy minerals, as well as (2) the professional practice of real-property appraisal. The Committee membership was finalized the week of April 2 and has started deliberations, the first of which is timing according to everyone’s current project load. I expect the Committee to recommend amendments to the IIMA Code of Ethics which will require a vote of Members according to the IIMA bylaws. John Gustavson will serve as the Executive Committee liaison with the Committee and will receive periodic reports from the Committee chair.

President Tim Knobloch

Selected Presentations of Past IIMA Meetings

The following presentations have been selected and are accessible for free to the public, through the IIMA website and through the SME website. They are in the *IIMA Hall of CE Presentations*. The papers in the CE Hall are available for study at no cost through the public media location, namely *YouTube*.

Amy Jacobsen and Robert Cameron, 2018: "*Cash Flow Models - Evaluations Versus Valuations*"

Cash flow modeling is a widely accepted tool for evaluating and valuing mineral projects. But the appropriate application of this tool is often misunderstood. The use and results of a cash flow model can be quite different when applied to evaluations versus valuations. The net present value determined in the process of evaluating a project may not necessarily indicate the value of the project in terms of standard valuation methodologies. This paper provides a comparison of the use, application, methods, inputs and results for cash flow models that are used in valuations as opposed to evaluations.

Donnie Lumm, PhD, 2018: "Desktop Data Evaluation and Qualifications for Coal Reserve Estimation and Valuation".

Desktop studies and summary reports of coal reserve tonnage estimates prepared by geologists and mining

engineers are typically used by mineral appraisers to prepare a subsequent, independent appraisal report for a subject property. Although the mineral appraiser may himself be an established professional geologist or mining engineer, there is often a disconnect in the use and application of the reserve report for producing a mineral valuation. For example, the “reserve report” may not completely conform to SEC or CIRIRSCO guidelines, and instead be purposed for obtaining a lease or mine permit on a property, for extending the life of a mine property, or for reasons other than banking or investment. Moreover, the tonnage estimates may be based upon thickness modeling and mapping sourced from incomplete, inaccurate, or unverifiable borehole or coal quality data. The mineral appraiser should thus have a firm understanding of the data and methodology used in the tonnage estimates, and should question or reject the tonnage estimates from these reports. This presentation will review the qualifications of desktop data for use in coal reserve reports and some of the guidelines in reporting.

Alan Stagg 2017: "The Implications of the Use of a Single Financial Model in the Income Approach to Value".

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.

Robert Frahme, 2016: Reliability of the Mineral Appraisal Report: The New World of Appraisal Review

After sinking many \$000s on an appraisal for decision making or litigation, how does the decision maker or legal counsel know that the report will it stand the scrutiny of litigation or negotiation? The recent re-writing of the Uniform Standards of Professional Appraisal Practice (USPAP), especially that part addressing "appraisal of the appraisal" (Standard Rule 3) is one recent sea-change in USPAP. It requires testing the underlying appraisal report against five newly clarified parameters: "Completeness, Accuracy, Adequacy, Relevance and reasonableness". When tested by a qualified reviewer, the user of the report gains a clear picture of the reliability of the report without arcane references to alleged USPAP violations, as frequently done in the past. Beyond the extensive appraisal education and experience that should be required of the practicing appraiser, the reviewer must have additional education, experience, and a different mind-set. Comments will be provided on getting it right the first time (appraiser selection), and common structural errors the reviewer should find in determining whether the report is adequately supported before the opposition asserts that it is not.

Bereket A. Berhe, et al., 2016 Mineral Valuation in a World of Volatile and Cyclical Commodities

The fortunes of mining companies and their implied value are tied to cycles - both economic and commodity – within which they operate. Hence the determination of appropriate future metal prices is one of the most critical factors faced by mineral valuers especially for advanced projects. Price, and hence revenue, is usually the most sensitive input to the valuation model. Empirical studies of past forecasts show that the success rate for commodity price forecasting is very poor. This paper explores various approaches and comments on their strengths and weaknesses. We conclude that careful evaluation of long-term metal prices is a key element and is hardly a luxury that can be left to simple averages or rules of thumb.

John B. Gustavson, 2016 Which Discount Rate to Use?

The Discounted Cash Flow approach can yield a reliable Market Value estimate, when applied to producing mineral properties. However, it requires accurate input in form of production rates, commodity price forecasts and cost estimates. For development-stage properties also development costs must be available and possibly discounted at a lower rate. Before- or after-Federal-tax must be considered as well as type of mineral estate. And the IRS has strict requirements for the input parameters.

Marc P. Springer, 2016 A Bear Market or What the Market Will Bear -- Industrial Mineral Market Entry and Absorption Rate

One of the most overlooked concepts of industrial mineral appraisal is market entry. Industrial minerals include low unit-value construction aggregate and fill material to high value fillers/extenders and chemical-grade mineral deposits containing unique or special properties suitable for end-users requirements.

Graham A. Davis, 2015 The Comparison Sales Approach to Valuation: Science or Black Magic?

The comparison sales approach recommends that a target asset can be valued by finding sales of comparable properties and adjusting those sales for geological, geographical, political, and economic differences. The most common, and often only, adjustment is for size, where a per unit value is taken from the comparison sale and applied to the number of units of metal at the target property. This method assumes that project value is linear in scale, with an intercept of zero. The assumption has, to my knowledge, never been tested. In this paper I point out the linearity assumption made by this approach and show that it is unlikely to hold. The data I use for the analysis comes from engineering designs for an open pit copper project of the same grade and geology but of different scales. I also point out that much of the recommended practice of comparison sales has never been empirically validated, and as such this valuation method more black magic than science.

David M. Abbott, Jr., 2015 Enforceable Codes of Professional Ethics --Why, How, and in Practice

Those organizations seeking recognition from regulators like the Canadian Securities Administrators for NI 43-101 need to have an enforceable code of ethics providing for discipline of members who violate the code regardless of the disciplined member's residence or where the property is located. The organization should have disciplinary procedures setting out the disciplinary process, the rights of those alleged to have violated the code, appellate procedures, and potential sanctions. Once a code of ethics and related disciplinary procedures are adopted, the organization's membership should be aware of several important aspects of their implementation. Investigations take time, frequently months. Because investigations should be conducted confidentially, those who have made allegations or those who know about particular cases often become impatient because resolution doesn't occur within a short period of time.

John B. Gustavson, 2015 Case History: Actual Mineral property Sales in Pennsylvania

The market for mineral properties in the Marcellus has matured. First, acreage with historic low-royalty and lease bonus, some Held-by-Production, was augmented by a giant land rush with high royalties (16-20%) and bonus in the thousands of dollars/acre. The latter enabled mineral appraisal by the lease bonus approach. This was followed by discoveries of liquid-rich "sweet spots". Royalty, or rather mineral property buyers

finally appeared including long-term individual investors as well as funds, brokers and even syndicators. Examples, some of them crass, will be given. These buyers together with selling landowners now present a dynamic market. The transactions can be researched and adjusted to provide comparable sales of actual mineral property. Ways to arrive at "confidential" sales prices will be shown for Butler County.

Many parameters must be included when adjusting these sales prices to appraise undeveloped mineral rights. Examples will be shown. Also, the old rule-

of-thumb that Fair Market Value equals a multiple of lease bonus was found still to be valid, albeit adjusted to reflect the resource play nature of this and other shale plays.

Richard W. Jolk, 2014 Fundamental Elements of Mineral Property Value

There are many fundamental elements that contribute value to a mineral property. The author categorized these for discussion into five main areas; 1) elements associated with the mineralized deposit proper - tons, grade, shape, orientation, and integrity of both the ore and host rock; 2) location of the deposit with regard to climate, access, infrastructure, and supporting resources; 3) development work performed including - geologic interpretation, mine planning, process design, logistics, cost estimating and economic analysis; 4) prevailing socioeconomic, environmental and political climate; and 5) leadership and management capabilities and goals of those in charge including staffing, finance, purchasing, public relations, and marketing. Accurate mineral property valuation requires detail consideration of all these areas and an understanding of the combined level of detail and development that must be achieved at various points along a timeline so as to properly consider each area's respective contribution to overall property value.

John J. Manes & Tyler N. Quartiero, 2013 Lessons Learned: Documentation & Recordkeeping On Appraisals Used For Conservation/Donation Purposes

In late 2006, an appraiser working for CMC, Inc. prepared a mineral interest appraisal report to be used for charitable conservation/donation purposes. In 2010, Special Agents of the Internal Revenue Service's Criminal Investigation division performed an unexpected investigation and audit of the appraiser and appraisal report. Following an extensive review process, it was revealed that the landowners of the mineral property fraudulently obtained title to the mineral property, and the possibility of collusion between the landowner and appraiser was being investigated. The appraiser, appraisal report and company were all determined by the Internal Revenue Service to not have been involved, and the company was later asked to

represent the Internal Revenue Service with prosecution of the landowners. The author of this paper was not the appraiser being investigated, however witnessed the overall process as an executive of the company. Several valuable lessons about contracting, clients, donation appraisals, reports and paperwork were learned.

Timothy S. Knobloch & John B. Gustavson, 2013 Appraisal Lessons Learned In The Marcellus Shale

Historically, FMV appraisals in the Appalachians were limited to valuing royalty income from marginal wells for estate tax purposes. FMV was typically based on 1) a multiple of monthly income and/or 2) production decline curve and related DCF analysis. The Marcellus Shale with its significant future income from BCF-level reserves from horizontal wells demanded the approach required to include also sales comparison and lease bonus methods. Appraisals to date have focused on small, single-interest owners in remote areas with limited Marcellus development, to much larger 70,000+ acre ORRI valuation. The latter included properties owned by multiple individuals and with multiple well operators, various stages of well development, but with limited public data. Valuable lessons learned through these appraisals included: client-provided information, "sticks-of-the-bundle" to be valued, lease limitations, Highest & Best Use, adjustments of comparable sales, state and other public resources, company presentations, lease broker interviews, variations in gas quality, water availability and markets for natural gas and NGL's.

John B. Gustavson, 2013 Appraisal and Apportionment of Unleased Oil and Gas Mineral Rights in the Williston Basin, N. Dakota

Property is located at rim of Williston basin, underlain by Bakken shale. Owner wanted to gift his minerals under IRS rules. Nearby test wells for Madison and Spearfish were plugged and abandoned, but did not condemn the acreage. The paper describes the resources based on geology. The author describes his estimate of Fair Market Value. The Highest & Best Use is for exploration for oil/gas. Four approaches were considered: 1) Risk-adjusted DCF was found unreliable, because of lack of lease and development plans; 2) Lease Bonus approach

was found to be equal to a DCF approach from the landowner's standpoint from future leasing; 3) Sales Comparison was not useful as no sales were found of severed minerals in a comparable setting, and 4) Cost approach was not applicable, because no development costs were known to have been expended. Therefore, the Lease Bonus approach was applied. Leasing patterns were observed and the FMV was assessed. Finally, the landowner wanted an apportionment of the FMV into the values of executive rights and non-participating royalty rights. The author derived a schedule for apportionment based on probability for income for the two types of property rights.

Daniel Collins, 2012 Comparison Of Market Valuation Methods And Applications For Mineral Properties

The market valuation of mineral properties utilizes the same three Approaches as conventional real estate valuation, under the USA's Uniform Standards of Professional Appraisal Practice (USPAP), the International Valuation Standards (IVSs), and many other valuation standards. The three valuation approaches are the Cost Approach, the Income Approach, and the Sales Comparison Approach (sometimes called by its business valuation term, the Market Approach). Each Approach contains a number of methods, which are tools in the mineral property valuer's toolbox. Each method has certain applications that are useful under certain circumstances in real property valuation, many of these being specific circumstances when the real property is, or includes, the minerals estate, or an interest in the minerals estate. In this paper, the Author reviews the appropriate circumstances for application of methods within each approach, with primary emphasis on the diverse range of applications of the sales comparison approach.

John B. Gustavson, 2012 Trona Mineral Estate Valuation, Green River, Wyoming

Case deals with soda ash made from trona. Property is located near producing mines. Highest and best use of property is for the mining expansion into the property by neighboring mines, once underground access has been achieved. This is expected in the near future based on Mining Plans by two companies per

State files.

The appraisal is based on three approaches of descending level of confidence, the results of which have been reconciled. The three approaches are: Risk-adjusted DCF of expected development and production (high confidence), Time-adjusted Prior Transaction of negotiated lease of identical property (low confidence), and Transaction Comparison with executed mineral lease (low confidence). The Cost approach is inapplicable, because of property's advanced stage of reserve knowledge. Thus, the increase in value has surpassed the costs of original exploration activities.

The three approaches yielded results for reconciliation: DCF \$6.59 million, Prior Transaction \$5.33 million and Comparable Transaction \$4.71 million. The reconciled value by giving triple weight to DCF approach is \$5.96 million (\$6 million rounded).

Gerald Clark, 2011 Scope Of Work: Building Block For The Appraisal

The unique characteristics of minerals appraisal have often been in conflict with standards written for real property surface assets and businesses. Changes to U.S. standards with the Uniform Standards for Professional Appraisal Practice (USPAP) and international standards with the International Valuation Standards (IVS) are providing more freedom to structure minerals appraisal that better meet the client's needs. It is the appraiser's responsibility to establish a framework within the appraisal that leads to credible results that are not misleading to the reader of the report. The appraiser accomplishes this by first providing information expected by most readers of similar reports. Then a course is set for the intended research and analysis to be performed, clearly explaining the steps to be taken to develop the opinions and conclusions of the finished work. This paper is intended to provoke thought on ways the appraiser may use the scope of work to meet the client's needs, while at the same time accomplish a credible minerals appraisal that is not misleading.

Briana Lamphier & Edwin C. Moritz, 2011 Highest And Best Use In Minerals Valuation - Fundamental Step In Approach To Value

Highest and best use is a fundamental step in the appraisal process and required under the USPAP standards. Although the subject as it pertains to real estate is widely discussed, there is limited treatment when it comes to mineral rights. This presentation reviews the concept of highest and best use and discusses the general methodology with an emphasis on its application to valuing mineral rights.

Gerald Clark, 2011 Reconciliation In Minerals Appraisals -- The Final Adjustments

Often overlooked and hurried, the final reconciliation of an appraisal can bring home the efforts of research and analysis that were presented in the pages that preceded it. Just as an attorney presents closing arguments in a trial, the appraiser can sell his or her opinion of value by summarizing points made throughout the appraisal and give added weight to important specific ideas and concepts. This paper looks at some questions the appraiser should be asking while writing the final reconciliation. It is also intended to provoke thoughts on various methods that can be used to better convince the reader.

Frac Sand Weekly Digest

As Mineral Appraisers we are always looking to stay current on valuation and industry topics. Frac Sand Weekly Digest is a free resource that provides industry news and insights. Check it out!

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