AMERICAN INSTITUTE OF MINERALS APPRAISERS

NEWSLETTER

September 2011 Vol. 15, No. 2

IN THIS ISSUE

PRESIDENTS PROGRESS REPORT

By John Gustavson, AIMA President

The first half of the year has been quite busy for your Officers and for the various Committee Chairs. So much has gone on that I venture to give our members a half-year report. I hope that this will help you in your minerals appraisal activities, in your training and continuing education, and possibly also induce a couple of you to HELP us with the many tasks at hand.

Education. There may still be time to sign up for the web cast, which we recently recommended at a discounted rate. One appraisal skill is always needed, namely the construction and application of Discounted Cash Flow models. This is useful for many purposes in the extractive industries such as for direct market value appraisal by the DCF approach and also for minor adjustments when "gridding" under the sales comparison approach.

This particular webcast "Mine Project Economics" may serve you well. By courtesy of InfoMine our members have been offered a 20% discount down to approximately US$367. Our Associate Members aiming on certification can receive an additional $50 reimbursement upon completion of the webcast. The webcast runs 27, 28, and 29 September 2011 as three consecutive sessions from 8.00am to 10.30am Pacific Daylight Time.

Registration instructions are on http://www.edumine.com/pd/economicswebcast/ . Mention "AIMA" on the registration form. To receive the additional reimbursement for Associate Members from the AIMA for successful completion, please submit proof of attendance after the webcast to the AIMA.

Additional courses are being investigated. Invariably, we need periodic updating of the *Uniform Standards of Professional Appraisal Practice*, so you should search the web for some of the many USPAP refreshers or for full 2-day courses near you.

We also checked out a course offered by the *American Society of Farm Managers and Rural Appraisers.* It was offered as a one-day Mineral Appraisal Seminar near Denver , but after visiting with the instructor I concluded that the course did not offer enough substance for a professional minerals appraiser or associate. It was offered more as an alert of the complexity for those rural land appraisers interested in the appraisal problems associated with valuing minerals, mineral rights, and mineral lands. In other word, an alert as to WHEN to call in a minerals appraiser!

COMMENTS INVITED – WHAT IS AN OVERRIDE WORTH?

By John Gustavson, 2011 President

We are occasionally faced with the appraisal of undeveloped mineral properties, where recent comparable sales include considerations in form of cash plus an override. The latter may be an Overriding Royalty Interest (ORRI) in an oil & gas farm-out or a Net Smelter Return (NSR) in a precious or base metal prospect. Both types are often found in the literature about the open market. Let us assume that the sale fulfill all the other criteria for a market transaction.

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Comments Invited – What Is An Override Worth?, *Continued from page 1*

Now we want to use that comparable sale as one of our comp's, but how do we adjust a couple of percent of ORRI or NSR to "Cash Equivalent"? How do YOU value such an override? We would like you to exchange a few thoughts or experiences on this subject in the *Newsletter*.

For starters here are a couple of approaches, which I have pursued over the years. First, we know that there are differences in both approach and confidence level depending on the *Highest and Best Use* of the property. Properties at or close to the production stage might allow a simplified DCF approach to estimate first how the operator would fare with gross income from his years of actual production.

The potential override could then easily be derived (net of local taxes, etc.) and discounted back to a present value at your justified discount rate. In this case there is proportionality between the two cash flow streams, the operator's and that of the owner of the override.

By the way, would that discount rate for an override owner be higher or lower than the discount rate for the operator? Please, tell us your thoughts, considering "there is no cost risk" being offset by "you have no control"?

What about properties in the other end of the development spectrum (a totally undrilled exploratory prospect with a land position miles from any production)? In that case I find the DCF approach way too speculative to even consider.

Instead, I look at it from the geologist's or from the land speculator's practical standpoint, both of whom might say: "I have put a prospect together (geology + land), now I want to sell it, and move on. Therefore, I want my money back (the hours spent for geology plus the money spent for land control). In addition, I am willing to risk the rest".

I therefore pose this hypothesis: The prospector wants the **second half** of his consideration in form of the override! Half cash, half override! That is the overall consideration. Does anyone agree with that? If so, then as appraisers we can estimate the value of the override in a comparable sale of a rank prospect by simply equating it to the cash consideration. So we multiply by a factor of two the amount paid to the prospector for him to get his out-of-pocket money back.

Comments are invited! Please, send them to your editor right now and they will be included in the next issue of the Newsletter.

AIMA 2012 ANNUAL MEETING

The 2012 AIMA Annual Meeting will be held in Seattle, Washington on February 20, 2012. The time and meeting place will be announced later.

Two Valuation Sessions are planned. One will concern Case Histories, which will be Chaired by Jerry Clark and one will concern Valuation Method s, which will be Chaired by John Gustavson.

SME 2012 ANNUAL MEETING – VALUATION SESSIONS ABSTRACTS

At the moment we have Abstracts for eight papers in hand but we are anticipating additional Abstracts/Papers for the Valuation Session. It is not too late for Members who wish to present papers at the Annual Meeting. Certainly, the Continuing Education Credits makes it worth the effort.

The Titles, Authors, Abstracts and Biographies of each Author (if submitted) are presented below.

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Title: Discount Rate Extraction from Transaction Analysis for Income Approach Valuation of Mineral Properties

Author: Ellis, Trevor R., Ellis International Services, Denver, CO

Abstract: For Market Value appraisals of mineral properties, including mines and quarries, the commonly used methods of estimating the discount rate for Net Present Value (NPV) calculations are the Capital Asset Pricing Model (CAPM), Weighted Average Cost of Capital (WACC), and the build-up method from a safe rate. The author argues that extraction of discount rates from transactions of similar properties to the subject property of the appraisal provides rates that are a better representation of the discount rates in the specific mineral property market that are determined by negotiation between buyers and sellers. Examples of extraction of discount rates from real world transactions are used to illustrate the process.

Biography: Trevor Ellis is a geologist, minerals economist, and Certified Minerals Appraiser who has specialized for 15 years in providing market value appraisals of mineral properties. He chaired the development of the International Valuation Standards Committee's valuation standard for the extractive industries.

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Title: Lessons Learned from Mineral Appraisal with Subsequent Market Sale.

Author: Matt L. Chapman, MAI, Gustavson Associates Affiliate, Louisville, KY

Abstract: When originally accepting the assignment, the Client had described the property as vacant land. A prior appraisal was later discovered and revealed that the property included a mineral rights appraisal. Further research disclosed an old dispute with a court ruling based on testimony by *Continued on page 3*

SME Annual Meeting – Valuation Sessions Abstracts*, Continued from page 2*

AIMA-certified experts. The present appraisal was therefore based on data from findings of the court with a fresh look at discount rate, absorption period, and residual land value. Fortuitously, the property subsequently sold on the market, while meeting all criteria for Fair Market Value. This provided insight into a market-based discount rate. Also, the absorption period could be adjusted in accordance with the current market conditions. The residual land value was minimal (based on comparable sales and projecting trends in market) as the property was affected by a flood zone and the surrounding development was sparse.

Biography: Matthew L Chapman, MAI received his undergraduate bachelor in science degrees in business and geology at Miami University, Ohio. After working for an environmental firm for several years, he took a career change into commercial real estate appraisal. Now he holds the highest designation given to real estate appraisers and has appraised in 30 plus states, nearly all property types, with values ranging from under $10K to over $60 million. Recently he did his first mineral rights appraisal which brought him back to his undergraduate studies roots. He works as an Affiliate of Gustavson Associates to further pursue this field.

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Title: Underground Mining Challenges for the Appraisal of Mineral Rights

Author: Clark, Jerry, Associated General Appraisers LLC Springfield, OH

Abstract: During the last few years, the author has experienced an increase in activity for consulting and appraisal of mineral rights that involve underground mining of hard rock minerals. The trend toward underground mining of these commodities is often influenced by market drivers as much as being a practical and cost efficient method of extraction.

The dynamics of a few case studies will be examined. They will be used to illustrate how some factors that extend beyond the value of the commodity may influence the overall value of the right to mine it.

Biography: Jerry Clark is a state certified general appraiser with 26 years of experience. During the last 16 years he has specialized in minerals appraisals with a concentration in industrial minerals. He has also been the adjunct professor of appraisal study with Clark State Community College in Springfield, Ohio for 15 years. Clients have included major producers with projects that included valuations for resource purchases, sale of operations, highest and best use studies, market studies, and analysis for the reclamation. He served as a Henry Krumb Lecturer in 2008.

Title: Comparison of Market Valuation Methods and Applications for Mineral Properties

Author: Collins, Daniel L., Collins Productions, Littleton, CO

Abstract: 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.

Biography: Daniel Collins is a geologist, minerals economist and a Colorado licensed attorney, who has served in a number of industries during his career. He is currently working on becoming certified as a Minerals Appraiser with the American Institute of Minerals Appraisers, under the mentorship of Trevor Ellis.

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Title: Permitting and Environmental Considerations observed during Minerals Appraisals

Author: Manes, John J. and Quartiero, Tyler N., CMC, Inc., Scottsdale, AZ

Abstract: Numerous federal, state, county and local municipalities are involved with permitting and regulating environmental activities at mining operations nationwide. Each State in the United States is usually different in regards to its permitting and environmental requirements. Minerals Appraisers are required to evaluate and assess risks during the course of an appraisal assignment, of which one of these risks may be related to obtaining, extending, or modifying a permit. A local or regional permitting specialist is often contracted to prepare permit applications, as well as to determine timeframes, cost and risks. Prior to consideration of an assignment, an appraiser may desire to pre-evaluate the efforts that will be necessary during the assignment to assess permitting and environmental risks. Lessons learned from permit friendly and not-so-friendly States will be presented.

Biography: Mr. John J. Manes is the President of CMC, Inc., a Scottsdale, Arizona based Mining & Mineral Appraisal and *Continued on page 4*

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Consulting firm. Mr. Manes received his B.S. in Geosciences and his B.S. in Agriculture (Soil & Water Science) from the University of Arizona.

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Title: Mine Valuation Factors not related to Mineral Value

Author: Randall D. Peterson, PE, Mining Consultant
Salt Lake City, UT

Abstract: The purchase and sale of a mineral property is a complex process involving many interrelated factors that extend beyond the physical mineability and market value of mineral. This paper discusses some of the things learned from an actual transaction involving both the acquisition and sale of the Stansbury Mine near Rock Springs Wyoming. From both the buyer's and seller's point of view major factors of due diligence are discussed and outlined in a way to maintain confidentiality of the parties involved and terms of agreement. Valuable lessons learned in lease negotiation, mine planning, permit transfer, permit renewal and permit revision are discussed along with the transfer of water rights and other permits. Mine valuation is compared to transaction price.

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Title: Continuous Time Stochastic Process Modeling of Mineral Resources Uncertainty in Mineral Asset Valuation

Authors: Frimpong, Samuel(1); Dogbe, George(2)
1. Mining and Nuclear Engineering, Missouri University of S & T, Rolla, MO, United States.
2. Long Range Mine Planning, Syncrude Canada Ltd., Fort McMurray, AB, Canada

Abstract: Mineral resource uncertainty has a dominant effect on mineral asset valuation and investment decisions. Resource uncertainty could kill projects and introduce errors in portfolio values. However, if managed well, it could increase portfolio values. Current methods do not account for resource stochastic processes, and thus, do not capture the actual values of ventures. They consider the stochastic processes governing prices, convenience yield and risk-free rate but model resource with certainty. These methods are limited given that cut-off grade and resource revisions are a norm rather than the exception. The authors develop a mine valuation model that accounts for the stochastic processes governing both price and mineral reserve. This is a 3D price-reserve-time state model that captures the dynamic mine value behavior. The results from this model are compared with that from a corresponding constant reserve model. The results show that the constant value models have severe limitations in capturing the real values of mineral resource ventures under uncertainty, which is corrected in the continuous-time stochastic process model.

Title: Trona Mineral Estate Valuation, Green River, Wyoming

Author: Gustavson, John B., Mineral Appraiser LLC, Boulder, CO

Abstract: 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).

Biography: Mr. Gustavson is a minerals appraiser and consults in the areas of gold and precious metals; base metals; iron and aluminum; uranium; oil & gas; coal and coal bed methane; industrial minerals including evaporites and sand & gravel; and geothermal energy. His core competency is geology as applied to mineral resources with adjunct support in engineering, economics and appraisal based on his forty-five years of experience.

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Title: Evaluation of Potash Resources and Feasibility of Sevier Lake Mineral Extraction Project

Authors: Waite, David (1); Henchel, Lawrence (2); Dye, Rick (3).
1. CH2M HILL, Salt Lake City, UT.
2. Norwest Corporation, Salt Lake City, UT.
3. Peak Minerals, Salt Lake City, UT.

Abstract: This paper presents a summary of the results of Sulfate of Potash (SOP) resource development efforts with the goal of submitting a Canadian NI 43-101compliant technical report defining SOP resources. Early phases of the technical and economic evaluation of the proposed project are addressed. The project includes mineral extraction of SOP from approximately 40,000 hectares of leases on a dry lakebed in southern Utah called Sevier Lake, which is a large terminal playa which has been shown to contain potassium-bearing saline brines. SOP and potentially other minerals will be *Continued on page* 5

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produced through selective crystallization of the brine utilizing large evaporation ponds, and existing high evaporation rates.

Limited exploration and pilot tests were performed in the late 1970s through early 1990s. The current exploration program builds upon this historical exploration data and incorporates current technical and design methods for this particular type of mineral extraction process.

AN OPEN LETTER – ECONOMICS WEB CAST FOR AIMA ASSOCIATE MEMBERS

By John Gustavson, AIMA President

Dear Associate Member:

The American Institute of Minerals Appraisers is accelerating its Mentor Program toward your ultimate certification as a minerals appraiser. One of the new elements is our selection of webcasts, which may assist you in improving your mineral appraisal skills. Such skills come in many forms, but one skill is always needed, namely the construction and application of Discounted Cash Flow models. In addition to mine management this is done for many purposes in the extractive industries such as for direct market value appraisal by the DCF approach and also for minor adjustments when "gridding" under the sales comparison approach.

This particular 3 x 2½-hr webcast may serve you well. The title is "Mine Project Economics", but the program is broader. It includes sectors directly applicable to mineral appraisal, as shown in the following:

Introduction. Basic concepts of discounted cash flow, continuous cash flow models, basic project cash flow model, examples of valuations

Discount Rates. Systematic and unsystematic risks, the capital asset pricing model

Valuation of Project Finance. Capital structure, equity and debt financing, weighted average cost of capital, flow to equity, adjusted present value

Valuation of Tax Shields. Depreciation and interest tax shields, present value of tax shields

Mining Costs. Capacity factoring, cost models, contingency, activity-based costing, strategic and tactical decision making using costs

Uncertain Input Parameters. Models of uncertainty, analytical and simulation techniques, effects of risk perception, examples

Real Options. Types of real options, mine valuation by real options, examples, real options as a design paradigm (real options in real mines).

So this sounds like a good webcast for a minerals appraiser. Fortunately, by courtesy of InfoMine Inc., the Canadian organizer and owner of EduMine, AIMA members have been offered a 20% discount off the CAD$450 webcast fee. The fee then reduces from CAD$450 to CAD$360 per registrant (= approx. US$367). We are very grateful for this courtesy to the AIMA.

In addition, to YOU as an AIMA Associate Member aiming on certification, the AIMA herewith offers an additional US$50 reimbursement upon completion of the webcast. That adds up to a 30% discount! The webcast runs 27, 28, and 29 September 2011 as three consecutive sessions from 8.00am to 10.30am Pacific Daylight Time. You will find registration instructions and the form on http://www.edumine.com/pd/economicswebcast/ . Mention "AIMA" on the registration form, please. To receive the additional reimbursement to Associate Members from the AIMA for successful completion, please submit proof of attendance after the webcast to the AIMA Headquarters' office and allow 2-3 weeks for handling.

Thank you for your interest in the profession of appraisal of minerals and Good Luck with this webcast!

John B. Gustavson, 2011 President

NEW MEMBER AND NEW ASSOCIATE MEMBERS

New Member: Samuel Y.C. Chan, Greater China Appraisal Limited, Room 2702, S hu I On Center, 6 – 8 Harbour Road, Wanchai, Hong Kong, China, was recently elevated to full membership. His Member Number is 2011 – 2.

Congratulations Samuel!

New Associate Members

No. 2011 – 1: Matthew L. Chapman, 3307 Grandview Ave., Louisville, KY

No. 2011 – 2: Daniel L. Collins, Sole Practitioner, 7445 S. Alkire, #306, Littleton, CO

No. 2011 – 3: George (Hin Yuen) Tsang, 1517 hong Ning Road, 6/F, flat D, Yue Man Mansion Kwun Tong, Hong Kong, China

No. 2011 – 4: Timothy S. Knoblock, John Noblock Petroleum Consultants Inc., 2163 B Star Route 821, Marietta, OH

I welcome you to AIMA.

Your Secretary, Donald Warnken

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