

# AMERICAN INSTITUTE OF MINERALS APPRAISERS

## NEWSLETTER

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**IN THIS ISSUE:**  
WHAT TO SAY IN COURT  
MINERAL RIGHTS IN CONDEMNATION

### 1995 ELECTIONS

The nominations for officers for 1995 yielded a slate which is submitted for the vote of our members. Separate ballots are included with this *Newsletter*.

Since the new year is approaching rapidly, all members are urged to submit their ballots without delay, but in no event later than by 15 January 1995. The office for which they have been nominated and a brief background of each candidate follows below in alphabetical order.

Trevor Ellis, Denver, Colorado, *Treasurer*. Trevor is originally from Australia. He also graduated from Colorado School of Mines in Mineral Economics. He works as an independent consultant focusing on mine evaluations and environmental remediation.

J. Paul Fly, Georgetown, Texas, *Secretary*. Paul has education both as a petroleum engineer as well as an attorney. His experience is from the oil industry and from a number of years with the U.S. Bureau of Land Reclamation.

John B. Gustavson, Boulder, Colorado, *President*. Born in Denmark and educated in the chemical engineering field, John also has a degree in geology. Most of his experience has been in private practice, first as a small independent, and subsequently as the principal of a consulting firm specializing in appraisals.

Donald E. Warnken, Tulsa, Oklahoma, *Vice President*. Don's background is with the U.S. Army Corps of Engineers. His education is in petroleum and civil engineering from Tulsa and OSU, respectively. He has performed more than 600 mineral appraisals over the years for various federal agencies.

### PEER CONTACTS

Our contacts with other institutes and societies have been improving since the last *Newsletter*. In October, 1994 our president John Gustavson was invited to speak in front of the American Society of Appraisers, Dallas Section. Unfortunately, very few members of that society showed up for the evening presentation which focused on some of the current problems in the field of minerals appraisal such as Highest and Best Use, cost of acquiring Comparables, and international appraisals. ASA probably has some of the same problems we do, namely the difficulty of mustering sufficient membership interest in our specialty branch of the broader appraisal profession.

On the positive side your Headquarters has received several inquiries from the public for referrals, usually on basis of commodity specialization or geographical area. Also, referrals have been received from the mighty Appraisal Institute, the undisputed giant in the real estate appraisal field. Evidently, the AI has heard about us and the requests for minerals appraisal experts have been passed on to various of our members.

Mike Cartwright, AIMA member in Reno, advised that he is in contact with the Australian Institute of Valuers and Land Economists, which has done a fair amount of work on establishing standards for the appraisal of mineral properties. Good work, Mike! Let us hear what you find out.

### CALL FOR DUES

Your Institute has existed to date on only the original application fees by donation of office expenses and time by various members. However, some costs are now becoming necessary such as reprinting of the Institute's By-laws. One of our members brought it to our attention that the By-Laws still sport the word "Proposed" on the front page. Rest assured that your Board already in 1992 carefully reviewed the Proposed By-laws and adopted these. However, it would be good housekeeping to reprint these as "Adopted".

Since only printing and minor office expenses are expected during 1995, your Board has established the dues for this coming year at \$25.00. An invoice for that amount is enclosed; a similar amount will be assessed new applicants seeking to join during the coming year.

## INSTITUTE SEALS

Some of our members have already acquired either the embossing version or the rubber stamp featuring the Institute's seal. The costs are now \$47.50 and \$30.00, respectively. The seal features your name and year of certification. It is depicted here. Delivery time is about ten days. Your Officers encourage you to acquire and use the seal on your appraisal reports and opinion letters.

## *THE PRESIDENT'S COLUMN:*

### WHAT TO SAY IN COURT

Occasionally, our members may find themselves testifying in court or commission hearings. Sometimes depositions are taken. It is important to remember that these proceedings take place under oath and that strict adherence to the truth is our ethical duty. Therefore, be proud to be a certified member of our Institute, but be sure not to exaggerate our size or influence.

It is very tempting to sound Big; but it is a fact that we are still small (about twenty members and growing). **You, yourself are the expert appraiser** to the extent you can qualify. Your Institute **certification** is simply proof that your peers have reviewed your credentials and ethics and certified you as qualified to conduct your appraisal work. That is what our seal represents to the public who relies upon us as professional appraisers.

On the other hand, frequent reference to our Institute in public proceedings and for what it stands can only help us in the long run. All our members would be very interested in hearing of *your* experience in the witness stand. Did the cross examining attorney try to make you look silly when you related the tiny size of our Institute? No need to venture the information; but, if asked, yes

we are small, but certainly growing. From my personal experience I can now point to two cases where my certification by the American Institute of Minerals Appraisers has assisted me, one in a coal mine severance tax case in Wyoming (What is the value of the coal at the mine mouth when the mining company also owns the wash plant and the transportation system?); the other case relates to a Taking due to rezoning which left a quarry owner with an undeveloped (but valuable !?!?) piece of property. In both cases I was thoroughly grilled on the objective and status of the Institute, fortunately not leading to any impeachment because 1) I stuck to the facts about AIMA, and 2) in the U.S. it is not a shame to be small and striving. How about getting us a few new members?

*John B. Gustavson*

## *MINERAL RIGHTS IN CONDEMNATION*

### **Excerpts from a paper by DONALD E. WARNKEN**

I need to address the appraisal issue of near-surface minerals. The value of those minerals would be allied with the Highest and Best Use of the surface in those areas where the mineral deposit is wide spread and the resource is undeveloped. This axiom is likewise true where the resource is developed to a minor extent and the market for the resource is rural and local, such as gravel for county roads.

In condemnation, where the described resource is leased, the surface rights owner would be entitled to Fair Market Value of the land. The lessee would be entitled only to the return of any up-front lease bonuses paid, the cost of site permits, and the cost of overburden removal. Where it is determined that the highest and best use of the surface is mining of the mineral deposit, value of the property would be allied with the resource. Comparable sales would be the choice of the Fair Market Value estimation.

However, few comparable sales are available for analysis of properties in that category. The appraiser will often rely on the Discounted Cash Flow method for that reason. The appraiser must develop good support for the future production estimates. In that connection, it is essential for the appraiser to have investigated market demand for the mineral resource.

Market Data and Income are two approaches to value which are used to estimate Fair Market Value of "hard rock" mineral rights. The Cost approach is not applicable in the appraisal of mineral rights per se. However, there are occasions where the Cost approach is used to estimate value of structures or processing equipment associated with a mining operation.

Hard rock mineral rights may be found in various states of development at the time of condemnation. These may range from a fully developed mining operation to an undeveloped prospect. The state of development will have a pronounced affect on value and the type of data needed for appraisal.

The variables to be considered in any "hard rock" mineral rights appraisal are many. The most notable are:

- (1) Reserves;
- (2) Geology;
- (3) Quality;
- (4) Mining depth;
- (5) Transportation and access;
- (6) Market conditions;
- (7) Mining method;
- (8) Production rate;
- (9) Sale condition; and
- (10) Production cost & income.

Reserves are the common denominator in buying or selling mineral properties and in estimation of their value by either the Market Data or Income approach to value. There are three reserve categories which are in general use by the mining industry. They are, in descending levels of confidence:

- (1) Measured;
- (2) Indicated; and
- (3) Inferred.

Measured reserves are assured. They have been computed from measurements which have been obtained from exposure on three sides in mine workings or from drill holes. Further, the quality or grade of the resource has been tested. Indicated or probable reserves are those reserves which have been computed partly from specific measurements, samples, and production data and partly from projections for a reasonable distance on geologic evidence. Inferred or prospective reserves are those reserves which have been estimated from minimal dimensional and qualitative data and from application of geologic inference based on broad geologic knowledge and application. The U.S. Geological Survey has provided a definition of reserves and resources in their Bulletin 1450-A (1976).

Geological information can be obtained from various sources which will be needed for a Fair Market Value appraisal. Some information, and possibly some mineral maps, can be obtained from State Geological Survey publications in the state where the subject property is located. Should subject mine or prospect be located on Government-owned minerals, a Government geological report may be available. The report, if available, would be obtained through the Department of the Interior, Bureau of Land Management Office, where subject is located. Another

information source would be other mine operators in the area. The best and most reliable information source would be the operator of subject mine. As a last resort, the Government could drill test the property after condemnation.

Once the appraiser has assembled the needed geological information, mineral and ore body measurements, a measured reserve estimate can be computed. The most reliable reserve estimates are those which have been prepared by the mine operator. That potential source should not be overlooked. The Securities and Exchange Commission could be an information source provided the mining company is a publicly held stock company. Reserve estimates are required in K-10 reports which must be filed with the Commission yearly. Unfortunately, the K-10 information could be worthless to the appraiser if the company has lumped their reserves estimates from all mining operations.

Quality of the mineral or assay values of ore are related to the economics of mining and hence, are each integral to the Fair Market Value estimate. Quality would relate to price paid for the product to a greater degree that assay value which is generally related to recovery cost. The best and most reliable information source for quality data would be the min operator. Other operators in the area could furnish some generalized information. If the mineral rights have been leased from the Government or from a restricted Indian land, the needed information would most likely be on file with the appropriate Government agency.

Mining depth is another appraisal consideration because it will have an impact on cost of recovery and recoverable reserves. This information is readily available from subject mine operator, other operators in the area, or the state regulatory agency.

Transportation of the mined mineral and ore to market is a cost factor. That cost could be integrated into price paid for the product or it could be considered as cost to the operation. This would depend upon how the product is marketed. For an on-going operation, the appraiser may be inclined to assume the mine economics are not affected by that cost. However, the appraiser should understand how transportation costs are accounted. It could be important in the determination of market area and the estimation of future rates of production which would be needed in the application of the Income approach to value.

Any changes in the market must be noted which may affect supply or demand, hence the anticipated price to be paid for the product. This need is probably more applicable to use the Income approach rather than the Sales Comparison approach to value. Certainly the appraiser needs to cognizant of the

product price difference between sale dates and appraisal date in application of the Sales Comparison approach.

The method of mining will have an impact on production rates, recovery efficiency, and production cost. The type of extraction technology applied will, in some way, relate to thickness of the mineral zone, roof or floor conditions and depth. These factors would be considered in either approach to value. The method of mining can be quickly determined by inspection of the property. Production rate is valuable information which is needed for future production and income forecasts. Unfortunately, the best information source, and possibly the only information source, is the mine operator. Alternative information sources are few. Mine operators are required to file production reports with a designated state agency in most states. The data on request can be held confidential, and thus would not be available to the appraiser. If a Government or restricted Indian lease is involved, production and royalty records are available from the appropriate agency.

Condition of sale must be considered in the Sales Comparison approach. Often mine sales will include assets foreign to the mining operation which will require abstraction of their contributory value. Also, special financing or a distressed sale situation may be involved which would require consideration.

Production costs and income are inherent to the Income approach to value. The best and most reliable information source for those items would be the mine operator. However, the appraiser may be able to construct a reasonable production cost estimate.

After collection of the data concerning the ten variables just mentioned, the appraiser will be in a position to indicate sales analysis or income estimation.

The market data approach, which is better known as the Sales Comparison approach, will provide the best evidence of value. Unfortunately, no two mines are exactly alike and furthermore, operating mines are seldom sold. Thus, useable sales data are scarce for operating mines. On the other hand, claims and mining prospects will change hand frequently, providing a plentiful supply of sales data.

The best and most efficient approach to locating sales is to visit with mine operators in the area. Generally, mine operators are aware of all sales which have occurred in their area of competition. In fact, most have received a bid or offer to sell package from the seller. Some may even be willing to share their bid price with the appraiser and their knowledge as to actual sale price. Mine operators will also know the names of prospectors or companies which are involved in the sale of mining prospects. Thus, County Clerk records search may be minimized by simple inquiries. Trade journals are another information source which are generally available in any large library. K-10s are a possible sale price information source which should not be overlooked.

A unit of comparison will be selected by the appraiser for the sales analysis. In the analysis, the appraiser must consider the differences in the sale properties and subject, such as reserves quality, mineability, and mining method. Adjustments will probably be required to effect comparability. The adjustments will be critical to the analysis. Therefore, the appraiser should document the basis for each adjustment to assure quality analysis.

The uniqueness of the subject is fully recognized in the Income approach to value. The uniqueness is expressed as the cost of equipment needed for extraction and processing, cost of mine start-up, operating costs, and in some instances, the price paid for the product. This approach is preferred by the industry. A discounted cash flow table is constructed in this application. The typical DCF table for the working interest will display annual production to depletion. The number of productive years is determined by simply dividing net recoverable reserves by the annual production rate. Gross annual income is then determined by multiplying annual production rate against product price. Royalty is subtracted from gross income. It is computed by multiplying production and the royalty rate which is generally expressed in dollars per recovery unit. Net operating costs would be subtracted. Ad Valorem and severance taxes, if applicable, would also be subtracted from gross income. Most likely during the life of the mining operation, additional capital investment will be needed. It will be deducted from gross income in the year the expense is forecasted to occur. Each yearly net income will be discounted to present worth using an interest rate adopted by the industry. The discounted net income is then risked for the Fair Market Value estimate.

One or more years may be needed for mine start-up. Hence, in the initial years, cash flow will be negative. This is also recognized in the DCF estimate where appropriate.

The two approaches to value for "hard rock" mineral rights are vulnerable to manipulation. This is apparent in condemnation where opposing appraisers have great differences in opinion of value. In the Sales Comparison approach, the area of greatest abuse is the selection of comparables. Next would be in the comparisons and the adjustments. Too often appraisers make adjustments which are simply not valid. There are many areas for abuse in the application of the Income approach to value. Most notable would be the computation of net recoverable reserves and annual rates of production. Often production rates are escalated which are not justified by the market conditions. Next would be the selection of the risk rate. This factor can severely impact the Fair Market Value estimate. Its selection should be market derived, but generally is not.

Mining engineers generally have a supporting role in the application of the Sales Comparison approach. Their input would be the estimation of gross and net recoverable reserves and annual rates of production. In addition, mining engineers will often assist in the definition of sales adjustments. On the other hand, mining engineers will generally have the dominate role in the application of the Income approach to value.