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# A NEW TECHNIQUE FOR EVALUATING COAL PROPERTY FOR AD VALOREM TAX ASSESSMENT

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The methods for valuing coal property<sup>1</sup> for ad valorem taxation in West Virginia have been as many and as varied as the number of county assessors who have held office in the coal bearing counties of the State. The lack of any scientific or standardized method of evaluation by assessors has resulted in inequities among assessed coal property values.<sup>2</sup> Therefore, a defensible technique that will assign equitable values to coal properties is sorely needed.<sup>3</sup>

The technique most frequently used for the valuation of surface interests—recent sales of comparable property—is impractical for the valuation of coal resources. Coal property transactions are too limited in number and type to be representative as a base for the complete range of coal parcel values, and the transacted value may include consideration for more than just the coal. For example, a coal property might be that final strategic property necessary to complete a tract large enough for mining. On the other hand, the seller may have been in a forced sale situation in which the buyer acquired the coal property at a bargain. The price paid for the coal property would, therefore, be less than its actual value. Thus, the value of coal property as established by a recent transaction could be at considerable variance with the true and actual value<sup>4</sup> of the coal property.

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<sup>1</sup>For purposes of this discussion, the value of coal property includes only the value of the mineral interest in coal and does not include the value of the land's surface.

<sup>2</sup>Some of these inequities are: different unit values per acre for essentially the same coal in adjacent properties; the same unit values per acre for essentially the same coal regardless of parcel size; the same unit values per acre for coal seams of differing quality; and the same unit values per acre for coal essentially the same except for geological conditions which adversely affect the mining of one of the properties.

<sup>3</sup>The most important characteristic of any method of valuing property is equity. Each parcel of property must be valued equitably and uniformly in relation to every other parcel, even though the total valuation of all properties might be somewhat above or below their true value.

<sup>4</sup>True and actual value is the standard applied to property valuations in West Virginia. W. VA. CONST. art. X, § 1, provides that "taxation shall be equal and

The income the coal property can produce for its owner, capitalized over the life of the property interest, would be more representative of the total value of the coal in the ground than the occasional transaction of a coal parcel. A valuation technique using this method could be applied to a property parcel of any size. The difficulties inherent in this task would be insurmountable, however, if the method were to be applied to each individual parcel of coal property in the State. If the valuation of the total coal property of the taxing unit<sup>5</sup> were determined by this method and apportionment of the total value were made among the various owners according to the relative worth of each property, the task would be simplified.

The price paid to the owner of coal property at the time of the severance of the coal from the seam is known as the royalty. When the royalty is multiplied by the total coal production for the year in a geographical area, the result is the total value of income that the coal property in that area has produced.<sup>6</sup> When the total value produced is capitalized at a reasonable rate of return,<sup>7</sup> the present net worth of the coal property can be determined. Stated another way, the present value of the coal property would equal the investment that must be made in order to receive an amount equal to the annual royalty income from the coal during each year of production.

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uniform throughout the State and all property shall be taxed in proportion to its true and actual value to be ascertained as directed by law." This provision is implemented by W. VA. CODE ANN. § 11-3-1 (1966), which directs that "[a]ll property shall be assessed annually . . . at its true and actual value . . ."

<sup>5</sup>Property tax revenues are allocated among four distinct taxing units: the State, the counties, the school districts (which now correspond in size to the counties, *i.e.*, there is one school district for each county in the State), and the municipalities.

<sup>6</sup>Royalty income is not net income but gross income. In order to be entirely accurate, the amount needed to return the original investment would have to be removed from the royalty paid for each ton of coal. For our purposes, however, this may be disregarded because it is a negligible amount. For example, if the coal reserves of an area of property were calculated to last for two hundred years of production, the return of investment per year at eight per cent interest would need to be only \$1.65 for each \$100,000,000 of value to equal the original investment.

<sup>7</sup>In order to calculate the present value, or the present net worth, of the coal property, a rate of return on investment must be determined. An investor in coal properties with all the risks inherent in the production of income over a long period of time would certainly expect a higher rate of return on his investment than if it were invested in something more secure, such as government bonds or certificates of deposit. Thus, if the rate of return on a secure investment were eight per cent, it would not be unreasonable to expect a sixteen to twenty-four per cent return — two to three times the secure rate — on an investment in coal properties.

The determination of the present worth of a large coal parcel or a large tract comprised of many coal parcels, such as a county or a state, is much simpler than most people would at first suspect. The valuation very simply involves projecting the yearly production of coal from the property for the next twenty to thirty years,<sup>8</sup> determining the current royalty rate, using it to convert the future yearly production to yearly income, and then determining the present net worth of that annuity at a reasonable return.<sup>9</sup>

The difficult part of the new technique is not the calculation of the total present net worth in a taxing area, but, rather, the apportionment of this total worth among the many property owners in the area.<sup>10</sup> Coal property is owned in parcels of unequal size by a large number of individual owners, and these coal properties contain coal seams of varying thicknesses. Data must be collected on the acreage and approximate seam thickness of all coal property within the taxing area. Sometimes not all of the coal seam thickness is mined, sometimes not all of the coal seam thickness is merchantable, and most of the time some of the minable and merchantable coal seam thickness is not recoverable. Seam conditions, mining technology, and mining economics determine the minable thickness of a coal seam. There are many coal seams too thin to be considered minable at the present time or in the next twenty to thirty years. In seams of minable thickness, some of the minable coal may not be mined for various reasons. For instance, the uppermost and lowermost portions of the seam, even though of merchantable quality, are sometimes left in place to give additional support to alleviate poor roof and floor conditions.

Not all of the minable coal seam may be of merchantable quality. For example, a coal seam may contain dirt band strata, called "partings," and coal strata with high dirt content. If these non-merchantable portions are mined, they are either stowed in the mine or removed in the processing of the coal outside of the

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<sup>8</sup>The prediction of the immediate short term production and income is important, but the production and income for the long term thereafter is relatively unimportant because of the influence of actuarial science. The higher the rate of return, the shorter need be the period of accurate prediction of production and income.

<sup>9</sup>Future production, discount interest rate, and current royalty rate should be reviewed and adjusted periodically. This procedure will be greatly simplified through the use of computer cards programmed with information on each coal bearing parcel.

<sup>10</sup>The West Virginia State Tax Department is currently engaged in a program of mapping which will identify the ownership of each individual coal tract.

mine. Some of the minable and merchantable coal available for recovery is lost in the loading and transportation process and stays in the mine as dust or spillage. In addition, some of the minable and merchantable coal is lost in the cleaning process and is rejected along with the non-merchantable material. Therefore, seam thickness must be adjusted for coal that is not minable, merchantable, or recoverable.

Once the adjustments for losses are made in the seam thicknesses, the volume of minable, merchantable, and recoverable coal on each owner's property can be computed. The weight in tons can then be calculated when the volume and the density of the coal are known.<sup>11</sup>

Coal properties containing minable and merchantable coal tonnage vary in worth with regard to many other factors, such as coal quality, mining conditions, access to transportation and market, size of property, probable percentage of recovery, and effect of multiple seams. For each variable factor coal property can be ranked or ordered in relative worth to a base value and thereby to all other coal properties. Where possible, percentage values should be determined statistically for different increments of rank; otherwise best estimate percentage values should be assigned. Tonnage values for each property multiplied by the relative worth percentage value of any one or all of the worth factors determines the relative worth of each property for the worth factors considered.

To implement this technique, each coal property should have a record made listing the factual and best estimate data of all the variable factors to be considered in determining the relative worth of the property. Relative values assigned to the factual and best estimate data of the individual properties should be periodically checked to assure their validity.<sup>12</sup> With this data, the present net worth of all the individual coal properties can be calculated; with a simple computer program, it can be done very quickly.

The value of each owner's property in a geographical area as determined by this new technique is equal to the present net worth of all the properties, as calculated heretofore, multiplied by the

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<sup>11</sup>The density of coal varies, and where the density is not known, the best estimate should be used.

<sup>12</sup>Any adjustment made in individual property values due to error in the factual data or change in the best estimate data would not affect the total worth of coal property in the State. Any adjustment would merely distribute the change among all the other individual coal properties on the basis of their relative worth.

ratio of the relative worth of each of the properties to the worth of all the properties. Aside from providing a superior method for valuation, this new technique has other distinct advantages. The adjustment of royalty rates will allow for any inflationary influences. In addition, data for each coal property will be computerized and will, therefore, be subject to easy checking, sampling, and adjustment. Probably the most attractive feature of the program from the taxpayer's point of view is that it will remove the county to county variances in assessed values which so often occur when no uniform valuation system is available.

