2011

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TAXATION OF UNMINED COAL IN KENTUCKY

JESSE M. PARRISH*

I. INTRODUCTION

Kentucky has taxed unmined coal since the state’s inception but a variety of factors have impacted the effectiveness of the tax assessment process. This pattern of successes and failures represents a struggle to balance efficiency and accuracy within the taxation regime. Originally, Kentucky’s taxation of unmined coal was motivated by an effort within the state to tax the owners of unmined coal, who were primarily out-of-state entities. The coal industry fought to counter this effort and prevent another tax on mining operations. Taxation of unmined coal was a controversial issue during the 1970’s and 1980’s, garnering attention in multiple gubernatorial races and Kentucky Supreme Court cases. This controversy dissipated when the Franklin Circuit Court entered a temporary injunction directing the centralized assessment of tax on unmined coal in 1989. The current method for taxing unmined coal draws its authority and valuation methods from this lone Franklin Circuit Court case. No additional statute, regulation, or other public authority publicly reveals the method used to assess the value of unmined coal. This note seeks to shine light on the development of the Kentucky’s unmined mineral tax and lift the veil on its current mechanical functioning.

II. DEVELOPMENT OF TAX ON UNMINED COAL IN KENTUCKY

Kentucky has taxed unmined coal since the state was formed in 1792. Whether unmined coal was taxed, however, has varied over the years depending on the tax rate in place and the regulatory body assessing the value of unmined coal. The current form of the unmined minerals tax began in 1976 with House Bill 677 and has experienced significant developments since then. The changes reflect policy motivations prevalent at the time of legislative enactments and illustrate a struggle on the part of

* B.B.A., 2009 University of Kentucky, J.D. expected May 2012, University of Kentucky College of Law.
1 Interview with Carla Briscoe, Tom Crawford, Jason Mills & Jay Wallen, Div. of Mineral Taxation and GIS Services, Ky. Dep’t of Revenue, in Frankfort, Ky. (Mar. 11, 2011).
2 Stephen J. Vasek, Jr., The Impact and Desirability of Taxing Unmined Coal Interests in the Same Manner As Other Real Property, 1 J. MIN. L. & POL’Y 221, 228 (1985-1986).
3 See id. at 229.
the Kentucky courts and Legislature to grapple with the inherent uncertainties of valuing subsurface property.

A. Taxation of Unmined Coal Prior to Gillis v. Yount.

Prior to 1950, unmined coal was subject to an *ad valorem* property tax to the extent that unmined coal contributed to the overall value of the surface property.\(^4\) Under this approach the taxpayer filed a return stating a value for the taxpayer’s interest in the underlying minerals.\(^5\) If the local tax assessor disagreed with the stated value, the assessor revalued the property. However, the taxpayer often disputed the revaluation.\(^6\) The taxpayer and tax assessor, through negotiation, normally arrived at a compromise on valuation.\(^7\)

This approach became less effective and less uniform around the latter part of the 19\(^{th}\) century. During this time many of the mineral estates were severed\(^8\) from the surface estates through the sale, lease, or devise of the mineral rights.\(^9\) In the early 1950’s, multiple coal producing counties developed a combination of the *ad valorem* property tax and a coal severance tax to combat the inefficiencies of the prior method.\(^10\) Under this approach, a county would be divided into different zones in which the coal seams\(^11\) had similar characteristics.\(^12\) Each zone maintained its own rate for taxing unmined coal.\(^13\) All unmined coal within the zone was taxed at the zone rate and all mined coal was taxed at ten times the zone rate.\(^14\)

Taxation of unmined coal changed dramatically with the passage of House Bill 677 in 1976, codified at KRS 132.020(5).\(^15\) The legislation established a state property tax for unmined coal at the rate of $0.315 per $100 of assessed value.\(^16\) This exclusive state tax treated unmined coal as distinct from other interests in real property.\(^17\) The legislation also centralized the tax assessment of unmined coal with the Department of

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\(^4\) *Id.* at 228.
\(^5\) *Id.* (citation omitted).
\(^6\) *Id.* (citation omitted).
\(^7\) Vasek, * supra* note 3, at 228 (citation omitted).
\(^8\) Severance—“The separation of a mineral interest from other interests in the land by grant or reservation. A mineral deed or grant of the land reserving a mineral interest, by the landowner before leasing, accomplishes a severance as does the execution of a mineral lease.” *J.H. MOSGROVE, COAL MINING REFERENCE BOOK* 251 (Kentucky Mining Inst. ed., 5th ed. rev. 1997).
\(^9\) Vasek, * supra* note 3, at 229 (citation omitted).
\(^10\) *Id.* (citation omitted).
\(^11\) Seam—“A stratum or bed of coal.” *MOSGROVE, supra* note 9, at 251.
\(^12\) Vasek, * supra* note 3, at 229 (citation omitted).
\(^13\) *Id.* (citation omitted).
\(^14\) *Id.* (citation omitted).
\(^15\) *Id.*
\(^16\) *Id.* (citation omitted).
\(^17\) See *id.*
Revenue. Centralization of the assessment allowed taxation to be accomplished more uniformly and without local political pressure to reduce the valuation amounts.

The enactment of the tax on unmined coal was a response to the ineffectiveness of previous taxing regimes in ascertaining the value of unmined coal. In many cases under the previous regime, coal companies could effectively negotiate with local tax assessors in coal-producing counties to reduce the valuation assessment and dodge much of the tax liability. Legislators of coal-producing counties supported the enactment of KRS 132.020(5) because they wanted to hold out-of-state entities responsible for their corresponding share of real property taxes. Most of the severed mineral rights were held by out-of-state entities. Previously, owners of severed mineral estates were able to escape real property taxes while surface owners, most of whom were residents of the area, were subject to real property taxes.

Initially, KRS 132.020 was successful at assessing a tax on unmined coal with reasonable uniformity. In 1977, the first year of the state controlled assessment, the Revenue cabinet developed a list of potential unmined coal owners using severance tax records and lease records. During 1977, the assessed value of unmined coal grew to approximately $209 million, nearly double the $109 million assessment of unmined coal in 1976. In the second year of state controlled assessment, the Department of Revenue began an effort to accurately map the unmined coal reserves in the state. The Department of Revenue visited each county and met with both coal operators and landowners to further develop the list of unmined coal owners. The tax assessment value of unmined coal increased again in 1978; the Department of Revenue’s mapping efforts increased the number of coal reserves valued from 4,400 parcels in 1977 to 6,000 parcels in 1978. The total tax assessment of unmined coal in 1978 was $278 million. However, the initial state controlled assessments were far from perfect because all assessments were performed without the

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18 Vasek, supra note 3, at 229 (citation omitted).
19 Id. at 230.
20 Interview with Clayton Little, Former State Representative, in Virgie, Ky. (Mar. 14, 2011).
21 Id.
22 Id.
23 Id.
24 Id.
25 Vasek, supra note 3, at 230.
26 Id. (citation omitted).
27 Id.
28 Id. at 231.
29 Id.
30 Id. (citation omitted).
31 Vasek, supra note 3, at 231 (citation omitted).
assistance of modern mapping and computer technology. As a result, the administration of the tax was an expensive undertaking that led many to question whether the process was generating sufficient revenue to cover the cost of administering the tax. The 1978 tax year turned out to be the last year of state controlled assessment for over a decade.

During the 1978 legislature session, Senate Bill 309 was enacted and amended KRS 132.020(5), returning the responsibility of assessing tax on unmined coal to the local property valuation administrator (PVA). Additionally, the tax rate was reduced from $0.315 per $100 of value to $0.001 per $100 of value. Local PVAs were given the unmined coal maps prepared by the state and were charged with administering the unmined coal tax. The drastically reduced rate, however, provided little incentive for local PVAs to administer the unmined coal tax. The reduced tax rate coupled with the significant cost of administering the tax all but ceased the tax assessment of unmined coal in Kentucky. Revenues generated from the unmined coal tax declined from $673,000 in 1977 to less than $3,000 in 1982. In response, there were multiple, unsuccessful legislative attempts to alter the state of the unmined coal tax and provide for assessment similar to other real property.

B. Taxation of Unmined Coal after Gillis v. Yount.

In 1988, the Kentucky Supreme Court dramatically altered the taxation of unmined coal when it decided Gillis v. Yount. The Court was charged with deciding whether the separate tax classification for unmined coal was constitutionally permissible. Section 171 of the Kentucky Constitution provides that, "taxes ... shall be uniform upon all property of the same class subject to taxation within the territorial limits of the authority levying the tax." The Court held that the unmined coal tax in KRS 132.020(5) was an arbitrary classification in violation of Section 171 of the Kentucky Constitution. The Court reasoned that unmined coal is no

33 Id.
34 Vasek, supra note 3, at 232 (citation omitted).
35 Id. (citation omitted).
36 Id. (citation omitted).
37 Id. (citation omitted).
38 Id. at 231-32.
39 See id. at 232 (citation omitted).
40 Vasek, supra note 3, at 231 (citation omitted).
41 Id.
42 See Gillis v. Yount, 748 S.W.2d 357 (Ky. 1988).
43 Id.
44 KY. CONST. § 171.
45 Gillis, 748 S.W.2d at 358.
different than other unmined minerals and should be treated the same as other real property for tax purposes.\textsuperscript{46}

That same year Kentuckians for the Commonwealth, a grassroots political action organization, filed suit in Franklin Circuit Court to enforce the judgment in \textit{Gillis v. Yount} and to define the method for valuing unmined coal going forward.\textsuperscript{47} The Franklin Circuit Court issued a temporary injunction in \textit{Kentuckians for the Commonwealth v. Blanton}, No. 88-CI-00407 (Franklin Cir Ct.).\textsuperscript{48} The temporary injunction required the centralized assessment of unmined coal by the revenue cabinet.\textsuperscript{49} The Court ordered the Department of Revenue to develop a plan to centrally assess coal reserves through the newly formed Division of Mineral Taxation and GIS Services beginning with the 1989 tax year.\textsuperscript{50} The Department of Revenue put forward a two phase implementation plan to tax unmined coal in the same manner as other real property.\textsuperscript{51} The first phase was a self-reporting approach under which the owners and lessees of unmined coal were required to submit an information return.\textsuperscript{52} The second phase of the plan called for the development of an unmined coal geographic information system (GIS) for compliance and assessment purposes.\textsuperscript{53}

The first phase for unmined coal tax assessment was to be used for tax years 1989 through 1993.\textsuperscript{54} The phase one assessment enlisted a self-reporting approach, using information provided by owners of unmined coal, coal operators, lessees and mining permit holders.\textsuperscript{55} Taxpayers were required to report the following: ownership information; the number of acres of mineable coal; the average seam thickness; the location of the coal by county; and whether the coal was idle, permitted, or permitted and producing.\textsuperscript{56} The Department of Revenue used this information to calculate the value of the unmined coal without conducting any independent survey or inspection of the property.\textsuperscript{57} In 1991, owners of coal reserves brought suit challenging the phase one method of assessing the unmined coal tax because the assessment did not consider the particular features of the property to be valued.\textsuperscript{58} The Kentucky Supreme Court held that under a mass appraisal approach the Department of Revenue is not required to weigh all factors that affect the value of unmined coal, but only those

\textsuperscript{46} Id. at 363.
\textsuperscript{47} Interview with Briscoe, Crawford, Mills & Wallen, \textit{supra} note 2
\textsuperscript{48} Id.
\textsuperscript{49} Revenue Cabinet v. Gillig, 957 S.W.2d 206, 207 (Ky. 1997).
\textsuperscript{50} Id.
\textsuperscript{51} Id.
\textsuperscript{52} Id.
\textsuperscript{53} Id.
\textsuperscript{54} Id.
\textsuperscript{55} Gillig, 957 S.W.2d at 207.
\textsuperscript{56} Id.
\textsuperscript{57} Id.
\textsuperscript{58} Id.
factors which aid in making a logical and reasonable estimate of the property’s fair value. 59

In 1994 it became apparent that the GIS necessary for implementation of phase two would not be fully functioning in the near future, and consequently, the temporary injunction was extended. 60 With the temporary injunction still in place, the Mineral Taxation Division continued use of the phase one self-reporting approach and slowly phased in GIS. 61 The temporary injunction remained in place until 2005. 62

While tax assessments continued under the temporary injunction, KRS 132.820, enacted in 1994, effectually codified the holding from Gillis v. Yount. KRS 132.820, the current statutory authority for the unmined minerals tax, requires that unmined coal, oil, gas and other minerals be taxed as distinct interests in real property. 63 The statute was later amended to include an exception for farm owners who use their property for agricultural purposes and are not engaged in extraction of underlying minerals. 64 Furthermore, KRS 132.820 provides that the contest of unmined mineral tax assessments should be handled under KRS Chapter 131, the same way as other real property tax disputes. 65 Neither the statute nor regulations, however, provide guidance concerning a method of valuing the unmined mineral interests.

The temporary injunction entered in Blanton remained in effect until 2005 when the parties settled and a joint order of dismissal was entered. 66 The joint order recognized that the Mineral Taxation Division had implemented a functioning GIS. 67 The Court also approved numerous changes to the Mineral Taxation Divisions valuation formula. First, the Court changed the coal density factor used to convert acres of coal to tons of coal from 135 tons per acre-inch to 145 tons per acre inch. 68 Second, the Court approved the use of West Virginia’s discount factor methodology and recognized the similarities between mining in the eastern Kentucky coalfield and West Virginia. 69 Additionally, the annual filing requirement was eliminated, except for changes in ownership or control and newly available geologic data. 70 The agreed order further determined that the

59 Id. at 209.
60 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
61 Id.
62 Id.
63 KY. REV. STAT. ANN. §132.820(1) (West 2010).
64 Id. at (1)(a).
65 Id. at (5).
66 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
67 Agreed Order of Dismissal at 1, Kentuckians for the Commonwealth v. Blanton, No. 88-CI-00407 (Franklin Cir. Ct. Apr. 25, 2005).
68 Id. at 2.
69 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
70 Agreed Order of Dismissal at 1, Kentuckians for the Commonwealth v. Blanton, No. 88-CI-00407 (Franklin Cir. Ct. Apr. 25, 2005).
average price of coal would be a three year weighted average of coal prices taken from coal severance tax receipts. 71 Finally, the Court approved the use of a continuous income approach for the valuation of actively mined coal. 72 The current unmined mineral tax draws its authority from the Blanton settlement agreement and the stipulated conditions of the agreed order have been implemented by the Mineral Taxation Division. 73

III. CURRENT METHOD OF TAXING UNMINED COAL IN KENTUCKY

The unmined mineral tax, as with any tax, is comprised of two parts, the tax base and tax rate. The amount of unmined mineral tax assessed to the mineral owner is calculated by multiplying the tax base times the tax rate. Determination of the tax base involves assigning a value to the taxpayer's unmined coal holdings. The valuation of unmined coal is a complex undertaking assigned to the Mineral Taxation and GIS Services Division of the Kentucky Department of Revenue. 74 Administration of the unmined minerals tax was first assigned to the Mineral Taxation and GIS Services Division in 1988. 75 The Mineral Taxation Division's efforts to value unmined coal have been aided by the development and implementation of a Geographic Information System (GIS). 76 Unmined coal is valued by multiplying seven factors to arrive at the taxable present value of the unmined coal and the applicable tax rate is a combination of the state real property tax rate and multiple county real property taxes rates. 77 In 2010 the assessed value of unmined coal in the state of Kentucky was approximately $2.1 billion. 78 Further, the unmined minerals tax on coal in Kentucky in 2010 generated over $19 million in total tax revenues. 79

After the valuation and assessment, the PVA of each county and other local authorities are responsible for collecting the tax owed as they collect other real property taxes. 80 The tax is assessed against the owners of mineral interests or holders of leasehold interests, but the actual bearer of the tax burden can vary. 81 A typical coal lease in eastern Kentucky requires the lessee to pay all property taxes concerning the mineral rights conveyed. 82 Alternatively, in western Kentucky, it is common for the owner

71 Id.
72 Id.
73 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
74 Id.
75 Id.
76 Id.
77 Id.
78 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2 ($2,093,730,016).
79 Id. ($19,649,306).
80 Id.
81 Interview with Conley, supra note 33.
of mineral rights to pay the unmined mineral tax regardless of whether the coal is leased to another party.  

No generally accepted explanation for the contrasting distribution of the tax burden exists.

A. The Tax Base: Valuing Unmined Coal

The vast majority of problems and inefficiencies with the unmined minerals tax on coal arise from the difficulty and uncertainty of assessing the value of an underground resource. This uncertainty comes from the lack of objective data concerning subsurface coal’s “exact location, quantity, and quality.” Additionally, the lack of comparable sales information and the illiquidity necessitate a valuation approach where the projected cash flows from the coal reserve are used to value the unmined coal. Cash flow projections regarding unmined coal are speculative at best. The current approach represents the best efforts of the Mineral Taxation Division to maximize the efficiency of the tax system while also accurately valuing the coal reserve.

1. The Role of GIS in Assessing the Unmined Minerals Tax on Coal

The development of GIS has been a crucial advancement in the assessment of the unmined mineral tax on coal. “GIS is designed for the collection, storage and analysis of objects and phenomenon where geographic location is an important characteristic or critical to the analysis.” GIS performs calculations based on geographic, physical, demographic or meteorological data. GIS can integrate the data to produce maps and tables. A GIS database consists of two major types of information. “Spatial information contains data regarding the location of geographical features.” Global Positioning Systems (GPS) are crucial in

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83 Id.
84 Id.
85 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
86 Vasek, supra note 3, at 239.
87 Id.
88 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
90 Id. (citing Scott D. Makar & Michael R. Makar, Jr., Geographic Information Systems: Legal and Policy Implications, 69 FLA. B. J. 44, 44 (Nov. 1995)).
91 Id. (citing Scott D. Makar & Michael R. Makar, Jr., Geographic Information Systems: Legal and Policy Implications, 69 FLA. B. J. 44, 44 (Nov. 1995)).
92 Id. at 361-62 (citing Ron J. Aschenbach, Note, Geographic Information Systems as a Decision Making Tool, 52 OHIO ST. L.J. 351, 352 (1991)).
93 Id. at 362 (citing Ron J. Aschenbach, Note, Geographic Information Systems as a Decision Making Tool, 52 OHIO ST. L.J. 351, 352 (1991)).
this regard to provide GIS with accurate location data.94 “Tabular information contains data associated with spatial features.”95 The spatial information is arranged in layers and the tabular information is linked to the spatial.96 This allows for the separation of the layers and access to each group of information using a given coordinate, each to be accessed by the other at a given coordinate.97

To best conceptualize GIS it helpful to view the technology through an everyday example. “For example, a database could contain spatial information on the Eisenhower Interstate System in Iowa. Each interstate could have tabular information associated with it, including volume, average width and bridge tonnage.”98 A flood plain layer could be placed over the interstate system map.99 GIS, in this instance, “would allow a trucking company to map the safest and most efficient shipping route for sixty-ton trucks during the rainy season in Iowa, while also indentifying potential trouble spots.”100

The Mineral Taxation Division has developed a comprehensive GIS system for Kentucky’s coal fields.101 The system was initially used as a compliance tool to verify the accuracy of mineral owners’ and lessees’ information returns.102 Currently, the GIS system provides information for the actual assessment of the unmined mineral tax.103 Before the GIS system was implemented, owners, operators, and lessees of mineral property were required to submit detailed and burdensome information returns to the Mineral Taxation Division.104 The information from these returns is now stored in the GIS system.105 Several maps must be utilized for each mineral property because numerous coal seams may exist under the same surface property. Accordingly, the Mineral Taxation Division has developed GIS layers that include information from mine ownership maps, lease maps, mine permit maps, coal reserve maps, and tax district maps.106

94 Id. (citing Ron J. Aschenbach, Note, Geographic Information Systems as a Decision Making Tool, 52 OHIO ST. L.J. 351, 352 (1991)).
95 Speich, supra note 90, at 362 (citing Ron J. Aschenbach, Note, Geographic Information Systems as a Decision Making Tool, 52 OHIO ST. L.J. 351, 352 (1991)).
96 Id. (citing Ron J. Aschenbach, Note, Geographic Information Systems as a Decision Making Tool, 52 OHIO ST. L.J. 351, 352 (1991)).
97 Id. (citing Ron J. Aschenbach, Note, Geographic Information Systems as a Decision Making Tool, 52 OHIO ST. L.J. 351, 352 (1991)).
98 Id.
99 Id.
100 Id. (citing Ron J. Aschenbach, Note, Geographic Information Systems as a Decision Making Tool, 52 OHIO ST. L.J. 351, 356 (1991)).
101 Id. (citing Ron J. Aschenbach, Note, Geographic Information Systems as a Decision Making Tool, 52 OHIO ST. L.J. 351, 356 (1991)).
102 Id.
103 Id.
104 Id.
105 Id.
106 Id.
The GIS system also aids in resolving taxpayer protests of the valuation of unmined coal.\(^\text{107}\) When GIS was first implemented, taxpayers overwhelmingly protested the assessments concerning the taxable present value of unmined coal reserves.\(^\text{108}\) The GIS system memorializes the resolution of valuation disputes in order to make tax assessments more accurate going forward.\(^\text{109}\) As a result of GIS, the number of protests submitted to the Mineral Taxation Division has steadily declined since the implementation of the technology.\(^\text{110}\)

2. Mineable vs. Unmineable Coal

The unmined minerals tax on coal levies a tax on mineable coal only. The value of unmined coal is tied to the potential to extract the coal from the ground. Accordingly, if coal is unmineable, then for purposes of the unmined mineral tax it has no taxable value.\(^\text{111}\) The Mineral Taxation Division defines unmineable coal as “coal reserves which [sic] are not mineable.”\(^\text{112}\) The distinction between unmineable and mineable coal therefore depends on the definition of mineable coal. Mineable coal is determined by reference to the Mineral Taxation Division’s mining and quality criteria.\(^\text{113}\) The mining and quality criteria draw boundaries to define what coal is economically feasible to mine under current market conditions, and what coal is not feasible to mine.\(^\text{114}\)

The mining criteria for the mineable coal classification draw distinctions between methods of mining and the coal basin in which the unmined coal is located. In eastern Kentucky, reserves to be deep mined using a shaft\(^\text{115}\) or slope\(^\text{116}\) access require 36 inches or more in coal thickness excluding parting\(^\text{117}\) in order to be considered mineable.\(^\text{118}\) Any deep mining accomplished through a drift\(^\text{119}\) access, highwall,\(^\text{120}\) or auger\(^\text{121}\)

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\(^{107}\) Interview with Briscoe, Crawford, Mills & Wallen, \textit{supra} note 2.  
\(^{108}\) \textit{id.}  
\(^{109}\) \textit{id.}  
\(^{110}\) \textit{id.}  
\(^{111}\) \textit{id.}  
\(^{112}\) Ky. Dep’t. of Revenue, Tax Form 62A200(P), 2010 Unmined Coal Property Tax Information Return at 6 (2010).  
\(^{113}\) See \textit{id.} at 5 (defining minable coal).  
\(^{114}\) Interview with Briscoe, Crawford, Mills & Wallen, \textit{supra} note 2.  
\(^{115}\) Shaft mine – “An underground mine in which the main entry or access is by means of a vertical shaft.” MOSGROVE, \textit{supra} note 9, at 252.  
\(^{116}\) Slope mine – “An underground mine with an opening that slopes upward or downward to the coal seam.” MOSGROVE, \textit{supra} note 9, at 252.  
\(^{117}\) Parting – “A layer of rock within a coal seam.” MOSGROVE, \textit{supra} note 9, at 247.  
\(^{118}\) KY. DEP’T. OF REVENUE, TAX FORM 62A200(P), 2010 UNMINED COAL PROPERTY TAX INFORMATION RETURN at 5 (2010).  
\(^{119}\) Drift mine – “An underground coal mine in which the entry or access is above the water level and generally on the slope of a hill, driven horizontally into a coal seam.” MOSGROVE, \textit{supra} note 9, at 240.
mining requires 30 inches or more in coal thickness excluding parting to be
classified as mineable. With regard to surface mining in eastern
Kentucky, the mining criteria is not defined by seam thickness but by the
ratio of cubic yards of overburden and interburden to be excavated
over 1 ton of any seam or combination of seams which would be recovered
during mining. For surface mining using mountain top or area mining, a
ratio of 15/1 bank cubic yards or less is considered mineable. The ratio is
reduced to 10/1 bank cubic yards or less for contour surface mining to be
considered mineable.

Mining criteria for western Kentucky maintain the same divisions
between mining methods, but the seam thicknesses used to determine
mineable coal are different. These differences are the result of the inherent
quality differences between coal located in eastern Kentucky and coal
located in western Kentucky. The western Kentucky coal fields are
located within the Illinois Coal Basin whereas eastern Kentucky coal fields
lie in the Appalachian Coal Basin. Coal from the Appalachian Coal Basin
generally has a higher BTU content per ton than coal from the Illinois
Coal Basin. Generally speaking, the increased BTU content results in a
higher price per ton for coal mined in the Appalachian Basin than for coal
from the Illinois Basin. The different price levels lead to different
outcomes in determining which coal reserves are economically feasible to
be mined.

Deep mining in western Kentucky conducted through a shaft or
slope access requires a thickness of 42 inches or more, excluding parting, in

120 Highwall miner – “A highwall mining system consists of a remotely controlled
continuous miner which extracts coal and conveys it via augers, belt, or chain conveyors to the outside.
The cut is typically a rectangular, horizontal cut from a highwall bench, reaching depths of several
hundred feet or deeper.” MOSGROVE, supra note 9, at 243.
121 Auger – “A rotary drill that uses a screw device to penetrate, break and then transport the
drilled material.” MOSGROVE, supra note 9, at 234.
122 K.Y. DEPT. OF REVENUE, TAX FORM 62A200(P), 2010 UNMINED COAL PROPERTY TAX
INFORMATION RETURN at 5 (2010).
123 Surface mine – “A mine in which the coal lies near the surface and can be extracted by
removing the covering layers of rock and soil.” MOSGROVE, supra note 9, at 253.
124 Stripping Ratio – “The unit amount of overburden that must be removed to gain access to
a similar unit amount of coal or mineral material.” MOSGROVE, supra note 9, at 253.
125 Overburden – “Layers of soil and rock covering a coal seam. Overburden is removed
prior to surface mining and is replaced after the coal is taken from the seam.” MOSGROVE, supra note 9,
at 247.
126 Parting – “a layer of rock within a coal seam.” MOSGROVE, supra note 9, at 247.
127 Id.
128 Id.
129 Id.
130 Id.
131 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
132 BTU - “British Thermal Unit; A measure of the energy required to raise the temperature
of one pound of water one degree Fahrenheit.” MOSGROVE, supra note 9, at 236.
133 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
order to be considered mineable. Deep mining conducted through drift access, highwall, or auger methods requires coal thickness of 36 inches or more to be considered mineable. With respect to surface mining in western Kentucky, the same ratios define mineable coal as in eastern Kentucky: 15/1 for area mining and 10/1 for contour mining. However, coal reserves that do not meet the mining criteria may still be classified as mineable coal if the coal reserve possesses similar characteristics to those of coal reserves currently being mined in substantial quantities. Table 1 illustrates the varying mining criteria applicable to each coal basin.

Table 1: Mining Quality Criteria for Mineable Coal

<table>
<thead>
<tr>
<th>Mining Method</th>
<th>East Kentucky</th>
<th>West Kentucky</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep Mining (measured by coal thickness)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaft or Slope Mining</td>
<td>36 in.</td>
<td>42 in.</td>
</tr>
<tr>
<td>Drift, Highwall or Auger Mining</td>
<td>30 in.</td>
<td>36 in.</td>
</tr>
<tr>
<td>Surface Mining (measured by ratio of bank cubic yards/coal in-place)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain Top or Area Mining</td>
<td>15/1</td>
<td>15/1</td>
</tr>
<tr>
<td>Contour Mining</td>
<td>10/1</td>
<td>10/1</td>
</tr>
</tbody>
</table>

The quality criteria of mineable coal classification is defined by coal reserves which have similar quality characteristics to coal reserves being mined and sold in substantial quantities from the coal field in which the reserve is located. The quality criteria contemplate multiple quality characteristics of the coal reserve as measured by BTU, moisture content, sulfur content, and ash content.

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135 Id.
136 Id.
137 Id.
138 Id.
139 Id.
140 Ky. Dep't. of Revenue, Tax Form 62A200(P), 2010 Unmined Coal Property Tax Information Return at 5 (2010).
Once coal is classified as mineable coal, it is subject to assessment under the unmined mineral tax. Owners of mineral interests may protest the Mineral Taxation Division’s classification of a coal reserve as mineable. If the characteristics of the coal reserve fall within the mining and quality criteria, the Mineral Taxation Division is hesitant to alter the classification. Some changes in classification however, may be granted with respect to surface ownership conditions that would render the coal unmineable. For example, if a particular coal reserve is located within a municipality that forbids mining operations within city limits, the coal is classified as unmineable regardless of the mining and quality criteria. Alternatively, a surface owner who simply refuses to allow the mining of an otherwise mineable coal reserve, will not on its own justify the classification of the reserve as unmineable due to the indefinite and uncertain duration of the restriction. Coal reserves that are permitted are presumed to be mineable coal regardless of the reserve’s characteristics. This presumption stands unless documentation is provided that supports classification as unmineable.

3. Taxable Present Value of Mineable Unmined Coal

Once an unmined coal reserve is determined to be mineable by the Minerals Taxation Division, it is subject to assessment under the unmined minerals tax. The next step is to ascertain the value of the unmined resource. At this point the unmined coal reserve is further categorized as either active or idle. For purposes of arriving at the unmined coal’s value, this distinction is only relevant in calculating a discount factor, which will be discussed in more detail below. GIS provides most of the information to calculate the taxable present value. The Mineral Taxation Division uses a seven factor formula to arrive at the taxable present value of the unmined coal.

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141 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
142 Id.
143 Id.
144 Id.
145 Id.
146 Id.
147 Permit – “As it pertains to mining, a document issued by a regulatory agency that gives approval for mining operations to take place.” MOSGROVE, supra note 9, at 247.
149 Id.
150 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
151 Id.
152 Id.
153 Id.
Taxable Present Value = MA \times H \times D \times R \times \$/T \times OI \times DF

Where:

MA = Mineable Acres
H = Coal Thickness in inches
D = Coal Density Factor (tons/acre/inch = 145)
R = Mining Recovery Rate
$/T = Royalty due coal reserve owner as $ per ton
OI = Owner’s Interests in the property (as a percentage)
DF = Discount factor for Applicable Year of Mining

Mineable Acres, Coal Thickness and Coal Density Factor. The first three factors: mineable acres, coal thickness, and coal density factor, are used to determine the size of the coal reserve. Mineable acres and coal thickness values are self-reported using the unmined coal information return and stored in the GIS.\(^{155}\) It is important to note that ownership of unmined coal is often divided into separate ownership of multiple coal seams underlying the same surface.\(^{156}\) Ownership interest in each coal seam is valued separately, thus the mineable acres and coal thickness values refer to seam specific data.\(^{157}\) A specific value is mandated by the Mineral Taxation Division for coal density, which is the third factor for determining the size of the unmined coal reserve. The agreed order in *Kentuckians for the Commonwealth v. Blanton* set the coal density factor at 145 tons per acre-inch for all unmined coal in Kentucky.\(^{158}\) Using the coal density factor essentially converts acres of coal into tons of coal.\(^{159}\)

Recovery Rate. The recovery rate measures the amount of coal that will be extracted by the applicable mining method employed.\(^{160}\) As discussed above, the unmined minerals tax on coal only taxes coal reserves that are minable. Coal that is unrecoverable is not included in the taxable present value of the coal reserve. For example, in underground mining, pillars\(^{161}\) of coal within the coal seam must be left in place to support the mine roof. Furthermore, the recovery rate of mineable coal varies with the type of mining used. Deep mining and highwall mining for example, recover 50% of the coal reserve, whereas surface mining recovers 90% of the minable coal.\(^{162}\) Auger mining recovers only 30% of the coal reserve.\(^{163}\)

\(^{154}\) Id.
\(^{155}\) Id.
\(^{156}\) Interview with Gembach, *supra* note 83.
\(^{157}\) Id.
\(^{159}\) Id.
\(^{160}\) Interview with Briscoe, Crawford, Mills & Wallen, *supra* note 2.
\(^{161}\) Pillar – "An area of coal left to support the overlying strata in a mine; sometime left permanently to support surface structures." MOSGROVE, *supra* note 9, at 248.
\(^{162}\) Interview with Briscoe, Crawford, Mills & Wallen, *supra* note 2.
If the mining method to be employed is unknown to the Mineral Taxation division, a recovery rate of 60% is assessed in the calculation of taxable present value.  

Royalty Due to Coal Reserve Owner. The royalty factor identifies the revenue likely to be received by the owner for extraction of the coal reserve. Coal royalties are expressed in the terms of a coal lease as either a specified price per ton or as a percentage of the selling price of the coal. For example, a coal royalty could be expressed as either $2.00 per ton or 5% of the selling price. However, the royalty must be stated in a price per ton for purposes of the taxable present value formula. If the actual amount of the royalty is unknown or unreported, the Mineral Taxation Division uses the market royalty rate for the county in which the coal reserve is located. The Mineral Taxation Division calculates a market royalty rate for each coal-producing county every year for both surfaced mined and deep mined coal. The market royalty rate represents an average of county royalty rates taken from the lease information collected by the Mineral Taxation Division.

If the lease provides for a percentage of the selling price royalty, the percentage will be applied to the average selling price of all coal from the region in which the coal is mined (eastern Kentucky or western Kentucky) to calculate a royalty on a price per ton basis. The average coal prices are gathered from the previous three years’ coal severance tax filings. The coal severance tax is then calculated using the value of the selling price of extracted coal. In 2010, the three year average coal price for all coal mined in eastern Kentucky was $53.00 per ton, and the average selling price for coal mined in western Kentucky was $34.00 per ton. The average coal prices include pricing information from multiple end uses of coal, such as metallurgical coal and thermal coal. The information available to the Mineral Taxation Division for the royalty calculation is also used to

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163 Id.
164 Id.
165 Id.
166 Royalty — “The payment of a certain stipulated sum on the mineral produced.” MOSGROVE, supra note 9, at 250.
167 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
168 Id.
169 Id.; See KY. DEP'T. OF REVENUE, TAX FORM 62A200(P), 2010 UNMINED COAL PROPERTY TAX INFORMATION RETURN FORM at 8 (2010).
170 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
171 Id.
172 Id.
173 Id.
174 Id.
175 Id.
176 Id.
177 Id.
178 Id.
179 Id.
180 Id.
determine if a leasehold interest is created for purposes of the Owner’s Interest valuation factor.177

Owner’s Interest. The owner’s interest in the property is used to ascertain the proportion of the tax that each owner of a single mineral reserve is responsible for paying.178 The ownership interest of a coal reserve is reported to the Mineral Taxation Division using the unmined coal property information return.179 The owner’s interest factor is applied to the taxable present value formula in percentage form. For example if A and B owned 90% and 10% of a coal reserve respectively, each would be assessed a tax based on the proportion of their ownership in the reserve. A’s taxable present value would be 90% of the coal reserve and B’s taxable present value of the coal reserve would be 10%. If the coal reserve to be valued is held by only one owner then 100% or 1.00 would the ownership interest factor.

Ownership interest in a coal reserve may also be created through a leasehold interest in the coal reserve.180 A leasehold interest is assessed to the lessee if a lessee has a “valuable economic interest” in a leased property.181 A valuable economic interest is created when the actual royalty the lessee is required to pay under the terms of the lease is less than 75% of the established market value.182 The market royalty data is collected county by county for both surface and deep mined coal royalties through the unmined coal tax information returns.183

For example, consider an unmined coal reserve that is leased to a mining company for a royalty of $0.10 per ton. The coal reserve is to be deep mined and is located in Pike County, which has an established market royalty of $2.00 per ton for deep mined coal. The $0.10 actual royalty is equal to 5% of the market royalty rate in Pike County. The actual royalty ($0.10) is therefore less than 75% of the market royalty rate for deep mined coal in Pike County, so a leasehold interest will be assessed. The owner of the coal reserve will be assessed with an ownership interest of 5% and the lessee mining company will be assessed with an ownership interest of 95%.184

Creation of a leasehold interest is also used to ameliorate the effect of long term leases or leases that specify a set royalty per ton.185 The

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177 Id.
178 Id.
180 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
181 Id.
182 Id.
184 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
185 Id.
leasehold interest divides the burden of the unmined mineral tax when the specified royalty rate is substantially below market royalty rates due to inflation, increased coal prices or other market conditions.\textsuperscript{186}

Discount Factor. Once the size of the coal reserve is measured and the recovery and royalty rates are applied to the coal reserve, the proceeds derived must be discounted to the current period for assessment of the unmined mineral tax.\textsuperscript{187} The discount factor applied to a stream of future cash flows takes into account the systematic and unsystematic risk associated with receiving the projected cash flows. Choosing the appropriate discount factor entails a level of subjectivity that could render the valuation imprecise.\textsuperscript{188} This uncertainty is exacerbated by the volatility inherent in the coal mining industry.\textsuperscript{189}

Mineable coal reserves are further divided to ascertain the appropriate discount factor. Coal reserves are divided into active and idle coal reserves.\textsuperscript{190} Idle reserves are defined as coal reserves that are not being actively mined, or coal reserves that are part of an active mine but are not projected to be mined in the next fifteen years of the mine's life.\textsuperscript{191} Idle reserves are assigned a discount factor to account for the uncertain and distant time period in which the coal reserves will be mined.\textsuperscript{192} In eastern Kentucky, idle coal reserves are assigned a discount factor of 0.089 while in western Kentucky idle coal reserves use 0.0079 as a discount factor.\textsuperscript{193} The Mineral Taxation Division did not provide a methodology for determining the idle discount factor.\textsuperscript{194}

Active coal reserves are identified and assessed using one of three increments: one year projection reserves; two/five year projected reserves; or the remaining mine life reserves with a 15 year maximum.\textsuperscript{195} The projected mine increments are produced using mine plans submitted to the Kentucky Office of Mine Safety and Licensing each year.\textsuperscript{196} Each active coal mine must file five year mine plans and projected mine plans through the life of the reserve block.\textsuperscript{197} The one year projected reserves are

\begin{footnotes}
\footnotetext[186]{Id.}
\footnotetext[187]{Id.}
\footnotetext[188]{Id.}
\footnotetext[190]{Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.}
\footnotetext[191]{Id.}
\footnotetext[192]{Id.}
\footnotetext[193]{Id.}
\footnotetext[194]{Id.}
\footnotetext[195]{See OFFICE OF MINE SAFETY AND LICENSING, KY. DEP’T OF NATURAL RES., MINE MAP REQUIREMENTS (2006); see generally KY. REV. STAT. ANN. § 352.450 (West 2011).}
\footnotetext[196]{Interview with Gembach, supra note 83.}
\end{footnotes}
discounted one year to account for the time value of money. The two/five year projected reserves are discounted two years and for each subsequent year that mining is projected through year five. The remaining mine life reserves are discounted for six years and each subsequent year that the mining is projected, up to a maximum of fifteen years. The discount factor determination assumes an equal extraction rate for each year of projected mining.

4. Calculating a Discount Factor for Active Unmined Coal

To arrive at an appropriate discount factor for actively mined coal reserves in Kentucky, the court in Kentuckians for the Commonwealth v. Blanton directed the Mineral Taxation Division to look to West Virginia’s discount factor methodology. Under West Virginia’s methodology, a capitalization rate must first be ascertained before arriving at a discount factor. The year-specific discount factor is determined from a present value calculation using the capitalization rate as the interest rate. Guidance for calculating the capitalization rate is found in W. Va. CSR § 110-11-4-1.7.1. West Virginia arrives at a yearly capitalization rate by adding together 5 unique interest rates. The rates are added to equal the year specific capitalization rate as follows:

Safe Rate + Nonliquidity Rate + Composite Risk Rate + Management Rate + Inflation Rate

The safe rate reflects the rate that an investor expects to earn on an investment of minimal risk. The safe rate is the interest rate offered on a thirteen-week U.S. Treasury Bill. The following are examples provided by the Kentucky Mineral Taxation Division for 2007 capitalization rate calculation. Example:

**Safe Rate:** 90 Day Treasury Bills  
2007  
**Safe Rate:** 4.47%
The nonliquidity rate is developed to take into account the nonliquidity of unmined coal reserves. First, a time period is estimated to represent the time lag that exists between when a coal reserve is put on the market for sale until the coal reserve is sold.\textsuperscript{209} The safe rate is then subtracted from the U.S. Treasury bill interest rate with a maturity equal to the estimated time period.\textsuperscript{210} The interest rate differential between the two rates represents the nonliquidity rate.\textsuperscript{211} This rate reflects time reasonably necessary to sell an active coal property.\textsuperscript{212} Example:

**Non Liquidity Rate:** Interest differential between a 90 day T-Bill and a 1 year T-Bill

<table>
<thead>
<tr>
<th></th>
<th>1 yr. T Bill</th>
<th>90 day T-Bill</th>
<th>Non Liquidity Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>4.52%</td>
<td>(4.47%)</td>
<td>0.05%</td>
</tr>
</tbody>
</table>

The composite risk rate accounts for the relative risk of an investment in coal reserves.\textsuperscript{214} The composite risk rate is calculated by combining, in proportion to an estimated industry specific capital structure, an industry specific equity risk rate with an industry specific debt risk rate.\textsuperscript{215} This calculation is accomplished through multiple steps. First, the debt risk rate is calculated as the difference between the industry specific loan rate and the safe rate.\textsuperscript{216} The industry specific loan rate is the Prime Rate charged by banks plus 2%.\textsuperscript{217} Second, the equity risk rate is determined. The equity risk rate equals the difference between a specific equity rate, defined by the Value Line Investment Survey Analysis, and the safe rate.\textsuperscript{218} Finally, the industry specific debt risk rate and industry specific equity risk rate are weighed in proportion to the estimated industry capital structure. The estimated coal industry capital structure is 60% equity and 40% debt.\textsuperscript{219} The sum of the two weighted risk rates equals the composite risk rate. Example:

\textsuperscript{209} W. VA. CODE R. § 110-11-4.1.7.1b (2011).
\textsuperscript{210} Id.
\textsuperscript{211} Id.
\textsuperscript{212} Interview with Briscoe, Crawford, Mills & Wallen, *supra* note 2.
\textsuperscript{213} Id.
\textsuperscript{214} W. VA. CODE R. § 110-11-4.1.7.1c (2011).
\textsuperscript{215} Interview with Briscoe, Crawford, Mills & Wallen, *supra* note 2.
\textsuperscript{216} Id.
\textsuperscript{217} W. VA. CODE R. § 110-11-4.1.7.1c (2011).
\textsuperscript{218} Interview with Briscoe, Crawford, Mills & Wallen, *supra* note 2.
\textsuperscript{219} Id.
Composite Risk Rate:

1) Debt Risk Rate: Interest differential between loan rate and safe rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Prime + 2%</th>
<th>Safe Rate</th>
<th>Debt Risk Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>10.05%</td>
<td>(4.47%)</td>
<td>5.58%</td>
</tr>
</tbody>
</table>

2) Equity Risk Rate: Interest differential between equity rate and safe rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Value Line Equity Rate</th>
<th>Safe Rate</th>
<th>Equity Risk Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>12.75% / (1-0.30)</td>
<td>4.47%</td>
<td>13.74%</td>
</tr>
</tbody>
</table>

3) Composite Risk Rate: Sum of equity risk rate plus debt risk rate in proportion to average industry capital structure

<table>
<thead>
<tr>
<th>Year</th>
<th>Equity Risk Rate (60%)</th>
<th>Debt Risk Rate (40%)</th>
<th>Composite Risk Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>8.247%</td>
<td>2.232%</td>
<td>10.479%</td>
</tr>
</tbody>
</table>

The management rate is defined as the cost of managing the investment, not the cost of managing the coal reserve. The rate is fixed at 0.5%. Historically the management rate has been one-half of one percent of the value of the investment portfolio. Example:

Management Rate: Fixed rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>0.05%</td>
</tr>
</tbody>
</table>

The inflation rate is expressed as a negative rate to factor in the effects of inflation. All previously calculated rates are nominal rates, and are higher than the real rates by an amount representing the expectation of future inflation. The royalties used to value unmined coal are assumed to be constant future royalty payments and do not include inflation. The inflation rate compensates for future inflation so that the capitalization is a real rate, net of expected inflation. The inflation rate is gathered from the Bureau of Labor Statistics Price Index.

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220 Id.
221 W. VA. CODE R. § 110-11-4.1.7.1d (2011).
222 Id.
223 Id.
224 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
225 Id.
226 Id.
227 Id.
228 Id.
229 Id.
Inflation Rate:
2007 4.1%230

The five rates are added together to reach a year specific capitalization rate that is averaged over a three year period to arrive at the capitalization rate to be used for the current year.231 Kentucky currently utilizes West Virginia’s capitalization rate and adds 1% to account for the property tax rate differential.232 To complete the year 2007 example, the five rates are added together to reach a 2007 capitalization rate. That rate is combined with the 2005 and 2006 capitalization rates to arrive at a three year average capitalization rate to be used in 2007. Kentucky would then take the West Virginia rate and add 1% to account for property taxes. Example:

Capitalization Rate:
- Safe Rate: 4.470%
- Nonliquidity Rate: 0.050%
- Composite Risk Rate: 10.479%
- Management Rate: 0.500%
- Inflation Rate: (4.100%)233

2007 Specific Capitalization Rate: 11.399%
2006 Specific Capitalization Rate: 13.207%
2005 Specific Capitalization Rate: 11.929%
3 Yr. Average Capitalization Rate: 12.178%
Plus 1% Kentucky Conversion: 1.0%
2007 Kentucky Capitalization Rate: 13.178%233

Discount factors can be calculated to account for the capitalization rate and the time in years until the projected reserves are to be mined.234 This calculation can be accomplished by reference to a present value table. Below is a table extrapolating the discount factors based on the time period for mining and Kentucky’s 2010 capitalization rate of 14.25%:

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230 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
231 W. VA. CODE R. §110.11-4.1.7 (2011).
232 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
233 Id.
234 Id.
Table 2: Discount Factors at 14.25% Capitalization Rate for Tax Year 2010 For Active Unmined Coal Valuation

<table>
<thead>
<tr>
<th>Year</th>
<th>Discount Factor</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.9376</td>
<td>1 Year Increment (Half Year Convention)</td>
</tr>
<tr>
<td>2</td>
<td>0.7661</td>
<td>2/5 Year Increment</td>
</tr>
<tr>
<td>3</td>
<td>0.7183</td>
<td>(0.766104 + 0.670550) / 2</td>
</tr>
<tr>
<td>4</td>
<td>0.6745</td>
<td>(0.766104 + 0.670550 + 0.586915) / 3</td>
</tr>
<tr>
<td>5</td>
<td>0.6343</td>
<td>(0.766104 + 0.670550 + 0.586915 + 0.513711) / 4</td>
</tr>
<tr>
<td>6</td>
<td>0.4496</td>
<td>Remaining Mine Life Increment</td>
</tr>
<tr>
<td>7</td>
<td>0.4216</td>
<td>(0.449638 + 0.393556) / 2</td>
</tr>
<tr>
<td>8</td>
<td>0.3959</td>
<td>(0.449638 + 0.393556 + 0.344469) / 3</td>
</tr>
<tr>
<td>9</td>
<td>0.3723</td>
<td>(0.449638 + 0.393556 + 0.344469 + 0.301505) / 4</td>
</tr>
<tr>
<td>10</td>
<td>0.3506</td>
<td>(0.449638 + 0.393556 + 0.344469 + 0.301505 + 0.263899) / 5</td>
</tr>
<tr>
<td>11</td>
<td>0.3307</td>
<td>(0.449638 + 0.393556 + 0.344469 + 0.301505 + 0.263899 + 0.230984) / 6</td>
</tr>
<tr>
<td>12</td>
<td>0.3123</td>
<td>(0.449638 + 0.393556 + 0.344469 + 0.301505 + 0.263899 + 0.230984 + 0.202174) / 7</td>
</tr>
<tr>
<td>13</td>
<td>0.2954</td>
<td>(0.449638 + 0.393556 + 0.344469 + 0.301505 + 0.263899 + 0.230984 + 0.202174 + 0.176958) / 8</td>
</tr>
<tr>
<td>14</td>
<td>0.2798</td>
<td>(0.449638 + 0.393556 + 0.344469 + 0.301505 + 0.263899 + 0.230984 + 0.202174 + 0.176958 + 0.154886) / 9</td>
</tr>
<tr>
<td>15</td>
<td>0.2654</td>
<td>(0.449638 + 0.393556 + 0.344469 + 0.301505 + 0.263899 + 0.230984 + 0.202174 + 0.176958 + 0.154886 + 0.135568) / 10</td>
</tr>
</tbody>
</table>

\[\text{id.}\]
B. The Tax Rates Applicable to the Unmined Mineral Tax

Two tax rates are used in assessing the unmined mineral tax on coal: a state real property tax rate and a local real property tax rate. These tax rates are no different, in any respect, from the tax rates used to assess other types of real property taxes at the state and local level. At the state level, proceeds from the unmined mineral tax are governed by statute. At the local level, the proceeds from the unmined mineral tax are treated the same as any other revenue generated by local real property taxes and are included in the general revenue fund of the local government or entity assessing the tax.

The first applicable tax rate is set by the state, and is used to assess real property on the statewide level. In 2010 the state tax rate for real property was $0.122 for every $100 of assessed real property value. Of the $19.7 million of unmined mineral tax revenue generated in 2010, approximately $2.6 million was generated and retained by the state government. KRS 132.020(5) governs the use of the proceeds from the unmined mineral tax even though the Kentucky Supreme Court in Gillis v. Yount declared parts of that specific section unconstitutional. KRS 132.020(5) provides in pertinent part that the revenue generated from the unmined minerals tax on coal:

shall be devoted to the program described in KRS 146.550 to 146.570, except that four hundred thousand dollars ($400,000) of the state revenue shall be paid annually to the State Treasury and credited to the Department for Energy Development and Independence for the purpose of public education of coal related issues.

The program referenced by the statute is the Kentucky Heritage Land Conservation Fund, found in KRS 146.550 to 146.570. The Fund was created to benefit the citizens of Kentucky through the “acquisition and maintenance of certain lands for use as state parks, recreation areas, state
While the unmined mineral tax on coal is not the exclusive source of revenue for the Fund, the monies in the Kentucky Heritage Land Conservation Fund are allocated among the Department of Parks (10%), Department of Fish and Wildlife Resources (10%), the Energy and Environment Cabinet, Division of Forestry (10%), wild rivers corridors established by the Kentucky Wild Rivers Act (10%), and Nature Preserves Commission (10%). The remaining 50% of the fund is apportioned to the Fund’s board of directors for allocation to state agencies, local governments, and state colleges and universities.

The $400,000 carve out, excepted for the purpose of public education about coal related issues, has traditionally been given to the Kentucky Coal Council for allocation to programs directed towards achieving that stated purpose—"public education of coal related issues." One such beneficiary was CEDAR, Inc., a nonprofit corporation organized for the purpose of providing financial resources and coal education materials to K-12 schools to implement into their respective curriculums.

In addition to the state tax, counties and municipalities autonomously impose individual tax rates. The 2010 average real property tax rate among Kentucky’s 120 counties was $0.282 for every $100 of assessed real property value. If a mineral estate is located within a city’s limits, it makes sense that the coal would also be subject to the city’s real property taxes. The average city real property tax rate in 2010 was $0.219 for every $100 of assessed real property value. In addition to the countywide real property taxes, school districts also assess a tax on real property within their district. In 2010, the average real property tax rate among school districts was $0.545 for every $100 of assessed real property value. The proceeds of the local tax go to the taxing authority without any distinction between the unmined minerals tax and other real property taxes. Of the $19.7 million generated by the unmined mineral tax on coal in 2010, the $400,000 carve out for public education, was traditionally given to the Kentucky Coal Council for allocation to programs directed towards achieving that stated purpose—"public education of coal related issues." One such beneficiary was CEDAR, Inc., a nonprofit corporation organized for the purpose of providing financial resources and coal education materials to K-12 schools to implement into their respective curriculums.

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2010, county and other local authorities received approximately $17 million.\footnote{Interview with Briscoe, Crawford, Mills & Wallen, supra note 2 ($17,094,955).} It is clear from the applicable tax rates that county taxing authorities receive a greater proportion of the tax proceeds due to the significantly higher rates assessed at the local level, as compared with the state level. Table 3 expands on the amounts received by the state versus local taxing authorities.

\begin{table}[h]
\centering
\caption{2010 Unmined Mineral Tax on Coal Revenue}
\begin{tabular}{|l|c|}
\hline
\textbf{Total State} & \textbf{Dollars} \\
\hline
& 13\% \\
\hline
\textbf{Total County} & \textbf{Dollars} \\
\hline
& 87\% \\
\hline
\end{tabular}
\end{table}

\textbf{C. Example of Unmined Coal Tax Assessment}

The Kentucky unmined mineral tax on coal is a complex tax assessment with many moving parts. It is best understood when the moving parts are seen functioning together. The following is a hypothetical unmined mineral tax calculation. For simplicity, assume that the reserve to be valued is only one coal seam and lies entirely within Floyd County in the eastern Kentucky coal field. The reserve is to be assessed in 2010. It is 200 acres of unmined coal in the Elkhorn number 3 seam and is 36 inches thick. The reserve requires deep mining through use of a drift access. The ownership of the unmined coal interest was bequeathed to two brothers, A and B, who each own 50\% of the coal reserve.

Several years ago the brothers entered into a lease agreement with an operating company to mine the coal reserve. The terms of the lease specify that the royalty paid to the owners would be equal to 6\% of the value of the selling price of the coal. The terms of the lease do not require the lessee to pay property taxes on the value of the mineral estate. The brothers’ coal reserve is part of a larger coal reserve block, which the operating company has permitted and has begun to mine. The mine plans that the operating company submitted to the state show plans to mine the
brothers’ coal parcel through year 5 of the operation of the mine. The calculation of each brother’s unmined mineral tax is as follows:

Step 1: Mineable/Unmineable Classification. The determination of the reserve as mineable coal depends on the mining criteria and quality criteria specified by the Mineral Taxation Division. The coal reserve is to be extracted through deep mining with a drift access. The mining criteria for such a coal reserve require at least 30 inches in seam thickness. The characteristics of the Elkhorn 3 seam satisfy the quality criteria. This inquiry is unnecessary, however, because the operating company has permitted the coal reserve to be mined. All permitted coal is presumed to be mineable coal.

Step 2: Taxable Present Value. The taxable present value of the coal reserve is calculated in reference to the taxable present value formula. The calculation is as follows:

Taxable Present Value = MA x H x R x $/T x OI x DF

Hypothetical Taxable Present Value = 200 x 36 x 145 x 0.5 x $3.18 x 0.5 x 0.6343 = $526,456.31

Where:
- MA = Mineable Acres = 200 acres
- H = Coal Thickness in inches = 36 in.
- D = Coal Density Factor = 145 tons/acre/inch
- R = Mining Recovery Rate = 50%
- $/T = Royalty due coal reserve owner = $3.18 per ton
- OI = Owner’s Interests in the property = 50%
- DF = Discount factor for Applicable Year of Mining = 0.6343

The size of the coal reserve is found to be approximately 1.044 million tons by multiplying the mineable acres, the Elkhorn 3 seam thickness, and the coal density factor. The information concerning the mineable acres and coal thickness would be taken from the Mineral Taxation Division’s GIS. The coal density factor equals 145 tons per acre-inch, as stipulated in the agreed order in Kentuckians for the Commonwealth v. Blanton.256

Extraction of the brothers’ coal reserve would be accomplished through deep mining. The Mineral Taxation Division specifies a 50% recovery rate for deep mined coal.257 This recovery rate could be altered if the unmined coal property information return reports a different applicable recovery rate.

The terms of the lease between the brothers and the operating company established a royalty rate of 6% of the selling price of the coal. To

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257 Interview with Briscoe, Crawford, Mills & Wallen, supra note 2.
arrive at a price per ton value, the 6% per ton royalty rate is applied to the average price of all coal mined in the eastern Kentucky coal field. The average price of coal mined in eastern Kentucky in 2010 was $53.00 per ton. This price represents a three year average selling price of eastern Kentucky coal as reported through Kentucky coal severance tax filings. The lease’s 6% royalty applied to the average coal price equals $3.18 per ton.

Each brother owns an equal share of the coal reserve, so the ownership interest for each brother’s tax assessment would be 50%. Furthermore, a leasehold interest is not created and will not be assessed to the operating company. The market royalty rate for deep mined coal in Floyd County for 2009 was $3.58. The actual royalty rate of $3.18, while less than the market royalty rate, is not less than 75% of the market royalty rate.

The brothers’ coal reserve is classified as an active mine for assessment purposes in 2010. The larger reserve block is currently being mined, and the brothers’ coal reserve will be mined out over the next 5 years. The Mineral Taxation Division presumes a level extraction rate will occur over the five years, and the royalty payments will be discounted accordingly. The operating company’s mine plan shows that the coal reserve will be extracted in the two to five year increment, so the stream of royalties will be discounted for two years plus each subsequent year of mining. The capitalization rate for 2010 was 14.25%, which equates to a discount factor of 0.6343 for the five year period.

Step 3: Applicable Tax Rate Applied to Taxable Present Value. The final step in determining the unmined mineral tax amount is to apply the tax rates to the taxable present value of the coal reserve. The state unmined coal tax rate in 2010 was $0.122 for every $100 in assessed value. Assuming the coal reserve does not lie within a municipality’s taxing district, the cumulative real property tax rate in Floyd County would be $0.872 for every $100 in assessed value. This cumulative rate reflects the $0.243 per $100 general Floyd County real property tax rate; the $0.529 per $100 Floyd County School’s real property tax rate; and the $0.10 per $100 fire district real property tax rate. The total state real property tax rate and cumulative Floyd County real property tax rate is applied to the taxable present value of the coal reserve. The total tax rate applicable to the

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258 Id.
259 Id.
261 See id. at 50.
262 Id.
coal reserve would be $0.994 per $100. The calculation of each brother's unmined minerals tax assessment would be as follows.

\[
\text{Taxable Present Value} = \$526,456.31 \\
\text{Unmined Minerals Tax Rate} = x \ 0.00994 \\
\text{Unmined Mineral Tax Assessed} = \$5,232.98
\]

IV. COMMENTARY ON CURRENT FORM OF THE KENTUCKY UNMINED MINERAL TAX ON COAL

Before making suggestions on how to improve assessment of the unmined mineral tax on coal, it is important to first highlight the positive attributes of the current system. Taxing unmined coal requires balancing the efficiency of administering the tax with the accuracy of the valuations. Valuing an unmined coal reserve is an uncertain undertaking and cannot be accomplished with exact precision. The ideal unmined mineral tax regime would balance the needs for accuracy in the valuation process with the cost of valuing the unmined resource. Accordingly, Kentucky's current system reflects a reasonable effort to achieve an efficient tax regime while also seeking to include particular characteristics of the valued coal reserve. The mineral taxation division incorporates many individualized characteristics into the valuation even though the valuation is accomplished through mass appraisal techniques. Development of an unmined coal GIS has also aided the Mineral Taxation Division in valuing unmined coal efficiently. Kentucky is one of two Appalachian Coal Basin states to utilize GIS in order to value unmined coal.\textsuperscript{263} GIS has allowed for a more uniform assessment of the unmined minerals tax and has made the assessment far more efficient. The Mineral Taxation Division, with the assistance of GIS, can now quickly ascertain with certainty the relevant information needed to value unmined coal. In addition, GIS memorializes inaccuracies from previous valuations, and, as a result, the valuation process is becoming more accurate over time.

Uniformity in unmined coal valuation is crucial to coal companies and local governments. Coal companies need to assess costs in making operational decisions and the unmined mineral tax liability is a component of the costs of carrying coal reserves. Likewise, local governments are the primary beneficiaries of unmined mineral tax revenue and need to project with certainty the amount of tax revenue generated from year to year. Furthermore, uniformity in valuation decreases the number of yearly protests of the amount of tax assessed, which have traditionally hindered the Mineral Taxation Division's operations. The current system represents a

\textsuperscript{263} Interview with Gembach, supra note 83.(Out of eight Appalachian Coal Basin States: Alabama, Tennessee, Virginia, West Virginia, Kentucky, Maryland, Ohio, Pennsylvania)
laudable effort on behalf of the Mineral Taxation Division to balance the competing interests of accuracy and efficiency.

The current form of the unmined minerals tax, however, could benefit from additional improvements. The primary way to aid both the efficiency and the accuracy of taxing unmined coal is to make public the Mineral Taxation Division’s approach to valuation. The governing statute provides very few guidelines and no regulations have been promulgated to direct the Mineral Taxation Division. The valuation of unmined coal draws its authority from a Circuit Court agreed order that is inaccessible to many taxpayers. The uncertainty created does not cause problems for sophisticated companies who have the resources to carefully examine unmined coal tax assessment amounts. Small mining companies and private property owners are often not so fortunate and must also understand the amount of unmined mineral tax likely to be assessed year to year. All interested parties would be served by the Mineral Taxation Division publishing guidance on how it conducts the valuation assessment.

Promulgation of governing regulations for unmined mineral tax would create transparency and encourage dialogue on natural resource taxation. Since the decision handed down in *Gillis v. Yount*, the topic of unmined coal taxation has been absent from public discourse. Requiring public regulations would spark debate over more than just the method of valuation, but also the broader policy objectives behind taxing natural resources. Kentucky’s natural resource industries face considerable uncertainty in the years to come, and a dialogue on the states’ natural resource taxation is crucial to positioning the state in the most competitive light going forward.

Another shortcoming of the unmined mineral tax on coal deals specifically with the Mineral Taxation Division’s discount factor determination. Adopting the discount factor from West Virginia illustrates the struggle between efficiency and accuracy in administering the tax. The discount factor used by West Virginia contemplates primarily systematic risk without considering any individual risk factors to the coal reserve. Admittedly, it is unrealistic to expect the Mineral Taxation Division to identify and account for every risk factor present for a particular coal reserve, but it could do more to account for particularized risk factors. For example, no consideration is given to current delays and restrictions involved in obtaining a surface mining permit. The EPA, under the current Presidential Administration, has issued few new surface mining permits and has disallowed previously acceptable mining techniques. Arguably under current standards, mining permits would not be granted for most coal reserves that would require surface mining. The inability to get a mining permit would in effect render the coal reserve unmineable and essentially worthless. The current approach does not reflect these risks. Coal reserves
which cannot be permitted at the current time should either be considered unmineable or should be valued with a much higher discount factor to reflect the substantial risk of the reserve not being mined in the future.

V. CONCLUSION

Coal is crucial to Kentucky’s economic stability and is a needed source of revenue for the state government. In order for the policy objectives underlying the taxation of coal to be effective, the interested parties must understand the mechanism behind the taxes. The taxation of unmined coal is a necessary part of this taxation regime; however, the mechanism behind the valuation process remains hidden from public debate and disclosure. Promulgation of governing regulations would provide needed public disclosure of the current valuation approach and could contribute needed dialogue concerning Kentucky’s economic landscape going forward.
# Articles

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*An Interdisciplinary Journal of Law, Science & Policy*

Volume 4 2011-2012  Number 2
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CITE. Cite this JOURNAL as KY. J. EQUINE, AGRI., & NAT. RESOURCES L.
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