



STATE OF WEST VIRGINIA  
Department of Revenue  
State Tax Department

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Joe Manchin III  
Governor

Christopher G. Morris  
State Tax Commissioner

ADMINISTRATIVE NOTICE 2008-07

**SUBJECT:** Property Tax -- State Tax Commissioner's Statement for the Determination of the Capitalization Rates for Producing and Reserve Coal, Oil and Gas and Other Mined Minerals for Property Tax Purposes for Tax Year 2008, Pursuant to §§ 110 CSR 1I-4.1.7, 1J-4.5 and 1K-4.1.7.

On September 4, 2007, the State Tax Department filed valuation variables to be used in conjunction with legislative rules for the appraisal of producing natural resource properties. (See: §§ 110 CSR 1-I, 1-J and 1-K) This notice will address one of the variables, the capitalization rate, setting forth the generally accepted appraisal procedures used in developing the respective rates and in applying the rates to income streams generated by natural resource properties. To this end, this notice will discuss development of industry capitalization rates for properties containing coal, and/or oil and gas, and/or other mined minerals.

DISCUSSION

The International Association of Assessing Officers text *Property Appraisal and Assessment Administration*, 1990, defines a capitalization rate as: "Any rate used to convert an estimate of income to an estimate of market value; the ratio of net operating income to market value." In other words a rate used to convert an estimate of future income into an estimate of present value.

Generally, there are three (3) components that must be considered and if appropriate developed and included in an overall capitalization rate. These components are: the discount component, the recapture component, and the property tax component. The development of each of these three (3) components will be discussed in the remainder of this Notice.

### DISCOUNT COMPONENT

Of the three (3) generally accepted methods of estimating a discount component, the bands-of-investment method and the summation method have received primary consideration. Consideration was given to use of the comparison method; however, the Tax Department is of the opinion that the bands-of-investment and summation methods are the more appropriate methods to employ for properties containing coal, and/or oil and gas, and/or other mined minerals as there are a limited number of sales of these types of properties and these methods lend themselves more readily to the conversion of the equity rate portion of the discount component to a pre-tax rate.

The first step in the process is to construct a capital structure. The capital structure of an industry depicts typically the sources of capital financing (i.e.: what portion of the total capital financing is raised through debt and through equity financing). The Tax Department developed an average industry capital structure based on mining and oil and gas industries as grouped in Moody's Industrial Manual and the Value Line Investment Survey. The capital structure was segregated into percentages of capital financing generated through debt and through equity financing in order to develop a profile for typical leveraging characteristics by type industry. (Equity financing represents capital acquired through sale of stock and earnings retention and debt financing represents capital acquired through issuance of instruments of debt.)

Once the capital structure had been established a return on investment is developed for each financing band. The Tax Department analyzed the financial information of companies grouped by industry in the Value Line Investment Survey in order to develop a return by type industry for common stocks. This "after-tax" return was then adjusted to a "pre-tax" return where applicable and used in developing the equity portion of the discount component.

The debt return for the debt finance band was established, for each industry, through analysis of loan rates extracted from questionnaires received from lending institutions. Once a safe rate and a risk rate are developed from the previously mentioned analysis, a management rate (for management of investment portfolios), a nonliquidity rate (time required to sell the investment), and an inflation rate (rate used to adjust the discount component to a real rate net of inflationary expectations) are estimated. A synthesis of these rates (as illustrated in Attachment I) is then used to develop the discount component.

### RECAPTURE COMPONENT

The discount component previously discussed provides an investor with a rate of return-on-investment (interest). The second capitalization rate component, recapture, provides the investor with a return-of-investment principal (i.e.: provides an estimate of return necessary for the investor to recover the principal invested). Once a capitalization rate has been developed for coal, oil and gas, and other mined mineral properties, the income series is discounted to present worth through selection of a multiplier(s) extracted from a standard mid-year life Inwood table. The Inwood table has a factor for recapture built into the table coefficients thus removing the need to separately accommodate for recapture in the capitalization rate.

PROPERTY TAX COMPONENT


The third component, property taxes, was derived by multiplying the assessment rate by the statewide average of tax rates on Class III property. Tax Department research indicates that in addition to royalty rates negotiated in producing coal property leases, property taxes are customarily paid by the coal producer. Thus the capitalization rate for producing coal properties does not contain a property tax component as the income stream does not contain income to be used to pay property taxes.

APPLICATION

The summation of the previously discussed components (i.e.: discount, recapture, and property tax components) yields a reasonable estimate for the overall capitalization rate. The overall capitalization rate is used to select the factor(s) from a standard mid-year life Inwood table (i.e.: present worth of one (1) per period) that converts the income stream(s) into an estimate of present worth.

For more information concerning the development of capitalization rates for producing natural resource properties see §§ 110 CSR 1-I, 1-J and 1-K, or contact the State Tax Department at (304) 558-3940.

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**COAL PROPERTIES ANALYSIS**

**Tax Year 2008**

September 4, 2007  
Virgil T. Helton  
State Tax Commissioner  
Department of Revenue

## COAL CAPITALIZATION RATE

### Capitalization Rate Analysis and Results:

In developing a capitalization rate for use in valuing specific income-producing properties consideration is given to the three approaches generally employed in estimating a discount rate. As a matter of practicality, the Bands-of -Investment and Summation Technique approaches are utilized in establishing discount rates for active coal. Data for analysis has been derived in accordance with current Legislative Rule Title 110, Series 11.

<u>Safe Rate</u>	90 day Treasury Bills	<u>Safe Rate</u>
January	December 2006	4.850%
January	December 2005	3.210%
January	December 2004	1.400%

<u>Risk Rate</u>	Interest differential between Loan Rate and 90 day Treasury Bills	
	<u>Loan Rate*</u>	<u>Debt Risk Rate</u>
	2006 9.96%	5.110%
	2005 8.19%	4.980%
	2004 6.34%	4.940%
	*Prime plus 2%	

<u>Equity</u>	Differential between Equity Rates and 90 day Treasury Bills	
	<u>Equity Rate**</u>	<u>Equity Risk Rate</u>
	2006 [13.0%/(1-.30)]-4.85	13.721%
	2005 [13.0%/(1-.30)]-3.21	15.361%
	2004 [12.75%/(1-.30)]-1.40	16.814%
	** <i>Moody's Handbook on Common Stocks and Value Line Investment Analysis</i>	

<u>Composite Risk Rate</u>	Loan and Equity Rates weighted by industry estimated capital structure.		
	Equity Rate	Debt Rate	Composite Risk
2006	8.233%	2.044%	10.277%
2005	9.217%	1.992%	11.209%
2004	10.089%	1.976%	12.065%
Note: Debt equity Ratio	Debt 40%	Equity 60%	

Non Liquidity Rate Interest differential between a 90 day Treasury Bill and a 1 year Treasury Bill which reflects a reasonable time necessary to sell active property.

			<u>1yr T Bill</u>	<u>90 d T Bill</u>	<u>Non Liquidity Rate</u>
January	December	2006	4.930%	4.850%	0.080%
January	December	2005	3.620%	3.210%	0.410%
January	December	2004	1.890%	1.400%	0.490%

Management Rate Charges for the management of investment portfolios.  
Fixed Rate (by Rule) 0.500%

Inflation Rate

January	December	2006	2.500%
January	December	2005	3.400%
January	December	2004	3.300%

Capitalization Rate

Since the valuation of active coal property is predicated on a three year production average, the capitalization rate is considered in a similar manner.

	<u>2006</u>	<u>2005</u>	<u>2004</u>
Inflation Rate	-2.500%	-3.400%	-3.300%
Safe Rate	4.850%	3.210%	1.400%
Composite Risk Rate	10.277%	11.209%	12.065%
Non Liquidity Rate	0.080%	0.410%	0.490%
Management Rate	0.500%	0.500%	0.500%
Total	13.207%	11.929%	11.155%

Three Yr Average: 12.097      Rounded to: 12.10%

<u>CAPITALIZATION RATE - 12.1%</u>			
<u>MULTIPLIERS:</u>	<u>%</u>		<u>%</u>
1YR	0.944	9YR	5.62
2YR	1.787	10YR	5.958
3YR	2.539	11YR	6.259
4YR	3.209	12YR	6.528
5YR	3.807	13YR	6.768
6YR	4.341	14YR	6.982
7YR	4.817	15YR	7.173
8YR	5.241		

**OIL AND GAS PROPERTIES ANALYSIS**

**Tax Year 2008**

September 4, 2007  
Virgil T. Helton  
State Tax Commissioner  
Department of Revenue

**OIL AND GAS**

TY 2008

Capitalization Rate Analysis and Results:

In developing a capitalization rate for use in valuing specific income-producing properties consideration is given to the three approaches generally employed in estimating a discount rate. As a matter of practicality, the Bands-of-Investment and Summation Technique approaches are utilized in establishing discount rates for producing oil and gas properties. Data for analysis has been derived in accordance with current Legislative Rule Title 110, Series 1J.

Safe Rate ( 3-Month Constant Maturity Interest Rates )

January	December	2006	<b>4.8483%</b>
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Risk Rate (Interest differential between Loan Rate and 3-Month Constant Maturity Interest Rates)

<u>Loan Rate*</u>		<u>Risk Rate</u>
2006	9.9575%	5.11%
	*Prime plus 2%	

Equity (Differential between Equity Rates and 3-Month Constant Maturity Interest Rates)

<u>Equity Rate**</u>		<u>Safe Rate</u>
2006	[12.5%/(1-.37)]-1.048483	14.993%
	** Moody's Handbook on Common Stocks and Value Line Investment Analysis	

Composite Risk Rate Loan and Equity Rates weighted by industry estimated capital structure.

	<u>Equity Rate</u>	<u>Debt Rate</u>	<u>Composite Risk</u>	
2006	9.7454%	1.788%	<b>12.141%</b>	***
Note: Debt equity Ratio		Debt	Equity	65%
*** Effective severance tax adjustment			0.95	

Non Liquidity Rate Interest differential between 3-month Constant Maturity Interest Rates and a 1 year Constant Maturity Interest Rates which reflects a reasonable time necessary to sell active property.

			<u>1yr T Bill</u>	<u>90 day T Bill</u>	<u>Non Liquidity Rate</u>
January	December	2006	4.9328%	4.8483%	<b>0.084%</b>

Management Rate Charges for the management of investment portfolios.

Fixed Rate (by Rule)	<b>0.500%</b>
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Property Tax Rate Sixty percent (60%) of State average Class III property tax rate.

2006	60% of 2.21=	<b>1.326%</b>
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Inflation Rate

January	December	2006	<b>2.5%</b>
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**Capitalization Rate**

Since the valuation of oil and gas property is predicated on a three year production , the capitalization rate will be considered in a similar manner.

	<u>2006</u>	<u>2005</u>	<u>2004</u>
Inflation Rate	-2.500%	-3.400%	-3.300%
Safe Rate	4.848%	3.213%	1.395%
Composite Risk Rate	12.141%	13.210%	14.172%
Non Liquidity Rate	0.084%	0.406%	0.492%
Management Rate	0.500%	0.500%	0.500%
Property Tax Rate	<u>1.326%</u>	<u>1.344%</u>	<u>1.356%</u>
Total	16.399%	15.273%	14.615%
	<u>50.000%</u>	<u>33.333%</u>	<u>16.667%</u>
	8.200%	5.091%	2.436%
			<b>15.727%</b>

Capitalization Rate Rounded to:

**15.75%**

**MULTIPLIERS FOR 15.75 MID-YEAR LIFE (ANNUALLY)**

<u>YEAR</u>		<u>YEAR</u>	
1	0.929479	21	0.049868
2	0.803005	22	0.043082
3	0.693741	23	0.037220
4	0.599344	24	0.032156
5	0.517792	25	0.027780
6	0.447337	26	0.024000
7	0.386468	27	0.020734
8	0.333882	28	0.017913
9	0.288451	29	0.015476
10	0.249201	30	0.013370
11	0.215293	31	0.011551
12	0.185998	32	0.009979
13	0.160690	33	0.008621
14	0.138825	34	0.007448
15	0.119935	35	0.006435
16	0.103615	36	0.005559
17	0.089517	37	0.004803
18	0.077336	38	0.004149
19	0.066813	39	0.003585
20	0.057722	40	0.003097

**OTHER MINED MINERAL  
PROPERTY ANALYSIS**

**Tax Year 2008**

September 4, 2007  
Virgil T. Helton  
State Tax Commissioner  
Department of Revenue

## OTHER MINED MINERALS CAPITALIZATION RATE

### Capitalization Rate Analysis and Results:

In developing a capitalization rate for use in valuing specific income-producing properties consideration is given to the three approaches generally employed in estimating a discount rate. As a matter of practicality, the Bands-of -Investment and Summation Technique approaches are utilized in establishing discount rates for active coal. Data for analysis has been derived in accordance with current Legislative Rule Title 110, Series 1k.

<u>Safe Rate</u>	90 day Treasury Bills			<u>Safe Rate</u>
	January	December	2006	4.850%
	January	December	2005	3.210%
	January	December	2004	1.400%

### Risk Rate Interest differential between Loan Rate and 90 day Treasury Bills

<u>Loan Rate*</u>		<u>Debt Risk Rate</u>
2006	9.96%	5.110%
2005	8.19%	4.980%
2004	6.34%	4.940%

\*Prime plus 2%

### Equity Differential between Equity Rates and 90 day Treasury Bills

<u>Equity Rate**</u>		<u>Equity Risk Rate</u>
2006	$[12.75\%/(1-.32)]-4.85$	13.900%
2005	$[12.5\%/(1-.32)]-3.21$	15.172%
2004	$[12.5\%/(1-.32)]-1.40$	16.982%

\*\* Moody's Handbook on Common Stocks and Value Line Investment Analysis

### Composite Risk Rate Loan and Equity Rates weighted by industry estimated capital structure.

	<u>Equity Rate</u>	<u>Debt Rate</u>	<u>Composite Risk</u>
2006	9.730%	1.533%	11.263%
2005	10.621%	1.494%	12.115%
2004	11.039%	1.729%	12.768%

Note: Debt equity Ratio      Debt      30%      Equity      70%

### Non Liquidity Rate Interest differential between 90 day Treasury Bills and a 1 year Treasury Bill which reflects a reasonable time necessary to sell active property.

			<u>1yr T Bill</u>	<u>90 d T Bill</u>	<u>Non Liquidity Rate</u>
January	December	2006	4.930%	4.850%	0.080%
January	December	2005	3.620%	3.210%	0.410%
January	December	2004	1.890%	1.400%	0.490%

### Management Rate Charges for the management of investment portfolios.

Fixed Rate (by Rule)	0.500%
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### Inflation Rate

January	December	2006	2.500%
January	December	2005	3.400%
January	December	2004	3.300%

### Property Tax Rate Sixty percent (60%) of State average Class III property tax rate.

January	December	2006	60% of 2.210 =	1.326%
January	December	2005	60% of 2.240 =	1.344%
January	December	2004	60% of 2.260 =	1.356%

Capitalization Rate

Since the valuation of other mined mineral property is predicated on a three year production average, the capitalization rate is considered in a similar manner.

	<u>2006</u>	<u>2005</u>	<u>2004</u>
Inflation Rate	-2.500%	-3.400%	-3.300%
Safe Rate	4.850%	3.210%	1.400%
Composite Risk Rate	11.263%	12.115%	12.768%
Non Liquidity Rate	0.080%	0.410%	0.490%
Management Rate	0.500%	0.500%	0.500%
Property Tax Rate	1.326%	1.344%	1.356%
<u>Total</u>	15.519%	14.179%	13.214%

Three Yr Average: 14.304%      Rounded to: 14.30%

CAPITALIZATION RATE - 14.30%

MULTIPLIERS:	%		%
1YR	0.935	9YR	5.231
2YR	1.754	10YR	5.512
3YR	2.47	11YR	5.758
4YR	3.096	12YR	5.973
5YR	3.644	13YR	6.161
6YR	4.123	14YR	6.325
7YR	4.543	15YR	6.469
8YR	4.91		