

OIL AND GAS PROPERTIES ANALYSIS

Tax Year 2006

September 1, 2005
Virgil T. Helton
Acting Tax Commissioner
Department of Revenue

OIL AND GAS

TY 2006

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.

<u>Safe Rate</u>	(3-Month Constant Maturity Interest Rates)			
	January	December	2004	1.3950%

<u>Risk Rate</u>	(Interest differential between Loan Rate and 3-Month Constant Maturity Interest Rates)		
	<u>Loan Rate*</u>		<u>Risk Rate</u>
	2004	6.3420%	4.9470%
		*Prime plus 2%	

<u>Equity</u>	(Differential between Equity Rates and 3-Month Constant Maturity Interest Rates)		
	<u>Equity Rate**</u>		<u>Safe Rate</u>
	2004	$[12.25\% / (1-.37)] - 1.0325$	18.0494%
		** <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	
	2004	11.7321%	1.7315%	14.172% ***
	Note: Debt equity Ratio	Debt	35%	Equity 65%
	*** Effective severance tax adjustment		0.95	

<u>Non Liquidity Rate</u>	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	2004	1.887%	1.395%
					0.492%

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

<u>Property Tax Rate</u>	Sixty percent (60%) of State average Class III property tax rate.	
	2004	60% of 2.26=
		1.356%

<u>Inflation Rate</u>			
	January	December	2004
			3.300%

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>2004</u>	<u>2003</u>	<u>2002</u>
Inflation Rate	-3.300%	-1.900%	-2.400%
Safe Rate	1.395%	1.030%	1.633%
Composite Risk Rate	14.172%	14.702%	14.013%
Non Liquidity Rate	0.492%	0.214%	0.368%
Management Rate	0.500%	0.500%	0.500%
Property Tax Rate	1.356%	1.350%	1.350%
Total	14.615%	15.896%	15.464%
	50.000%	33.333%	16.667%
	7.308%	5.299%	2.577%
			15.184%

Capitalization Rate Rounded to:

15.25%

MULTIPLIERS FOR 15.25 MID-YEAR LIFE (ANNUALLY)

<u>YEAR</u>		<u>YEAR</u>	
1	0.931493	21	0.054496
2	0.808237	22	0.047285
3	0.701290	23	0.041028
4	0.608495	24	0.035599
5	0.527978	25	0.030889
6	0.458115	26	0.026801
7	0.397497	27	0.023255
8	0.344900	28	0.020178
9	0.299262	29	0.017508
10	0.259664	30	0.015191
11	0.225305	31	0.013181
12	0.195492	32	0.011437
13	0.169624	33	0.009924
14	0.147180	34	0.008611
15	0.127705	35	0.007471
16	0.110807	36	0.006483
17	0.096145	37	0.005625
18	0.083423	38	0.004881
19	0.072384	39	0.004235
20	0.062806	40	0.003674

COAL PROPERTIES ANALYSIS

Tax Year 2006

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PRODUCING 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	2004	1.400%
	January	December	2003	1.030%
	January	December	2002	1.630%

<u>Risk Rate</u>	Interest differential between Loan Rate and 90 day Treasury Bills			
	<u>Loan Rate*</u>		<u>Debt Risk Rate</u>	
	2004	6.34%	4.940%	
	2003	6.120%	5.090%	
	2002	6.680%	5.050%	
	*Prime plus 2%			

<u>Equity</u>	Differential between Equity Rates and 90 day Treasury Bills			
	<u>Equity Rate**</u>		<u>Equity Risk Rate</u>	
	2004	[12.75%/(1-.30)]-1.40	16.814%	
	2003	[12.75%/(1-.30)]-1.030	17.184%	
	2002	[13.0%/(1-.30)]-1.630	16.941%	
	** Moody's Handbook on Common Stocks and Value Line Investment Analysis			

<u>Composite Risk Rate</u>	Loan and Equity Rates weighted by industry estimated capital structure.			
	Equity Rate	Debt Rate	Composite Risk	
2004	10.089%	1.976%	12.065%	
2003	10.311%	2.036%	12.347%	
2002	10.165%	2.020%	12.185%	
Note: Debt equity Ratio		Debt 40%	Equity 60%	

<u>Non Liquidity Rate</u>	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	2004	1.890%	1.400%	0.490%
	January	December	2003	1.240%	1.030%	0.210%
	January	December	2002	2.000%	1.630%	0.370%

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

Inflation Rate

January	December	2004	3.300%
January	December	2003	1.900%
January	December	2002	2.400%

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>2004</u>	<u>2003</u>	<u>2002</u>
Inflation Rate	-3.300%	-1.900%	-2.400%
Safe Rate	1.400%	1.030%	1.630%
Composite Risk Rate	12.065%	12.347%	12.185%
Non Liquidity Rate	0.490%	0.210%	0.370%
Management Rate	0.500%	0.500%	0.500%
Total	11.155%	12.187%	12.285%

Three Yr Average: 11.876 Rounded to: 11.90%

CAPITALIZATION RATE - 11.9%

<u>MULTIPLIERS:</u>	<u>%</u>		<u>%</u>
1YR	0.945	9YR	5.658
2YR	1.79	10YR	6.002
3YR	2.545	11YR	6.309
4YR	3.22	12YR	6.583
5YR	3.823	13YR	6.828
6YR	4.362	14YR	7.047
7YR	4.843	15YR	7.243
8YR	5.273		

COAL

Royalty Rate Analysis

The development of royalty rates for the various categories of mines and markets involves information collection and review from a variety of sources. Research data for coal lease rates have been derived from recorded lease transactions provided by county assessors, tax auditors, producers, and by individual lessors/lessees involved in the specific transaction. The prices for mined coal have been calculated from data published in "COAL WEEK", from pricing information provided by producers as part of the most recent tax filing, and from data obtained from the WV Public Service Commission and U.S. Energy Information Administration concerning power plant fuel purchases. Because a large portion of the data used in this analysis is, by law, considered confidential, only a summary of the results are published.

COAL SALE PRICES 2003 & 2004 FOR TY2006 APPLICATION

GRAND SUMMARY ALL SOURCES

	STEAM SPOT	STEAM TERM	MET
PSC *	\$36.68	\$28.01	
Coal Week Publication	\$56.18		merged w coal outlook in 2003
Active Return Summary	\$28.56	<--S+T	\$35.13 27.5 mm tons

STATE STEAM PRICE	\$30.82	Weighted according to the 67.8/32.2 from the PSC tons below
STATE MET PRICE	\$35.13	
STATE STEAM SPOT PRICE	\$32.72	EIA & PSC, 3 YR WTD

PSC Tons reported in thousands, 2004.	Spot Sales	Term Sales	Total
	4,044	3,513	12,557

COAL TY 2006 ROYALTY RATES

	5YR		6YR		7YR		8YR	
	%S	%D	%S	%D	%S	%D	%S	%D
TOTAL RECORDS	34	119	71	199	95	247	127	321
SUM of PERCENT	171.75	552.9	354.65	1000.2	522.15	1241.2	736.15	1618.7
STRAIGHT AVERAGE	5.05	5.49	5.00	5.03	5.44	5.03	5.80	5.04
MEDIAN	6.00	6.00	5.00	5.00	6.00	5.00	5.00	5.00
WEIGHTED AVERAGE	5.05	5.49	5.03	5.33	5.10	5.26	5.76	5.79
FINAL RATE SURFACE	5.89							
FINAL RATE DEEP	5.29							

ROYALTY RATE CALCULATIONS

Steam Coal/ Deep Mine	\$30.82 per ton X 5.29% =	\$1.63
Metallurgical Coal/ Deep Mine	\$35.13 per ton X 5.29% =	\$1.86
Steam Coal/ Surface Mine	\$30.82 per ton X 5.89% =	\$1.82
Metallurgical Coal/ Surface Mine	\$35.13 per ton X 5.89% =	\$2.07

Explanation of Reserve Coal Valuation

The RCVM consists of a computer model, which utilizes a database consisting of coal beds and characteristics, property locations, mine locations, sales, transportation, etc., for the entire state. An extensive algorithm calculates in-place tonnage, expected time of mining and present value for all the mineable coal on every property.

There are, therefore, no set "rates" available on reserve coal under the Rule. The RCVM values on each property will not be available until all data has been entered, after November 15 of each year. Please refer to the State Register, Legislative Rules, Title 110, Series 1I for details of the process.

**OTHER MINED MINERAL
PROPERTY ANALYSIS**

Tax Year 2006

September 1, 2005
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PRODUCING 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	2004	1.400%
	January	December	2003	1.030%
	January	December	2002	1.630%

<u>Risk Rate</u>	Interest differential between Loan Rate and 90 day Treasury Bills			
	<u>Loan Rate*</u>		<u>Debt Risk Rate</u>	
	2004	6.340%	4.940%	
	2003	6.120%	5.090%	
	2002	6.680%	5.050%	
		*Prime plus 2%		

<u>Equity</u>	Differential between Equity Rates and 90 day Treasury Bills			
	<u>Equity Rate**</u>		<u>Equity Risk Rate</u>	
	2004	[12.5%/(1-.32)]-1.40	16.982%	
	2003	[12.5%/(1-.32)]-1.030	17.352%	
	2002	[13.0%/(1-.30)]-1.630	16.941%	
	** <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	
	2004	11.039%	1.729%	12.768%
	2003	11.279%	1.782%	13.061%
	2002	10.165%	2.020%	12.185%
	Note: Debt equity Ratio	Debt	35%	Equity 65%

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	2004	1.890%	1.400%	0.490%
January	December	2003	1.240%	1.030%	0.210%
January	December	2002	2.000%	1.630%	0.370%

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

<u>Inflation Rate</u>			
	January	December	2004
	January	December	2003
	January	December	2002
			3.300%
			1.900%
			2.400%

<u>Property Tax Rate</u>	Sixty percent (60%) of State average Class III property tax rate.			
	January	December	2004	60% of 2.16 = 1.296%
	January	December	2003	60% of 2.16 = 1.296%
	January	December	2002	60% of 2.14 = 1.284%

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>2004</u>	<u>2003</u>	<u>2002</u>
Inflation Rate	-3.300%	-1.900%	-2.400%
Safe Rate	1.400%	1.030%	1.630%
Composite Risk Rate	12.768%	13.061%	12.185%
Non Liquidity Rate	0.490%	0.210%	0.370%
Management Rate	0.500%	0.500%	0.500%
<u>Property Tax Rate</u>	1.296%	1.296%	1.284%
<u>Total</u>	13.154%	14.197%	13.569%

Three Yr Average: 13.640% Rounded to: **13.60%**

CAPITALIZATION RATE - 13.60%

MULTIPLIERS:	%		%
1YR	0.938	9YR	5.35
2YR	1.764	10YR	5.647
3YR	2.491	11YR	5.91
4YR	3.131	12YR	6.14
5YR	3.695	13YR	6.343
6YR	4.19	14YR	6.522
7YR	4.627	15YR	6.68
8YR	5.011		

OTHER MINED MINERALS

ROYALTY RATE SURVEY

The determination of royalty rates for other mined minerals within the state of West Virginia is dependent upon the availability of leasehold information. Since this information is limited, the Department has chosen to review data for the most recent thirty year period. A summary only of this review is shown below in order to protect the confidentiality of parties involved.

RESOURCE	DATA SOURCES	WTD			TY2006 RATE
		AVERAGE PRICE	AVERAGE ROYALTY	MEDIAN ROYALTY	
LIMESTONE	22	\$7.90	\$0.28	\$0.30	\$0.28
SANDSTONE	7	\$6.19	\$0.55	\$0.55	\$0.55
CLAY/SHALE	32	N/A	\$0.11	\$0.10	\$0.11
SAND/GRAVEL	3	\$5.52	\$0.33	\$0.33	\$0.33
SALT BRINE	0	N/A	N/A	N/A	\$0.10

RESERVE VALUES

	number of sales	\$/AC
LIMESTONE	38	\$955.00
SANDSTONE	5	\$2,565.00
CLAY/SHALE	16	\$850.00
SAND/GRAVEL	20	\$3,285.00
SALT	6	\$1,140.00