STATE OF WEST VIRGINIA
Department of Revenue
State Tax Department

Joe Manchin III
Governor

Christopher G. Morris
State Tax Commissioner

September 2, 2008

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2008 SEP -2 PM 12: 03
OFFICE WEST VIRGINIA
SECRETARY OF STATE

The Honorable Betty Ireland
Secretary of State
Capitol Complex
Building 1, Suite 157-K
Charleston, West Virginia 25305

Dear Secretary Ireland:

Attached are final natural resource property valuation variables for the 2009 Tax Year as developed by the State Tax Department for use in appraising coal, oil, natural gas, managed timberland and other natural resource properties for ad valorem tax purposes.

In accordance with requirements of §§ 110 CSR 1-I, 1-J, and 1-K, tentative variables were made available for public comments on June 27, 2008. The final valuation variables are being filed for inclusion in the State Register.

Sincerely,

Christopher G. Morris
State Tax Commissioner

CGM/ja:s

Attachment

cc: All County Assessors
State of West Virginia

Property Tax Division
P. O. Box 2389
Charleston, WV 25328-2389
Phone (304) 558-3940 Fax (304) 558-1843

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OFFICE WEST VIRGINIA
SECRETARY OF STATE

COAL PROPERTIES ANALYSIS

Tax Year 2009

September 2, 2008
Christopher G. Morris
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 1l

Safe Rate 90 day Treasury Bills

			Safe Rate
January	December	2007	4.470%
January	December	2006	4.850%
January	December	2005	3.210%

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

	Loan Rate*	Debt Risk Rate
2007	10.05%	5.580%
2006	9.96%	5.110%
2005	8.19%	4.980%

*Prime plus 2%

Equity Differential between Equity Rates and 90 day Treasury Bills

	Equity Rate**	Equity Risk Rate
2007	[12.75%/(1-.30)]-4.47	13.744%
2006	[13.0%/(1-.30)]-4.85	13.721%
2005	[13.0%/(1-.30)]-3.21	15.361%

** *Value Line Investment Survey Analysis*

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

	Equity Rate	Debt Rate	Composite Risk
2007	8.247%	2.232%	10.479%
2006	8.233%	2.044%	10.277%
2005	9.217%	1.992%	11.209%

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.

			1yr T Bill	90 d T Bill	Non Liquidity Rate
January	December	2007	4.520%	4.470%	0.050%
January	December	2006	4.930%	4.850%	0.080%
January	December	2005	3.620%	3.210%	0.410%

Management Rate Charges for the management of investment portfolios.

Fixed Rate (by Rule) 0.500%

Inflation Rate

January	December	2007	4.100%
January	December	2006	2.500%
January	December	2005	3.400%

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

	2007	2006	2005
Inflation Rate	-4.100%	-2.500%	-3.400%
Safe Rate	4.470%	4.850%	3.210%
Composite Risk Rate	10.479%	10.277%	11.209%
Non Liquidity Rate	0.050%	0.080%	0.410%
Management Rate	0.500%	0.500%	0.500%
Total	11.399%	13.207%	11.929%

Three Yr Average: 12.178 Rounded to: **12.20%**

CAPITALIZATION RATE - 12.2%

MULTIPLIERS:	%		%
1YR	0.944	9YR	5.601
2YR	1.785	10YR	5.936
3YR	2.535	11YR	6.235
4YR	3.204	12YR	6.501
5YR	3.799	13YR	6.738
6YR	4.330	14YR	6.95
7YR	4.804	15YR	7.138
8YR	5.225		

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 2005, 2006 & 2007 FOR TY2009 APPLICATION

GRAND SUMMARY ALL SOURCES

	STEAM SPOT	STEAM TERM		MET	
PSC *	$50.60	$42.81			
Coal Week Publication	$52.53	$45.00	$47.06		merged w coal outlook in 2003
FERC Data	$54.23	$47.28			
Active Return Summary	$46.72	<--S+T		$68.15	26.6 mm tons

STATE STEAM PRICE	$46.98	Weighted according to the 73/27 from the PSC tons below
STATE MET PRICE	$68.15	
STATE STEAM SPOT PRICE	$49.25	EIA & PSC. 3 YR AVE

	Spot Sales	Term Sales	Total
PSC Tons reported in thousands.2005	4,124	10955	15,080

COAL TY 2009 ROYALTY RATES

	5YR %S	%D	6YR %S	%D	7YR %S	%D	8YR %S	%D
TOTAL RECORDS	24	74	32	97	42	128	75	179
SUM of PERCENT	159.75	424.43	214.25	554.53	272.75	712.53	455.2	991.83
STRAIGHT AVERAGE	6.56	5.74	6.70	5.72	6.49	5.57	6.07	5.54
MEDIAN	6.25	6.00	6.25	6.00	6.00	6.00	6.00	6.00
WEIGHTED AVERAGE	6.66	5.74	6.67	5.73	6.64	5.70	7.31	6.31

TENTATIVE RATE SURFACE	7.01
TENTATIVE RATE DEEP	5.84

ROYALTY RATE CALCULATIONS

Steam Coal/ Deep Mine	$49.25	per ton X	5.84%	=	$2.88	per ton
Metallurgical Coal/ Deep Mine	$68.15	per ton X	5.84%	=	$3.98	per ton
Steam Coal/ Surface Mine	$49.25	per ton X	7.01%	=	$3.45	per ton
Metallurgical Coal/ Surface Mine	$68.15	per ton X	7.01%	=	$4.78	per ton

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.

Title 110, Series 1I
Valuation of Active and Reserve Coal Property for Ad Valorem Property Tax Purposes

The above Legislative Rule was modified during the 2005 Legislative Session to allow biannual revisiting of the geostatistical basis for several valuation factors used in the Reserve Coal Valuation Model Preliminary research has been conducted and the results are as follows:

Market Interest Factor
This is the relationship between transactions (sales, leases. prospects, permit applications, etc) and mining as it relates to properties and locations Trans_Ct is the number of transactions counted within the radius.
Radius = 5 miles

If Trans_Ct >= 34 Then TransFactor = 20

If Trans_Ct < 34 And Trans_Ct >= 14 Then TransFactor = 40

Else TransFactor = 80

Market Mineability Factor
This is the relationship between property location and mining. through time Determining feature is count of mines within the radius.
Radius = 5 miles

Surface Mines: Smine

Deep Mines: Dmine

Boom Mines: Bmine

Historic Mines: Omine

Current Mines: Cmine

To assign MineFactor:

If Cmine > 0 Then MineFactor = 20

If Cmine = 0 And (Omine > 0 Or Bmine > 0) Then MineFactor= 40

Else MineFactor = 80

Use Conflict Factor
This is the relationship between oil & gas well drilling and mining as it relates to property location Well density is in wells per square mile

WellDensity < 4 Then WellFactor = 0

WellDensity >= 4 And WellDensity < 13 Then WellFactor = 20

WellDensity >= 13 And WellDensity < 23 Then WellFactor = 40

WellDensity > 23 Then WellFactor = 80

Environmental Factor
This is the relationship of known environmental hazards and impediments to the likelihood of mining occurring at this location.
The rates are compiled from maps and represent densities of problems mapped

Envrate = <=30 and Null Then EnvFactor = 0

Envrate >30 and Envrate <= 60 Then EnvFactor = 20

Envrate > 60 and Envrate <= 100 Then EnvFactor = 40

Envrate > 100 Then EnvFactor = 80

OIL AND GAS PROPERTIES ANALYSIS

Tax Year 2009

September 2, 2008
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OIL AND GAS

TY 2009

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 2007 4.472%

Risk Rate (Interest differential between Loan Rate and 3-Month Constant Maturity Interest Rates)

Loan Rate*		Risk Rate
2007	10.050%	5.578%

*Prime plus 2%

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

Equity Rate**		Risk Rate
2007	[12.0%/(1-.37)]-4.472%	14.576%

** *Value Line Investment Survey Analysis*

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

	Equity Rate	Debt Rate	Composite Risk	
2007	9.4742%	1.952%	12.028%	***

Note: Debt equity Ratio Debt 35% 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.

	1yr T Bill	90 day T Bill	Non Liquidity Rate
January December 2007	4.522%	4.472%	0.050%

Management Rate Charges for the management of investment portfolios

Fixed Rate (by Rule) 0.500%

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

2007 60% of 2.17= 1.302%

Inflation Rate

January December 2007 4.100%

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

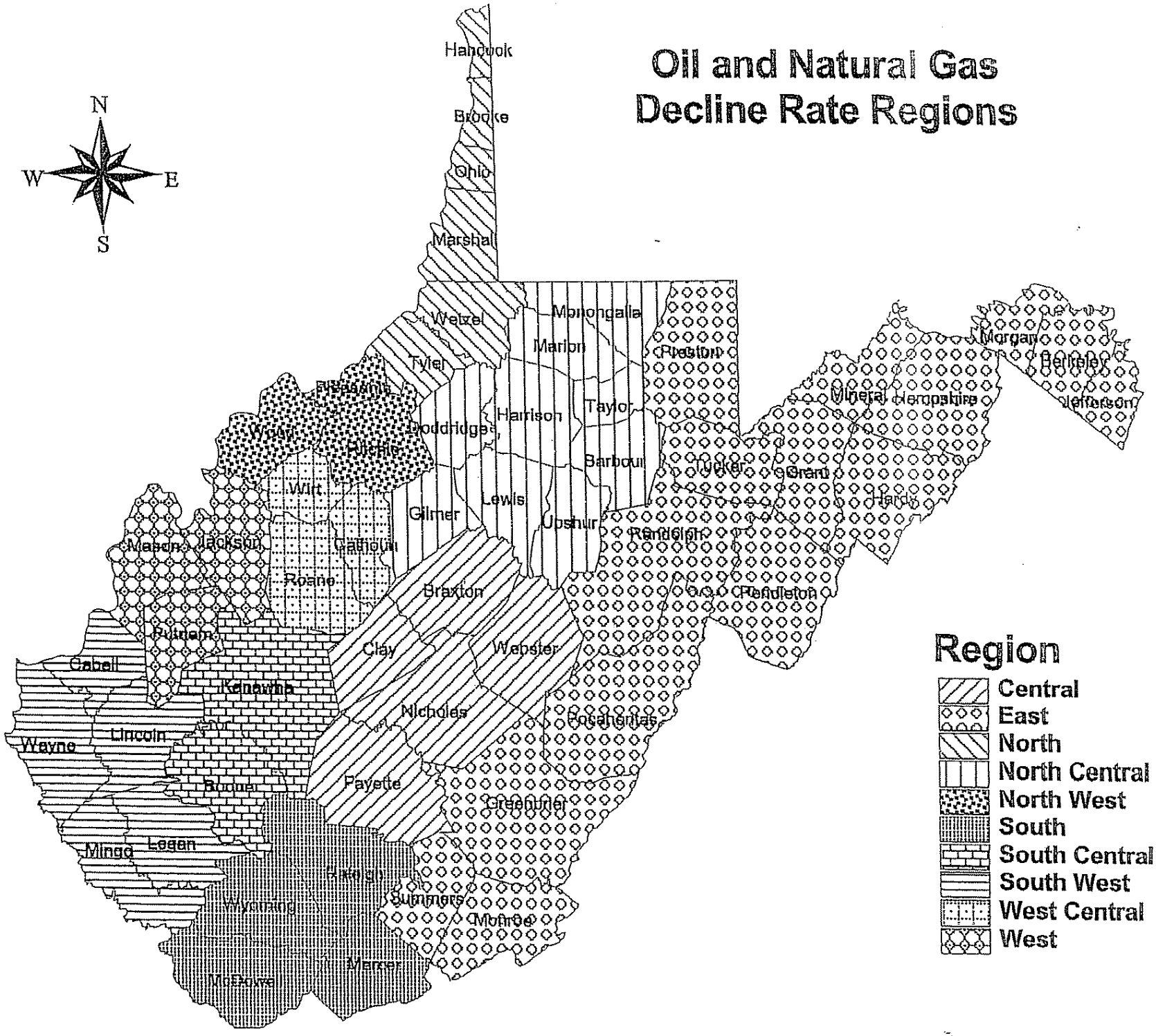
	2007	2006	2005	
Inflation Rate	-4 100%	-2.500%	-3 400%	
Safe Rate	4 472%	4.848%	3.213%	
Composite Risk Rate	12.028%	12 141%	13 210%	
Non Liquidity Rate	0 050%	0 084%	0 406%	
Management Rate	0.500%	0.500%	0 500%	
Property Tax Rate	1.302%	1.326%	1.344%	
Total	14 252%	16.399%	15 273%	
	50.000%	33.333%	16.667%	
	7 126%	5 466%	2.546%	15.138%

Capitalization Rate Rounded to: 15.10%

MULTIPLIERS FOR 15.1% MID-YEAR LIFE (ANNUALLY)

YEAR		YEAR	
1	0.932100	21	0 055970
2	0 809817	22	0 048627
3	0.703577	23	0 042248
4	0 611275	24	0.036705
5	0.531081	25	0.031890
6	0 461409	26	0.027705
7	0 400876	27	0.024072
8	0 348285	28	0.020914
9	0 302594	29	0.018170
10	0.262896	30	0.015786
11	0 228407	31	0 013715
12	0 198442	32	0.011916
13	0 172408	33	0.010353
14	0 149790	34	0 008994
15	0 130139	35	0.007815
16	0 113066	36	0.006789
17	0.098233	37	0.005899
18	0 085346	38	0.005125
19	0.074149	39	0 004452
20	0 064422	40	0.003868

Oil and Natural Gas Decline Rate Regions



Decline Rates for Natural Gas and Oil Formations

Code			Central	Central	Central	
			Year 1	Year 2	Year 3+	Braxton
12	Alexander, Benson		-0.31	-0.20	-0.10	Clay
14	Benson		-0.48	-0.08	-0.08	Fayette
16	Benson, Balltown		-0.45	-0.16	-0.12	Nicholas
17	Gordon +		-0.30	-0.07	-0.07	Webster
18	Big Injun		-0.34	-0.13	-0.13	
19	Big Injun, Big Lime		-0.36	-0.13	-0.13	
22	Big Lime		-0.34	-0.34	0.13	
26	Ravencliff		-0.40	-0.40	-0.25	
93	4th Sand		-0.42	-0.32	-0.08	
94	50 Foot		-0.34	-0.26	-0.07	
95	Injun/Weir		-0.51	-0.26	-0.09	
96	Maxton		-0.70	-0.27	-0.08	
109	Trenton/Deeper*		-0.38	-0.23	-0.10	
9	Exception (median)		-0.38	-0.23	-0.10	
10	Non-Filer		-0.30	-0.07	-0.07	

* New Formation(s) involved in recent production. These will be valued with the Exception rates until decline information is available.

Decline Rates for Natural Gas and Oil Formations

Code			East	East	East	
			Year 1	Year 2	Year 3+	Berkeley
1	Oriskany		-0 30	-0 30	-0 19	Grant
14	Benson		-0 31	-0 17	-0.12	Greenbrier
20	Benson +		-0.44	-0 20	-0.08	Hampshire
21	Benson, Fifth		-0.29	-0 28	-0.09	Hardy
32	Brallier +		-0 48	-0.20	-0.05	Jefferson
33	Elk, Benson		-0 39	-0.21	-0.08	Mineral
34	Elk, Benson, Riley		-0 53	-0 19	-0 05	Monroe
35	Elk, Benson, Riley +		-0 36	-0.19	-0 11	Morgan
36	Elk, Benson, Balltown		-0 34	-0 18	-0 11	Pendelton
37	Elk, Alexander, Benson		-0.50	-0 07	-0.07	Pocahontas
38	Elk, Alexander, Benson +		-0 40	-0 16	-0.16	Preston
39	Hunterville		-0 31	-0 31	-0 14	Randolph
40	Fox, Haverty		-0 36	-0.21	-0 15	Summers
93	4th Sand		-0 42	-0.32	-0 08	Tucker
94	50 Foot		-0.34	-0.26	-0.07	
95	Injun/Weir		-0.51	-0.26	-0.09	
96	Maxton		-0.70	-0.27	-0.08	
9	Exception (median)		-0.39	-0.21	-0.09	
10	Non-Filer		-0.29	-0.07	-0.05	

Decline Rates for Natural Gas and Oil Formations

Code			North	North	North	
			Year 1	Year 2	Year 3+	Brooke
11	Gordon		-0 47	-0 31	-0 09	Hancock
13	Alexander, Benson, Riley		-0.26	-0 16	-0 15	Marshall
15	Benson, Riley		-0 18	-0 16	-0 06	Ohio
93	4th Sand		-0 42	-0 32	-0 08	Tyler
94	50 Foot		-0 34	-0.26	-0 07	Wetzel
95	Injun/Weir		-0.51	-0.26	-0.09	
96	Maxton		-0.70	-0.27	-0.08	
9	Exception (median)		-0.42	-0.26	-0.08	
10	Non-Filer		-0.18	-0.16	-0.06	

Decline Rates for Natural Gas and Oil Formations

Code		North Central Year 1	North Central Year 2	North Central Year 3+	
					Barbour
11	Gordon	-0.41	-0.14	-0.12	Doddridge
12	Alexander, Benson	-0.37	-0.19	-0.11	Gilmer
13	Alexander, Benson, Riley	-0.40	-0.28	-0.05	Harrison
14	Benson	-0.31	-0.17	-0.12	Lewis
15	Benson, Riley	-0.34	-0.17	-0.14	Marion
18	Big Injun	-0.35	-0.16	-0.13	Monongalia
21	Benson, Fifth	-0.31	-0.20	-0.14	Taylor
28	Weir	-0.34	-0.34	-0.07	Upshur
29	Weir +	-0.28	-0.28	-0.23	
33	Elk, Benson	-0.34	-0.16	-0.11	
34	Elk, Benson, Riley	-0.42	-0.27	-0.08	
37	Elk, Alexander, Benson	-0.49	-0.23	-0.08	
38	Elk, Alexander, Benson +	-0.38	-0.20	-0.12	
40	Fox, Haverty	-0.46	-0.16	-0.08	
50	Rhinestreet	-0.28	-0.03	-0.03	
57	Alexander, Benson, Balltown	-0.39	-0.26	-0.08	
58	Alexander	-0.35	-0.20	-0.10	
59	Alexander +	-0.39	-0.22	-0.10	
60	Alexander, Benson, Riley*	-0.39	-0.35	-0.12	
61	Balltown	-0.35	-0.20	-0.10	
62	Balltown, Speechley	-0.28	-0.22	-0.10	
63	Balltown, Speechley +	-0.30	-0.13	-0.10	
64	Benson, Balltown, Speechley	-0.28	-0.22	-0.09	
65	Benson, Bradford	-0.37	-0.20	-0.10	
66	Benson, Balltown	-0.29	-0.23	-0.11	
67	Benson, Riley +	-0.38	-0.14	-0.10	
68	Benson, Speechley	-0.30	-0.22	-0.14	
69	Brallier, Elk	-0.42	-0.20	-0.13	
70	Brallier	-0.40	-0.22	-0.15	
71	Deeper/Onondaga or Oriskany/Helderberg	-0.24	-0.24	-0.03	
72	Elk, Alexander	-0.42	-0.22	-0.09	
73	Elk, Benson +	-0.38	-0.20	-0.12	
74	Elk	-0.43	-0.12	-0.10	
75	Elk, Riley	-0.60	-0.35	-0.17	
76	Fox +	-0.46	-0.18	-0.09	
77	Haverty, Elk, Benson (no Alexander)	-0.35	-0.16	-0.16	
78	Haverty	-0.45	-0.15	-0.15	
79	Riley	-0.44	-0.22	-0.10	
80	Speechley	-0.30	-0.18	-0.09	
81	Alexander, Benson, Speechley	-0.39	-0.24	-0.10	
82	Haverty, Elk, Alexander	-0.47	-0.14	-0.14	
85	Fifth Oil	-0.45	-0.25	-0.22	
87	Bayard All	-0.30	-0.20	-0.05	
88	Fifth	-0.29	-0.18	-0.12	
89	Fifth +	-0.25	-0.15	-0.13	
90	Gordon/Injun All	-0.41	-0.23	-0.23	
91	Squaw	-0.37	-0.31	-0.05	
92	Injun +	-0.34	-0.22	-0.22	
93	4th Sand	-0.42	-0.32	-0.08	
94	50 Foot	-0.34	-0.26	-0.07	
95	Injun/Weir	-0.51	-0.26	-0.09	
96	Maxton	-0.70	-0.27	-0.08	
97	Methane (vertical)	-0.23	-0.08	-0.05	
109	Trenton/Deeper*	-0.37	-0.20	-0.10	
9	Exception (median)	-0.37	-0.20	-0.10	
10	Non-Filer	-0.23	-0.03	-0.03	
98	Methane (Horizontal)	-0.50	-0.60	-0.50	

* New Formation(s) involved in recent production. These will be valued with the Exception rates until decline information is available

Decline Rates for Natural Gas and Oil Formations

Code		North West Year 1	North West Year 2	North West Year 3+	Pleasants
2	Huron, Rhinestreet	-0.41	-0.26	-0.07	Ritchie
4	Huron	-0.42	-0.24	-0.14	Wood
5	Huron, Shale, Above Huron	-0.39	-0.25	-0.14	
8	Berea	-0.31	-0.15	-0.15	
11	Gordon	-0.38	-0.10	-0.10	
12	Alexander, Benson (No Riley)	-0.34	-0.23	-0.10	
13	Alexander, Benson, Riley	-0.32	-0.20	-0.10	
14	Benson	-0.19	-0.19	-0.10	
44	Rhinestreet, Huron, Shallow Shale	-0.43	-0.28	-0.11	
47	Alexander, Riley, (no Benson)	-0.41	-0.05	-0.05	
48	Rhinestreet, Alexander, Benson, Riley	-0.31	-0.24	-0.10	
49	Weir, Squaw, Big Injun	-0.27	-0.17	-0.07	
50	Rhinestreet	-0.40	-0.27	-0.27	
51	Rhinestreet *	-0.36	-0.21	-0.10	
52	All Upper Devonian (undiv)	-0.48	-0.33	-0.19	
53	Huron, Chemung	-0.35	-0.11	-0.09	
54	Huron, Hampshire, Pocono	-0.12	-0.12	-0.11	
55	Upper Devonian (above Huron)	-0.46	-0.33	-0.23	
56	Chemung Sands=Riley,Bradford,Balltown,Speechley&Warren(no Benson or Alexander)	-0.28	-0.18	-0.10	
83	Huron OI	-0.74	-0.44	-0.40	
93	4th Sand	-0.42	-0.32	-0.08	
94	50 Foot	-0.34	-0.26	-0.07	
95	Injun/Weir	-0.51	-0.26	-0.09	
96	Maxton	-0.70	-0.27	-0.08	
109	Trenton/Deeper*	-0.39	-0.24	-0.10	
9	Exception (median)	-0.39	-0.24	-0.10	
10	Non-Filer	-0.12	-0.05	-0.05	

* New Formation(s) involved in recent production. These will be valued with the Exception rates until decline information is available.

Annual Production Rate Changes for Natural Gas and Oil Formations

Code			South	South	South	
			Year 1	Year 2	Year 3+	McDowell
8	Berea		-0.34	-0.15	-0.15	Mercer
22	Big Lime		-0.31	-0.19	-0.07	Raleigh
23	Big Lime, Maxton		-0.31	-0.19	-0.07	Wyoming
24	Big Lime, Ravencliff		-0.29	-0.29	-0.17	
25	Berea +		-0.37	-0.12	-0.08	
26	Ravencliff		-0.40	-0.08	-0.07	
28	Weir		-0.44	-0.20	-0.10	
29	Weir +		-0.28	-0.21	-0.08	
30	Weir, Big Lime		-0.37	-0.19	-0.13	
42	Maxton, Ravencliff		-0.40	-0.08	-0.07	
93	4th Sand		-0.42	-0.32	-0.08	
94	50 Foot		-0.34	-0.26	-0.07	
95	Injun/Weir		-0.51	-0.26	-0.09	
96	Maxton		-0.27	-0.13	-0.09	
97	Methane (Vertical)		+0.03	+0.10	-0.05	
9	Exception (median)		-0.36	-0.19	-0.08	
10	Non-Filer		-0.23	-0.08	-0.05	
98	Methane (Horizontal)		-0.50	-0.60	-0.50	

Decline Rates for Natural Gas and Oil Formations

Code			South Central	South Central	South Central	
			Year 1	Year 2	Year 3+	Boone
3	Devonian Shale		-0.23	-0.08	-0.05	Kanawha
4	Huron		-0.31	-0.15	-0.04	
8	Berea		-0.23	-0.14	-0.09	
18	Big Injun		-0.29	-0.25	-0.12	
27	Huron, Shales above Huron		-0.21	-0.08	-0.05	
28	Weir		-0.30	-0.21	-0.14	
29	Weir +		-0.31	-0.25	-0.09	
31	Devonian Shales +		-0.27	-0.07	-0.05	
86	Big Injun-Oil		-0.19	-0.18	-0.10	
93	4th Sand		-0.42	-0.32	-0.08	
94	50 Foot		-0.34	-0.26	-0.07	
95	Injun/Weir		-0.51	-0.26	-0.09	
96	Maxton		-0.70	-0.27	-0.08	
109	Trenton/Deeper*		-0.30	-0.21	-0.08	
9	Exception (median)		-0.30	-0.21	-0.08	
10	Non-Filer		-0.19	-0.07	-0.04	

* New Formation(s) involved in recent production These will be valued with the Exception rates until decline information is available

Decline Rates for Natural Gas and Oil Formations

Code		South West Year 1	South West Year 2	South West Year 3+	Cabell
3	Devonian Shale	-0.31	-0.15	-0.04	Lincoln
8	Berea	-0.36	-0.11	-0.11	Logan
18	Big Injun	-0.38	-0.22	-0.04	Mingo
22	Big Lime	-0.19	-0.19	-0.19	Wayne
43	Berea, Big Lime	-0.18	-0.18	-0.18	
93	4th Sand	-0.42	-0.32	-0.08	
94	50 Foot	-0.34	-0.26	-0.07	
95	Injun/Weir	-0.51	-0.26	-0.09	
96	Maxton	-0.70	-0.27	-0.08	
109	Trenton/Deeper*	-0.36	-0.22	-0.08	
9	Exception (median)	-0.36	-0.22	-0.08	
10	Non-Filer	-0.18	-0.11	-0.04	

* New Formation(s) involved in recent production These will be valued with the Exception rates until decline information is available.

Decline Rates for Natural Gas and Oil Formations

Code		West Central Year 1	West Central Year 2	West Central Year 3+	Calhoun
2	Huron, Rhinestreet	-0.49	-0.11	-0.06	Roane
4	Huron	-0.33	-0.22	-0.14	Wirt
27	Huron, Shales above Huron	-0.42	-0.23	-0.12	
44	Rhinestreet, Huron, Shallow Shale	-0.51	-0.14	-0.11	
45	Devonian Shale, Pocono	-0.25	-0.17	-0.12	
46	Pocono	-0.29	-0.25	-0.12	
84	Big Injun - Oil	-0.41	-0.41	-0.11	
93	4th Sand	-0.42	-0.32	-0.08	
94	50 Foot	-0.34	-0.26	-0.07	
95	Injun/Weir	-0.51	-0.26	-0.09	
96	Maxton	-0.70	-0.27	-0.08	
109	Trenton/Deeper*	-0.42	-0.25	-0.11	
9	Exception (median)	-0.42	-0.25	-0.11	
10	Non-Filer	-0.25	-0.11	-0.06	

* New Formation(s) involved in recent production. These will be valued with the Exception rates until decline information is available

Decline Rates for Natural Gas and Oil Formations

Code		West	West	West	
		Year 1	Year 2	Year 3+	Jackson
1	Oriskany	-0.40	-0.40	-0.29	Mason
2	Huron, Rhinestreet	-0.13	-0.12	-0.03	Putnam
3	Devonian Shale	-0.31	-0.15	-0.04	
4	Huron	-0.29	-0.14	-0.05	
5	Huron, Shale, Above Huron	-0.38	-0.15	-0.06	
6	Huron, Berea	-0.29	-0.08	-0.08	
7	Berea, Devonian Shales	-0.08	-0.08	-0.08	
8	Berea	-0.36	-0.16	-0.16	
93	4th Sand	-0.42	-0.32	-0.08	
94	50 Foot	-0.34	-0.26	-0.07	
95	Injun/Weir	-0.51	-0.26	-0.09	
96	Maxton	-0.70	-0.27	-0.08	
109	Trenton/Deeper*	-0.35	-0.16	-0.08	
9	Exception (median)	-0.35	-0.16	-0.08	
10	Non-Filer	-0.08	-0.08	-0.03	

* New Formation(s) involved in recent production. These will be valued with the Exception rates until decline information is available.

Decline Rates for Natural Gas and Oil Formations

Code		West	West	West	
		Year 1	Year 2	Year 3+	Jackson
1	Oriskany	-0.40	-0.40	-0.29	Mason
2	Huron, Rhinestreet	-0.13	-0.12	-0.03	Putnam
3	Devonian Shale	-0.31	-0.15	-0.04	
4	Huron	-0.29	-0.14	-0.05	
5	Huron, Shale, Above Huron	-0.38	-0.15	-0.06	
6	Huron, Berea	-0.29	-0.08	-0.08	
7	Berea, Devonian Shales	-0.08	-0.08	-0.08	
8	Berea	-0.36	-0.16	-0.16	
93	4th Sand	-0.42	-0.32	-0.08	
94	50 Foot	-0.34	-0.26	-0.07	
95	Injun/Weir	-0.51	-0.26	-0.09	
96	Maxton	-0.70	-0.27	-0.08	
109	Trenton/Deeper*	-0.35	-0.16	-0.08	
9	Exception (median)	-0.35	-0.16	-0.08	
10	Non-Filer	-0.08	-0.08	-0.03	

* New Formation(s) involved in recent production. These will be valued with the Exception rates until decline information is available.

Industry Operating Expense Survey and Results

This component was determined through a review of responses to a survey distributed by the State Tax Department to producers of all oil and natural gas wells producing in West Virginia and through use of other market data. The survey requested working costs for the 2004 calendar year producing wells.

GAS

- % Working Interest Expenses for Typical Producing Well	=	30%
- Maximum Operating Expenses	=	$5,000
- Coal Bed Methane, Vertical Wells Expenses	=	$9,000

OIL

- % Working Interest Expenses for Typical Producing Well	=	35%
- Maximum Operating Expenses	=	$5,750
- Maximum Enhanced Operating Expenses	=	$9,000

Minimum Working Interest Appraisal = $500 per well

Flat Rate Royalty Multiplier = 5.75

Home Use Only Wells: Appraised at $500 per well

Industrial Use Only Wells:* MCF usage X $ 6.39/MCF
BBL usage X $72.32/BBL

*(Also includes Department of Environmental Protection reported wells.)

Non-Filer Valuations

Working Interest	=	150% of previous year's appraisal
Royalty Interest	=	90% of previous year's appraisal

Valuation

The previously discussed variables are used to establish a future income stream converted to present worth through application of a capitalization rate. The sum of the discounted future net income per year represents a reasonable estimate of market value.

Lease Rate/Term Survey and Results

The non-producing property value for each county is determined by multiplying the average delay rental by a factor, which represents the average lease term under present economic conditions.

As a result of higher lease terms being inversely proportional to the value of oil and gas (thus counties with little leasing or production activities reflect inflated values) and with the volatile nature of county activity, necessary adjustments in the review have been made.

A compilation of lease terms produced a statewide average of 5 years. This term (5 years) was applied to all county lease rates and compared to the appraisal rates derived from calculations using individual county data. The two resulting calculations were reviewed and considered in the assignment of an appraisal rate per acre.

The appraisal rate/acre amounts shown on the next page are preliminary figures, which may change if additional lease data is received. These rates have been applied to all county magisterial districts with either producing wells, lease activity within the past 5 years or both. Tax districts void of activity within the past 5 years have been assigned the minimum value per acre.

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
BARBOUR	1	1	$15.00
		2	$15.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$1.00
		7	$15.00
		8	$15.00
		9	$15.00
		10	$15.00
		11	$15.00
BERKELEY	2	1	$1.00
		2	$1.00
		3	$1.00
		4	$1.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$1.00
BOONE	3	1	$15.00
		2	$1.00
		3	$1.00
		4	$15.00
		5	$15.00
		6	$15.00
		7	$1.00
		8	$15.00
		9	$1.00
BRAXTON	4	1	$15.00
		2	$1.00
		3	$1.00
		4	$1.00
		5	$15.00
		6	$15.00
		7	$15.00
		8	$1.00
BROOKE	5	1	$1.00
		2	$1.00
		3	$15.00
		4	$15.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$1.00

OIL & GAS RESERVE RATES FOR TY 2009

COUNTY	CO #	DISTRICT #	TY2007 $/AC
CABELL	6	1	$15.00
		2	$1.00
		3	$15.00
		4	$15.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$15.00
		9	$1.00
		10	$15.00
CALHOUN	7	1	$15.00
		2	$1.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$15.00
CLAY	8	1	$15.00
		2	$1.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$15.00
DODDRIDGE	9	1	$20.00
		2	$20.00
		3	$20.00
		4	$20.00
		5	$20.00
		6	$20.00
		7	$20.00
		8	$20.00
		9	$20.00
FAYETTE	10	1	$10.00
		2	$10.00
		3	$10.00
		4	$1.00
		5	$10.00
		6	$1.00
		7	$1.00
		8	$1.00
		9	$1.00
		10	$1.00
		11	$1.00
		12	$1.00
		13	$1.00

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
GILMER	11	1	$20.00
		2	$20.00
		3	$20.00
		4	$20.00
		5	$1.00
		6	$20.00
GRANT	12	1	$1.00
		2	$1.00
		3	$15.00
		4	$1.00
		5	$15.00
GREENBRIER	13	1	$1.00
		2	$1.00
		3	$5.00
		4	$5.00
		5	$1.00
		6	$5.00
		7	$5.00
		8	$5.00
		9	$5.00
		10	$1.00
		11	$5.00
		12	$1.00
		13	$1.00
		14	$1.00
		15	$1.00
		16	$1.00
		17	$1.00
		18	$5.00
HAMPSHIRE	14	1	$1.00
		2	$1.00
		3	$1.00
		4	$1.00
		5	$10.00
		6	$1.00
		7	$1.00
		8	$1.00
		9	$10.00
		10	$1.00
HANCOCK	15	1	$15.00
		2	$1.00
		3	$15.00
		4	$15.00
		5	$1.00
		6	$1.00

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
HARDY	16	1	$1.00
		2	$10.00
		3	$10.00
		4	$10.00
		5	$1.00
		6	$1.00
HARRISON	17	1	$15.00
		2	$1.00
		3	$1.00
		4	$1.00
		5	$15.00
		6	$1.00
		7	$15.00
		8	$1.00
		9	$15.00
		10	$15.00
		11	$15.00
		12	$15.00
		13	$1.00
		14	$15.00
		15	$15.00
		16	$1.00
		17	$1.00
		18	$15.00
		19	$1.00
		20	$15.00
		21	$1.00
JACKSON	18	1	$15.00
		2	$15.00
		3	$1.00
		4	$15.00
		5	$15.00
		6	$15.00
		7	$15.00
JEFFERSON	19	1	$1.00
		2	$1.00
		3	$1.00
		4	$1.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$1.00
		9	$1.00
		10	$1.00

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
KANAWHA	20	1	$20.00
		2	$20.00
		3	$20.00
		4	$1.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$1.00
		9	$1.00
		10	$1.00
		11	$1.00
		12	$1.00
		13	$1.00
		14	$1.00
		15	$20.00
		16	$20.00
		17	$1.00
		18	$1.00
		19	$20.00
		20	$1.00
		21	$1.00
		22	$1.00
		23	$20.00
		24	$20.00
		25	$20.00
		26	$1.00
		27	$1.00
		28	$20.00
		29	$1.00
		30	$1.00
		31	$1.00
LEWIS	21	1	$15.00
		2	$15.00
		3	$15.00
		4	$15.00
		5	$1.00
		6	$15.00
		7	$1.00
		8	$1.00
		9	$15.00
LINCOLN	22	1	$15.00
		2	$15.00
		3	$1.00
		4	$15.00
		5	$15.00
		6	$15.00
		7	$15.00
		8	$15.00
		9	$15.00
		10	$1.00

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
LOGAN	23	1	$15.00
		2	$15.00
		3	$15.00
		4	$15.00
		5	$1.00
		6	$1.00
		7	$15.00
		8	$15.00
		9	$1.00
MARION	24	1	$20.00
		2	$20.00
		3	$1.00
		4	$1.00
		5	$20.00
		6	$1.00
		7	$1.00
		8	$1.00
		9	$20.00
		10	$1.00
		11	$20.00
		12	$20.00
		13	$1.00
		14	$1.00
		15	$1.00
		16	$20.00
		17	$1.00
		18	$20.00
		19	$20.00
		20	$1.00
MARSHALL	25	1	$1.00
		2	$1.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$1.00
		7	$15.00
		8	$1.00
		9	$15.00
		10	$1.00
		11	$1.00
		12	$15.00
		13	$1.00
		14	$15.00
		15	$15.00
		16	$1.00

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
MASON	26	1	$15.00
		2	$15.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$15.00
		7	$1.00
		8	$1.00
		9	$1.00
		10	$15.00
		11	$1.00
		12	$1.00
		13	$1.00
		14	$15.00
		15	$15.00
		16	$15.00
MC DOWELL	27	1	$15.00
		2	$15.00
		3	$15.00
		4	$15.00
		5	$1.00
		6	$15.00
		7	$1.00
		8	$1.00
		9	$1.00
		10	$1.00
		11	$15.00
		12	$1.00
		13	$15.00
		14	$1.00
		15	$1.00
		16	$1.00
MERCER	28	1	$1.00
		2	$10.00
		3	$1.00
		4	$1.00
		5	$10.00
		6	$10.00
		7	$1.00
		8	$1.00
		9	$10.00
		10	$1.00
		11	$10.00

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
MINERAL	29	1	$15.00
		2	$15.00
		3	$1.00
		4	$15.00
		5	$1.00
		6	$15.00
		7	$1.00
		8	$15.00
		9	$1.00
		10	$1.00
		11	$1.00
MINGO	30	1	$15.00
		2	$1.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$15.00
		7	$15.00
		8	$1.00
		9	$15.00
		10	$15.00
		11	$15.00
		12	$1.00
MONONGALIA	31	1	$15.00
		2	$1.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$1.00
		7	$15.00
		8	$15.00
		9	$1.00
		10	$1.00
		11	$1.00
		12	$1.00
		13	$1.00
		14	$1.00
		15	$1.00
		16	$1.00
		17	$1.00
		18	$15.00
		19	$15.00

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
MONROE	32	1	$1.00
		2	$1.00
		3	$5.00
		4	$1.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$1.00
		9	$1.00
MORGAN	33	1	$1.00
		2	$1.00
		3	$1.00
		4	$5.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$1.00
NICHOLAS	34	1	$1.00
		2	$20.00
		3	$20.00
		4	$20.00
		5	$1.00
		6	$1.00
		7	$20.00
		8	$1.00
		9	$20.00
OHIO	35	1	$1.00
		2	$1.00
		3	$10.00
		4	$1.00
		5	$1.00
		6	$10.00
		7	$1.00
		8	$1.00
		9	$1.00
		10	$1.00
PENDLETON	36	1	$1.00
		2	$15.00
		3	$1.00
		4	$1.00
		5	$1.00
		6	$1.00
		7	$15.00

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
PLEASANTS	37	1	$1.00
		2	$15.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$1.00
		7	$15.00
		8	$15.00
POCAHONTAS	38	1	$1.00
		2	$1.00
		3	$1.00
		4	$10.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$1.00
PRESTON	39	1	$15.00
		2	$15.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$1.00
		7	$1.00
		8	$15.00
		9	$1.00
		10	$15.00
		11	$1.00
		12	$1.00
		13	$1.00
		14	$1.00
		15	$1.00
		16	$1.00
		17	$1.00
		18	$1.00
		19	$1.00
		20	$1.00
PUTNAM	40	1	$20.00
		2	$20.00
		3	$20.00
		4	$20.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$20.00
		9	$1.00
		10	$20.00
		11	$20.00
		12	$20.00
		13	$1.00

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
RALEIGH	41	1	$15.00
		2	$15.00
		3	$1.00
		4	$1.00
		5	$15.00
		6	$1.00
		7	$15.00
		8	$15.00
		9	$15.00
		10	$1.00
		11	$15.00
		12	$15.00
RANDOLPH	42	1	$15.00
		2	$15.00
		3	$1.00
		4	$15.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$1.00
		9	$15.00
		10	$15.00
		11	$15.00
		12	$15.00
		13	$1.00
		14	$1.00
		15	$1.00
		16	$15.00
		17	$15.00
		18	$1.00
RITCHIE	43	1	$20.00
		2	$1.00
		3	$20.00
		4	$1.00
		5	$20.00
		6	$1.00
		7	$20.00
		8	$1.00
		9	$1.00
		10	$20.00

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
ROANE	44	1	$15.00
		2	$15.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$15.00
		7	$15.00
		8	$1.00
		9	$15.00
SUMMERS	45	1	$10.00
		2	$1.00
		3	$1.00
		4	$1.00
		5	$10.00
		6	$10.00
		7	$1.00
TAYLOR	46	1	$1.00
		2	$1.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$15.00
		7	$15.00
TUCKER	47	1	$10.00
		2	$10.00
		3	$1.00
		4	$1.00
		5	$10.00
		6	$1.00
		7	$1.00
		8	$1.00
		9	$10.00
		10	$1.00
		11	$10.00
		12	$1.00

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
TYLER	48	1	$20.00
		2	$2.00
		3	$1.00
		4	$20.00
		5	$20.00
		6	$20.00
		7	$1.00
		8	$1.00
		9	$1.00
		10	$20.00
UPSHUR	49	1	$15.00
		2	$15.00
		3	$1.00
		4	$15.00
		5	$15.00
		6	$15.00
		7	$15.00
WAYNE	50	1	$15.00
		2	$15.00
		3	$15.00
		4	$1.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$15.00
		9	$15.00
		10	$15.00
		11	$1.00
		12	$15.00
WEBSTER	51	1	$1.00
		2	$1.00
		3	$1.00
		4	$1.00
		5	$15.00
		6	$15.00
		7	$1.00

OIL & GAS RESERVE RATES FOR TY 2009			
COUNTY	CO #	DISTRICT #	TY2007 $/AC
WETZEL	52	1	$15.00
		2	$15.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$1.00
		7	$1.00
		8	$15.00
		9	$1.00
		10	$1.00
		11	$1.00
		12	$15.00
		13	$1.00
WIRT	53	1	$20.00
		2	$20.00
		3	$20.00
		4	$1.00
		5	$20.00
		6	$20.00
		7	$20.00
		8	$20.00
WOOD	54	1	$20.00
		2	$20.00
		3	$20.00
		4	$20.00
		5	$1.00
		6	$20.00
		7	$20.00
		8	$20.00
		9	$20.00
		10	$1.00
		11	$20.00
		12	$20.00
		13	$1.00
		14	$1.00
WYOMING	55	1	$15.00
		2	$15.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$15.00
		7	$15.00
		8	$1.00
		9	$15.00
		10	$15.00

MANAGED TIMBER
PROPERTY ANALYSIS

Tax Year 2009

September 2, 2008
Christopher G. Morris
Tax Commissioner
Department of Revenue

MANAGED TIMBERLAND APPRAISAL RATES
TAX YEAR 2009

(based on market 2003-2007)

Final Rates Per Acre

Class II Parcels

	Grade 1	Grade 2	Grade 3
Region 1	$310	$195	$50
Region 2	$255	$160	$55
Region 3	$380	$240	$55
Region 4	$280	$175	$50
Region 5	$255	$155	$50

Class III/IV Parcels

	Grade 1	Grade 2	Grade 3
Region 1	$280	$175	$75
Region 2	$230	$150	$75
Region 3	$340	$215	$75
Region 4	$250	$155	$75
Region 5	$230	$150	$75

Region 1 = Brooke, Cabell, Hancock, Jackson, Marshall, Mason, Ohio, Pleasants, Putnam, Tyler, Wetzel, and Wood Counties

Region 2 = Braxton, Calhoun, Clay, Doddridge, Gilmer, Harrison, Lewis, Marion, Monongalia, Ritchie, Roane, Taylor, and Wirt Counties

Region 3 = Barbour, Greenbrier, Monroe, Nicholas, Pendleton, Pocahontas, Preston, Randolph, Tucker, Upshur, and Webster Counties

Region 4 = Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral and Morgan Counties

Region 5 = Boone, Fayette, Kanawha, Lincoln, Logan, McDowell, Mercer, Mingo Raleigh, Summers, Wayne, and Wyoming Counties

Harvest Volumes per Acre

Harvest Interval Grades	35 yrs.	45 yrs.	55 yrs.	80 yrs.		Total
1 - Site Index 75 or more	4.6 cords 1.5 Mbf	-- --	2.6 cords 4.4 Mbf	3.3 cords 8.6 Mbf		10.5 cords 14.5 Mbf
2 - Site Index 65 - 75	3.3 cords 1.0 Mbf	-- --	7.0 cords 3.2 Mbf	4.6 cords 5.5 Mbf		14.9 cords 9.7 Mbf
3 - Site Index less than 65	-- --	3.1 cords 0.8 Mbf	-- --	15.4 cords 3.7 Mbf		18.5 cords 4.5 Mbf

Managed Timberland Statistics

Estimation of Required Rate of Return: Class II Rates

A. *Safe Rate of Return (5 Year T-Bill Rate)*

Year	Rate	W/A %	W/A Rate	
2007	4 4300	33 33%	1 4767	
2006	4.7450	26 67%	1.2653	
2005	4.0458	20.00%	0 8092	
2004	3 4290	13.33%	0 4572	
2003	2 9683	6 67%	0.1979	4.206 %

B. Nonliquidity Rate
(12 Month T-Bills vs. 3 Month T-Bills)

Year	Rate	W/A %	W/A Rate	
2007	0 0500	33 33%	0 0167	
2006	0 0845	26 67%	0 0225	
2005	0 4050	20.00%	0 0810	
2004	0 4920	13.33%	0 0656	
2003	0.2142	6 67%	0.0143	0.200 %

C. Risk Rate (30 yr T-bills vs 5 yr T-bills)*

Year	Rate	W/A %	W/A Rate	
2007	0 4084	20.00%	0.0817	
2006	0 6070	20.00%	0.1214	
2005	0 6000	20.00%	0 1200	
2004	1 6180	20 00%	0 3236	
2003	1 9892	20 00%	0.3978	1.045 %

D. Management Factor 0.500 %

E. Property Tax Component
(60% of Class II Rate)

Year	Rate	W/A %	W/A Rate	
2007	0.708	33.33%	0.2360	
2006	0 726	26 67%	0.1936	
2005	0.738	20 00%	0.1476	
2004	0.744	13 33%	0.0992	
2003	0.744	6 67%	0.0496	0.726 %

F. Inflation Rate:
(Bureau of Labor Statistics)

Year	Rate	W/A %	W/A Rate	
2007	4 100	20 00%	0 8200	
2006	2.500	20 00%	0 5000	
2005	3 400	20 00%	0 6800	
2004	3 300	20 00%	0.6600	
2003	1 900	20 00%	0.3800	(3.040) %

TOTAL REQUIRED RATE OF RETURN (REAL)	3.637 %
LESS: PROPERTY TAX COMPONENT	(0.726)
TOTAL DISCOUNT COMPONENT	2.911 %

* 30 yr T-bills 2003- 2005 not available, 20 yr. T-bill data used. 2006 and 2007, 30 yr. T-bill data available

Stumpage Prices:

		Sawtimber	*Pulpwood*		
Stumpage Price Adjustment Factor		0.20%	-0.96%		
		1.0724	1.0941	1.1162	1.1733
SAWTIMBER	Current	$/MBF at age	$/MBF at age	$/MBF at age	$/MBF at age
Region	$/MBF	35	45	55	80
Region 1	257.00	275.62	281.18	286.86	301.55
Region 2	218.21	234.01	238.74	243.56	256.03
Region 3	306.68	328.89	335.53	342.30	359.83
Region 4	236.66	253.80	258.92	264.15	277.68
Region 5	217.96	233.74	238.46	243.27	255.73
		0.7135	0.6479	0.5883	0.4622
PULPWOOD:		$/cd at age	$/cd at age	$/cd at age	$/cd at age
Region	$/Cord	35	45	55	80
Region 1	7.58	5.41	4.91	4.46	3.50
Region 2	7.97	5.69	5.16	4.69	3.68
Region 3	6.63	4.73	4.30	3.90	3.07
Region 4	7.06	5.04	4.57	4.15	3.26
Region 5	7.63	5.44	4.94	4.49	3.53

2007 Management Costs:

Region	$/acre (1)
1	3.15
2	3.15
3	3.15
4	3.15
5	3.15
State	

Tax Rates:

Effective Federal Income Tax Rate		35.00%
Effective WV State Income Tax Rate	(6.5% * (1-.35))	4.23%
Effective WV Severance Tax Rate	(4.0% * (1-.35)	2.60%

Yield (Volumes) (80 year rotation)

Timberland Productivity Grades	Site Index	Yield - MBF	Yield - Cords
Grade I	75 or more	14.5	10.5
Grade II	65-74	9.7	14.9
Grade III	less than 65	4.5	18.5

Managed Timberland Statistics

Estimation of Required Rate of Return: Class III & IV Blended Rates

A. *Safe Rate of Return (5 Year T-Bill Rate)*

Year	Rate	W/A %	W/A Rate	
2007	4 4300	33.33%	1 4767	
2006	4 7450	26 67%	1.2653	
2005	4 0458	20 00%	0 8092	
2004	3 4290	13.33%	0 4572	
2003	2.9683	6.67%	0.1979	4.206 %

B. Nonliquidity Rate

(12 Month T-Bills vs 3 Month T-Bills)

Year	Rate	W/A %	W/A Rate	
2007	0 0500	33.33%	0 0167	
2006	0 0845	26.67%	0 0225	
2005	0 4050	20 00%	0 0810	
2004	0 4920	13 33%	0 0656	
2003	0 2142	6 67%	0.0143	0.200 %

C. Risk Rate (30 yr T-bills vs 5 yr T-bills)*

Year	Rate	W/A %	W/A Rate	
2007	0 4092	20 00%	0 0818	
2006	0.6070	20.00%	0.1214	
2005	0.6000	20.00%	0 1200	
2004	1.6180	20 00%	0.3236	
2003	1 9892	20 00%	0.3978	1.045 %

D. Management Factor 0.500 %

E. Property Tax Component

(60% of Class III & IV Blended Rate)

Year	Rate	W/A %	W/A Rate	
2007	1.302	33.33%	0 4340	
2006	1 326	26 67%	0.3536	
2005	1.344	20.00%	0.2688	
2004	1.356	13.33%	0 1808	
2003	1 350	6 67%	0.0900	1.327 %

F. Inflation Rate:

(Bureau of Labor Statistics)

Year	Rate	W/A %	W/A Rate	
2007	4 100	20 00%	0 8200	
2006	2.500	20 00%	0.5000	
2005	3.400	20.00%	0.6800	
2004	3 300	20.00%	0 6600	
2003	1 900	20 00%	0.3800	(3.040) %

TOTAL REQUIRED RATE OF RETURN (REAL)	4.238 %
LESS: PROPERTY TAX COMPONENT	(1.327)
TOTAL DISCOUNT COMPONENT	2.911 %

* 30 yr T-bills 2003- 2005 not available, 20 yr. T-bill data used. 2006 and 2007, 30 yr. T-bill data available

2007 Stumpage Prices:

		Sawtimber	Pulpwood		
Stumpage Price Adjustment Factor		0.20%	-0.96%		
		1.0724	1.0941	1.1162	1.1733
SAWTIMBER	Current	$/MBF at age	$/MBF at age	$/MBF at age	$/MBF at age
Region	$/MBF	35	45	55	80
Region 1	257.00	275.62	281.18	285.86	301.55
Region 2	218.21	234.01	238.74	243.56	256.03
Region 3	306.68	328.89	335.53	342.30	359.83
Region 4	236.66	253.80	258.92	264.15	277.68
Region 5	217.96	233.74	238.46	243.27	255.73
		0.7135	0.6479	0.5883	0.4622
PULPWOOD:		$/cd at age	$/cd at age	$/cd at age	$/cd at age
Region	$/Cord	35	45	55	80
Region 1	7.58	5.41	4.91	4.46	3.50
Region 2	7.97	5.69	5.16	4.69	3.68
Region 3	6.63	4.73	4.30	3.90	3.07
Region 4	7.06	5.04	4.57	4.15	3.26
Region 5	7.63	5.44	4.94	4.49	3.53

2005 Management Costs:

Region	$/acre (1)
1	3.15
2	3.15
3	3.15
4	3.15
5	3.15
State	

Tax Rates:

Effective Federal Income Tax Rate		35.00%
Effective WV State Income Tax Rate	(6.5% * (1-.35))	4.23%
Effective WV Severance Tax Rate	(4.0% * (1-.35)	2.60%

Yield (Volumes) (80 year rotation)

Timberland Productivity Grades	Site Index	Yield - MBF	Yield - Cords
Grade I	75 or more	14.5	10.5
Grade II	65-74	9.7	14.9
Grade III	less than 65	4.5	18.5

West Virginia Wgt/Avg Managed Timberland Stumpage Prices

REGION 1 - Sawtimber

Year	Volume	$/MBF	W/A%	$/MBF
2007	29,593.93	249.91	33.33%	83.30
2006	33,592.39	243.44	26.67%	64.92
2005	27,014.00	285.32	20.00%	57.26
2004	31,149.31	266.78	13.33%	35.57
2003	64,675.59	239.23	6.67%	15.95
	186,025.22			257.00

REGION 1 - Pulpwood *

Year	Volume	$/CORD	W/A%	$/CORD
2007	745.60	2.81	40.00%	1.12
2006	14,814.80	13.10	26.67%	3.49
2005	925.90	8.10	20.00%	1.62
2004	1,930.00	10.07	13.33%	1.34
2003	0.00	0.00	0.00%	0.00
	18,416.30			7.58

REGION 2 - Sawtimber

Year	Volume	$/MBF	W/A%	$/MBF
2007	118,327.50	213.26	33.33%	71.09
2006	89,853.24	219.73	26.67%	58.59
2005	138,585.00	204.62	20.00%	40.92
2004	78,012.63	246.97	13.33%	32.93
2003	83,166.01	220.12	6.67%	14.67
	507,954.38			218.21

REGION 2 - Pulpwood

Year	Volume	$/CORD	W/A%	$/CORD
2007	8,626.70	5.44	33.33%	1.81
2006	17,557.00	11.87	26.67%	3.17
2005	41,667.70	9.06	20.00%	1.81
2004	9,748.00	6.14	13.33%	0.82
2003	2,315.20	5.44	6.67%	0.36
	79,914.60			7.97

REGION 3 - Sawtimber

Year	Volume	$/MBF	W/A%	$/MBF
2007	270,925.20	288.93	33.33%	96.31
2006	225,502.90	293.05	26.67%	78.15
2005	249,306.30	349.89	20.00%	69.98
2004	194,879.00	316.47	13.33%	42.20
2003	269,469.50	300.73	6.67%	20.05
	1,210,082.90			306.68

REGION 3 - Pulpwood

Year	Volume	$/CORD	W/A%	$/CORD
2007	187,872.20	7.16	33.33%	2.39
2006	82,518.60	1.95	26.67%	0.52
2005	163,133.00	9.51	20.00%	1.90
2004	116,021.00	9.47	13.33%	1.26
2003	173,790.00	8.41	6.67%	0.56
	723,334.80			6.63

REGION 4 - Sawtimber

Year	Volume	$/MBF	W/A%	$/MBF
2007	14,777.39	182.36	33.33%	60.79
2006	9,973.61	232.63	26.67%	62.03
2005	31,321.28	260.87	20.00%	52.17
2004	119,972.00	330.57	13.33%	44.08
2003	75,613.62	263.82	6.67%	17.59
	251,657.90			236.65

REGION 4 - Pulpwood

Year	Volume	$/CORD	W/A%	$/CORD
2007	5,620.70	8.65	33.33%	2.88
2006	17,058.10	6.77	26.67%	1.81
2005	9,814.80	4.94	20.00%	0.99
2004	6,036.30	7.18	13.33%	0.96
2003	11,832.50	6.41	6.67%	0.43
	50,362.40			7.06

REGION 5 - Sawtimber

Year	Volume	$/MBF	W/A%	$/MBF
2007	81,098.00	173.12	33.33%	57.71
2006	76,052.49	229.13	26.67%	61.10
2005	46,164.57	220.70	20.00%	44.14
2004	46,788.62	316.80	13.33%	42.24
2003	69,250.99	191.54	6.67%	12.77
	319,354.67			217.96

REGION 5 - Pulpwood

Year	Volume	$/CORD	W/A%	$/CORD
2007	9,118.90	8.36	33.33%	2.79
2006	10,888.94	4.27	26.67%	1.14
2005	25,775.90	12.44	20.00%	2.49
2004	34,607.50	5.66	13.33%	0.75
2003	8,180.40	6.88	6.67%	0.46
	88,571.64			7.63

* Data provided by Division of Forestry did not identify sales/prices for 2003.

OTHER MINED MINERAL PROPERTY ANALYSIS

Tax Year 2009

September 2, 2008
Christopher G. Morris
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.

Safe Rate 90 day Treasury Bills

			Safe Rate
January	December	2007	4 470%
January	December	2006	4 850%
January	December	2005	3.210%

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

Loan Rate*		Debt Risk Rate
2007	10.05%	5 580%
2006	9 96%	5 110%
2005	8 19%	4 980%

*Prime plus 2%

Equity Differential between Equity Rates and 90 day Treasury Bills

Equity Rate**		Equity Risk Rate
2007	[12.5%/(1- 32)]-4 47	13.912%
2006	[12.75%/(1- 32)]-4 85	13 900%
2005	[12.5%/(1-.32)]-3.21	15.172%

** *Value Line Investment Survey Analysis*

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

	Equity Rate	Debt Rate	Composite Risk
2007	9.739%	1 674%	11 413%
2006	9.730%	1.533%	11.263%
2005	10.621%	1.494%	12.115%

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

			1yr T Bill	90 d T Bill	Non Liquidity Rate
January	December	2007	4.520%	4 470%	0 050%
January	December	2006	4 930%	4 850%	0.080%
January	December	2005	3 620%	3.210%	0 410%

Management Rate Charges for the management of investment portfolios

Fixed Rate (by Rule) 0.500%

Inflation Rate

January	December	2007	4 100%
January	December	2006	2.500%
January	December	2005	3 400%

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

January	December	2007	60% of 2.170 =	1.302%
January	December	2006	60% of 2.210 =	1 326%
January	December	2005	60% of 2.240 =	1 344%

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

	2006	2005	2004
Inflation Rate	-4 100%	-2 500%	-3 400%
Safe Rate	4.470%	4.850%	3.210%
Composite Risk Rate	11 413%	11.263%	12.115%
Non Liquidity Rate	0 050%	0 080%	0 410%
Management Rate	0.500%	0.500%	0 500%
Property Tax Rate	1 302%	1.326%	1 344%
Total	13 635%	15 519%	14 179%

Three Yr Average: 14 444% Rounded to: **14.40%**

CAPITALIZATION RATE - 14.40%

MULTIPLIERS:	%		%
1YR	0.935	9YR	5.214
2YR	1.752	10YR	5 493
3YR	2.467	11YR	5.737
4YR	3 091	12YR	5.949
5YR	3.637	13YR	6 135
6YR	4 114	14YR	6.298
7YR	4.531	15YR	6 440
8YR	4.896		

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 AVERAGE PRICE	AVERAGE ROYALTY	MEDIAN ROYALTY	TY2009 RATE
LIMESTONE	14	$6.52	$0.22	$0.20	$0.22
SANDSTONE	6	$4.67	$0.29	$0.25	$0.45
CLAY/SHALE	33	N/A	$0.11	$0.10	$0.11
SAND/GRAVEL	11	$5.17	$0.34	$0.40	$0.48
SALT BRINE	1	N/A	N/A	N/A	$0.10

RESERVE VALUES

	number of sales	$/AC
LIMESTONE	40	$927.00
SANDSTONE	5	$2,565.00
CLAY/SHALE	16	$850.00
SAND/GRAVEL	20	$3,285.00
SALT	6	$1,140.00