STATE OF WEST VIRGINIA
Department of Revenue
State Tax Department

Joe Manchin III
Governor

Craig A. Griffith
State Tax Commissioner

August 24, 2010

The Honorable Natalie Tennant
Secretary of State
Building 1, Suite 157-K
State Capitol
Charleston, West Virginia 25305

Dear Secretary Tennant:

Attached are final natural resource property valuation variables for the 2011 Tax Year that have been developed by the State Tax Department for use in appraising oil and gas, managed timberland, coal 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 July 1, 2010. The Department received one comment on the tentative variables from EQT Corporation (EQT). EQT asked that the operating expenses allowed on oil and gas wells be increased. The State Tax Department surveyed oil and gas producers in 2009 to determine average industry operating expenses. Based upon that data, the Department is comfortable with our operating expense allowance and no change was made to the Tax Year 2011 variables for this issue.

The final valuation variables are being filed for inclusion in the State Register.

Sincerely,

Craig A. Griffith
State Tax Commissioner

CAG/jaj

Attachment

cc: All County Assessors
State of West Virginia

Property Tax Division
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SECRETARY OF STATE

OIL AND GAS PROPERTIES ANALYSIS

Tax Year 2011

August 24, 2010
Craig A. Griffith
State Tax Commissioner
Department of Revenue

OIL AND GAS TY 2011

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	2009	0.150%

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

	Loan Rate*	Risk Rate
2009	5.250%	5.100%

*Prime plus 2%

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

	Equity Rate**	Risk Rate
2009	[12.5%/(1-.37)]-0.150%	19.691%

** *Value Line Investment Survey Analysis*

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

	Equity Rate	Debt Rate		Composite Risk	
2009	12.7993%	1.785%		15.352%	***
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	2009	0.470%	0.150%	0.320%

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.

2009 60% of 2.18= 1.308%

Inflation Rate

January	December	2009	2.700%

Capitalization Rate

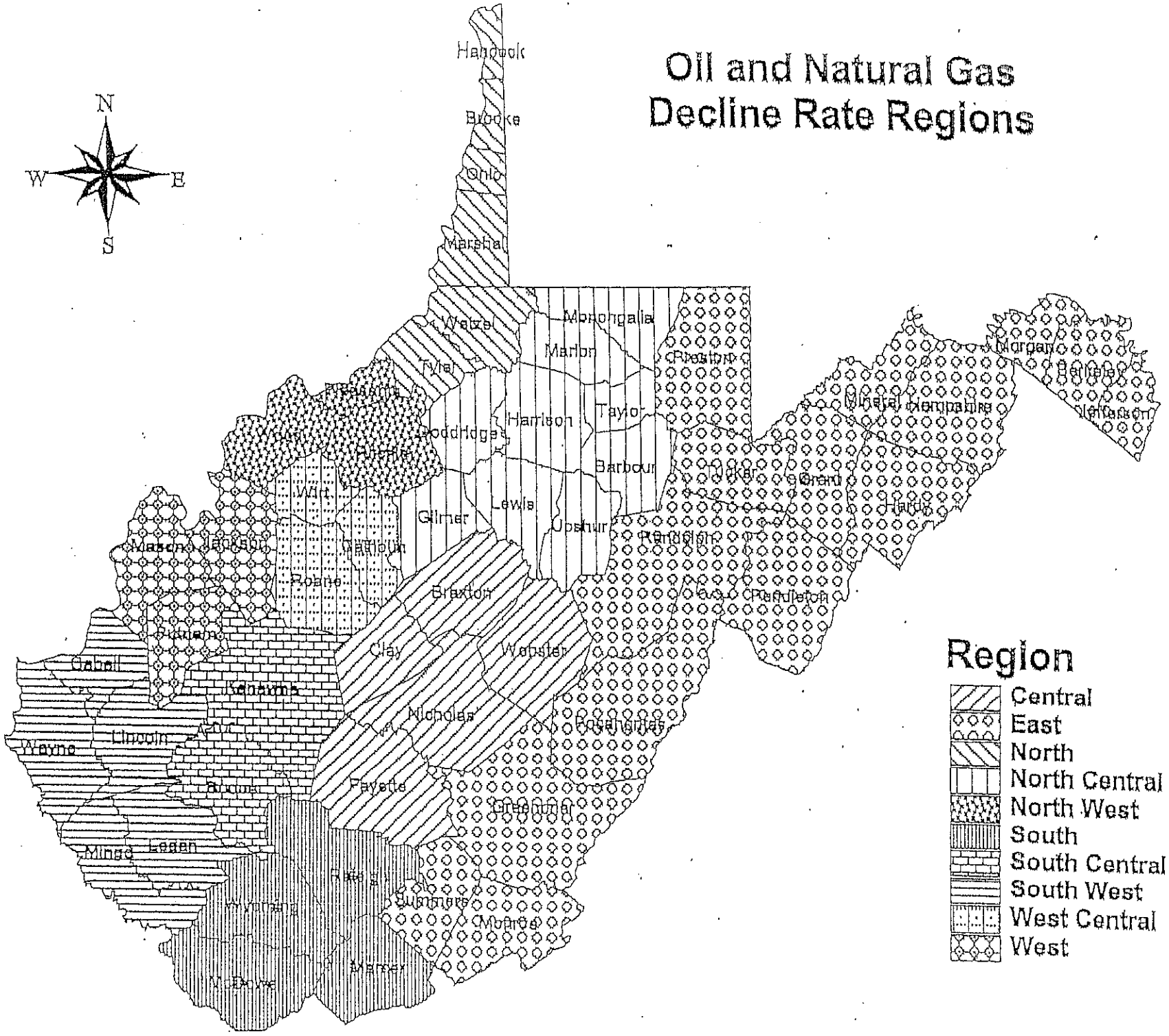
Since the valuation of oil and gas property is predicated on a three year production , the capitalization rate will be considered in a similar manner.

	2009	2008	2007	
Inflation Rate	-2.700%	-0.100%	-4.100%	
Safe Rate	0.150%	1.392%	4.472%	
Composite Risk Rate	15.352%	14.993%	12.028%	
Non Liquidity Rate	0.320%	0.431%	0.050%	
Management Rate	0.500%	0.500%	0.500%	
Property Tax Rate	1.308%	1.296%	1.302%	
Total	14.930%	18.512%	14.252%	
	50.000%	33.333%	16.667%	
	7.465%	6.171%	2.375%	16.011%

Capitalization Rate Rounded to: 16.00%

MULTIPLIERS FOR 16.0% MID-YEAR LIFE (ANNUALLY)

YEAR		YEAR	
1	0.928477	21	0.047710
2	0.800411	22	0.041129
3	0.690009	23	0.035456
4	0.594836	24	0.030566
5	0.512789	25	0.026350
6	0.442060	26	0.022715
7	0.381086	27	0.019582
8	0.328522	28	0.016881
9	0.283209	29	0.014553
10	0.244146	30	0.012546
11	0.210470	31	0.010815
12	0.181440	32	0.009323
13	0.156414	33	0.008037
14	0.134840	34	0.006929
15	0.116241	35	0.005973
16	0.100208	36	0.005149
17	0.086386	37	0.004439
18	0.074471	38	0.003827
19	0.064199	39	0.003299
20	0.055344	40	0.002844


Oil and Natural Gas
Decline Rate Regions
N
W
E
S
Hancock
Brooke
Ohio
Marshall
Wetzel
Monongalia
Marion
Tyler
Preston
Pleasants
Ritchie
Doddridge
Harrison
Taylor
Barbour
Upshur
Lewis
Gilmer
Wirt
Calhoun
Roane
Jackson
Mason
Putnam
Kanawha
Boone
Clay
Braxton
Webster
Nicholas
Fayette
Greenbrier
Pocahontas
Randolph
Tucker
Grant
Hardy
Pendleton
Morgan
Berkeley
Jefferson
Mineral
Hampshire
Lincoln
Wayne
Logan
Mingo
Summers
Monroe
Mercer
Region
Central
East
North
North Central
North West
South
South Central
South West
West Central
West

Decline Rates for Natural Gas and Oil Formations

Code		Central Year 1	Central Year 2	Central 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*	-0.41	-0.22	-0.09	
110	Marcellus*	-0.41	-0.22	-0.09	
9	Exception (median)	-0.41	-0.22	-0.09	
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+	Barkeley
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	
110	Marcellus*	-0.41	-0.22	-0.10	
9	Exception (median)	-0.41	-0.22	-0.10	
10	Non-Filer	-0.29	-0.07	-0.05	

* 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	North	North	Brooke
		Year 1	Year 2	Year 3+	Hancock
11	Gordon	-0.47	-0.31	-0.09	Marshall
13	Alexander, Benson, Riley	-0.26	-0.16	-0.15	Ohio
15	Benson, Riley	-0.18	-0.16	-0.06	Tyler
93	4th Sand	-0.42	-0.32	-0.08	Wetzel
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	Coalbed Methane (vertical)	-0.23	-0.08	-0.05	
110	Marcellus*	-0.39	-0.23	-0.08	
9	Exception (median)	-0.39	-0.23	-0.08	
10	Non-Filer	-0.18	-0.16	-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		North Central Year 1	North Central Year 2	North Central Year 3
11	Gordon	-0.41	-0.14	-0.12
12	Alexander, Benson	-0.37	-0.19	-0.11
13	Alexander, Benson, Riley	-0.40	-0.28	-0.05
14	Benson	-0.31	-0.17	-0.12
15	Benson, Riley	-0.34	-0.17	-0.14
18	Big Injun	-0.36	-0.16	-0.13
21	Benson, Fifth	-0.31	-0.20	-0.14
28	Weir	-0.34	-0.34	-0.07
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, Haverly	-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/Onondago 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	Haverly, Elk, Benson (no Alexander)	-0.35	-0.16	-0.16
78	Haverly	-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	Haverly, 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	-0.06
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	Coalbed Methane (vertical)	-0.23	-0.08	-0.05
98	Coalbed Methane (horizontal)	-0.05	-0.05	-0.32
109	Trenton/Deeper*	-0.38	-0.21	-0.11
110	Marcellus Shale*	-0.38	-0.21	-0.11
9	Exception (median)	-0.38	-0.21	-0.11
10	Non-Filer	-0.23	-0.03	-0.03

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

Barbour
Doddridge
Gilmer
Harrison
Lewis
Marion
Monongalia
Taylor
Upshur

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 Oil	-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	-0.23	-0.13	
110	Marcellus*	-0.39	-0.23	-0.13	
9	Exception (median)	-0.39	-0.23	-0.13	
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 Year 1+	South Year 2+	South Year 3+	McDowell Mercer Raleigh Wyoming
8	Berea	-0.34	-0.15	-0.15	
22	Big Lime	-0.31	-0.19	-0.07	
23	Big Lime, Maxton	-0.31	-0.19	-0.07	
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	Coalbed Methane (Vertical)	+0.03	+0.10	-0.05	
98	Coalbed Methane (Horizontal)	-0.05	-0.05	-0.32	
110	Marcellus*	-0.36	-0.19	-0.09	
9	Exception (median)	-0.36	-0.19	-0.09	
10	Non-Filer	-0.23	-0.08	-0.05	

Decline Rates for Natural Gas and Oil Formations

Code		South Central Year 1	South Central Year 2	South Central Year 3	Boone Kanawha
3	Devonian Shale	-0.23	-0.08	-0.05	
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*	-0.33	-0.19	-0.08	
110	Marcellus*	-0.33	-0.19	-0.08	
9	Exception (median)	-0.33	-0.19	-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 Lincoln Logan Mingo Wayne
3	Devonian Shale	-0.31	-0.15	-0.04	
8	Berea	-0.36	-0.11	-0.11	
18	Big Injun	-0.38	-0.22	-0.04	
22	Big Lime	-0.19	-0.19	-0.19	
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*	-0.38	-0.22	-0.10	
110	Marcellus*	-0.38	-0.22	-0.10	
9	Exception (median)	-0.38	-0.22	-0.10	
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	-0.24	-0.10	
110	Marcellus*	-0.42	-0.24	-0.10	
9	Exception (median)	-0.42	-0.24	-0.10	
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	-0.20	-0.09	
110	Marcellus*	-0.35	-0.20	-0.09	
9	Exception (median)	-0.35	-0.20	-0.09	
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 2007 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 $ 3.71/MCF BBL usage X $61.65/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 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/AC
BARBOUR	1	1	$20.00
		2	$20.00
		3	$20.00
		4	$20.00
		5	$20.00
		6	$1.00
		7	$20.00
		8	$20.00
		9	$20.00
		10	$20.00
		11	$20.00
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	$20.00
		2	$1.00
		3	$1.00
		4	$20.00
		5	$20.00
		6	$20.00
		7	$20.00
		8	$20.00
		9	$1.00
BRAXTON	4	1	$20.00
		2	$1.00
		3	$1.00
		4	$1.00
		5	$20.00
		6	$20.00
		7	$20.00
		8	$1.00
BROOKE	5	1	$1.00
		2	$1.00
		3	$20.00
		4	$20.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$1.00

OIL & GAS RESERVE RATES FOR TY 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/AC
CABELL	6	1	$20.00
		2	$1.00
		3	$20.00
		4	$20.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$20.00
		9	$1.00
		10	$20.00
CALHOUN	7	1	$20.00
		2	$1.00
		3	$20.00
		4	$20.00
		5	$20.00
		6	$20.00
CLAY	8	1	$20.00
		2	$1.00
		3	$20.00
		4	$20.00
		5	$20.00
		6	$20.00
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	$1.00
FAYETTE	10	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

OIL & GAS RESERVE RATES FOR TY 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/AC
GILMER	11	1	$20.00
		2	$20.00
		3	$20.00
		4	$1.00
		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	$15.00
		4	$15.00
		5	$1.00
		6	$15.00
		7	$15.00
		8	$15.00
		9	$15.00
		10	$1.00
		11	$15.00
		12	$1.00
		13	$1.00
		14	$1.00
		15	$1.00
		16	$15.00
		17	$1.00
		18	$15.00
HAMPSHIRE	14	1	$10.00
		2	$1.00
		3	$1.00
		4	$1.00
		5	$10.00
		6	$1.00
		7	$10.00
		8	$1.00
		9	$10.00
		10	$10.00
HANCOCK	15	1	$20.00
		2	$1.00
		3	$20.00
		4	$20.00
		5	$1.00
		6	$1.00

OIL & GAS RESERVE RATES FOR TY 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/AC
HARDY	16	1	$1.00
		2	$10.00
		3	$10.00
		4	$10.00
		5	$10.00
		6	$1.00
HARRISON	17	1	$25.00
		2	$1.00
		3	$1.00
		4	$1.00
		5	$25.00
		6	$1.00
		7	$25.00
		8	$1.00
		9	$25.00
		10	$1.00
		11	$25.00
		12	$25.00
		13	$1.00
		14	$25.00
		15	$25.00
		16	$1.00
		17	$1.00
		18	$25.00
		19	$1.00
		20	$25.00
		21	$1.00
JACKSON	18	1	$20.00
		2	$20.00
		3	$20.00
		4	$20.00
		5	$20.00
		6	$20.00
		7	$20.00
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 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/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	$1.00
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 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/AC
LOGAN	23	1	$15.00
		2	$15.00
		3	$15.00
		4	$15.00
		5	$1.00
		6	$15.00
		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	$20.00
		4	$20.00
		5	$20.00
		6	$1.00
		7	$20.00
		8	$1.00
		9	$20.00
		10	$1.00
		11	$1.00
		12	$20.00
		13	$20.00
		14	$20.00
		15	$20.00
		16	$1.00

OIL & GAS RESERVE RATES FOR TY 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/AC
MASON	26	1	$20.00
		2	$20.00
		3	$20.00
		4	$20.00
		5	$20.00
		6	$20.00
		7	$1.00
		8	$1.00
		9	$1.00
		10	$20.00
		11	$1.00
		12	$1.00
		13	$1.00
		14	$20.00
		15	$20.00
		16	$20.00
MC DOWELL	27	1	$20.00
		2	$1.00
		3	$20.00
		4	$20.00
		5	$1.00
		6	$20.00
		7	$1.00
		8	$1.00
		9	$1.00
		10	$1.00
		11	$20.00
		12	$1.00
		13	$20.00
		14	$1.00
		15	$1.00
		16	$1.00
MERCER	28	1	$1.00
		2	$15.00
		3	$1.00
		4	$1.00
		5	$1.00
		6	$15.00
		7	$1.00
		8	$1.00
		9	$15.00
		10	$1.00
		11	$15.00

OIL & GAS RESERVE RATES FOR TY 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/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	$1.00
		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	$20.00
		2	$1.00
		3	$20.00
		4	$20.00
		5	$20.00
		6	$1.00
		7	$20.00
		8	$20.00
		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	$20.00
		19	$1.00

OIL & GAS RESERVE RATES FOR TY 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/AC
MONROE	32	1	$1.00
		2	$1.00
		3	$15.00
		4	$15.00
		5	$15.00
		6	$1.00
		7	$15.00
		8	$15.00
		9	$15.00
MORGAN	33	1	$1.00
		2	$1.00
		3	$1.00
		4	$1.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$1.00
NICHOLAS	34	1	$15.00
		2	$15.00
		3	$15.00
		4	$15.00
		5	$1.00
		6	$1.00
		7	$15.00
		8	$1.00
		9	$15.00
OHIO	35	1	$1.00
		2	$1.00
		3	$20.00
		4	$20.00
		5	$20.00
		6	$20.00
		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 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/AC
PLEASANTS	37	1	$1.00
		2	$20.00
		3	$20.00
		4	$20.00
		5	$20.00
		6	$1.00
		7	$20.00
		8	$20.00
POCAHONTAS	38	1	$1.00
		2	$1.00
		3	$20.00
		4	$20.00
		5	$1.00
		6	$20.00
		7	$20.00
		8	$1.00
PRESTON	39	1	$25.00
		2	$25.00
		3	$25.00
		4	$25.00
		5	$25.00
		6	$25.00
		7	$1.00
		8	$25.00
		9	$1.00
		10	$25.00
		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	$25.00
		2	$25.00
		3	$25.00
		4	$25.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$25.00
		9	$25.00
		10	$25.00
		11	$25.00
		12	$25.00
		13	$1.00

OIL & GAS RESERVE RATES FOR TY 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/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	$20.00
		2	$20.00
		3	$1.00
		4	$20.00
		5	$1.00
		6	$1.00
		7	$1.00
		8	$1.00
		9	$20.00
		10	$20.00
		11	$20.00
		12	$1.00
		13	$20.00
		14	$1.00
		15	$20.00
		16	$20.00
		17	$20.00
		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 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/AC
ROANE	44	1	$20.00
		2	$20.00
		3	$20.00
		4	$20.00
		5	$20.00
		6	$20.00
		7	$20.00
		8	$1.00
		9	$20.00
SUMMERS	45	1	$1.00
		2	$1.00
		3	$1.00
		4	$1.00
		5	$15.00
		6	$1.00
		7	$1.00
TAYLOR	46	1	$1.00
		2	$1.00
		3	$20.00
		4	$20.00
		5	$20.00
		6	$20.00
		7	$20.00
TUCKER	47	1	$20.00
		2	$20.00
		3	$1.00
		4	$1.00
		5	$20.00
		6	$20.00
		7	$20.00
		8	$1.00
		9	$20.00
		10	$1.00
		11	$20.00
		12	$1.00

OIL & GAS RESERVE RATES FOR TY 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/AC
TYLER	48	1	$20.00
		2	$20.00
		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	$20.00
		2	$20.00
		3	$1.00
		4	$20.00
		5	$20.00
		6	$20.00
		7	$20.00
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	$15.00
		4	$15.00
		5	$15.00
		6	$15.00
		7	$1.00

OIL & GAS RESERVE RATES FOR TY 2011			
COUNTY	CO #	DISTRICT #	TY2010 $/AC
WETZEL	52	1	$25.00
		2	$25.00
		3	$25.00
		4	$25.00
		5	$25.00
		6	$1.00
		7	$1.00
		8	$25.00
		9	$1.00
		10	$1.00
		11	$1.00
		12	$25.00
		13	$1.00
WIRT	53	1	$25.00
		2	$25.00
		3	$25.00
		4	$1.00
		5	$25.00
		6	$25.00
		7	$25.00
		8	$25.00
WOOD	54	1	$25.00
		2	$25.00
		3	$25.00
		4	$25.00
		5	$1.00
		6	$25.00
		7	$25.00
		8	$25.00
		9	$25.00
		10	$1.00
		11	$25.00
		12	$25.00
		13	$1.00
		14	$1.00
WYOMING	55	1	$25.00
		2	$25.00
		3	$25.00
		4	$25.00
		5	$25.00
		6	$1.00
		7	$25.00
		8	$1.00
		9	$25.00
		10	$25.00

MANAGED TIMBER
PROPERTY ANALYSIS

Tax Year 2011

August 24, 2010
Craig A. Griffith
State Tax Commissioner
Department of Revenue

MANAGED TIMBERLAND APPRAISAL RATES
TAX YEAR 2011

(based on market 2005-2009)

Rates Per Acre

Class II Parcels

	Grade 1	Grade 2	Grade 3
Region 1	$245	$155	$50
Region 2	$200	$140	$50
Region 3	$260	$165	$50
Region 4	$205	$140	$50
Region 5	$200	$140	$50

Class III/IV Parcels

	Grade 1	Grade 2	Grade 3
Region 1	$225	$150	$75
Region 2	$225	$150	$75
Region 3	$230	$150	$75
Region 4	$225	$150	$75
Region 5	$225	$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 III & IV Blended Rates

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

Year	Rate	W/A %	W/A Rate
2009	2.1908	33.33%	0.7303
2008	2.7983	26.67%	0.7462
2007	4.4300	20.00%	0.8860
2006	4.7450	13.33%	0.6327
2005	4.0458	6.67%	0.2697

3.265 %

B. Nonliquidity Rate

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

Year	Rate	W/A %	W/A Rate
2009	0.3200	33.33%	0.1067
2008	0.4308	26.67%	0.1149
2007	0.0500	20.00%	0.0100
2006	0.0845	13.33%	0.0113
2005	0.4050	6.67%	0.0270

0.270 %

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

Year	Rate	W/A %	W/A Rate
2009	1.8783	33.33%	0.6260
2008	1.4808	26.67%	0.3949
2007	0.4092	20.00%	0.0818
2006	0.6070	13.33%	0.0809
2005	0.6000	6.67%	0.0400

1.224 %

D. Management Factor of 0.5%

0.500 %

E. Property Tax Component

(60% of Blended III&IV Rates)

Year	Rate	W/A %	W/A Rate
2009	1.308	33.33%	0.4360
2008	1.296	26.67%	0.3456
2007	1.302	20.00%	0.2604
2006	1.326	13.33%	0.1768
2005	1.344	6.67%	0.0896

1.308 %

F. Inflation Rate:

(Bureau of Labor Statistics)

Year	Rate	W/A %	W/A Rate
2009	2.700	33.33%	0.8999
2008	0.100	26.67%	0.0267
2007	4.100	20.00%	0.8200
2006	2.500	13.33%	0.3333
2005	3.400	6.67%	0.2268

(2.307) %

TOTAL REQUIRED RATE OF RETURN (REAL)	4.260 %
LESS: PROPERTY TAX COMPONENT	(1.308)
TOTAL DISCOUNT COMPONENT	2.952 %

30 yr T-bills 2005 not available, 20 yr. T-bill data used. 2006, 2007, 2008 and 2009, 30 yr. T-bill data available

Stumpage Prices:

	Sawtimber	Pulpwood
Stumpage Price Adjustment Factor	0.01%	1.28%

SAWTIMBER	Current		1.0035	1.0045	1.0055	1.0080
			$/MBF at age	$/MBF at age	$/MBF at age	$/MBF at age
Region	$/MBF		35	45	55	80
Region 1	233.98		234.80	235.03	235.27	235.86
Region 2	191.02		191.69	191.88	192.07	192.55
Region 3	246.38		247.24	247.49	247.73	248.35
Region 4	199.25		199.95	200.15	200.35	200.85
Region 5	163.18		163.75	163.91	164.08	164.49

PULPWOOD:			1.5607	1.7724	2.0128	2.7663
			$/cd at age	$/cd at age	$/cd at age	$/cd at age
Region	$/Cord		35	45	55	80
Region 1	6.18		9.65	10.96	12.45	17.11
Region 2	6.74		10.52	11.95	13.57	18.64
Region 3	5.91		9.22	10.47	11.89	16.34
Region 4	7.86		12.27	13.94	15.83	21.75
Region 5	6.96		10.86	12.34	14.01	19.26

Management Costs:

Region	$/acre (1)
1	3.17
2	3.17
3	3.17
4	3.17
5	3.17
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 II Rates

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

Year	Rate	W/A %	W/A Rate
2009	2.1908	33.33%	0.7303
2008	2.7983	26.67%	0.7462
2007	4.4300	20.00%	0.8860
2006	4.7450	13.33%	0.6327
2005	4.0458	6.67%	0.2697

3.265 %

B. Nonliquidity Rate

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

Year	Rate	W/A %	W/A Rate
2009	0.3200	33.33%	0.1067
2008	0.4308	26.67%	0.1149
2007	0.0500	20.00%	0.0100
2006	0.0845	13.33%	0.0113
2005	0.4050	6.67%	0.0270

0.270 %

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

Year	Rate	W/A %	W/A Rate
2009	1.8783	33.33%	0.6260
2008	1.4808	26.67%	0.3949
2007	0.4084	20.00%	0.0817
2006	0.6070	13.33%	0.0809
2005	0.6000	6.67%	0.0400

1.224 %

D. Management Factor of 0.5%

0.500 %

E. Property Tax Component

(60% of Class II Rate)

Year	Rate	W/A %	W/A Rate
2009	0.702	33.33%	0.2340
2008	0.696	26.67%	0.1856
2007	0.702	20.00%	0.1404
2006	0.726	13.33%	0.0968
2005	0.738	6.67%	0.0492

0.706 %

F. Inflation Rate:

(Bureau of Labor Statistics)

Year	Rate	W/A %	W/A Rate
2009	2.700	33.33%	0.8999
2008	0.100	26.67%	0.0267
2007	4.100	20.00%	0.8200
2006	2.500	13.33%	0.3333
2005	3.400	6.67%	0.2268

(2.307) %

TOTAL REQUIRED RATE OF RETURN (REAL)	3.658 %
LESS: PROPERTY TAX COMPONENT	(0.706)
TOTAL DISCOUNT COMPONENT	2.952 %

30 yr T-bills 2005 not available, 20 yr. T-bill data used. 2006, 2007, 2008 and 2009, 30 yr. T-bill data available

Stumpage Prices:

	Sawtimber	*Pulpwood*
Stumpage Price Adjustment Factor	0.01%	1.28%

SAWTIMBER	Current	1.0035 $/MBF at age	1.0045 $/MBF at age	1.0055 $/MBF at age	1.0080 $/MBF at age
Region	$/MBF	35	45	55	80
Region 1	233.98	234.80	235.03	235.27	235.86
Region 2	191.02	191.69	191.88	192.07	192.55
Region 3	246.38	247.24	247.49	247.73	248.35
Region 4	199.25	199.95	200.15	200.35	200.85
Region 5	163.18	163.75	163.91	164.08	164.49

PULPWOOD:		1.5607 $/cd at age	1.7724 $/cd at age	2.0128 $/cd at age	2.7663 $/cd at age
Region	$/Cord	35	45	55	80
Region 1	6.18	9.65	10.96	12.45	17.11
Region 2	6.74	10.52	11.95	13.57	18.64
Region 3	5.91	9.22	10.47	11.89	16.34
Region 4	7.86	12.27	13.94	15.83	21.75
Region 5	6.96	10.86	12.34	14.01	19.26

Management Costs:

Region	$/acre (1)
1	3.17
2	3.17
3	3.17
4	3.17
5	3.17
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
2009	13,311.70	208.09	33.33%	69.36
2008	18,483.95	236.57	26.67%	63.09
2007	29,593.93	249.91	20.00%	49.98
2006	33,592.39	243.44	13.33%	32.46
2005	27,014.00	286.32	6.67%	19.09
	121,995.97			233.98

REGION 1 - Pulpwood *

Year	Volume	$/CORD	W/A%	$/CORD
2009	3,351.10	8.35	33.33%	2.78
2008	1,929.30	2.07	26.67%	0.55
2007	745.60	2.81	20.00%	0.56
2006	14,814.80	13.10	13.33%	1.75
2005	925.90	8.10	6.67%	0.54
	21,766.70			6.18

REGION 2 - Sawtimber

Year	Volume	$/MBF	W/A%	$/MBF
2009	43,105.11	165.92	33.33%	55.31
2008	62,741.47	187.95	26.67%	50.12
2007	118,327.50	213.26	20.00%	42.65
2006	89,863.24	219.73	13.33%	29.30
2005	138,585.00	204.62	6.67%	13.64
	452,622.32			191.02

REGION 2 - Pulpwood

Year	Volume	$/CORD	W/A%	$/CORD
2009	6,342.60	5.94	33.33%	1.98
2008	12,213.00	5.57	26.67%	1.49
2007	8,626.70	5.44	20.00%	1.09
2006	17,577.00	11.87	13.33%	1.58
2005	41,667.70	9.06	6.67%	0.60
	86,427.00			6.74

REGION 3 - Sawtimber

Year	Volume	$/MBF	W/A%	$/MBF
2009	136,208.60	187.01	33.33%	62.34
2008	223,321.70	239.45	26.67%	63.85
2007	270,925.20	288.93	20.00%	57.79
2006	225,502.90	293.05	13.33%	39.07
2005	249,306.30	349.89	6.67%	23.33
	1,105,264.70			246.38

REGION 3 - Pulpwood

Year	Volume	$/CORD	W/A%	$/CORD
2009	206,464.40	6.14	33.33%	2.05
2008	280,717.80	5.76	26.67%	1.54
2007	187,872.20	7.16	20.00%	1.43
2006	82,518.60	1.95	13.33%	0.26
2005	163,133.00	9.51	6.67%	0.63
	920,706.00			5.91

REGION 4 - Sawtimber

Year	Volume	$/MBF	W/A%	$/MBF
2009	15,403.79	168.15	33.33%	56.05
2008	31,170.06	218.70	26.67%	58.32
2007	14,777.39	182.36	20.00%	36.47
2006	9,973.61	232.63	13.33%	31.02
2005	31,321.28	260.87	6.67%	17.39
	102,646.13			199.25

REGION 4 - Pulpwood

Year	Volume	$/CORD	W/A%	$/CORD
2009	9,678.90	11.49	33.33%	3.83
2008	49,931.50	4.02	26.67%	1.07
2007	5,620.70	8.65	20.00%	1.73
2006	17,058.10	6.77	13.33%	0.90
2005	9,814.80	4.94	6.67%	0.33
	92,104.00			7.86

REGION 5 - Sawtimber

Year	Volume	$/MBF	W/A%	$/MBF
2009	49,494.92	115.82	33.33%	38.61
2008	53,526.41	167.56	26.67%	44.68
2007	81,098.00	173.12	20.00%	34.62
2006	76,052.49	229.13	13.33%	30.55
2005	46,164.57	220.70	6.67%	14.71
	306,336.39			163.18

REGION 5 - Pulpwood

Year	Volume	$/CORD	W/A%	$/CORD
2009	281,600.40	7.23	33.33%	2.41
2008	34,275.00	5.55	26.67%	1.48
2007	9,118.90	8.36	20.00%	1.67
2006	10,888.94	4.27	13.33%	0.57
2005	25,775.90	12.44	6.67%	0.83
	361,659.14			6.96

COAL PROPERTIES ANALYSIS

Tax Year 2011

August 24, 2010
Craig A. Griffith
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 1I.

Safe Rate 90 day Treasury Bills

			Safe Rate
January	December	2009	0.150%
January	December	2008	1.390%
January	December	2007	4.470%

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

Loan Rate*		Debt Risk Rate
2009	5.25%	5.100%
2008	7.09%	5.700%
2007	10.05%	5.580%

*Prime plus 2%

Equity Differential between Equity Rates and 90 day Treasury Bills

Equity Rate**		Equity Risk Rate
2009	[13.75%/(1-.30)]-0.15	19.493%
2008	[13.5%/(1-.30)]-1.39	17.896%
2007	[12.75%/(1-.30)]-4.47	13.744%

** *Value Line Investment Survey Analysis*

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

	Equity Rate	Debt Rate	Composite Risk
2009	11.696%	2.040%	13.736%
2008	10.737%	2.280%	13.017%
2007	8.247%	2.232%	10.479%

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	2009	0.470%	0.150%	0.320%
January	December	2008	1.820%	1.390%	0.430%
January	December	2007	4.520%	4.470%	0.050%

Management Rate Charges for the management of investment portfolios.

Fixed Rate (by Rule) 0.500%

Inflation Rate

January	December	2009	2.700%
January	December	2008	0.100%
January	December	2007	4.100%

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.

	2009	2008	2007
Inflation Rate	-2.700%	-0.100%	-4.100%
Safe Rate	0.150%	1.390%	4.470%
Composite Risk Rate	13.736%	13.017%	10.479%
Non Liquidity Rate	0.320%	0.430%	0.050%
Management Rate	0.500%	0.500%	0.500%
Total	12.006%	15.237%	11.399%

Three Yr Average: 12.881 Rounded to: 12.90%

CAPITALIZATION RATE - 12.9%			
MULTIPLIERS:	%		%
1YR	0.941	9YR	5.473
2YR	1.775	10YR	5.789
3YR	2.513	11YR	6.068
4YR	3.167	12YR	6.316
5YR	3.746	13YR	6.536
6YR	4.259	14YR	6.730
7YR	4.714	15YR	6.902
8YR	5.116		

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 FOR TY2011 APPLICATION

GRAND SUMMARY ALL SOURCES

	STEAM SPOT	STEAM TERM		MET	
PSC *	$70.56	$63.41			
Coal Week Publication	$55.00	$49.43	$51.17	$115.87	merged w coal outlook in 2003
FERC Data	$61.66	$69.30			
Active Return Summary	$62.78	<--S+T		$93.17	26.6 mm tons

STATE STEAM PRICE	$61.63	Weighted according to the 73/27 from the PSC tons below
STATE MET PRICE	$93.17	
STATE STEAM SPOT PRICE	$55.73	EIA & PSC, 3 YR AVE

	Spot Sales	Term Sales	Total
PSC Tons reported in thousands,2009.	1,052	2,319	3,371

COAL TY 2011 ROYALTY RATES

	5YR %S	%D	6YR %S	%D	7YR %S	%D	8YR %S	%D
TOTAL RECORDS	2528.13	2822.82	2530.01	2851	2534.71	2870.29	2541.76	2893.8
SUM of PERCENT	14922.03	14006	14564.83	14753	15071.49	13900.72	16669.5	12820
STRAIGHT AVERAGE	4.74	5.08	4.56	5.08	5.09	5.09	4.91	5.09
MEDIAN	4.39	5.06	4.39	5.06	4.28	5.08	4.39	5.10
WEIGHTED AVERAGE	5.31	5.21	5.18	5.43	5.35	5.09	5.90	4.65

TENTATIVE RATE SURFACE	5.30
TENTATIVE RATE DEEP	5.09

ROYALTY RATE CALCULATIONS

Steam Coal/ Deep Mine	$55.73	per ton X	5.09%	=	$2.84	per ton
Metallurgical Coal/ Deep Mine	$93.17	per ton X	5.09%	=	$4.74	per ton
Steam Coal/ Surface Mine	$55.73	per ton X	5.30%	=	$2.95	per ton
Metallurgical Coal/ Surface Mine	$93.17	per ton X	5.30%	=	$4.94	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 >= 12 Then TransFactor = 20

If Trans_Ct < 12 And Trans_Ct >= 4 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 < 7 Then WellFactor = 0

WellDensity >= 7 And WellDensity < 19 Then WellFactor = 20

WellDensity >= 19 And WellDensity < 29 Then WellFactor = 40

WellDensity > 29 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

OTHER MINED MINERAL PROPERTY ANALYSIS

Tax Year 2011

August 24, 2010
Craig A. Griffith
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.

Safe Rate 90 day Treasury Bills

			Safe Rate
January	December	2009	0.150%
January	December	2008	1.390%
January	December	2007	4.470%

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

Loan Rate*		Debt Risk Rate
2009	5.25%	5.100%
2008	7.09%	5.700%
2007	10.05%	5.580%

*Prime plus 2%

Equity Differential between Equity Rates and 90 day Treasury Bills

Equity Rate**		Equity Risk Rate
2009	[13.0%/(1-.32)]-0.15	18.968%
2008	[13.25%/(1-.32)]-1.39	18.095%
2007	[12.5%/(1-.32)]-4.47	13.912%

** *Value Line Investment Survey Analysis*

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

	Equity Rate	Debt Rate	Composite Risk
2009	12.329%	1.785%	14.114%
2008	11.762%	1.995%	13.757%
2007	9.739%	1.674%	11.413%

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.

			1yr T Bill	90 d T Bill	Non Liquidity Rate
January	December	2009	0.470%	0.150%	0.320%
January	December	2008	1.820%	1.390%	0.430%
January	December	2007	4.520%	4.470%	0.050%

Management Rate Charges for the management of investment portfolios.

Fixed Rate (by Rule) 0.500%

Inflation Rate

January	December	2009	2.700%
January	December	2008	0.100%
January	December	2007	4.100%

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

January	December	2009	60% of 2.180 =	1.308%
January	December	2008	60% of 2.160 =	1.296%
January	December	2007	60% of 2.170 =	1.302%

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.

	2009	2008	2007
Inflation Rate	-2.700%	-0.100%	-4.100%
Safe Rate	0.150%	1.390%	4.470%
Composite Risk Rate	14.114%	13.757%	11.413%
Non Liquidity Rate	0.320%	0.430%	0.050%
Management Rate	0.500%	0.500%	0.500%
Property Tax Rate	1.308%	1.296%	1.302%
Total	13.692%	17.273%	13.635%

Three Yr Average: 14.867% Rounded to: **14.90%**

CAPITALIZATION RATE - 14.90%

MULTIPLIERS:	%		%
1YR	0.933	9YR	5.133
2YR	1.745	10YR	5.400
3YR	2.451	11YR	5.633
4YR	3.066	12YR	5.835
5YR	3.602	13YR	6.012
6YR	4.068	14YR	6.165
7YR	4.473	15YR	6.298
8YR	4.826		

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	AVERAGE ROYALTY	MEDIAN ROYALTY	TY2011 RATE
LIMESTONE	15	$0.22	$0.20	$0.22
SANDSTONE	8	$0.31	$0.25	$0.30
CLAY/SHALE	34	$0.12	$0.10	$0.11
SAND/GRAVEL	10	$0.35	$0.40	$0.40
SALT BRINE	1	N/A	N/A	$0.10

RESERVE VALUES

	number of sales	$/AC
LIMESTONE	5	$3,000.00
SANDSTONE	8	$2,300.00
CLAY/SHALE	16	$850.00
SAND/GRAVEL	6	$4,000.00
SALT	2	$1,140.00