

Combined Oil and Gas Progressivity in Alaska's Production Tax

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Senate Resources Committee
Alaska State Legislature

Feb. 2, 2009

Rear View Mirror: 5 fold increase in Production Tax 2004 - 2008

Fiscal Year	Production Taxes			X Check					Royalty		
	Prod Tax Rev (\$ 000 000)	Less CI gas (\$000 000)	Apples to Apples Rev (\$000 000)	2008\$ / 2004 \$	WC Price	Million bbls daily Prod	Million bbls annual Prod	Price times volume	2008\$ / 2004 \$	Royalty Rev (\$ 000 000)	2008\$ / 2004 \$
	(A1)	(A2)	(A)	(B)	(C)	(D)	(E) = (D) * 365	(F) = (C) *	(G)	(I)	(J)
2004	651.9	(24.7)	627.2		31.74	0.999	364.6	11,573.5		1,056.1	
2005	863.2	(24.4)	838.8		43.44	0.931	339.8	14,761.6		1,419.9	
2006	1,199.5	(33.2)	1,166.3		60.80	0.858	313.2	19,040.7		1,784.1	
2007	2,208.4	(6.0)	2,202.4		61.83	0.750	273.8	16,926.0		1,613.0	
2008	4,940.5	(6.0)	6,879.0	11.0	96.51	0.730	266.5	25,715.1	2.2	2,446.1	2.3

Tax Increase attributable to changes in rules= 11.0 /2.2 = 5

*Note: Tax revenues from some North Slope gas sales will be included in revenues with no corresponding volume effect. That adjustment (adding .004 to the daily volume) will not materially affect the outcome. NS NGL are in both vols and \$. Data from Fall 2008 Revenue Sources Book, from Appendix A-4a (royalty sum of royalty & Bonuses etc.), C-2a and B-1a. Cook Inlet Gas adjustment from Fall 2007 RSB, Appendix A-5a (CI data not broken out in Fall 2008 RSB)
 Note: Historical volume and price data in Fall 2008 RSB differ from same historical data series in Fall 2007 RSB and earlier.

Rear View Mirror: Changes in State Take 2004-2008

Fiscal Year	State Take in \$ A	Prod Value (Vol x Val) B	Upstream Costs* (used '07 in 04-06) C	Transportation Costs D	Prod Value less Costs E= (B-C-D)	State % F= (A/E)	Federal % G= (E-A)*.35/E	Prod % H= (1-F-G)
2004	2,426.8	11,799.6	3,659.0	1,783.1	6,357.5	38.2%	11.7%	50.2%
2005	3,395.1	15,240.7	3,659.0	1,603.9	9,977.8	34.0%	15.1%	50.9%
2006	4,358.9	19,454.1	3,659.0	1,700.5	14,094.6	30.9%	17.5%	51.6%
2007	5,141.7	16,863.0	3,659.0	1,478.3	11,725.8	43.8%	13.7%	42.5%
2008	11,255.0	25,715.1	3,848.0	1,612.0	20,255.1	55.6%	12.2%	32.2%

all \$ figures in millions

What if 2004 upstream costs a billion less?

2004	2,426.8	11,799.6	2,659.0	1,783.1	7,357.5	33.0%	14.6%	52.4%
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Looking Forward: TransCanada's AGIA application suggestion:

- “TransCanada would rely on the State of Alaska to take all feasible actions exclusively within its authority as a sovereign power to ensure a favorable economic environment for potential Shippers on the Project. Those actions include:
 - engaging with the ANS producers to reach agreement on a commercially reasonable and predictable upstream fiscal regime that balances the needs of the state and the ANS producers;
 - and encouraging robust exploration for and development of new natural gas resources and the commitment of such resources to the Project.”

Looking Forward: ConocoPhillips' Proposal

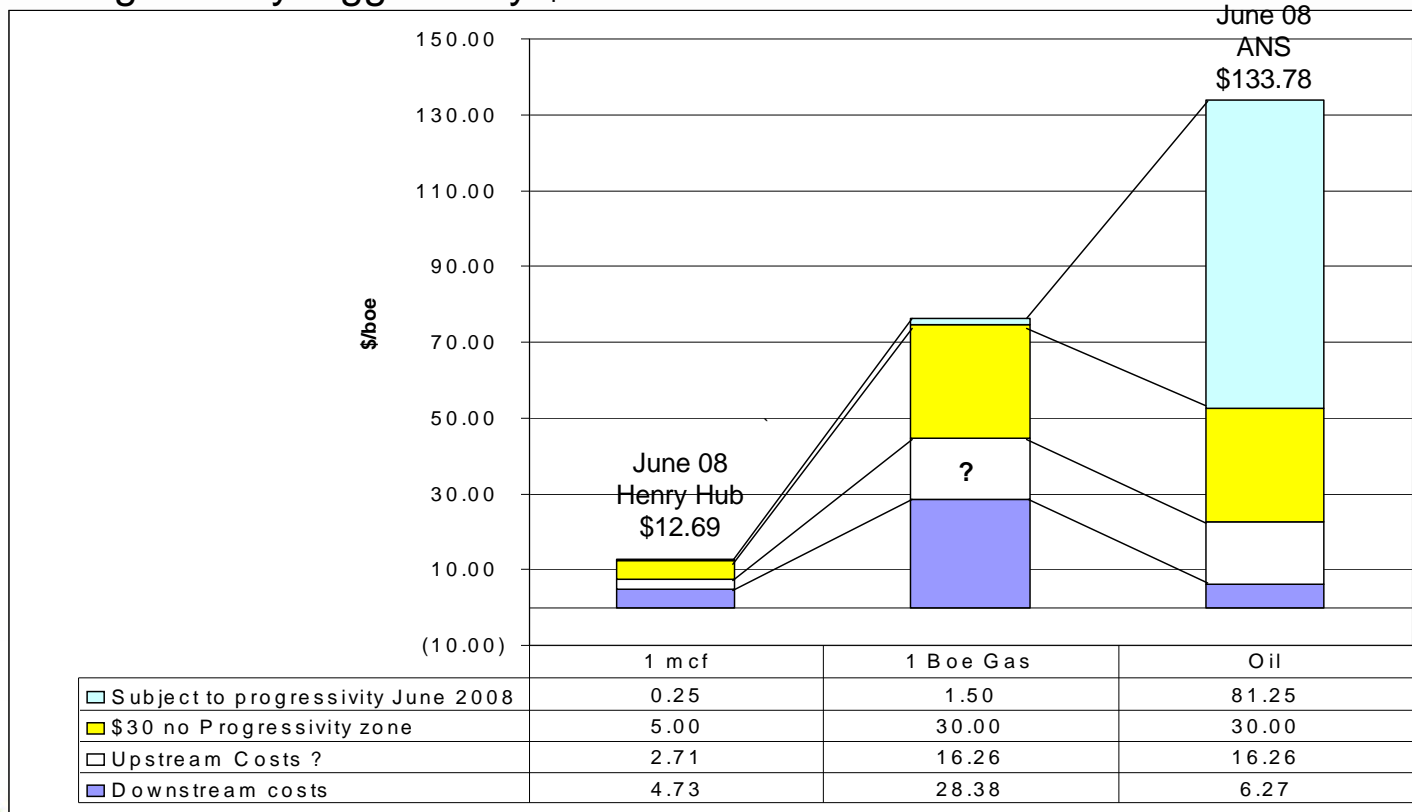
- ConocoPhillips' Proposal (ConocoPhillips current owner with BP of Denali Project)

“The predominant lessee risk that should be the focus of discussion with the State is the risk of unclear, unpredictable State taxes and royalties. In order to enable shippers to make long term shipping commitments, prospective shippers need clearly defined natural gas fiscal terms and an understanding of the period during which these terms will apply. Addressing these issues remains a critical component necessary to develop ANS natural gas resources and make this Project a reality.”

Looking Forward: Combined Progressivity Tax (CPT)

Gas exported from state and oil taxed at same rate – both part of combined progressivity calculation.

- Prices swings in one can effect tax on the other
- Gas converted to oil on Btu basis (roughly 6:1)
- Progressivity triggered by \$30 boe PTV



Sources: Oil data from Spring 2008 RSB, Upstream Gas Cost is oil data on boe basis, Gas Downstream cost is Black & Veatch Estimate from Appendix G Alaska Gasline Determination, Oil price from DOR website, Gas Price from St Louis Fed Reserve website

Looking Forward: Combined Progressivity Example 1

	Oil Only
Daily Vol	0.7 mmbbls
	365
Annual Volume	<hr/> 255.5 mmbbls
Annual Barrel Equivalents	255.5 Annual Boe
ANS Price	\$ 79.72
Transportation to Market	(6.34)
Gross Value at Point of Production	<hr/> 73.38
Value times Volume	\$ 18,749
Non Royalty %	<hr/> 87.5%
Taxable Wellhead	\$ 16,405
US Costs (millions \$)	4,337
Taxable Value or PTV (millions \$)	<hr/> <hr/> \$ 12,068
Non Royalty Fraction	87.5%
Taxable volumes	223.6
Prog Base (taxable value/volume)	\$ 53.98
Less \$30	<hr/> 30.00
Starting Point	\$ 23.98
Rate per dollar	<hr/> 0.4000%
Prog rate	9.5922%
base rate	<hr/> 25.0000%
Total Rate	34.5922%
Total (Tax Rate * PTV)	4,174.6

Source: Oil & Gas prices from 1/26/08, equal volumes, US from DOR 2008 Revenue Sources Book. Gas tariff and adj to Alberta from TC 2007 AGIA Proposal. Tariff is "nominalized levelized toll including fuel"

Looking Forward: Combined Progressivity Example 2

	Oil Only	Incremental Gas
Daily Vol	0.7 mmbbls	4.2 bcf
	365	365
Annual Volume	255.5 mmbbls	1533 bcf
		Convert to boe 6
Annual Barrel Equivalents	255.5 Annual Boe	255.5 Ann B/e
ANS Price	\$ 79.72	Henry Hub Price 6.08
		Adj to Alberta (0.75)
Transportation to Market	(6.34)	(2.88)
Gross Value at Point of Production	73.38	2.45
Value times Volume	\$ 18,749	3,756
Non Royalty %	87.5%	87.5%
Taxable Wellhead	\$ 16,405	3,286.4
US Costs (millions \$)	4,337	
Taxable Value or PTV (millions \$)	\$ 12,068	3,286.4
Non Royalty Fraction	87.5%	87.5%
Taxable volumes	223.6	223.6
Prog Base (taxable value/volume)	\$ 53.98	\$ 14.70
Less \$30	30.00	30.00
Starting Point	\$ 23.98	NO PROG
Rate per dollar	0.4000%	
Prog rate	9.5922%	
base rate	25.0000%	
Total Rate	34.5922%	
Total (Tax Rate * PTV)	4,174.6	

Source: Oil & Gas prices from 1/26/08, equal volumes, US from DOR 2008 Revenue Sources Book. Gas tariff and adj to Alberta from TC 2007 AGIA Proposal. Tariff is "nominalized levelized toll including fuel"

Looking Forward: Combined Progressivity Example 3

	Oil Only	Incremental Gas	Combined
Daily Vol	0.7 mmbbls	4.2 bcf	
	365	365	
Annual Volume	255.5 mmbbls	1533 bcf	
		Convert to boe	
Annual Barrel Equivalents	255.5 Annual Boe	6	511.00 Ann B/e
ANS Price	\$ 79.72	Henry Hub Price Adj to Alberta	
		6.08	
		(0.75)	
Transportation to Market	(6.34)	(2.88)	
Gross Value at Point of Production	73.38	2.45	
Value times Volume	\$ 18,749	3,756	
Non Royalty %	87.5%	87.5%	
Taxable Wellhead	\$ 16,405	3,286.4	
US Costs (millions \$)	4,337		
Taxable Value or PTV (millions \$)	\$ 12,068	3,286.4	15,354.4
Non Royalty Fraction	87.5%	87.5%	87.5%
Taxable volumes	223.6	223.6	447.1
Prog Base (taxable value/volume)	\$ 53.98	\$ 14.70	34.34
Less \$30	30.00	30.00	30.00
Starting Point	\$ 23.98	NO PROG	4.34
Rate per dollar	0.4000%		0.4000%
Prog rate	9.5922%		1.7361%
base rate	25.0000%		25.0000%
Total Rate	34.5922%		26.7361%
			(Smaller rate times larger base)
Total (Tax Rate * PTV)	4,174.6	(69.4)	4,105.2

Source: Oil & Gas prices from 1/26/08, equal volumes, US from DOR 2008 Revenue Sources Book. Gas tariff and adj to Alberta from TC 2007 AGIA Proposal. Tariff is "nominalized leveled toll including fuel"

Model Screen Shot

	Oil Only	Incremental Gas	Combined
Daily Vol	0.700 mmbbls/day	4.2 bcf/day	
days per year	365	365	
Annual Volume	255.5 mmbbls/yr	1533 bcf/yr	
Convert to boe	1	6	
Annual Barrel Equivalents	255.5 boe/yr	255.5 boe/yr	511.0 boe/yr
ANS WC Price/ Henry Hub Price	\$ 80.00	\$ 6.00	
Adj to Alberta		(0.75)	
Transportation to Market	(6.00)	(2.75)	
Gross Value at Point of Production	74.00	2.50	
Value times Volume	\$ 18,907	\$ 3,833	
Non Royalty %	87.5%	87.5%	
Taxable Wellhead	\$ 16,544	\$ 3,353	
US Costs (millions \$)	4,300	-	
Taxable Value or PTV (millions \$)	\$ 12,244	3,353	\$ 15,597
Non Royalty Fraction	87.5%	87.5%	87.5%
Taxable volumes boe	223.6	223.6	447.1
Prog Base (taxable value/volume)	\$ 54.77	\$ 15.00	\$ 34.88
Less \$30	30.00	30.00	30.00
Starting Point	\$ 24.77	\$ -	\$ 4.88
Prog rate (.4% or .1% per dollar)	9.91%	0.00%	1.95%
base rate	25.00%	25.00%	25.00%
Total Rate	34.91%	25.00%	26.95%
Total Tax (Tax Rate * PTV)	Stand Alone Oil	Stand Alone Gas	Combined
	\$ 4,274	838.4	\$ 4,204
Sum of stand alone oil & gas	5,112.17		
Gain (loss) in production tax from using current law vs stand alone	(908.3)		
Gain (loss) in production tax from adding gas stream under current law:	(69.9)		

Model Screen Shot – 350 K bbls oil/day

	Oil Only	Incremental Gas	Combined
Daily Vol	0.350 mmbbls/day	4.2 bcf/day	
days per year	365	365	
Annual Volume	127.8 mmbbls/yr	1533 bcf/yr	
Convert to boe	1	6	
Annual Barrel Equivalents	127.8 boe/yr	255.5 boe/yr	383.3 boe/yr
ANS WC Price/ Henry Hub Price	\$ 80.00	\$ 6.00	
Adj to Alberta		(0.75)	
Transportation to Market	(6.00)	(2.75)	
Gross Value at Point of Production	74.00	2.50	
Value times Volume	\$ 9,454	\$ 3,833	
Non Royalty %	87.5%	87.5%	
Taxable Wellhead	\$ 8,272	\$ 3,353	
US Costs (millions \$)	3,300	-	
Taxable Value or PTV (millions \$)	\$ 4,972	3,353	\$ 8,325
Non Royalty Fraction	87.5%	87.5%	87.5%
Taxable volumes boe	111.8	223.6	335.3
Prog Base (taxable value/volume)	\$ 44.48	\$ 15.00	\$ 24.83
Less \$30	30.00	30.00	30.00
Starting Point	\$ 14.48	\$ -	\$ -
Prog rate (.4% or .1% per dollar)	5.79%	0.00%	0.00%
base rate	25.00%	25.00%	25.00%
Total Rate	30.79%	25.00%	25.00%
Total Tax (Tax Rate * PTV)	Stand Alone Oil	Stand Alone Gas	Combined
	\$ 1,531	838.4	\$ 2,081
Sum of stand alone oil & gas	2,369.24		
Gain (loss) in production tax from using current law vs stand alone	(287.9)		
Gain (loss) in production tax from adding gas stream under current law:	550.4		

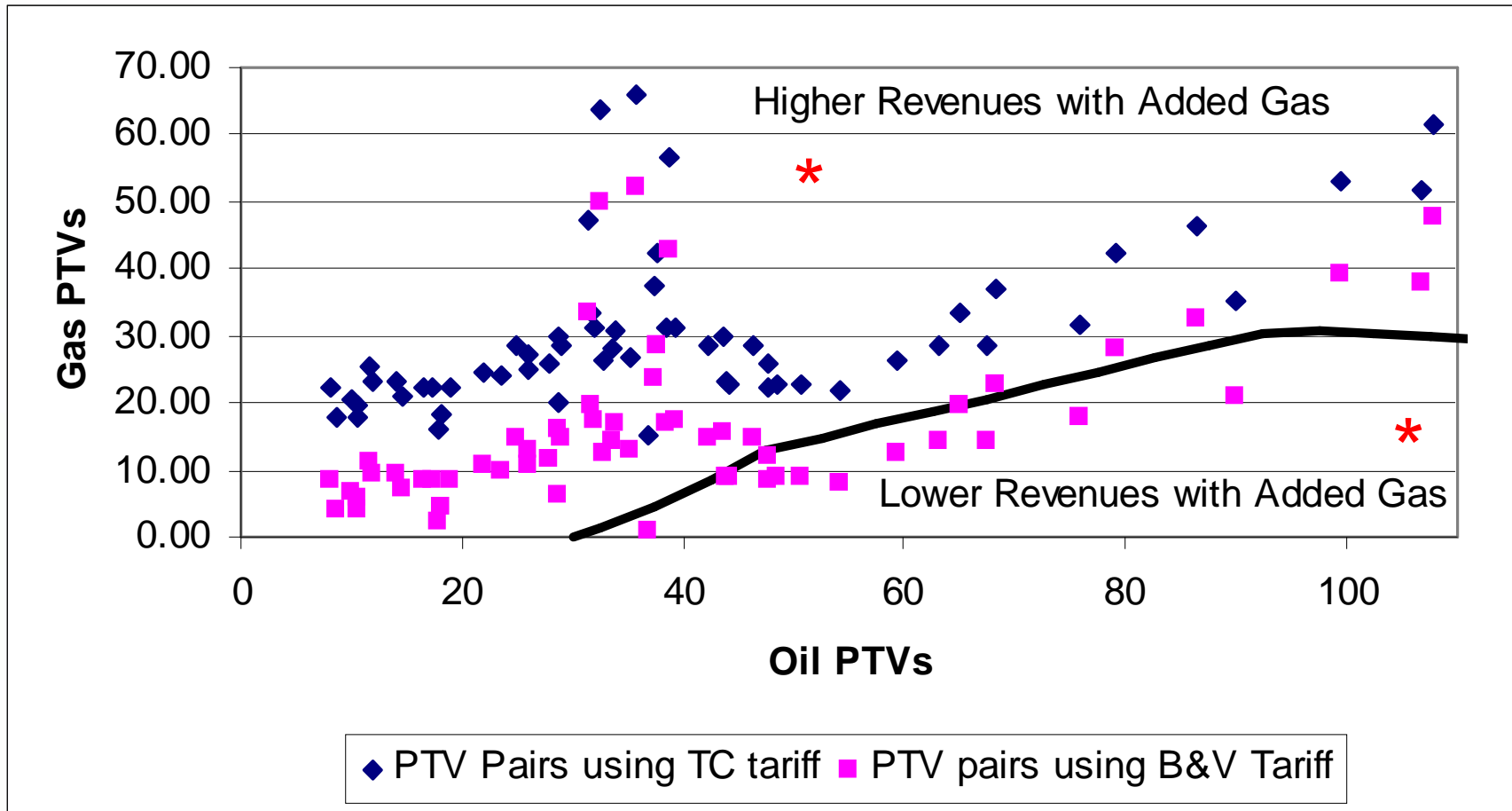
Model Screen Shot - \$135 oil and \$6 gas - Tax Falls

	Oil Only	Incremental Gas	Combined
Daily Vol	0.350 mmbbls/day	4.2 bcf/day	
days per year	365	365	
Annual Volume	127.8 mmbbls/yr	1533 bcf/yr	
Convert to boe	1	6	
Annual Barrel Equivalents	127.8 boe/yr	255.5 boe/yr	383.3 boe/yr
ANS WC Price/ Henry Hub Price	\$ 135.00	\$ 6.00	
Adj to Alberta		(0.75)	
Transportation to Market	(6.00)	(2.75)	
Gross Value at Point of Production	129.00	2.50	
Value times Volume	\$ 16,480	\$ 3,833	
Non Royalty %	87.5%	87.5%	
Taxable Wellhead	\$ 14,420	\$ 3,353	
US Costs (millions \$)	3,300	-	
Taxable Value or PTV (millions \$)	\$ 11,120	3,353	\$ 14,473
Non Royalty Fraction	87.5%	87.5%	87.5%
Taxable volumes boe	111.8	223.6	335.3
Prog Base (taxable value/volume)	\$ 99.48	\$ 15.00	\$ 43.16
Less \$30	30.00	30.00	30.00
Starting Point	\$ 69.48	\$ -	\$ 13.16
Prog rate (.4% or .1% per dollar)	25.70%	0.00%	5.26%
base rate	25.00%	25.00%	25.00%
Total Rate	50.70%	25.00%	30.26%
Total Tax (Tax Rate * PTV)	Stand Alone Oil	Stand Alone Gas	Combined
	\$ 5,637	838.4	\$ 4,380
Sum of stand alone oil & gas	6,475.84		
Gain (loss) in production tax from using current law vs stand alone	(2,095.7)		
Gain (loss) in production tax from adding gas stream under current law:	(1,257.3)		

Model Screen Shot - \$180 oil and \$13 gas - Taxes Rise

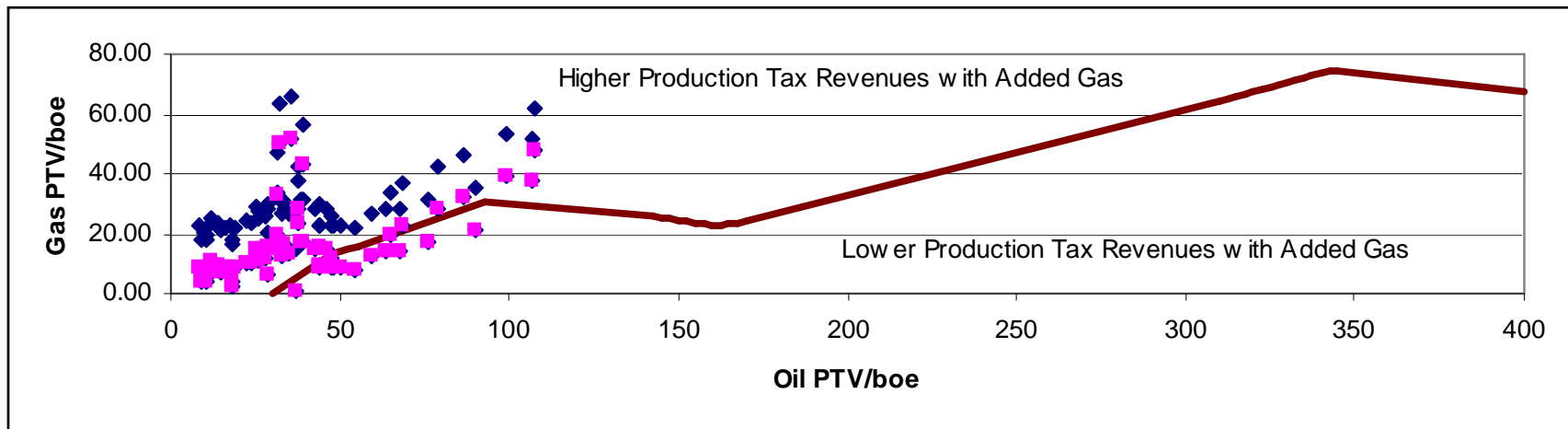
	Oil Only	Incremental Gas	Combined
Daily Vol	0.350 mmbbls/day	4.2 bcf/day	
days per year	365	365	
Annual Volume	127.8 mmbbls/yr	1533 bcf/yr	
Convert to boe	1	6	
Annual Barrel Equivalents	127.8 boe/yr	255.5 boe/yr	383.3 boe/yr
ANS WC Price/ Henry Hub Price	\$ 80.00	\$ 13.00	
Adj to Alberta		(0.75)	
Transportation to Market	(6.00)	(2.75)	
Gross Value at Point of Production	74.00	9.50	
Value times Volume	\$ 9,454	\$ 14,564	
Non Royalty %	87.5%	87.5%	
Taxable Wellhead	\$ 8,272	\$ 12,743	
US Costs (millions \$)	3,300	-	
Taxable Value or PTV (millions \$)	\$ 4,972	12,743	\$ 17,715
Non Royalty Fraction	87.5%	87.5%	87.5%
Taxable volumes boe	111.8	223.6	335.3
Prog Base (taxable value/volume)	\$ 44.48	\$ 57.00	\$ 52.83
Less \$30	30.00	30.00	30.00
Starting Point	\$ 14.48	\$ 27.00	\$ 22.83
Prog rate (.4% or .1% per dollar)	5.79%	10.80%	9.13%
base rate	25.00%	25.00%	25.00%
Total Rate	30.79%	35.80%	34.13%
Total Tax (Tax Rate * PTV)	Stand Alone Oil	Stand Alone Gas	Combined
	\$ 1,531	4,562.0	\$ 6,046
Sum of stand alone oil & gas	6,092.90		
Gain (loss) in production tax from using current law vs stand alone	(46.7)		
Gain (loss) in production tax from adding gas stream under current law:	4,515.3		

Oil and Gas PTVs 2004 - 2008



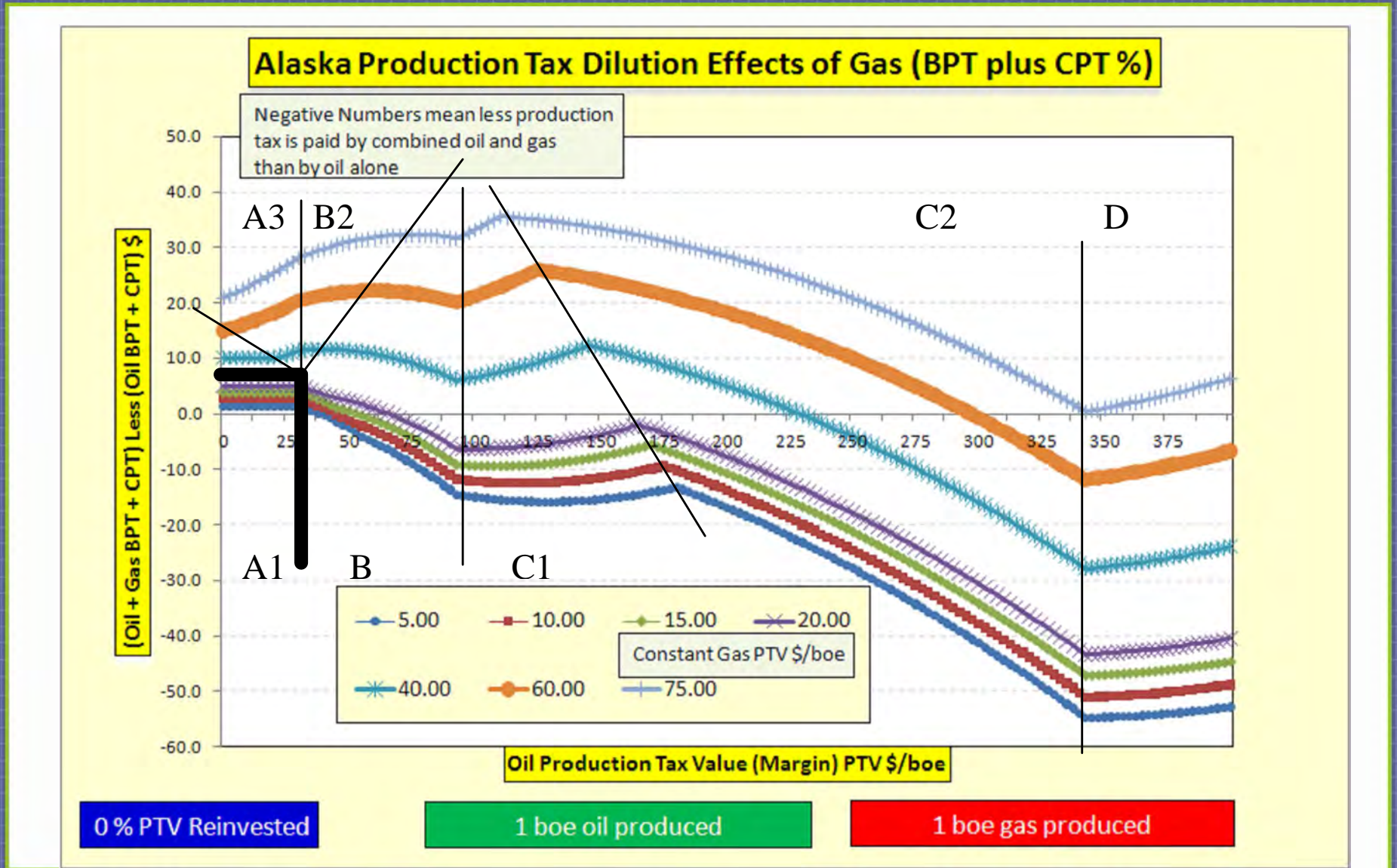
Source: Oil Prices and Costs from DOR 2007 RSB and website. Gas Prices from St. Louis Federal Reserve Web Site
 TC Tariff from January 15, 2008 revision of November 2007 AGIA Application, page 2.10-4, Black & Veatch Tariff from
 From May 2008 AGIA NPA Analysis Report page 121.

Oil and Gas PTVs 2004 - 2008



Source: Oil Prices and Costs from DOR 2007 RSB and website. Gas Prices from St. Louis Federal Reserve Web Site
TC Tariff from January 15, 2008 revision of November 2007 AGIA Application, page 2.10-4, Black & Veatch Tariff from
From May 2008 AGIA NPA Analysis Report page 121.

Dr. Wood's Illustration Divided into Zones



2.2.2009

Thank You

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