
Comments on Senate Finance CS SB21

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Summary of Investment Measures

New Participant Investment in 50 MMBO Field

\$20/Bbl Development Capex, 12.5% Royalty Rate



Real \$2012 West Coast ANS Price	Alaska Project				Unconventional Lower-48		Canada	Norway	United Kingdom	
	ACES	SB21	SRES	SFIN	Eagle Ford	Bakken	Oil Sands SAGD		Pre-1993	Post-1993
			CS SB21	CS SB21					w/ Brownfield Allowance*	w/ Brownfield Allowance*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
Producer NPV-12 / BOE (Dollars Per BOE)										
\$80	\$1.18	\$1.27	\$1.35	\$2.36	\$3.61	\$0.67	(\$0.93)	\$0.24	\$4.81	\$4.62
\$100	\$2.54	\$5.32	\$5.79	\$5.97	\$6.75	\$4.29	\$0.46	\$2.34	\$7.09	\$8.25
\$120	\$4.36	\$9.12	\$9.98	\$9.48	\$11.17	\$9.16	\$2.01	\$4.44	\$9.09	\$11.88
Profitability Index-12										
\$80	1.07	1.08	1.08	1.14	1.25	1.04	0.88	1.01	1.22	1.21
\$100	1.15	1.32	1.35	1.36	1.47	1.28	1.06	1.14	1.33	1.38
\$120	1.26	1.55	1.60	1.57	1.78	1.60	1.26	1.27	1.42	1.55
IRR (Percent)										
\$80	14.6%	14.1%	14.2%	16.3%	29.9%	13.6%	9.7%	12.4%	34.5%	24.7%
\$100	17.5%	20.3%	20.8%	22.4%	46.3%	22.7%	13.1%	16.0%	45.2%	32.9%
\$120	21.1%	25.8%	26.7%	27.9%	73.6%	37.0%	16.3%	19.3%	53.5%	40.2%
5-Year (2017-2021) Cash Margins (Dollars Per BOE)										
\$80	\$27.96	\$39.95	\$39.95	\$39.73	\$23.39	\$28.39	\$26.07	\$34.51	\$22.94	\$29.35
\$100	\$31.04	\$52.60	\$52.60	\$48.33	\$29.99	\$36.48	\$29.14	\$39.42	\$28.85	\$37.82
\$120	\$35.62	\$61.22	\$65.25	\$57.14	\$36.87	\$44.91	\$33.37	\$44.32	\$31.29	\$46.30
Government Take (Percent)										
\$80	69.0%	58.1%	56.9%	57.4%	71.7%	77.1%	63.4%	67.8%	61.0%	52.0%
\$100	74.6%	57.6%	55.0%	58.5%	67.9%	72.1%	63.5%	71.7%	68.6%	55.8%
\$120	76.0%	57.6%	55.1%	59.1%	65.1%	68.7%	63.0%	73.4%	72.0%	57.5%
State/Municipal NPV-12/BOE (Dollars Per BOE)										
\$80	\$5.27	\$5.13	\$5.02	\$3.45	-	-	-	-	-	-
\$100	\$11.82	\$7.55	\$6.82	\$6.55	-	-	-	-	-	-
\$120	\$17.67	\$10.34	\$9.02	\$9.79	-	-	-	-	-	-

* Brownfield Allowance applied to 100 MMBOE development.

\$20 Per Barrel Development Capex and \$14 Per Barrel Opex.

Summary of Investment Measures

Incumbent Investment in 50 MMBO Field

\$20/Bbl Development Capex, 12.5% Royalty Rate

Real \$2012 West Coast ANS Price	Alaska Project				Unconventional Lower-48		Canada	Norway	United Kingdom	
	ACES	SB21	SRES	SFIN	Eagle Ford	Bakken	Oil Sands		Pre-1993	Post-1993
			CS SB21	CS SB21			SAGD		w/ Brownfield Allowance*	w/ Brownfield Allowance*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
Producer NPV-12 / BOE (Dollars Per BOE)										
\$80	\$3.17	\$1.62	\$3.12	\$2.44	\$3.61	\$0.67	(\$0.93)	\$0.24	\$4.81	\$4.62
\$100	\$5.98	\$5.28	\$6.55	\$5.87	\$6.75	\$4.29	\$0.46	\$2.34	\$7.09	\$8.25
\$120	\$9.07	\$8.95	\$9.99	\$9.30	\$11.17	\$9.16	\$2.01	\$4.44	\$9.09	\$11.88
Profitability Index-12										
\$80	1.19	1.10	1.19	1.15	1.25	1.04	0.88	1.01	1.22	1.21
\$100	1.36	1.32	1.40	1.35	1.47	1.28	1.06	1.14	1.33	1.38
\$120	1.55	1.54	1.60	1.56	1.78	1.60	1.26	1.27	1.42	1.55
IRR (Percent)										
\$80	21.9%	15.2%	18.6%	17.1%	29.9%	13.6%	9.7%	12.4%	34.5%	24.7%
\$100	35.3%	21.7%	25.0%	23.5%	46.3%	22.7%	13.1%	16.0%	45.2%	32.9%
\$120	57.1%	27.6%	30.9%	29.3%	73.6%	37.0%	16.3%	19.3%	53.5%	40.2%
5-Year (2017-2021) Cash Margins (Dollars Per BOE)										
\$80	\$26.44	\$33.23	\$34.71	\$34.54	\$23.39	\$28.39	\$26.07	\$34.51	\$22.94	\$29.35
\$100	\$29.48	\$43.35	\$44.26	\$44.16	\$29.99	\$36.48	\$29.14	\$39.42	\$28.85	\$37.82
\$120	\$33.68	\$53.47	\$53.81	\$53.77	\$36.87	\$44.91	\$33.37	\$44.32	\$31.29	\$46.30
Government Take (Percent)										
\$80	65.7%	61.3%	55.6%	59.7%	71.7%	77.1%	63.4%	67.8%	61.0%	52.0%
\$100	70.4%	60.0%	57.1%	60.1%	67.9%	72.1%	63.5%	71.7%	68.6%	55.8%
\$120	71.3%	59.4%	57.9%	60.3%	65.1%	68.7%	63.0%	73.4%	72.0%	57.5%
State/Municipal NPV-12/BOE (Dollars Per BOE)										
\$80	\$2.21	\$4.59	\$2.29	\$3.34	-	-	-	-	-	-
\$100	\$6.53	\$7.60	\$5.65	\$6.71	-	-	-	-	-	-
\$120	\$10.42	\$10.61	\$9.00	\$10.07	-	-	-	-	-	-

Note: Analysis of incumbent production includes "buy-down" impact for reduced taxes on existing production.

* Brownfield Allowance applied to 100 MMBOE development.

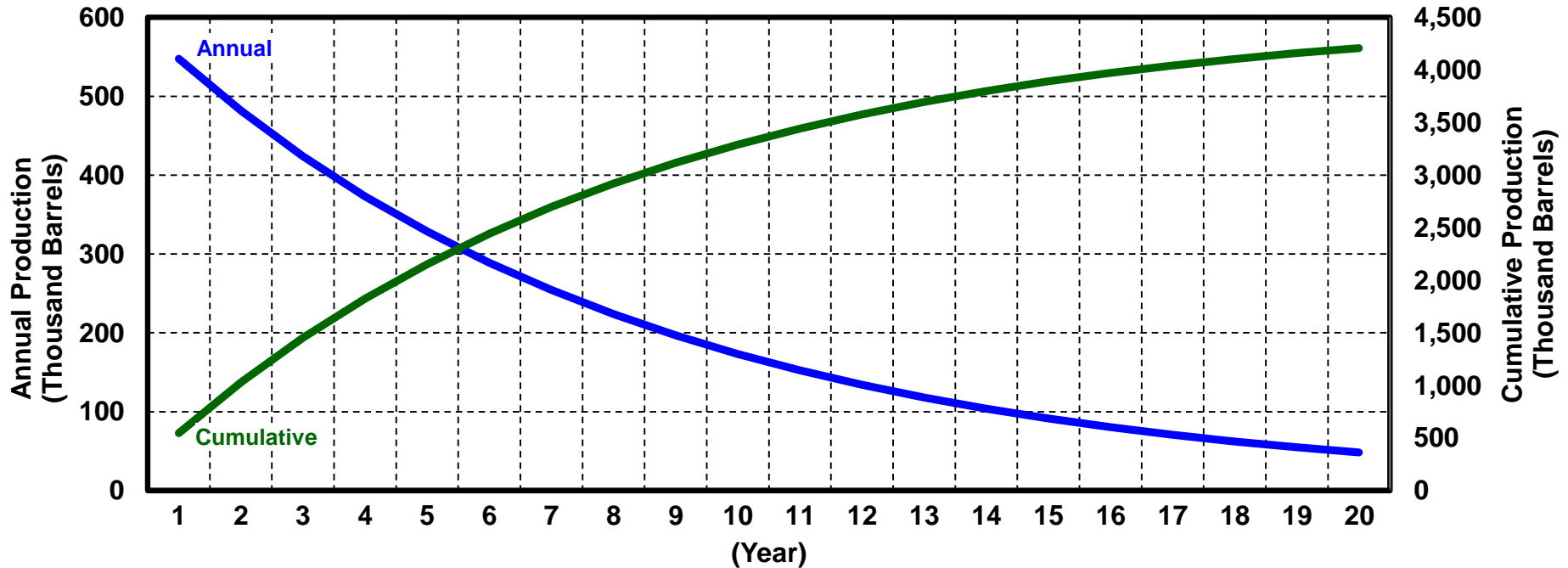
\$20 Per Barrel Development Capex and \$14 Per Barrel Opex.

Duration of the GRE

- **GRE Has the Effect of Reducing Tax Rate**
- **Removing GRE During Life of a Well is a Tax Increase on That Production (to the Nominal Rate)**
- **Increase Occurs as Well Productivity is Declining and Per Unit Costs Are Rising**
- **Can Shorten Productive Life of Well and Total Recoveries**
- **Better Alternative Would be a Lower GRE Over Life of Well That Provides Same Economics to Producer**

Well Production Profile

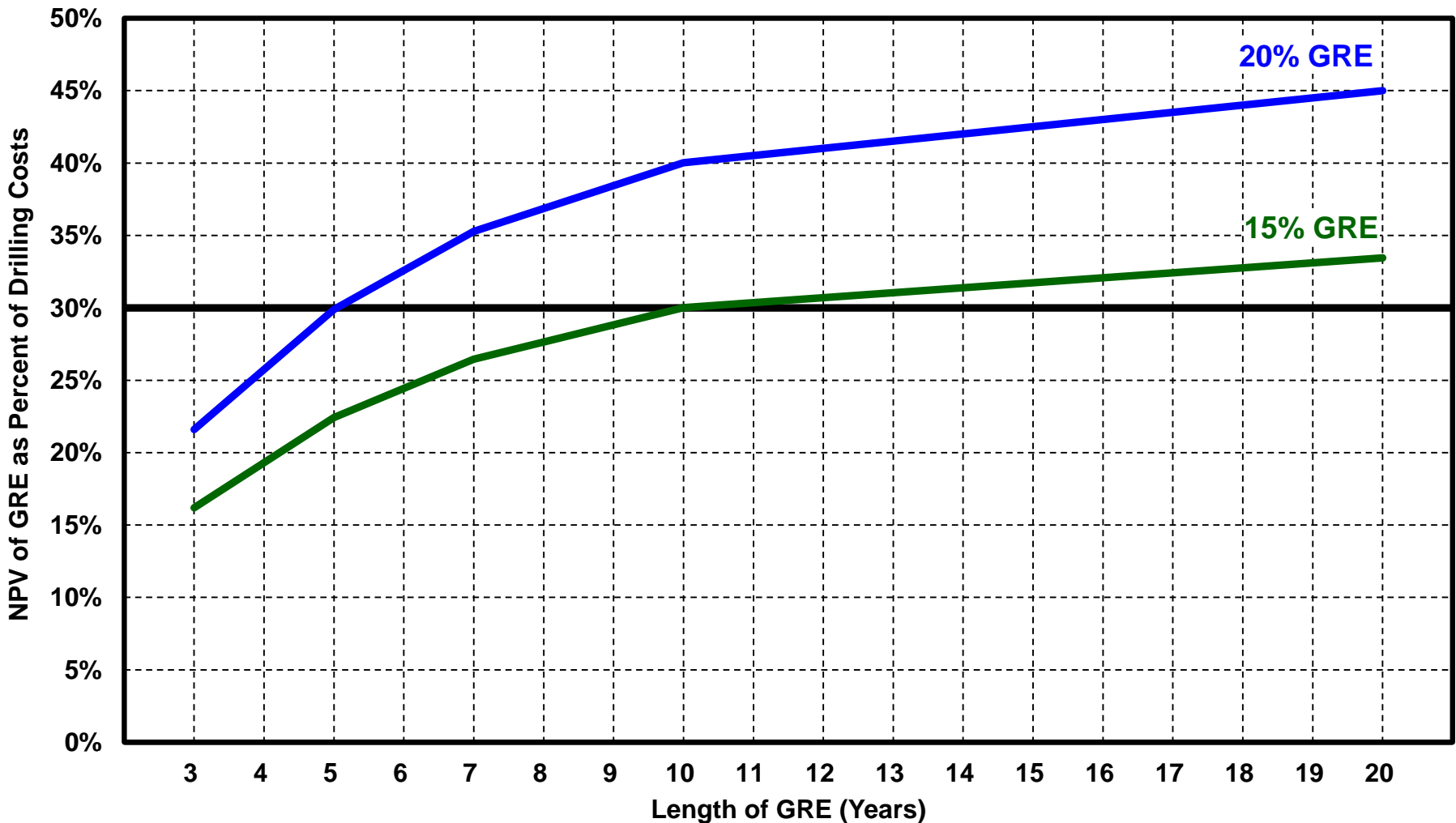
Initial 1,500 BPD, 12% Decline Rate



- **Approximately 50% of Oil Produced During First 5-7 Years of Well Life**
- **Well Productivity Declines, While \$/Bbl Operating Costs Rise Over Time**
- **Maintenance and Workovers Extend the Production Life of a Well**

Relationship Between Length of GRE and Percent of NPV of Drilling Cost

Initial 1,500 BPD, 12% Decline Rate



Example of Tax Calculation With and Without GRE

	<u>Production Without GRE</u>		<u>Production With 20% GRE</u>		<u>Production With 15% GRE</u>	
Gross Barrels		100,000		100,000		100,000
Royalty Barrels	-	12,500	-	12,500	-	12,500
Taxable Barrels	=	87,500	=	87,500	=	87,500
West Coast Value (\$/Bbl)		\$110.00		\$110.00		\$110.00
Transportation Costs (\$/Bbl)	-	10.00	-	10.00	-	10.00
Wellhead Value (\$/Bbl)	=	\$100.00	=	\$100.00	=	\$100.00
Gross Revenue Exclusion (%)	0%	- 0.00	20%	- 20.00	15%	- 15.00
Lease Expenses (\$/Bbl)	-	30.00	-	30.00	-	30.00
Taxable Value (\$/Bbl)	=	\$70.00	=	\$50.00	=	\$55.00
Production Tax Value (\$)		\$6,125,000		\$4,375,000		\$4,812,500
Tax Rate (%)	30%	\$1,837,500	30%	\$1,312,500	30%	\$1,443,750
Production Allowance (\$/Bbl)	\$5.00	- 437,500	\$5.00	- 437,500	\$5.00	- 437,500
Tax Due (\$)	=	\$1,400,000	=	\$875,000	=	\$1,006,250
Tax as % of Net Value of Production		22.9%		14.3%		16.4%
Tax as % of Gross Value of Production		16.0%		10.0%		11.5%

Example of NOL Credit Related to New Investment of \$1 Billion

Year	Capital Spending	Tax Loss	Loss Available To Monetize	Loss Carried Forward
1	\$25,000,000	\$7,500,000	\$0	\$7,500,000
2	150,000,000	45,000,000	7,500,000	37,500,000
3	500,000,000	150,000,000	45,000,000	105,000,000
4	300,000,000	90,000,000	90,000,000	0
5	25,000,000	7,500,000	7,500,000	0
	<u>\$1,000,000,000</u>	<u>\$300,000,000</u>	<u>\$150,000,000</u>	<u>\$150,000,000</u>

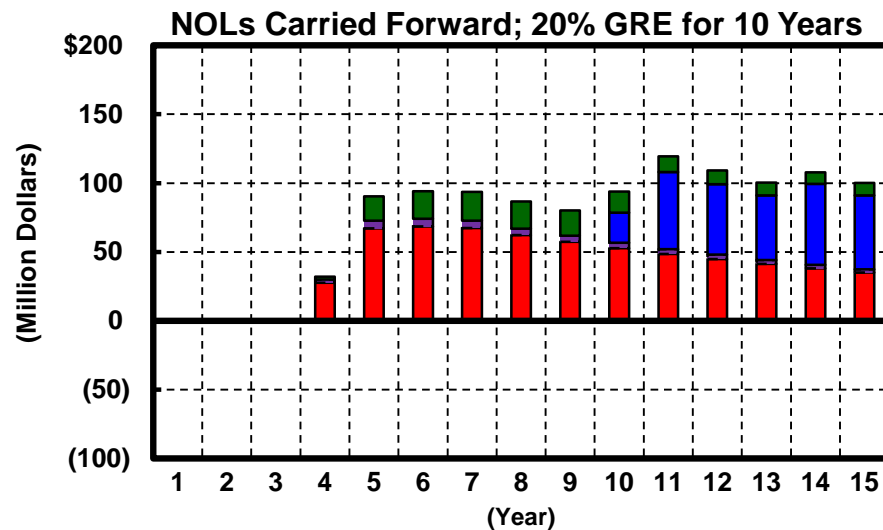
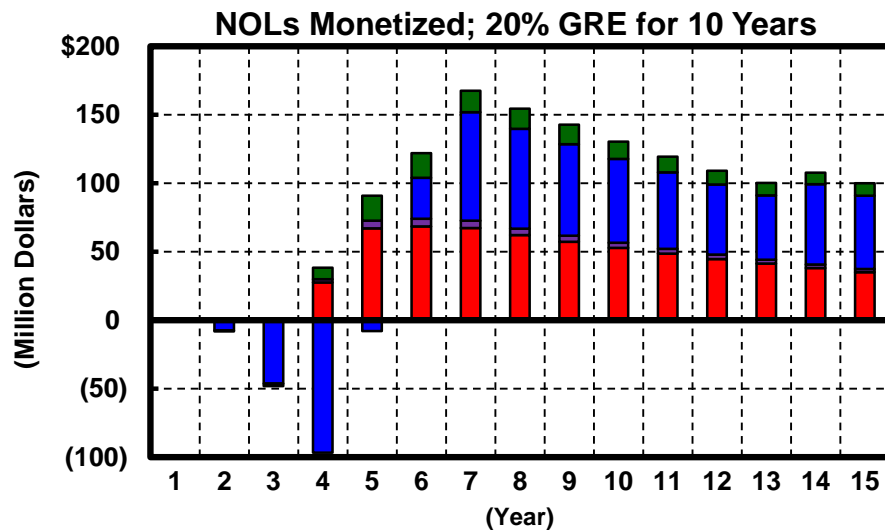
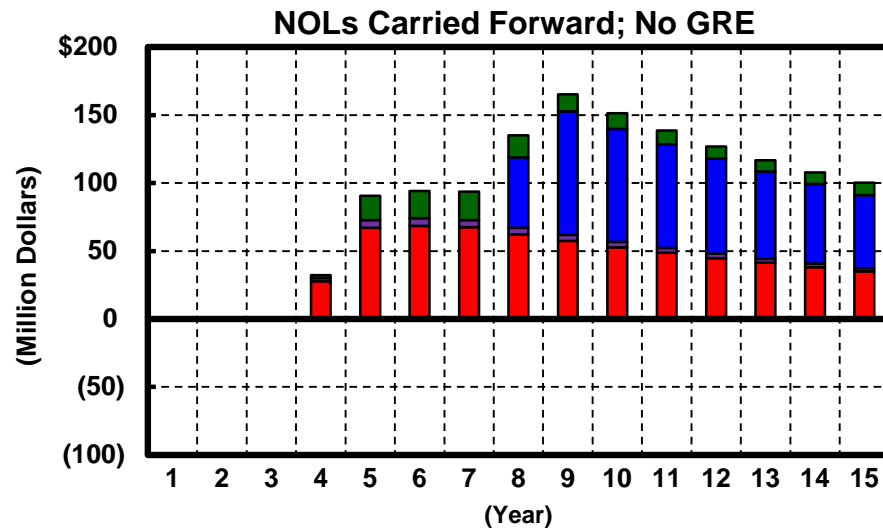
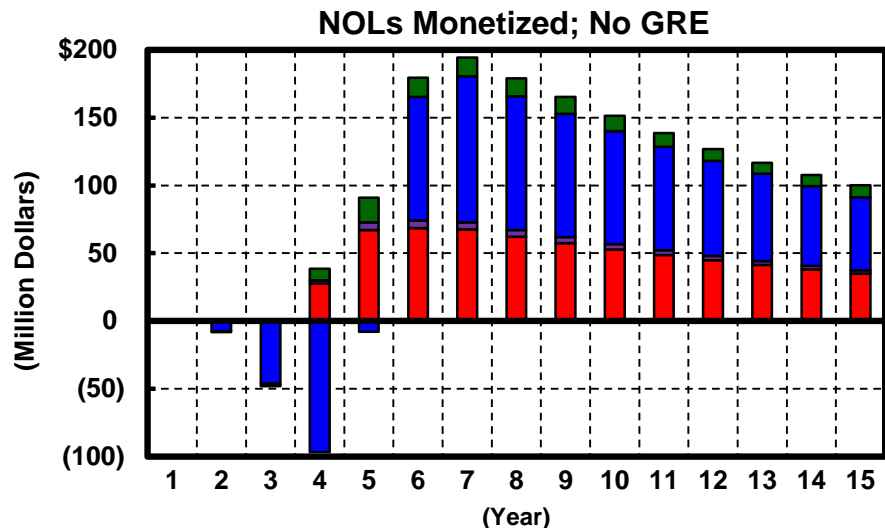
Note: Losses carried forward are increased at 15% per year.

Annual State Cash Flows

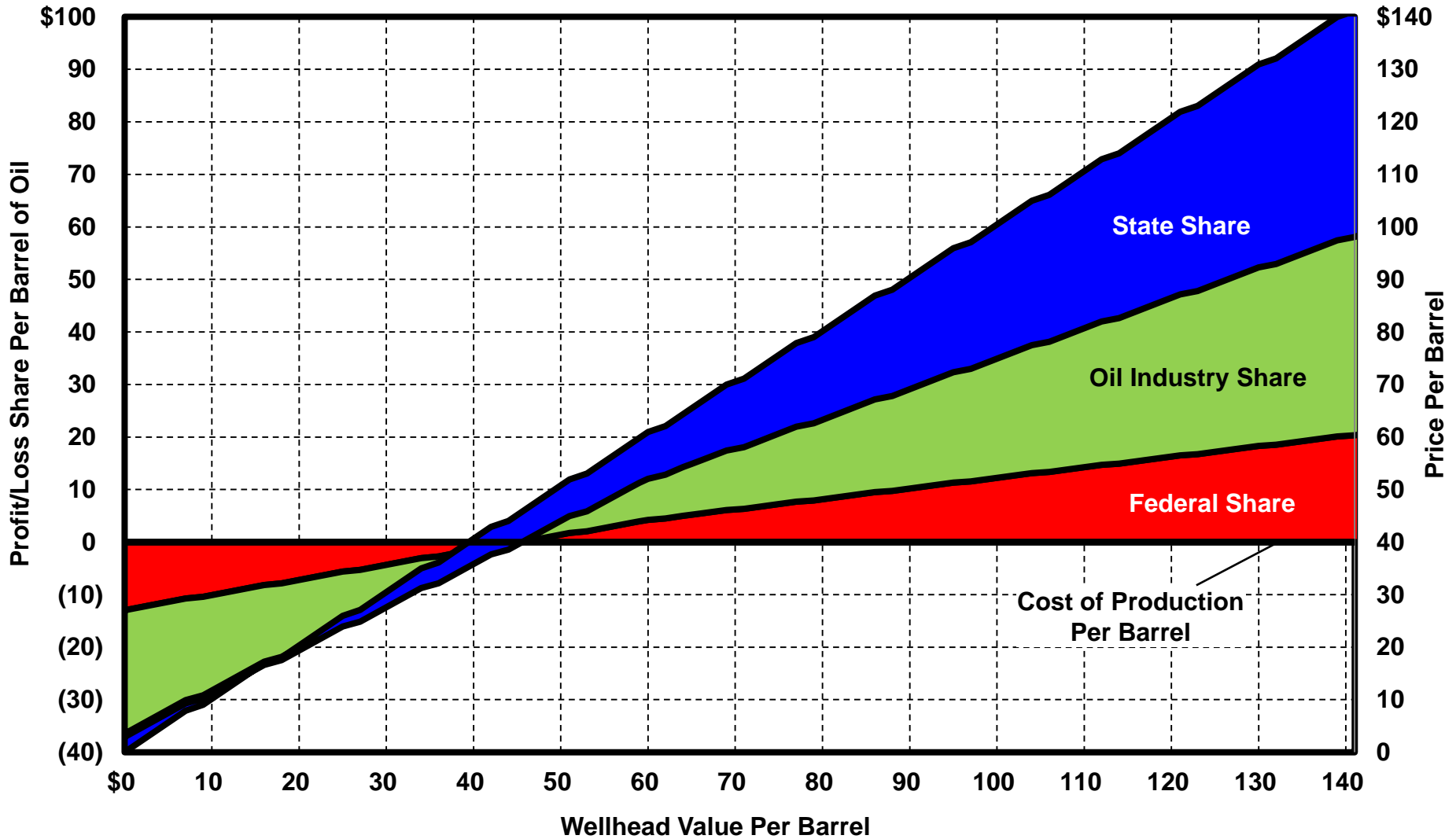
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\$20/Bbl Development Capex, 12.5% Royalty Rate

Production Tax (Blue) Royalties (Red) Ad Valorem Tax (Purple) Income Tax (Green)



Shares of Per-Barrel Values Under SFIN CS SB21 (30% Base Rate, \$5/Bbl. Allowance, Losses Monetized) for All Producers (FY 2015 - FY 2019)



Interest Rates 1977 - 2012

