Alaska Oil and Gas Production Tax Calculation
("Order of Operations")

Presented by

Bruce Tangeman, Commissioner
Dan Stickel, Chief Revenue Economist
Department of Revenue, Tax Division

April 22, 2019 – House Resources Committee

***** REVISED from 4-15-19 version *****

Acronyms used in this presentation

- ANS – Alaska North Slope
- Avg - Average
- Bbl – Barrel
- CBRF – Constitutional Budget Reserve Fund
- CIT – Corporate Income Tax
- DOR – Department of Revenue
- GVPP – Gross Value at Point of Production
- GVR – Gross Value Reduction
- Min – Minimum
- NPR-A – National Petroleum Reserve Alaska
- PTV – Production Tax Value
- Ths – Thousands
- FY – Fiscal Year

Overview

- Oil and Gas revenue sources – how production tax fits in
  - FY 2017 – FY 2021 oil and gas revenues
- Production tax calculation "order of operations"
  - Detailed walk-through of each step of tax calculation
  - Focus on North Slope oil
  - FY 2017 – FY 2021 comparison
- Distribution of Cash Flows for North Slope oil

Disclaimer

- Alaska's severance tax is one of the most complex in the world, and portions are subject to interpretation and dispute
- These numbers are rough approximations based on public data as presented in the spring 2019 forecasts and other revenue forecasts.
- We are economists, not auditors. This presentation is not an official statement of the Department as to any particular tax liability, interpretation, or treatment. This is not tax advice or guidance. This presentation is solely for illustrative general purposes.

Oil and Gas Revenue Sources

- Royalty - based on gross value of production
  - plus bonuses, rents & interest
  - Paid to owner of the land: State, Federal, or private
  - Usually 12.5% in Alaska, but rates vary
- Corporate Income Tax – based on net income
  - Paid to State (9.4% top rate)
  - Paid to Federal (21% top rate, used to be 35%)
  - Only C-corporations pay this tax *
- Property Tax – based on value of oil & gas property
  - Paid to State (2% of assessed value or “20 mills”
  - Paid to Municipalities – credit offsets state tax paid
- Production Tax – based on “production tax value”
  - Paid to State – calculation to follow

* “C-corporation” is a business term that is used to distinguish the type of business entity, as defined under subchapter C of the federal Internal Revenue Code.

Oil and Gas Revenue Sources – 5 year comparison of state revenue

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
ANS oil price ($/bbl)	$ 49.43	$ 63.61	$ 69.80	$ 66.00	$ 66.00
ANS production (ths bbl/ day)	526.4	518.4	511.5	529.5	511.7
Property Tax *	$ 120	$ 122	$ 123	$ 121	$ 116
Corporate Income Tax	$ (59)	$ 66	$ 195	$ 210	$ 210
Production Tax	$ 134	$ 750	$ 735	$ 525	$ 511
Royalties	$ 1,021	$ 1,365	$ 1,453	$ 1,298	$ 1,242
CBRF Settlements	$ 482	$ 121	$ 125	$ 150	$ 125
NPR-A Shared revenue	$ 1	$ 24	$ 8	$ 11	$ 10
Total	**$ 1,700**	**$ 2,448**	**$ 2,639**	**$ 2,314**	**$ 2,214**

Revenue amounts in $ millions. Source: DOR Spring 2019 forecast.

* Property Tax is does not include municipal share.

Production Tax "Order of Operations" – FY 2020

	Per Barrel	Barrels	Value ($ million)	
Avg ANS Oil Price ($/bbl) & Daily Production (ths bbls)	$66.00	529.5		
Total Annual Production/Value		**193,782**	**$12,789.6**	
Royalty and Federal barrels		(21,595)	($1,425.3)	
Taxable barrels		**172,187**	**$11,364.4**	
Downstream (Transportation) Costs ($/bbl)	($8.81)	172,187	($1,516.3)	
Gross Value at Point of Production (GVPP)	**$57.19**	**172,187**	**$9,848.1**	
North Slope Lease Expenditures				
Deductible Operating Expenditures	($15.55)		($2,677.7)	
Deductible Capital Expenditures	($11.71)		($2,016.5)	
Total Lease Expenditures	($27.26)	172,187	($4,694.2)	
Production Tax Value (PTV)	**$29.93**		**$5,153.8**	
Production Tax			Min Tax	Net Tax
Gross Value or Production Tax Value			$9,848.1	$5,153.8
Gross Value Reduction (GVR)			$0.0	($128.0)
GVPP or PTV after GVR			**$9,848.1**	**$5,025.8**
Tax rate			4%	35%
Tax before credits	**$2.29 (Min) / $10.22 (Net)**		**$393.9**	**$1,759.0**
Higher of minimum or net tax			**$1,759.0**	
Per-taxable-barrel credits	-$7.29		($1,255.7)	
Other credits against liability			($22.0)	
Total Tax after credits	**$2.80**		**$481.3**	
Other items / adjustments			$43.4	
Total Tax paid to the state			**$524.7**	
Non-Deductible Lease Expenditures - carried forward			*$823.6*	

Source: Department of Revenue – spring 2019 forecast. Illustration only of North Slope oil production tax calculation and may not exactly match company-specific calculations

Production Tax "Order of Operations" – FY 2020

	Per Barrel	Barrels	Value ($ million)	
Avg ANS Oil Price ($/bbl) & Daily Production (ths bbls)	$66.00	529.5		
Total Annual Production/Value		**193,782**	**$12,789.6**	
Royalty and Federal barrels		(21,595)	($1,425.3)	
Taxable barrels		**172,187**	**$11,364.4**	
Downstream (Transportation) Costs ($/bbl)	($8.81)	172,187	($1,516.3)	
Gross Value at Point of Production (GVPP)	**$57.19**	**172,187**	**$9,848.1**	
North Slope Lease Expenditures				
Deductible Operating Expenditures	($15.55)		($2,677.7)	
Deductible Capital Expenditures	($11.71)		($2,016.5)	
Total Lease Expenditures	($27.26)	172,187	($4,694.2)	
Production Tax Value (PTV)	**$29.93**		**$5,153.8**	
Production Tax			Min Tax	Net Tax
Gross Value or Production Tax Value			$9,848.1	$5,153.8
Gross Value Reduction (GVR)			$0.0	($128.0)
GVPP or PTV after GVR			**$9,848.1**	**$5,025.8**
Tax rate			4%	35%
Tax before credits	**$2.29 (Min) / $10.22 (Net)**		**$393.9**	**$1,759.0**
Higher of minimum or net tax			**$1,759.0**	
Per-taxable-barrel credits	-$7.29		($1,255.7)	
Other credits against liability			($22.0)	
Total Tax after credits	**$2.80**		**$481.3**	
Other items / adjustments			$43.4	
Total Tax paid to the state			**$524.7**	
Non-Deductible Lease Expenditures - carried forward			*$823.6*	

1. Royalty & Taxable Barrels

Source: Department of Revenue – spring 2019 forecast. Illustration only of North Slope oil production tax calculation and may not exactly match company-specific calculations

Production Tax "Order of Operations" – FY 2020

	Per Barrel	Barrels	Value ($ million)	
Avg ANS Oil Price ($/bbl) & Daily Production (ths bbls)	$66.00	529.5		
Total Annual Production/Value		**193,782**	**$12,789.6**	
Royalty and Federal barrels		(21,595)	($1,425.3)	
Taxable barrels		**172,187**	**$11,364.4**	
Downstream (Transportation) Costs ($/bbl)	($8.81)	172,187	($1,516.3)	
Gross Value at Point of Production (GVPP)	**$57.19**	**172,187**	**$9,848.1**	
North Slope Lease Expenditures				
Deductible Operating Expenditures	($15.55)		($2,677.7)	
Deductible Capital Expenditures	($11.71)		($2,016.5)	
Total Lease Expenditures	($27.26)	172,187	($4,694.2)	
Production Tax Value (PTV)	**$29.93**		**$5,153.8**	
Production Tax			Min Tax	Net Tax
Gross Value or Production Tax Value			$9,848.1	$5,153.8
Gross Value Reduction (GVR)			$0.0	($128.0)
GVPP or PTV after GVR			**$9,848.1**	**$5,025.8**
Tax rate			4%	35%
Tax before credits	**$2.29 (Min) / $10.22 (Net)**		**$393.9**	**$1,759.0**
Higher of minimum or net tax			**$1,759.0**	
Per-taxable-barrel credits	-$7.29		($1,255.7)	
Other credits against liability			($22.0)	
Total Tax after credits	**$2.80**		**$481.3**	
Other items / adjustments			$43.4	
Total Tax paid to the state			**$524.7**	
Non-Deductible Lease Expenditures - carried forward			*$823.6*	

2. Gross Value At Point of Production (GVPP)

Source: Department of Revenue – spring 2019 forecast. Illustration only of North Slope oil production tax calculation and may not exactly match company-specific calculations

Production Tax "Order of Operations" – FY 2020

	Per Barrel	Barrels	Value ($ million)	
Avg ANS Oil Price ($/bbl) & Daily Production (ths bbls)	$66.00	529.5		
Total Annual Production/Value		**193,782**	**$12,789.6**	
Royalty and Federal barrels		(21,595)	($1,425.3)	
Taxable barrels		**172,187**	**$11,364.4**	
Downstream (Transportation) Costs ($/bbl)	($8.81)	172,187	($1,516.3)	
Gross Value at Point of Production (GVPP)	**$57.19**	**172,187**	**$9,848.1**	
North Slope Lease Expenditures				
Deductible Operating Expenditures	($15.55)		($2,677.7)	
Deductible Capital Expenditures	($11.71)		($2,016.5)	
Total Lease Expenditures	($27.26)	172,187	($4,694.2)	
Production Tax Value (PTV)	**$29.93**		**$5,153.8**	
Production Tax			Min Tax	Net Tax
Gross Value or Production Tax Value			$9,848.1	$5,153.8
Gross Value Reduction (GVR)			$0.0	($128.0)
GVPP or PTV after GVR			**$9,848.1**	**$5,025.8**
Tax rate			4%	35%
Tax before credits	**$2.29 (Min) / $10.22 (Net)**		**$393.9**	**$1,759.0**
Higher of minimum or net tax			**$1,759.0**	
Per-taxable-barrel credits	-$7.29		($1,255.7)	
Other credits against liability			($22.0)	
Total Tax after credits	**$2.80**		**$481.3**	
Other items / adjustments			$43.4	
Total Tax paid to the state			**$524.7**	
Non-Deductible Lease Expenditures - carried forward			*$823.6*	

3. Lease Expenditures

Source: Department of Revenue – spring 2019 forecast. Illustration only of North Slope oil production tax calculation and may not exactly match company-specific calculations

Production Tax “Order of Operations” – FY 2020

	Per Barrel	Barrels	Value ($ million)	
Avg ANS Oil Price ($/bbl) & Daily Production (ths bbls)	$66.00	529.5		
Total Annual Production/Value		**193,782**	**$12,789.6**	
Royalty and Federal barrels		(21,595)	($1,425.3)	
Taxable barrels		**172,187**	**$11,364.4**	
Downstream (Transportation) Costs ($/bbl)	($8.81)	172,187	($1,516.3)	
Gross Value at Point of Production (GVPP)	**$57.19**	**172,187**	**$9,848.1**	
North Slope Lease Expenditures				
Deductible Operating Expenditures	($15.55)		($2,677.7)	
Deductible Capital Expenditures	($11.71)		($2,016.5)	
Total Lease Expenditures	($27.26)	172,187	($4,694.2)	
Production Tax Value (PTV)	**$29.93**		**$5,153.8**	
Production Tax			Min Tax	Net Tax
Gross Value or Production Tax Value			$9,848.1	$5,153.8
Gross Value Reduction (GVR)			$0.0	($128.0)
GVPP or PTV after GVR			**$9,848.1**	**$5,025.8**
Tax rate			4%	35%
Tax before credits	**$2.29 (Min) / $10.22 (Net)**		**$393.9**	**$1,759.0**
Higher of minimum or net tax			**$1,759.0**	
Per-taxable-barrel credits	-$7.29		($1,255.7)	
Other credits against liability			($22.0)	
Total Tax after credits	**$2.80**		**$481.3**	
Other items / adjustments			$43.4	
Total Tax paid to the state			**$524.7**	
Non-Deductible Lease Expenditures - carried forward			*$823.6*	

4. Production Tax Value (PTV)

Source: Department of Revenue – spring 2019 forecast. Illustration only of North Slope oil production tax calculation and may not exactly match company-specific calculations

Production Tax "Order of Operations" – FY 2020

	Per Barrel	Barrels	Value ($ million)	
Avg ANS Oil Price ($/bbl) & Daily Production (ths bbls)	$66.00	529.5		
Total Annual Production/Value		**193,782**	**$12,789.6**	
Royalty and Federal barrels		(21,595)	($1,425.3)	
Taxable barrels		**172,187**	**$11,364.4**	
Downstream (Transportation) Costs ($/bbl)	($8.81)	172,187	($1,516.3)	
Gross Value at Point of Production (GVPP)	**$57.19**	**172,187**	**$9,848.1**	
North Slope Lease Expenditures				
Deductible Operating Expenditures	($15.55)		($2,677.7)	
Deductible Capital Expenditures	($11.71)		($2,016.5)	
Total Lease Expenditures	($27.26)	172,187	($4,694.2)	
Production Tax Value (PTV)	**$29.93**		**$5,153.8**	
Production Tax			Min Tax	Net Tax
Gross Value or Production Tax Value			$9,848.1	$5,153.8
Gross Value Reduction (GVR)			$0.0	($128.0)
GVPP or PTV after GVR			**$9,848.1**	**$5,025.8**
Tax rate			4%	35%
Tax before credits	**$2.29 (Min) / $10.22 (Net)**		**$393.9**	**$1,759.0**
Higher of minimum or net tax			**$1,759.0**	
Per-taxable-barrel credits	-$7.29		($1,255.7)	
Other credits against liability			($22.0)	
Total Tax after credits	**$2.80**		**$481.3**	
Other items / adjustments			$43.4	
Total Tax paid to the state			**$524.7**	
Non-Deductible Lease Expenditures - carried forward			*$823.6*	

5. Gross Minimum Tax

Source: Department of Revenue – spring 2019 forecast. Illustration only of North Slope oil production tax calculation and may not exactly match company-specific calculations

Production Tax "Order of Operations" – FY 2020

	Per Barrel	Barrels	Value ($ million)	
Avg ANS Oil Price ($/bbl) & Daily Production (ths bbls)	$66.00	529.5		
Total Annual Production/Value		**193,782**	**$12,789.6**	
Royalty and Federal barrels		(21,595)	($1,425.3)	
Taxable barrels		**172,187**	**$11,364.4**	
Downstream (Transportation) Costs ($/bbl)	($8.81)	172,187	($1,516.3)	
Gross Value at Point of Production (GVPP)	**$57.19**	**172,187**	**$9,848.1**	
North Slope Lease Expenditures				
Deductible Operating Expenditures	($15.55)		($2,677.7)	
Deductible Capital Expenditures	($11.71)		($2,016.5)	
Total Lease Expenditures	($27.26)	172,187	($4,694.2)	
Production Tax Value (PTV)	**$29.93**		**$5,153.8**	
Production Tax			Min Tax	Net Tax
Gross Value or Production Tax Value			$9,848.1	$5,153.8
Gross Value Reduction (GVR)			$0.0	($128.0)
GVPP or PTV after GVR			**$9,848.1**	**$5,025.8**
Tax rate			4%	35%
Tax before credits	**$2.29 (Min) / $10.22 (Net)**		**$393.9**	**$1,759.0**
Higher of minimum or net tax			**$1,759.0**	
Per-taxable-barrel credits	-$7.29		($1,255.7)	
Other credits against liability			($22.0)	
Total Tax after credits	**$2.80**		**$481.3**	
Other items / adjustments			$43.4	
Total Tax paid to the state			**$524.7**	
Non-Deductible Lease Expenditures - carried forward			*$823.6*	

6. Net Tax and Gross Value Reduction (GVR)

Source: Department of Revenue – spring 2019 forecast. Illustration only of North Slope oil production tax calculation and may not exactly match company-specific calculations

Production Tax "Order of Operations" – FY 2020

	Per Barrel	Barrels	Value ($ million)	
Avg ANS Oil Price ($/bbl) & Daily Production (ths bbls)	$66.00	529.5		
Total Annual Production/Value		**193,782**	**$12,789.6**	
Royalty and Federal barrels		(21,595)	($1,425.3)	
Taxable barrels		**172,187**	**$11,364.4**	
Downstream (Transportation) Costs ($/bbl)	($8.81)	172,187	($1,516.3)	
Gross Value at Point of Production (GVPP)	**$57.19**	**172,187**	**$9,848.1**	
North Slope Lease Expenditures				
Deductible Operating Expenditures	($15.55)		($2,677.7)	
Deductible Capital Expenditures	($11.71)		($2,016.5)	
Total Lease Expenditures	($27.26)	172,187	($4,694.2)	
Production Tax Value (PTV)	**$29.93**		**$5,153.8**	
Production Tax			Min Tax	Net Tax
Gross Value or Production Tax Value			$9,848.1	$5,153.8
Gross Value Reduction (GVR)			$0.0	($128.0)
GVPP or PTV after GVR			**$9,848.1**	**$5,025.8**
Tax rate			4%	35%
Tax before credits	**$2.29 (Min) / $10.22 (Net)**		**$393.9**	**$1,759.0**
Higher of minimum or net tax			**$1,759.0**	
Per-taxable-barrel credits	-$7.29		($1,255.7)	
Other credits against liability			($22.0)	
Total Tax after credits	**$2.80**		**$481.3**	
Other items / adjustments			$43.4	
Total Tax paid to the state			**$524.7**	
Non-Deductible Lease Expenditures - carried forward			*$823.6*	

7. Tax Credits against liability

Source: Department of Revenue – spring 2019 forecast. Illustration only of North Slope oil production tax calculation and may not exactly match company-specific calculations

Production Tax "Order of Operations" – FY 2020

	Per Barrel	Barrels	Value ($ million)	
Avg ANS Oil Price ($/bbl) & Daily Production (ths bbls)	$66.00	529.5		
Total Annual Production/Value		**193,782**	**$12,789.6**	
Royalty and Federal barrels		(21,595)	($1,425.3)	
Taxable barrels		**172,187**	**$11,364.4**	
Downstream (Transportation) Costs ($/bbl)	($8.81)	172,187	($1,516.3)	
Gross Value at Point of Production (GVPP)	**$57.19**	**172,187**	**$9,848.1**	
North Slope Lease Expenditures				
Deductible Operating Expenditures	($15.55)		($2,677.7)	
Deductible Capital Expenditures	($11.71)		($2,016.5)	
Total Lease Expenditures	($27.26)	172,187	($4,694.2)	
Production Tax Value (PTV)	**$29.93**		**$5,153.8**	
Production Tax			Min Tax	Net Tax
Gross Value or Production Tax Value			$9,848.1	$5,153.8
Gross Value Reduction (GVR)			$0.0	($128.0)
GVPP or PTV after GVR			**$9,848.1**	**$5,025.8**
Tax rate			4%	35%
Tax before credits	**$2.29 (Min) / $10.22 (Net)**		**$393.9**	**$1,759.0**
Higher of minimum or net tax			**$1,759.0**	
Per-taxable-barrel credits	-$7.29		($1,255.7)	
Other credits against liability			($22.0)	
Total Tax after credits	**$2.80**		**$481.3**	
Other items / adjustments			$43.4	
Total Tax paid to the state			**$524.7**	
Non-Deductible Lease Expenditures - carried forward			*$823.6*	

8. Adjustments and Total Tax Paid

Source: Department of Revenue – spring 2019 forecast. Illustration only of North Slope oil production tax calculation and may not exactly match company-specific calculations

Order of Operations – 5 year comparison

	ACTUAL FY 2017		ACTUAL FY 2018		Current Year FY 2019		Forecast FY 2020		Forecast FY 2021	
	Value ($ million)		Value ($ million)		Value ($ million)		Value ($ million)		Value ($ million)	
Total Annual Production/Value	**$9,499.1**		**$12,036.0**		**$12,862.4**		**$12,789.6**		**$12,326.7**	
Royalty and Federal barrels	($1,234.8)		($1,444.2)		($1,537.9)		($1,425.3)		($1,362.1)	
Taxable barrels	**$8,264.2**		**$10,591.8**		**$11,324.5**		**$11,364.4**		**$10,964.6**	
Downstream (Transportation) Costs ($/bbl)	($1,621.8)		($1,585.7)		($1,382.5)		($1,516.3)		($1,479.6)	
Gross Value at Point of Production (GVPP)	**$6,642.4**		**$9,006.1**		**$9,942.0**		**$9,848.1**		**$9,485.0**	
North Slope Lease Expenditures										
Deductible Operating Expenditures	($2,835.6)		($2,581.0)		($2,631.1)		($2,677.7)		($2,676.1)	
Deductible Capital Expenditures	($1,646.8)		($1,485.1)		($1,631.3)		($2,016.5)		($2,080.9)	
Total Lease Expenditures	($4,482.4)		($4,066.1)		($4,262.4)		($4,694.2)		($4,757.0)	
Production Tax Value (PTV)	**$2,160.0**		**$4,940.0**		**$5,679.6**		**$5,153.8**		**$4,728.0**	
Production Tax	Min Tax	Net Tax	Min Tax	Net Tax	Min Tax	Net Tax	Min Tax	Net Tax	Min Tax	Net Tax
Gross Value or Production Tax Value	$6,642.4	$2,160.0	$9,006.1	$4,940.0	$9,942.0	$5,679.6	$9,848.1	$5,153.8	$9,485.0	$4,728.0
Gross Value Reduction (GVR)	$0.0	($73.4)	$0.0	($91.1)	$0.0	($96.3)	$0.0	($128.0)	$0.0	($126.3)
GVPP or PTV after GVR	**$6,642.4**	**$2,086.6**	**$9,006.1**	**$4,848.9**	**$9,942.0**	**$5,583.3**	**$9,848.1**	**$5,025.8**	**$9,485.0**	**$4,601.7**
Tax rate	4%	35%	4%	35%	4%	35%	4%	35%	4%	35%
Tax before credits	**$265.7**	**$730.3**	**$360.2**	**$1,697.1**	**$397.7**	**$1,954.2**	**$393.9**	**$1,759.0**	**$379.4**	**$1,610.6**
Higher of minimum or net tax	**$730.3**		**$1,697.1**		**$1,954.2**		**$1,759.0**		**$1,610.6**	
Per-taxable-barrel credits	($536.0)		($1,027.0)		($1,241.5)		($1,255.7)		($1,121.7)	
Other credits against liability	($34.0)		($60.0)		($36.2)		($22.0)		($14.0)	
Total Tax after credits	**$160.3**		**$610.1**		**$676.5**		**$481.3**		**$474.9**	
Other items / adjustments	($25.8)		$139.8		$58.5		$43.4		$35.7	
Total Tax paid to the state	**$134.5**		**$749.9**		**$735.0**		**$524.7**		**$510.6**	
Non-Deductible Lease Expenditures - carried forward (or credit at 35% prior to 2018)	*$318.1*		*$312.5*		*$359.2*		*$823.6*		*$1,425.6*	

Source: Department of Revenue – spring 2018, and spring 2019 forecasts. Illustration only of North Slope oil production tax calculation and may not exactly match company-specific calculations

Thank You

Bruce Tangeman
Commissioner
Department of Revenue
bruce.tangeman@Alaska.gov
(907) 269-0081

Dan Stickel
Chief Revenue Economist
Tax Division
dan.stickel@Alaska.gov
(907) 465-3279

dor.alaska.gov

Addendum – FY 2020 Distribution of Cash Flows

Distribution of Cash Flows – North Slope Oil

- Share of net cash flows after transportation costs and lease expenditures that go to government vs company
- Modeled two ways
  - Typical non-GVR production
  - All North Slope production and spending

Distribution of Cash Flows – North Slope Oil Typical Non-GVR Production

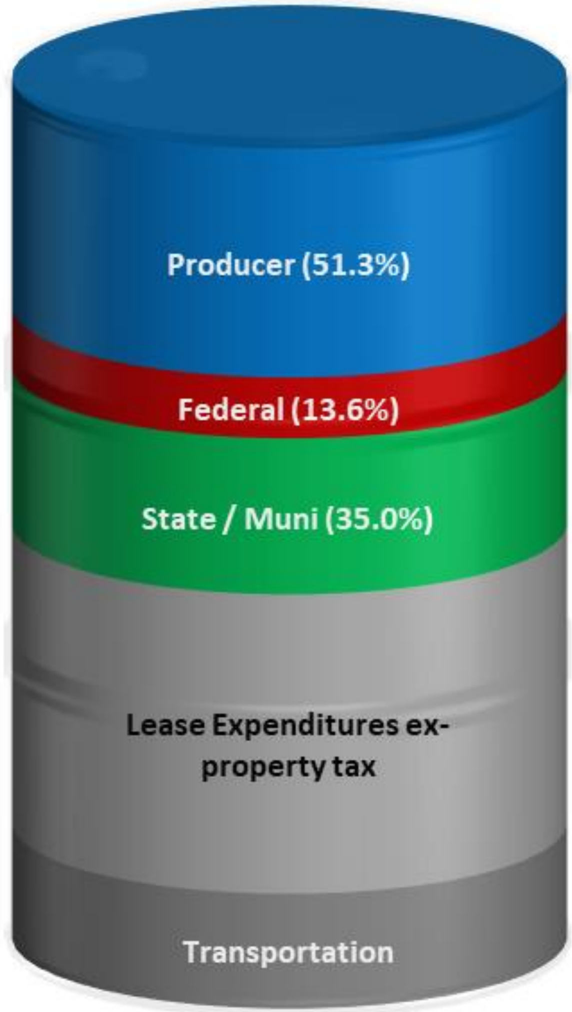
- Charts shown are produced using DOR "Snapshot" model
- Assumes a single company with all deductible costs
- Simplifying assumptions such as non-GVR oil only; North Slope only; etc.
- Transportation costs, production, and lease expenditures, and other assumptions from Spring 2019 forecast for FY 2020
- Prices are expressed in nominal terms

Transportation Costs ($/bbl)	8.81
Royalty Rate	12.5%
State CIT Rate	6.50%
Federal CIT Rate	21.00%
Deductible Upstream CAPEX ($/ total bbl)*	10.41
Deductible Upstream OPEX ($/ total bbl)*	13.82
Total Upstream Costs ($/ bbl)*	24.23
Daily Production (ths bbls / day)	529.5
Property Tax ($/bbl)	1.25

* Upstream cost in this analysis is calculated per each barrel produced including royalty barrels. Costs represent total estimated deductible costs for FY 2020, and incorporate estimated industry spending in the Spring 2019 forecast.

Distribution of Cash Flows from One Barrel of Typical Non-GVR Production

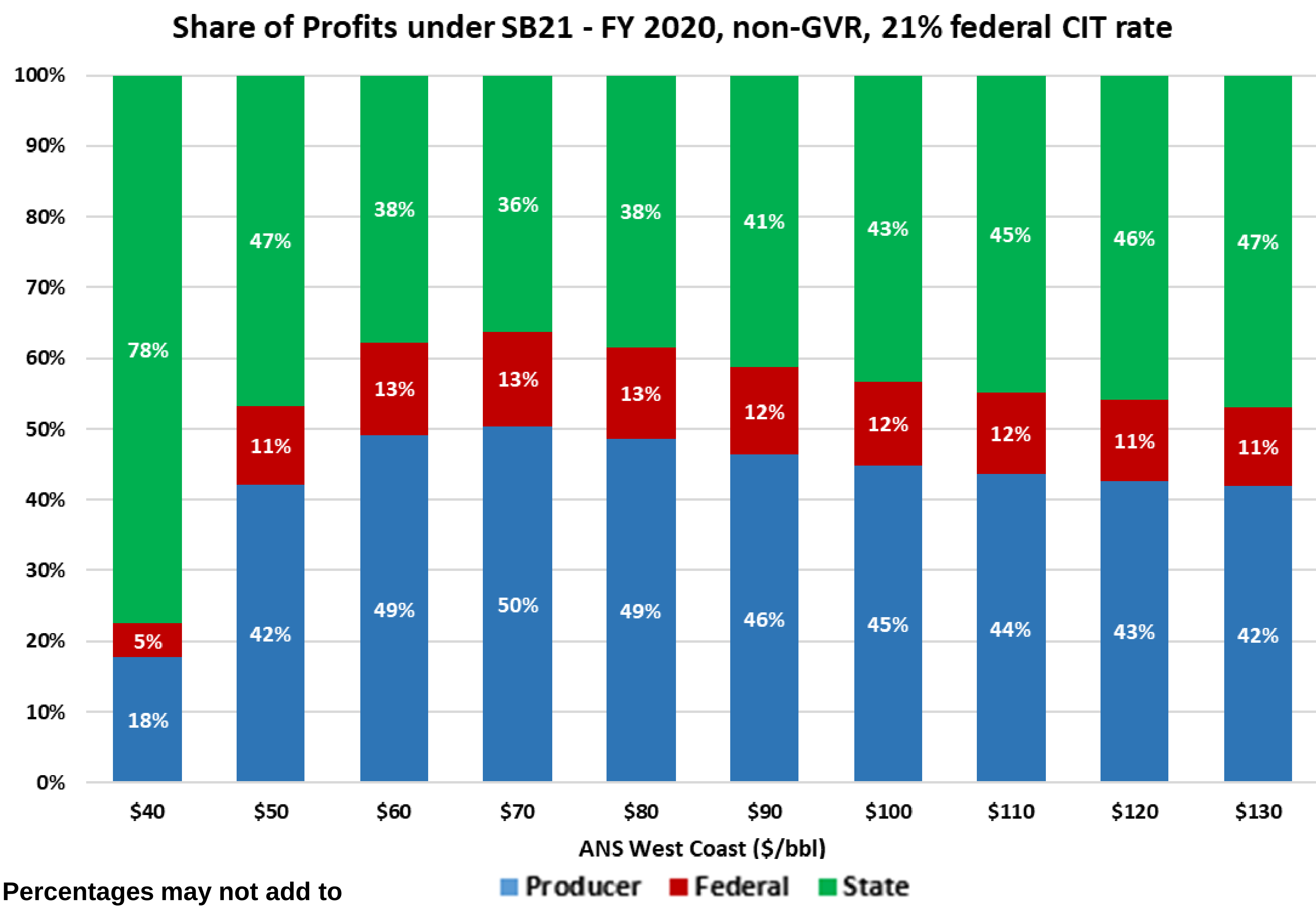
FY 2020 Allocation of Revenue and Profit on a barrel of oil under SB21 and $66 ANS Price



Percentages may not add to 100% due to rounding.

***** REVISED from 4-15-19 version *****

Government Take at Range of Prices from Typical Non-GVR Production



Percentages may not add to 100% due to rounding.

***** REVISED from 4-15-19 version *****

Distribution of Cash Flows – North Slope Oil Using All Slope-wide Production and Costs

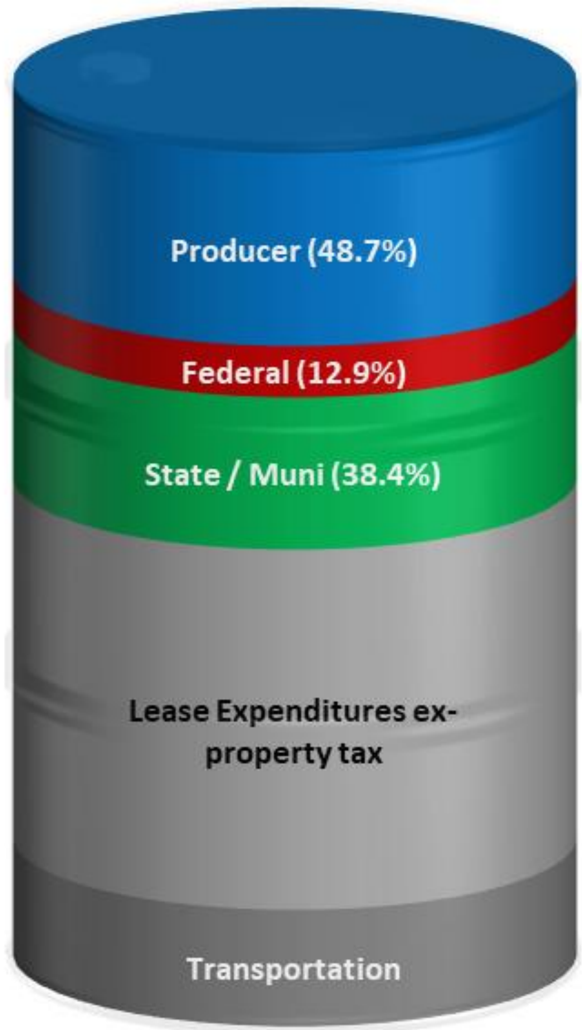
- Charts shown are produced using DOR "Snapshot" model
- Assumes two companies with all costs (one GVR, one non-GVR)
- Simplifies assumptions such as oil only; North Slope only; etc.
- Transportation costs, production, and lease expenditures, and other assumptions from Spring 2019 forecast for FY 2020
- Prices are expressed in nominal terms

Transportation Costs ($/bbl)	8.81
Royalty Rate	12.5%
State CIT Rate	6.50%
Federal CIT Rate	21.00%
TOTAL Upstream CAPEX ($/ total bbl)*	14.02
TOTAL Upstream OPEX ($/ total bbl)*	14.46
Total Upstream Costs ($/ bbl)*	28.48
Daily Production (ths bbls / day)	529.5
GVR Production (ths bbls / day)	47.2
Property Tax ($/bbl)	1.25

* Upstream cost in this analysis is calculated per each barrel produced including royalty barrels. Costs represent total estimated deductible costs for FY 2020, and incorporate estimated industry spending in the Spring 2019 forecast.

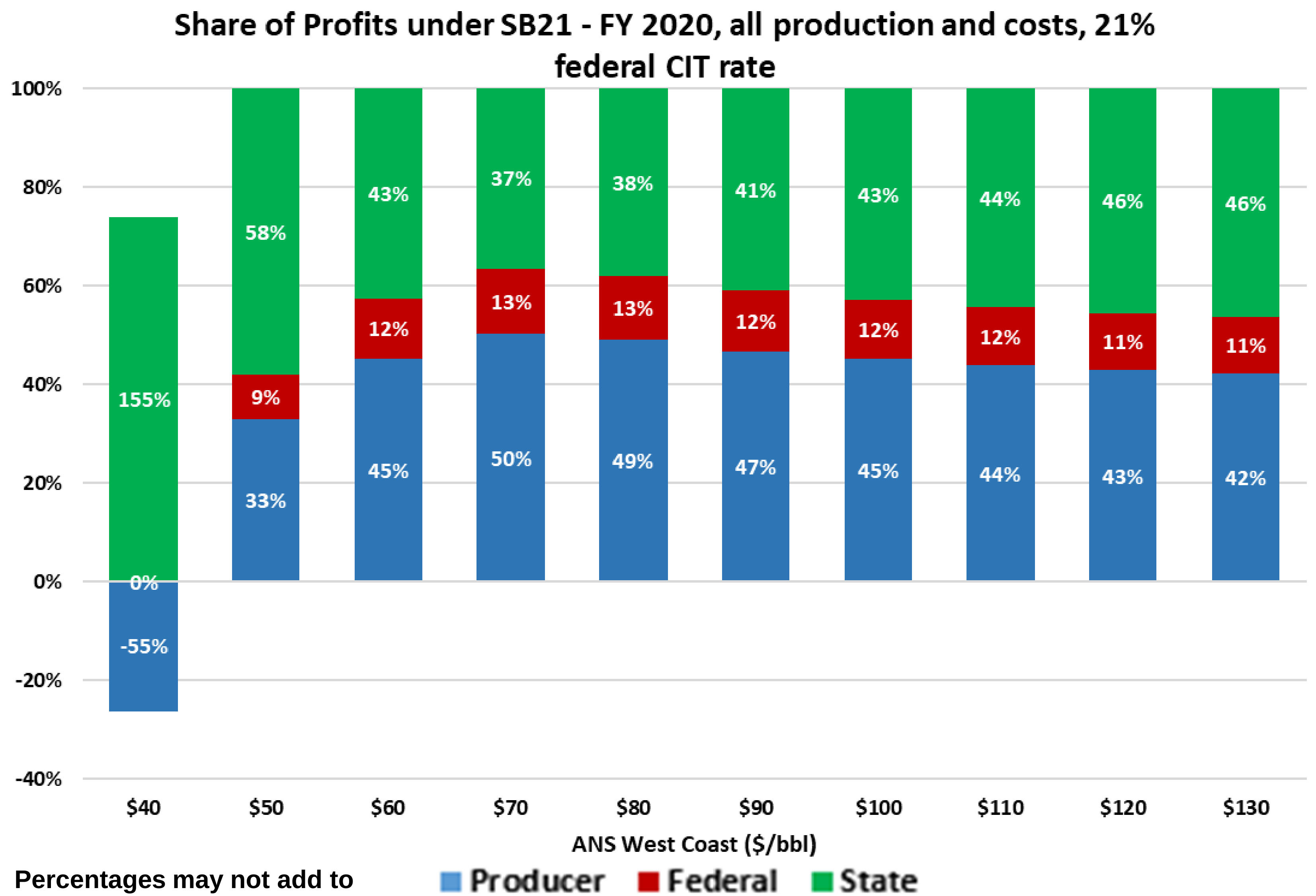
Distribution of Cash Flows from One Barrel, Using All Slope-wide Production and Costs

FY 2020 Allocation of Revenue and Profit on a barrel of oil under SB21 and $66 ANS Price



Percentages may not add to 100% due to rounding.

Government Take at Range of Prices, Using All Slope-wide Production and Costs



Percentages may not add to 100% due to rounding.

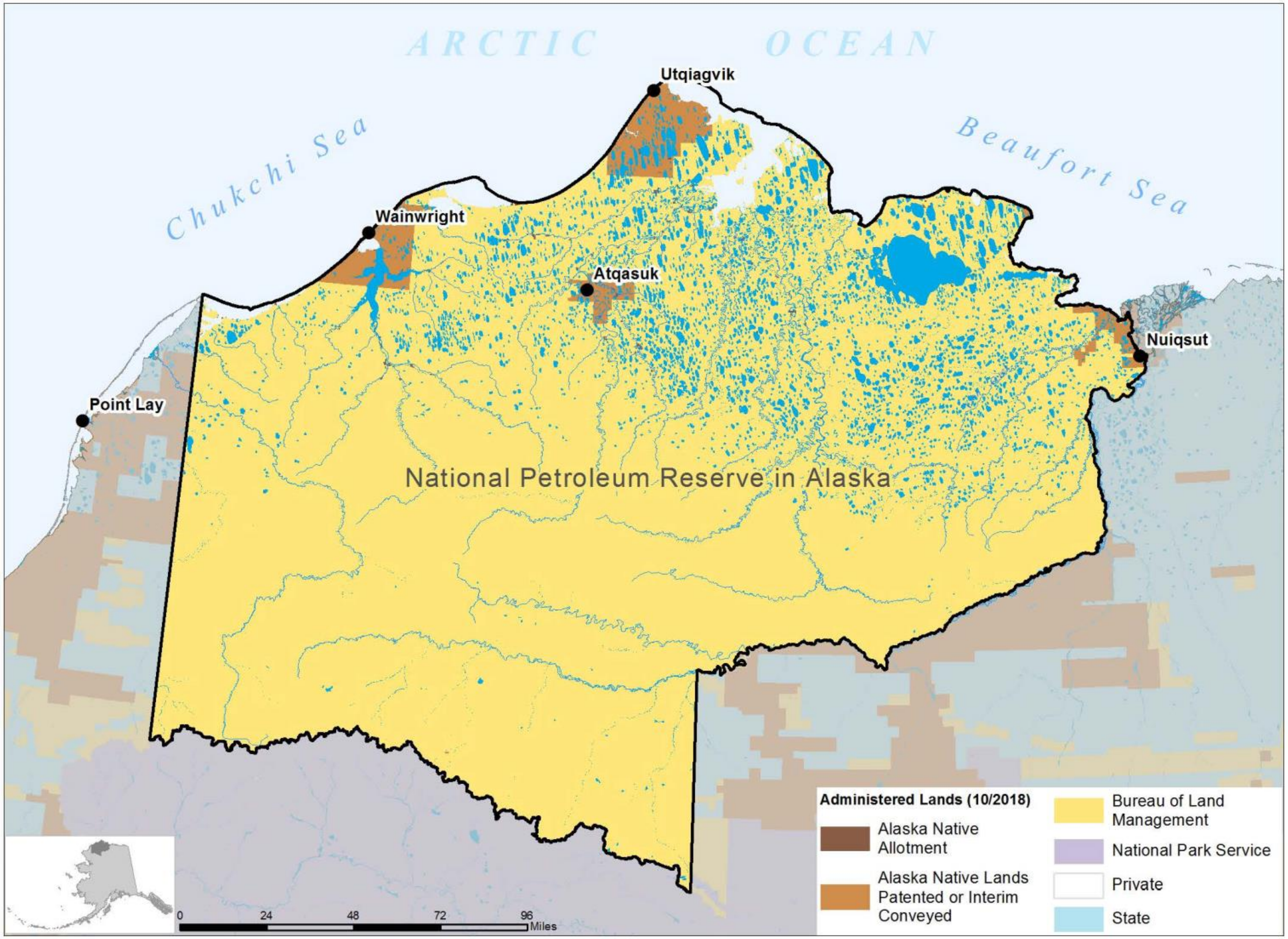
Addendum – Follow-up from 4-15-19 House Resources Hearing

Follow-up from 4-15-19 House Resources Hearing

- Provide a list of municipalities within the NPRA
- Provide information on state's share of royalties on different land types
- Provide the royalty rate for Liberty
- Provide additional information about allowable lease expenditures
- Provide information on how multi-year expenditures are included in the production tax calculation
- Provide components of netback costs including TAPS tariff
- Provide additional information about feeder pipelines and TAPS
- Provide information about effective tax rate since enactment of SB21
- Provide information about state take since enactment of SB21

Follow-up from 4-15-19 House Resources Hearing

- Provide a list of municipalities within the NPRA



Source: Bureau of Land Management

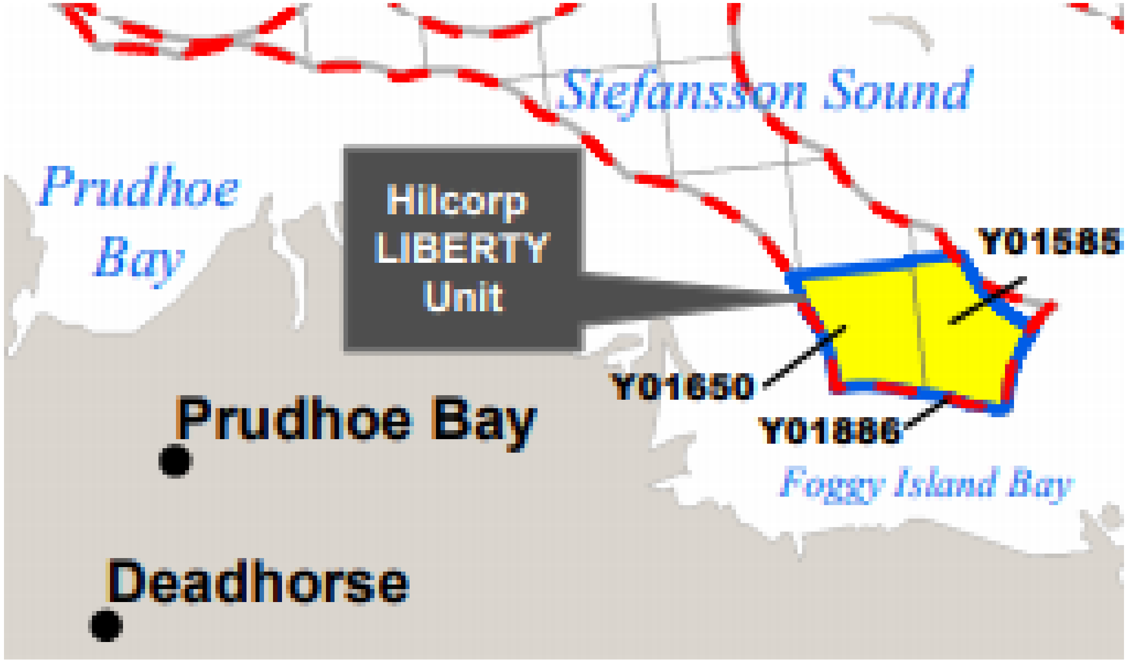
Follow-up from 4-15-19 House Resources Hearing

- Provide information on state's share of royalties on different land types

Land status	Revenue component			
	Production tax / credits	**Royalty**	**Corporate Income Tax**	**Property Tax**
Offshore beyond 6 miles - Federal OCS	Do not apply	Federal royalties applies; zero shared back to state (in Alaska; other states do receive shared royalties)	Not included in apportionment factor	Does not apply
Offshore 3-6 miles - Federal OCS 8(g) area	Do not apply	Federal royalties applies; 27% shared back to state with no restrictions	Not included in apportionment factor	Does not apply
State lands and offshore 0-3 miles	All credits available; tax applies to all taxable production	State royalty applies	All property, production, and sales included in apportionment factor	Applies to all oil and gas property
NPR-A - federal owned	All credits available; tax applies to all taxable production	Federal royalty applies; 50% of royalties are shared back to state but must be used for benefit of local communities	All property, production, and sales included in apportionment factor	Applies to all oil and gas property
ANWR	All credits available; tax applies to all taxable production	Federal royalty applies; 50% shared back to state with no restrictions (under current law)	All property, production, and sales included in apportionment factor	Applies to all oil and gas property
Other federal land	All credits available; tax applies to all taxable production	Federal royalties applies; 90% shared back to state with no restrictions	All property, production, and sales included in apportionment factor	Applies to all oil and gas property
Private land (including Alaska Native Corporation)	All credits available; tax applies to all taxable production	Privately negotiated royalty applies; not shared with state. However state levies 5% (oil) or 1.667% (gas) gross tax on the value of private landowner royalty interest as part of production tax	All property, production, and sales included in apportionment factor	Applies to all oil and gas property

Follow-up from 4-15-19 House Resources Hearing

- Provide the royalty rate for Liberty
  - The federal royalty rate at Liberty is 12.5%, which Alaska receives 27% of, since production is between 3 and 6 miles offshore.



Source: Bureau of Ocean Energy Management (BOEM)

Follow-up from 4-15-19 House Resources Hearing

- Provide additional information about allowable lease expenditures

- AS 43.55.165 defines "Allowable lease expenditures"

- Costs incurred to explore for, develop, or produce oil and gas reserves in Alaska ("within the producer's leases or properties in the state")
  - Upstream of point of production
  - Ordinary and necessary
  - Direct costs of production (indirect costs addressed by overhead allowance)
- Plus Overhead allowance per regulation (4.5%)
- Plus Any carried-forward lease expenditures
- Lease expenditures do not include Exclusions under AS 43.55.165 (e)
  - 22 specific exclusions
  - Examples: Lease acquisition costs, financing costs, litigation costs, dismantlement costs, oil spill costs, lobbying, and $0.30 per barrel exclusion

Follow-up from 4-15-19 House Resources Hearing

- Provide information on how multi-year expenditures are treated in the production tax calculation

- AS 43.55.165 - Lease expenditures based on when cost is incurred
  - Allowed in the year incurred for both operating and capital expenses
- 15 AAC 55.290 – clarifies "When cost is incurred"
  - (1) when cost is billed by operator to producers (for units with multiple working interest owners); or
  - (2) when cost is recorded on producer's financial statement, capitalized, or expensed following IRC guidelines (for units with one working interest owner).
- Thus, costs for a multi-year capital project would be considered "lease expenditures" when billed by an operator or when placed into a work-in-process or similar account per IRC guidelines.

AS = Alaska Statute, AAC = Alaska Administrative Code, IRC = Internal Revenue Code

Follow-up from 4-15-19 House Resources Hearing

- Provide the components of netback costs including TAPS tariff

Nominal Netback Costs - $ per barrel (1)

	Actual	Forecast									
Fiscal Year	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
ANS West Coast	**63.61**	**68.90**	**66.00**	**66.00**	**67.00**	**69.00**	**70.00**	**72.00**	**74.00**	**75.00**	**77.00**
Marine Costs	3.28	3.29	3.40	3.43	3.47	3.52	3.55	3.60	3.65	3.69	3.74
TAPS Tariff	5.84	4.77	5.13	5.19	5.62	6.10	6.26	6.30	6.29	6.32	6.52
Feeder Tariff	0.41	0.54	0.52	0.54	0.56	0.58	0.59	0.59	0.59	0.60	0.62
Quality Bank	-0.17	-0.35	-0.40	-0.41	-0.41	-0.43	-0.47	-0.49	-0.50	-0.48	-0.47
Other (2)	0.17	0.17	0.15	0.15	0.15	0.16	0.16	0.16	0.17	0.17	0.17
Total of Netback Costs	**9.52**	**8.41**	**8.81**	**8.91**	**9.40**	**9.93**	**10.10**	**10.16**	**10.20**	**10.30**	**10.57**
ANS Wellhead Wtd Avg All Destinations	**54.09**	**60.49**	**57.19**	**57.09**	**57.60**	**59.07**	**59.90**	**61.84**	**63.80**	**64.70**	**66.43**

(1) Field specific transportation costs represent the average cost for all barrels, whether or not they incur a specific expense. For example, feeder costs represent the average cost for all barrels, including Prudhoe Bay production not using a feeder pipeline. Slopewide costs are estimated based on reported relevant cost information. Our data sources are variable and we have not been able to confirm that this is the case for all years.

(2) Primarily include tanker and pipeline losses.

Source: Department of Revenue – spring 2019 forecast.

Follow-up from 4-15-19 House Resources Hearing

- Provide additional information about feeder pipelines and TAPS

- Do the companies own and maintain the feeder lines?
  - Feeder pipelines are owned, operated, and maintained by pipeline companies.
  - In many cases, the same parent company for a producer also owns a share of the pipeline company but not always.
  - The feeder lines are regulated by the Regulatory Commission of Alaska (RCA) for intrastate shipments and Federal Energy Regulatory Commission (FERC) for interstate shipments. These regulatory bodies dictate the cost structure of their respective tariff, which is how the pipeline company can recoup their cost of investment and earn a rate of return.
  - There are rules that a pipeline carrier can not discriminate, i.e. give their affiliated shipper a different rate.

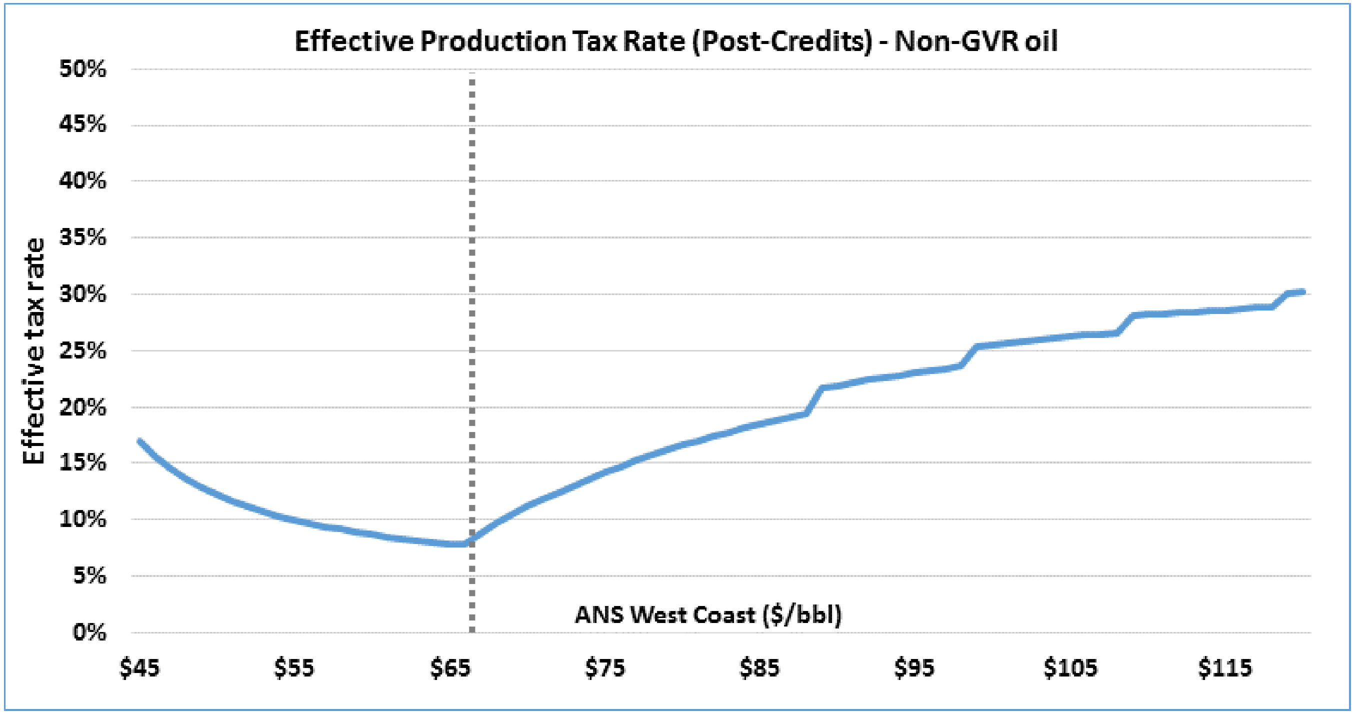
Follow-up from 4-15-19 House Resources Hearing

- Provide additional information about feeder pipelines and TAPS

- What portion of the TAPS transportation fees go to Alyeska for maintenance and operation?
  - The tariff rates use a "cost of service" method based on cost of operation and maintenance plus a reasonable rate of return.
  - DOR's CY 20 TAPS tariff forecast projects a $973 million total cost of service
    - $699 million operating expense (72% of total cost)
    - $131 million return on rate base (13% of total cost)
    - $143 million other items (depreciation, income tax, etc. – 15% of total cost)
  - The costs that are included in the TAPS tariffs are primarily the costs paid to Alyeska to operate and maintain TAPS but there are also costs incurred by the TAPS owners.
- What percentage goes to the four TAPS owners?
  - Each TAPS owner sets its own tariff, subject to regulation by RCA (intrastate) and FERC (interstate)
    - Currently this regulation includes a December 2017 settlement establishing a methodology for maximum allowable interstate rates until at least June 30, 2021.
  - There are currently three TAPS owners that are active carriers.

Follow-up from 4-15-19 House Resources Hearing

- Provide information about effective tax rate since enactment of SB21
- At $66 ANS, estimated average effective production tax rate for non-GVR oil is 8% in FY 2020.



Source: Department of Revenue – spring 2019 forecast for FY 2020. Represents effective production tax rate, as a percent of production tax value, after per-barrel credits for a typical non-GVR (Gross Value Reduction) field.

Follow-up from 4-15-19 House Resources Hearing

- Provide information about effective tax rate since enactment of SB21

	ANS Price ($/bbl)	Effective Production Tax Rate
2H FY 2014	$ 107.37	25%
FY 2015	$ 72.58	13%
FY 2016	$ 43.18	61%
FY 2017	$ 49.43	12%
FY 2018	$ 63.61	8%
Average	**$ 67.23**	**24%**

- Represents modeled effective production tax rate, as a percent of production tax value, after per-barrel credits for a typical non-GVR (Gross Value Reduction) field.

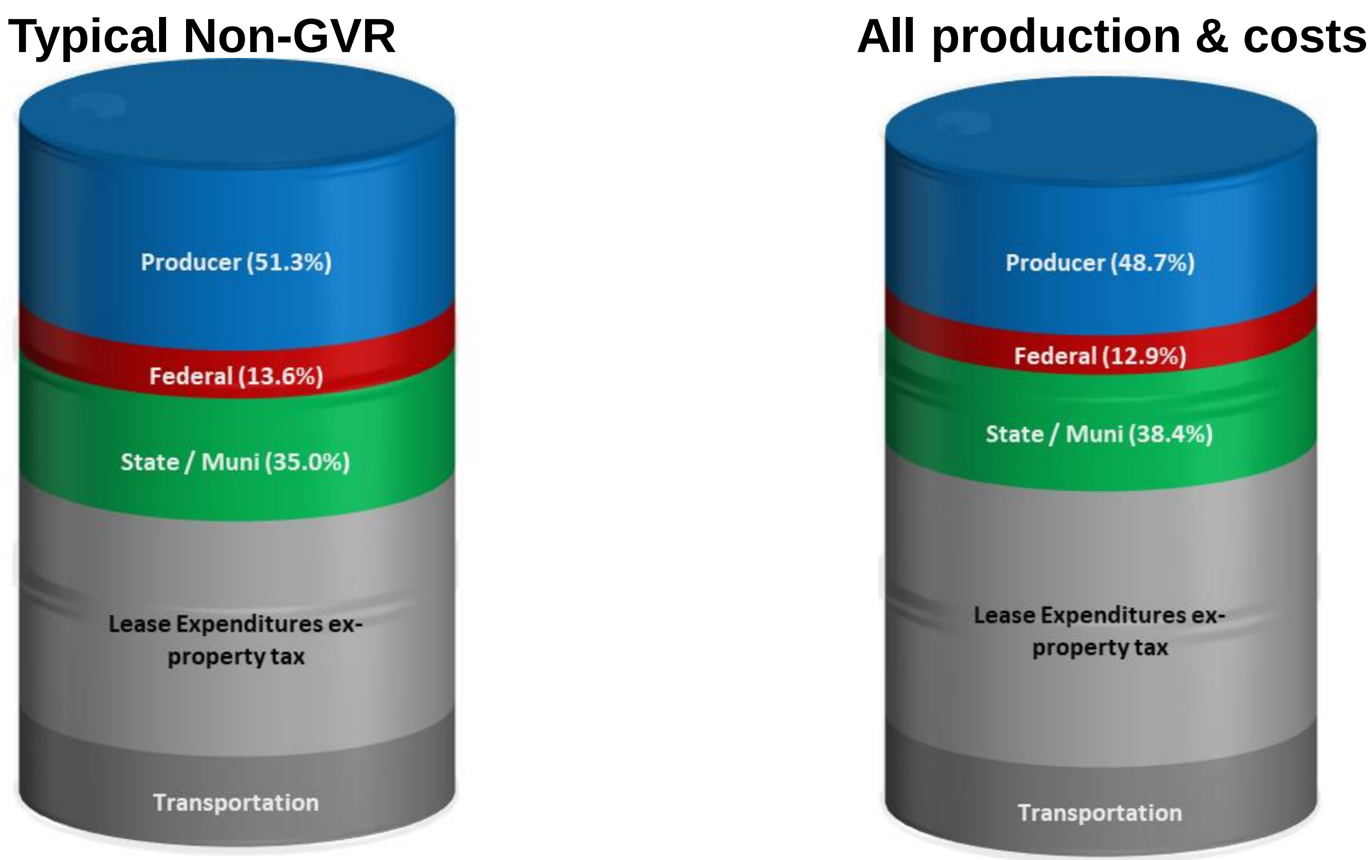
Source: Income statements from Fall 2014 – Fall 2018 Revenue Sources Books.

* SB21 took effect halfway through FY 2014. For purposes of this analysis we estimated the effective rate using average price for the second half of the year, and average full-year FY 2014 data for production and costs

Follow-up from 4-15-19 House Resources Hearing

- Provide information about state take since enactment of SB21

FY 2020 Allocation of Revenue and Profit on a barrel of oil under SB21 and $66 ANS Price



Source: Department of Revenue – spring 2019 forecast for FY 2020. Represents estimated allocation of cash flows under simplified assumptions for a typical non-GVR (Gross Value Reduction) field, or with all North Slope production and costs.
Percentages may not add to 100% due to rounding.

Follow-up from 4-15-19 House Resources Hearing

- Provide information about state take since enactment of SB21

		Typical Non-GVR			All production & costs		
	ANS Price ($/bbl)	State/Muni Take	Federal Take	Producer Take	State/Muni Take	Federal Take	Producer Take
2H FY 2014	$ 107.37	44%	20%	36%	44%	20%	36%
FY 2015	$ 72.58	46%	19%	35%	50%	17%	32%
FY 2016	$ 43.18	92%	3%	5%	>100%	<0%	<0%
FY 2017	$ 49.43	47%	18%	34%	51%	17%	32%
FY 2018	$ 63.61	34%	18%	47%	35%	18%	47%
Average	**$ 67.23**	**45%**	**18%**	**37%**	**49%**	**19%**	**32%**

- Represents estimated allocation of cash flows under simplified assumptions for a typical non-GVR (Gross Value Reduction) field, with all North Slope production and costs.

Percentages may not add to 100% due to rounding. Averages are based on share of total estimated cash flow over the entire period shown.