History of Alaska’s Oil & Gas Production (Severance) Tax

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ANS Production (mmbbl/day)

Historic

Forecast

Production (mmbbl/d)

ANS Price History ($/bbl)
What is the Production Tax?

- A tax on producing or severing a non-renewable resource from the state
- Authorized in AS 43.55 (administered by the Dept. of Revenue)
- Applies to all production in the state (including 3 miles offshore and federal onshore acreage)
- Not payable on public (state/federal) royalty production
Petroleum Revenues

• Royalties
• Severance tax
• Property tax
  – 20 mills (2%)
  – Municipalities/boroughs retain tax on property within
• State corporate income tax
  – 9.4% of apportioned income
  – Apportions worldwide income to Alaska based on amount of property, production, and sales in Alaska relative to rest of world
Forecasted State Petroleum Revenues FY11*

* $78/bbl forecasted price
Vocabulary

• **Market Price**
  – Price ANS is sold for on the West Coast

• **Gross (wellhead) Value**
  – Market price less marine shipping and TAPS tariff

• **Net Value**
  – Gross value less production operating and capital costs
Example

Market Price = $90/bbl
Less:
  Marine shipping $2/bbl
  TAPS Tariff $4/bbl
Gross Value = $84/bbl
Less:
  Capital production cost $12/bbl
  Operating production cost $11/bbl
Net Value = $61/bbl
Four Tax Regimes

- Economic Limit Factor “ELF” I (1977-1989)
- ELF II (1989-2006)
- PPT (2006-2007)
- ACES (2007-present)
Production Tax Pre-Prudhoe

Taxed on well basis

– First 300 barrels per day: higher of:
  • 5% of gross value, or
  • 17¢/bbl*

– Next 700 barrels per day: higher of:
  • 6% of gross value, or
  • 20¢/bbl*

– Anything over 1,000 barrels per day: higher of
  • 8% of gross value, or
  • 27¢/bbl*

* Subject to inflation
ELF I (1977-1989)

• **Theory:**
  – Economic Limit – the point where cost exceeds revenue
  – When a field is at its economic limit the burden of the tax should not cause the field to shut down
  – Scale down production tax as production declines toward economic limit so tax is zero at the economic limit

• **Original proposal:** Should not pay tax on the barrels that generate the revenue to cover operating costs at economic limit

• **Statute:** Each well gets 300 barrels per day tax free to cover operating costs at the economic limit
Original ELF Formula

\[
\frac{460}{300} \left[ 1 - \left( \frac{300 \text{ / Field Average Daily Well Productivity}}{\text{ }} \right) \right]
\]
ELF 1 ('77-'89)
Application

• ELF: a fraction between 0 and 1
• Between 1977-1981
  – Applied to nominal tax rate of 12.25% of gross
  – For example, if the ELF was 0.5, the effective rate would be 6.125%
• Between 1981-1989 (Changes made in association with changes in state corporate income tax)
  – Applied to nominal tax rate of 12.25% of gross for first five years of a field
  – 15% of gross thereafter
  – “Rounding rule”: for the first 10 years of a field, if the ELF is greater than 0.7, it gets rounded up to 1.0
Problems with ELF I

• The 300 barrels is arbitrary as far as revenue to cover operating costs
• Drilling wells reduces the tax rate
• Field decline reduces the tax rate
Late 1980s Convergence of Issues

- Oil prices crashed in 1986
- Production was declining
- ELF was declining
  - 10 year rounding rule for Prudhoe Bay goes out
ELF II (1989-2006)

\[
\frac{460}{300} \left[ \frac{(150,000/\text{Daily Field Production})^\wedge}{1-(300/\text{Well Productivity})^\wedge} \right]
\]
ELF 2 ('89-'06)
Depending on Daily Field Production and Well Productivity

Field Average Barrels Per Well Per Day

- 5,000
- 20,000
- 50,000
- 100,000
- 300,000
- 1,500,000
Problems with ELF II

• Same problems as ELF 1
  – Field size declines
  – Well productivity declines
  – Tax rate declines regardless of price

• Proliferation of field satellites
The Big Question: What does “economically interdependent” mean?

- Conditions for advanced ruling not to aggregate:
  - If shared facilities reduce costs
  - If advanced ruling enhances likelihood of development
  - If oil from each field will be accurately measured
  - If shared facilities is only factor making fields interdependent

- Requests came in and Department granted some of them
  - By 2000 had not granted for Prudhoe Bay
  - Understanding of satellite development evolving

- “Economic interdependence” undefined

- Prudhoe Bay and satellites aggregated in 2005
Stranded Gas Development Act (SGDA) Leads to PPT

• Producers wanted fiscal stability for oil
• SGDA did not authorize that
• Administration negotiated new oil tax system
• Administration sought to amend SGDA
• Legislature took negotiated product as starting point for amending severance tax statute
Petroleum Profits Tax ("PPT")
2006-2007

• Base rate of 22.5% of net value (after deducting all costs)

• Progressivity element when net value per barrel exceeds $40/bbl:
  – (Net value per barrel value - $40) X .0025

• So if oil price is $90/bbl:
  – Net value per barrel is about $61/bbl
  – Progressivity = ($61 - $40) X .0025 = 7.75%
  – Total tax rate = 22.5% + 5.25% = 27.75%
  – Tax is 27.75% X $61 = $16.93/bbl
PPT Severance Tax Rate

Sev Tax Rate vs. Net Value
PPT Severance Tax Per Barrel

Sev Tax Per Barrel vs Net Value

- Net Value range: $0 to $150
- Sev Tax Per Barrel range: $0 to $80
Problems with PPT

• Costs came in more than expected
• Revenues came in less than expected
• VECO taint
Alaska’s Clear & Equitable Share (“ACES”) 2007-Present

• Base rate of 25% of net value (after deducting all costs)

• Progressivity element when net value per barrel exceeds $30/bbl:
  – (Net value per barrel value - $30) X .004

• So if oil price is $90/bbl:
  – Net value per barrel is about $61/bbl
  – Progressivity = ($61 - $30) X .004 = 12.4%
  – Total tax rate = 25% + 12.4% = 37.4%
  – Tax is 37.4% X $61 = $22.81/bbl
ELF, PPT, & ACES Severance Tax Rates
Pct. of Net @ $29 Costs

Sev Tax Rate (Pct. of Net)
ANS Market Price ($/bbl)

PPT
ACES
ELF

Pct. of Net @ $29 Costs

Sev Tax Rate (Pct. of Net)
ELF, PPT, & ACES Severance Tax Rates

Pct. of Net @ $39 Costs

Sev Tax Rate (Pct. of Net)

ANS Market Price ($/bbl)

PPT
ACES
ELF
Credits Overview

• Capital credit (20%)
• Well lease expenditure credit (excl. North Slope) (40%)
• Exploration credit (20% - 40% depending on location) (expire 2016)
• Small company credit ($12 million if sufficient offsetting income) (exp. 2016)
• Explore Cook Inlet pre-Tertiary zone w/jack-up rig
  – First: 100% up to $25.0 mm
  – Second: 90% up to $22.5 mm
  – Third: 80% up to $20.0 mm
  – 50% of credit reimbursed if commercial production
• Loss carry-forward credit of 25% of annual loss
Monetizing Credits
(If insufficient offsetting income)

- Can keep until sufficient offsetting income
- Can sell credits to other taxpayers
- State buy credits if produce under 50,000 bbls/day
Severance Tax History
($millions) ($40 billion total)