



Alaska Department of Revenue



Revenue Forecast

Presentation to House Finance Committee

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Alaska Department of Revenue



FALL 2014

Revenue Forecast



Methods: What Do We Forecast at DOR?

Mostly Petroleum and Non-petroleum Revenue

- We directly forecast **Petroleum Revenue**
 - the largest component, accounting for 88% of state unrestricted revenue in FY 2014
 - “Petroleum Revenue” includes severance taxes, royalties, corporate income tax, and all other revenue from oil companies
- We directly forecast **Non-petroleum Revenue**
- We use someone else’s forecast for **Investment Revenue**
- We use the Federal Revenue authorized for spending as the forecast
 - It is typically 20%-30% more than actually gets spent.
- DOR compiles all different revenue streams and compiles them in the annual Revenue Sources Book

Oil Revenue Forecasting

Three Factors for Production Tax Revenue Forecast

$\text{REVENUE} = (\text{Net value} * \text{Tax Rate}) - \text{Credits}$
taken against liability

$\text{Net value} = (\text{Price} * \text{Production}) - \text{Costs}$

1. Price

2. Production

3. Costs

1. Capital expenditures

2. Operating expenditures

3. Transportation cost



FALL 2014 HIGHLIGHTS

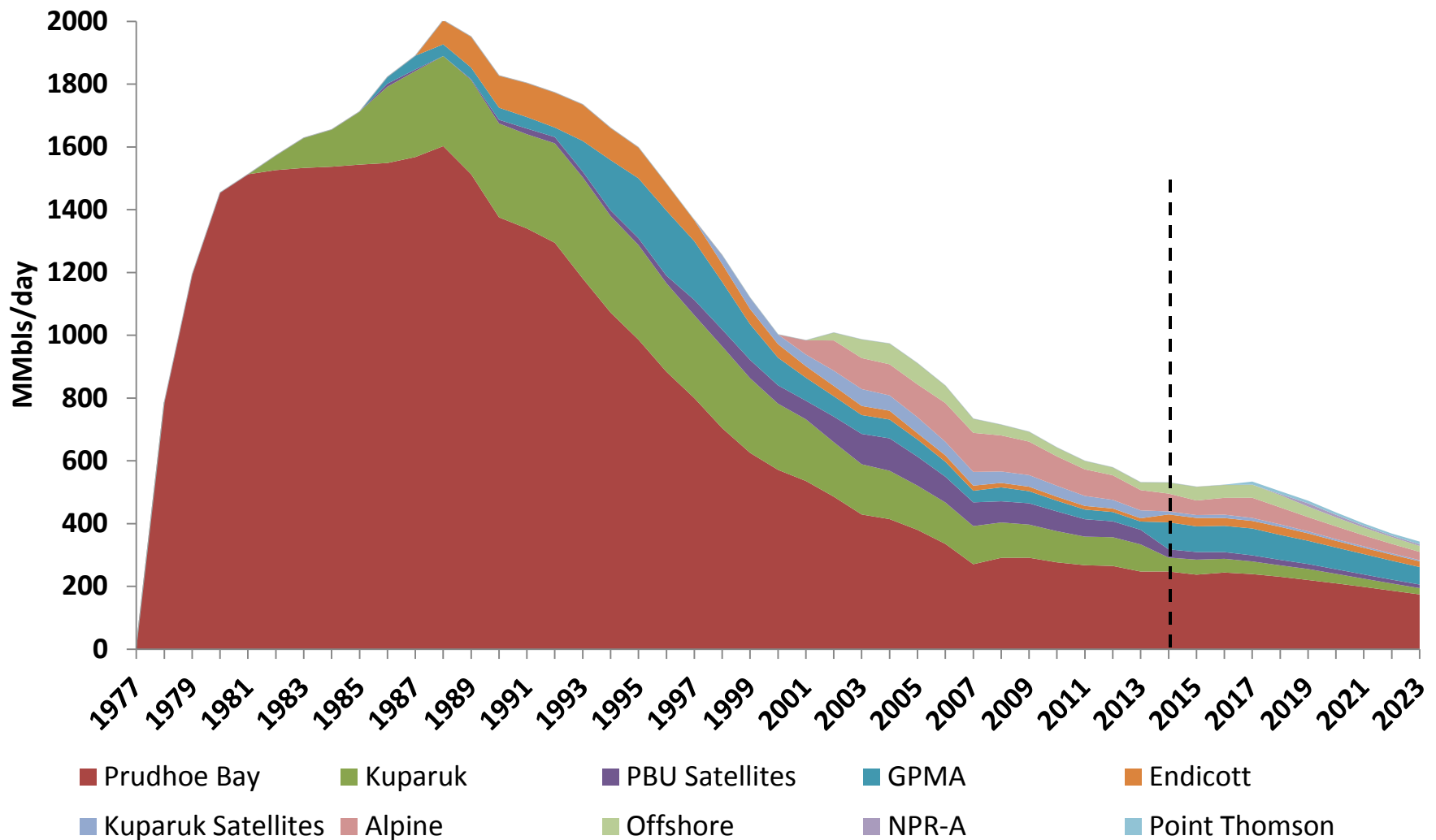
- Input changes relative to the 2014 Spring Forecast
 - Oil price levels have been reduced sharply in the near-term.
 - Oil production has been increased for all years.
 - Correspondingly, unrestricted revenues have been revised downward.
- Revenue impacts largely due to changes in oil price assumptions.
- Lease expenditure (or investment) in the oil fields maintained high levels which has increased expected production.

FALL 2014

Production Forecast

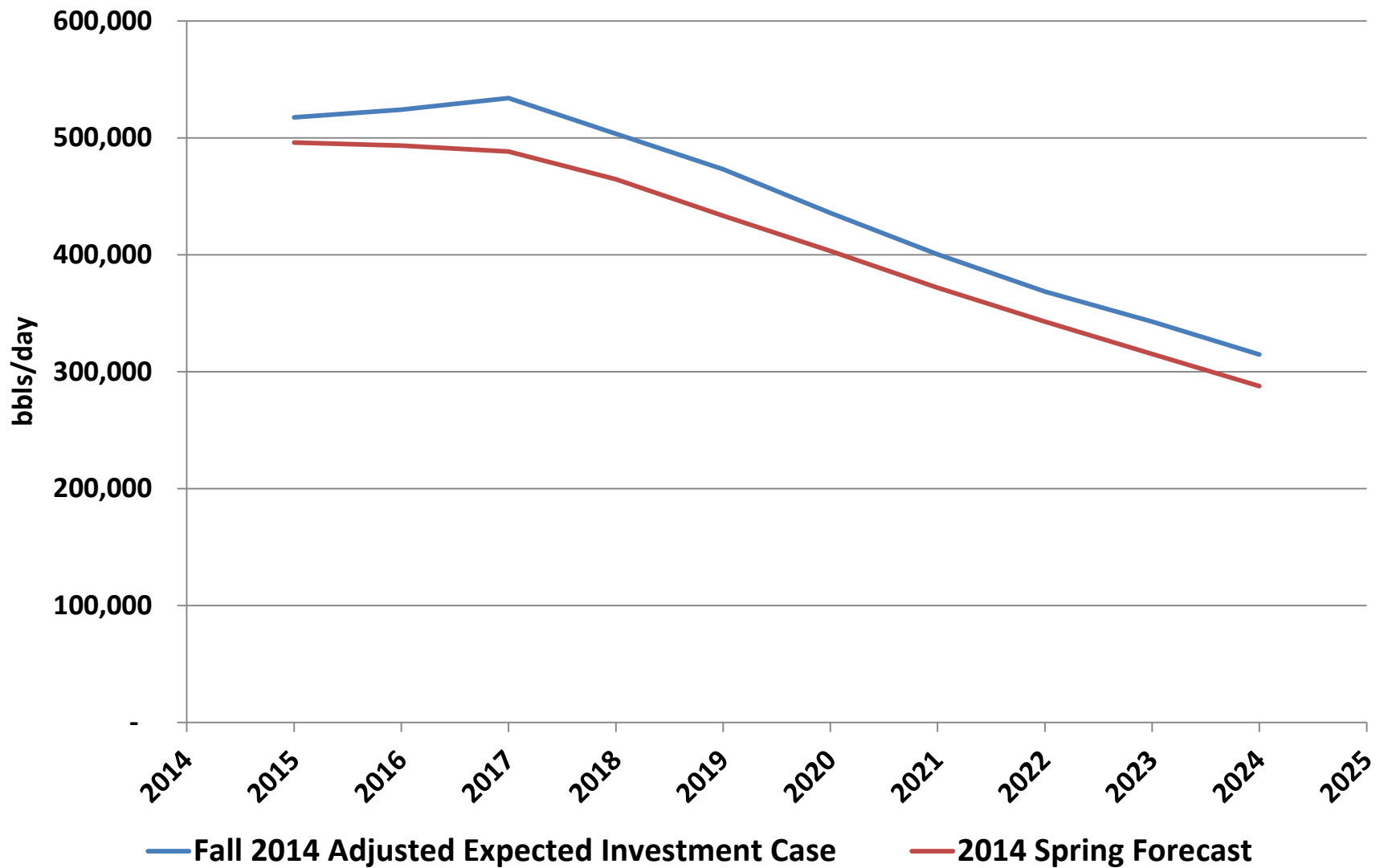


PRODUCTION HISTORY AND FORECAST



Source: Department of Revenue - Revenue Sources Book Fall 2014

ANS PRODUCTION COMPARISON

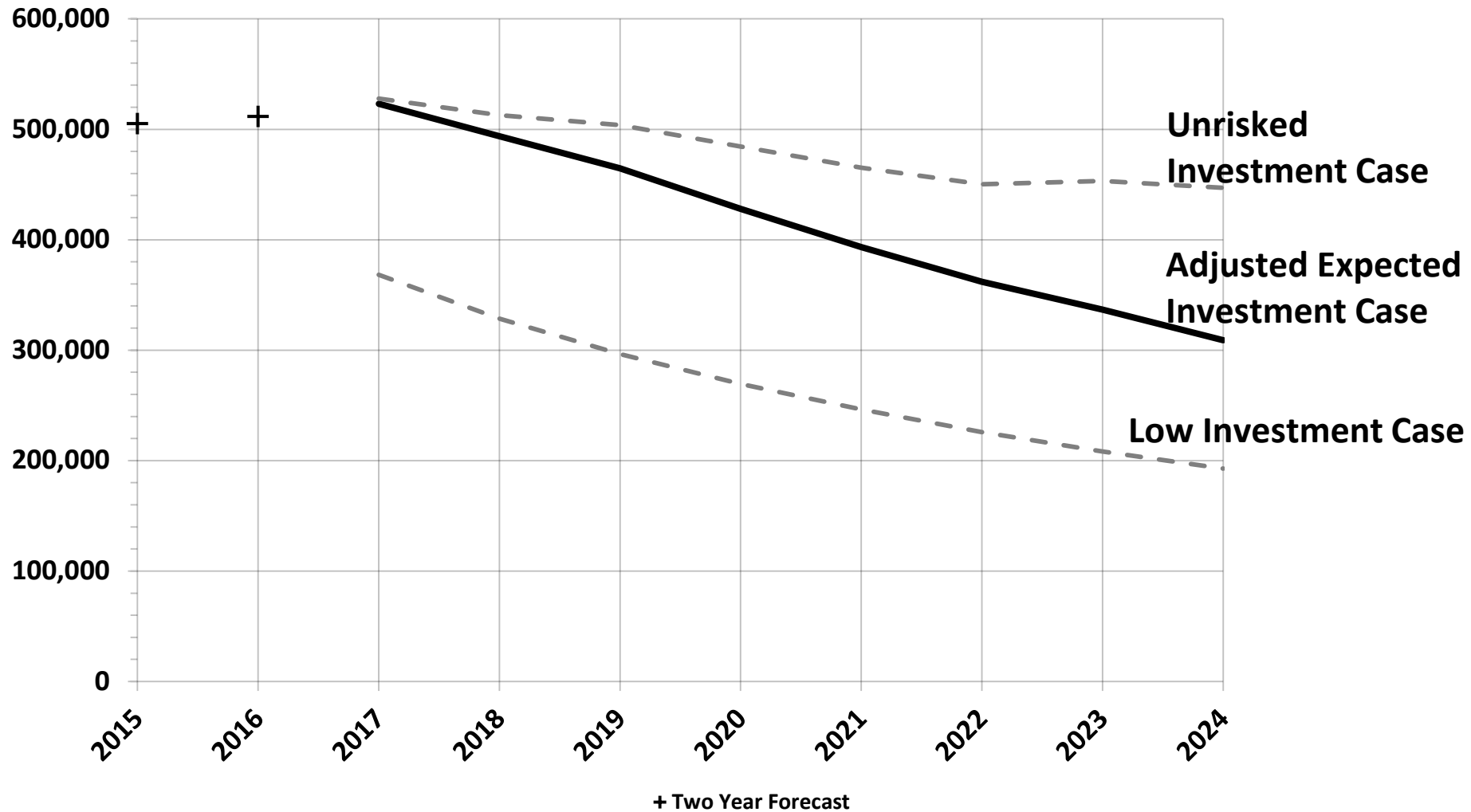


Source: Department of Revenue - Revenue Sources Book Fall 2014 / Spring 2014

ANS OIL PRODUCTION FORECAST

- **Volumes from Developed Reserves (Currently Producing):**
 - Oil from wells that are in production and following typical reservoir engineering optimization without major investment.
 - These volumes are from projects already in place and thus remain unadjusted for risk.
- **Volumes from Undeveloped Reserves and additional/accelerated Developed Reserves:**
 - Oil from projects that will add incremental oil to existing fields or will bring new fields into production.
 - Must have senior management approval and be allocated funds in the company's budget.
 - These volumes are risk-adjusted for commercial uncertainty.
- **Volumes from Contingent Resources:**
 - Oil from projects that are likely to occur in the future, but have not met the requirements of the previous category.
 - Oil reserves must be known and recovery is technically possible with current technology.
 - These volumes are more strongly risk-adjusted due to the commercial uncertainty and other risks.
- **DR + UDR + CR = Unrisked Investment Case**

PRODUCTION FORECAST



Source: Department of Revenue - Revenue Sources Book Fall 2014

DEPT. OF REVENUE INVESTMENT CASES

- **Unrisked Investment Case:**

- This is a technical forecast provided by a DOR consulting petroleum engineering service.
- It is based upon the expectations and best estimates of oil companies.
- It includes forecasts from the production from developed, undeveloped oil reserves and contingent resources

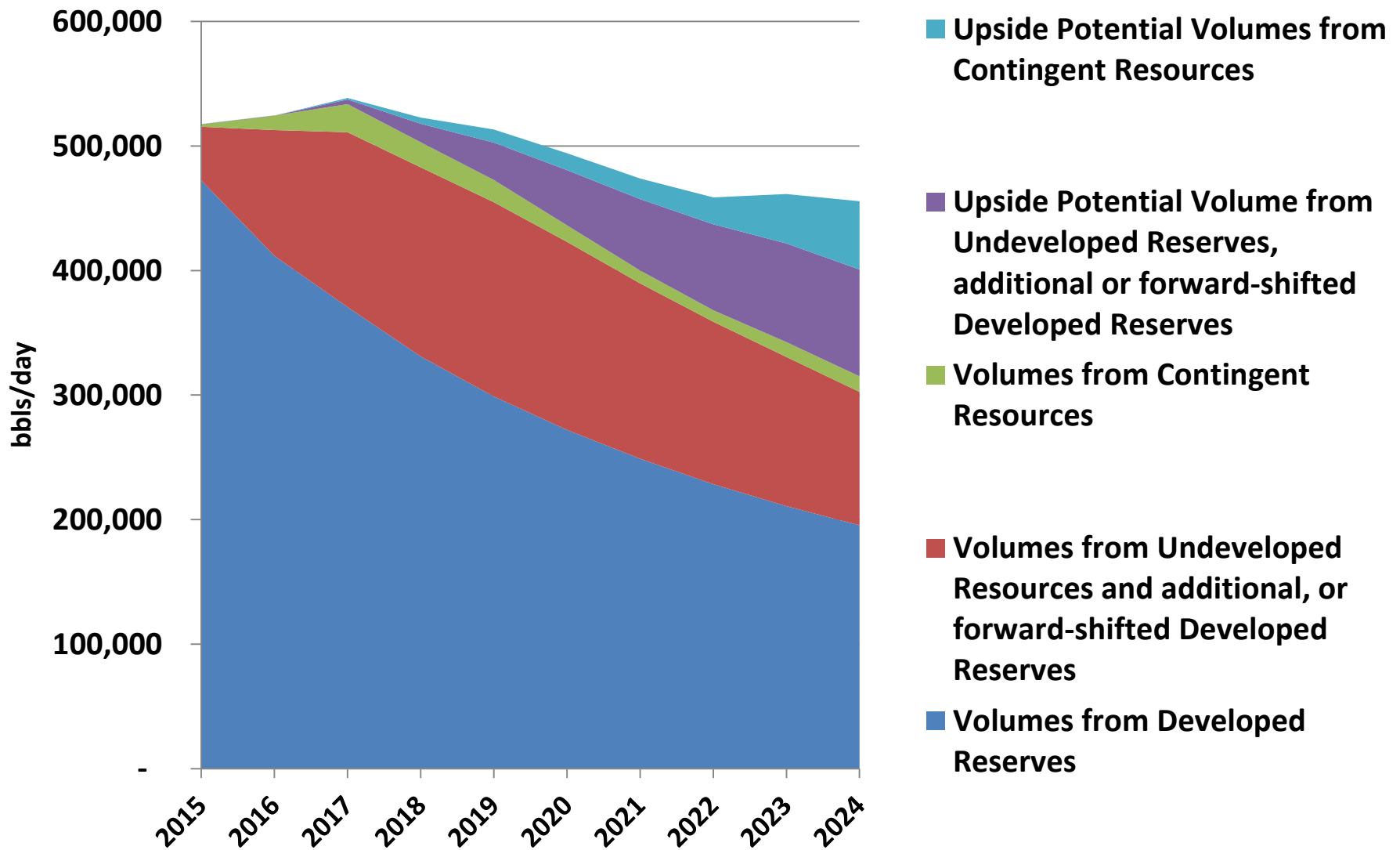
- **Adjusted Expected Investment Case:**

- This is the official revenue forecast.
- Unrisked investment case adjusted for risks and uncertainties.
- It is used for forecasting revenue beyond two years.
- All developed reserves remain un-risked, but less certain projects are weighted over time.

- **Low Investment Case:**

- This includes forecasts strictly from projects and wells that are already developed. This is risk weighted only at the technical level.
- If no new projects came to fruition, this is what we would expect the future to look like.

NORTH SLOPE PRODUCTION FORECAST

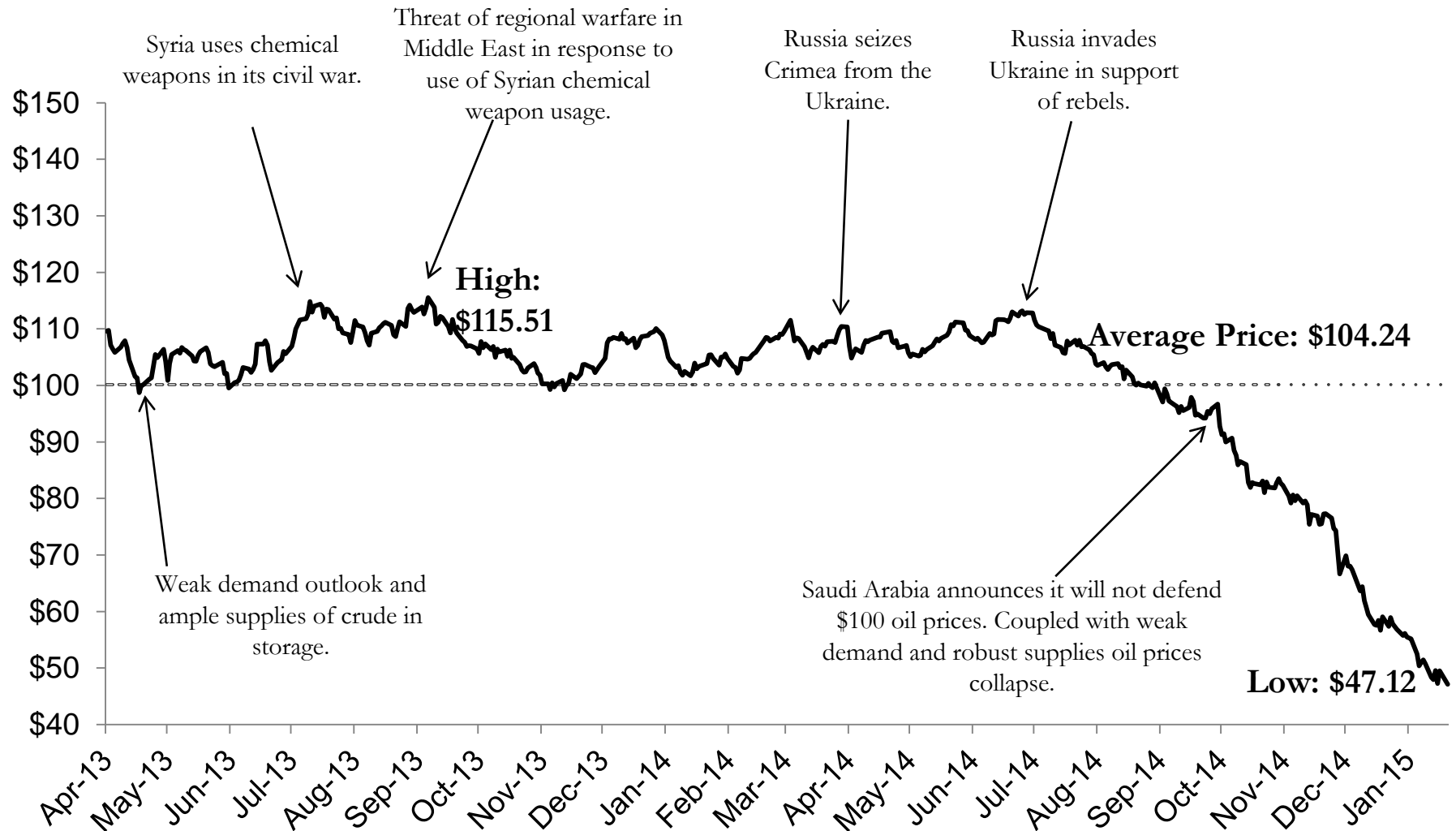


Source: Department of Revenue - Revenue Sources Book Fall 2014

FALL 2014 Price Forecast

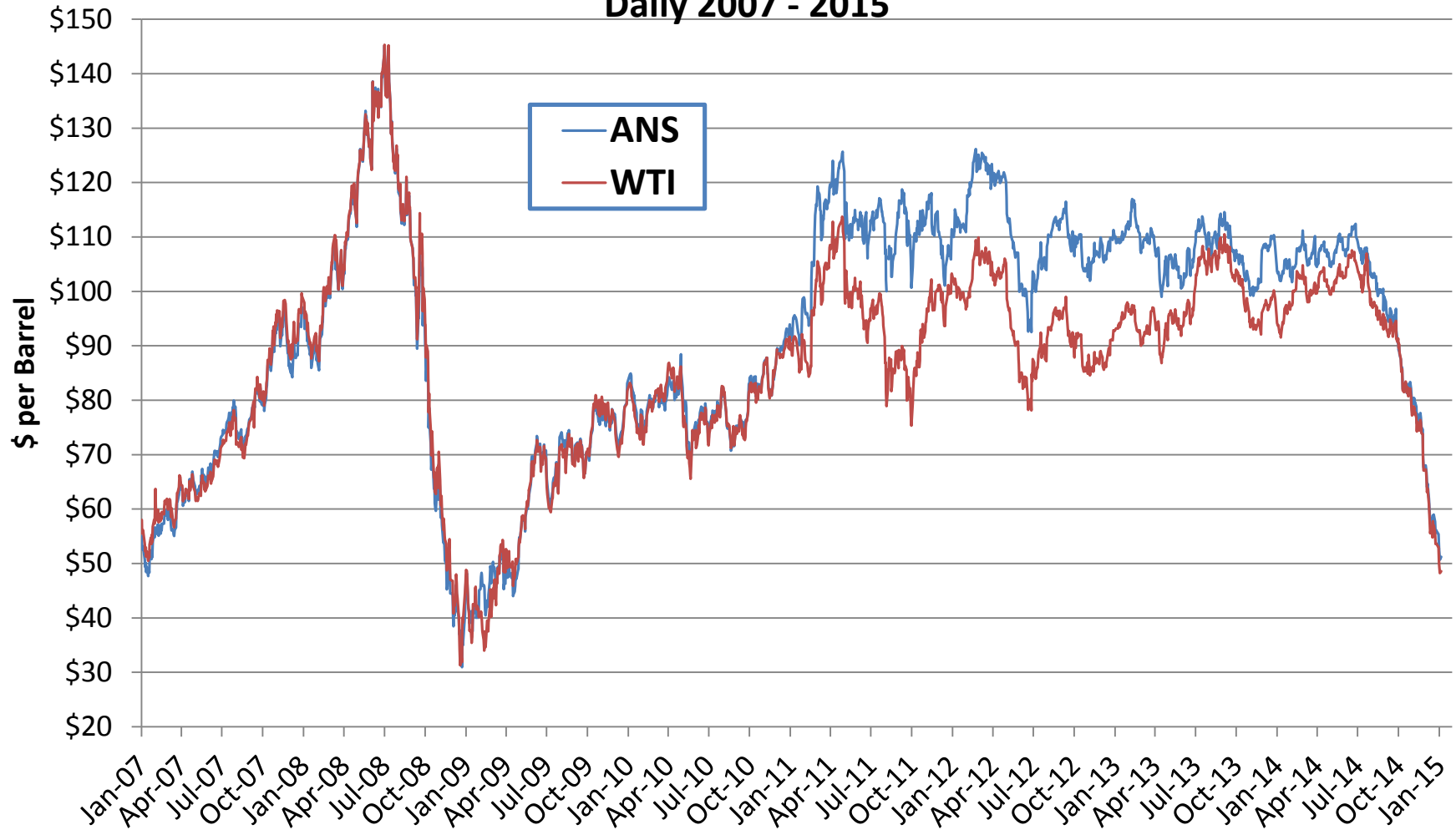


Alaska North Slope Crude West Coast Price



Alaska North Slope Crude West Coast and West Texas Intermediate Prices

**ANS and WTI Prices
Daily 2007 - 2015**



Source: Prevailing Values, DOR Tax Division website

KEY OIL PRICE DRIVERS

- Supply & Demand
 - There are two main factors to monitor.
 - Global spare capacity, since it is both a reflection of supply and demand. In other words, the Organization of Petroleum Exporting Countries (OPEC) spare capacity (flipping a switch) is key.
 - Cost of developing new oil supply.
- Current Events
 - Weak global demand
 - Saudi trades market share for lower prices

PRICE FORECAST METHODOLOGY

- Price Forecasting Session
 - Held a day long oil price forecasting session on October 7, 2014.
 - Speakers provided insight into oil markets, probability and analysis, modeling, and financial aspects of commodity markets.
 - 37 participants from state government, academia and the private sector.
 - DOR, DNR, DOL, OMB, University, Legislative Finance and outside participants.
 - Participants were asked to forecast P10, median, and P90 real ANS prices for the West Coast.
 - Real prices were converted to nominal using a 2.25% inflation assumption.
 - Official forecast is based on probabilistic outcomes from Price Forecast Session and DOR price model.

Fall 2014 ANS Revenue Forecast Prices

| | FY 2015 Q1 | FY 2015 Q2 | FY 2015 Q3 | FY 2015 Q4 | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 | FY 2024 | FY 2025 |
|-----|---------------|---------------|---------------|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 90% | | 82.41 | 98.02 | 100.69 | 95.74 | 104.02 | 130.69 | 138.97 | 145.38 | 150.89 | 160.00 | 163.60 | 172.06 | 179.59 | 184.88 |
| 80% | | 83.25 | 87.32 | 89.55 | 90.48 | 91.25 | 122.44 | 129.42 | 134.84 | 140.92 | 147.99 | 151.52 | 158.75 | 165.74 | 170.34 |
| 70% | | 81.49 | 82.08 | 83.60 | 87.25 | 84.99 | 115.92 | 121.94 | 126.51 | 132.62 | 138.32 | 141.66 | 148.05 | 154.50 | 158.55 |
| 60% | | 80.11 | 78.12 | 79.03 | 84.77 | 80.31 | 110.10 | 115.31 | 119.07 | 124.93 | 129.57 | 132.64 | 138.37 | 144.28 | 147.81 |
| 50% | 101.82 | 78.72 | 74.31 | 74.88 | 82.43 | 76.12 | 104.55 | 109.04 | 112.00 | 117.36 | 121.14 | 123.87 | 129.04 | 134.39 | 137.41 |
| 40% | | 77.08 | 69.87 | 70.32 | 79.77 | 71.62 | 99.01 | 102.81 | 104.93 | 109.54 | 112.61 | 114.92 | 119.61 | 124.34 | 126.85 |
| 30% | | 75.00 | 63.80 | 64.60 | 76.31 | 66.03 | 93.18 | 96.30 | 97.51 | 101.08 | 103.54 | 105.33 | 109.60 | 113.61 | 115.56 |
| 20% | | 72.15 | 54.05 | 55.76 | 70.94 | 57.72 | 86.66 | 89.06 | 89.20 | 91.25 | 93.25 | 94.33 | 98.25 | 101.37 | 102.69 |
| 10% | | 67.69 | 33.65 | 35.35 | 59.63 | 40.84 | 78.41 | 80.00 | 78.70 | 78.24 | 80.00 | 80.00 | 83.64 | 85.52 | 86.00 |

- Official forecast is one value within a range of possible outcomes
- Probabilities as of early December 2014
- FY 2015 & FY 2016 are from an internal DOR probabilistic pricing model.
- FY 2017 and beyond are from the Fall 2014 price forecast session held on October 7, 2014.

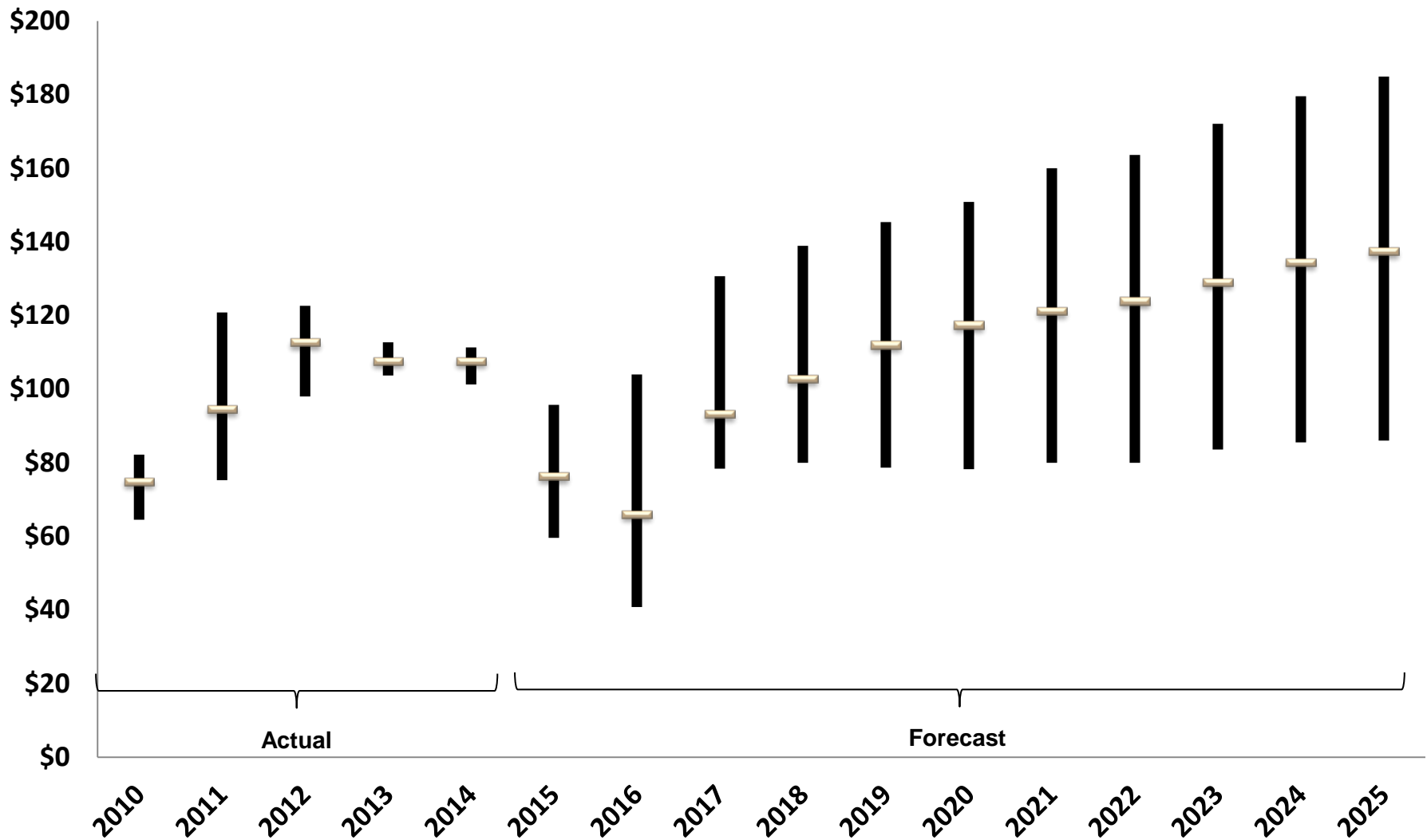
“What if the oil price is...” for the last half of FY 2015

| ANS Price Sensitivity | | | | | | | | | | |
|-----------------------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| "What if price is..." | \$ 90 | \$ 85 | \$ 80 | \$ 75 | \$ 70 | \$ 65 | \$ 60 | \$ 55 | \$ 50 | |
| Actual | 7/1/2014 | 107.63 | 107.63 | 107.63 | 107.63 | 107.63 | 107.63 | 107.63 | 107.63 | 107.63 |
| | 8/1/2014 | 101.78 | 101.78 | 101.78 | 101.78 | 101.78 | 101.78 | 101.78 | 101.78 | 101.78 |
| | 9/1/2014 | 96.05 | 96.05 | 96.05 | 96.05 | 96.05 | 96.05 | 96.05 | 96.05 | 96.05 |
| | 10/1/2014 | 84.91 | 84.91 | 84.91 | 84.91 | 84.91 | 84.91 | 84.91 | 84.91 | 84.91 |
| | 11/1/2014 | 77.41 | 77.41 | 77.41 | 77.41 | 77.41 | 77.41 | 77.41 | 77.41 | 77.41 |
| Estimate | 12/1/2014 | 90.00 | 85.00 | 80.00 | 75.00 | 70.00 | 65.00 | 60.00 | 55.00 | 50.00 |
| | 1/1/2015 | 90.00 | 85.00 | 80.00 | 75.00 | 70.00 | 65.00 | 60.00 | 55.00 | 50.00 |
| | 2/1/2015 | 90.00 | 85.00 | 80.00 | 75.00 | 70.00 | 65.00 | 60.00 | 55.00 | 50.00 |
| | 3/1/2015 | 90.00 | 85.00 | 80.00 | 75.00 | 70.00 | 65.00 | 60.00 | 55.00 | 50.00 |
| | 4/1/2015 | 90.00 | 85.00 | 80.00 | 75.00 | 70.00 | 65.00 | 60.00 | 55.00 | 50.00 |
| | 5/1/2015 | 90.00 | 85.00 | 80.00 | 75.00 | 70.00 | 65.00 | 60.00 | 55.00 | 50.00 |
| | 6/1/2015 | 90.00 | 85.00 | 80.00 | 75.00 | 70.00 | 65.00 | 60.00 | 55.00 | 50.00 |
| Forecast Price | | | | | | | | | | |
| | | \$ 91.48 | \$ 88.57 | \$ 85.65 | \$ 82.73 | \$ 79.82 | \$ 76.90 | \$ 73.98 | \$ 71.07 | \$ 68.15 |

Forecast as of December 1, 2014

Source for actuals: Prevailing Values, DOR Tax Division website

HISTORICAL ANS WEST COAST FY OIL PRICE BANDS: ANNUAL AVERAGE AND OFFICIAL FY2014 FORECAST



Source: Department of Revenue - Revenue Sources Book Fall 2014

FALL 2014

Revenue Forecast



GENERAL FUND UNRESTRICTED OIL REVENUES

| (\$ millions) | Actual | | Forecast | | | |
|--------------------------------|------------------|---------------|------------------|---------------|------------------|---------------|
| Revenue Type | 2014 | Percent | 2015 | Percent | 2016 | Percent |
| Petroleum Revenue | | | | | | |
| Net Royalty (less PF & SF) | \$1,712.4 | 31.7% | \$1,117.5 | 44.3% | \$1,007.1 | 46.5% |
| Production Tax | \$2,598.2 | 48.2% | \$523.6 | 20.8% | \$308.4 | 14.2% |
| Corporate Income Tax | \$316.6 | 5.9% | \$249.2 | 9.9% | \$195.4 | 9.0% |
| Property Tax | \$128.1 | 2.4% | \$128.9 | 5.1% | \$125.2 | 5.8% |
| Total Petroleum Revenue | \$4,755.3 | 88.2% | \$2,019.2 | 80.1% | \$1,636.1 | 75.6% |
| Non-petroleum Revenue | \$638.7 | 9.4% | \$532.3 | 19.9% | \$560.6 | 24.4% |
| Total Revenue | \$5,394.0 | 100.0% | \$2,551.5 | 100.0% | \$2,196.7 | 100.0% |

Source: Department of Revenue - Revenue Sources Book Fall 2014

GENERAL FUND UNRESTRICTED REVENUES

NON-PETROLEUM

| (\$ millions) | Actual | | Forecast | | | |
|----------------------------|--------------|---------------|--------------|---------------|--------------|---------------|
| Revenue Type | 2014 | Percent | 2015 | Percent | 2016 | Percent |
| Taxes | | | | | | |
| Non-petroleum | | | | | | |
| Corporate Income | \$104 | 16.3% | \$114 | 15.4% | \$125 | 21.3% |
| Mining License Tax | \$24 | 3.8% | \$33 | 7.9% | \$35 | 7.0% |
| Insurance Premium | \$55 | 8.6% | \$57 | 9.5% | \$59 | 9.4% |
| Tobacco | \$43 | 6.7% | \$44 | 7.7% | \$42 | 7.2% |
| Motor Fuel | \$39 | 6.1% | \$40 | 7.2% | \$40 | 6.8% |
| Other Taxes | <u>\$70</u> | 11.0% | <u>\$66</u> | 11.5% | <u>\$64</u> | 11.2% |
| Subtotal Taxes | \$335 | 52.4% | \$355 | 59.3% | \$365 | 62.9% |
| Investments | \$130 | 20.3% | \$30 | 15.1% | \$32 | 14.2% |
| Other | \$174 | 27.2% | \$147 | 25.6% | \$164 | 22.9% |
| Total Non-petroleum | \$639 | 100.0% | \$532 | 100.0% | \$561 | 100.0% |

Source: Department of Revenue - Revenue Sources Book Fall 2014

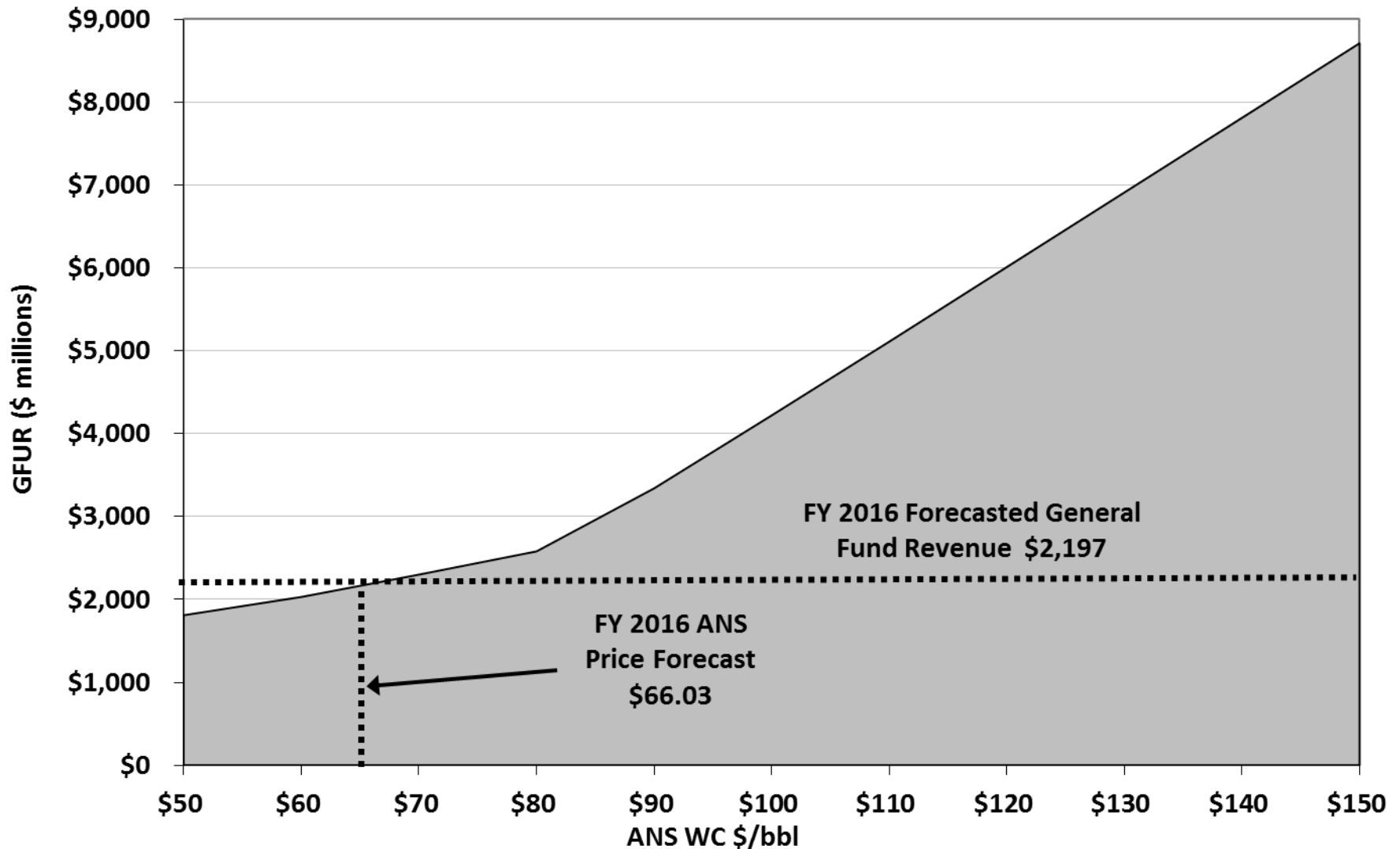
TOTAL REVENUE FORECAST – FY 2015 & 2016

| (\$ millions) | | Actual | | Forecast | |
|-----------------------------------|--|-----------------|-----------------|----------------|--|
| Revenue Type | | FY 2014 | FY 2015 | FY 2016 | |
| Unrestricted General Fund | | | | | |
| Oil Revenue | | 4,755.3 | 2,019.2 | 1,636.1 | |
| Non-Oil Revenue* | | 508.5 | 502.3 | 528.2 | |
| Investment Revenue | | 130.2 | 30.0 | 32.4 | |
| Total Unrestricted Revenue | | 5,394.0 | 2,551.5 | 2,196.7 | |
| Designated General Fund | | | | | |
| Non-Oil Revenue* | | 289.6 | 323.1 | 322.1 | |
| Investment Revenue | | 66.3 | 20.4 | 35.8 | |
| Subtotal | | 355.9 | 343.5 | 357.9 | |
| Other Restricted Revenue | | | | | |
| Oil Revenue | | 927.6 | 512.9 | 465.6 | |
| Non-Oil Revenue* | | 183.9 | 229.2 | 230.4 | |
| Investment Revenue | | 7,861.4 | 3,319.2 | 3,537.2 | |
| Subtotal | | 8,972.9 | 4,061.3 | 4,233.2 | |
| Federal Revenue | | | | | |
| Oil Revenue | | 6.8 | 5.0 | 5.0 | |
| Federal Receipts | | 2,511.9 | 3,126.4 | 3,126.4 | |
| Subtotal | | 2,518.7 | 3,131.4 | 3,131.4 | |
| Total State Revenue | | 17,241.5 | 10,087.7 | 9,919.2 | |

*Except Federal and Investment

Source: Department of Revenue - Revenue Sources Book Fall 2014

FY 2016 General Fund Unrestricted Revenue, with Price Sensitivity



Source: Fall 2014 Revenue Sources Book, page 83

Changes from Spring 2014 Forecast



COMPARISON – FALL 2014 vs. SPRING 2014 FORECASTS

| FY 2015 | Spring 2014 | Fall 2014 | Difference | Change |
|--|--------------------|------------------|-------------------|---------------|
| Oil Price (ANS West Coast per barrel) | \$105.06 | \$76.31 | (\$28.75) | -27.4% |
| ANS Oil Production (MMbbls/day) | 495.9 | 509.5 | 13.63 | 2.7% |
| GFUR (\$ millions) | 4,522.9 | \$2,551.5 | (\$1,971.4) | -43.6% |

| FY 2016 | Spring 2014 | Fall 2014 | Difference | Change |
|--|--------------------|------------------|-------------------|---------------|
| Oil Price (ANS West Coast per barrel) | \$107.69 | \$66.03 | (\$41.66) | -38.7% |
| ANS Oil Production (MMbbls/day) | 493.5 | 524.1 | \$30.59 | 6.2% |
| GFUR* (\$ millions) | 4,744.2 | \$2,196.7 | (\$2,547.5) | -53.7% |

CONTRIBUTORS OF CHANGE IN FY2015 REVENUE FORECAST

| Component | Spring 2014 Forecast | Fall 2014 Forecast | Change |
|---|----------------------|--------------------|-----------|
| ANS Production (MMbbls/day) | 495.9 | 509.5 | 13.6 |
| ANS Price | \$105.06 | \$76.31 | (\$28.75) |
| ANS Deductible Lease Expenditures (\$ millions) | 7,266 | 7,049 | (217) |
| Transportation Costs (\$/barrel) | 9.82 | 9.31 | (0.51) |

Average Production Tax Value per barrel is reduced by \$27.

Simplified calculation, does not represent any specific company value.

Assumes 12.5% royalty.

CONTRIBUTORS OF CHANGE IN FY2016 REVENUE FORECAST

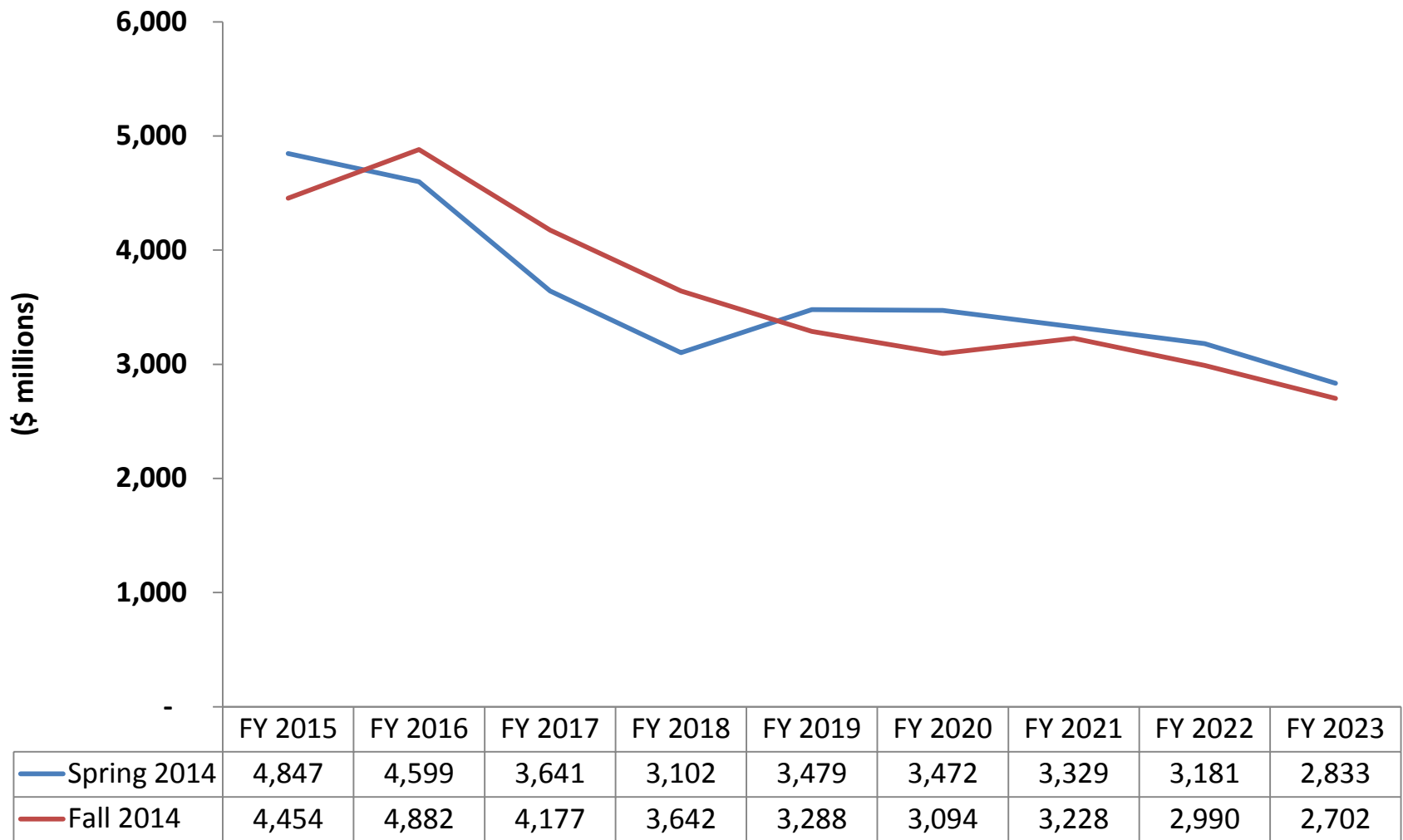
| Component | Spring 2014 Forecast | Fall 2014 Forecast | Difference |
|---|----------------------|--------------------|------------|
| ANS Production (MMbbls/day) | 493.5 | 524.1 | 30.6 |
| ANS Price | \$107.69 | \$66.03 | (\$41.66) |
| ANS Deductible Lease Expenditures (\$ millions) | 7,146 | 7,273 | 127 |
| Transportation Costs (\$/barrel) | 9.62 | 9.17 | (0.45) |

Average Production Tax Value per barrel is reduced by \$39.

Simplified calculation, does not represent any specific company value.

Assumes 12.5% royalty.

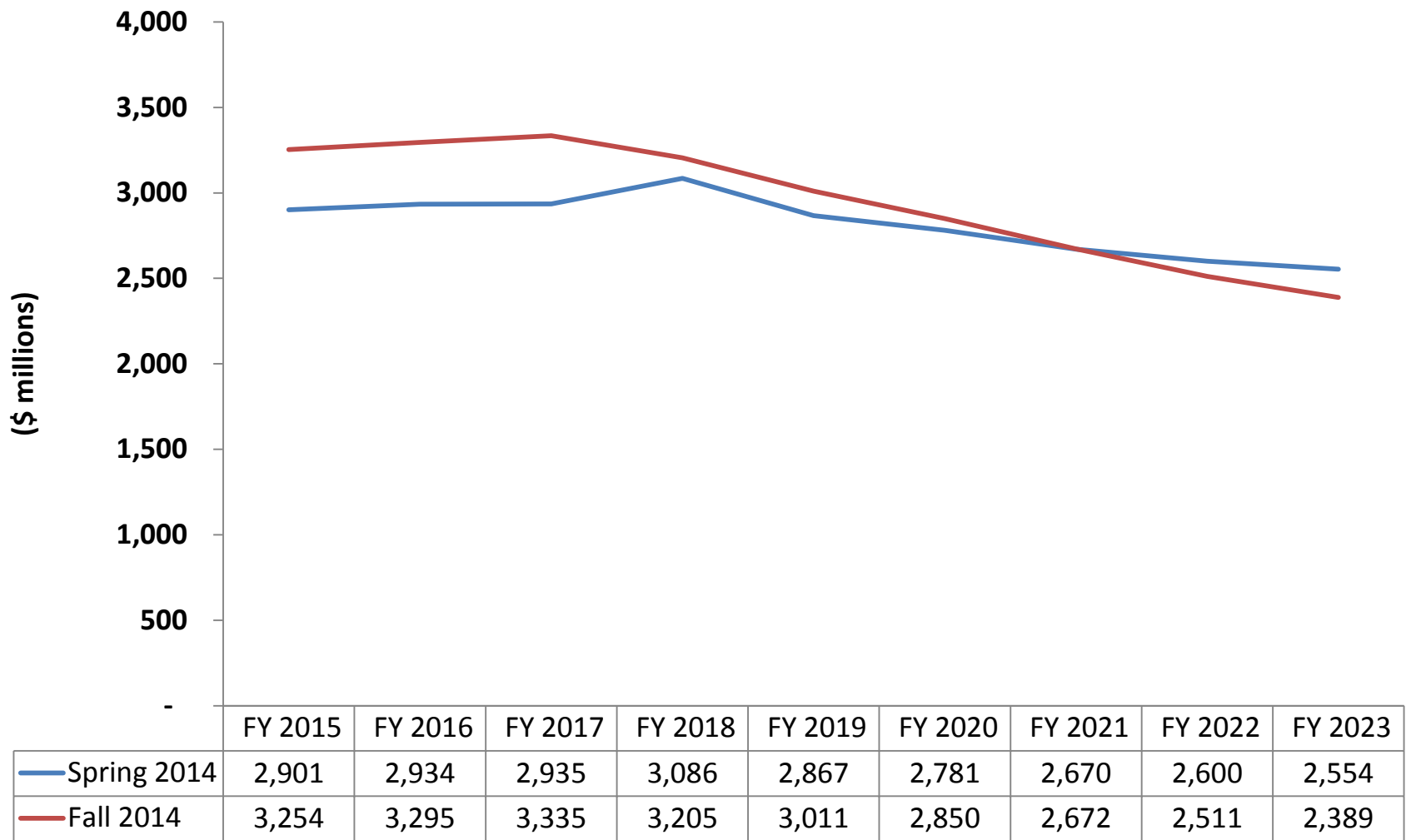
NORTH SLOPE CAPITAL EXPENDITURE FORECAST CHANGE



Note: These estimates include lease expenditures by companies that are not expected to have a tax liability.

Source: Department of Revenue - Revenue Sources Book Fall 2014 / Spring 2014

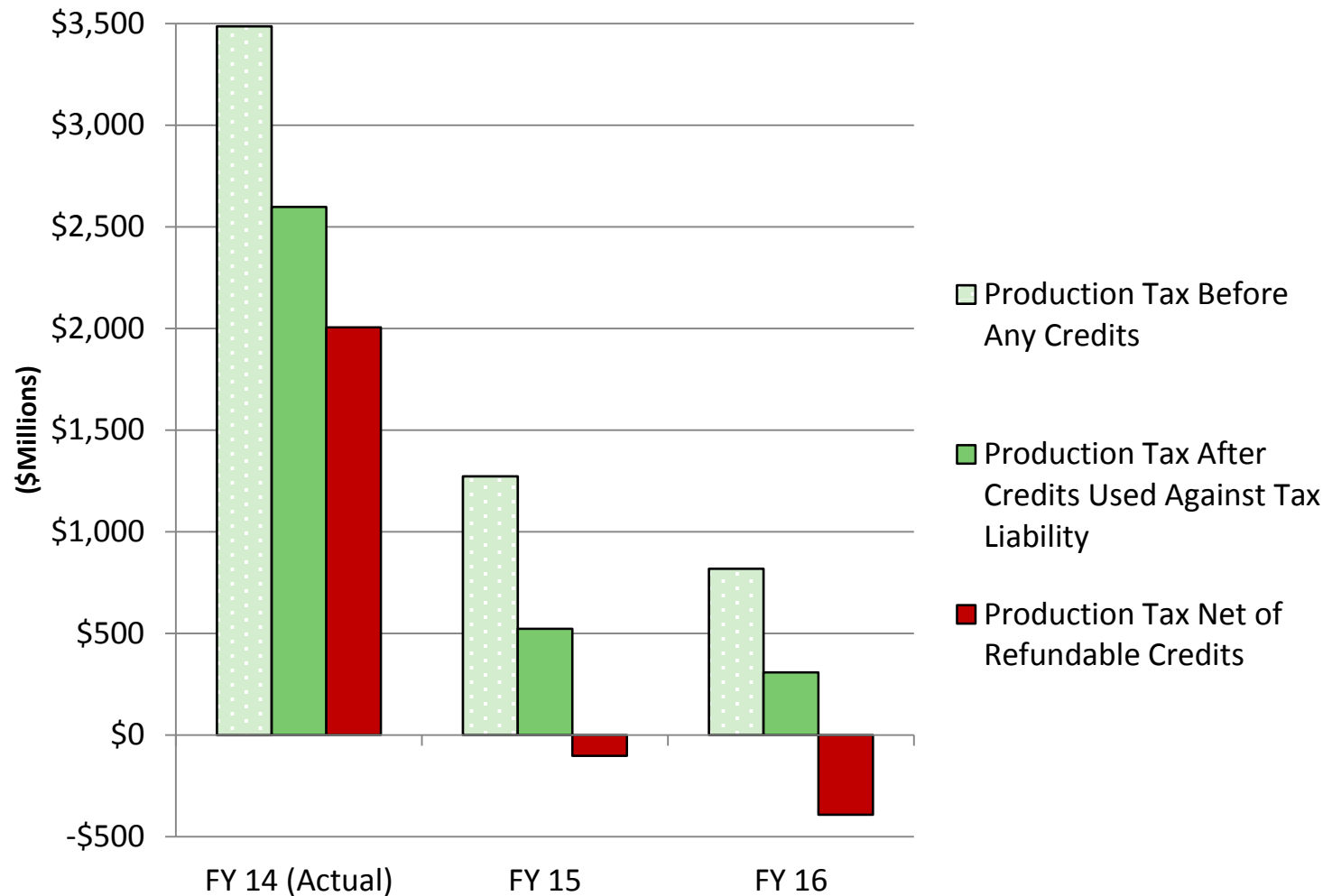
NORTH SLOPE OPERATING EXPENDITURE FORECAST CHANGE



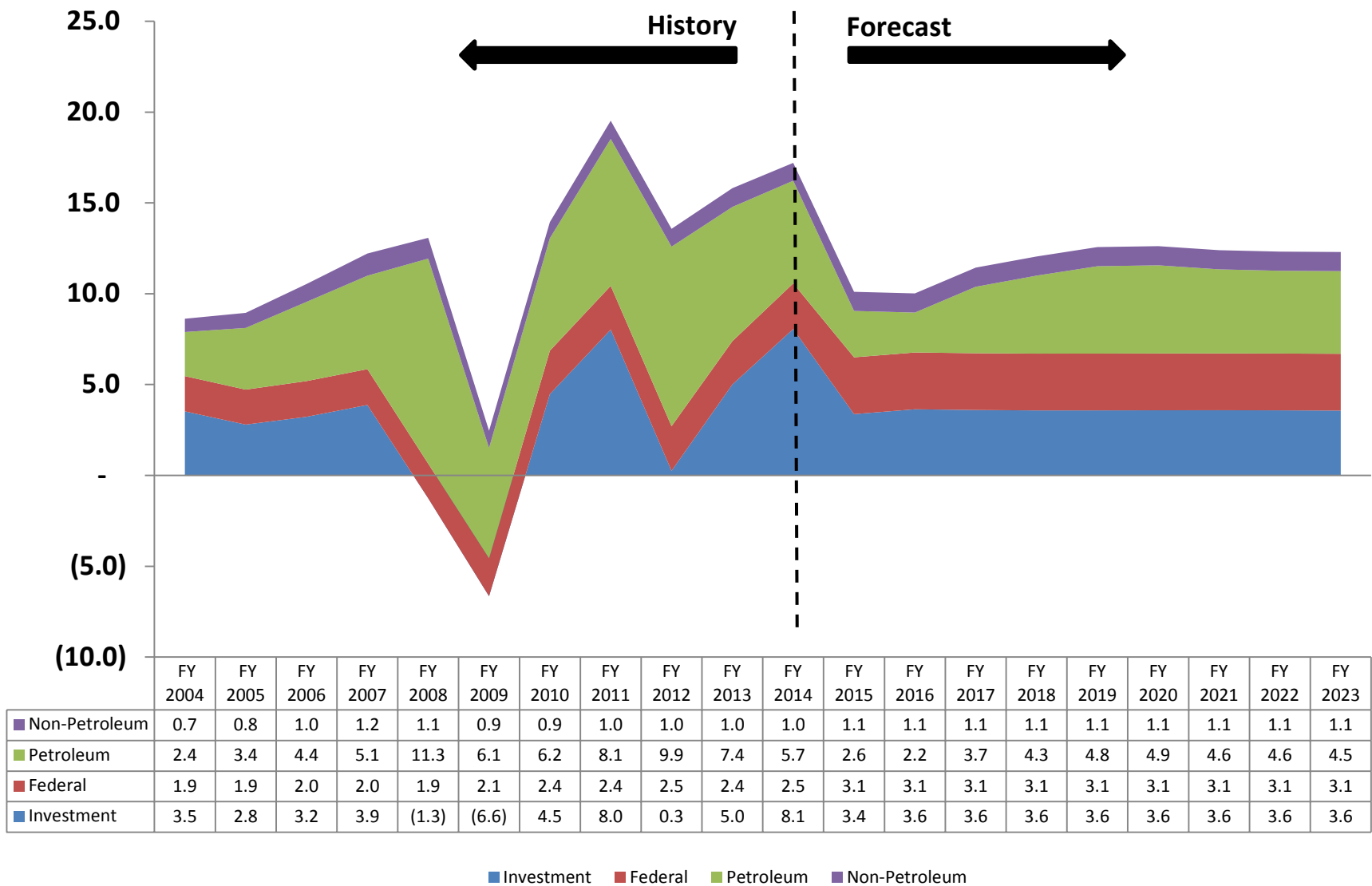
Note: These estimates include lease expenditures by companies that are not expected to have a tax liability.

Source: Department of Revenue - Revenue Sources Book Fall 2014 and Spring 2014 forecast

Net Tax Credits versus Production Tax



FALL 2014 TOTAL REVENUE FORECAST



Source: Department of Revenue - Revenue Sources Book Fall 2014

UNRESTRICTED REVENUE FORECAST 2015-2023

| | Actual | | Forecast | | | | | | | | |
|--|---------|---------|----------|---------|---------|---------|---------|---------|---------|---------|---------|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| ANS WC Oil Price (\$/bbl) | 107.57 | 107.57 | 76.31 | 66.03 | 93.18 | 102.81 | 112.00 | 117.36 | 121.14 | 123.87 | 129.04 |
| Total ANS Production (State + Federal) (MMbbls/day) | 531.6 | 531.1 | 509.5 | 524.1 | 534.1 | 503.5 | 473.2 | 435.8 | 400.4 | 368.5 | 342.9 |
| Deductible Lease Expenditures (\$ millions) | 4,924 | 6,551 | 7,049 | 7,273 | 7,096 | 6,569 | 6,087 | 5,733 | 5,654 | 5,291 | 4,959 |
| General Fund Unrestricted Revenues (\$ millions) | 6,929 | 5,394 | 2,552 | 2,197 | 3,657 | 4,292 | 4,808 | 4,853 | 4,628 | 4,556 | 4,548 |
| PTV per Taxable Barrel | \$67.76 | \$57.56 | \$22.37 | \$13.43 | \$41.22 | \$50.93 | \$59.84 | \$63.81 | \$63.74 | \$64.86 | \$68.83 |

Source: Department of Revenue - Revenue Sources Book Fall 2014

THANK YOU

Please find our contact information below:

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