

TITLE: Preliminary Fall 2010 Forecast

PREPARED BY: Department of Revenue, Tax Division

DATA SOURCES: Department of Revenue Tax Division Reports and Forecast
Treasury Division
Permanent Fund Corporation
Office of Management and Budget
Department of Natural Resources
Alaska State Accounting System

ASSUMPTIONS: The forecast assumes the tax laws in place as of November 24, 2010.
Production volumes are in millions of barrels per day for Alaska North Slope (ANS) only, unless otherwise noted.

For FY 2011, we forecast production volume of 0.616 million barrels per day.
For FY 2012, we forecast production volume of 0.622 million barrels per day.

ANS is forecasted to trade at a differential of \$2.50 below WTI for the remainder of FY 2011 and FY 2012 resulting in an annual average forecast for ANS of \$77.96 and \$82.67 respectively.

Other assumptions include the TAPS tariff and transportation costs required to estimate value at the wellhead, and the inflation rate.

Key data used to estimate the production tax are detailed in Figure 4 "Basic Data Used for Oil & Gas Production Taxes."

Historical data for FY 2010 may differ from previous forecasts as amendments and revisions may have been submitted since the last forecast.

Numbers may not add exactly due to rounding.

DISCLAIMER: The Department of Revenue uses an engineering consultant in conjunction with assistance from the Department of Natural Resources and the Alaska Oil & Gas Conservation Commission to derive its biannual production forecast.

The department may adjust its production expectations as we continue to examine reservoir performance, review the pace and scope of development of new fields, and re-evaluate downtime.

Additional detail and narrative for the Fall 2010 forecast will be included in the Revenue Sources Book, which will be released December 3, 2010.

Figure 1. Total State Government Revenue by Major Component, FY 2010 and Forecasted FY 2011-2012
\$ Million

| | History FY 2010 | Forecast FY 2011 | Forecast FY 2012 |
|---|---------------------------|----------------------------|----------------------------|
| UNRESTRICTED GENERAL FUND REVENUE | | | |
| <u>Oil Revenue</u> | | | |
| Property Tax | 118.8 | 104.1 | 101.9 |
| Corporate Petroleum Tax | 447.9 | 445.0 | 555.0 |
| Production Tax | 2,871.0 | 2,614.6 | 2,737.6 |
| Royalties (including Bonuses, Rents & Interest) | <u>1,477.0</u> | <u>1,510.1</u> | <u>1,666.6</u> |
| Subtotal | 4,914.7 | 4,673.9 | 5,061.1 |
| <u>Other Sources (Except Federal & Investment)</u> | | | |
| Taxes | 293.7 | 321.0 | 328.1 |
| Charges for Services | 17.1 | 19.3 | 19.3 |
| Fines and Forfeitures | 9.7 | 9.0 | 9.0 |
| Licenses and Permits | 39.5 | 40.4 | 40.7 |
| Rents and Royalties | 13.2 | 12.4 | 12.4 |
| Other | <u>40.8</u> | <u>78.4</u> | <u>77.6</u> |
| Subtotal | 414.0 | 480.5 | 487.1 |
| <u>Investment Revenue</u> | | | |
| Investments | 179.1 | 215.2 | 193.5 |
| Interest Paid by Others | <u>4.9</u> | <u>2.2</u> | <u>2.2</u> |
| Subtotal | 184.0 | 217.4 | 195.7 |
| Subtotal Unrestricted General Fund Revenue | 5,512.7 | 5,371.8 | 5,743.9 |
| DESIGNATED GENERAL FUND REVENUE | | | |
| <u>Other Sources (Except Federal & Investment)</u> | | | |
| Taxes | 50.8 | 51.4 | 51.2 |
| Charges for Services | 191.7 | 197.0 | 197.8 |
| Fines and Forfeitures | 9.7 | 6.7 | 6.8 |
| Licenses and Permits | 0.1 | 0.1 | 0.1 |
| Rents and Royalties | 4.4 | 4.5 | 4.5 |
| Other | <u>23.4</u> | <u>21.9</u> | <u>21.9</u> |
| Subtotal | 280.1 | 281.6 | 282.3 |
| <u>Investment Revenue</u> | | | |
| Investments - Designated GF | 13.6 | 16.4 | 15.8 |
| Other Treasury Managed Funds | <u>42.6</u> | <u>43.3</u> | <u>26.2</u> |
| Subtotal | 56.1 | 59.7 | 42.0 |
| Subtotal Designated General Fund Revenue | 336.2 | 341.3 | 324.3 |
| OTHER RESTRICTED REVENUE | | | |
| <u>Oil Revenue</u> | | | |
| Royalties to Perm Fund & School Fund (includes Bonuses & Rents) | 707.2 | 649.7 | 735.3 |
| Tax and Royalty Settlements to CBRF | <u>552.7</u> | <u>20.0</u> | <u>20.0</u> |
| Subtotal | 1,259.9 | 669.7 | 755.3 |

Figure 1. Total State Government Revenue by Major Component, FY 2010 and Forecast FY 2011-2012
\$ Million

| | History FY 2010 | Forecast FY 2011 | Forecast FY 2012 |
|--|---------------------------|----------------------------|----------------------------|
| <u>Other Sources (Except Federal & Investment)</u> | | | |
| Taxes | 85.3 | 82.5 | 75.0 |
| Charges for Services | 33.0 | 60.7 | 60.7 |
| Fines and Forfeitures | 25.3 | 22.9 | 23.3 |
| Licenses and Permits | 32.7 | 31.2 | 31.2 |
| Rents and Royalties | 5.1 | 5.2 | 5.3 |
| Other | <u>5.6</u> | <u>7.0</u> | <u>7.0</u> |
| Subtotal | 187.0 | 209.5 | 202.5 |
| <u>Investment Revenue</u> | | | |
| Investments - Other Restricted | 27.4 | 33.2 | 32.0 |
| Constitutional Budget Reserve Fund | 691.1 | 842.6 | 552.3 |
| Alaska Permanent Fund (GASB) (1) | <u>3,517.3</u> | <u>2,508.7</u> | <u>2,699.1</u> |
| Subtotal | 4,235.8 | 3,384.5 | 3,283.4 |
| Subtotal Other Restricted Revenue | 5,682.7 | 4,263.7 | 4,241.2 |
| FEDERAL REVENUE | | | |
| <u>Oil Revenue</u> | | | |
| NPR-A Royalties, Rents and Bonuses | <u>21.3</u> | <u>19.5</u> | <u>19.5</u> |
| Subtotal | 21.3 | 19.5 | 19.5 |
| <u>Federal Receipts</u> | | | |
| Federal Receipts | <u>2,387.9</u> | <u>3,087.0</u> | <u>2,987.0</u> |
| Subtotal | 2,387.9 | 3,087.0 | 2,987.0 |
| Subtotal Federal Revenue | 2,409.2 | 3,106.5 | 3,006.5 |
| Grand Total | 13,940.9 | 13,083.2 | 13,315.9 |

(1) FY 2011 includes three months of actual revenues. While payouts are limited to realized revenues, both

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Figure 2. Alaska North Slope Production, FY 2010 and Forecasted FY 2011-2020 ⁽¹⁾
Million barrels/day

| Fiscal Year | Currently Producing | Under Development | Under Evaluation | Total ANS |
|-------------|---------------------|-------------------|------------------|-----------|
| 2010 | 0.644 | 0.000 | 0.000 | 0.644 |
| 2011 | 0.584 | 0.032 | 0.000 | 0.616 |
| 2012 | 0.520 | 0.096 | 0.006 | 0.622 |
| 2013 | 0.464 | 0.159 | 0.019 | 0.642 |
| 2014 | 0.426 | 0.175 | 0.028 | 0.629 |
| 2015 | 0.386 | 0.179 | 0.044 | 0.608 |
| 2016 | 0.353 | 0.181 | 0.089 | 0.623 |
| 2017 | 0.323 | 0.173 | 0.111 | 0.607 |
| 2018 | 0.296 | 0.165 | 0.120 | 0.582 |
| 2019 | 0.274 | 0.159 | 0.118 | 0.551 |
| 2020 | 0.255 | 0.153 | 0.112 | 0.520 |

Figure 3. New Oil as a Percentage of Total Oil ⁽²⁾
Million barrels/day

| Fiscal Year | Total New Oil | ANS Total | Percent New Oil |
|-------------|---------------|-----------|-----------------|
| 2011 | 0.032 | 0.616 | 5.2% |
| 2012 | 0.102 | 0.622 | 16.4% |
| 2013 | 0.178 | 0.642 | 27.7% |
| 2014 | 0.203 | 0.629 | 32.3% |
| 2015 | 0.222 | 0.608 | 36.5% |
| 2016 | 0.270 | 0.623 | 43.3% |
| 2017 | 0.284 | 0.607 | 46.8% |
| 2018 | 0.286 | 0.582 | 49.1% |
| 2019 | 0.277 | 0.551 | 50.3% |
| 2020 | 0.265 | 0.520 | 51.0% |

(1) Some of the oil forecasted in the Under Development and Under Evaluation categories are from new projects in fields currently producing.

(2) "New Oil" is the sum of the Under Development and Under Evaluation categories.

Figure 4. Basic Data Used for Oil & Gas Production Taxes

| | FY 2010 History | FY 2011 Forecast | FY 2012 Forecast |
|--|--------------------|---------------------|---------------------|
| State Production Tax Revenue | | | |
| Millions of Dollars | 2,871.0 | 2,614.6 | 2,737.6 |
| Key Assumptions | | | |
| Price of ANS WC in dollars per barrel | 74.90 | 77.96 | 82.67 |
| Transit Costs & Other in dollars per barrel | 6.01 | 6.00 | 6.39 |
| ANS Wellhead in dollars per barrel | 68.89 | 71.96 | 76.28 |
| Production in barrels per day | 643,517 | 615,902 | 622,182 |
| Royalty and Federal barrels per day | 85,098 | 79,939 | 80,385 |
| Taxable barrels per day | 558,419 | 535,963 | 541,797 |
| Lease Expenditures in \$millions | | | |
| Operating Expenditures (Opex) | 2,270 | 2,553 | 2,558 |
| Capital Expenditures (Capex) | 2,389 | 2,572 | 2,937 |
| Total Expenditures | 4,659 | 5,125 | 5,494 |
| Estimated and Implied Data | | | |
| Credits Used against Tax Liability in \$millions | 350.0 | 400.0 | 450.0 |
| Credits for Potential Purchase in \$millions | 250.0 | 430.0 | 400.0 |
| Lease Expenditures per barrel of oil produced | | | |
| Opex | 9.7 | 11.4 | 11.3 |
| Capex | 10.2 | 11.4 | 12.9 |
| Total Expenditures | 19.8 | 22.8 | 24.2 |
| Average Production Value per Barrel (Pre-Tax) | 49.1 | 49.2 | 52.1 |
| Production Tax Collected per Taxable Barrel | 14.1 | 13.4 | 13.8 |

Notes

This table presents a grossly simplified snapshot of the production tax calculation on an average North Slope basis, and any use of this data should be viewed accordingly. Additionally, because production tax is calculated on a company basis, any simplification such as this distorts the actual value to companies. For example, a company's pre-tax production value per barrel could be significantly more or less than that shown in this table, depending on the "mix" of petroleum investments they have on the North Slope.

- 1
- 2 Lease expenditures for FY 2010 were prepared using unaudited company-reported expenditure estimates.
- 3 Expenditure data for FY 2011 and FY 2012 are compiled from company submitted expenditure forecast estimates and other documentation as provided to the DOR.
- 4 CAPEX credits are spread out over two years as specified in the ACES production tax. In addition, the assumptions for the transitional credits and the \$12 million credits for small Alaska producers are not included in the table.
- 5 Operating expenditures for Prudhoe Bay and Kuparuk units include the standard deduction provision per AS 43.55.165(j) through December 31, 2009.

Figure 5.
Crude Oil Production-Forecast, FY 2010 & Forecast FY 2011-2020 ⁽¹⁾

million barrels/day

| FY | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|-----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Prudhoe Bay ⁽¹⁾ | 0.277 | 0.278 | 0.273 | 0.262 | 0.256 | 0.243 | 0.231 | 0.218 | 0.208 | 0.198 | 0.189 |
| PBU Satellites ⁽²⁾ | 0.036 | 0.032 | 0.040 | 0.050 | 0.052 | 0.051 | 0.049 | 0.042 | 0.036 | 0.031 | 0.027 |
| GPMA ⁽³⁾ | 0.034 | 0.029 | 0.029 | 0.027 | 0.024 | 0.022 | 0.021 | 0.019 | 0.017 | 0.016 | 0.015 |
| Kuparuk | 0.099 | 0.091 | 0.087 | 0.084 | 0.081 | 0.079 | 0.077 | 0.075 | 0.072 | 0.069 | 0.067 |
| Kuparuk Satellites ⁽⁴⁾ | 0.035 | 0.034 | 0.032 | 0.029 | 0.027 | 0.024 | 0.024 | 0.034 | 0.031 | 0.028 | 0.025 |
| Milne Point ⁽⁵⁾ | 0.028 | 0.025 | 0.025 | 0.025 | 0.025 | 0.026 | 0.028 | 0.028 | 0.028 | 0.027 | 0.024 |
| Endicott ⁽⁶⁾ | 0.013 | 0.015 | 0.017 | 0.016 | 0.016 | 0.016 | 0.017 | 0.014 | 0.012 | 0.011 | 0.010 |
| Liberty | 0.000 | 0.000 | 0.005 | 0.039 | 0.036 | 0.029 | 0.024 | 0.020 | 0.017 | 0.014 | 0.012 |
| Alpine ⁽⁷⁾ | 0.069 | 0.058 | 0.054 | 0.046 | 0.044 | 0.045 | 0.041 | 0.037 | 0.033 | 0.030 | 0.028 |
| Fiord ⁽⁸⁾ | 0.024 | 0.028 | 0.027 | 0.023 | 0.020 | 0.018 | 0.017 | 0.022 | 0.028 | 0.027 | 0.023 |
| NPR-A ⁽⁹⁾ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.010 | 0.046 | 0.048 | 0.051 | 0.054 | 0.056 |
| Offshore ⁽¹⁰⁾ | 0.009 | 0.012 | 0.019 | 0.031 | 0.038 | 0.037 | 0.035 | 0.035 | 0.035 | 0.033 | 0.031 |
| Pt.Thomson | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.009 | 0.009 | 0.009 | 0.009 | 0.009 |
| Northstar ⁽¹¹⁾ | 0.020 | 0.015 | 0.013 | 0.011 | 0.009 | 0.007 | 0.006 | 0.005 | 0.005 | 0.004 | 0.004 |
| Total ANS | 0.644 | 0.616 | 0.622 | 0.642 | 0.629 | 0.608 | 0.623 | 0.607 | 0.582 | 0.551 | 0.520 |
| Cook Inlet | 0.009 | 0.010 | 0.009 | 0.008 | 0.008 | 0.007 | 0.007 | 0.006 | 0.006 | 0.006 | 0.005 |
| Total Alaska | 0.652 | 0.626 | 0.631 | 0.651 | 0.637 | 0.615 | 0.630 | 0.613 | 0.588 | 0.557 | 0.525 |

(1) Includes NGLs from Central Gas Facility shipped to TAPS

(2) Aurora, Borealis, Midnight Sun, Orion and Polaris

(3) Lisburne, Niakuk, North Prudhoe Bay State, Point McIntyre, Raven, West Beach and West Niakuk

(4) Meltwater, Tabasco, Tarn and West Sak

(5) Includes Sag River and Schrader Bluff

(6) Includes Badami, Eider and Sag Delta

(7) Includes Qannik

(8) Fiord, Fiord-Kuparuk, and Fiord West

(9) Includes Alpine West NPR-A

(10) Known Offshore includes Nikaitchuq and Oooguruk

(11) Includes OCS production.

Figure 6.
Crude Oil Prices, FY 2010 & Forecasted FY2011-2020

Nominal

\$ per barrel

| FY | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| WTI | 75.21 | 79.89 | 85.17 | 90.36 | 94.91 | 99.84 | 102.58 | 105.40 | 108.30 | 111.28 | 114.34 |
| ANS West Coast Spot | 74.90 | 77.96 | 82.67 | 87.86 | 92.41 | 97.34 | 100.08 | 102.90 | 105.80 | 108.78 | 111.84 |
| ANS Wellhead Wtd Average All Destinations | 68.89 | 71.96 | 76.28 | 81.68 | 86.00 | 90.62 | 93.14 | 95.84 | 98.47 | 101.11 | 103.77 |
| Cook Inlet Wellhead | 65.70 | 74.36 | 80.78 | 85.98 | 90.53 | 95.47 | 98.22 | 101.05 | 103.95 | 106.93 | 110.00 |

Real 2010\$

WTI, ANS West Coast, ANS and Cook Inlet Wellhead Prices

\$ per barrel

Historical data for FY 2010 may differ from previous forecasts as amendments and revisions may have been submitted since the last forecast.

| FY | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| WTI | 75.21 | 77.76 | 80.67 | 83.30 | 85.15 | 87.17 | 87.17 | 87.17 | 87.17 | 87.17 | 87.17 |
| ANS West Coast | 74.90 | 75.88 | 78.30 | 80.99 | 82.90 | 84.99 | 85.05 | 85.11 | 85.16 | 85.22 | 85.27 |
| ANS Wellhead Wtd Average All Destinations | 68.89 | 70.04 | 72.25 | 75.30 | 77.16 | 79.12 | 79.14 | 79.27 | 79.26 | 79.21 | 79.12 |
| Cook Inlet Wellhead | 65.70 | 72.37 | 76.52 | 79.26 | 81.22 | 83.36 | 83.47 | 83.57 | 83.67 | 83.77 | 83.86 |

**Figure 7.
General Purpose Unrestricted Revenue, FY 2010 & Forecasted FY 2011-2020**

\$ million

| FY | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Corporate Petroleum Income Tax | 447.9 | 445.0 | 555.0 | 605.0 | 630.0 | 680.0 | 690.0 | 700.0 | 710.0 | 720.0 | 730.0 |
| Production Tax | 2,871.0 | 2,614.6 | 2,737.6 | 3,051.6 | 3,521.1 | 3,905.4 | 4,471.7 | 4,631.5 | 4,734.8 | 4,539.3 | 4,360.1 |
| Petroleum Property Tax | 118.8 | 104.1 | 101.9 | 99.5 | 97.2 | 94.9 | 92.7 | 90.3 | 88.0 | 85.8 | 83.4 |
| Oil and Gas Royalties-Net ⁽¹⁾ | 1,469.0 | 1,486.2 | 1,649.6 | 1,740.6 | 1,802.9 | 1,822.5 | 1,820.5 | 1,812.2 | 1,758.2 | 1,681.8 | 1,607.1 |
| Bonuses, Rents & Interest-Net ⁽¹⁾⁽²⁾ | 8.0 | 23.9 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 |
| Petroleum Special Settlements | <u>0.0</u> |
| Total Petroleum Revenue | 4,914.7 | 4,673.9 | 5,061.1 | 5,513.7 | 6,068.2 | 6,519.7 | 7,091.9 | 7,250.9 | 7,308.1 | 7,044.0 | 6,797.7 |
| Cumulative Total Petroleum Revenue ⁽³⁾ | 85,706.0 | 90,379.9 | 95,440.9 | 100,954.6 | 107,022.8 | 113,542.5 | 120,634.5 | 127,885.4 | 135,193.5 | 142,237.5 | 149,035.1 |
| Total General Purpose Unrestricted Revenue | 5,512.7 | 5,371.8 | 5,743.9 | 6,207.7 | 6,767.8 | 7,233.1 | 7,822.4 | 7,992.7 | 8,060.4 | 7,845.7 | 7,610.7 |
| % Petroleum of Total GP Unrestricted Revenue | 89% | 87% | 88% | 89% | 90% | 90% | 91% | 91% | 91% | 90% | 89% |

(1) Royalties, bonuses, rents and interest are net of Permanent Fund contribution and Constitutional Budget Reserve Fund (CBRF) deposits.

(2) This category is primarily composed of petroleum revenue.

(3)The cumulative petroleum revenue total is based on revenue beginning in FY 1959.