



# Overview of Fall 2011 Revenue Forecast



*Presentation to the  
House Finance Committee  
February 8, 2012  
Alaska Department of Revenue*



# Outline for Presentation

- **Fall 2011 Revenue Forecast for FY2012 and 2013**
  - **Total Revenue**
  - **Unrestricted Revenue**
  - **Non-Oil Revenue**
- **Components of Production Tax Forecast**
  - **Oil Production Forecast**
  - **Oil Price Forecast**
  - **Lease Expenditures Forecast / Oil Company Spending**
  - **Tax Credits**



# Fall 2011

# Revenue Forecast

# FY2012 and FY2013



# FY 12 and FY 13 Total Revenue



Revenue Type	FY 12 (\$M)	FY 13 (\$M)
<b>Unrestricted General Fund</b>		
Oil Revenue	\$ 8,215.3	\$ 7,496.0
Other Sources (except Federal & Investment)	\$ 535.7	\$ 539.1
Investment Revenue	\$ 176.9	\$ 182.6
<b>Subtotal Unrestricted</b>	<b>\$ 8,927.9</b>	<b>\$ 8,217.7</b>
<b>Designated General Fund</b>		
Other Sources (except Federal & Investment)	\$ 307.9	\$ 308.1
Investment Revenue	\$ 12.4	\$ 41.8
<b>Subtotal Restricted</b>	<b>\$ 320.3</b>	<b>\$ 349.9</b>
<b>Other Restricted Revenue</b>		
Oil Revenue	\$ 958.0	\$ 891.9
Other Sources (except Federal & Investment)	\$ 203.1	\$ 203.2
Investment Revenue	\$ 2,991.8	\$ 3,746.0
<b>Subtotal Restricted</b>	<b>\$ 4,152.9</b>	<b>\$ 4,841.0</b>
<b>Federal Revenue</b>		
Oil Revenue	\$ 4.0	\$ 4.0
Federal Receipts	\$ 3,102.5	\$ 3,102.5
<b>Subtotal Restricted</b>	<b>\$ 3,106.5</b>	<b>\$ 3,106.5</b>
<b>Total State Revenue</b>	<b>\$ 16,507.7</b>	<b>\$ 16,515.1</b>



# FY 12 & FY 13 General Fund Unrestricted Revenue



Revenue Type	FY 12 (\$M)	% Total	FY 13 (\$ M)	% Total
Royalty - Net PF / SF	\$ 2,085.2	23.4%	\$ 1,962.0	23.9%
Production Tax	\$ 5,376.4	60.2%	\$ 4,715.8	57.4%
Corp Income Tax	\$ 662.1	7.4%	\$ 728.4	8.9%
Property Tax	<u>\$ 91.7</u>	<u>1.0%</u>	<u>\$ 89.7</u>	<u>1.1%</u>
Subtotal Oil Revenue	\$ 8,215.3	92.0%	\$ 7,496.0	91.2%
Non-Oil Revenue	<u>\$ 712.6</u>	<u>8.0%</u>	<u>\$ 721.7</u>	<u>8.8%</u>
<b>Total Revenue</b>	<b>\$ 8,927.9</b>	<b>100.0%</b>	<b>\$ 8,217.7</b>	<b>100.0%</b>

Source: Fall 2011 Revenue Sources Book



# FY 12 and FY 13 Unrestricted Non-Oil Revenue Detail



Revenue Type	FY 12 (\$M)	% Total	FY 13 (\$M)	% Total
<b>Taxes</b>				
Corporate Income	\$ 149.7	21.0%	\$ 152.5	21.1%
Mining	\$ 43.0	6.0%	\$ 48.4	6.7%
Insurance Premium	\$ 49.9	7.0%	\$ 50.1	6.9%
Tobacco	\$ 46.0	6.5%	\$ 46.0	6.4%
Motor Fuel	\$ 37.6	5.3%	\$ 37.8	5.2%
Other Taxes	<u>\$ 62.3</u>	<u>8.7%</u>	<u>\$ 63.3</u>	<u>8.8%</u>
<b>Subtotal Taxes</b>	<b>\$ 388.5</b>	<b>54.5%</b>	<b>\$ 398.1</b>	<b>55.2%</b>
<b>Investments</b>	<b>\$ 176.9</b>	<b>24.8%</b>	<b>\$ 182.6</b>	<b>25.3%</b>
<b>Other *</b>	<b><u>\$ 147.2</u></b>	<b><u>20.7%</u></b>	<b><u>\$ 141.0</u></b>	<b><u>19.5%</u></b>
<b>Total Non-Oil</b>	<b>\$ 712.6</b>	<b>100.0%</b>	<b>\$ 721.7</b>	<b>100.0%</b>

NOTE: This presentation only includes the portion of revenue that is included in the "Unrestricted General Fund" category.

\*Other includes Charges for Services, Fines and Forfeitures, Licenses & Permits, Rents & Royalties, and Miscellaneous.



# Components of Production Tax Calculation

- Production
- Price
- Lease Expenditures
- Tax Credits



# Fall 2011

# Oil Production

# Forecast



# Three Categories of Forecasted Production

- 1) Currently Producing- Includes base production and enhanced recovery production from investment in rate enhancing activities (perforations, stimulations, well workovers, gas and water injection support).
- 2) Currently under Development- New projects that are currently funded or awaiting project sanction in near future.



# Three Categories of Forecasted Production

- 3) Currently Under Evaluation- Includes technically viable projects in the stage where engineering, cost, risk and reward are being actively evaluated. Unfunded but are considered to have a high chance of being brought to fruition.



# Factors That Affect Production Forecasting



## 1. GEOLOGY

- Rock type and formation characteristics
- Depth, thickness, pressure
- Oil & gas characteristics (oil gravity, viscosity, water content, etc.)

## 2. DEVELOPMENT PLAN

- Well density and development rate
- Well bore size and completion technique
- Artificial lift and enhanced oil recovery
- Facilities & surface operations

## 3. COMMERCIAL

- Project economics
- Oil price and market conditions
- Government Policy: access, regulation, taxation

## 4. PRODUCTION PROFILE

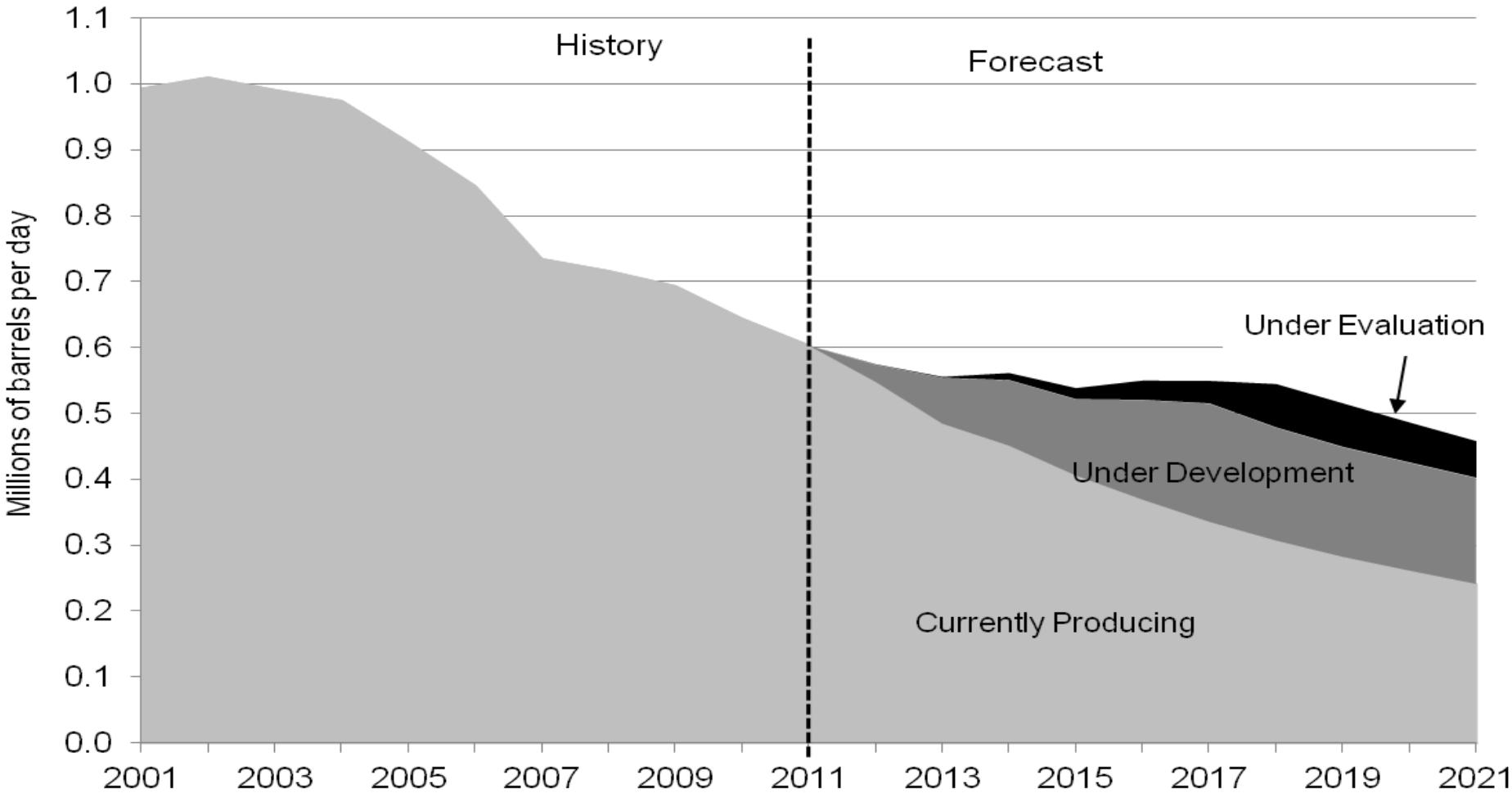
- History, stage of depletion
- Use production profile to extrapolate trends

## 5. TIMING!



# Forecasted ANS Production

## FY 2011 - 2021





# ANS Production Forecast and Decline Rates, FY 2012 - 2021



Fiscal Year	Currently Producing	% Change from Prior Year	Under Development	Under Evaluation	Total ANS	% Change from Prior Year
2011	0.603	(6.3%)	0.000	0.000	0.603	(6.3%)
2012	0.548	(9.1%)	0.026	0.001	0.574	(4.7%)
2013	0.485	(11.6%)	0.069	0.001	0.555	(3.3%)
2014	0.451	(6.9%)	0.099	0.010	0.561	1.0%
2015	0.406	(10.0%)	0.115	0.017	0.538	(4.1%)
2016	0.369	(9.1%)	0.151	0.029	0.550	2.1%
2017	0.336	(9.1%)	0.179	0.034	0.549	(0.1%)
2018	0.307	(8.5%)	0.171	0.066	0.544	(0.9%)
2019	0.282	(8.1%)	0.166	0.066	0.515	(5.4%)
2020	0.262	(7.4%)	0.164	0.061	0.486	(5.6%)
2021	0.241	(7.7%)	0.161	0.056	0.458	(5.8%)



# Production Forecast – Improvements in Methodology



- Created standardized reporting forms for production and reserve forecasting information.
- Petroleum Engineer and Petroleum Economists compiled the forecast information instead of reinterpreting data previously received.
- For first time, department received down time estimates requested historically and never provided.
- Followed up and met second time with industry to confirm department's assumptions and ensure forecast results were reasonable with the companies' projections.
- Production forecasting requires consideration of each project's geology, development plans, commerciality, production profiles, decline curves and timing.
- Department uses extensive well and field specific data acquired from producers, AOGCC, and DNR.
- New field development is very important in mitigating decline rates.



# Conclusion on Production

- Production forecasting requires consideration of each project's geology, development plans, commerciality, production profiles, decline curves and timing.
- Department uses extensive well and field specific data acquired from producers, AOGCC, and DNR
- New field development is very important in mitigating decline rates.



# Fall 2011 Oil Price Forecast



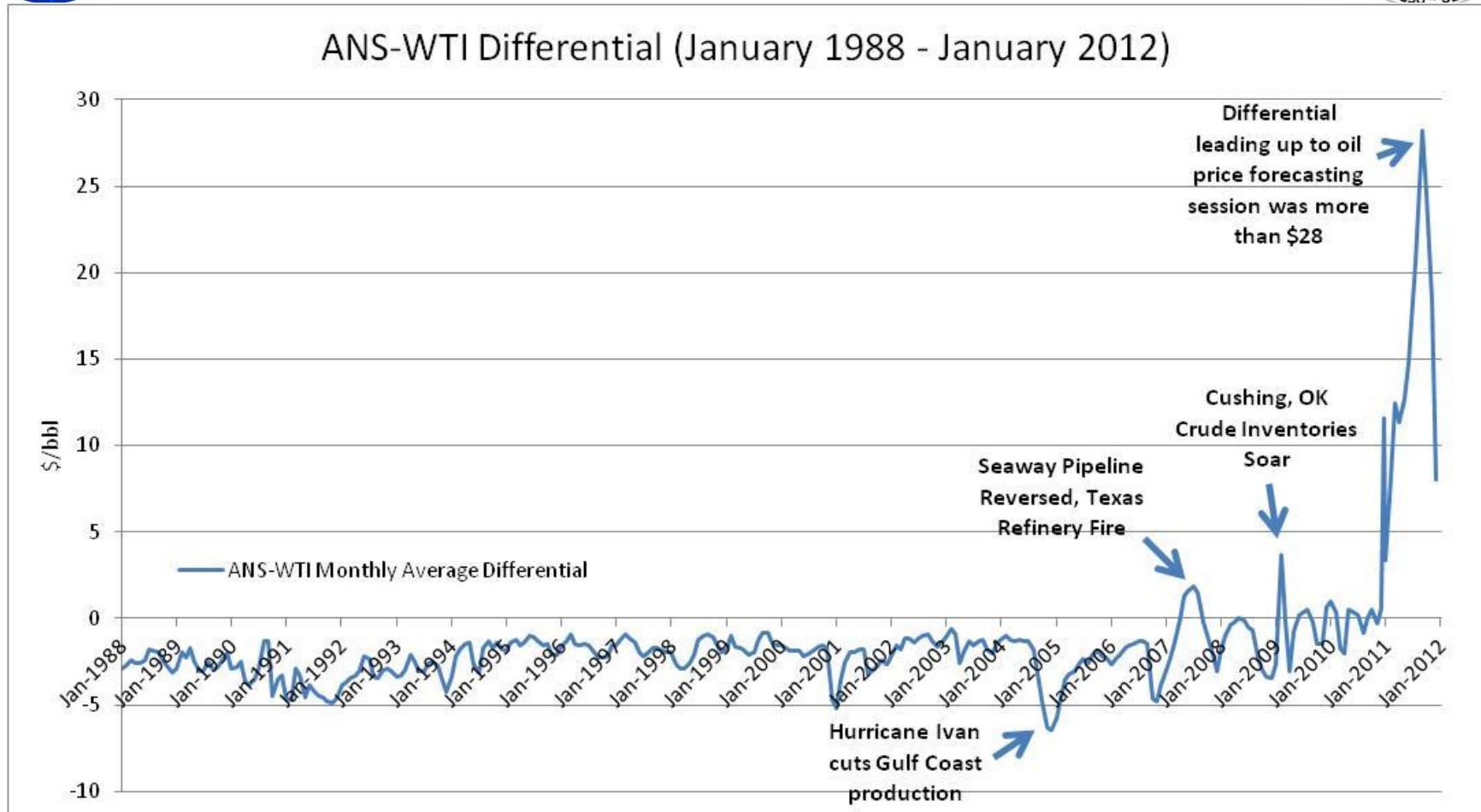
# Price Forecast Methodology



- Oil Price Forecasting Session held October 3, 2011, included 26 Participants from DOR, DNR, DOL, OMB, University, Legislative Finance and outside participants
- Forecasting Session Presentations included supply, demand, geopolitics, financial markets, outside expert forecasts, etc.
- FY 2011-2016: Average of participant forecast from Forecasting Session blended equally with NYMEX, EIA, and analysts to derive price forecast.
- Beyond FY 2016: Constant real price, 2.5% inflation
- Change in ANS-WTI differential methodology due to widening differential



# ANS-WTI Oil Price Differential



WTI, nominal dollars per barrel. Sources: DOR, Bloomberg, NYMEX, Energy Information Agency  
Alaska Department of Revenue



# ANS-WTI Oil Price Forecast

## Differential Methodology



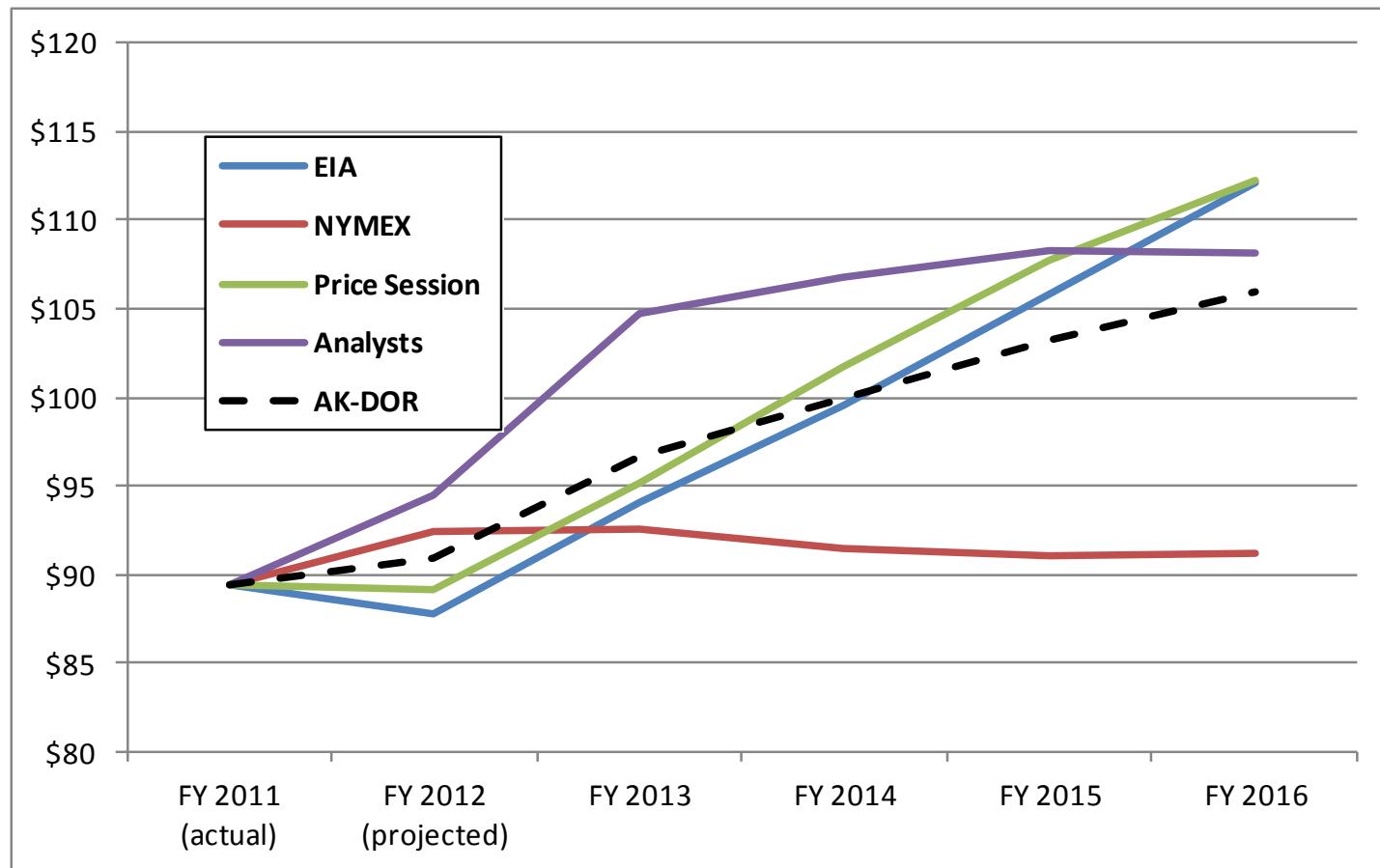
- Forecast the Brent-WTI Differential using futures
  - Use the Brent-WTI futures spread
- Forecast the ANS-Brent Differential using history
  - Use an assumption based on the historical ANS-Brent differential
- Taken together these make the ANS-WTI Forecast
  - $(\text{Brent-WTI}) + (\text{ANS-Brent}) = \text{ANS-WTI}$
  - Brent-WTI = \$26, ANS-Brent = -\$1
  - $\$26 + -\$1 = \$25$
- This differential narrows over time (currently \$16 per barrel) averaging \$18.41 for FY2012

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- Differential peaked at ~\$29 during Sept 2011; dropped to a low of ~\$7 for a few days at end of December 2011; has climbed to ~\$13 today
- RSB uses a differential of \$18.41 for FY12 and as of January 30, 2012 the average differential FY-to date was \$18.22



# Price Forecasts as of October 2011



WTI, nominal dollars per barrel. Sources: DOR, Bloomberg, NYMEX, Energy Information Agency  
Alaska Department of Revenue



# Fall 2011 DOR Oil Price Forecast



	Real \$		Nominal \$	
	WTI	ANS	WTI	ANS
FY 2011 (actual)	89.39	94.49	89.39	94.49
FY 2012 (projected)	88.71	106.66	90.92	109.33
FY 2013	91.97	104.20	96.62	109.47
FY 2014	92.75	101.29	99.88	109.08
FY 2015	93.50	98.52	103.21	108.75
FY 2016	93.60	95.27	105.90	107.79

\*Note: FY 2012 forecast includes one quarter of actual prices.

Forecast is made in terms of Real WTI , then adjusted using 2.5% inflation rate and a forecast differential to ANS.



# Fall 2011

# Lease Expenditure

# Forecast



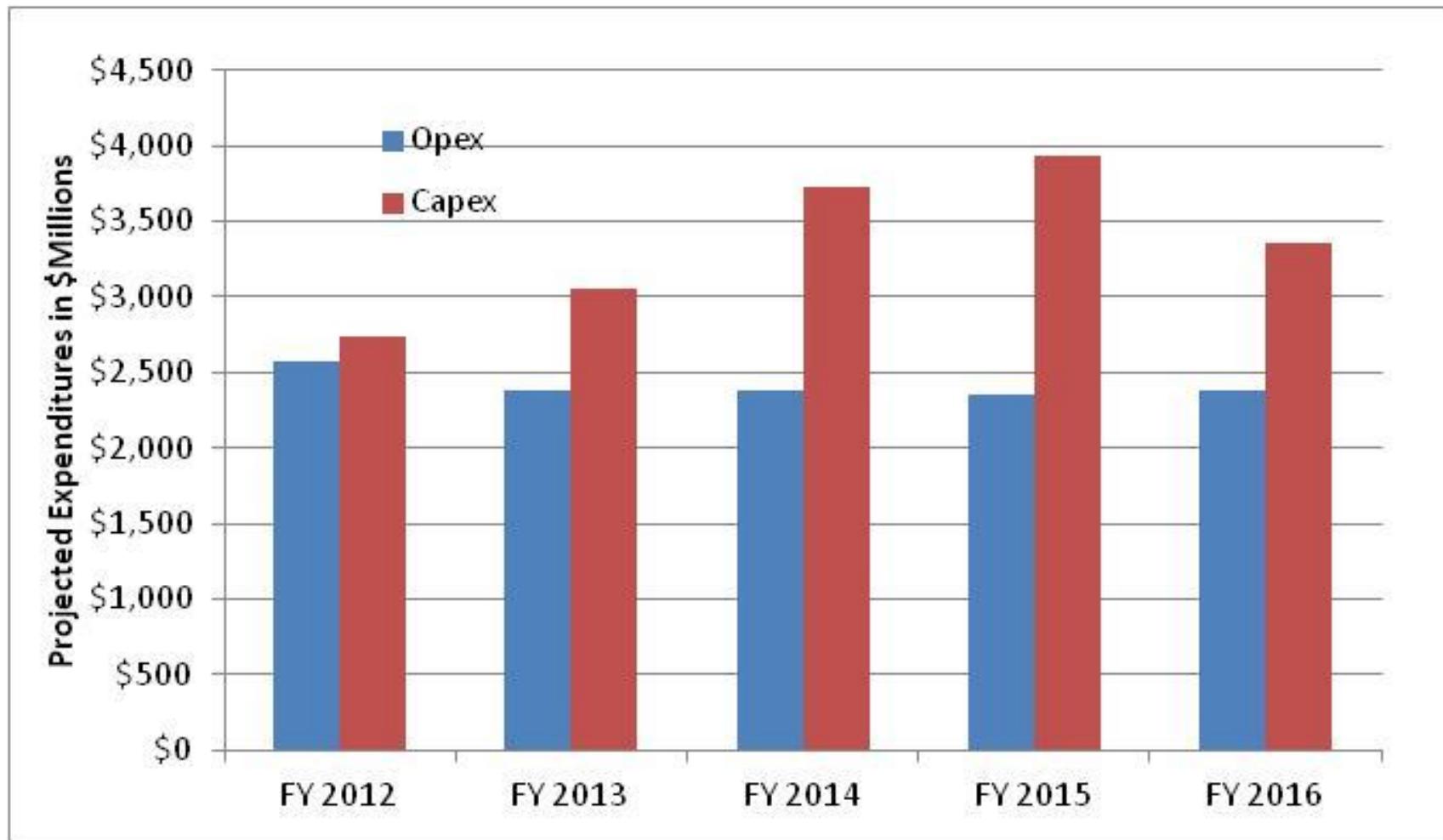
# Lease Expenditure Forecast Methodology



- Request capital and operating lease expenditure projections from North Slope unit operators in the fall and the spring of each year in writing for the next five years from the current year
- Meet with and request spending projections from companies that are not currently producing but have announced drilling and/or development plans
- Review and coordinate with production forecast regarding anticipated developments outside the five-year time horizon received from operators
- Update long-term capital and operating expenditure projections based on new information



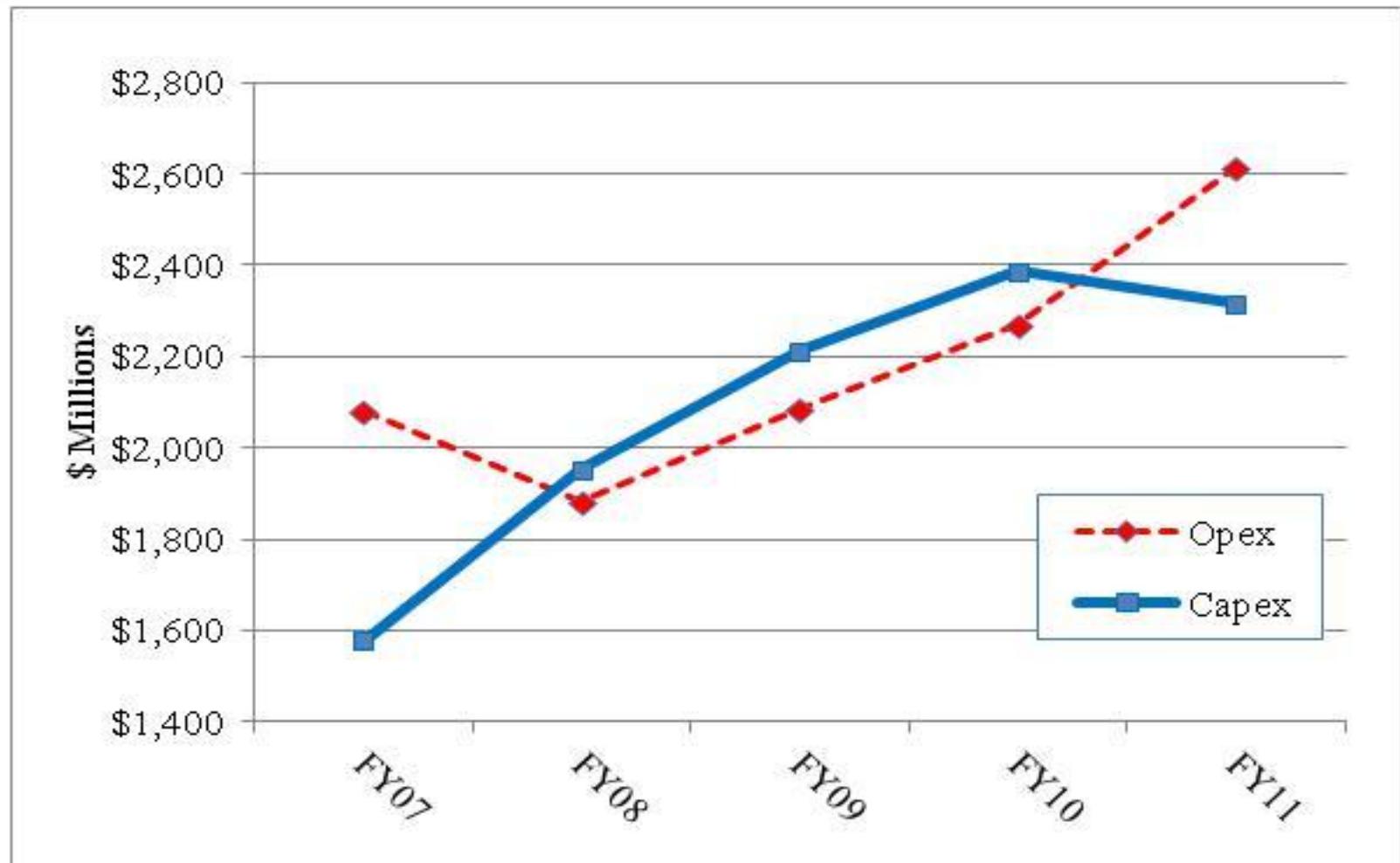
# Forecasted North Slope Expenditures, FY 2012 – FY 2016



Source: Fall 2011 Revenue Forecast

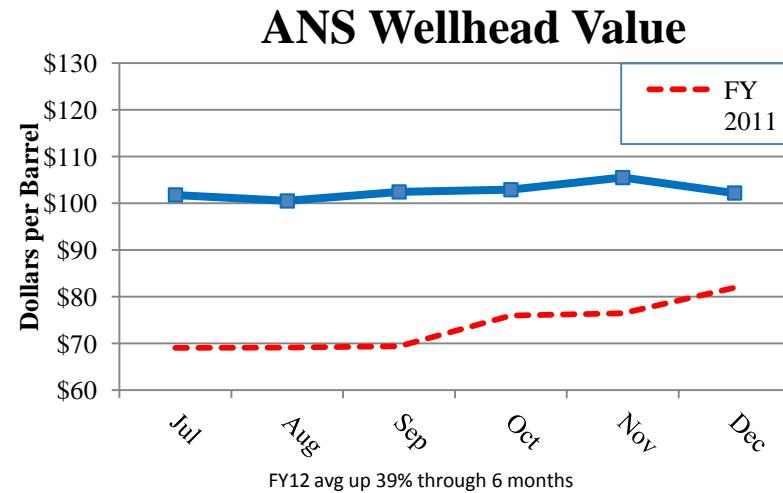


# Historical Actual Expenditures, FY 2007 – FY 2011

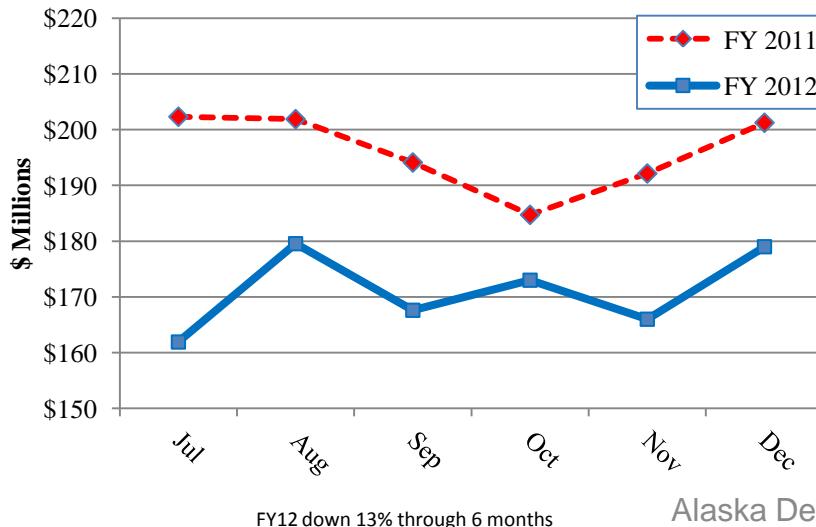




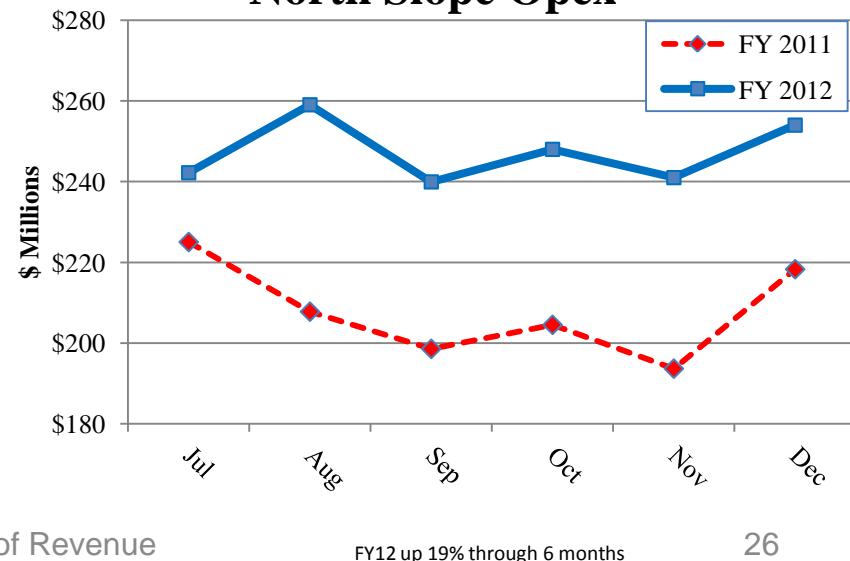
# FY 2011 & FY 2012 Wellhead Values, North Slope Capex and Opex



### North Slope Capex



### North Slope Opex





# Production Tax Credits Update



# Production Tax Credits

Total Production Tax Credit Impact through FY 2013  
(\$M)

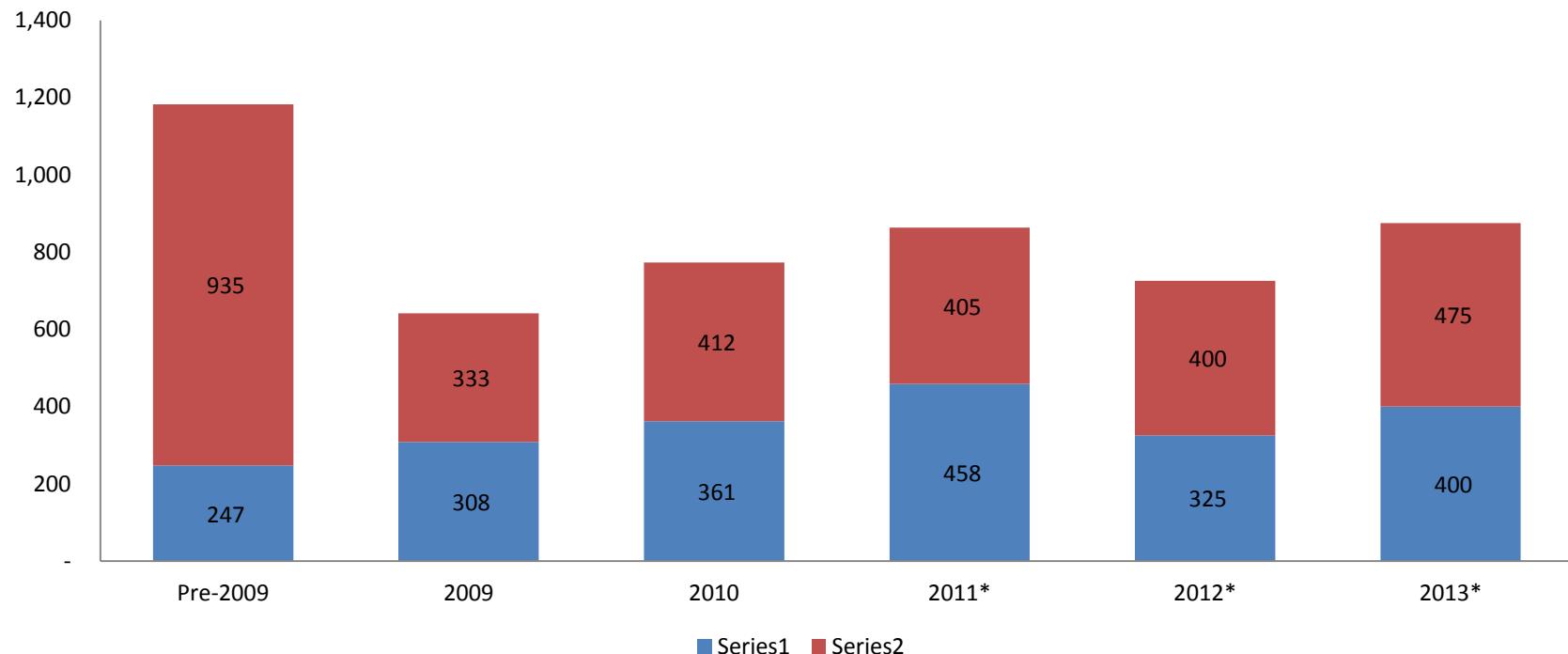
	Pre-2009	2009	2010	2011*	2012*	2013*	Total
Tax Credit Certificates	247	308	361	458	325	400	2,099
Credits Applied Against Production Tax Liability	935	333	412	405	400	475	2,961
Total by Year	<u>1,182</u>	<u>641</u>	<u>773</u>	<u>863</u>	<u>725</u>	<u>875</u>	<u>5,060</u>

\*Estimated pending final true-ups



# Production Tax Credits

By Fiscal year



\* Estimates pending final true-ups



# Transferable Tax Credits Certificates Claimed by Fiscal Year (\$M)



Credit Type	Pre-2008	2008	2009	2010	2011	2012*	Total
Capital Expenditure - .023(a)(1)	52.3	78.4	66.9	114.9	160.7	83.4	556.7
Capital Expenditure Exploration - .023(a)(2)	15.9	13.3	42.6	34.7	4.6	0.4	111.5
Net Operating Loss .023(b)	38.1	148.5	153.8	140.4	188.6	8.3	677.7
Well Lease Expenditure - .023(l)					9.4	23.8	33.2
Exploration -.025	<u>93.2</u>	<u>85.5</u>	<u>56.6</u>	<u>99.5</u>	<u>2.4</u>	<u>2.5</u>	<u>339.7</u>
Total	<u>199.6</u>	<u>325.7</u>	<u>320.0</u>	<u>389.5</u>	<u>365.7</u>	<u>118.4</u>	<u>1,718.9</u>

\* through December 2011



# Transferable Tax Credit Certificate Activity by Fiscal Year (\$M)



	Pre-2008	2008	2009	2010	2011	2012*	Total
Issued	116.0	130.8	308.0	361.3	458.0	132.9	1,507.1
Refunded	(54.6)	(54.1)	(193.1)	(250.5)	(450.2)	(273.5)	(1276.1)
Transferred/ Applied to Taxes	<u>(52.3)</u>	<u>(62.7)</u>	<u>(46.6)</u>	<u>(20.0)</u>	<u>(7.4)</u>	<u>0</u>	<u>(189.0)</u>
Activity by year	9.1	14.0	68.3	90.8	.3	(140.5)	
Transferable Tax Credit Certificates Outstanding	<u>9.1</u>	<u>23.1</u>	<u>91.5</u>	<u>182.3</u>	<u>182.6</u>	<u>42.0</u>	<u>42.0</u>

\* through December 2011



# Credits Applied Against Production Tax Liability, by Fiscal Year (\$M)



	<u>Pre-2009</u>	<u>2009</u>	<u>2010</u>	<u>2011*</u>	<u>2012*</u>	<u>2013*</u>	<u>Total</u>
Capital Exp Credit AS 43.55.023(a) & (l)	511	278	342	345	360	415	2,252
TIE Credits AS 43.55.023(i)	244	0	0	0	0	0	244
Small Producer Credits AS 43.55.024	77	27	27	41	35	35	242
Exploration Credits AS 43.55.025	103	28	42	19	5	25	222
<b>Totals</b>	<b><u>935</u></b>	<b><u>333</u></b>	<b><u>412</u></b>	<b><u>405</u></b>	<b><u>400</u></b>	<b><u>475</u></b>	<b><u>2,961</u></b>

\*estimated pending final true-up



# The End Questions?