Fall 2010 Oil Production Forecast

Presentation to the House Finance Committee
March 16, 2011
Alaska Department of Revenue
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. GEOLGY
   • 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!
North Slope Production Decline

FY 1988: production peak → 2.01 million barrels per day (bpd).

FY 2010: production → 644,000 bpd, a 68% decline since peak.

FY 1988 to date: production decline rate ~ 5% per year, on average.

Over the last 10 years, production decline rate ~ 4.2% per year, on average.

We expect the decline rate to flatten out to 3.2% per year, on average, through FY 2030.
ANS Production History & Forecast

Annual North Slope Production and Contribution of Fields

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<tr>
<th>HISTORY</th>
<th>FORECAST</th>
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<td>Northstar</td>
<td>Point Thomson</td>
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Source: Fall 2010 Revenue Sources Book

3/15/2011
Forecasted ANS Production
FY 2010 - 2020

History
Forecast

Under Evaluation
Under Development
Currently Producing

Source: Fall 2010 Revenue Sources Book
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.