Major Cook Inlet Oil & Gas Fields

Cook Inlet Offshore Fields:
- 7 fields: 4 oil, 3 gas
- 16 Platforms (12 active)

Cook Inlet Onshore Fields:
- 29 fields: 26 gas, 3 oil
- 3 gas storage facilities

Total Cook Inlet Production
- Oil 13,300 BOPD
- Gas 410 MMCFPD
= 81,600 BOEPD

Looking Ahead
Recent Cook Inlet Oil and Gas Development Activity

2008 Major Cook Inlet Development Projects

- Ivan River (Union): New gas well
- Stump Lake (Union): New Gas Development Well
- Beluga River (ConocoPhillips + ML&P+Chevron): 2 Gas Development Wells & 1 Work-over
- North Cook Inlet (ConocoPhillips): 4 Gas Develop + Well Work-overs
- Swanson River (Union): 1 Gas Develop + Well Work-over
- Kenai Field (Marathon): 6 Gas Develop Wells
- Ninilchik (Marathon + Union): 3 gas development wells, compression
- Happy Valley (Union): 2 Gas Develop Wells & Fracs
- Granite Point (Union): 2 Oil Development Wells
- Grayling Gas Sands (Union + Marathon): 2 gas wells, compression
- MacArthur River & Trading Bay (Union + Pacific): 6 Oil Work-overs, ESP Conversions,
- Cosmopolitan (Pioneer): 1 Gas Develop Wells
- Stump Lake (Union): New Gas Development Well
- Ninilchik (Marathon + Union): 3 gas development wells, compression
- Happy Valley (Union): 2 Gas Develop Wells & Fracs

Looking Ahead
Cook Inlet Oil Development

- Cook Inlet oil production has declined dramatically from a high of >200,000 BOPD
  - Today, Cook Inlet oil production is approximately 13,000 BOPD

- As a result of recent plunge in oil prices, oil producers are re-evaluating plans for a multi-year investment program to stabilize and increase production of Cook Inlet oil fields
  - Oil development & operating costs in Cook Inlet are among the highest of any basin in the US
  - Recent oil redevelopment efforts have been focused on Granite Point, McArthur River, and Trading Bay Fields
  - At current oil price, producers are re-evaluating oil development program economics for planned 2009 investments and for longer-term field life impacts
Cook Inlet Gas
Supply-Demand Outlook

- Cook Inlet gas supply has recently began to decline from historic levels
  - Large gas surplus in Cook Inlet since 1960’s
  - Due to remote location, Cook Inlet is semi-closed basin for natural gas production (commercial, industrial & residential end-users)
  - Major gas fields are in decline, although producers are continuing to invest at significant rate
  - Recent gas exploration results have been generally disappointing
  - Significant geographic restrictions to future gas field development in Cook Inlet
Cook Inlet Gas…
Where Does It Go?

LNG Plant, 42%

LNG, 180

Agrium, 0

ENSTAR, 82

Chugach, 68

ML&P, 35

Tesoro, 10

Others + Fuelgas, 55

Fuelgas, 13%

LNG Plant, 42%

Others + Fuelgas, 13%

Electric Power, 24%

Home & Business Heating, 19%

Agrium Fertilizer

Tesoro, 2%
Cook Inlet Gas Supply is Declining

Cook Inlet Gas Production by Field - MCF By Month
Source = AOGCC

8-14% decline

BELUGA RIVER
NORTH COOK INLET
MARTHUR RIVER
KENAI
NINILCHIK
DEEP CREEK
KENAI C.L.U.
BEAVER CREEK
SWANSON RIVER
W FORELAND
STERLING
Others (23)
Cook Inlet Historic and Projected Natural Gas Production 1958 – 2026
Source – AK Division of Oil & Gas, Dec, 2006

Looking Ahead
Cook Inlet Gas Development Program

Gas producers are focused on maintaining gas production to meet deliverability commitments

- Major investment in gas development projects in Ninilchik Field, Grayling Gas Sands, N. Cook Inlet, Beluga River, Kenai, Beaver Creek, Ivan River & Stump Lake gas assets
- Gas storage is critical to meet winter demand
- Projected capital investment (based on public data) by all producers of $300-500 million over next three to five years under stable market conditions
- There are gas contract openings currently available with major Cook Inlet utilities
Key Cook Inlet Program Challenges & Uncertainties

• Cook Inlet Oil Redevelopment Program
  - Recent development well performance has not met expectations
  - Drilling and facilities costs are much higher than in Lower 48
    - West Texas 7000’ well costs ~$1MM to drill & complete
    - Anna Platform 7000’ well costs ~$10MM to drill & complete
  - Significant cost to maintain aging infrastructure & facilities
  - Uncertainty in future regulatory requirements

• Cook Inlet Gas Development Program
  - Present decline rates of existing gas fields will make it very difficult to maintain current gas deliverability
  - Fracture stimulation technology may help Cook Inlet gas fields
  - LNG plant helps back-stop winter gas & provides summer market
  - Gas market uncertainty and seasonal demand swings
Cook Inlet In Summary...

- Oil & gas development cost structure in Cook Inlet is very high
- Oil development economics are very price sensitive
- Drilling and geologic risks are high
- Fields are mature and in decline
- Gas deliverability is significant concern
- Addressing existing challenges will require greater cooperation and constructive engagement between producers, regulatory agencies & utilities