Great Bear Petroleum Operating Update

Presentation to the Senate Resources Committee
Juneau
April 25, 2012
Reestablishing Alaska’s Energy Prominence through Responsible Resource Development

Source: State of Alaska, Department of Natural Resources, Division of Oil and Gas
Winter 2012
3-D Seismic Program
Plan of Development
A Staged Approach to Development

2012
Proof of Concept
(Date Collection and Play Tests)
- Vertical wells with horizontal sections
- Vertical wells to be drilled to Shublik, cored through all 3 main shales
- Multistage frac tests are planned

2013
Pilot Plant (Trucking Operations)

2014
Pilot Development- 1 Year Production Profile

2015
Development Corridor #1

2016+
Full Field Development (Corridor Expansion)

Phase 1

Phase 2
Pilot Production
(Mobile Processing Module Approach)
- Gravel pad (up to 24 wells)
  - Up to 2 production modules
  - (5,000 to 10,000 BOPD each)
- Facilities (drill slots, yard piping)
  - Pipeline to PS1
  - Pump station tie-in
  - Power
  - Gas compression
  - Tanks
  - Water disposal
  - Road

Phase 3
Full Development
(Production Ramp-Up)
- Create Development Corridor
  - 8 pads (up to 192 wells)
  - 1 Central Processing Unit
- Tactical growth east and west from initial Development Corridor
- Targeting 1 new Development corridor per year

Planning for success and participating in securing Alaska’s future
North Alaska Shale Resource Play Realization: Challenges and Business Development Opportunities

- Gravel Supply: Regionally available
- Water Supply: Extensive subsurface brackish aquifer sources
- Sand (Proppant) Supply: Intra-State opportunity and global suppliers
- Gathering Systems (Tanks/Trucks or Pipelines or Both): Long term, skilled employment
- Fluid Disposal/Recycling: Existing and new facilities
- Gas use/disposal in area: Power generation, liquids and longer term gas line export
- Surface Impacts/Dust and Emissions: AC Rigs and multi-well development pads
- Centralized Service Area with power source: Modular startup transitioning to centralized
- Power distribution – Stand alone per pad; through power lines: “Utility” grid corridors
- Use of Insulation and composite pads to extend ice pads and roads: Not fit for development
- Staging area for pipe, equipment, housing, warehousing: Existing facilities and purpose built
- Road and bridge requirements: Design to minimize surface impact
- Fuel Refining, Storage and Distribution: Existing facilities and custom
- Drinking Water Supply: Multiple options identified included desalination of subsurface water
- Sewage Treatment/Disposal: Existing and custom in-field facilities planned
- Trucking Impacts: Maximize development design efficiencies

Challenges are Opportunities that inspire and drive innovation.
Critical Skilled Work Force: Attracting, Developing and Retaining

How do we, as an industry, best insure that we have adequate access to critical skillsets?

This is just not about raw numbers. The oil and gas industry is built on high level science and engineering skills that create the opportunities for large scale, long term employment.

A huge challenge is forecasting large increases in work force demand, far enough in advance, to allow us to act proactively.

What a great problem to have –

In 2010, in the Commonwealth of Pennsylvania, Marcellus associated activity generated approximately 44,000 jobs. (Penn St, 2011)

By 2020, within a 24 county region of Eagle Ford Shale development in South Texas, there is a forecasted creation of 68,000 fulltime jobs. (UTSA, 2011)

The success case for development in Alaska of shale oil, known heavy and viscous oil resources, and incremental additions of “conventional” reserves will have major impact on the long term Alaskan job market.
The Alaska Finding and Development Cost Challenge

How do we create an operating environment on the North Slope that has finding and development cost per barrel equal to or better than competing plays in the lower 48?