Lunch and Keynote Address

Speaker:
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July 31, 2012
Anchorage Marriott Downtown
OUTLINE

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Introduction

**PART II:**
Alaska’s Resource Challenges and Opportunities

**PART III:**
Alaska’s Shale Potential

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Responsible Resource Development
Part I

Introduction
Land Base
- 586,412 square miles—more than twice the size of Texas
- Is larger than all but 18 sovereign nations
- Has more coastline than all other U.S. states combined
- Has more than 3 million lakes and half of the world’s glaciers
- Is the least densely populated U.S. state

Land Ownership
- Federal Land: more than 200 million acres
- State Land: Approx. 100 million acres of uplands, 60 million acres of tidelands, shore lands, and submerged lands, and 40,000 miles of coastline
- Native Corporation Land: 44 million acres

DNR:
- Manages one of the largest portfolios of oil, gas, minerals, renewable resources, water, and land in the world
- Manages all oil and gas fields on state land, including two of the largest oil and gas fields in North America
- Oversees all activities that occur on state land
North Slope
USGS estimates that Alaska’s North Slope has more oil than any other Arctic nation

- **OIL:** Est. 40 billion barrels of conventional oil (USGS & BOEMRE)

- **GAS:** Est. 200 trillion cubic feet of conventional natural gas (USGS)

• Alaska has world-class unconventional resources, including tens of billions of barrels of heavy oil, **shale oil**, and viscous oil, and hundreds of trillions of cubic feet of shale gas, tight gas, and gas hydrates

Cook Inlet
USGS estimates that significant undiscovered volumes of hydrocarbons remain to be found in the Cook Inlet:

- 19 trillion cubic feet of natural gas
- 600 million barrels of oil
- 46 million barrels of natural gas liquids

*Compared to most basins, Alaska is relatively underexplored, with 500 exploration wells on the North Slope, compared to Wyoming’s 19,000.*
The State of Alaska Ranks in the *Top Ten in the World* for Important Minerals, Including:

- **Coal**: 17% of the world’s coal; *2nd most in the world*
- **Copper**: 6% of the world’s copper; *3rd most in the world*
- **Lead**: 2% of the world’s lead; *6th most in the world*
- **Gold**: 3% of the world’s gold; *7th most in the world*
- **Zinc**: 3% of the world’s zinc; *8th most in the world*
- **Silver**: 2% of the world’s silver; *8th most in the world*

*USGS estimates*

According to the USGS, Alaska has over 70 occurrences of Rare Earth Elements (REE).
PART II

Alaska’s Resource Challenges and Opportunities
Alaska Still Faces Significant Challenges

- TAPS Throughput
- Investment Climate
- Commercializing NS Gas
- Strategic & Critical Minerals Exploration & Production
- State and Federal Permitting
Identifying challenges is the first step. To address these challenges, we have undertaken comprehensive, statewide strategies.

- Secure Alaska’s Future—Oil
- Benchmarks for Commercializing NS Gas
- Secure Alaska’s Future—Strategic & Critical Minerals
- Statewide Permitting Reform & Modernization
Objective:
The State of Alaska’s Comprehensive Strategy to Increase TAPS Throughput to One Million Barrels/Day

I. Enhance Alaska’s global competitiveness and investment climate

II. Ensure the permitting process is structured and efficient

III. Facilitate and incentivize the next phases of North Slope development

IV. Unlock Alaska’s full resource development potential through partnerships with key stakeholders

V. Promote Alaska’s resources and positive investment climate to world markets
III. Facilitate and incentivize the next phases of North Slope development

- Advance the commercialization of OCS resources
- Advance the commercialization of federal onshore resources: NPR-A and ANWR 1002 Area
- Advance the commercialization of unconventional resources: heavy, viscous, and shale oil
- Advance the commercialization of smaller pools of conventional oil

1. Enact oil tax reform to incentivize development of unconventional resources
2. Review and remove regulatory hurdles that may hinder development of unconventional resources
3. Organize an industry-government partnership to drill deep stratigraphic test wells in unexplored areas to provide new subsurface data that will help assess the potential of conventional and unconventional resources
4. Survey how other unconventional resource basins attract investment
5. Focus geological, geophysical, and engineering investigations on the vast heavy oil deposits on the North Slope to take advantage of significant untapped resources
6. Make Alaska the cutting-edge research center on unconventional oil and environmental issues in Arctic climates
PART II

Alaska’s Shale Potential
Alaska’s Shale Potential

- USGS “Assessment of Potential Oil and Gas Resources in Source Rocks (Shale) of the Alaska North Slope 2012 – Overview of Geology and Results”
  - By David W. Houseknecht, USGS

- Division of Oil & Gas analysis—An Eagleford Analog

- Great Bear undertaking “Proof of Concept” activity underway vs. shale potential—Good News
### Well Facts

- Alaskan analog is thought to be Eagle Ford Shale, TX

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<td>I/II-S (oil)</td>
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Alaska’s Shale Potential - Challenges/Obstacles -

- Alaska is not North Dakota or Texas
  - We do not have section-line roads to facilitate pads
  - Exploration and production not occurring on private lands, lending to a stricter (and sometimes cumbersome) regulatory climate
- One federal permit still required to move forward—U.S. Army Corps of Engineers’ Wetlands permit
- Natural gas production as a by-product—state currently lacks infrastructure for commercialization
- We have transport capacity = TAPS
- DNR-led Interagency Shale Task Force
- Most of high-potential shale acreage is on state land between the Canning and Colville rivers
- Alaska Legislature is funding baseline environmental data collection
Governor’s Roadmap to Gasline

1. Resolve Point Thomson

2. Align during the first quarter of 2012

3. Two projects—under AGIA and AGDC—complete discussions by third quarter of 2012 determining what potential exists to consolidate projects

4. Harden numbers on an Alaska LNG project by the third quarter of 2012, and identify a pipeline project and associated work schedule

5. If milestones are met, the 2013 Legislature takes up gas tax legislation designed to move the project forward

WSJ: Alaska, Gas Firms Clear Way For Pipeline

Point Thomson settlement “...paves the way for a pipeline project to ship natural gas from the North Slope, unleashing the state's massive gas reserves.” - WSJ, 3/30/12
PART IV

Responsible Resource Development
Because of efforts taken by federal, state, and local governments and the energy industry, oil and gas development in Alaska is conducted in a safe and responsible manner with standards that exceed most other jurisdictions in the world.

- Responsible resource development and protecting the environment go hand in hand
- **We all must be leaders in this regard**
- In Alaska, our efforts to protect the environment and wildlife have been successful. For example:
  - When debating the development of the Trans-Alaska Pipeline System (TAPS), many predicted that oil and gas development would decimate caribou herds
  - These predictions have not come true
  - In fact, caribou have thrived over the past 35 years. The Central Arctic caribou herd, which occupies summer ranges surrounding Prudhoe Bay—*the largest oil field in North America*—has grown from 5,000 in 1975 to over 66,000 today
Oil and gas development in Alaska is conducted in a safe and responsible manner with some of the most stringent standards in the world:

- "No impact exploration"
- No operations can be conducted within one mile of polar bear dens
- The state will not lease acreage in sensitive areas
- The state encourages the unitization of leases
- Whenever possible, onshore pipelines are buried to minimize impacts on wildlife

- if pipelines are built above ground, they are elevated so caribou can migrate
- Alaska mandates that operators use the best available technology for oil discharge containment, storage, transfer, and cleanup
- Nearly 50 years of operations in Cook Inlet have coexisted with world-class fisheries