Brief History

First discovery of commercial quantities of oil in Alaska (1902)

Richfield discovered the Swanson River deposit on the Kenai Peninsula in 1957

1959: Statehood for Alaska!
• 1961: First oil from Swanson River starts flowing
• Alaska faces a budget deficit
• State Legislature enacts a personal income tax, alcohol taxes and others taxes to fill the gap
• Exploration on the Kenai Peninsula and in Cook Inlet increases
Discovery of Prudhoe Bay

- 1968: Atlantic Richfield and Humble Oil announce discovery of Prudhoe Bay, the largest oilfield in North America
- State doubles oil revenues in six years, to $52 million, or 46 percent of unrestricted dollars (All from the Kenai Peninsula)
Pipeline Construction

• 1974: Construction on the pipeline begins - largest private construction project ever undertaken
• 1976: Alaskans vote to create the Permanent Fund
• Oil production on the Kenai Peninsula continues to grow
Industry Drives the Alaskan Economy

One-third of all Alaska’s jobs, approximately 110,000 jobs are attributed to the oil and gas industry.

Source: University of Alaska Anchorage, Prof. Scott Goldsmith presentation, December 2008

One oil/gas industry job creates 9 other jobs in Alaska.

“...without oil, [Alaska’s] economy today would be only ½ the size.”

University of Alaska Anchorage, ISER report, Prof. Scot Goldsmith, February 2011
Single-largest State taxpayer

- State has collected more than $170+ billion since Statehood
- FY 2013, $6.3 billion for about 734,000 residents
- FY 2013 = 92%

About 90% of state tax revenues come from the oil and gas industry

Source: Alaska Dept. of Revenue, April 5, 2013 presentation
A Prosperous Partnership

- PERMANENT FUND DIVIDEND PAYMENTS
- NO STATEWIDE INCOME OR SALES TAX
Cook Inlet – Getting Back to What Started it All

CI oil and gas production

- Oct. 2012: 11,243 bbls/day
- Sept. 2013: 16,399 bbls/day
- 17 rigs in Nov. 2012
North Slope
Alaska slips to fourth place
Every State – But Alaska – Increased Production
History of Taxation System

- 1989 – Gross Tax: ELF
- 2005 – ELF Aggregation
- 2006 – PPT
- 2007 – ACES
- 2013 – SB 21 (MAPA)
Despite Decades of Production, Alaska remains Rich in Resources

<table>
<thead>
<tr>
<th>RESOURCE POTENTIAL</th>
<th>STATE LAND</th>
<th>FEDERAL LAND</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cook Inlet</td>
<td>Offshore Arctic</td>
</tr>
<tr>
<td></td>
<td>599 mbo and 19 tcf gas</td>
<td>27 bbo and 132 tcf gas</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
<td>Onshore North Slope</td>
<td>Offshore Arctic</td>
</tr>
<tr>
<td></td>
<td>Conventional:</td>
<td>27 bbo and 132 tcf gas</td>
</tr>
<tr>
<td></td>
<td>5 bbo and 35 tcf gas</td>
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<tr>
<td></td>
<td>Heavy/Viscous:</td>
<td>NPR-A</td>
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<tr>
<td></td>
<td>24-33 bbo</td>
<td>896 mbo and 53 tcf gas</td>
</tr>
<tr>
<td></td>
<td>Unconventional:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 bbo and 12 tcf gas</td>
<td>ANWR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 bbo and 3.5 tcf gas</td>
</tr>
</tbody>
</table>

mbo – million barrels of oil  bbo – billion barrels of oil  tcf – trillion cubic feet
Future – Outer Continental Shelf (OCS)

Mega Potential

• 27 billion barrels of oil
• 132 trillion cubic feet gas
• Prefer the pipeline to move oil
• 54,700 potential U.S. jobs
Incredible Opportunity that Must be Realized

<table>
<thead>
<tr>
<th>Petroleum Province</th>
<th>Crude Oil (billion barrels)</th>
<th>Natural Gas (trillion cubic feet)</th>
<th>Natural Gas Liquids (billion barrels)</th>
<th>Total (oil equivalent in billions of barrels)</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Siberian Basin</td>
<td>3.66</td>
<td>651.50</td>
<td>20.33</td>
<td>132.57</td>
</tr>
<tr>
<td>Arctic Alaska</td>
<td>29.96</td>
<td>221.40</td>
<td>5.90</td>
<td>72.77</td>
</tr>
<tr>
<td>East Barents Basin</td>
<td>7.41</td>
<td>317.56</td>
<td>1.42</td>
<td>61.76</td>
</tr>
<tr>
<td>East Greenland Rift Basin</td>
<td>8.90</td>
<td>86.18</td>
<td>8.12</td>
<td>31.39</td>
</tr>
<tr>
<td>Yenisey-Khatanga Basin</td>
<td>5.58</td>
<td>99.96</td>
<td>2.68</td>
<td>24.92</td>
</tr>
<tr>
<td>Americas Basin</td>
<td>9.72</td>
<td>56.89</td>
<td>0.54</td>
<td>19.75</td>
</tr>
<tr>
<td>West Greenland-East Canada</td>
<td>7.27</td>
<td>51.82</td>
<td>1.15</td>
<td>17.06</td>
</tr>
</tbody>
</table>

Oil and gas in the Arctic

Area north of the Arctic Circle has an estimated 90 billion barrels of undiscovered oil.

Probability of finding oil, gas:
- 50-100%

Arctic accounts for 13% of undiscovered oil, 30% of undiscovered natural gas, 20% of undiscovered natural gas liquids.
Impediments to Progress in the OCS

- Lease Sale 193 Litigation
- DOI Arctic Regulations
- DOI Air Authority
- ESA Issues
- Exploration NPDES General Permit for Beaufort Sea
- Draft Geotechnical NPDES GP for Beaufort & Chukchi Seas
Endangered Species Act in Alaska
Other Regulatory & Access Issues in Alaska

- ANWR CCP
- NPRA Management Plan
- EPA Small Remote Incinerators
- EPA Watershed Assessment
- Temporary Drill Rig Air Permitting
- Anti-Degradation Regulations

- Hydraulic Fracturing Regulations
- NOAA Acoustic Criteria
- FWS NWR Rulemaking
- Beaufort & Chukchi Sea ITR’s
- ARRT Authorization Plan
- APDES & NPDES General Permits
Key Concepts

- Permitting involves multiple layers of government (federal, state, local)
- Jurisdiction often overlaps (C-Plans, UIC, Pipelines)
- Programmatic reviews/approvals vs. specific authorizations
- Not all regulatory requirements require permits, but do require investment and planning for compliance
## Typical Permitting Requirements

### Onshore Exploration: State Lands

#### Federal
- Camp wastewater discharge permit*
- Polar bear Letter of Authorization

#### State
- Land use permit (ice road, off-road travel)
- Fish habitat permit
- Water use permit (ice road, drilling, camp)
- Lease/Unit Operations approval
- Air Quality Permit – drill rig and camp
- Oil Discharge Prevention and Contingency Plan / C-Plan
- Drilling waste storage
- Permit to Drill

#### NSB
- Development Permit (or admin approval)

### Offshore Exploration: OCS

#### Federal
- BSEE Exploration Plan
- Permit to Drill
- Oil Spill response plan
- Wastewater discharge
- Endangered species consultation
- Polar bear Letter of Authorization
- Seal / whale Incidental Harassment Authorization
- Air Quality Permit – drill rig and camp

#### State
- Land use permit (ice road, off-road travel)
- Water use permit (ice road, drilling, camp)

#### NSB
- Development Permit

### Onshore Development: State Lands

same requirements as exploration permits plus:

#### Federal
- Environmental Impact Statement or Assessment
- Endangered species consultation
- Section 404/10 permit for gravel fill
- Injection well authorization

#### State
- Gravel materials sales contract
- Lease/Unit Operations approval
- Waste management facility / wastewater disposal
- Pipeline right-of-way
- Wastewater and stormwater discharge permit*

#### NSB
- Rezoning
### Generalized Permitting Timeframes

*Timeframes are from the submittal of complete application, and do not include baseline data collection or preconstruction monitoring – these could add additional 1-3 years*

<table>
<thead>
<tr>
<th>Category</th>
<th>Projects</th>
<th>Timeframe</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Projects</td>
<td></td>
<td>(2 - 4 weeks)</td>
<td>• New modules/skids</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• VSMs</td>
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<td></td>
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<td></td>
<td>• Cable trenching</td>
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<td></td>
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<td></td>
<td>• In-field ice road</td>
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<tr>
<td>Medium Projects</td>
<td></td>
<td>(&gt; 9 months)</td>
<td>• Gravel pad expansion</td>
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<td></td>
<td></td>
<td></td>
<td>• Small, new pads</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Pipelines (non-common carrier)</td>
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<td></td>
<td></td>
<td></td>
<td>• Exploration well</td>
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<td></td>
<td></td>
<td></td>
<td>• New water source</td>
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<td></td>
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<td></td>
<td>• New gravel source</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Contaminated site rehab</td>
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<td></td>
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<td></td>
<td>• Solid waste storage facility</td>
</tr>
<tr>
<td>Large Projects</td>
<td></td>
<td>(&gt; 20 months)</td>
<td>• Multiple new pads</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• New developments</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Modification or new emissions (air permit)</td>
</tr>
</tbody>
</table>
Programmatic Reviews

• National Environmental Policy Act (NEPA)
  • Required for federal actions that could significantly affect the environment – includes permit issuance
    • EIS or EA
  • Conducted by the federal agency, sometimes with cooperating agencies; applicant role varies
  • EIS = multi-year, multi-millions of dollars
  • Litigation prone (procedural grounds, recently substantive)
  • Challenge to coordinate all approvals timing
Practicalities

• Long lead time approvals / permits drive the schedule (6-30 months without EIS)
  • Air permits to construct (new sources), gravel mining, wetlands fill
• Seasonal construction windows create schedule sensitivities
  • Winter ice roads (January – May)
  • Summer sealift (late July – September)
• Agency resourcing can cause significant delays
Alaska Legislature Approves LNG Project

Potential Benefits:

• Single Largest Investment in Alaska’s history
• Creates 15,000 new jobs
• Generates Billions in new Tax Revenue
• Provides Natural Gas to Alaskans
Current Alignment & Progress

• Legislature approves Heads of Agreement
• Continue Field Studies and Environmental Baseline Assessments
• Continue engineering and design work for integrated project
• Prepare State and Federal permit and license applications
• Establish a durable gas fiscal regime
Challenges

- Megaproject requiring labor, resources and equipment that can handle Alaska’s extreme, remote environment
- Complex commercial arrangements with foreign markets require long-term commitments
- Reducing impacts and risks of environmental and socioeconomic aspects
- Uncertainty related to permit timing / scope
- Working commercial and fiscal issues with all parties, including the State of Alaska