

# ALASKA'S ECONOMIC FUTURE

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# THE LAST 34 YEARS

- MY STARTING ASSUMPTIONS
  - Oil is and will be worth more than natural gas
  - Major gas sales may slow oil production at Prudhoe Bay once gas sales commence
  - Major gas sales will help share field operating costs in the oil and gas producing fields
  - Exploration for natural gas has been minimal to date on the North Slope
  - Major gas sales will add some additional revenue to the state treasury

# THE LAST 34 YEARS

- MY STARTING ASSUMPTIONS
  - North Slope gas is rich with ethane and propane
  - Ethane and propane cannot be transported in TAPS—they are stranded today
  - Ethane and propane can be shipped in a high pressure gas line and extracted downstream
  - Ethane and propane add significant value to the sales gas stream

# THE LAST 34 YEARS

- MY STARTING ASSUMPTIONS
  - Most North Slope gas is also rich with carbon dioxide (CO<sub>2</sub>)
  - CO<sub>2</sub> is a wonderful agent for use in enhanced oil recovery projects on the North Slope
  - CO<sub>2</sub> can be used to help recover viscous and heavy oil as well as lighter oil

# THE LAST 34 YEARS

- MY STARTING ASSUMPTIONS
  - Prudhoe Bay field holds the largest gas resource on the North Slope
  - Point Thomson field holds the second largest gas resource on the North Slope
  - Other known fields will also contribute smaller volumes of gas to a big pipeline
  - New gas exploration will occur

# BENEFITS OF NO GAS LINE TO DATE

- Stranded natural gas has been
  - Used for field fuel (free in-field use)
  - Reinjecting for pressure maintenance
  - Used in-field for enhanced oil recovery (miscible gas EOR)
  - Sold between fields for fuel and EOR uses

# COSTS OF NO GAS LINE TO DATE

- Little gas sales revenue to date
- Little gas-specific exploration
  - North Slope
  - Along the proposed gas pipeline route
- No North Slope gas supplies to Interior Alaska or Southcentral Alaska
- Cost to handle and re-inject the produced gas
  - Enormous volumes of gas produced daily with oil

# LOOKING DOWN THE ROAD

- Effect of major gas sales on oil production
  - Any negative effects on future oil production rates diminish with each passing year that gas sales are delayed
  - There are ways to mitigate the negative effects, especially if major gas sales commence well into the next decade or even later than that

# LOOKING DOWN THE ROAD

- The gas pipeline project sponsor or the upstream producers will need to extract the CO<sub>2</sub> from the produced gas prior to shipping
- CO<sub>2</sub> will be used for enhanced oil recovery or reinjected into the reservoirs for pressure maintenance
- The CO<sub>2</sub> will not be vented or wasted.

# LOOKING DOWN THE ROAD

- Gas sales will generate incremental revenue in the fields that will help share field operating costs, especially in the out years
- The economic life of the associated oil fields may be extended as a result of gas sales
- All oil fields on the North Slope benefit from longer field life at the Prudhoe Bay and Point Thomson fields

# LOOKING DOWN THE ROAD

- Alaska will transition into an oil and gas production economy
- Oil will still play a dominant role in the state's economy for many decades
- There is a place in Alaska's future for a North Slope gas line

# LOOKING DOWN THE ROAD

- Oil production is not going away any time soon
  - Oil production rates will decline over time but will keep on going
  - Many decades of oil production are still ahead for Alaska

# LOOKING DOWN THE ROAD

- The prospects for a big gas line are not disappearing
- The window to build a big gas pipeline may be closed right now given current and projected natural gas prices, but it can be readily opened again
  - It is not permanently painted shut
  - The market for natural gas will change for the better

# LOOKING DOWN THE ROAD

- Without government involvement, the big gas pipeline will happen when the market is right
- With significant government involvement, the big gas pipeline will be a success when the market is right
- Global demand for natural gas will increase over the next several decades
- Oil cannot and will not carry the increasing global demand for energy over the next several decades

# CONTACT INFORMATION

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