

**11/01/11  
OVERVIEW:  
IMPEDIMENTS TO  
FILLING THE  
TRANS- ALASKA  
PIPELINE**

<TARGET><BILL></BILL><SUBJECT>11-01-11 OVERVIEW  
IMPEDIMENTS TO FILLING THE TRANS- ALASKA  
PIPELINE</SUBJECT><COMM>HRES27</COMM></TARGET>

# Changing Dynamics of North Slope Development

House Resources Committee

William C. Barron, Director

Nov 1, 2011



# Issues Impacting North Slope Development

- Opposition by local residents and national environmental groups, remoteness, harsh conditions, technological issues
- Smaller companies new to Alaska are bidding on leases
  - little experience in permit sequencing and timeframes
  - have not allotted enough time to address public concerns, local government requirements, etc.
  - not familiar with conducting business in Alaska: logistics, not prime clients for services, etc.
- Roadless developments haven't supported adjacent lease exploration/development.



# Permitting

- Permitting Task Force is undertaking a huge effort in improving permitting activities and efficiencies
  - Significant, ongoing public outreach for ideas and input
  - Hiring and efficiency improvements to address backlog
  - Post-ACMP, it is now the responsibility of the applicant to independently coordinate project with local, state, and federal agencies
  - Permitting Task Force recognizes coordination as a critical issue and is working on a coordination effort
  - Alaska Project Questionnaire in development to serve as a “road map”



# Oil & Gas Activity Authorizations

## Alaska Department of Natural Resources (ADNR)

- DOG - Lease or Unit Plan of Operations Permit
- DMLW - Land Use Permit (LUP) for Ice Road
- DMLW - Temporary Water Use Permit GCD 8 and GCD 34 (TWUP)
- DMLW - Misc. Land Use Permit from for use of state-owned surface lands beyond the lease or unit boundaries
- DMLW - Tidelands lease
- DMLW - Water Right
- DMLW and/or MHTLO - Right-of-way easements
- DMLW - Surface lease
- DMLW - Material Sales Contract
- DCOM or lead agency - ACMP Consistency Determination
- SHPO - Section 106 Historic Preservation
- JPO - Pipeline Right-of-Way Lease

## Alaska Department of Environmental Conservation (ADEC)

- Water Quality Register EPA NPDES North Slope General Permit (ice road)
- Spill Prevention, Control and Countermeasure (SPCC) Plan
- Oil Discharge Prevention and Contingency (C-Plan) Plan
- Temporary drilling waste storage permit (depending on NPDES Status)
- Drilling waste storage and solid waste disposal facility
- Air Quality permit for temporary or mobile drilling unit
- Air Quality Minor General Permit Surveillance Plan
- Air Quality Control (PSD) for Construction
- Title V Air Permit for Operations
- Domestic water supply
- Domestic waste water permit
- 401 wetlands certification

## Alaska Department of Administration, Alaska Oil & Gas Conservation Commission (ADA, AOGCC)

- Permit to Drill
- Underground Injection Control (UIC class II)
- Injection Order

## Alaska Department of Fish and Game (ADFG)

- Title 16 Fish Habitat Permit
- Polar Bear Interaction Plan – Review

## Local Governments

- Local Zoning Permit
- Right-of-way easements

## National Marine Fisheries Service

- Letter of Authorization (Incidental Harassment Authorization or Incidental Take Authorization)
- Essential Fish Habitat Determination
- Section 7 Endangered Species Act consultation through NEPA

## US Environmental Protection Agency

- Stormwater discharge exemption permit (maybe)
- Individual NPDES authorization for muds, cuttings, and produced water discharge (in process of being transferred to ADEC)
- General NPDES authorization (in process of being transferred to ADEC)
- SWPPP Storm Water Pollution Prevention Plan
- Underground Injection Control (UIC class I, III-V)
- National Environmental Policy Act

## US Army Corps of Engineers

- Rivers and Harbors Act Section 10 authorization
- Clean Water Act Section 404 placement of fill
- National Environmental Policy Act

## US Coast Guard

- Vessel Security Plan for Jack-Up and Offshore Supply Vessels
- Vessel Response Plan (>400 tons)

## Bureau of Ocean Energy Management, Regulation and Enforcement

- C-Plan Oil Spill Financial Responsibility Application (consider along with State C-Plan)

## US Fish and Wildlife Service

- Letter of Authorization (Incidental Harassment Authorization or Incidental Take Authorization)
- Section 7 Endangered Species Act consultation through NEPA
- Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act Consultation




Alaska Department of  
**NATURAL  
RESOURCES**  
DIVISION OF OIL & GAS

# Cost of Operations: Opportunities for Improvement

- Time and cost associated with permitting, appeals, and legal challenges at all governmental levels.
  - Coordination function to address all governmental levels
  - Consistency in public notice and appeals provisions and procedures
  - Industry cooperation on costs of common needs
- Explore opportunities for extending the drilling season
- Roads to Resources concept has value beyond the Foothills area
  - Roadless developments haven't been beneficial for adjacent lease exploration

## Shale Oil Development on the North Slope


House Resources Committee  
William C. Barron  
Nov. 1, 2011



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## Task Force Update


- Develop SOA multi-agency team, represented by DNR, DEC, AOGCC, ADF&G, DOT, Governor’s Office
- SOA is well positioned to manage shale resource play based on current statutes and regulations
- Total well count for shale could be about the same as current total NS well count, only done in a third of the time
  - Pace and magnitude of permitting and development could be significant



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## Resource Play Inter-Agency Task Force

- Why the Task Force?
  - Alaska has never had shale resource development
  - Interest in Alaska shale has been very strong since last lease sale
  - Successful exploration could lead to immediate development
    - The true viability of the Great Bear Petroleum acreage is not known until exploration occurs
    - Planned exploration could occur in the next year
  - The State wants to be ready



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## Existing Management for Shale Resource Development

State agencies currently regulate the following:

- Well design and construction
- Gas flaring and venting
- Water discharge and storage
- Air quality monitoring
- Ice road and ice pad construction
- Plans of Operation and Plans of Development
- Habitat and wildlife management
- Environmental safeguards including spill prevention and control



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## Future work

- Water Management - Source, Recycle, Disposal
- Hydraulic Fracturing Chemical Disclosure - FracFocus.org
- Infrastructure - common facilities such as roads, gathering lines, power, transit line to TAPS, etc.
- Gas Disposition: Use, Vent, Flare



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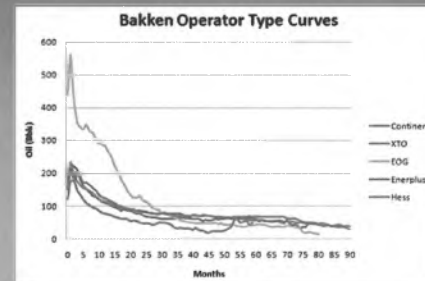
## Well Facts

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

	Bakken	Eagle Ford	Shublik	L. Kingak	Hue/GRZ
Total Organic Carbon	10% avg	2-7%	2-3% avg	5% avg	3% avg
Main Kerogen Types	I/II (oil)	I/II (oil)	I/II-S (oil)	II/III (oil-gas)	II/III (oil-gas)
Oil Gravity, °API	42°	30-50°	24-45°	40°	38°
Thickness	up to 100 ft	50-250 ft	0-600 ft	175-550 ft	100-800 ft
Thermal Maturity	Imm-Oil-Gas	Imm-Oil-Gas	Imm-Oil-Gas	Imm-Oil-Gas	Imm-Oil-Gas
Lithology & Variability	Sh-Slts-Sh	Sh-Slts-Ls	Sh-Slts-Ls	Shale	Sh-Tuff
Brittleness	Yes - Quartz	Yes - Calcite	Yes - Calcite	No ?	No ?
Natural Fractures	Yes	Locally	some zones	?	?
Overpressure	Yes	Locally	?	Probably	Locally,

## Well Facts

- Exhibit rapid decline with multi-year 'flat tail'



Whiting Petroleum 8

## Well Facts

- Well drainage is limited and well to well pressure communication doesn't exist
- Requires a high number of horizontal multistage hydraulic fractured wells to maintain production and economic feasibility



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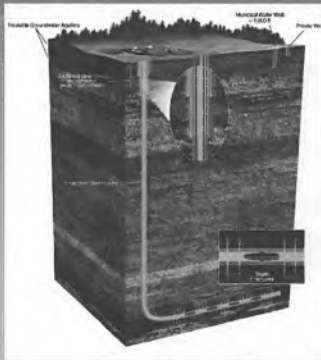
## Hydraulic Fracturing

- First 'frac' in ~1903; first commercial application 1940's
- Technology routinely used throughout the industry and in Alaska to increase and restore well productivity
- 25% of wells in Alaska have been hydraulically fractured
- Per AOGCC records, earliest well in Alaska was the Gubik #1 well in 1963
- Well Design and Construction primacy of AOGCC
  - Primary focus on safety, water protection



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## Horizontal Drilling & Hydraulic Fracturing



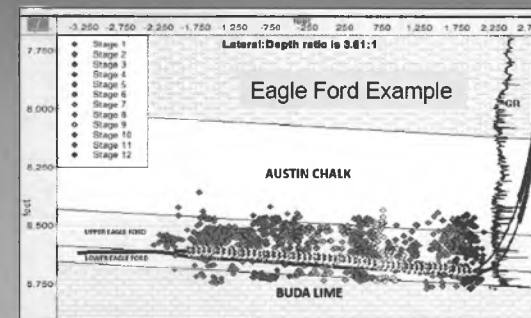
- Hydraulic Fracturing is essential for the production from shale
- Frac fluids are approximately 98% water and sand
- Freshwater aquifers are protected by multiple layers of protective steel casing surrounded by cement; this is administered and enforced under state regulations
- Deep shale natural gas and oil formations exist many thousands of feet underground

Graphic courtesy of Chesapeake



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## Fracturing height



Graphic courtesy of Halliburton

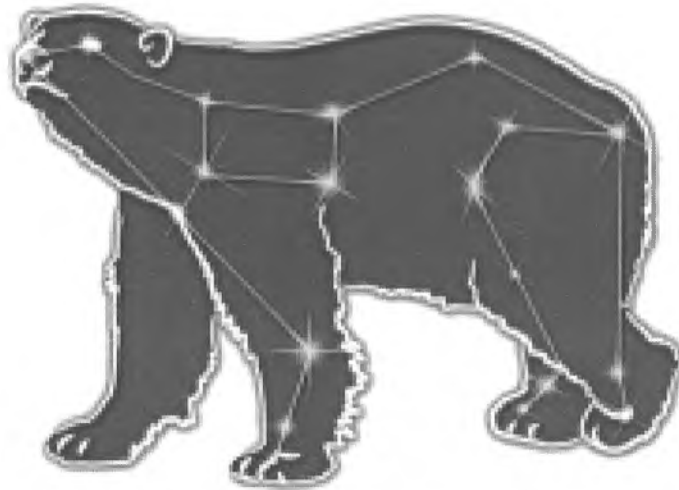


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## Wrap-up

- Alaska's first shale test expected this winter
- Permitting required for conventional wells applicable for shale development
- SOA current permits sufficient, but pace and load on agencies needs to be addressed
- Planning and management of infrastructure important





## **Great Bear Petroleum LLC**

*Great Bear Petroleum Update*

***Presentation to the State of Alaska  
House Resources Committee***

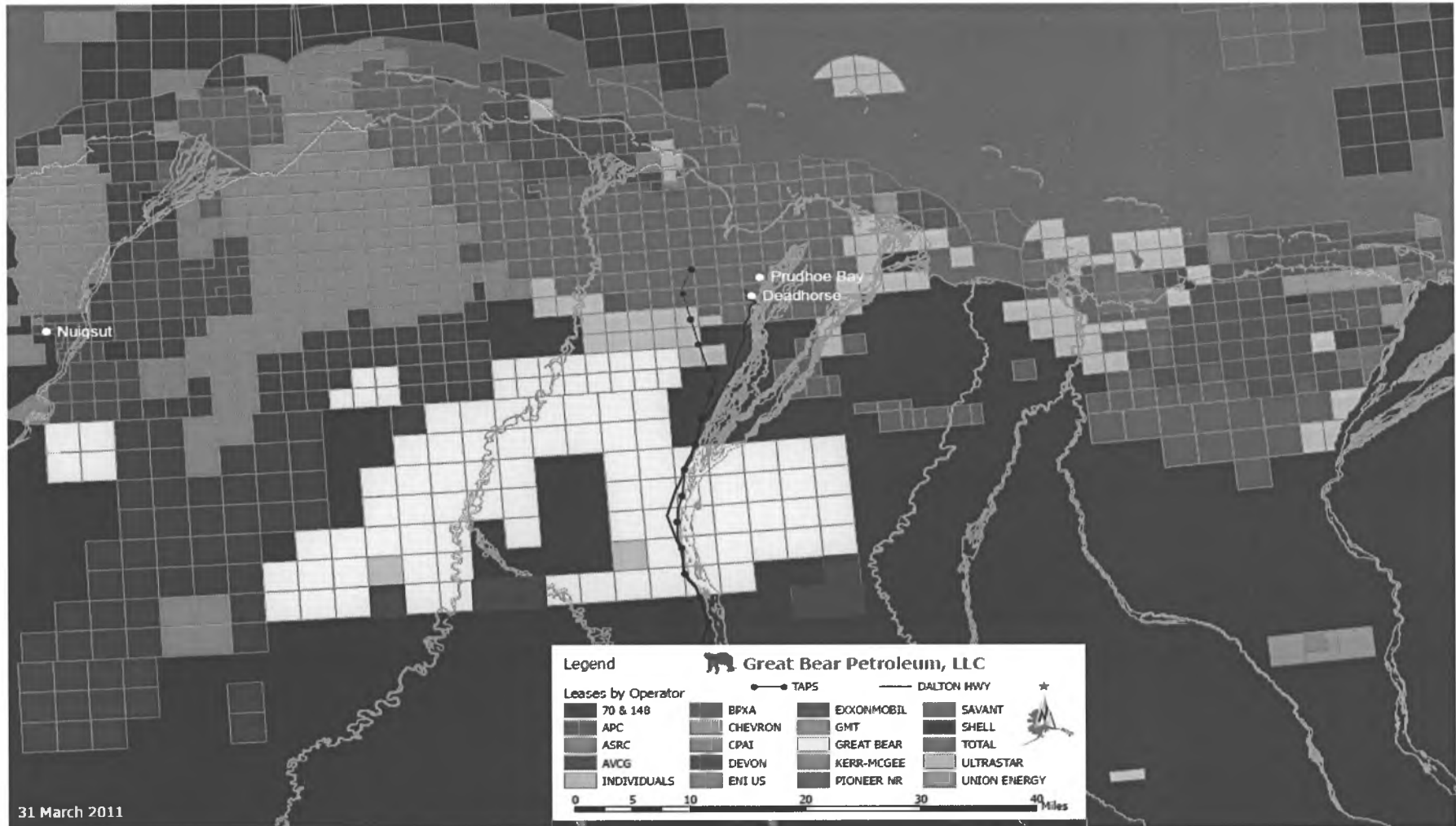
*Anchorage, November 1, 2011*



Great Bear Petroleum LLC

# Regionally Vested Lease Holders

## The Solution to Alaska's Grand Challenge Likely Lies on this Map





## North Alaska Shale Resource Play Realization: Challenges and Business Development Opportunities

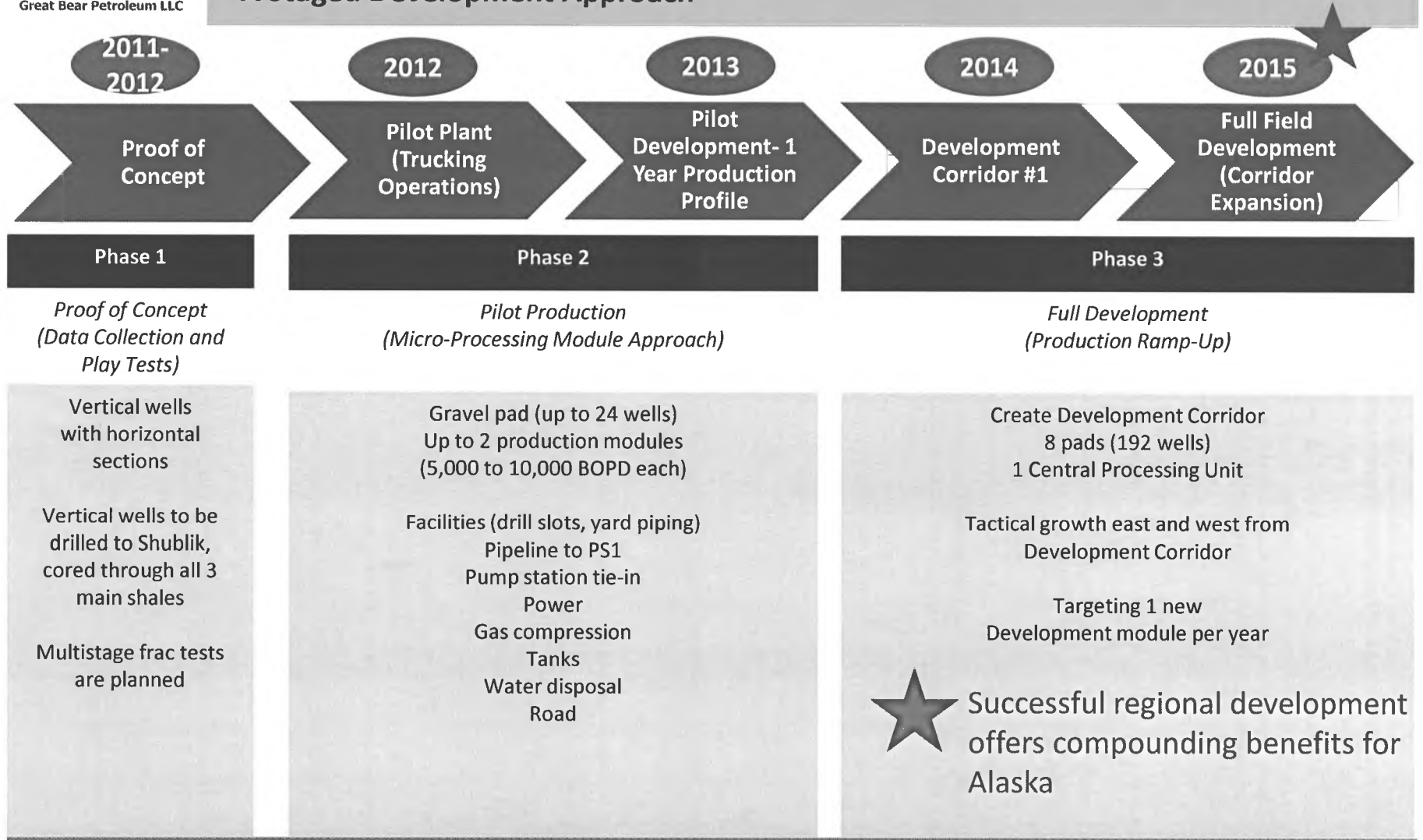
- Gravel Supply: *Regionally available*
- Water Supply: *Extensive subsurface brackish aquifer sources*
- Sand (Proppant) Supply: *Intra-State opportunity and global suppliers*
- Gathering Systems (Tanks/Trucks or Pipelines or Both): *Long term, skilled employment*
- Fluid Disposal/Recycling: *Existing 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*



# Plan of Development

## A Staged Development Approach



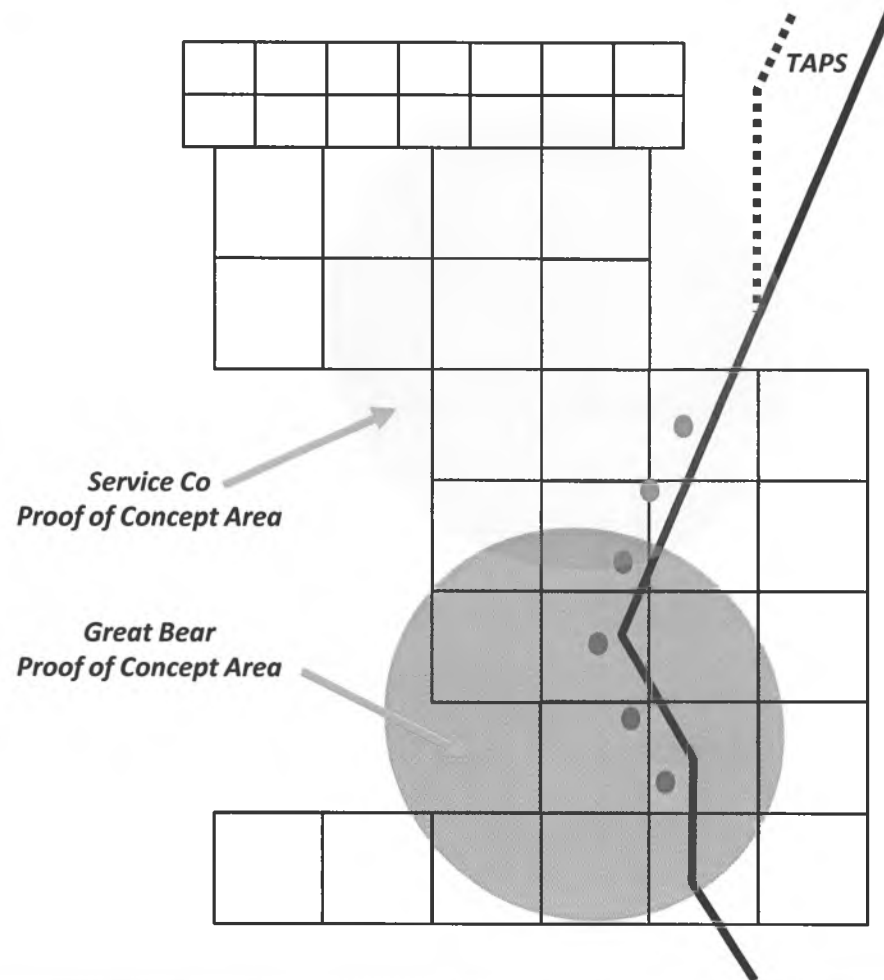
*Planning for success and participating in securing Alaska's future*



# Plan of Development

## Proof of Concept – Dual Multi Well Programs

- 2 “Proof of Concept” work programs occurring simultaneously
  - Service Co-led program
  - Great Bear-led program
- Ascertain the productive capacity of the formations
- Determine processing requirements for oil, water and gas
- Drilling, coring, fracture stimulation and evaluation of vertical & horizontal wells
- Utilize disturbed gravel on existing spur roads off the Dalton Highway
- Permitting underway at 6 locations
- Evaluate reservoir characteristics
- Evaluate mechanical properties from core
- Determine in-situ stress
- Well design (vertical/horizontal/multi-lateral)
- Completion design (liner/cement/stimulation)





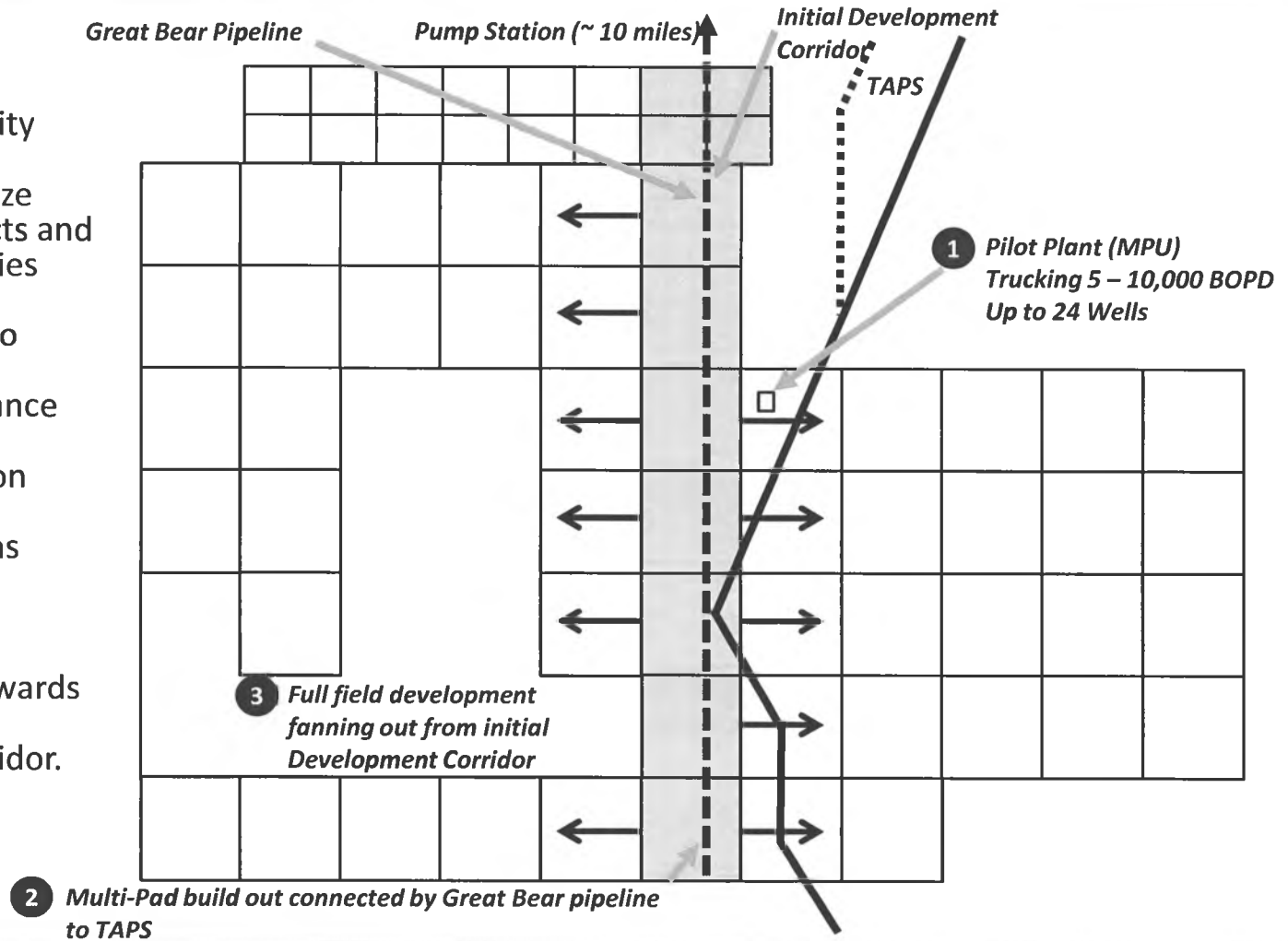
Great Bear Petroleum LLC

# Plan of Development

## Phased Development Approach – 3 Main Phases

### Key Principles

- Initially focus activity adjacent to Dalton Highway to minimize new surface impacts and maximize efficiencies
- Phased approach to better understand reservoir performance
- Establish production potential and then optimize operations (MPU vs CPF)
- Accelerate full development eastwards and westwards of Development Corridor. F- full CPF concept

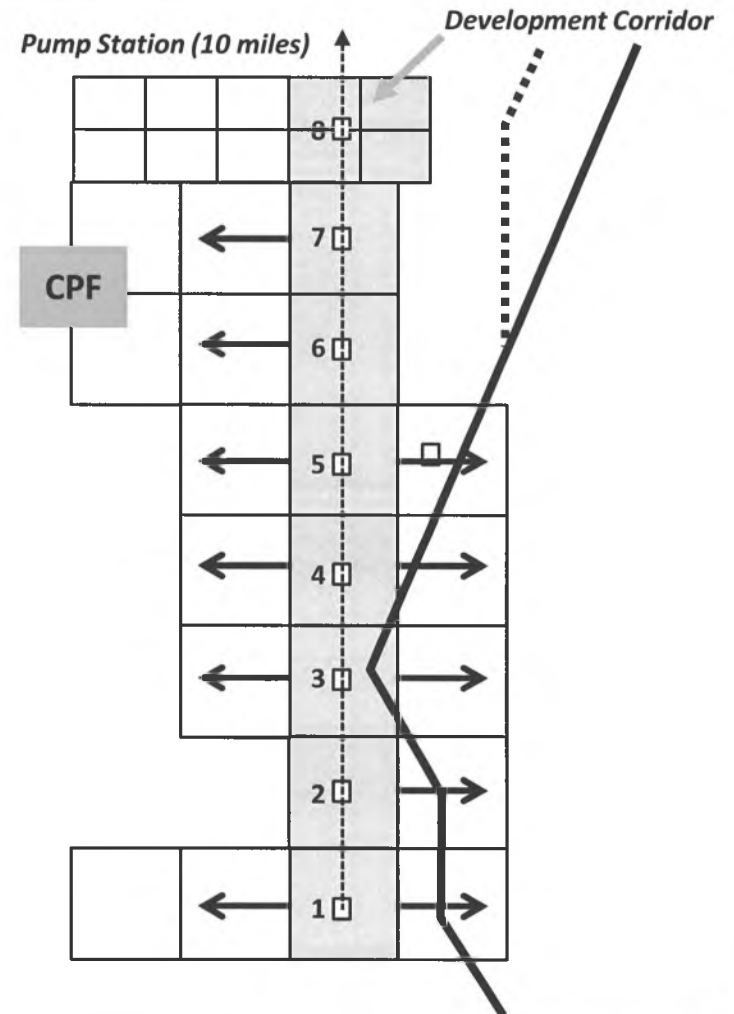




# Development Corridor Schematic

## Phased Development Fanning Out From Corridor

- Create Development Corridor away from Dalton Highway
- Move from trucking operations to pipelines to PS1
- Phase from MPU to CPF concept
- Each pad manifold building contains single well test separation facilities with associated metering and gas lift distribution
- Production piped to CPF which is combined with production from other pads
- Oil, gas, water and sediment separated at the CPF and tied into TAPS
- Water disposed down dedicated Class II liquid disposal well and produced gas compressed on site and used for power (conservative case assumes excess volume piped to Prudhoe)
- 8 pads, with 24 wells/pad = 192 wells
- Central processing facility
  - Field power generation
  - Liquid disposal
  - Major camp office/warehouse
  - Series of divert tanks
  - Infield roads/power/telcommunications
  - Gas compression
- 20 mile 12" oil pipeline
- 20 mile 4" gas line to Prudhoe Bay
- Connected PAD system
- Ultimately increase production to greater than 100,000 BOPD peak per corridor





# Drilling and Completion Operations

## Safety and Environmental

### Safety

- Safety Management System in place
- Site Specific Safety Plan will be written
- All onsite workers will be certified as required
- Safety briefings will be performed before each task
- The North Slope is one of the safest working environments in the world

### Environmental

- All systems will be self-contained
- The target will be zero fluid discharge
- Every fluid drop will be reported and removed for disposal
- ACS will be employed to respond to potential large spills
- Extra booms and spill cleanup equipment will be available
- All workers will be environmentally trained
- Regulatory Spill Plan has been submitted

*Note: Our Safety Manager or Drilling Manager can go into as much detail as required.*

*We are committed to operating in a safe, environmentally responsible manner and desire to be recognized as a great corporate citizen by the State and the communities where we do business.*

## Alaska Oil and Gas Association

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121 W. Fireweed Lane, Suite 207  
Anchorage, Alaska 99503-2035  
Phone: (907) 272-1481 Fax: (907) 279-8114

November 1, 2011

Honorable Paul Seaton  
Co-Chairman, House Resources Committee  
State Capitol Building, Rm. 102  
Juneau, AK 99801

RE: Written Comments for House Resources Hearing, November 1, 2011

Dear Representative Seaton:

Thank you for the opportunity to provide written comments for your committee hearing on the impediments to filling the Trans-Alaska Pipeline System (TAPS). The Alaska Oil and Gas Association (AOGA) is a nonprofit trade association that represents the majority of oil and gas exploration, production, transportation, refining and marketing activities in Alaska. Our member companies who currently produce oil on state land include BP, ExxonMobil, Pioneer, Chevron, Anadarko, XTO, Marathon and eni petroleum.

Our mission at AOGA is to foster the long-term viability of the oil and gas industry in Alaska. TAPS is the cornerstone of the long-term viability of Alaska's oil and gas industry. For this current fiscal year (FY 2012), the Department of Revenue (DOR) is forecasting production of 610,000 bpd, just over a 100,000 bpd decline in the last three years. In fact, in the last three years, the pipeline has operated at less capacity every day since its original startup in 1977. Additionally, according to the DOR forecast, crude throughput could decline to approximately 255,000 bpd by 2020 unless significant investment is made in projects currently under development and evaluation.

These production statistics are staggering so the topic of your hearing is incredibly important and relevant to the future of the industry and for Alaska's economy. Unfortunately, the single, largest obstacle in filling TAPS, a change in Alaska's production tax structure, is missing as a discussion topic for the November 1 hearing.

By evaluating estimates of resource potential for state land development, especially onshore, existing North Slope fields are believed to contain another 5 billion barrels of oil (bbo). And heavy/viscous oil has been estimated to reach gigantic proportions of potentially 50 bbo, almost three times larger than the almost 17 bbo produced from the North Slope to date. Development in existing fields and stimulating production from

high cost development areas such as heavy oil should be one of the most important priorities for state policy makers as production from these fields can occur in the shortest amount of time. Although the 2012 exploration season for brand new fields is encouraging, it takes at least 5-7 years to bring a new field into production, assuming the season was successful.

Changing Alaska's production tax structure, commonly referred to as "ACES", will increase the competitiveness for investment dollars in Alaska, especially for existing fields. While investment, development and production are increasing in nearly every other major oil region in the world, they continue to fall here in Alaska. To increase production in existing fields, companies need to be utilizing capital spending on activities that produce more oil, such as drilling, pad extensions, debottlenecking, etc. Lowering the tax burden for companies through HB 110 or another similar vehicle will result in increased job opportunities and will spur the development necessary in the short-term to stem the decline in oil production currently facing Alaska.

Alaska has the highest production tax in the nation. AOGA has repeatedly testified that the not only is the base rate too high, but when coupled with the windfall provision of the tax structure (progressivity), Alaska has extremely high marginal tax rates and the tax system creates an imbalance in the risk-reward investment environment in Alaska. The competition for investment dollars is real. Reforming our production tax will move Alaska to a more competitive position and make the corporate arguments to invest in Alaska more palatable and possible. Investment goes where it has the opportunity to make the best return, and since ACES, that's been somewhere other than Alaska.

One of the most onerous features of ACES is the lack of bracketing for progressivity. Each time the Production Tax Value (PTV) per barrel increases beyond \$30, all prior dollars are taxed at the higher rate instead of just that further increase. Removing the upside to the degree the progressivity feature does makes it much more difficult to compete for investment dollars with other areas that are not as fiscally challenged as investments here in Alaska. Bracketing sets tax rates for the different levels of PTV so that each level is taxed only once and at a specific rate for that bracket, moderating the impact of ACES' high rate of tax.

In addition, capping progressivity and the base tax at a 50 percent combined rate as proposed by HB 110, rather than the current 75%, also provides the impetus needed to motivate companies to undertake the high risk projects on which the future economic health of Alaska will depend.

Another important aspect of HB 110 is expanding the existing 40 percent well lease expenditure tax credit currently available to properties south of the North Slope. Extending these qualified capital expenditures to all developments in Alaska will provide incentive for investment in much needed in-field drilling. These expenditures will include labor costs resulting in increased job creation. These additional credits could

potentially jump-start production sorely needed to stem the production decline in the near-term.

These proposed production tax changes would create a competitive business climate in Alaska where the reward is commensurate with the risk while keeping the needs of the State and the producers in a more appropriate balance.

There clearly is a sense of urgency with regard to the need for investment and stemming the decline in production. The most efficient and effective way to address one of the largest impediments to getting more oil into TAPS is reducing Alaska's high production tax rate.

Sincerely,

A handwritten signature in cursive script that reads "Marilyn Crockett".

MARILYN CROCKETT  
Executive Director

Cc: Members of House Resources Committee



1629 W. 11th Ave.  
Anchorage, AK 99501  
(907)-258-2969

22 October, 2011

Hon. Representative Paul Seaton  
Co-Chairman, Alaska House Resources Committee  
Room 102  
State Capital Building  
Juneau, AK 99801

RE: Impediments to filling TAPS--Access and other issues

Dear Representative Seaton,

Thanks to you and Mr. Louie Flora of your staff for the opportunity to comment on the two issues you intend to cover at your planned hearing on November 1, as outlined in Mr. Flora's E-mail of October 7. I won't comment on the first topic, Shale Oil Discussion, as there are others much better versed than me on this important topic. It is the second topic, the subject of this letter, that I will discuss.

There is a single phrase to describe what determines and impedes the sustaining of volumes through the TAPS as the legacy fields on the North Slope continue to decline. And that is "cost structure". The lower the State can make the cost of producing and shipping liquid hydrocarbons through TAPS, the longer the resource will last and the more oil will ultimately be produced. With lower cost structure, more new fields will be found, brought on line and last longer.

We've got to stop thinking about a world beyond petroleum, and spending significant money trying to force-fit projects of marginal significance into the energy mix. Oil has been good to and for all of the State of Alaska, and there is no reason to believe it cannot be for decades to come. We are advantaged in that we have world-class oil fields producing into a world-class pipeline. So let us stay in the game, compete fiercely for investment dollars, and extend the field lives as long as possible--through as low a cost structure as possible. What can the State do, both in the near and long term:

**Lower the State take by passing HB 110** or some similar measure. The State take at current price levels is simply too high, and is siphoning off money that should be re-invested in projects to extend field life and find new fields. I know there is a contingent of Legislators with the firm belief that rig counts are up, employment is up, etc. etc. because of ACES, so everything is fine, and the State is enjoying huge windfall budget surpluses as a result of currently high oil prices and the ACES progressivity tax rates. It is like we're intoxicated on the high revenue stream, and we want it to continue.

But everything is not fine. Sure, the tax credits authorized in ACES are a tremendous incentive to companies like ours and others who are currently exploring, and we certainly hope the credits stay in place for a long time. UltraStar's last well, in 2009, would not have been drilled without them. But UltraStar and the smaller players cannot meaningfully increase TAPS throughput. We simply don't have the balance sheet nor the leasehold. The major leaseholders, BP, ConocoPhillips and ExxonMobil, who do have the balance sheets and lease positions, need to participate, but are not because of the tax structure of ACES. Sure, they receive the same tax credits we do, but to them these credits are nice, but pale compared to the huge tax bill they pay each month. They are not drilling wildcat wells, and if HB 110 were passed, would no doubt pick up the pace of development of heavy oil resources in both the Prudhoe Bay and Kuparuk River Units, overlying the primary productive zones. There is a target of 50 billion barrels of heavy oil in the West Sak/Schrader Bluff and Ugnu formations. These are known, drilled, proven resources. There is nothing speculative about them except their technical feasibility and economic viability. They are shallower, thus colder, and the reservoir rocks haven't been buried to a depth sufficient to consolidate the sandstones. Being colder, the oil is viscous, like molasses, and the sandstone formations are like beach sand. But the size of the targets cannot be ignored. Combined, they are orders of magnitude bigger than all the prospects of the current group of independents combined, with the possible exception of resource plays, which I'll discuss later. Probably the most significant challenge faced by these economically and technically challenged heavy oil resources is that production from them is subject to the very high production taxes in ACES, which is the exactly the wrong direction the State should be headed. This heavy oil already costs significantly more to develop, and on top of that they are burdened by an exorbitantly high marginal tax rate. Exactly the wrong strategy for a tax policy with filling TAPS as a goal.

In the oil business, it never fails that when a field is being developed and waterflood is being implemented, the reservoir engineers, subversive creatures that they are (I can say this because once upon a time I were one), select the best oil producers to be converted to water injectors. So oil stops coming out and water starts going in. Once this happens, of course, the immediate impact on the daily oil production rate from those converted wells drops significantly, as, depending upon the waterflood pattern, 40-50% of the total wells in a field can be injectors. This near term production loss is more than made up over the long term, as waterfloods generally increase ultimate recovery by 25-50% or so. But the near term effects on revenue are quite painful. Waterflooding is often compared to delayed gratification. It takes an adult to appreciate it.

The current situation in Alaska is analogous to waterflooding a reservoir. With his proposed ACES revisions, the Governor wants to implement a waterflood, to significantly increase ultimate recovery in the long term. Those opposed to his plan want to continue to enjoy the high brought on by the immediate gratification from the double effect of the high tax rates in ACES coupled with high oil prices. It is far better to lower taxes now on existing production, and particularly production of heavy oil, so we can enjoy the benefits of lots of new production for many years to come. It mystifies me why the State would impose one of the highest marginal tax rates in the world on one of the highest cost resources in the world, heavy oil on the North Slope. It is the only resource there that can make a significantly positive difference in the near term. It is huge, it is known to be there, and it is connected to the roads, pipelines and processing plants. So let's go after it in a frenzy.

**Roads to Resources.** I coined this phrase in a speech to the RDC Annual Conference almost exactly 10 years ago to this date. The phrase still exists, but unfortunately no

roads do. Thanks to the Murkowski Administration, which adopted the strategy, and the Parnell Administration, which continues pursuing it, progress has been made and continues to be made, and that is good. On the North Slope, there are two proposals: one for a road connection from the Dalton highway east to Bullen Point, and one to the west to Umiat, which is further advanced. The Governor is certainly behind "Roads to Resources", and thanks to you in the legislature these projects continue to move forward. I fear they will not get done without continued push from both the Administration and Legislature. These projects are under attack by aboriginal groups expressing concern of the impact they may have on subsistence lifestyle and the usual environmental groups, who oppose anything that may enhance the economics of resource development, and concerns about funding. I think that funding could be the Achilles heel for these needed projects, which will lower the cost of exploration and development far in excess of what anyone can now envision. I implore you and your colleagues in the Legislature to think out of the box to structure creative ways for these important projects to get done. Think of when the U.S. Congress authorized the construction of the trans-continental railroad. They did not do a lot of cost/benefit analyses, and they gave the railroads every other section of land, checkerboard style, on both sides of the right-of-way as incentive to build the tracks and terminals.

The State owns virtually all of the land these roads are proposed to pass through. Perhaps you should do something similar, or even, heaven forbid, consider investing, yes investing, a very small percentage (1-2%), of the Permanent Fund in these roads. I said investing, not spending, a small percentage. The returns will be enormous. I'll guarantee you the U.S. Congress did not do a bunch of net present value calculations when they authorized the railroad, nor the Eisenhower Interstate Highway system, both of which are extremely important to the national economy. But investing permanent fund earnings now on infrastructure projects that will pay off handsomely in the future may decrease the fund's principle and earnings and the dividend check. So the people would be risking the instant gratification they currently receive from a the annual PFD check for a greater delayed gratification from a potentially much larger future PFD check. All enabled by revenue from the resources that will be developed as a result of having lower access and extraction costs.

**How about a rail extension of the Alaska Railroad to the North Slope and points east and west?** How many times is the State going to re-build and re-repair the road and bridges on the Dalton Highway? Some will say it is too late for a railroad extension to make any sense. That it should have happened 30 years ago. I contend that the North Slope is still in its late adolescence. I was raised in an oil field in south-central Wyoming that was first drilled in the mid 1910s. It is nearly 100 years old now and is still producing, not only oil, but good paying jobs and taxes for the State of Wyoming and Sweetwater County. And it has yet to experience the shale oil boom that is expanding into the area. That boom is in the Niobrara Shale in northwest Colorado and southern Wyoming, about 50 miles south of my home town.

I wish Great Bear great success with their plans to test the viability of oil production from the known shales on the North Slope. Success here will definitely be a game changer

for Alaska and the North Slope, and Alaska should be ready with the infrastructure to make that game as competitive as possible. Every new well at Prudhoe requires 50 truckloads of freight to supply it. The pipe, mud, cement, equipment, supplies and materials that go into the ground. Because of their large horizontal components, shale oil wells will require probably twice as many truck loads per well, and much, much more fracturing and completion services. Lowering the cost of transportation to the Slope will add enormously the number of ultimate wells drilled and barrels of oil produced.

**Ice Roads and Pads.** A change to the current lease form by the Division of Oil and Gas could lower the cost of and speed up exploration and development of new fields that are off the current road system. As it now is, the successful bidder at a lease sale is awarded a contract to explore, develop and extract oil and gas from that lease. The contract stipulates that there will be no exploration on the lease except from approved ice roads and pads, built only when there is sufficient snow cover and frozen depth to carry the heavy loading of drilling rigs and equipment. This restricts the exploration drilling window to generally mid-January to no later than about April 15, depending upon the status of the well. So there is essentially a 90 day period in which to construct the ice road and pad and move in the rig and associated 50 truckloads of parts, plus camps, shops, generators, fuel storage tanks and other supporting facilities. This restrictive window allows for one, and certainly no more than two wells to be drilled per season. Companies like Repsol, with nearly 400,000 acres to explore and delineate, will require multiple years to prove up commercial reserves and make plans for development. So they will need to re-build the needed ice roads and pads multiple times before development decisions are made. Linc Energy faces a similar challenge at Umiat.

The State should let private industry decide the most efficient and lowest cost manner to conduct exploration. Ice roads and pads may be the best way forward for close in exploration. But for access to locations further from the road system, re-building ice roads every year for several years gets pretty expensive. The leaseholder should not be restricted from using any method, with appropriate approvals of course, to access his or her leases. If existing, or newly constructed permanent or semi-permanent gravel roads, airstrips and drilling pads would be more cost effective, they should be allowed. This could provide year round access to the leases being explored, and shorten times from lease to production by years. The ability to drill throughout the year will also significantly shave the winter peaking demand for drilling equipment, materials and manpower, thereby further reducing costs. An all-weather road to the location of the drilling also provides year round access for emergency response equipment and personnel, adding another level of safety to the already very high operating standards for humans and the environment.

Thanks for the opportunity to comment.

Very Truly Yours,

James D. Weeks  
Managing Member

CC: Hon. Sean Parnell, Governor  
Hon. Mead Treadwell, Lt. Governor  
Commissioner Dan Sullivan, Department of Natural Resources  
Deputy Commissioner Joe Balash, Department of Natural Resources  
Director Bill Barren, Div. of Oil & Gas, Department of Natural Resources  
Commissioner Bryan Butcher, Department of Revenue  
Acting Director Johanna Bales, Tax Division, Department of Revenue  
Hon. Eric Feige, Co-Chair, House Resources Committee  
Hon. Bill Stoltze, Co-Chair, House Finance Committee  
Hon. Anna Fairclough, Co-Chair, House Finance Committee  
Hon. Lindsay Holms, Representative, House District 26  
Louie Flora, House Resources Committee Aide  
Hon. Thomas Wagoner, Co-Chairman, Senate Resources Committee  
Hon. Joe Paskvan, Co-Chairman, Senate Resources Committee  
Hon. Bert Stedman, Co-Chairman, Senate Finance Committee  
Hon. Lyman Hoffman, Co-Chairman, Senate Finance Committee  
Hon. Hollis French, Senator, Senate District M  
Hon. Lesil McGuire, Senator, Senate District N  
Mr. John Winther, UltraStar  
Mrs. Carol Lindsey, UltraStar

**ConocoPhillips Alaska  
House Resources Committee  
November 1, 2011**

**INTRODUCTION:**

Mr. Chairman, members of the committee, for the record my name is Bob Heinrich, and I am the vice-president of finance and administration for ConocoPhillips Alaska, based in Anchorage.

As I understand it, Mr. Chairman, your intent here today is to focus on potential impediments, now from a producer's perspective, to realizing the Governor's goal of increasing North Slope production, to get TAPS back up to 1 million barrels a day over the next 10 years.

First, we would like to say that we support the Governor's goal and believe that North Slope production can grow again. It will take a concerted effort to stem the decline, progress can be made, and we believe the primary driver will be through changes to ACES.

That being said, you asked us to focus in this hearing on permitting and access issues which might stand in the way of that goal. I will make some observations on these topics and then conclude with some comments on ACES. My observations will focus on state, not federal, access and permitting - if we were speaking about federal issues, my comments would be quite different.

**On the topic of PERMITTING,**

As all of us who live here understand, Alaska is a unique, environmentally sensitive place. In order to minimize our impact on the environment, we hold ourselves to high standards in all aspects of our operations, particularly in the areas safety and the environment.

Working in the arctic has always made North Slope operations and development activities a challenge. In order to minimize the impact of development, there is a complex set of regulations that the oil

industry must follow and it can be difficult to strike the right balance between over-regulation and appropriate regulation.

Today, I would like to take the opportunity to express our appreciation to the current administration, particularly the work the Department of Natural Resources has done, working together with resource companies, to facilitate the permitting of development-related activities, while protecting the interests of the state and its citizens.

An example of this is the recently issued 2011 “General Permit for Generally Approved Activities in an Oil and Gas Unit in the North Slope Borough”, issued by the Division of Oil & Gas for Kuparuk. This General Permit authorizes routine and common activities associated with oil and gas development on the North Slope - such as the on-pad removal and installation of well lines, bollards, thermosyphons, bull rails and guard rails which are now included in one annual permitting report.

This eliminates the need for industry to submit individual permit applications and drawings for these regularly performed tasks as they occur. This significantly reduces the amount of effort needed to get authorization for typical day-to-day maintenance and development activities.

We also appreciate other efforts that DNR has recently taken to improve the permitting process:

- The recent filling of vacant positions, some 37 referenced by Director Barron, in the Division of Mining, Land and Water and the efficiency review initiative to inventory, categorize and prioritize the current backlog of permits – which will help speed up the review and authorization of activities necessary for resource development.
- Also, plans to expand the use of general permits for routine activities, on-line permit applications, on-line data submittal, linkage of permits to other databases, and other automation efforts will further improve the permitting process.

We greatly appreciate the noticeable and ongoing effort of the administration to make the permitting process more efficient.

With that Mr. Chairman, let me turn to the topic of **ACCESS:**

In the industry, when we talk about access, we're talking about access to resources. And what is important to the industry is the regular opportunity to acquire prospective acreage in lease sales.

Since the implementation of the state's area-wide leasing program in June of 1998, ConocoPhillips has been a regular participant in the state's lease sales. We believe that area-wide sales provide the state the best opportunity to make minerals potential available to the industry for exploration and potential development. So in that regard, we do not see access to State acreage as an impediment to the governor's goal.

**In SUMMARY**, we support the governor's goal to grow North Slope production and boost throughput in TAPS. We believe the state's access to acreage and permitting systems are not the key hurdles to meeting that goal. As our experience shows in attempts to obtain a permit to build a roaded bridge to one of the Alpine drill sites, there are issues with federal permitting. We are not experiencing those same sorts of problems with the State of Alaska.

However, Mr. Chairman, we believe the most significant impediment to filling the pipeline is the state's fiscal system. As we have testified to this committee before, we believe ACES needs to be modified and is the most leveraging action the state can take to attract the investment needed to stem the production decline.

The passage of HB-110 was a step in the right direction. We encourage the Senate to pass the accompanying bill or similar legislation in the upcoming session. As our Chairman Jim Mulva stated earlier this year, if the business environment is improved, we will do our part to work, with our partners, to develop more of Alaska's challenged oil.

**Thank you for the opportunity to testify Mr. Chairman, and I'd be happy to try to answer any questions the committee may have.**



**MEMORANDUM**  
Department of Natural Resources

**STATE OF ALASKA**  
Office of the Commissioner

**TO:** Commissioner Larry Hartig, DEC  
Commissioner Dan Seamont, AOGCC  
Commissioner Cora Campbell, DFG

**DATE:** September 12, 2011

**FROM:** Commissioner Dan Sullivan *DSS*

**PHONE:** (907) 269-8431

**FAX:** (907) 269-8918

**SUBJECT:** Shale Task Force

Shale exploration and development in the North Slope area is expected to be the focus of increasing interest and activity beginning this year. We must prepare for the intensity this type of unconventional resource play requires. Current shale plays in North Dakota, South Texas, and Pennsylvania have shown the level of drilling, well stimulations, support services, and impact on infrastructure could exceed all activity levels seen in Alaska. In an effort to get in front of issues before they become obstacles, DNR is taking the lead in forming a task force to identify potential impacts and propose plausible solutions prior to full shale exploration and development activities commencing.

Members of your team have already participated in some initial informational meetings associated with Great Bear's exploration plans and permitting, as well as conceptual development scenarios. The most recent of these was Friday, September 2<sup>nd</sup>.

It is **key** to separate current work associated with progressing the Great Bear near term winter 2011/12 exploration phase from the longer term analysis. The scope and impact of the success case development phase needs the special attention of a broad, inter-agency task force. The exploration programs are relatively low impact and must occur in a timely manner to assess the viability of the play; such a program will allow development within the lease term and lead to further development activity. The need for the task force **now** is driven by the fact that, as mentioned below, any delay of a shale development could result in shutting down a new opportunity to arrest the decline of TAPS throughput.

From study of shale developments in Texas and North Dakota, wells are not prolific, expenses **must** be as low as possible and repeatable on a well by well basis, and activity must progress in an assembly line manner to maintain production and cash flow. A key difference between conventional oil and unconventional shale production is the sheer number of wells required for full development. As a result, the amount of support services and material required to achieve a given level of production is increased dramatically. To this end, the Shale Task Force is critically important to address the following issues— as well as any others identified as the group progresses its work:

- Gravel Supply
- Water Supply
- Sand (Proppant) Supply

- Gathering Systems (Tank/Trucks or Pipelines or Both)
- Fluid Disposal/ Recycling
- Gas use/disposal in area
- Surface Impacts/ Dust and Emissions
- Centralized Service Area with power source
- Power distribution – Stand alone per pad; Through power lines; Other
- Use of Insulation and composite pads to extend ice pads and roads.
- Staging area for pipe, equipment, housing, warehousing
- Road and bridge requirements
- Fuel Refining, Storage and Distribution
- Drinking Water Supply
- Sewage Treatment/ Disposal
- Trucking Impacts

I've assigned the Division of Oil and Gas with the responsibility to lead the task force and Greg Hobbs has been identified as the Project Manager. Members of your team are critical for the ultimate success of this task force and the ultimate success of the State to be prepared for this unconventional resource development.

The task force will meet at regular intervals to address the various topics identified above. The following is a personnel list of those who have been tentatively identified or have expressed interest in being participants of the team. If there are alternates to the proposed participation list and/or additional topics please advise Bill Barron, Director of Oil and Gas, or Greg Hobbs. Please encourage and support your staff members associated with this team. If you have any comments or suggestions to make this effort a success, please let me know.

DNR:

Greg Hobbs; Lead	DOG, Resource Evaluation
Bruce Buzby	DOG, Permitting
Alan Dennis	DOG, Commercial
Kim Kruse	DOG, Lease and Permit Manager
Jonne Slemmons	DOG, Deputy Director
Sara Longan	OPM, Large Mine Project Manager
Tom Crafford	OPM, Director
Wyn Menefee	MLW, Division Operations Manager
Chris Milles	MLW, Northern Region Lands

DEC:

Lori Aldrich (Phone)	DEH, Environmental Program Manager
DOW TBD	DOW
DAQ TBD	DAQ, Air Permits

AOGCC:

TBD

DFG

Jack Winters (Phone)

HAB, Habitat Biologist

Executive Sponsors:

William Barron

DOG, Director

Brent Goodrum

MLW, Director

Joe Balash

DNR, Deputy Commissioner

Jon Katchen

DNR, Assistant to Commissioner