03-11-15 PRESENTATION MIDDLE EARTH TAX CREDITS

<TARGET><BILL></BILL><SUBJECT>03-11-15 PRESENTATION MIDDLE EARTH TAX CREDITS</SUBJECT><COMM>HRES29</COMM></TARGET>

Alaska Legislature

House and Senate

Natural Resources Committees

Interior Oil and Gas Exploration

Part of "Middle Earth"

March 11, 2015

Juneau, Alaska

James Mery

Senior VP, Lands and Natural Resources

DOYON

Limited®

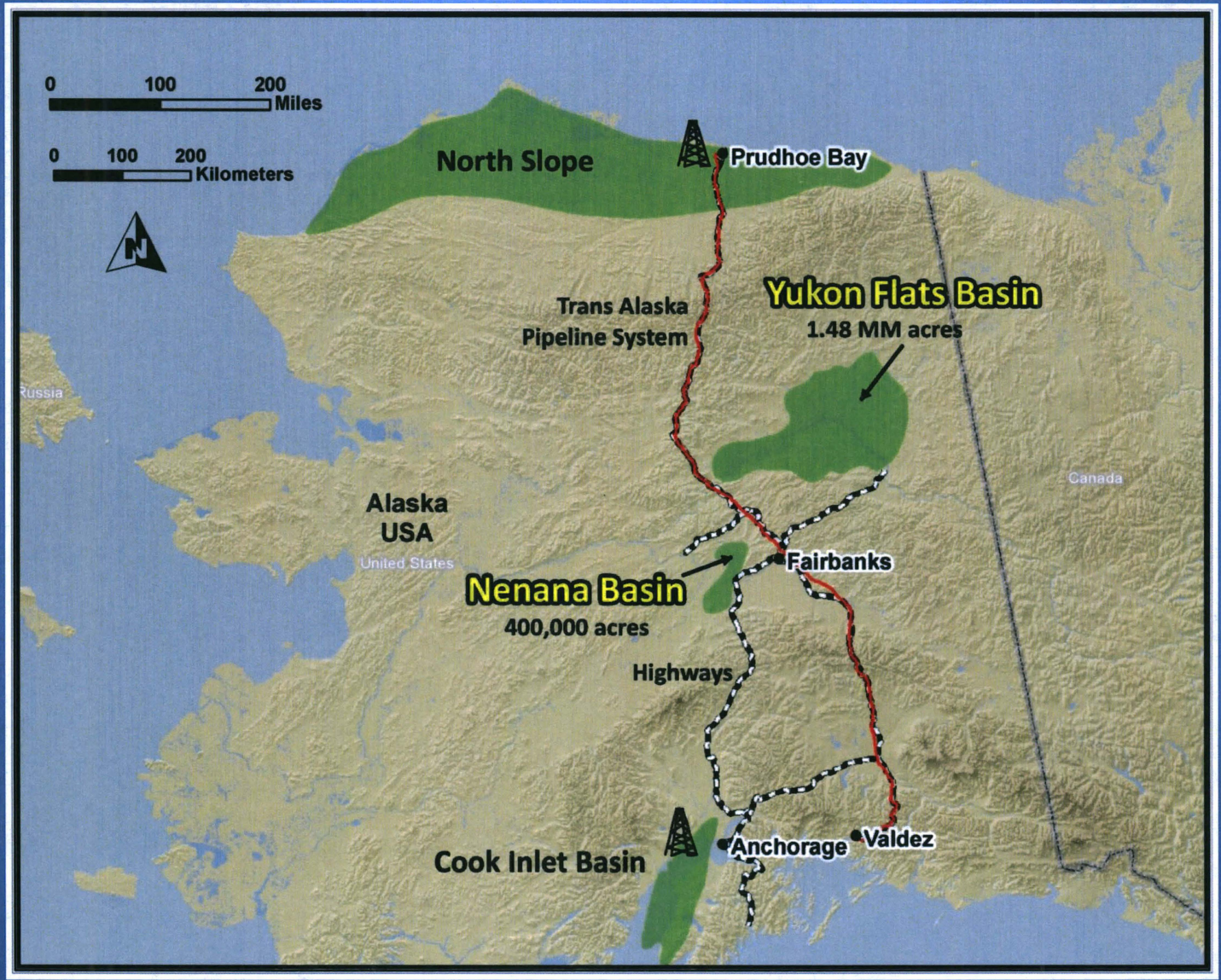
Overview

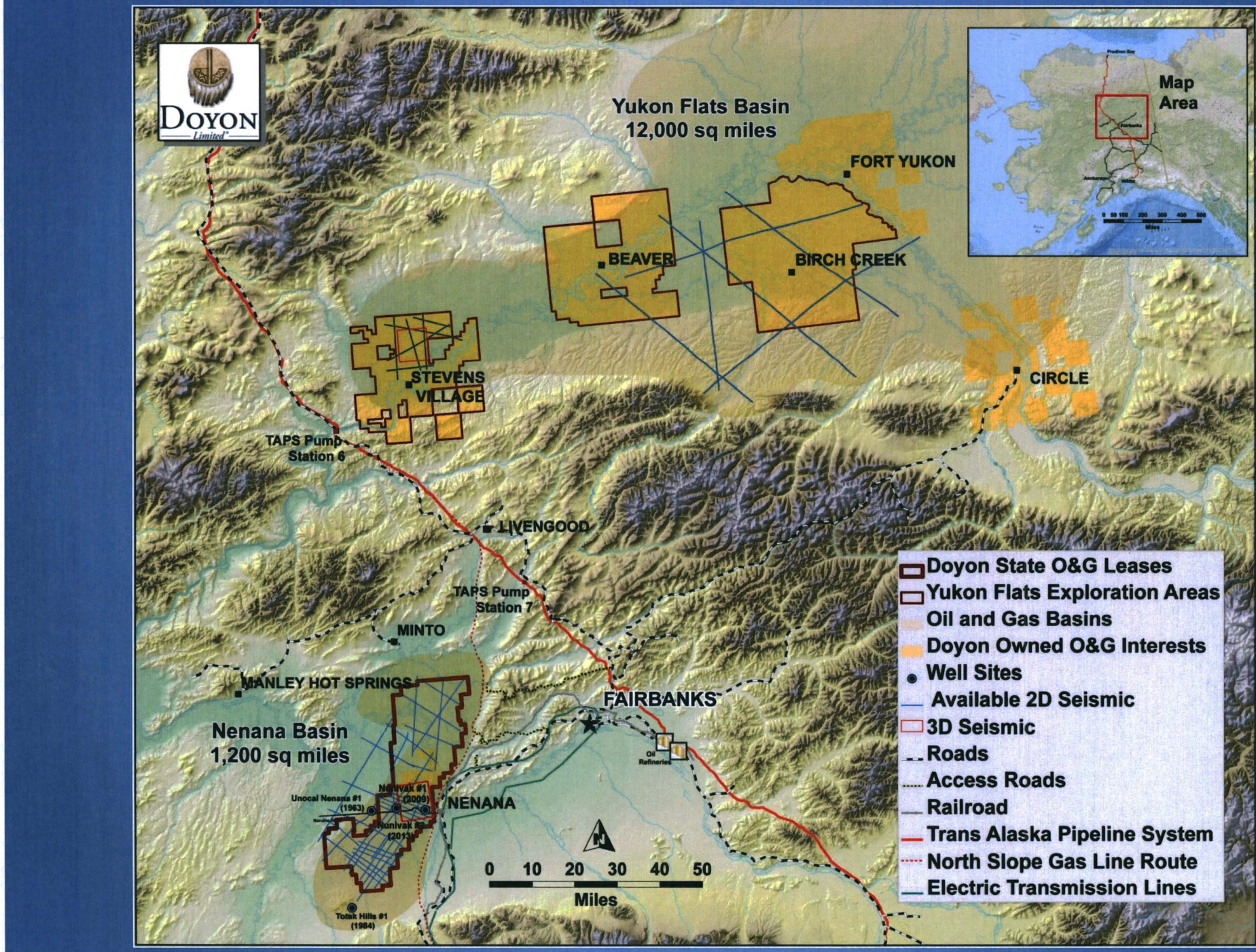
- Doyon exploration in Nenana and Yukon Flats
- Similarities and differences
- Focus on Nenana
  - Doyon 100% efforts over past 3 years include drilling and two seismic programs, including 3D in fall 2014
  - All elements of prolific hydrocarbon system present—source, traps and seals
    - Extensive column of wet gas in non-commercial 2013 well
- Importance of exploration credits program

Doyon, Limited
Who are we?

- ANCSA regional corporation for Interior Alaska
- Alaska's largest private landowner
- 19,000 Native American shareholders
- Alaska operations focus
  - Several oil field services companies: Doyon Drilling, Doyon Universal, Doyon Associated, Doyon Anvil, Doyon Remote Facilities & Services
  - Interior oil, gas and hard minerals exploration
- 2014 after tax profits of $23MM on revenues of $363MM

Interior Basins
Where are they?




DOYON
Limited
Yukon Flats Basin
12,000 sq miles
FORT YUKON
BEAVER
BIRCH CREEK
STEVENS VILLAGE
CIRCLE
TAPS Pump Station 6
LIVENGOOD
TAPS Pump Station 7
MINTO
MANLEY HOT SPRINGS
FAIRBANKS
Nenana Basin
1,200 sq miles
Oil Refineries
Unocal Nenana #1 (1963)
Nunivak #1 (2009)
Nunivak #2 (2013)
NENANA
Totek Hills #1 (1984)
0 10 20 30 40 50
Miles
Map Area
Doyon State O&G Leases
Yukon Flats Exploration Areas
Oil and Gas Basins
Doyon Owned O&G Interests
Well Sites
Available 2D Seismic
3D Seismic
Roads
Access Roads
Railroad
Trans Alaska Pipeline System
North Slope Gas Line Route
Electric Transmission Lines

Two Basins-Land Tenure

Nenana/Minto

- 400,000 acres in 78 Doyon/State leases
  - 7 year primary term (year 2 now); yearly rentals of $1.2 million
- 42,000 acres Doyon ANCSA lands--all Nenana ANCSA village surface
- No federal ownership nearby
  - northern third of leases in State refuge, O&G allowed conditionally

Yukon Flats

- 1.4 million acres Doyon ANCSA lands in three separate sub-basins
  - No time constraints/holding costs
- Some surface ownership by 3 ANCSA villages--about half village, half Doyon
- Adjacent federal areas off-limits
  - federal wildlife refuge

Two Basins-Similar Geology

Common characteristics

- 20-25,000' non-marine Tertiary sedimentary section
- Abundant hydrogen-rich coals, coaly shales and *possibly* lake bed shales
- Traps

CURRENT FOCUS ON NENANA BASIN

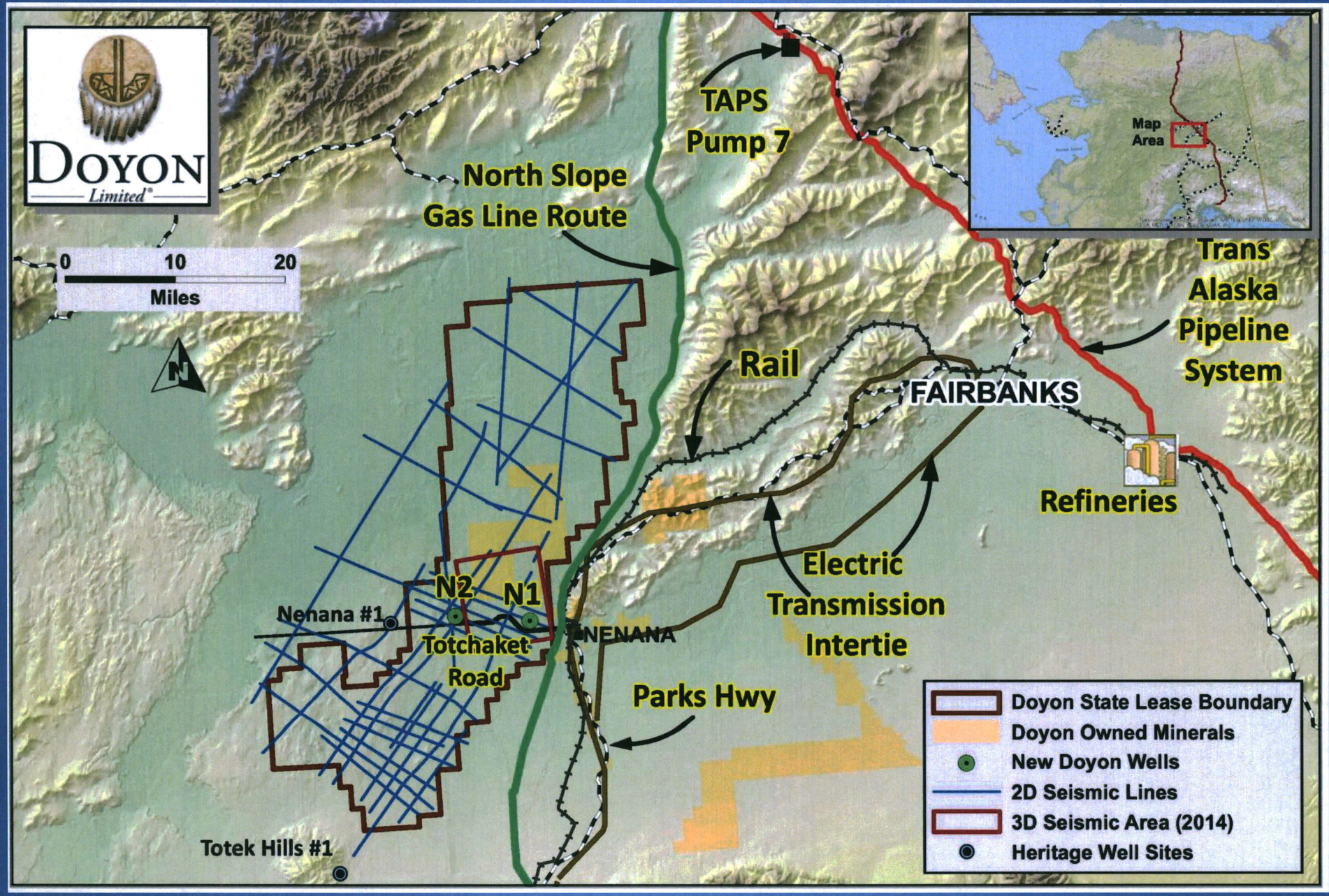
- Oil primary target, gas secondary

Exploration Overview and History

Nenana Basin

- **Prior exploration—1960s and 80s**
  - Seismic in central/south basin and two shallow wells on basin flanks--majors
- **Recent exploration campaigns—2005 to 2014**
  - Three seismic programs--basin wide (2005, 2012 and 2014)
  - Two central basin exploration wells (2009 and 2013)—Nunivak #1 and #2
- **Multiple other studies, including**
  - Surface geochemical surveys, airborne and ground gravity data
  - Re-evaluated licensed heritage data—Shell and ARCO Alaska
- **Doyon has accelerated the pace of exploration**
  - **Three major programs since Doyon took over exploration in 2012—one well and 2 seismic programs, including 3D**

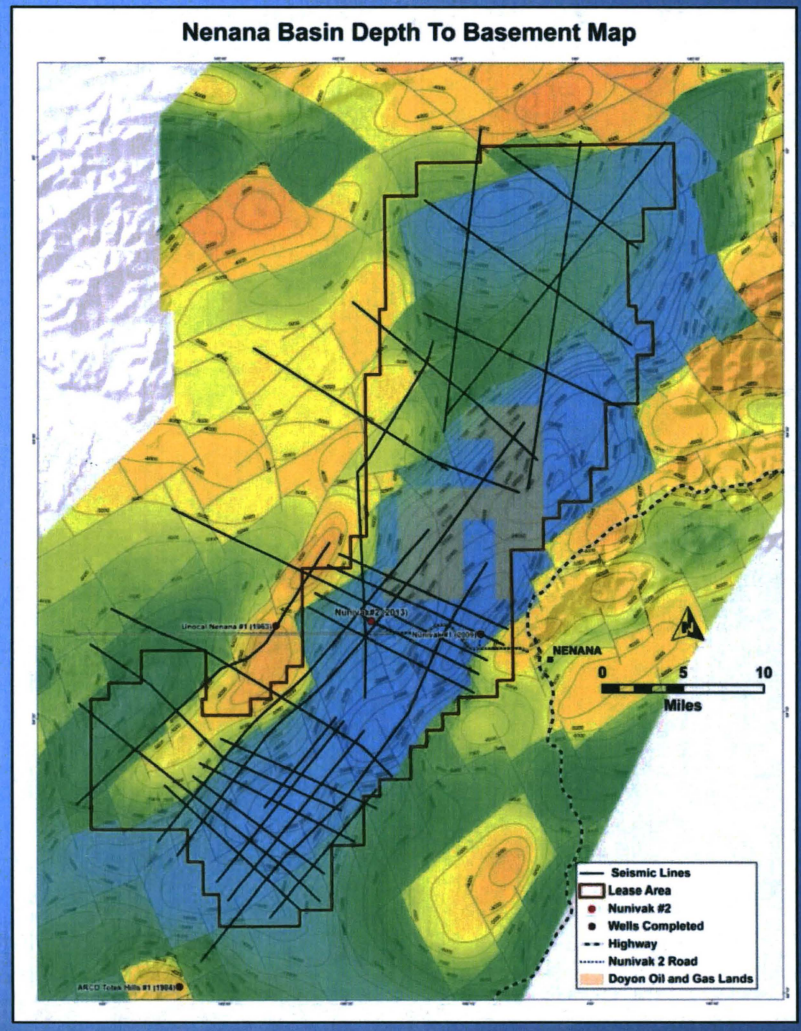
Nenana Basin *Plus* Infrastructure



Geophysics Define Nenana Basin

(Gravity and Seismic)

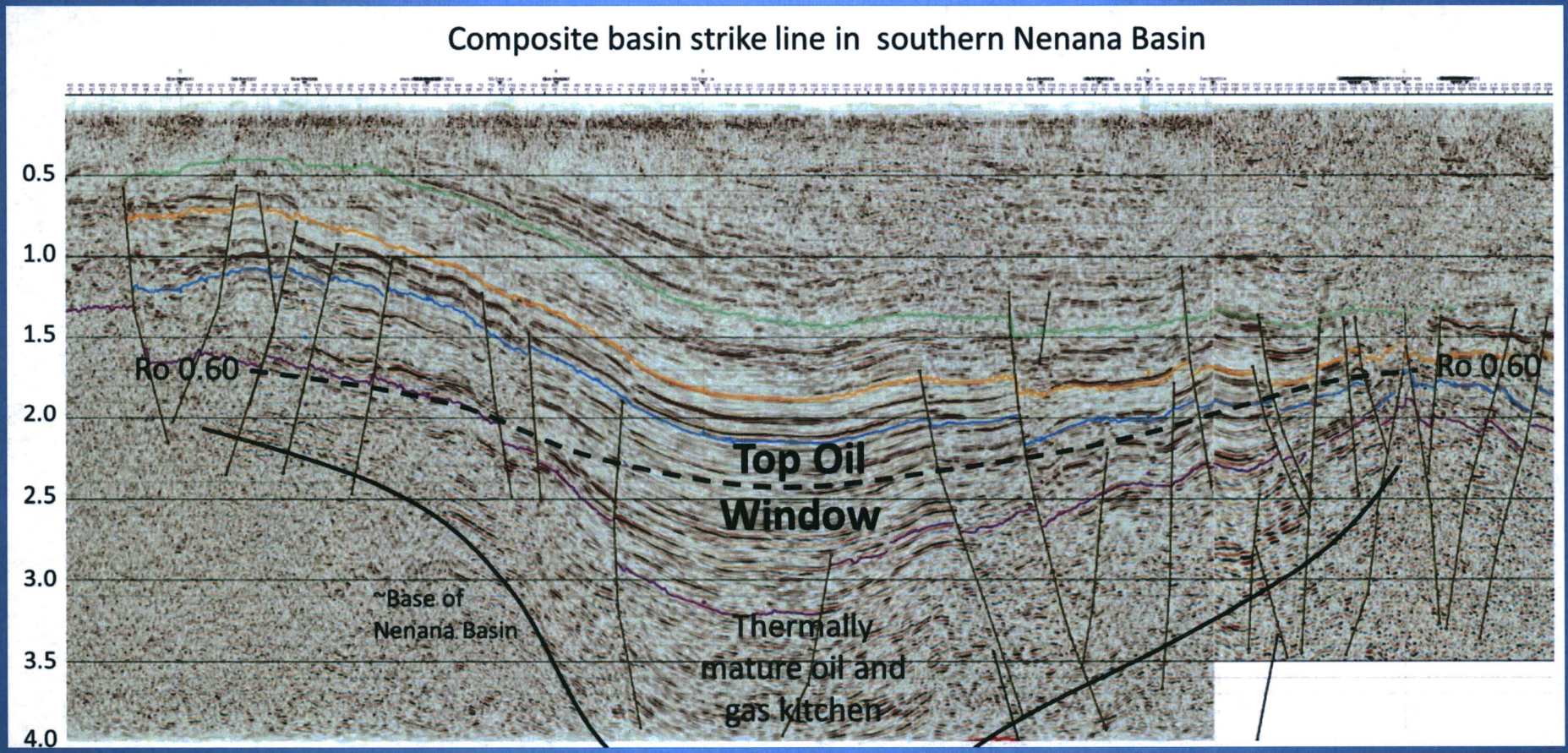
- 20-25,000' sedimentary fill
- Narrow, broader at ends
- Over 50 miles long and up to 20 miles wide



Nenana Petroleum System

- **Source**
  - Excellent oil and wet gas source rocks in coals, coaly shales
    - From wells (immature), lake bed geochemistry of seeps, outcrop
    - Source rocks generate lots of oil in lab; analog basins
    - Deep lacustrine algal shales?
  - Thermal maturity, down-dip thermal "kitchen"
    - From wells, seismic, other geophysics
    - Plenty of heat in basin to generate oil and gas from deeper source rocks
  - Migrated wet gases (propane, butane et al.) at Nunivak #2, plus methane—indicative of an "oily" system
- **Seal/Reservoir**
  - Excellent, thick sandstones
    - 20-24% porosity; clean, quartz sand
  - Attractive sand/shale ratio in target Healy Creek formation
- **Traps**
  - Intra basin highs and fault blocks

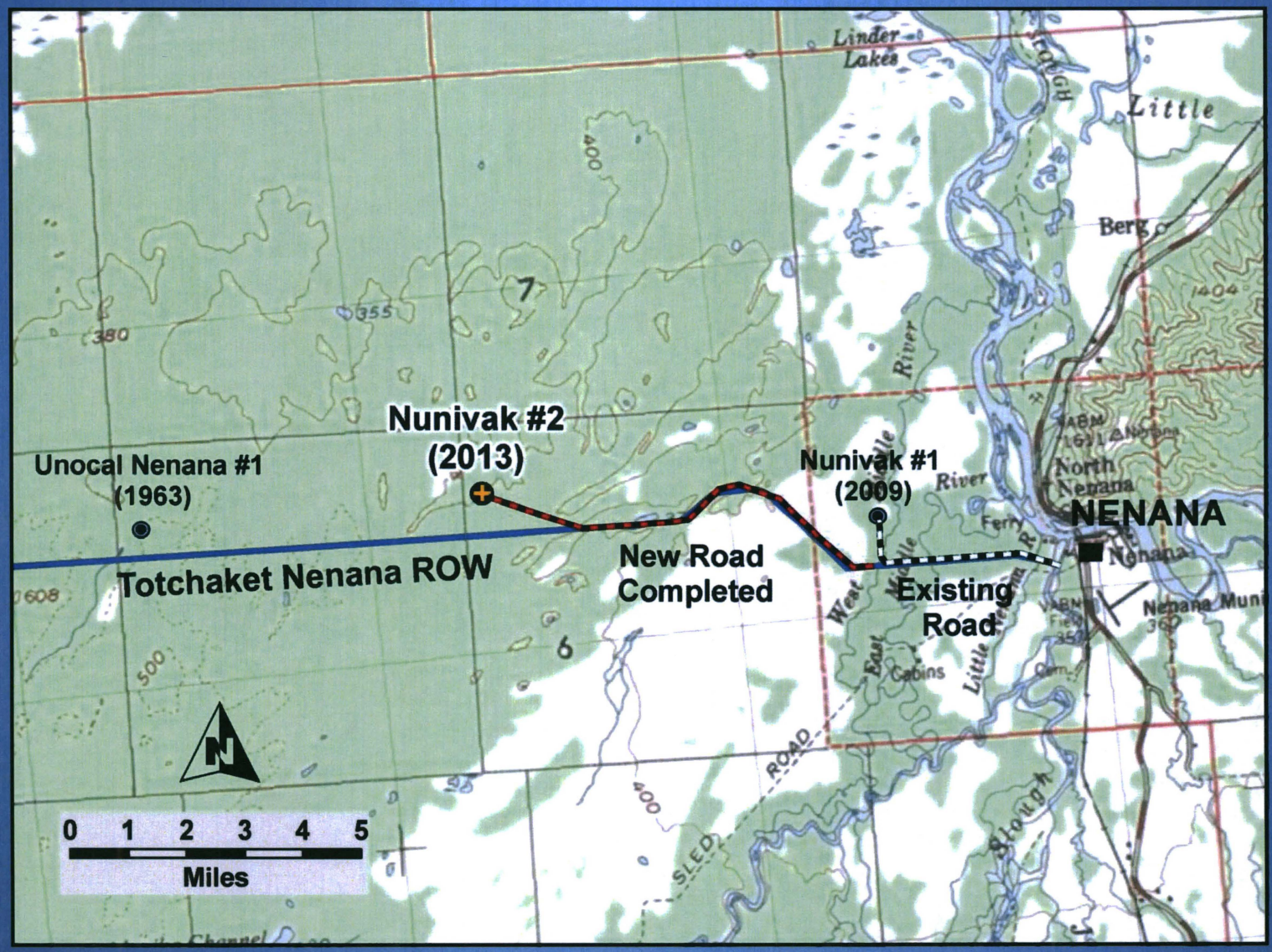
Oil and Gas "Kitchen"



Nunivak #2 Well (N2)

- Began planning summer 2012
- First Doyon "operated" well
  - Totchaket Road extension--about 8 miles
    - Completed Winter 2013
- Drilled Summer 2013
    - 12 miles west of Nenana
    - 8 miles west of Nunivak #1
    - 1 vertical hole and a "sidetrack"
- Over 45 permits
  - State, federal, local
- Local city and tribal government consultation
- Meetings, newsletters, hotline, information officer
- Local hire and contracting

N2 Wellsite and Road Extension



N2 Nenana River Ferry

Bridge under construction now

N2 Totchaket Road

N2 Wellsite

What Do We Think We Know Now?

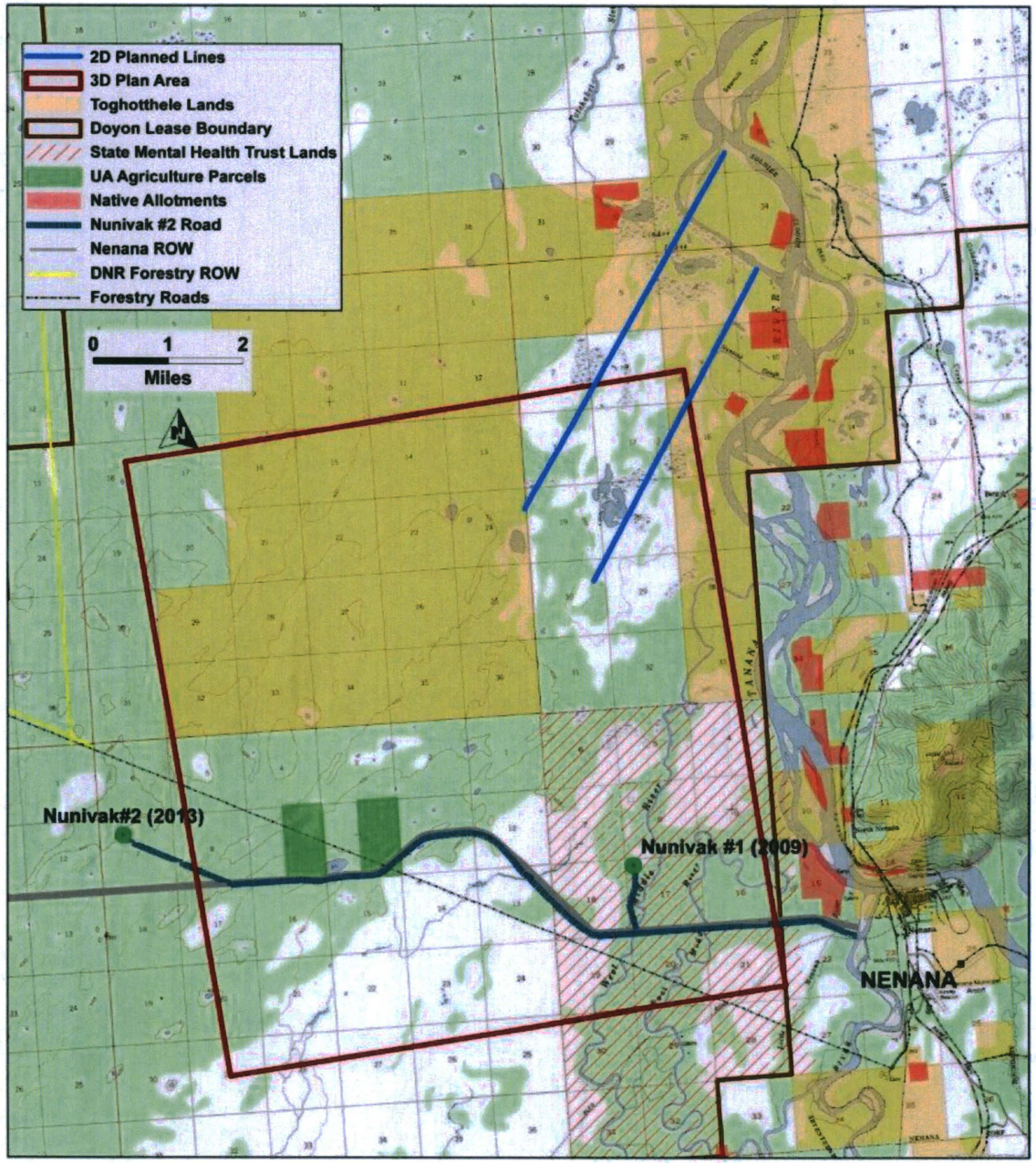
Hydrocarbon Promise

- Through Nenana drilling we know we have all the elements of an active and prolific oil and wet gas/condensate system
  - Source, reservoir and seal
- Through Nenana seismic and other geophysical tools we know that the hydrocarbon system should be extensive
- Through modeling this basin should have produced billions of barrels of oil and trillions of cubic feet of gas
  - Lots of wet gas in N2 well bore, not so for oil
    - Gas promise substantially de-risked
  - How much gas and oil has been trapped and recoverable?
  - With location and nearby infrastructure, North Slope size accumulations not needed (though $50 bbl oil not helpful)

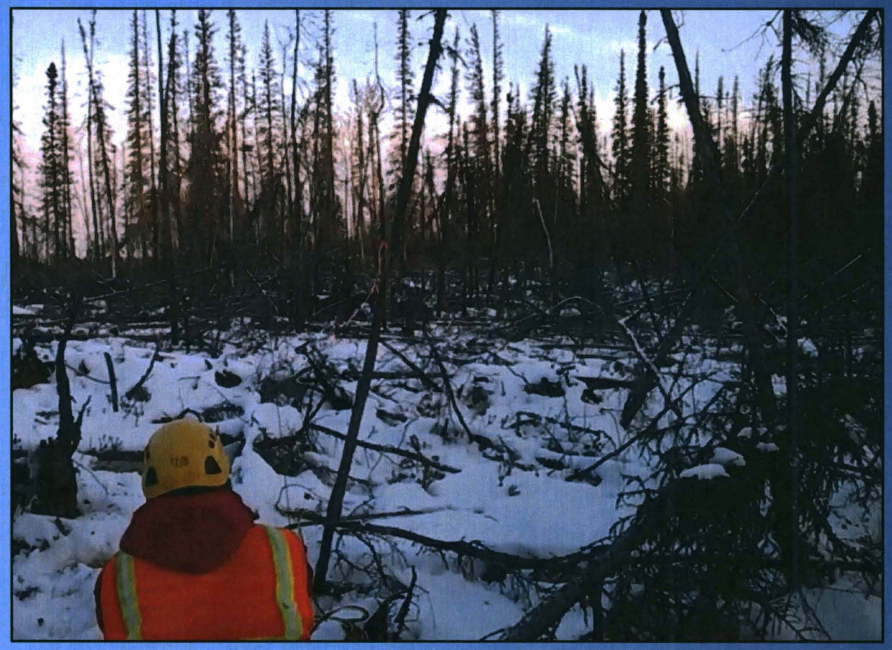
What's Next?

- **More seismic needed**
  - Multiple prospective areas we see from 2D seismic
  - Better define areas that may be worth drilling
- **Next up is area of promise between N1 and N2**
  - Goals: identify lower risk traps and develop new drill targets
  - 55 square miles of 3D seismic
  - Gathered in fall 2014
  - Processing and interpretation now
  - Multiple land owners—Doyon/Toghotthele, State, MHT and some UA
- **Drill in 3D area in winter or summer 2016?**
- **More seismic needed to develop drill targets from multiple "leads" in 2012 2D program**

Nenana 2014 3D and 2D Seismic Area



2014 Nenana 3D



How Define Success?

- **Oil discovery is best economic case for Doyon and State**
  - Start-up minimum economic field size is a modest (for Alaska) 25 million bbls to 50 million bbls, dependent on oil price
  - Plenty of room in nearby TAPS via truck, rail or feeder pipeline
  - Chance of success here with next well is perhaps 1 in 5 to 1 in 10
- **Gas only discovery is a head scratcher**
  - Could be stranded for a decade or more
  - Likely no Fairbanks market for many years due to Cook Inlet trucking and/or rail projects in motion
  - Will the producers and State allow Nenana gas into an export line and liquefaction plant, and if so under reasonable terms?
  - Yet gas has been so de-risked at Nenana that the next well has a 50/50 chance of commercial success

Special Thanks

Alaska Legislature and State of Alaska

State Exploration Credits Programs are essential to hydrocarbon exploration in Interior Alaska.

Middle Earth exploration would not have happened without State support.

Questions and Comments

For More Information:
www.doyonoil.com

DOYON
Limited®

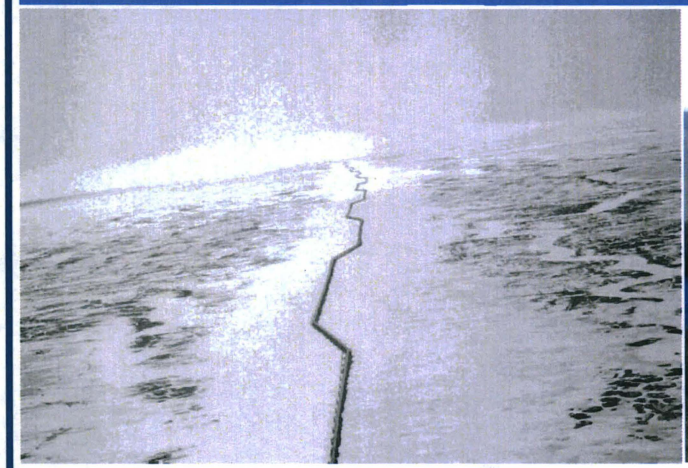


Department of Natural Resources

Division of Oil and Gas – Acting Director Paul Decker

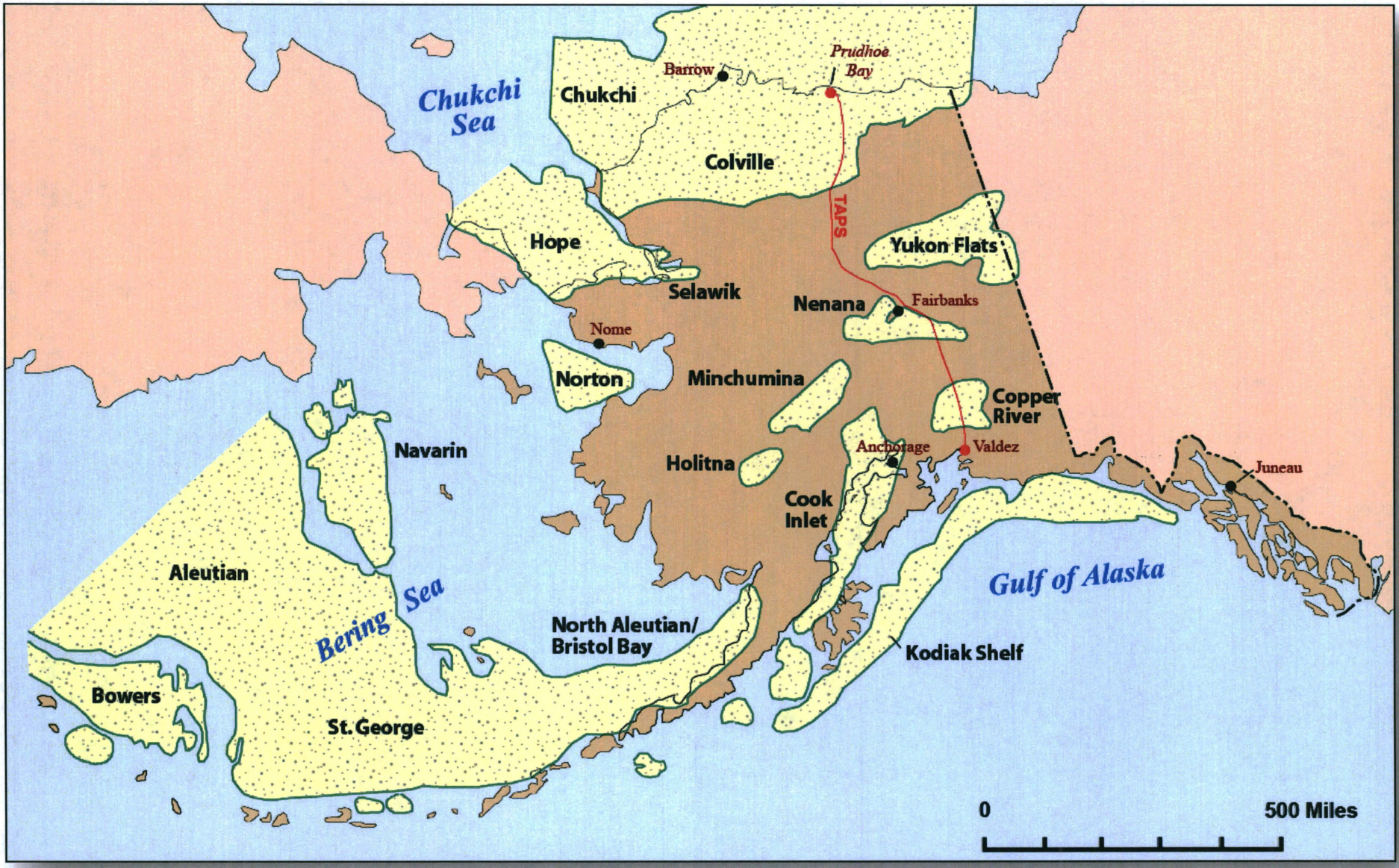
Frontier Basins Exploration Update

House Resources Committee
March 11, 2015



Sedimentary Basins in Alaska

- Schematic Rendering-



Statewide Resource Assessments

- Undiscovered, Technically Recoverable -

Region	Mean Oil Estimate (Million Barrels)	Mean Gas Estimate (Billion Cubic Feet)
Onshore Arctic	15,908	98,960
Offshore Arctic	23,750	108,180
Interior Basins (only partially assessed)	234	5,641
Upper Cook Inlet	599	19,037
Other Southern Alaska	2,859	23,458
TOTAL	**43 BBO**	**255 TCF**

Includes Yukon Flats and Kandik basins

(Nenana, Kotzebue, Copper River, Holitna, & Susitna basins not assessed)

Mainly federal OCS waters, minor AK Peninsula onshore

Middle Earth & Frontier Basins
- Geographic Areas Are Mostly Synonymous -

- "Middle Earth"
  - Alaskan lands south of 68 degrees North latitude and outside of Cook Inlet
- "Frontier Basins"
  - Sedimentary basins other than Northern Alaska and Cook Inlet
  - No significant oil or gas discoveries to date
  - Non-producing
  - Underexplored
  - Lack <u>proven</u> petroleum systems with discovered, economically producible oil and gas

MIDDLE EARTH & FRONTIER BASINS
- TERMS REFER TO DIFFERENT TAX CREDITS -

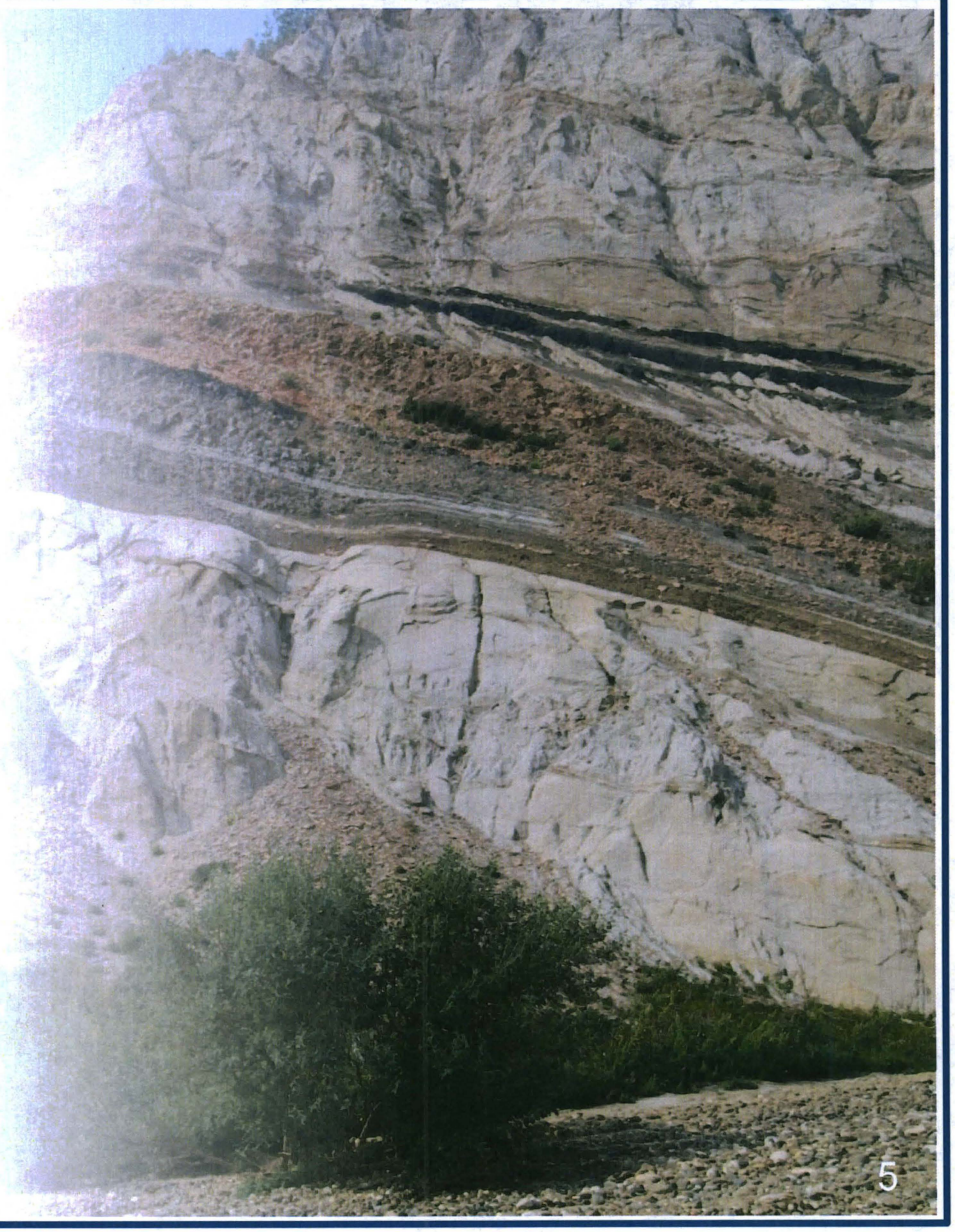
- "Middle Earth" tax credit
  - *AS 43.55.024(a)* – credit for oil or gas production from Middle Earth

    Up to $6 Million for production tax

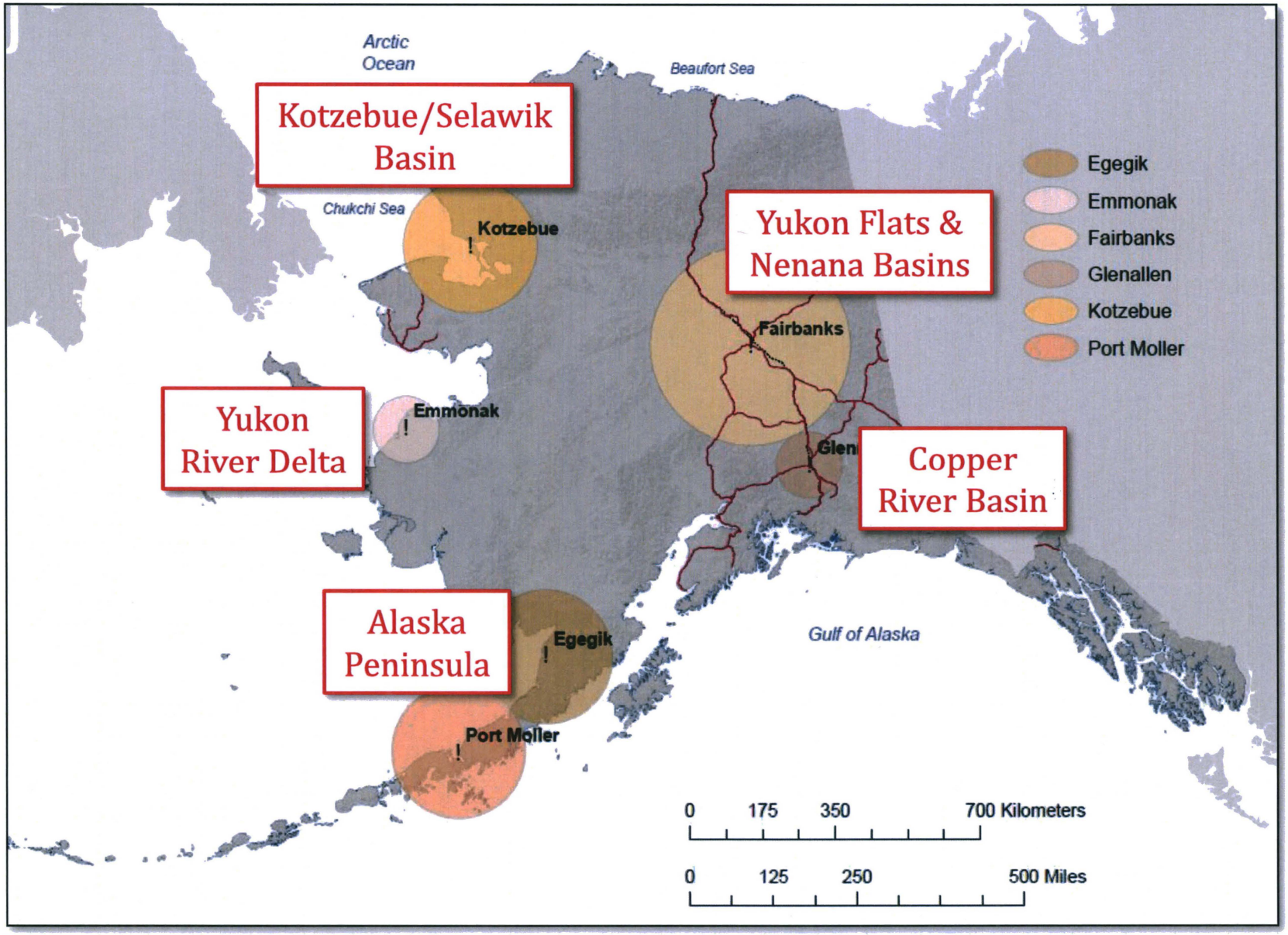
- "Frontier Basin" tax credits
  - *AS 43.55.025(a)(6)* – credit for drilling the first 4 exploration wells in frontier basin areas defined in (o)

    80% up to $25 Million per well
  - *AS 43.55.025(a)(7)* – credit for acquiring the first 4 seismic surveys in frontier basin areas defined in (o)

    75% up to $10 Million per survey

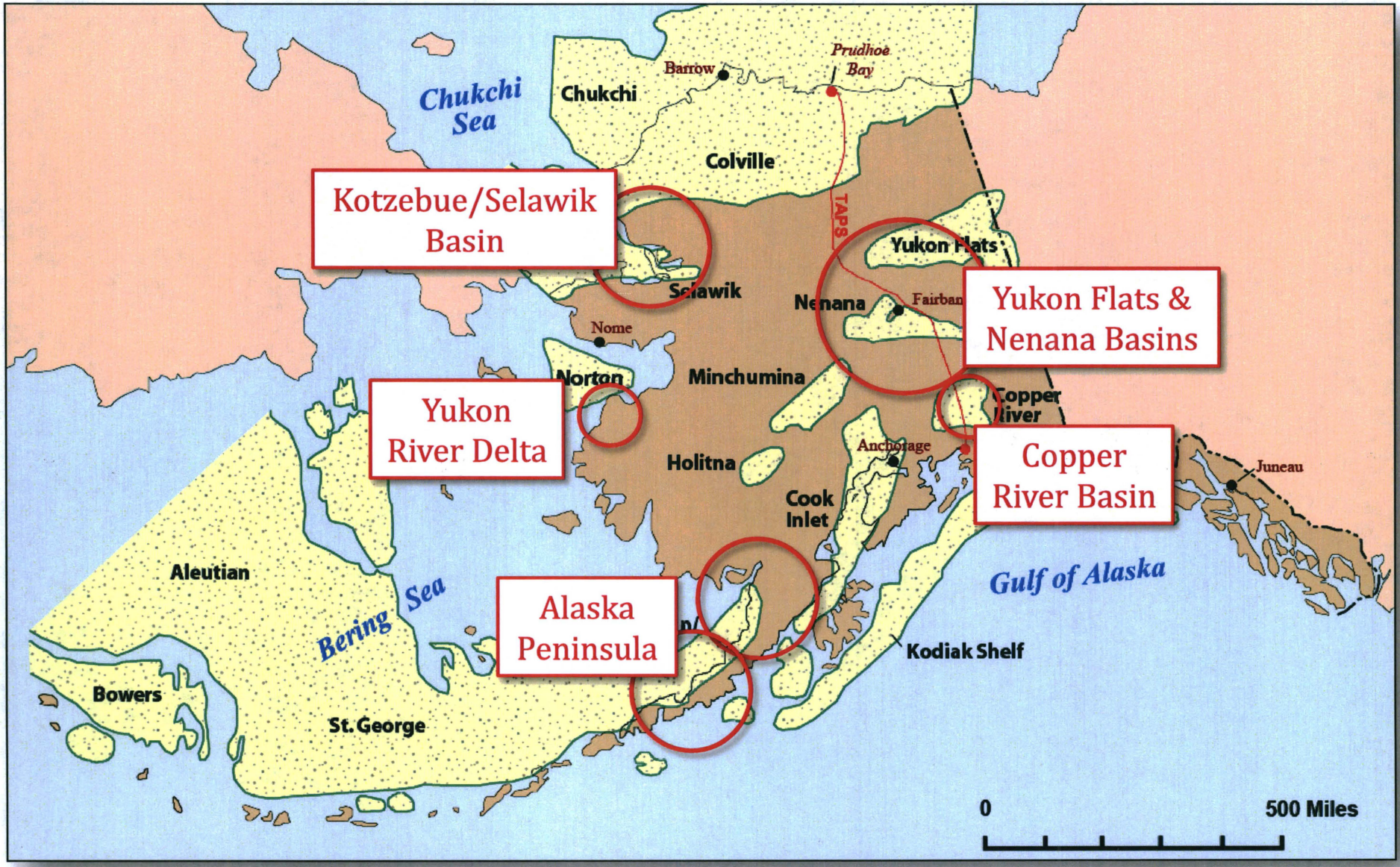


Frontier Basin Tax Credit Areas
- AS 43.55.025(o) -



Frontier Basin Tax Credit Areas

- Sedimentary Basins in Alaska -

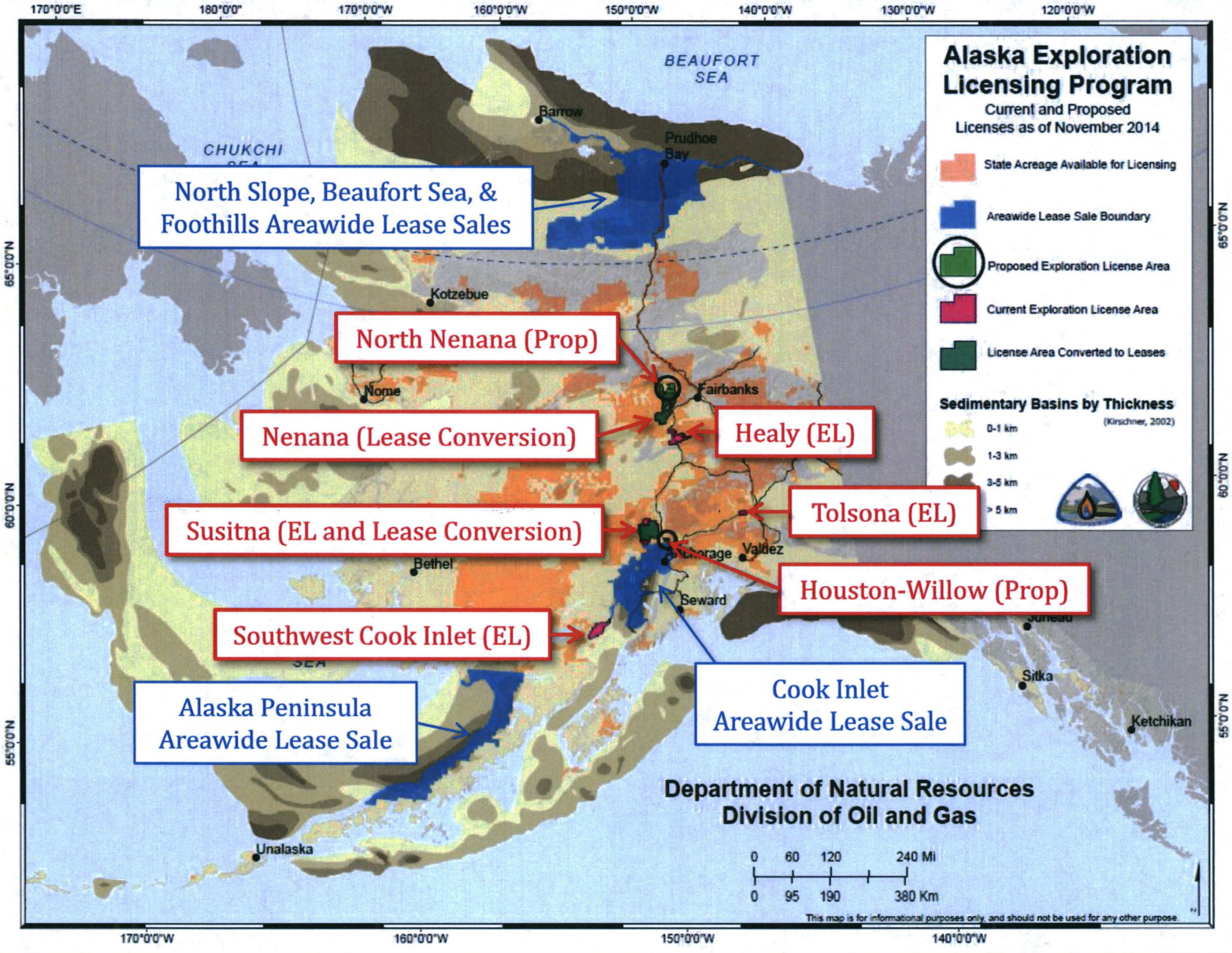


Exploration Licenses
- Current Status -

LOCATION	ADL FILE NUMBER	LICENSEE	ACRES	COMMITMENT	EFFECTIVE DATE	TERM
Healy Basin	390606	Usibelli Coal Mine Inc.	204,883	$500,000	January 1, 2011	10 years
Houston-Willow Basin	Application	Pending	Pending	Pending	Pending	Pending
North Nenana	Applicaton	Pending	Pending	Pending	Pending	Pending
Southwest Cook Inlet	392536	Cook Inlet Energy LLC	168,581	$1,501,000	October 1, 2014	4 years
Susitna Basin IV	391628	Cook Inlet Energy LLC	62,909	$2,250,000	April 1, 2011	10 years
Susitna Basin V	391794	Cook Inlet Energy LLC	45,764	$250,000	April 1, 2012	5 years
Tolsona	392209	Ahtna, Inc.	43,492	$415,000	December 1, 2013	5 years

Exploration Licenses

- Current, Proposed, and Converted to Lease -



Frontier Basin Exploration Activity
- Main Focus on and Near Native Lands -

- **Doyon**
  - Nenana Basin: Drilled Nunivak #1 and #2 exploratory wells in 2009-2013, acquired 2-D seismic, other geophysical & geochemical surveys, converted exploration license to lease
  - Yukon Flats Basin: Acquired 2-D seismic, other geophysical & geochemical surveys
- **Ahtna**
  - Copper River Basin, Tolsona exploration license: Reprocessing 2-D seismic data, considering well to follow up on Rutter & Wilbanks Ahtna #1-19 well drilled in 2007-2009
- **NANA**
  - Kotzebue Basin: Evaluating and marketing prospects based on legacy industry seismic
- **Usibelli**
  - Healy Basin gas only exploration license: Drilled one well in 2014, no data available
- **Cook Inlet Energy**
  - Susitna Basin: Converted much of one exploration license to lease; holds two more contiguous exploration licenses; no drilling to date
  - Southwest Cook Inlet exploration license: Issued late in 2014, no exploration to date



Ahtna Natural Gas Opportunities

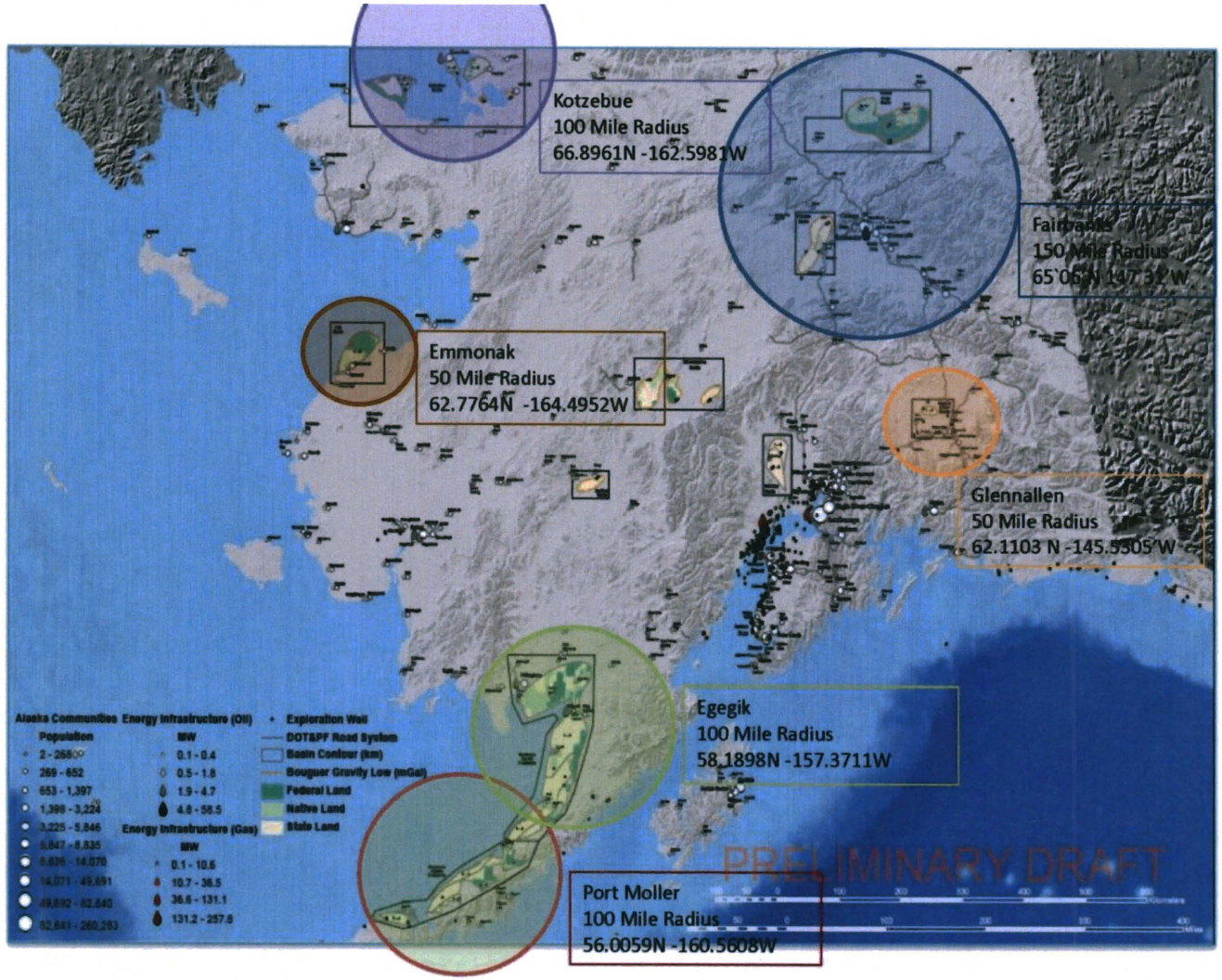
Presentation to House Resource Committee

March 11, 2015

Mr. Joe Bovee, VP Land and Resources – Ahtna, Inc.

"Our Culture Unites Us; Our Land Sustains Us; Our People are Prosperous"

Oil and Gas Basins in Alaska



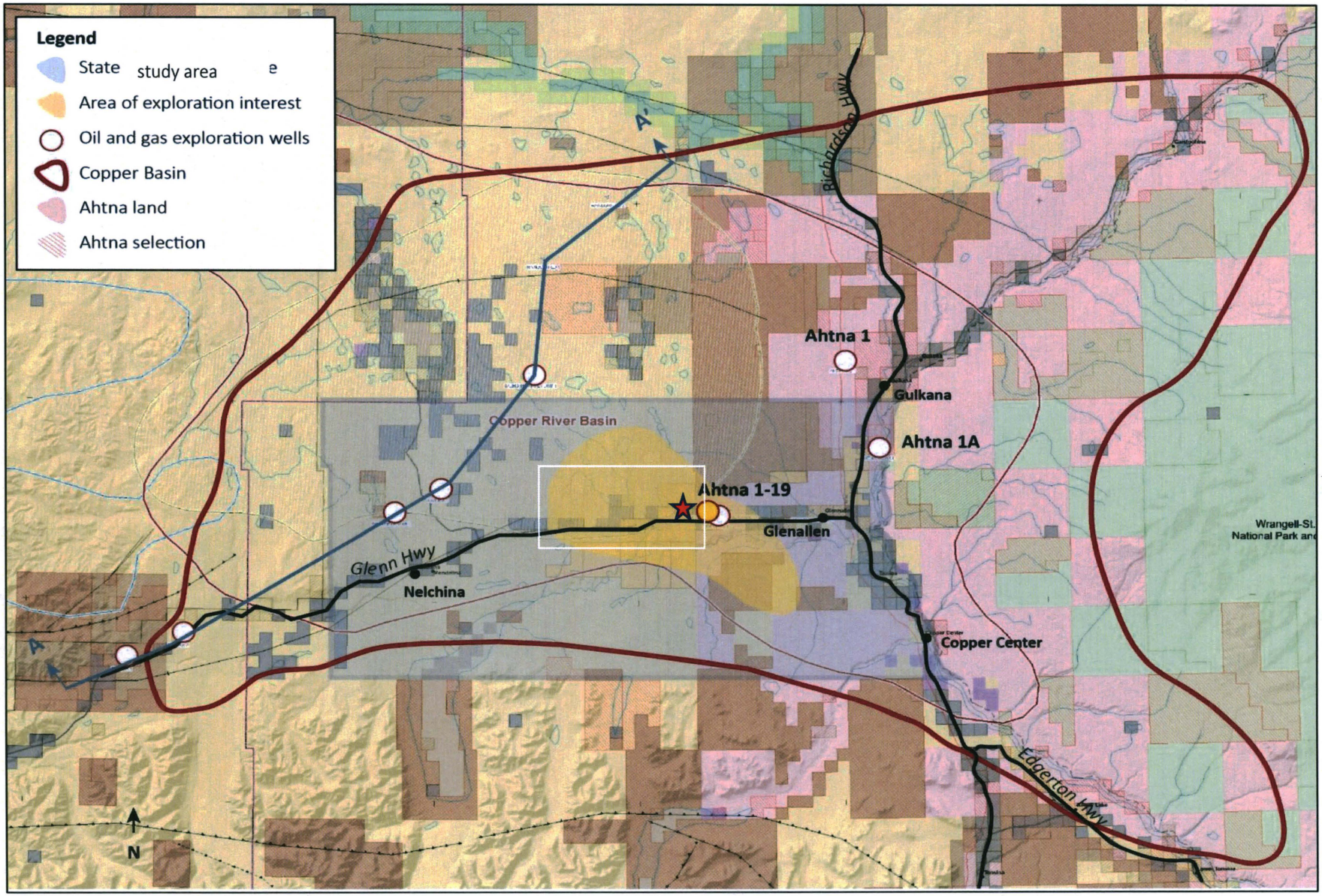
New Frontier Basin Tax Credits

- Current exploration credits allow for 75% of seismic & 80% exploration wells.
- Recommend tweaking current .025 tax structure to: reduce well depth; extend allowed credits beyond 2016; and allow merging some of the .025 credits into .023 for faster recovery of investment.
- Without tax credits we would not be where we are at today!

What is Currently Known About Gas Prospects in the Ahtna Region?

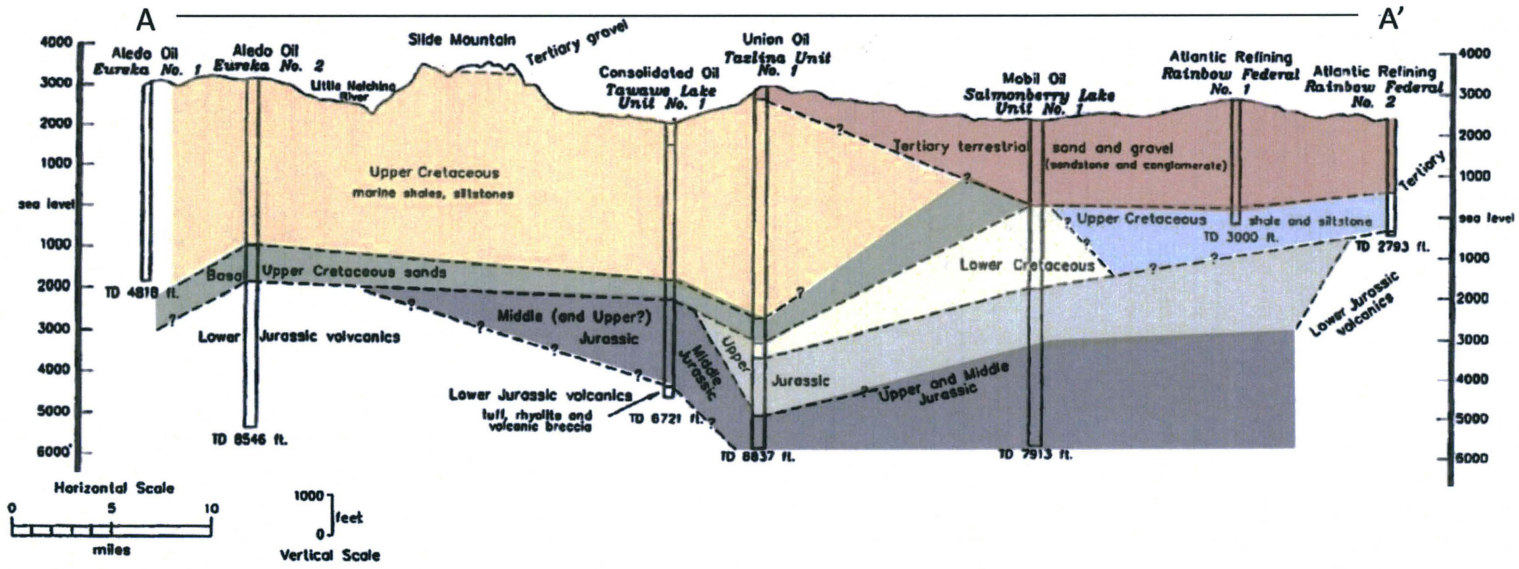
- Geologic structure of interest currently under State land.
- Millions of dollars invested in exploration in the region to date.
- Geological data and past exploration give strong natural gas indications.
- Formation accessible to South-central Alaska population centers, State highway road system and tidewater.
- Some technical drilling challenges due to high pressure water zones.

Copper River Basin Natural Gas



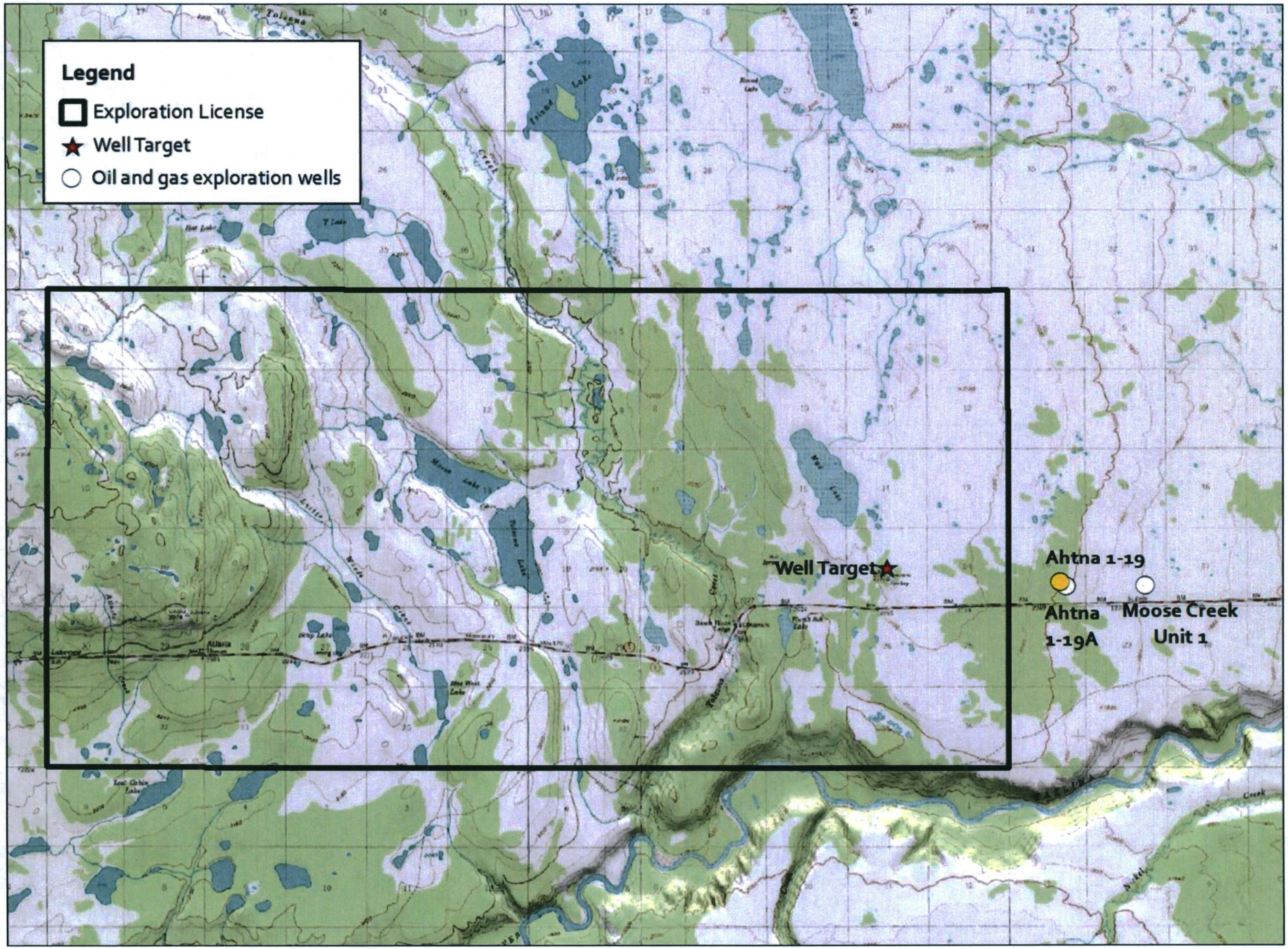
Geological Summary

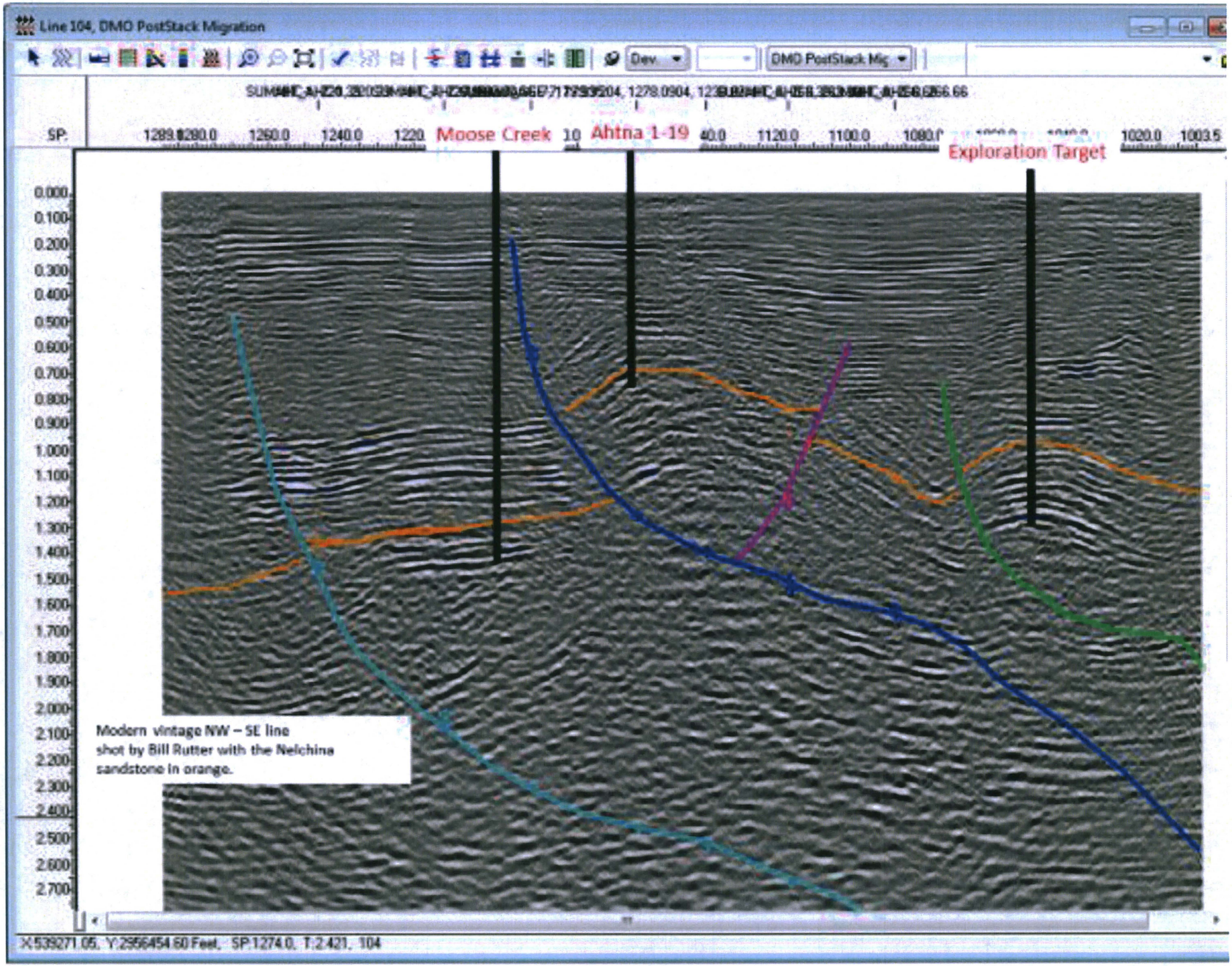
- Identified porous, permeable, and hydrocarbon-bearing lower Cretaceous
- Several large fault-bounded geologic structures, may hold economic accumulations of natural gas
- High pressure water zone found identified at 1,100’ with pressure of 1,000 PSI



Current Prospects

- In December 2013 Ahtna was awarded an Exploration License on 44,000 acres of State land.
- In early 2014 Ahtna partnered with two exploration partners: Rutter & Wilbanks-Midland, Texas and Santa Petroleum-Welland, Australia.
- Reprocessed 90-miles of pre-existing seismic from the 1970's-1980's
- Identified a structure within the license area and conducted an additional 40-miles of new seismic.
- Preliminary data shows outline of crest of gas structure 14-miles west of Glennallen and 2-miles from Richardson Hwy.


Legend
Exploration License
Well Target
Oil and gas exploration wells
Well Target
Ahtna 1-19
Ahtna 1-19A
Moose Creek Unit 1


Line 104, DMO PostStack Migration
Dev
DMO PostStack Mig
SP:
1260.0
1240.0
1220
Moose Creek
10
Ahtna 1-19
40.0
1120.0
1100.0
1080.0
Exploration Target
1020.0
1003.5
0.000
0.100
0.200
0.300
0.400
0.500
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0.700
0.800
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1.700
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2.100
2.200
2.300
2.400
2.500
2.600
2.700
Modern vintage NW – SE line
shot by Bill Rutter with the Nelchina
sandstone in orange.
X:539271.05, Y:2956454.60 Feet, SP:1274.0, T:2.421, 104

Range of Market Opportunities

thousands
BTUs/day

→ No Development

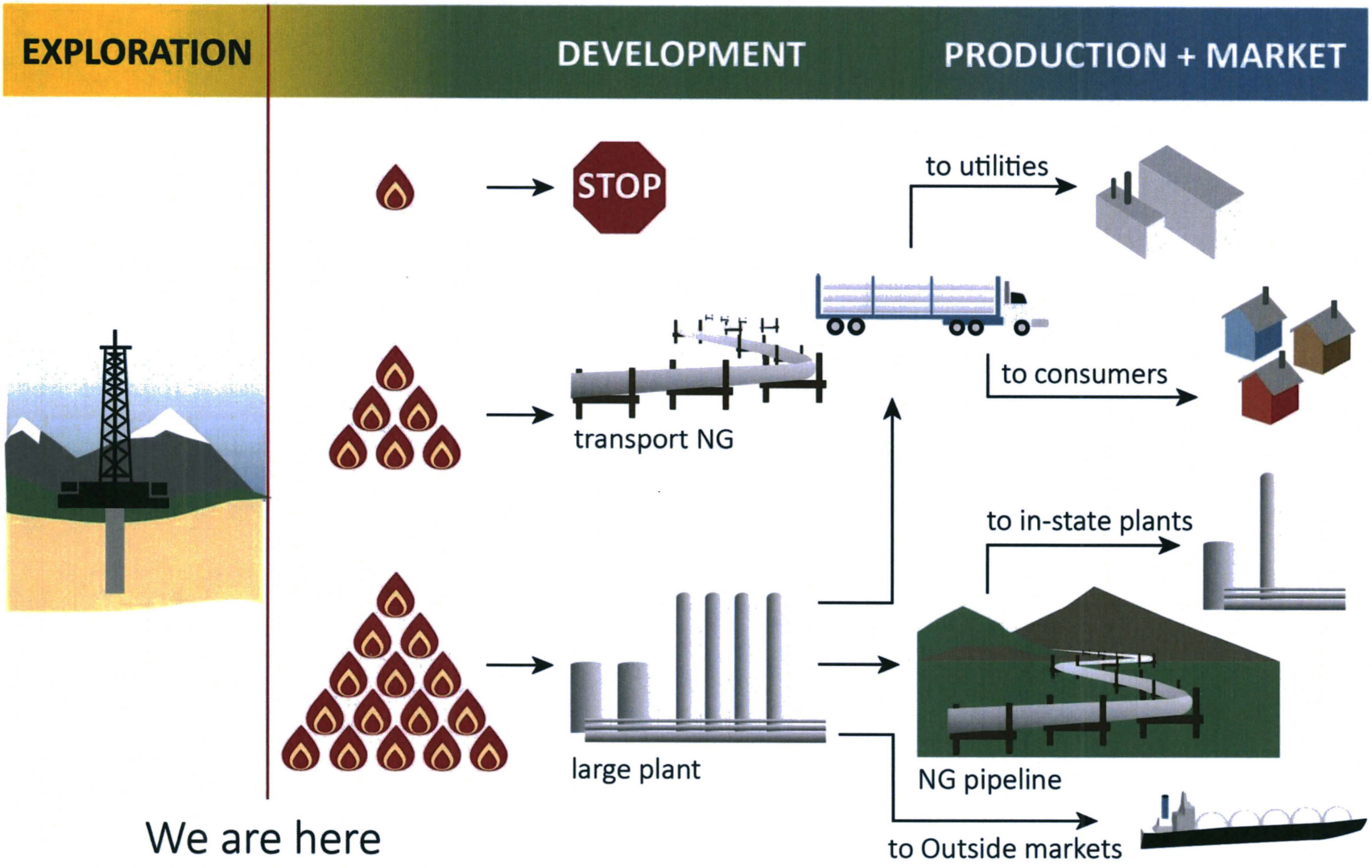
millions
BTUs/day

→ Copper Basin Market

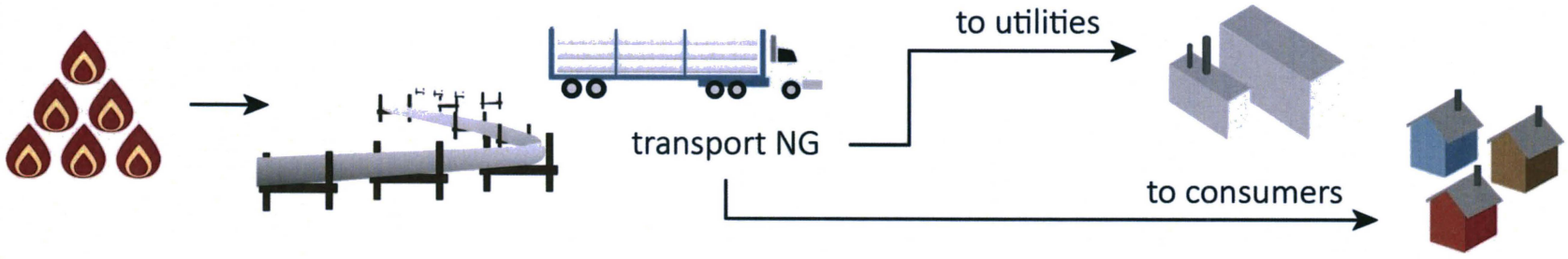
billions
BTUs/day

→ In-State or International Market

Development Options



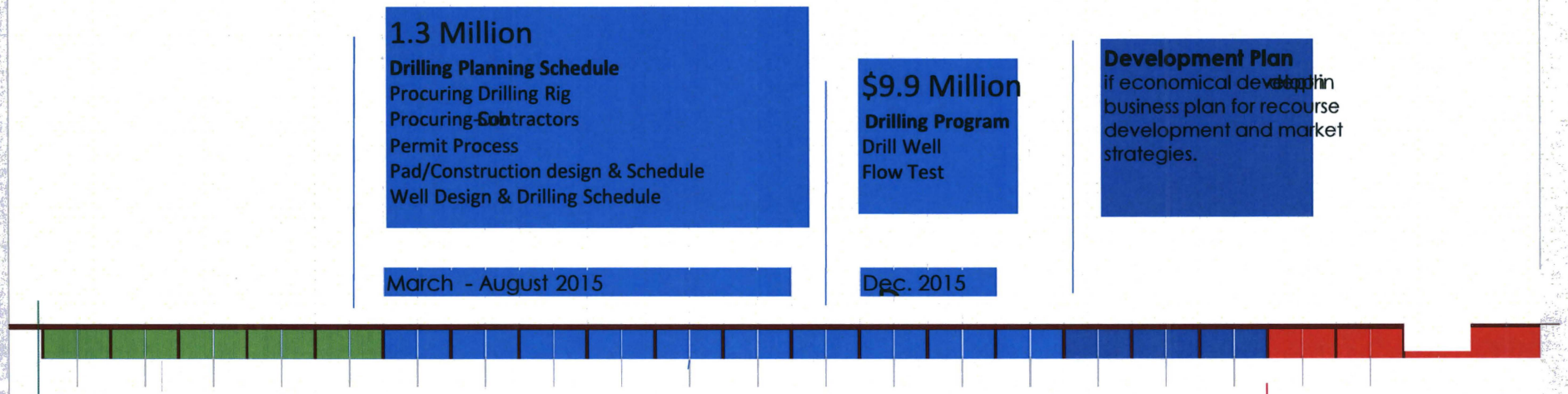
Local Market is Viable



Present Cost #2 fuel oil	$4/gal
#2 fuel oil Equivalent	$35/MMBTU's
Estimated NG market delivery	$14.65MMBTU's
NG equivalent of	$1.67/gal

58% Savings in Home Heating Cost
Cheaper Energy for Economic Growth

Ahtna Gas Development TimeLine



1.3 Million

Drilling Planning Schedule
Procuring Drilling Rig
Procuring Sub-Contractors
Permit Process
Pad/Construction design & Schedule
Well Design & Drilling Schedule

March - August 2015

$9.9 Million

Drilling Program
Drill Well
Flow Test

Dec. 2015

Development Plan
if economical develop in business plan for recourse development and market strategies.

Dec. 2014

$3 Million

Seismic/Contractual
Preliminary Work
Procure Additional Investors
Aquire existing seismic data
Well Location restrictions
DNR Meetings Permitting needs
Seismic Permitting
Bonding/License
Seismic Define new lines

$1 Million

Site Work
Pad/Other Construction
Equipment Mobilization
Rig Moralization

June16

End Of
State funded Tax incentives

Conclusion and Next Steps

- Engineer and design a new well with completion prior to June 2016 – dependent on tax credit scenarios.
- Finalize RCA application for local gas distribution.
- Determine and develop markets.
  - Pipeline
  - Micro-LNG Plant (trucking)
  - Electric Intertie