

**Resource Development Council
35th Annual Alaska Resources Conference**

Interior Oil and Gas Exploration

November 19, 2014
Anchorage, Alaska
James Mery



DOYON
— Limited® —

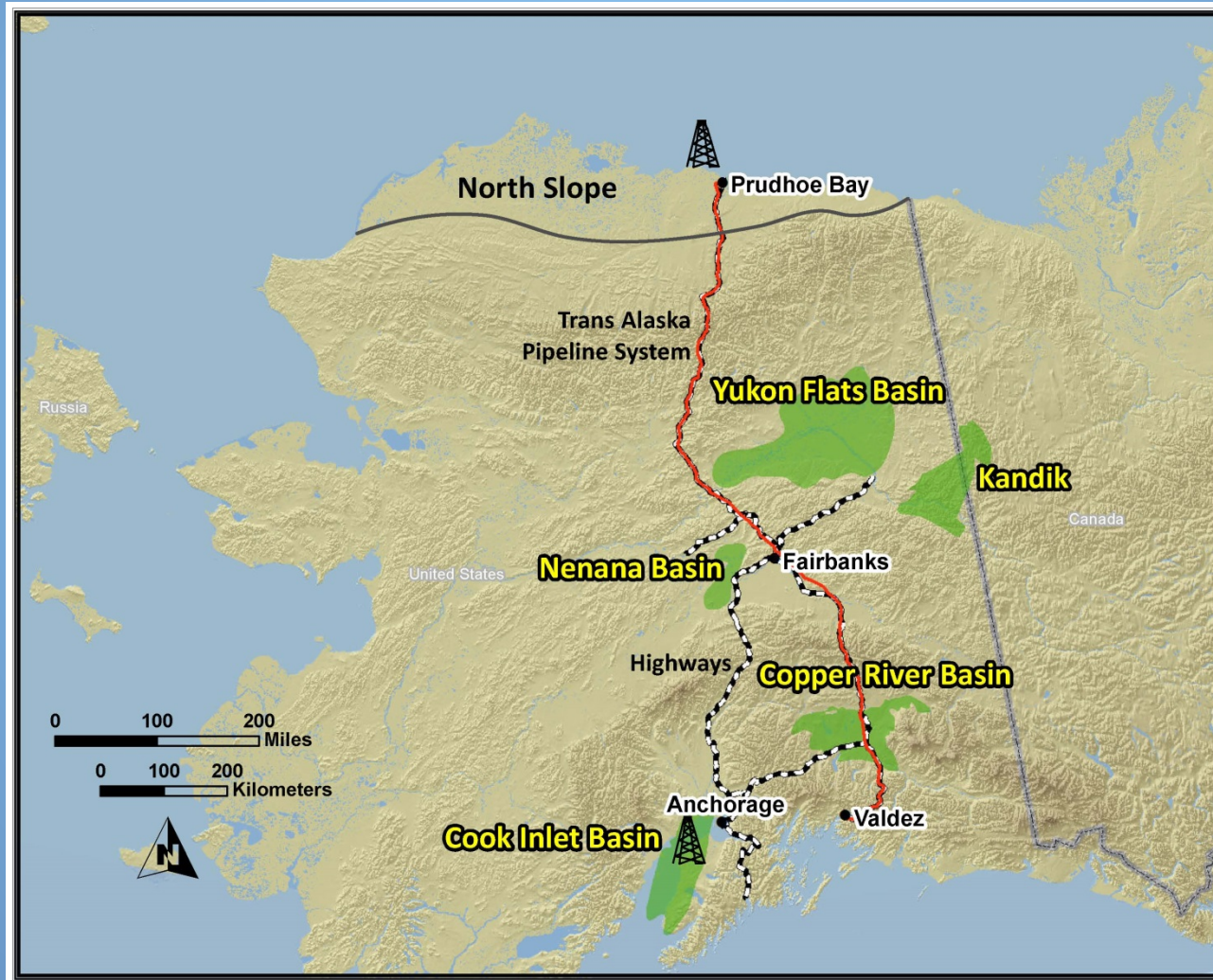
Doyon, Limited

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
- 2013 after tax profits of \$19MM on revenues of \$319MM

Interior Basins

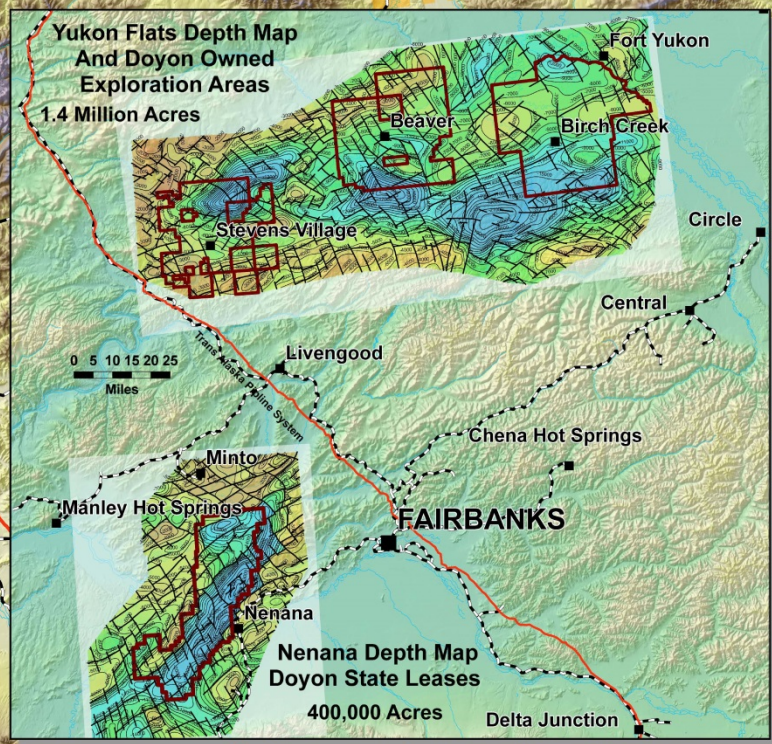
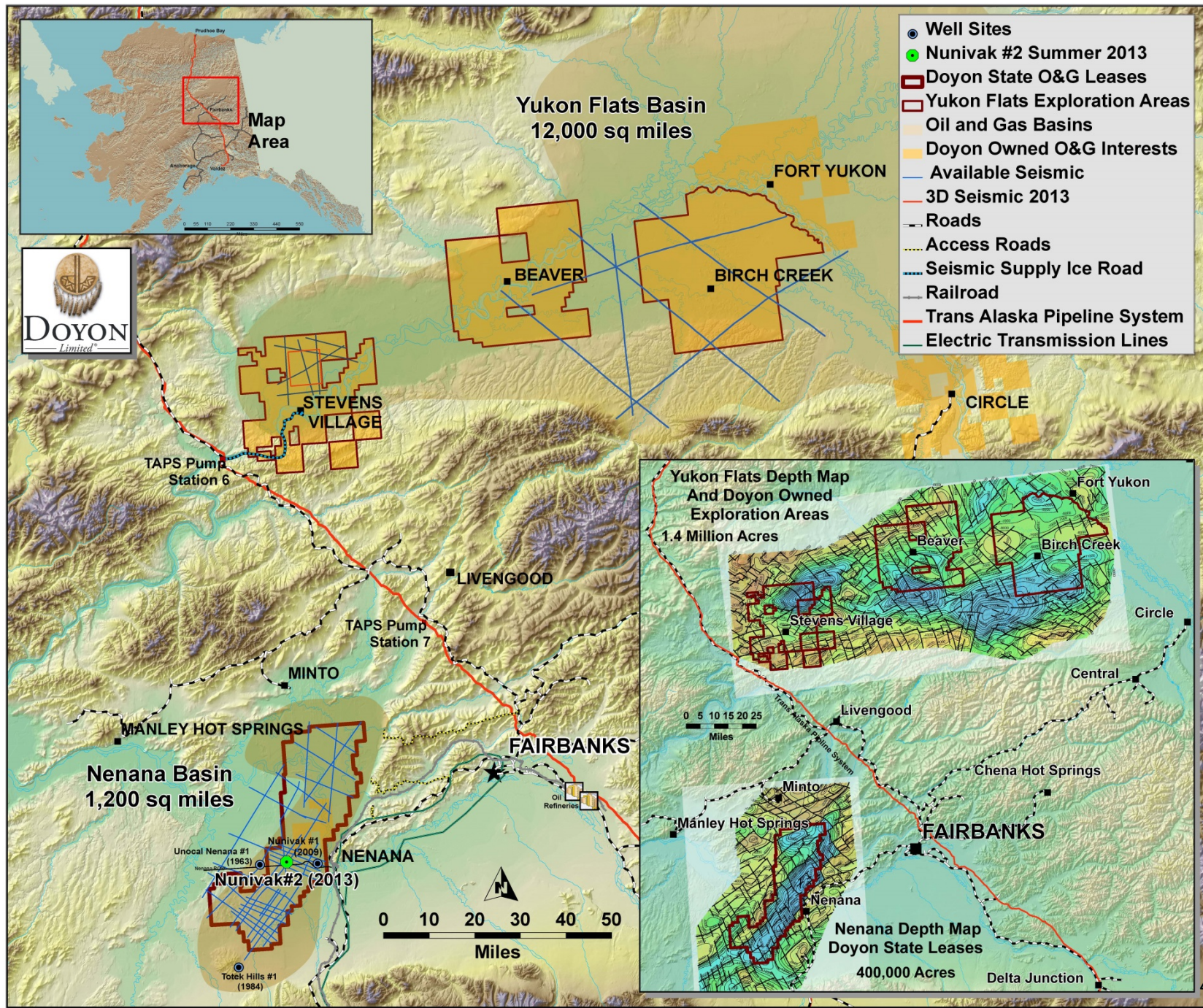
Where are they?





Yukon Flats Basin
12,000 sq miles

- Well Sites
- Nunivak #2 Summer 2013
- Doyon State O&G Leases
- Yukon Flats Exploration Areas
- Oil and Gas Basins
- Doyon Owned O&G Interests
- Available Seismic
- 3D Seismic 2013
- Roads
- Access Roads
- Seismic Supply Ice Road
- Railroad
- Trans Alaska Pipeline System
- Electric Transmission Lines



Nenana Basin
1,200 sq miles



Nunivak #1 (2009)
Nunivak #2 (2013)



Unocal Nenana #1 (1963)
Nenana #1 (2009)
Nunivak #2 (2013)
Totek Hills #1 (1984)

Two Basins-Land Tenure

Nenana/Minto

- 400,000 acres in 78 Doyon/
State leases
 - 7 year primary term (year 2
now); rentals
- 42,000 acres Doyon lands
 - Nenana village surface
- “Basin Master”
- No federal ownership
nearby
 - northern third of leases in
State refuge

Yukon Flats

- 1.4 million acres Doyon
lands in three separate sub-
basins
 - No time constraints/holding
costs
- Some surface ownership by
3 villages
- “Basin Master” Lite
- Adjacent federal areas off-
limits
 - federal wildlife refuge

Two Basins-Similar Geology

Common characteristics

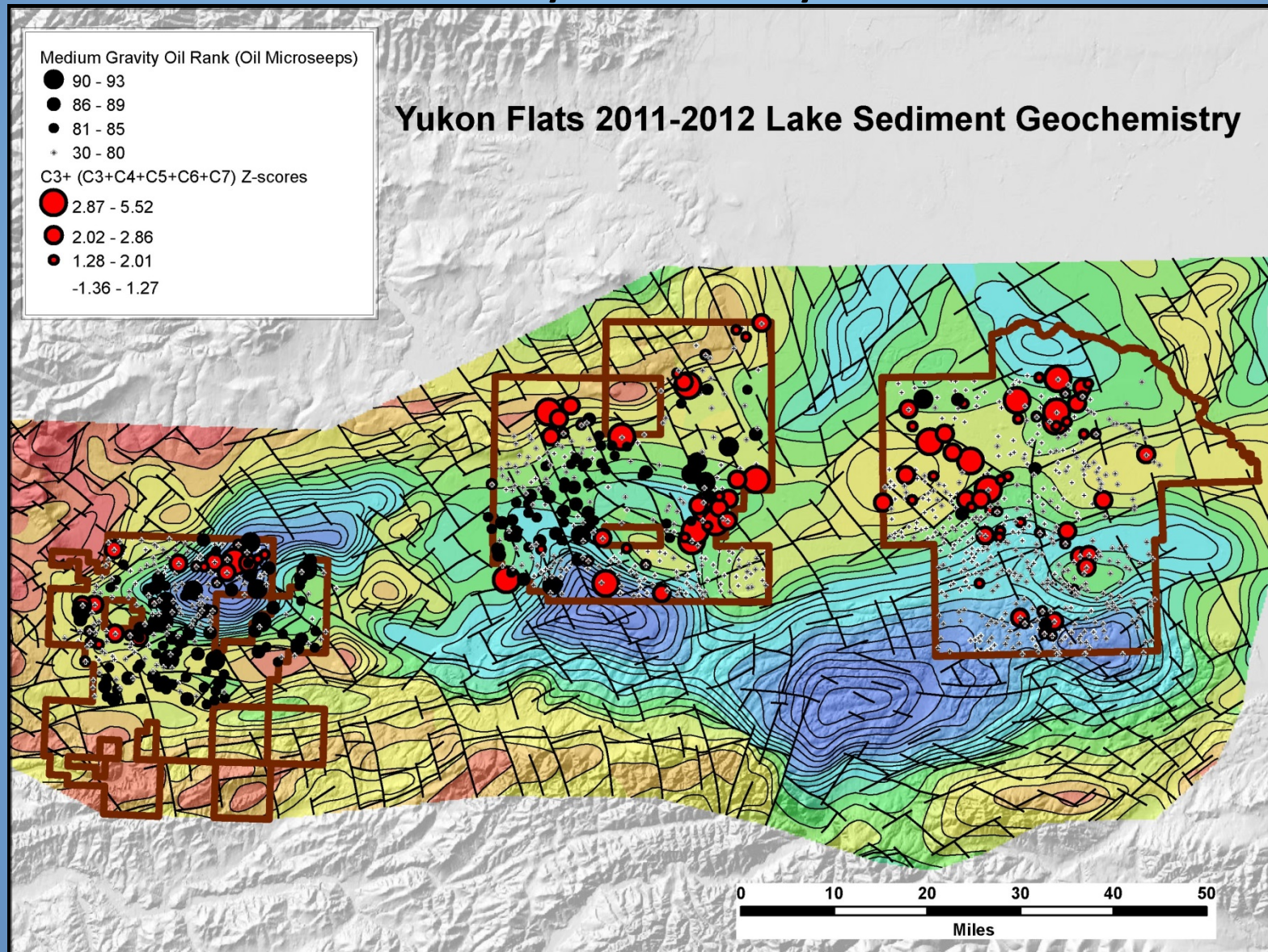
- 20-25,000' non-marine Tertiary sedimentary section
- Abundant hydrogen-rich coals, coaly shales and probably lake bed shales
- Traps

CURRENT FOCUS ON NENANA BASIN

- Oil primary target, gas secondary

Yukon Flats Oil and Wet Gas Micro-Seeps

Doyon Lands Only



Doyon Oil & Gas Exploration Objectives

- Oil and gas discoveries both basins
- New markets for Doyon oilfield services companies
- Business opportunities for nearby village corporations
- Jobs and training for shareholders
- Secure new partners for State leases at Nenana
 - Needed for more aggressive exploration
 - Doyon retain 30% of working interest/equity

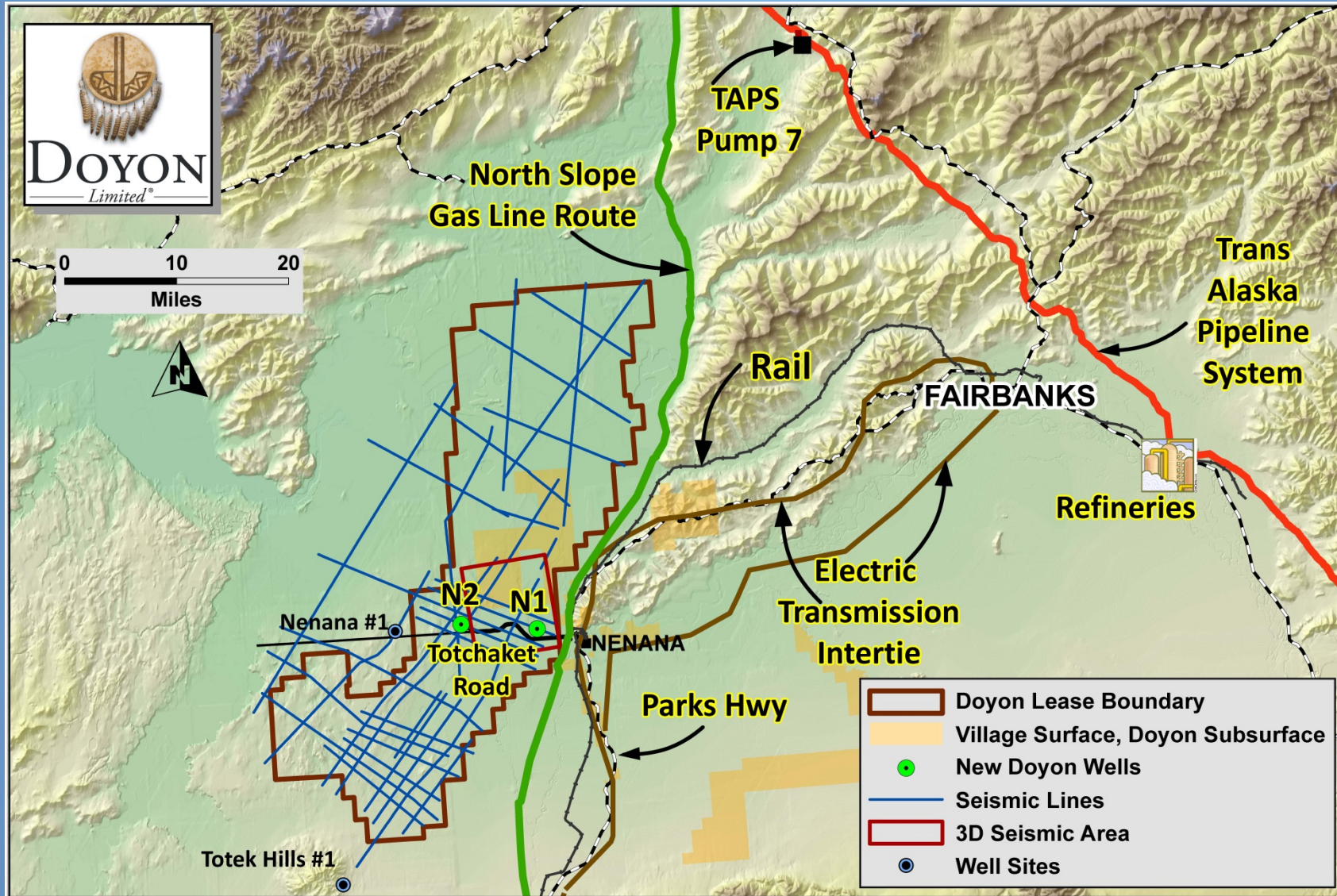
Success at Nenana will “open the door” to the nearby, similar and much larger Yukon Flats

Exploration Overview and History

Nenana Basin

- **Prior exploration—1960s and 80s**
 - Seismic and two shallow wells--majors
- **Recent exploration campaigns—2005 to 2014**
 - Three seismic programs (2005, 2012, 2014)
 - Two exploration wells (2009 and 2013)—Nunivak #1 and #2
 - First deep wells in basin
 - Not yet commercial, but excellent source rocks, reservoir rocks and competent seals—trap failure at N2
- **Multiple other studies, including**
 - Surface geochem samples
 - Airborne and ground gravity data
 - Licensed heritage data—Shell and ARCO Alaska

Nenana Basin *Plus*



Nenana Petroleum System

- **Source**

- Excellent oil and wet gas source rocks in coals
 - From wells, lake bed geochemistry, outcrop
 - Deep lacustrine shales?
- Thermal maturity, down-dip thermal kitchen
 - From wells, seismic, other geophysics
- Wet gas migrated into Nunivak #2 location

- **Seal/Reservoir**

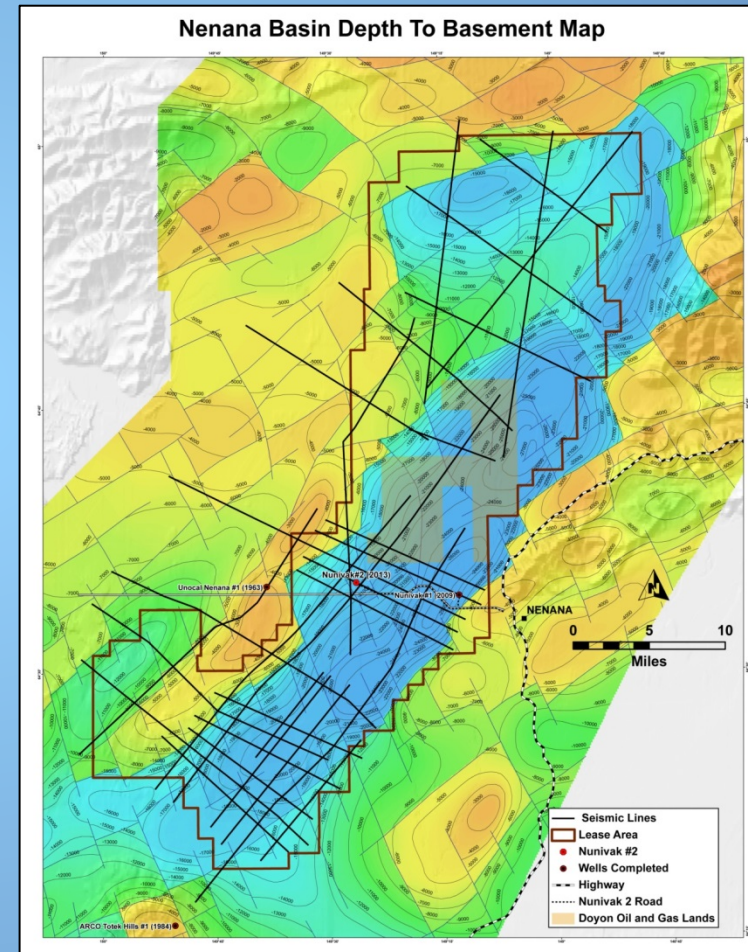
- Excellent sandstones, 20-24% porosity, quartz sand
 - Hundreds of feet
- Attractive sand/shale ratio in Healy Creek formation

- **Traps**

- Intra basin highs and fault blocks

Geophysics Define Nenana Basin

- 6-8,000 meters (20-25,000' sedimentary fill
- Narrow half graben, broader at ends
- Many normal faults and minor inversion
- Intra basin horst blocks

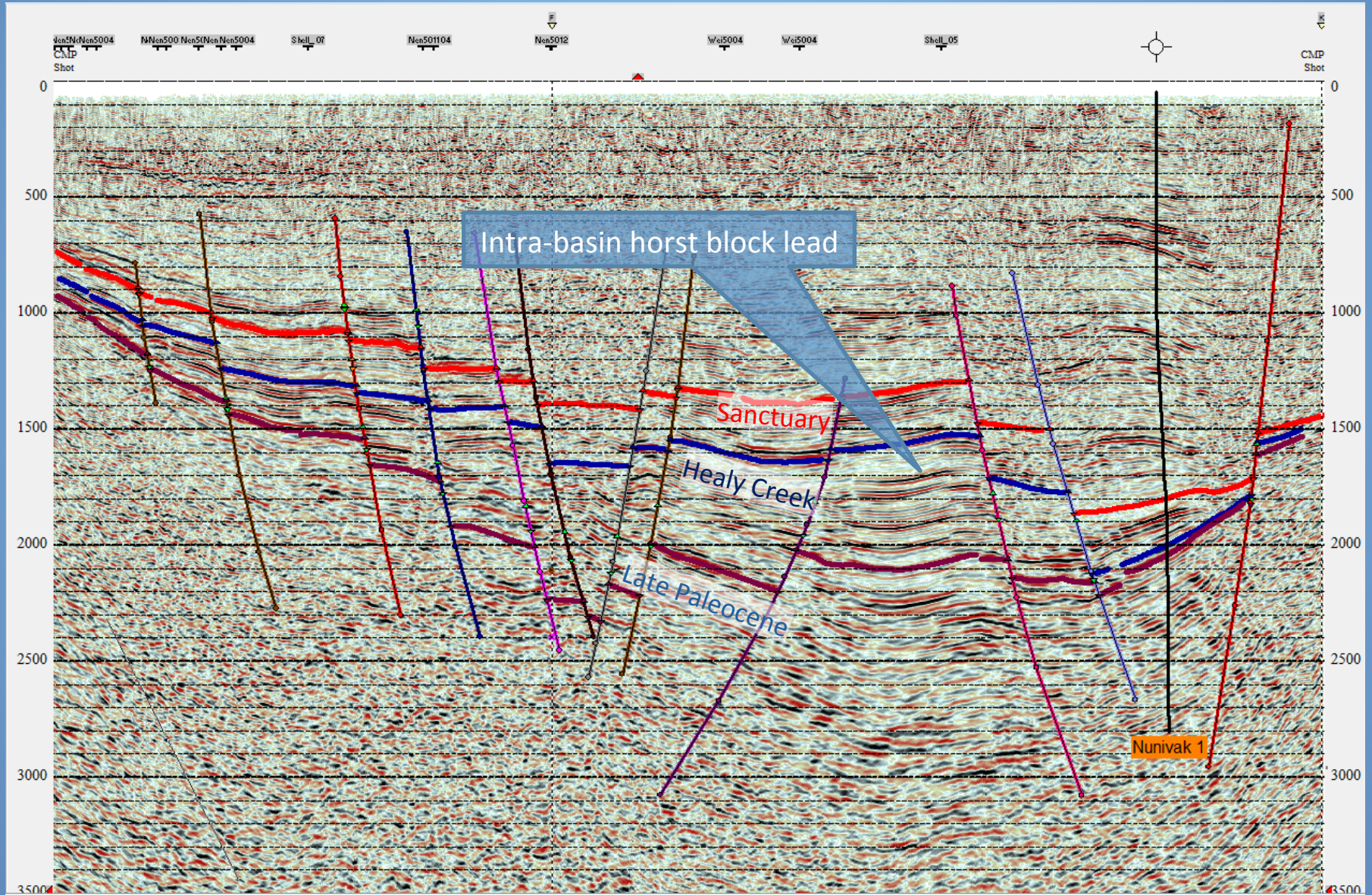


NW

SE

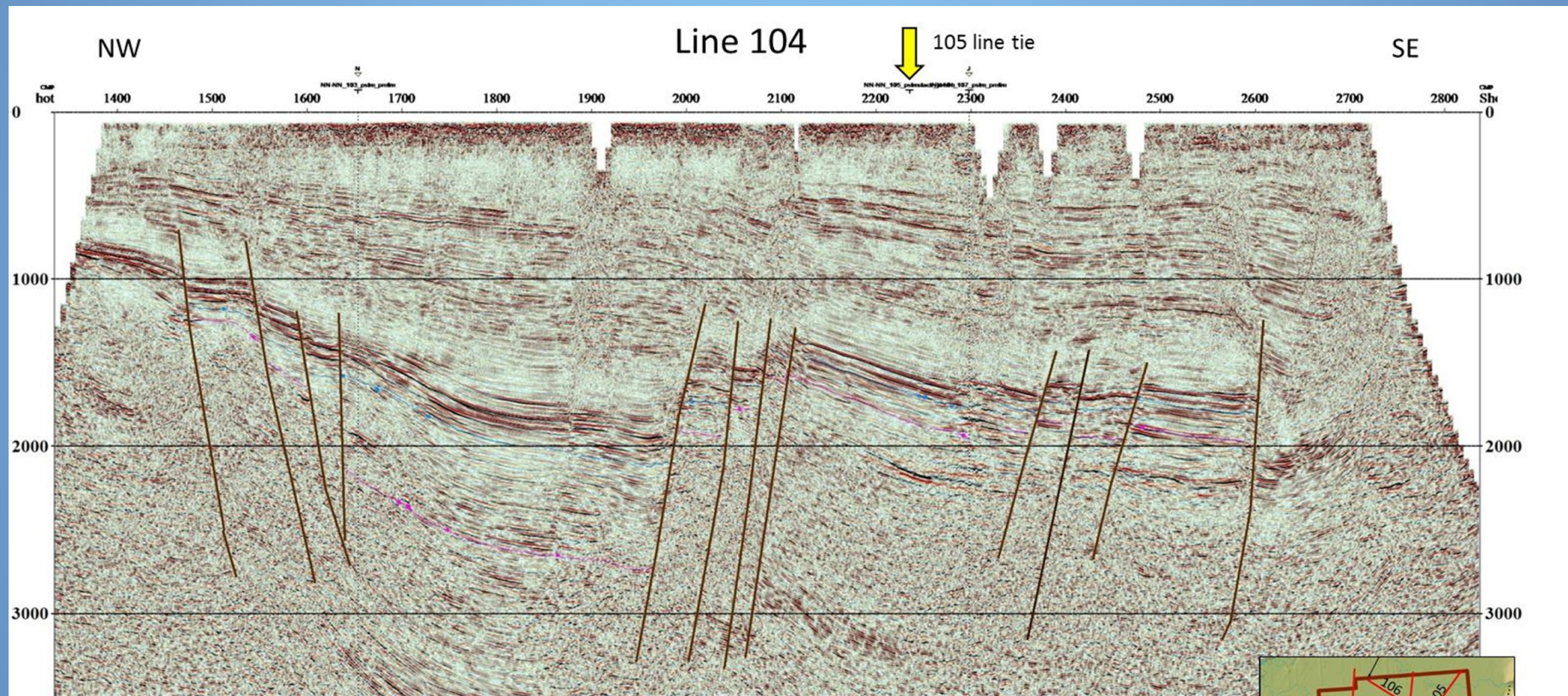
Central Nenana Basin Line 5004

Time
ms

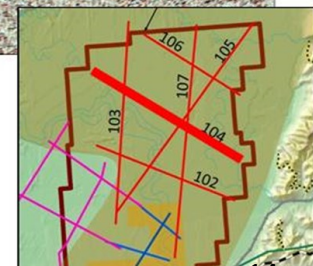


Structural Leads in North Nenana/Minto Basin

- Basin widens and deepens to north
- Tilted fault block with 650m (2000') relief



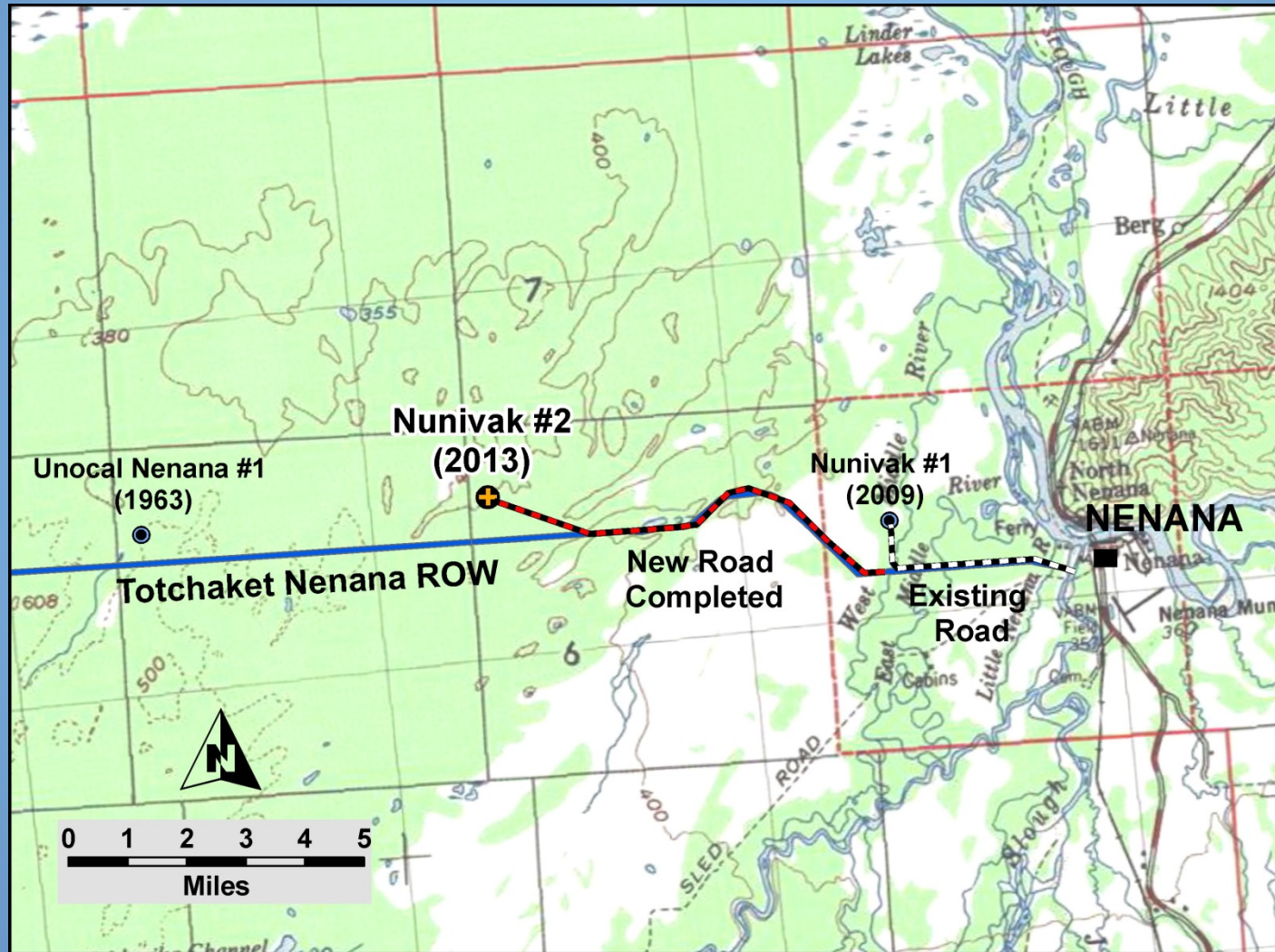
Line 104 shows a high relief horst block in the northern Nenana basin. Mature source rocks may be present on both sides of the horst, potentially sourcing from two directions. The high amplitude horst structure is an attractive structural lead and also appears on Line 106.



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

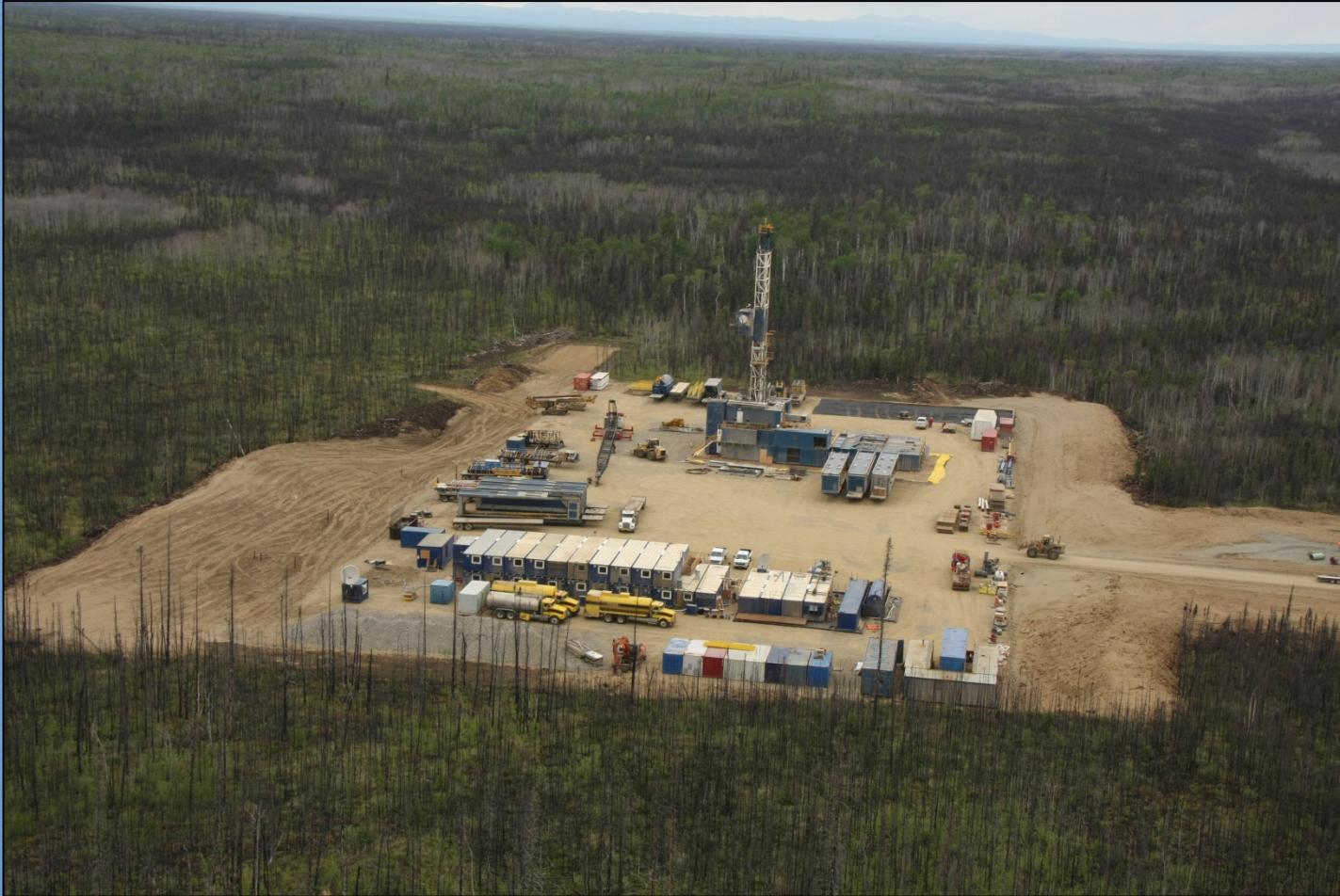
Bridge under construction now



N2 Totchaket Road



N2 Wellsite



What Do We Think We Know Now?

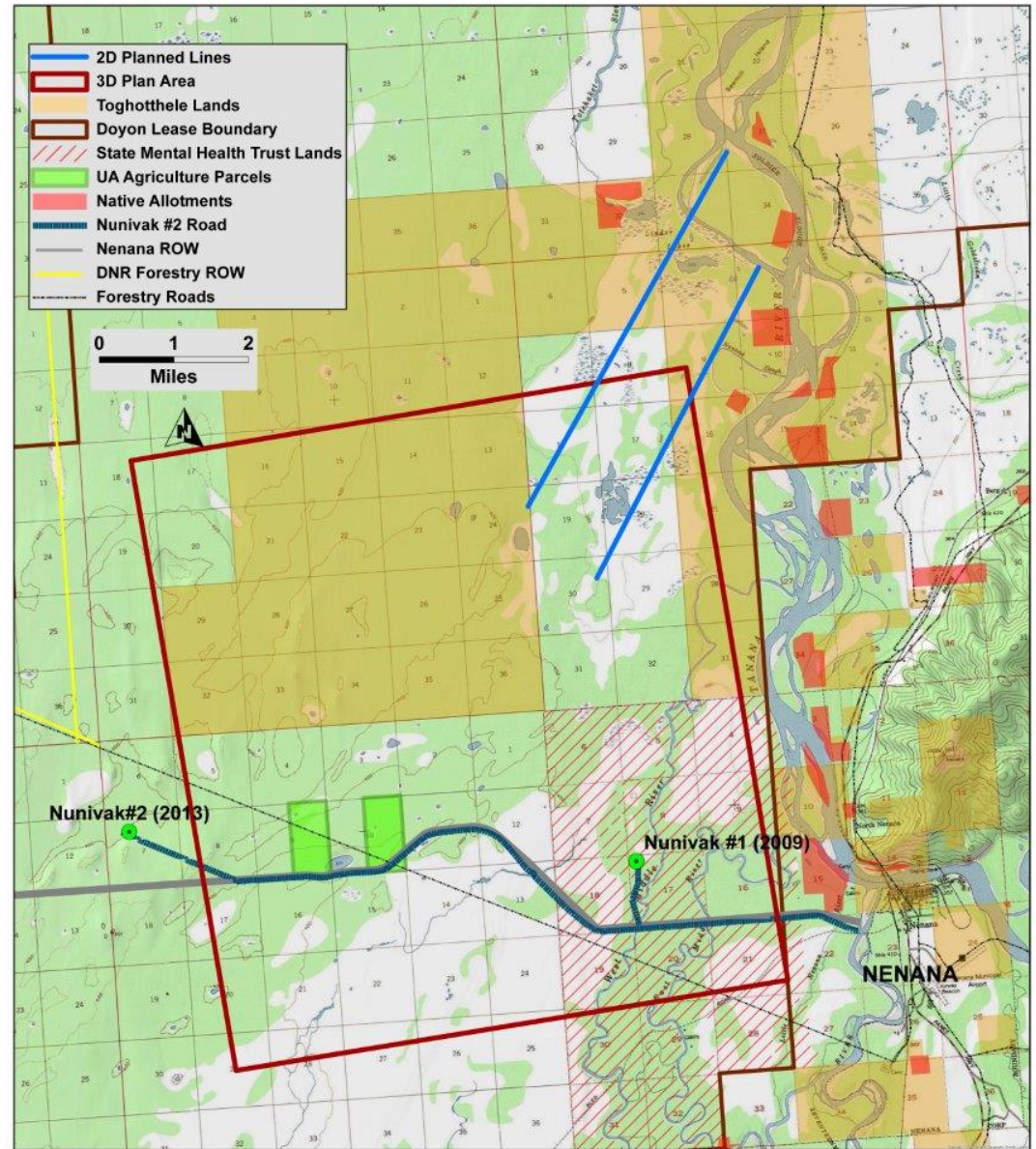
Hydrocarbon Promise

- Through Nenana drilling we know we have all the elements of an active and prolific oil and wet gas/condensate system
- Through Nenana seismic and other geophysical tools we know that the hydrocarbon system should be extensive

What's Next?

- **More detailed 3D/2D seismic needed**
 - Multiple prospective areas north and south we see from 2D seismic
 - Better define areas that may be worth drilling
 - Help avoid trap failure with next well
- **Next step is area of promise between N1 and N2**
 - 55 square miles of 3D seismic, some 2D
 - Helicopter supported
 - Shot hole drilling/explosives/nodal geophones
 - Multiple owners—Doyon/Toghotthele, State, MHT and some UA

Nenana 2014 3D and 2D Seismic Area



2014 Nenana 3D



Thank You

Alaska Legislature and State of Alaska

State Exploration License Program

State Exploration Credits

Questions and Comments

For More Information:
www.doyonoil.com

