

Alaska House Energy Committee Presentation

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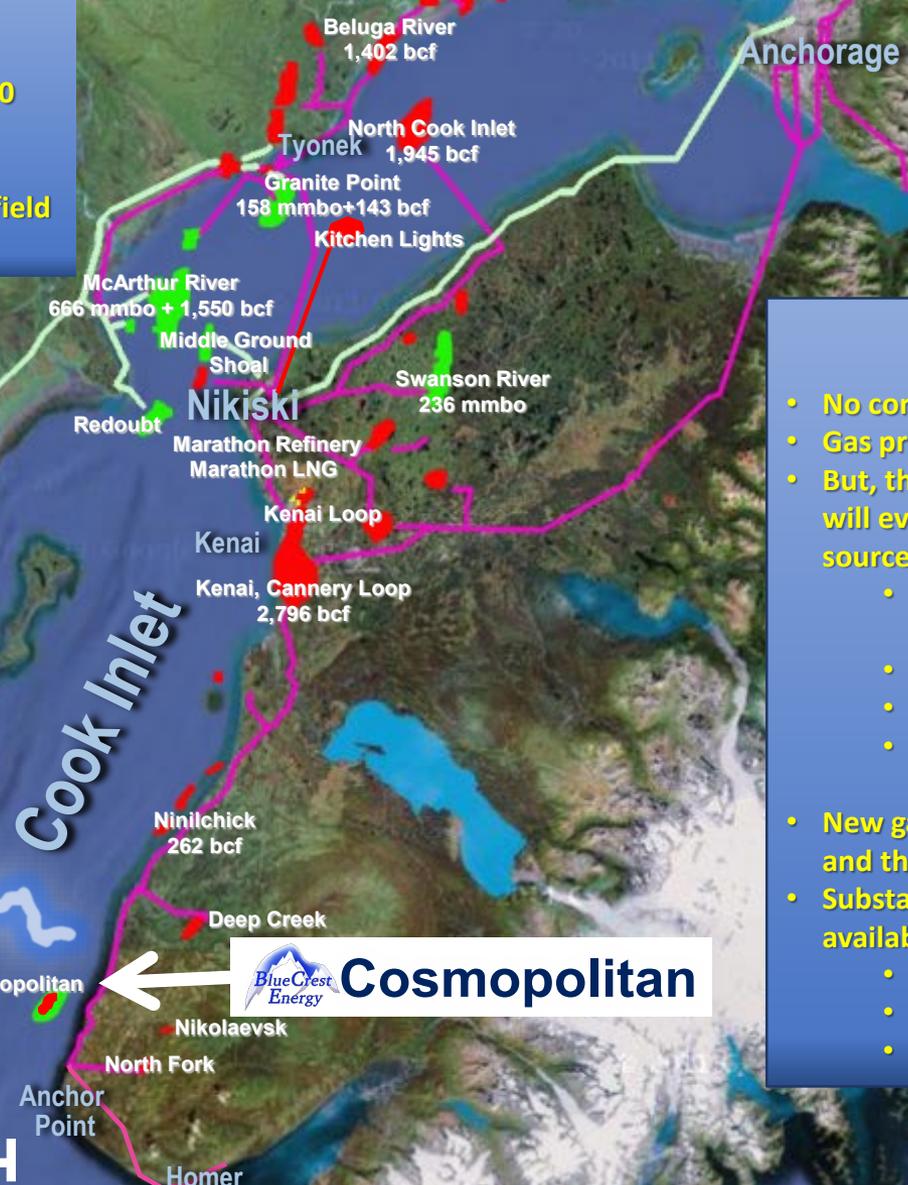
February 21, 2023



Cook Inlet Basin Overview and Characterization
Energy Supply/Demand Challenge
Cosmopolitan Tyonek Gas Opportunity

Alaska's Cook Inlet Basin

- Large northern fields discovered/developed in 1950's through 1970's
- Ninilchik developed in 2000
- Cosmopolitan first oil production in 2016
- Cosmopolitan Tyonek gas field is Proved Undeveloped



Energy Balance

- No connection to outside gas or electric power
- Gas production meets current local demand.
- But, through natural decline, gas production will eventually fall below demand without new sources:
 - Infill development possibilities
 - Typically smaller new volumes
 - Alaska Gas Line future uncertain
 - Importation of gas (LNG) is expensive
 - Renewable sources cannot provide sufficient volumes of low-cost energy
- New gas discoveries will require years to find and then bring to production
- Substantial Cosmopolitan gas could be available before a shortage occurs
 - Large Proved reserves
 - Conventional development
 - New investment is required

Legend

- Gas fields
- Oil fields
- Oil pipelines
- Gas pipelines
- Mean Winter Ice Southern Limit

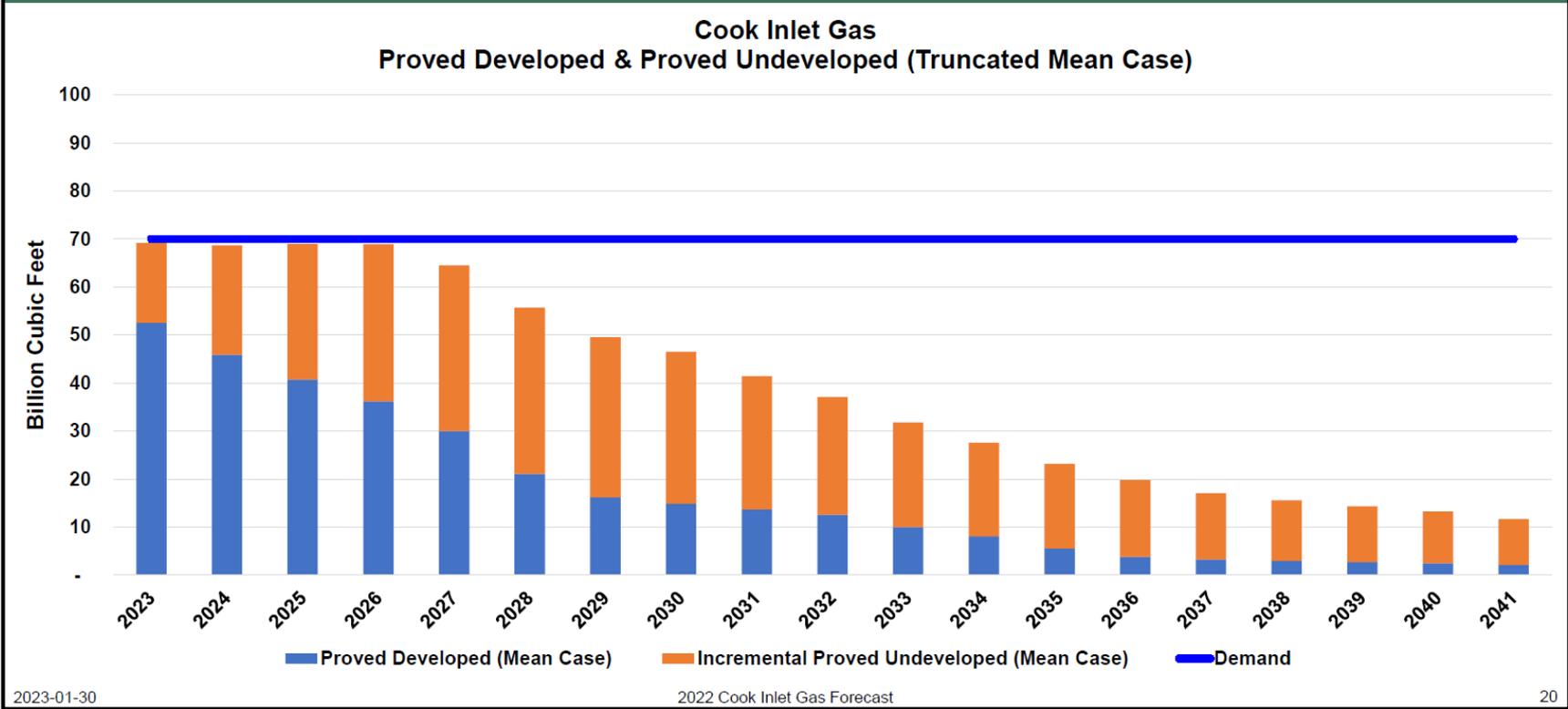
Cosmopolitan

20 mi.

Gulf of Alaska

DNR Legislative Presentation: January 30, 2023
Indicates potential gas shortfall by 2027

**FORECAST PROVED DEVELOPED
 & PROVED UNDEVELOPED**



**This does not include Proved Undeveloped
 Cosmopolitan Tyonek gas.
 234 BCF**

Cosmopolitan Unit



Oil & Gas Reservoirs Beneath the Cook Inlet Seabed (1,000'-7,000' Deep)

(3 Miles)

A yellow arrow originates from the onshore facility and points towards the Cook Inlet seabed, indicating a distance of 3 miles.

Onshore Drilling/Production Facility





Cosmopolitan Unit Development Concept: Separate Gas Field and Oil Field

Future Offshore:

Tyonek gas sands are too shallow to be reached from onshore wells.

Dry gas production wells drilled into gas reservoirs and water injection wells into oil reservoirs to improve oil recovery. No offshore oil production.

Additional Tyonek Gas Reserves:

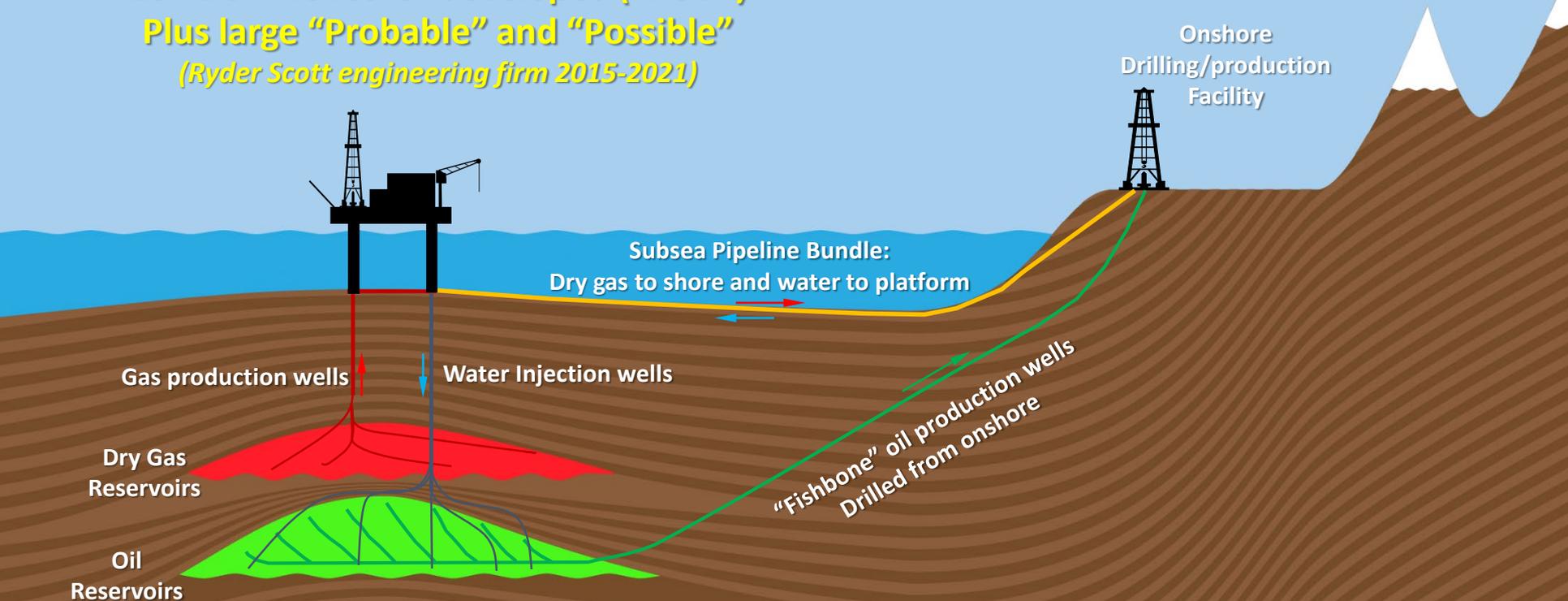
234 BCF Proved-Undeveloped (“PUD”)

Plus large “Probable” and “Possible”

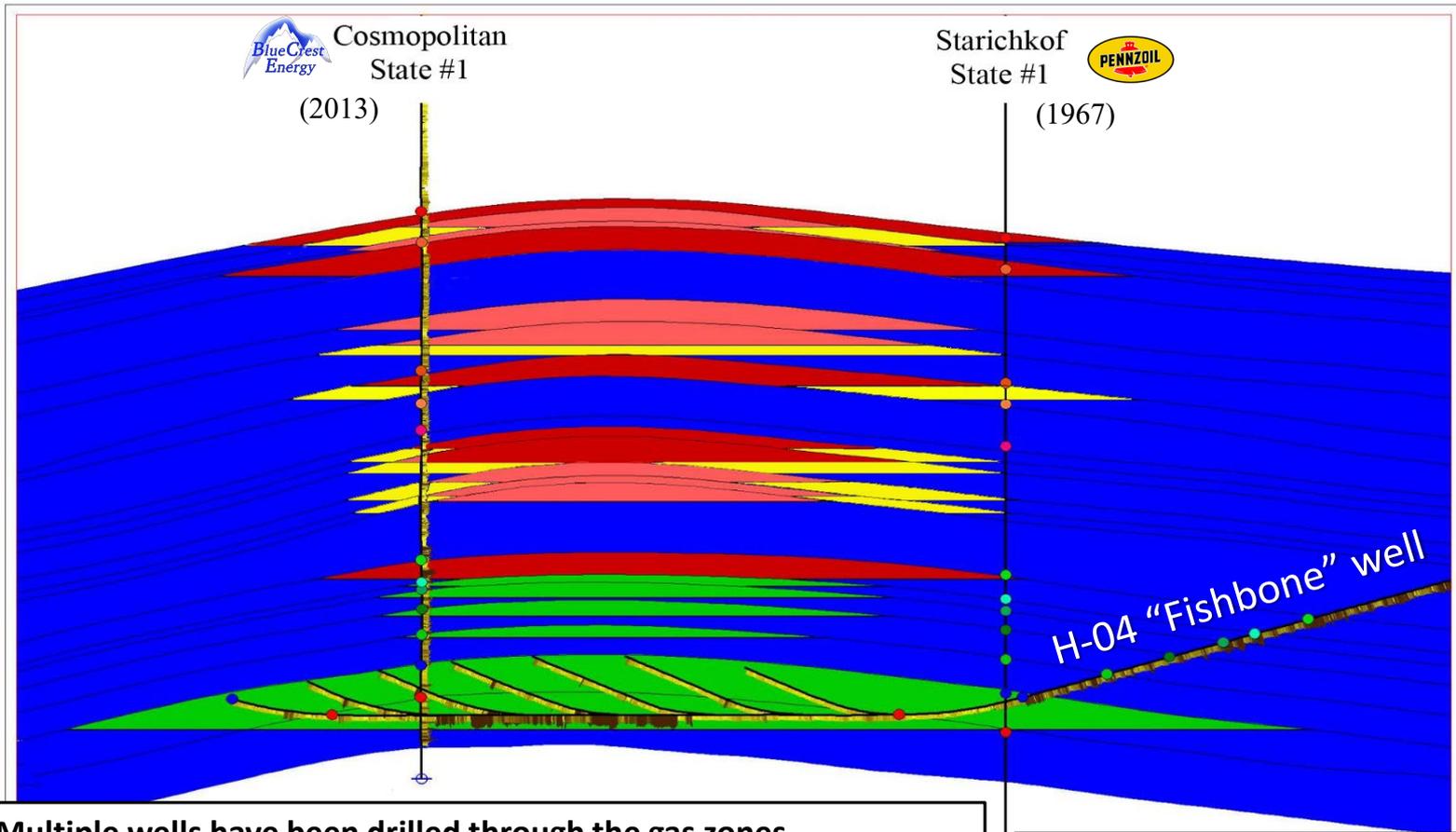
(Ryder Scott engineering firm 2015-2021)

Ongoing Oil:

“Proved” - Partially Developed
“Extended-Reach” oil wells drilled safely from onshore produce the deeper offshore oil with no danger of an offshore oil spill.



Cosmopolitan Tyonek Gas is “Proved” but Undeveloped



- Multiple wells have been drilled through the gas zones
- Multiple flow tests of the gas zones confirm high productivity
- Size and shape of the “trap” structure is clearly documented
 - 3-D seismic data, more than 20 vertical wells drilled throughout the deeper oil zones below the gas zones
- Gas zones are very similar to nearby Ninilchik field
 - Ninilchik is currently the largest Cook Inlet gas producer and has already produced more than 260 BCF



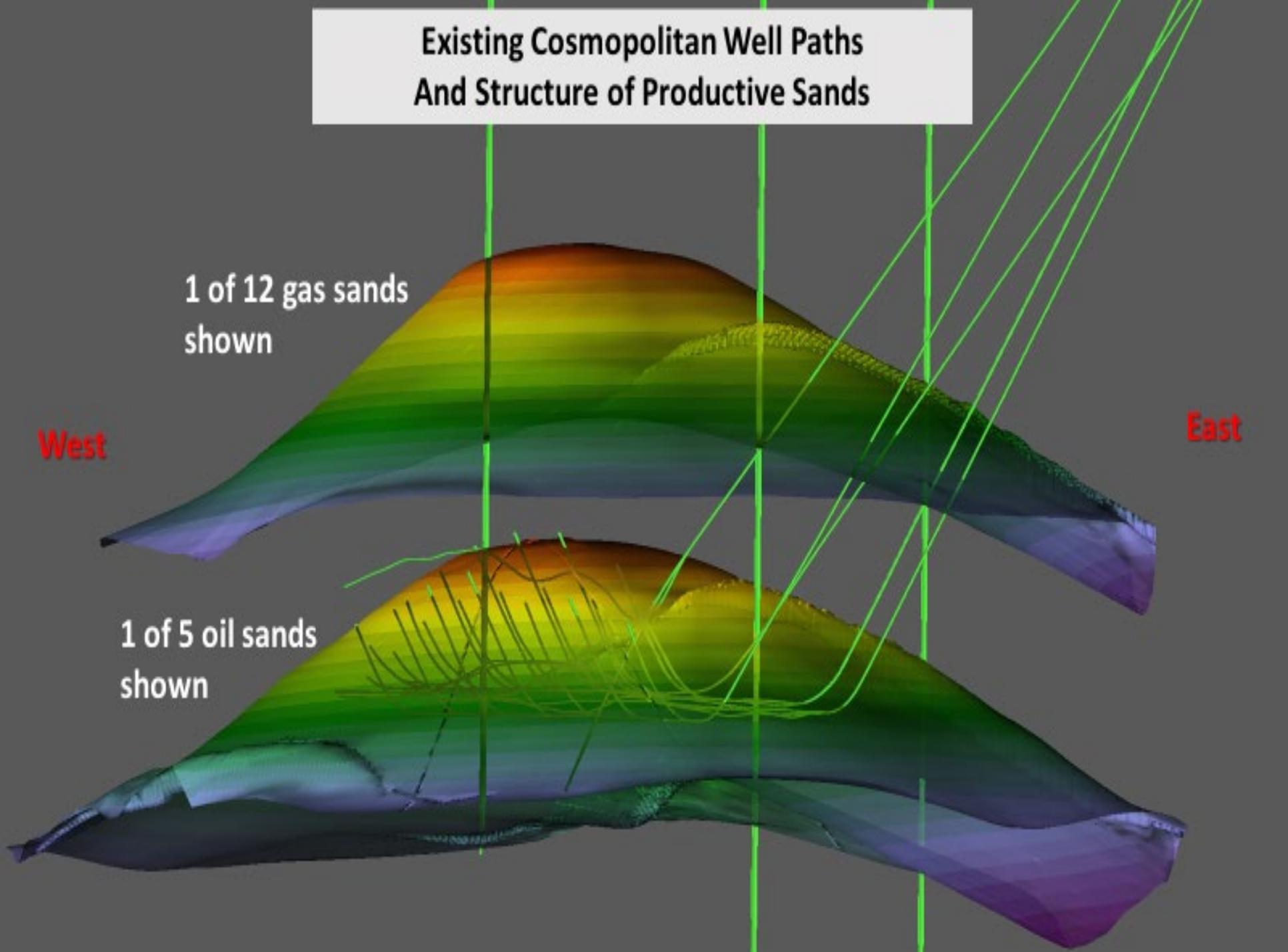
Existing Cosmopolitan Well Paths And Structure of Productive Sands

1 of 12 gas sands
shown

West

East

1 of 5 oil sands
shown



Development of Cosmopolitan Gas Field

- Reservoir shape, size, and productivity now well-defined
- Gas production will require a small offshore platform
 - Dry gas only – *no liquid hydrocarbons*
 - Subsea pipeline: 3 miles to existing onshore facility
 - Recent sea floor surveys confirm safe pipeline route
 - Onshore facility is already connected into Enstar gas pipeline system
 - Platform/facilities design and cost projections
 - Largely completed
 - Platform gas wells – standard Cook Inlet drilling/completions
 - Time to first-gas: approximately 30-40 months from funding
- Designed to deliver up to 50 MMSCFD
 - Current Cook Inlet average daily demand is ~192 MMSCFD
 - Cosmopolitan could help avert gas market shortages
- Critical path: Investor acceptance of new Alaska projects