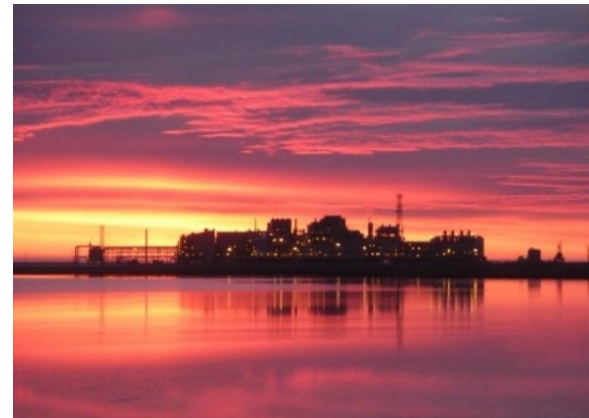


# North Slope Gas Resources

## Senate Resources Committee



Presented by:  
John Crowther, Commissioner-designee  
Derek Nottingham, Director, Division of Oil & Gas  
Alaska Department of Natural Resources  
January 30, 2026

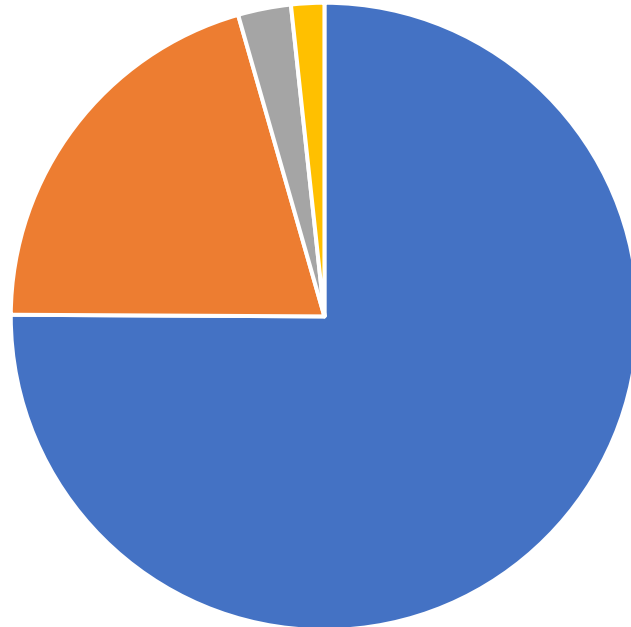


# Scope & Objectives

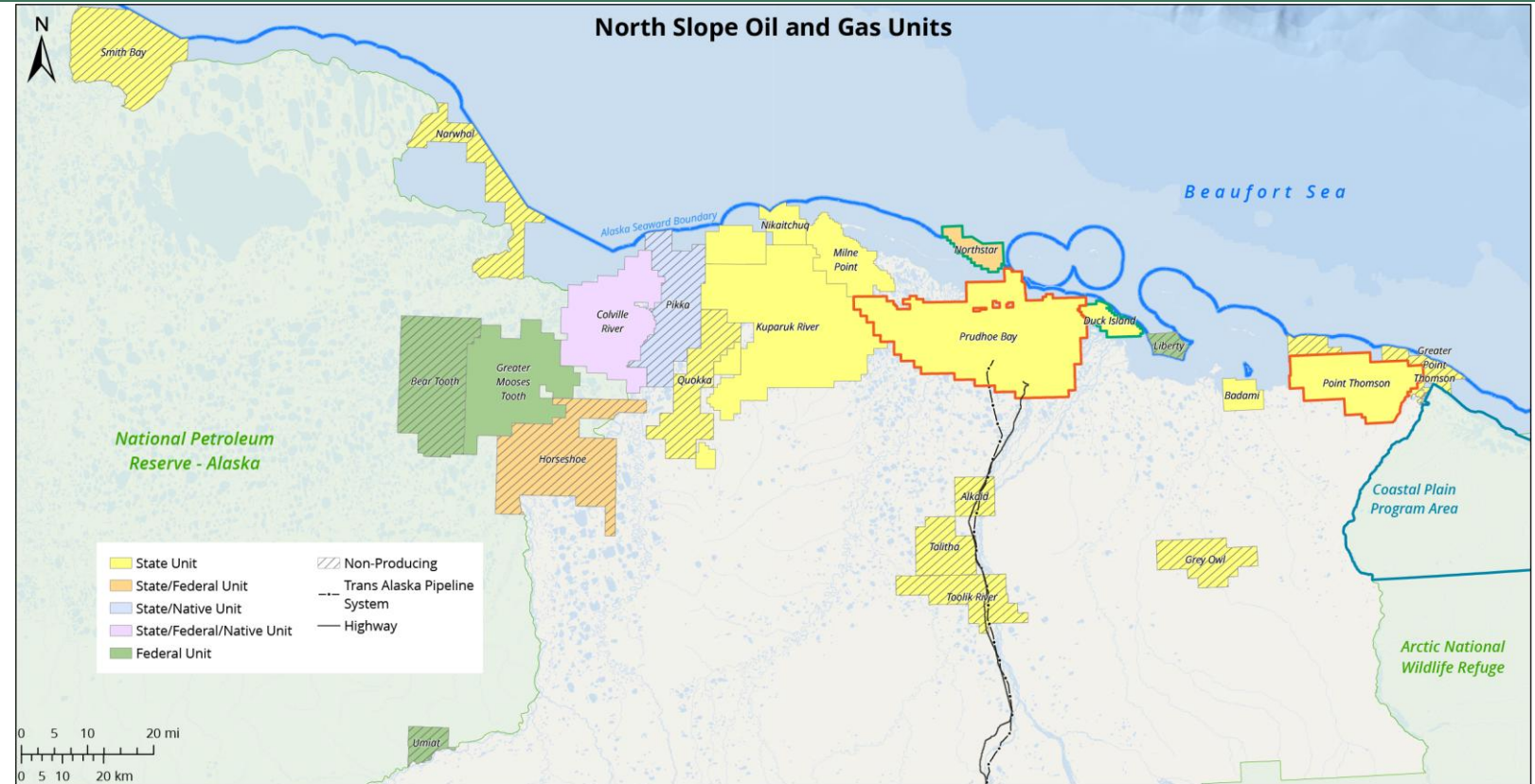


- Discuss North Slope natural gas availability from several commonly referenced gas sources:
  - Prudhoe Bay
  - Point Thomson
  - Northstar
  - Endicott
  - Alkaid/Talitha & Toolik River
- These sources represent over 30 trillion standard cubic feet (Tcf) of gas potential or, for perspective, 400+ years of South-Central gas demand
- Other currently producing oil fields have “gas caps” or “associated gas” but are not included in the discussion at this time
- Estimates of unexplored gas on the North Slope exceed 200 Tcf
- Characterizations and analysis are the Division’s own interpretation of available public data except where explicitly referenced

# Gas Resources of Selected Fields



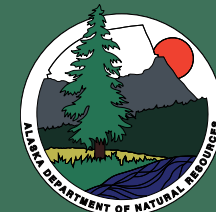
■ Prudhoe Bay ■ Point Thomson  
■ Northstar ■ Duck Island



- Known gas expected to become reserves in the event a sales gas pipeline or other mid-stream project is built
  - ~ 96 percent of known, recoverable gas is in 2 fields:
    - ~ 22,000 Billion cubic feet (Bcf) in Prudhoe Bay
    - ~ 6,000 Bcf in Point Thomson
  - Four percent, or ~ 1,300 bcf, in Northstar and Endicott
- Exploration activities in Alkaid/Talitha/Toolik River may yield large resource volumes up to 7,000 Bcf



# Prudhoe Bay Unit (PBU)



## Operator:

Hilcorp North Slope, LLC

## Discovery Well:

ARCO Alaska Inc.

PRUDHOE BAY ST 1

June 24, 1968

## Current Status:

Producing approximately  
245,000 bbl oil per day

## Location:

Central Arctic Slope

## About:

- Prudhoe Bay is the largest oil field in North America
  - Ranks among the 20 largest fields in the world
- Estimated the original oil and gas in place is 25 billion bbls, and 46,000 Bcf, respectively ([SPE 120967](#))

## Gas Resources Available for Market:

- 22,000 Bcf at a maximum offtake rate of 3.6 Bscf per day
  - Per [Alaska Oil and Gas Conservation Commission](#) (AOGCC) testimony

## Challenges:

- CO<sub>2</sub> content requires facility treatment

### Abbreviations:

bbl: barrel

BOPD: Barrels of oil per day

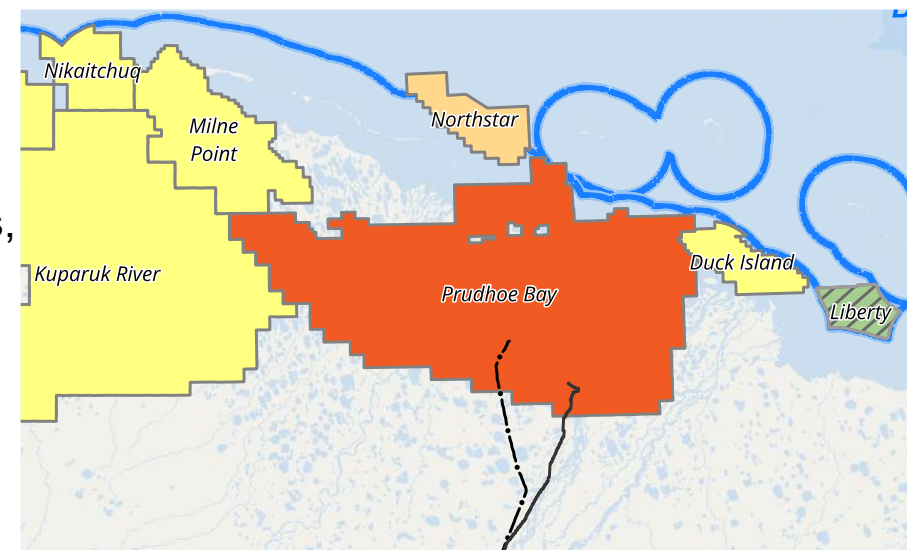
BWPD: Barrels of water per day

Mscf: Thousand standard cubic feet

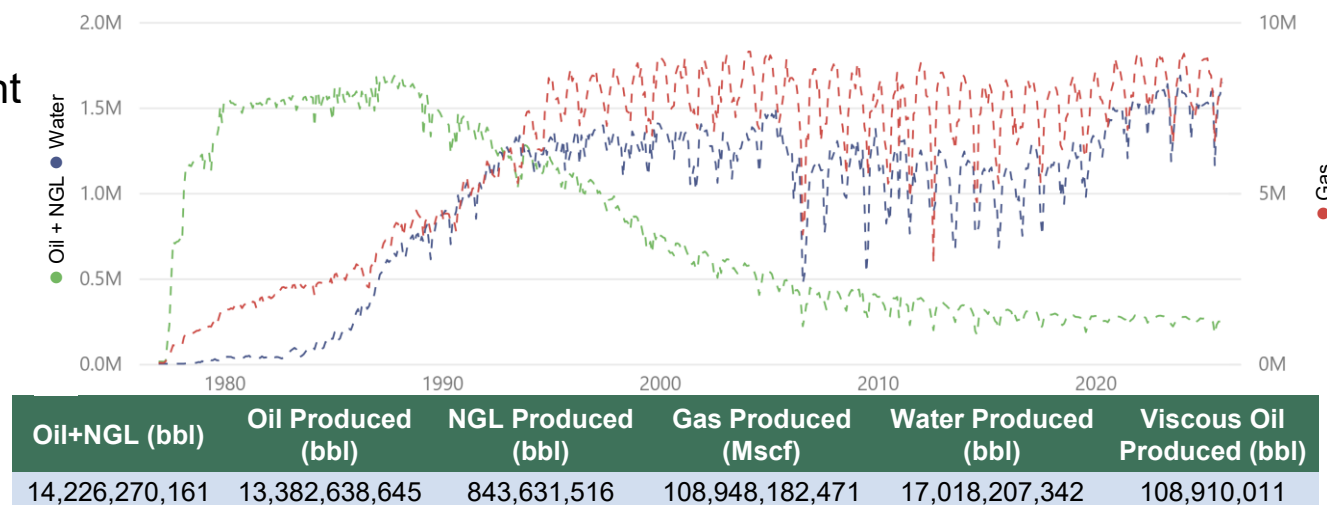
Bcf: Billion cubic feet

Mscf/D: Thousand standard cubic feet per day

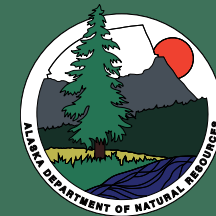
NGL: Natural Gas Liquids



Oil + NGL (BOPD), Gas (Mscf/D), & Water (BWPD)



# Point Thomson Unit (PTU)



## Operator:

Hilcorp Alaska, LLC

## Discovery Well:

Exxon Corporation  
PT THOMSON UNIT 1  
December 08, 1977

## Current Status:

Producing ~  
4,140 bbl oil per day

## Location:

Eastern Arctic Slope

## About:

- 8,000 Bcf originally in place
- 60 miles east of Prudhoe Bay

## Gas Resources Available for Market:

- 6,000 Bscf at a maximum offtake rate of 1.1 Bcf per day
  - Per [AOGCC](#) testimony

## Challenges:

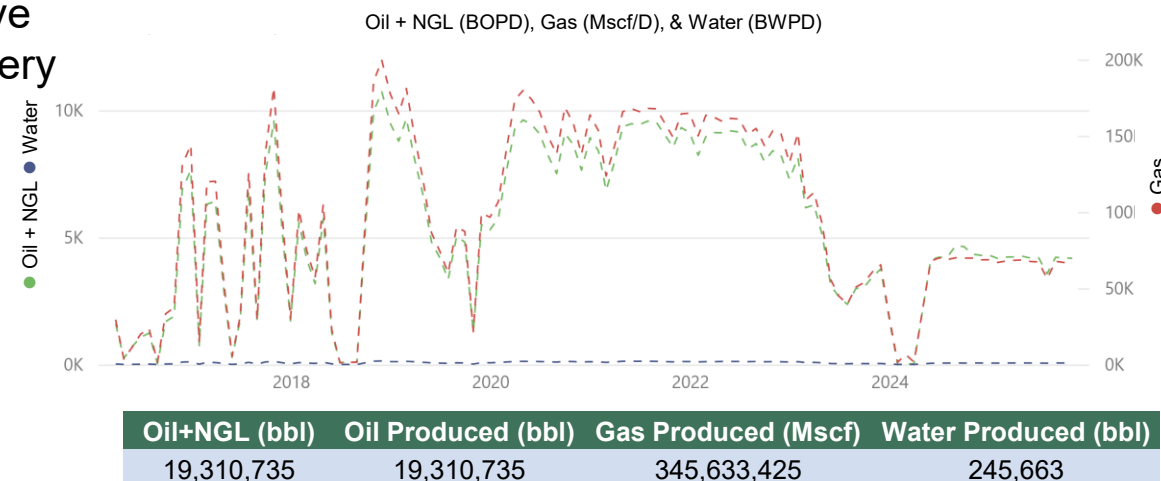
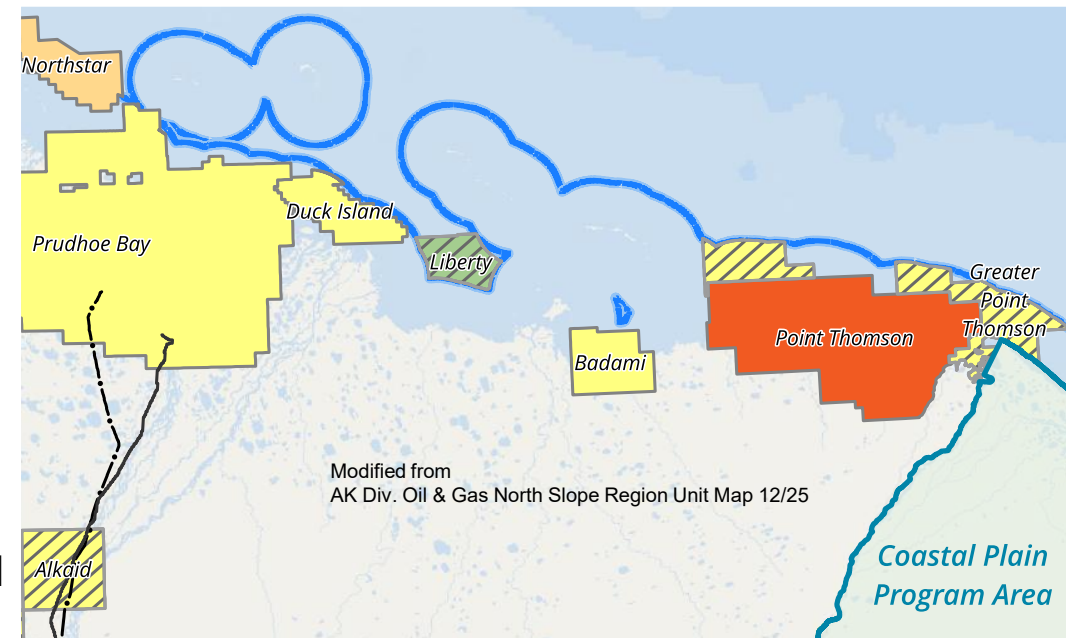
- No gas pipeline connecting to Prudhoe Bay/central facilities
- Retrograde gas condensate reservoir may have challenges on rate per well and ultimate recovery

## Opportunities:

- CO<sub>2</sub> content is lower than PBU

### Abbreviations:

bbl: barrel  
BOPD: Barrels of oil per day  
BWPD: Barrels of water per day  
Mscf: Thousand standard cubic feet  
Bcf: Billion standard cubic feet  
Mscf/D: Thousand standard cubic feet per day  
NGL: Natural Gas Liquids



# Northstar Unit



## Operator:

Hilcorp Alaska, LLC

## Discovery Well:

Shell Western E&P Inc.

BF-47 1

January 30, 1984

## Current Status:

Producing ~

4,789 bbl oil per day

## Location:

Offshore Central Arctic Slope

## About:

- Unit is a joint State/Federal unit drilled from a 5-acre manmade island in the Beaufort Sea
- Unit is 12 miles north of the Prudhoe Bay field

## Gas Resources Available for Market:

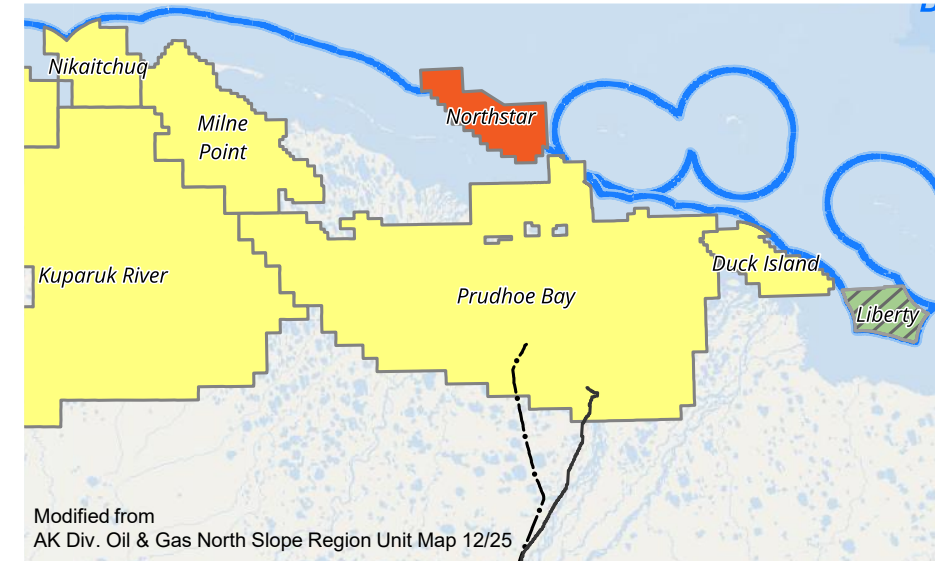
- ~800 Bcf
- 10-inch gas line to Prudhoe Bay

## Challenges:

- Gas production rate may be limited by facility or pipeline capacity

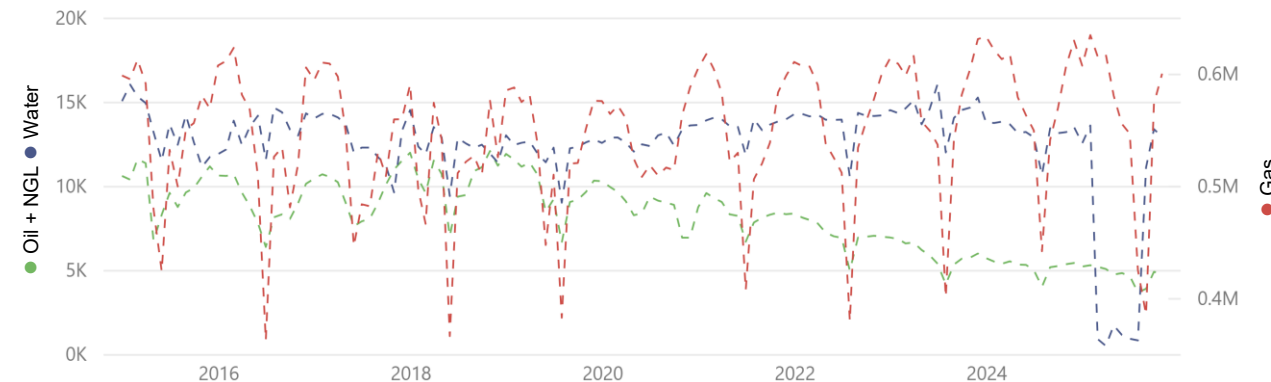
## Opportunities:

- CO<sub>2</sub> content is lower than PBU



Modified from  
AK Div. Oil & Gas North Slope Region Unit Map 12/25

Oil + NGL (BOPD), Gas (Mscf/D), & Water (BWPD)



Pool	Oil+NGL (bbl)	Oil Produced (bbl)	NGL (bbl)	Gas Produced (Mscf)	Water Produced (bbl)
Kuparuk	11,843,726	9,147,361	2,696,365	588,920,601	7,726,605
Northstar	183,639,805	175,165,314	8,474,491	3,464,467,329	97,601,388
Total	195,483,531	184,312,675	11,170,856	4,053,387,930	105,327,993

### Abbreviations:

bbl: barrel

BOPD: Barrels of oil per day

BWPD: Barrels of water per day

Mscf: Thousand standard cubic feet

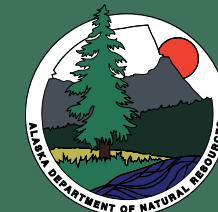
Bcf: Billion standard cubic feet

Mscf/D: Thousand standard cubic feet per day

NGL: Natural Gas Liquids

[Northstar Oil Pool Statistics](#)  
[Kuparuk C Oil Pool Statistics](#)

# Duck Island Unit (a.k.a. Endicott)



## Operator:

Hilcorp Alaska, LLC

## Discovery Well:

BP Alaska Inc.

SAG DELTA 34633 04

March 22, 1978

## Current Status:

Producing ~

5,375 bbl oil per day

## Location:

Central Arctic Slope

## About:

- This unit has been developed from two artificial, gravel islands that are located approximately 4 miles offshore in 2 to 14 feet of water
- These islands are connected by a 1-½ mile long gravel causeway, and are 7 to 14 miles east of Prudhoe Bay

## Gas Resources Available for Market:

- ~500 Bcf
- Endicott currently sells fuel gas to Badami

## Challenges:

- Gas production rate may be limited by facility or pipeline capacity
- CO<sub>2</sub> content potentially similar to or higher than PBU

### Abbreviations:

bbl: barrel

BOPD: Barrels of oil per day

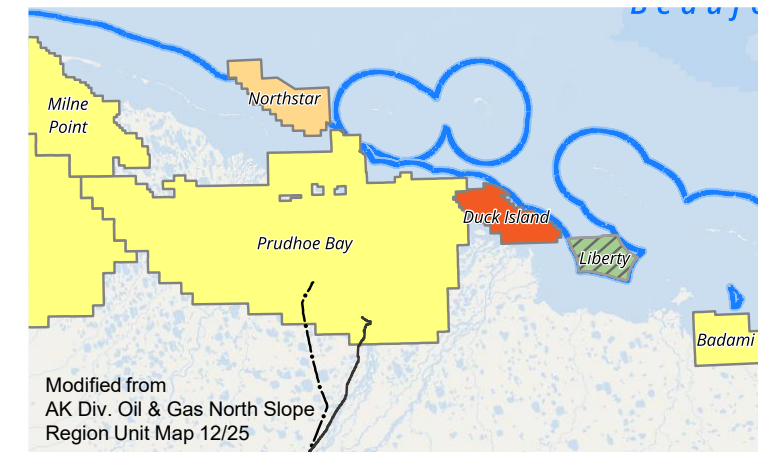
BWPD: Barrels of water per day

Mscf: Thousand standard cubic feet

Bcf: Billion standard cubic feet

Mscf/D: Thousand standard cubic feet per day

NGL: Natural Gas Liquids



Oil + NGL (BOPD), Gas (Mscf/D), & Water (BWPD)



Pool	Oil+NGL (bbl)	Oil Produced (bbl)	NGL Produced (bbl)	Gas Produced (Mscf)	Water Produced (bbl)
Eider	2,861,020	2,861,020		35,114,231	5,634,572
Endicott	518,313,456	489,153,831	29,159,625	4,421,836,108	2,266,855,276
Ivishak	9,550,589	9,427,896	122,693	9,600,950	59,086,909
Lisburne	125	125		46,339	14,325
Sag/Ivishak Undef	2,273,663	2,273,663		3,082,833	462,860
Total	532,998,853	503,716,535	29,282,318	4,469,680,461	2,332,053,942



# Alkaid, Talitha & Toolik River Units



## Operator(s):

Pantheon Resources  
88 Energy

## # of Exploration Wells:

11 wells since 2005  
6 recent well tests on  
map

## Current Status:

Exploration

## Location:

Central Arctic Slope  
near infrastructure

## About:

- Assets close to the Trans Alaska Pipeline System and gas pipeline right-of-way
- Exploration by 88 Energy and Pantheon has resulted in short flow tests from fractured zones with as-yet inconclusive results

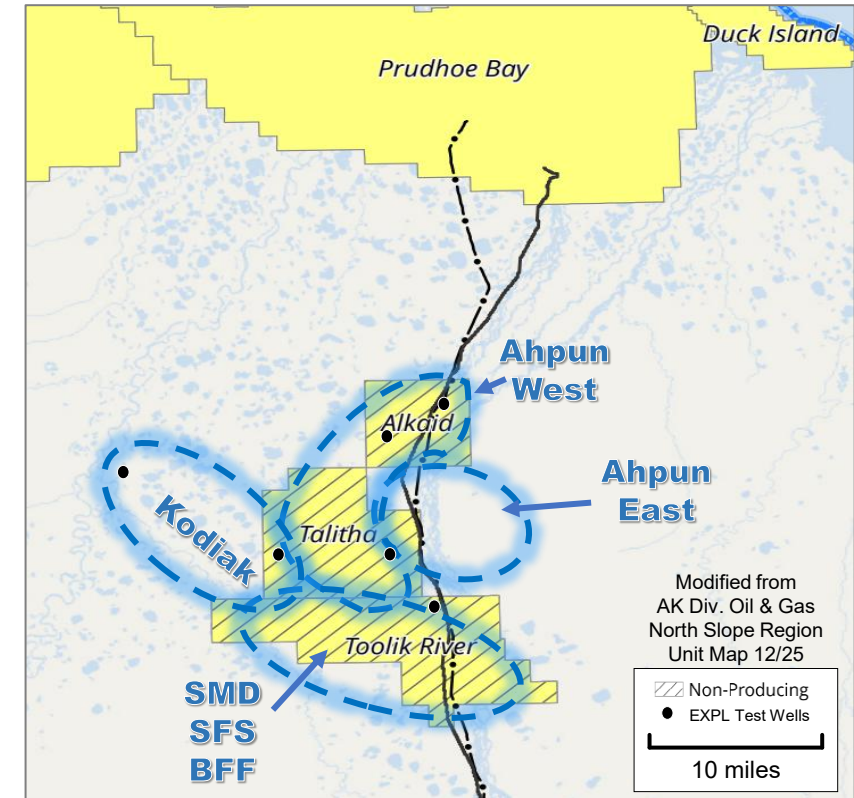
## Gas Resources Available for Market:

- None proven yet as all resources are contingent<sup>1</sup>
- Further characterization needed. The operator is continuing to pursue additional testing and exploration activity
- Minimal CO<sub>2</sub>

## Challenges:

- Program to-date has not confirmed commerciality at scale
- Development would be unique for North Slope, akin to Lower 48 unconventional development with large water handling operations

[88 Energy Oct 2024 Presentation](#)  
[Pantheon Resources March 2024 Presentation](#)



	Operator Reported Contingent <sup>1</sup> Resources, Mid-Case			Certifier
	Oil MMbbls	NGL MMbbls	Gas Bcf	
Toolik River	160	92	700	ERCEE   NSAI
Alkaid/Talitha	619	944	6600	CGA   LKA   NSAI

Abbreviations:  
MMbbls: Million barrels  
Bcf: Billion cubic feet

<sup>1</sup> Contingent resources represent potentially recoverable oil and gas volumes that have been discovered but are not yet considered commercially viable for development.



# Summary



## Gas Availability in Known, Producing Fields

Field	Current Status	CO2 Content	Comments on Availability	Gas Resources, Tcf
Prudhoe Bay	Producing/Oil	High CO <sub>2</sub>	Needs CO <sub>2</sub> Treatment	22.0
Point Thomson	Producing/Oil	Lower CO <sub>2</sub>	Needs Gas Pipeline	6.0
Northstar	Producing/Oil	Lower CO <sub>2</sub>	Has 10-inch Gas Pipeline	0.8
Endicott	Producing/Oil	High CO <sub>2</sub>	Exports Fuel Gas	0.5
<b>Total</b>				<b>29.3</b>

## Gas Potential in Fields Under Exploration

Field	Current Status	CO2 Content	Comments on Availability	Gas Resources, Tcf
Toolik River	Exploration	Minimal	Depends on Oil Commerciality	0.7
Alkaid/Talitha	Exploration	Minimal	Depends on Oil Commerciality	6.6
<b>Total</b>				<b>7.3</b>

**Abbreviations:**  
Tcf: Trillion cubic feet

# Thank You



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