

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

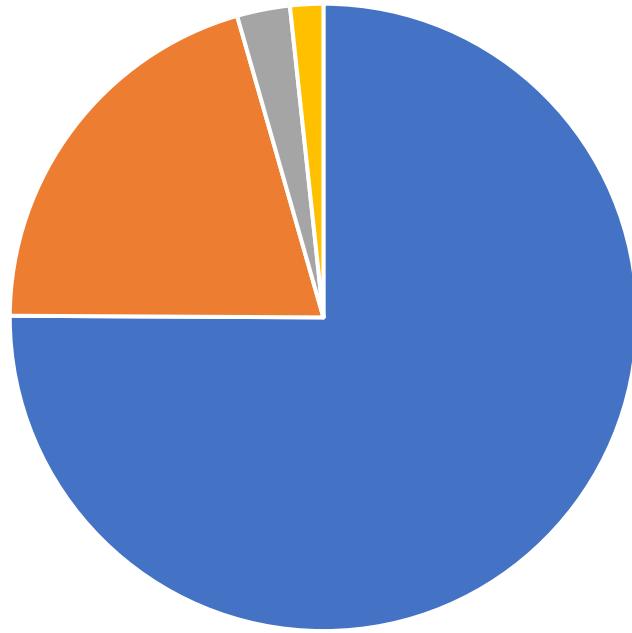




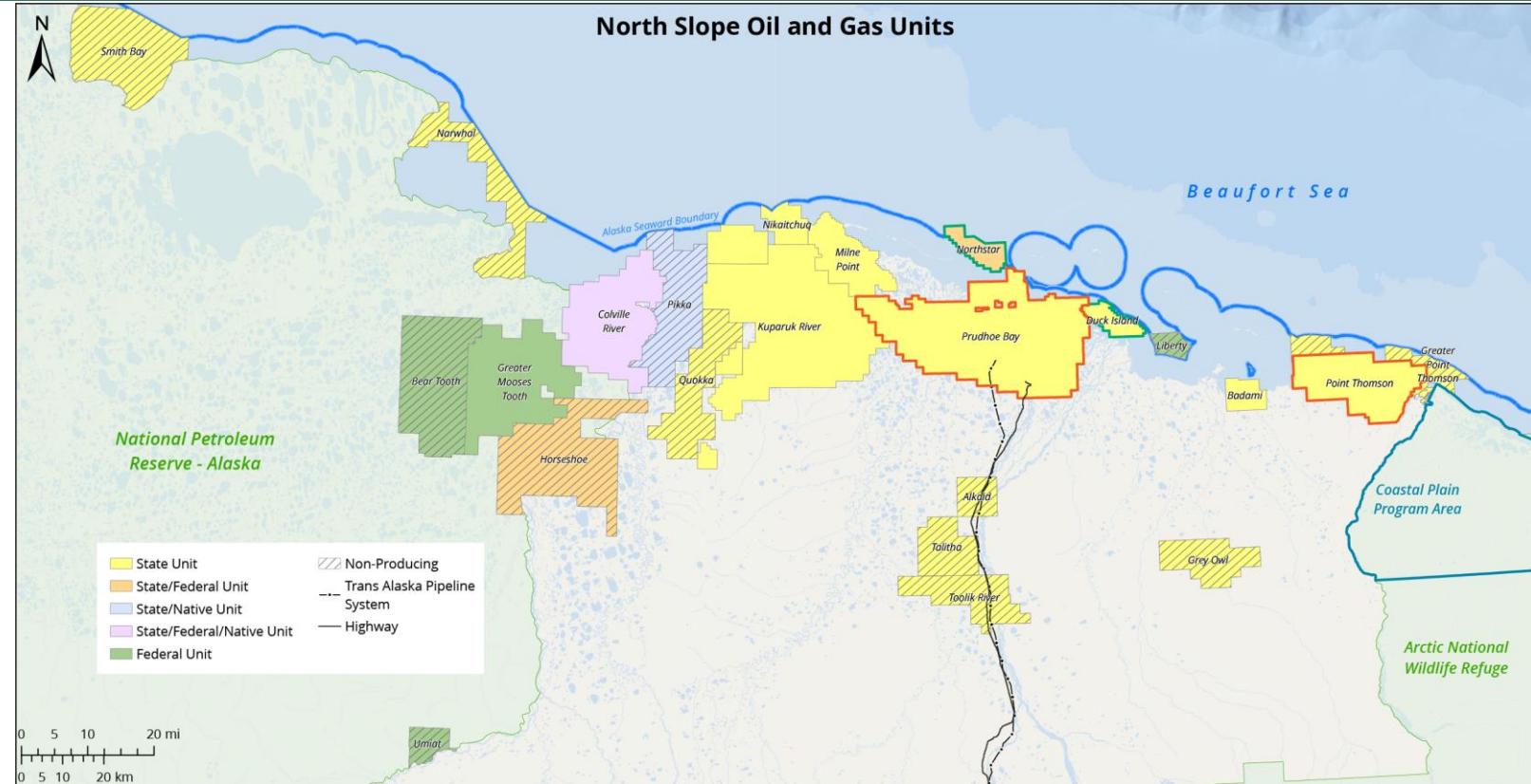
Scope & Objectives

- 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:

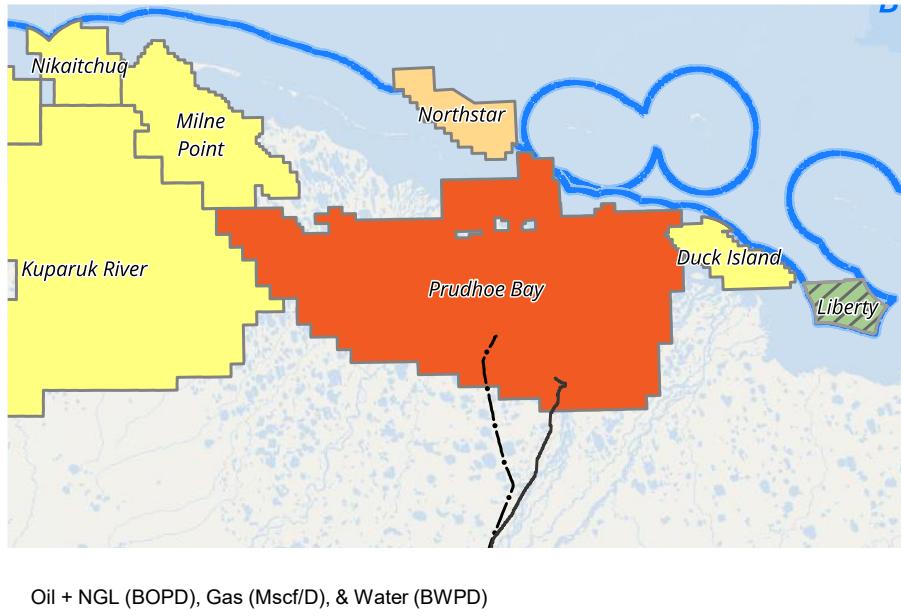
- 22,000 Bcf at a maximum offtake rate of 3.6 Bscf per day
 - Per [Alaska Oil and Gas Conservation Commission](#) (AOGCC) testimony

Challenges:

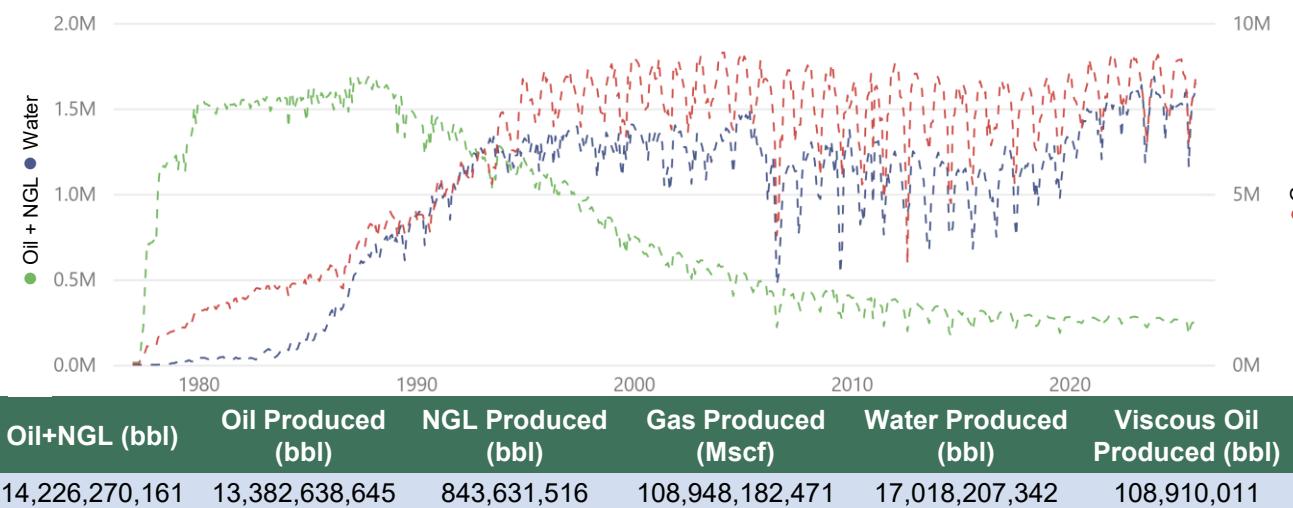
- CO₂ content requires facility treatment

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:

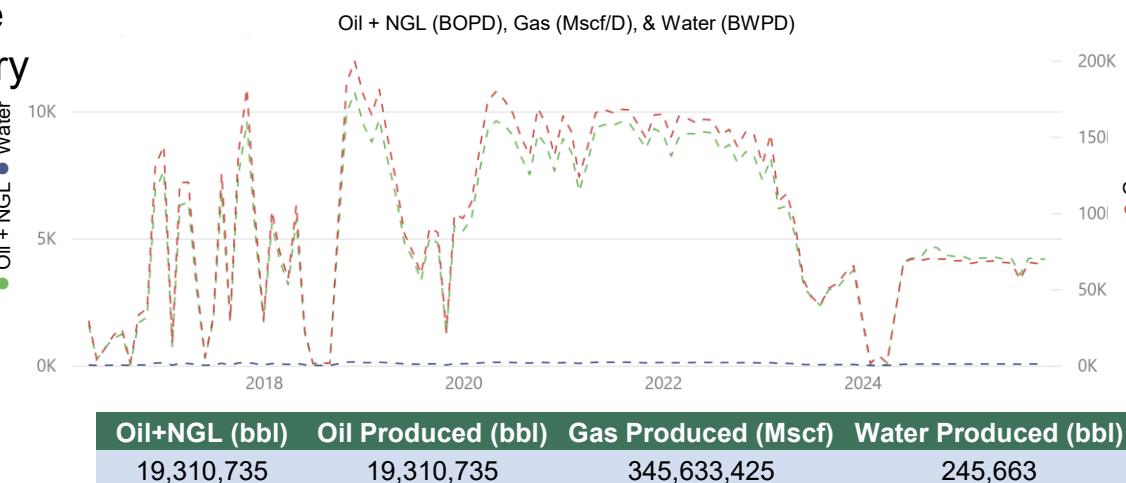
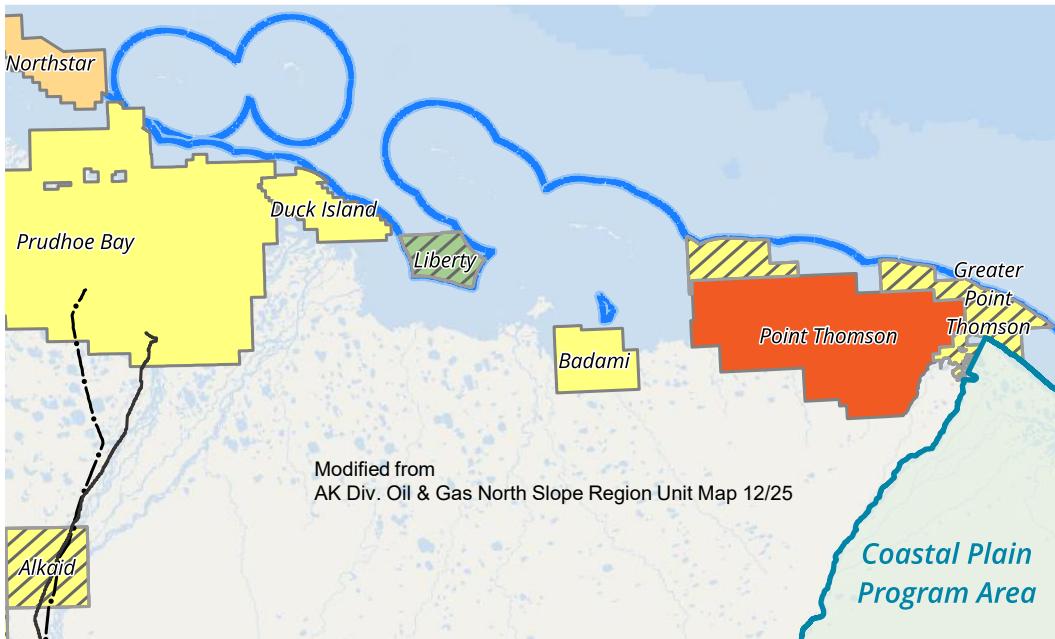
- No gas pipeline connecting to Prudhoe Bay/central facilities
- Retrograde gas condensate reservoir may have challenges on rate per well and ultimate recovery

Opportunities:

- CO₂ 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

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

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:

- CO₂ content is lower than PBU

Abbreviations:

bbl: barrel

BOPD: Barrels of oil per day

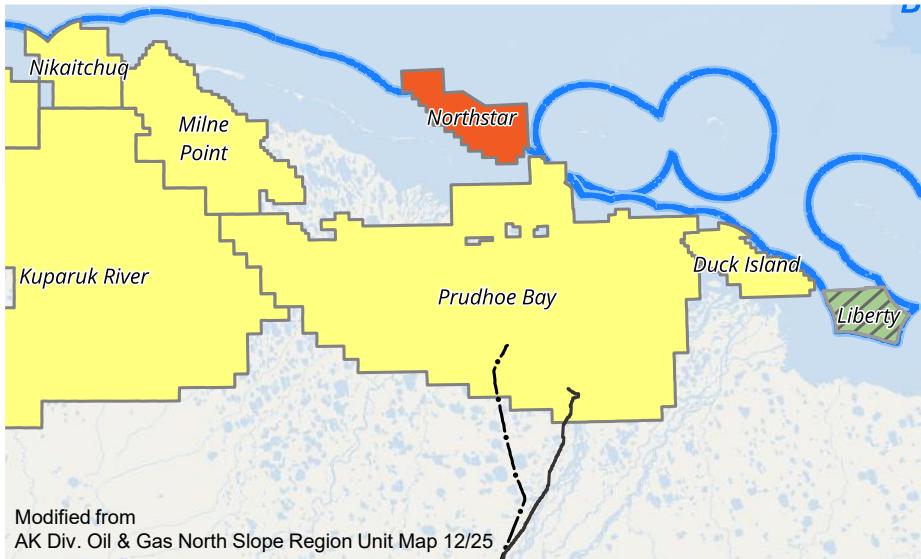
BWPD: Barrels of water per day

Mscf: Thousand standard cubic feet

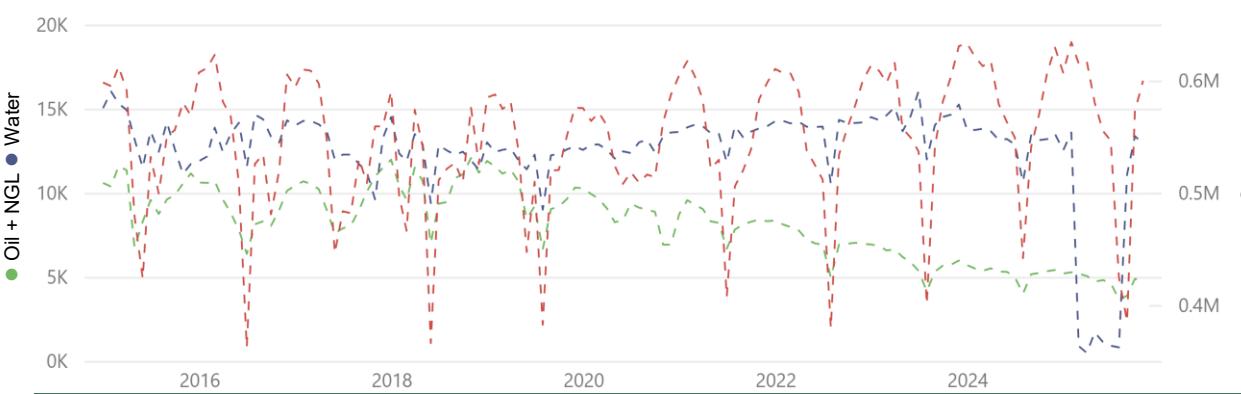
Bcf: Billion standard cubic feet

Mscf/D: Thousand standard cubic feet per day

NGL: Natural Gas Liquids



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

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:

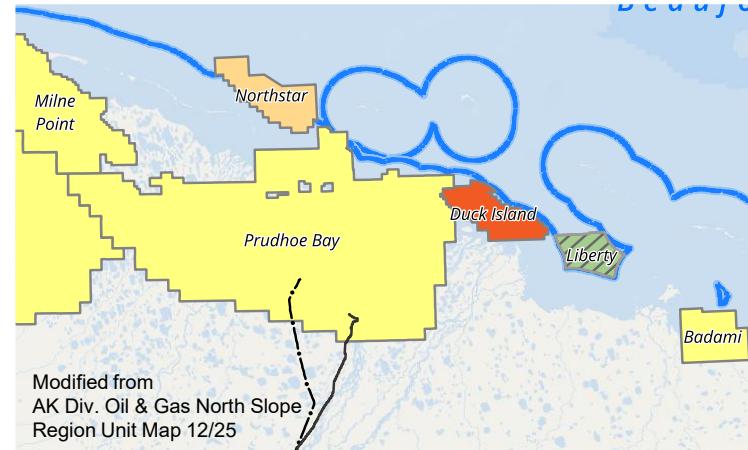
- ~500 Bcf
- Endicott currently sells fuel gas to Badami

Challenges:

- Gas production rate may be limited by facility or pipeline capacity
- CO₂ content potentially similar to or higher than PBU

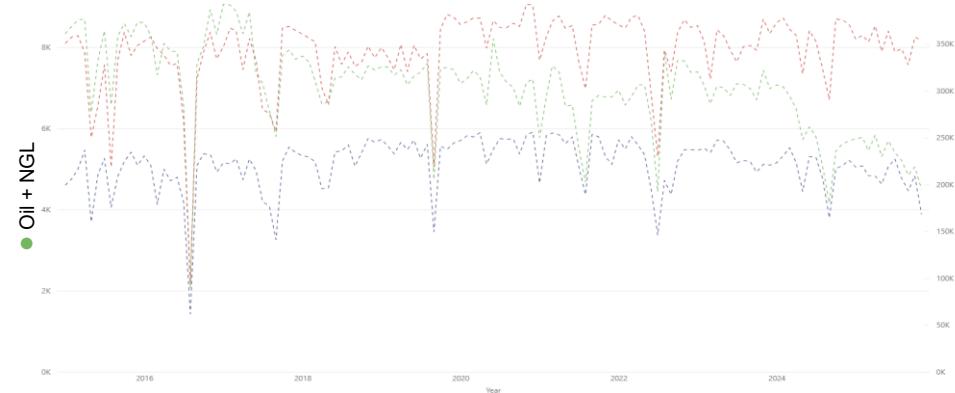
Abbreviations:

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



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 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:

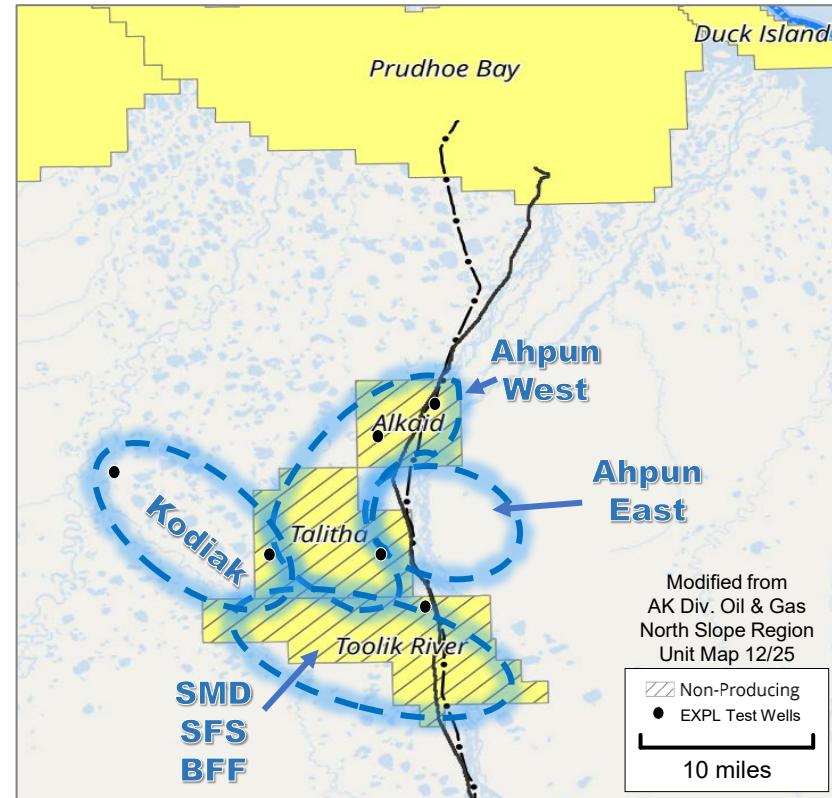
- Assets close to the Trans Alaska Pipeline System and gas pipeline right-of-way
- Exploration by 88 Energy and Pantheon has resulted in short flow tests from fractured zones with as-yet inconclusive results

Gas Resources Available for Market:

- None proven yet as all resources are contingent¹
- Further characterization needed. The operator is continuing to pursue additional testing and exploration activity
- Minimal CO₂

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

**Operator Reported Contingent¹ Resources, Mid-Case**

	Oil MMbbls	NGL MMbbls	Gas Bcf	Certifier
Toolik River	160	92	700	ERCEE NSAI
Alkaid/Talitha	619	944	6600	CGA LKA NSAI

Abbreviations:
MMbbls: Million barrels
Bcf: Billion cubic feet

¹ 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 ₂	Needs CO ₂ Treatment	22.0
Point Thomson	Producing/Oil	Lower CO ₂	Needs Gas Pipeline	6.0
Northstar	Producing/Oil	Lower CO ₂	Has 10-inch Gas Pipeline	0.8
Endicott	Producing/Oil	High CO ₂	Exports Fuel Gas	0.5
Total				29.3

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
Total				7.3

Abbreviations:

Tcf: Trillion cubic feet



Thank You



Raymie Matiashowski
Legislative Liaison
Department of Natural Resources
907-317-5183
Raymond.Matiashowski@alaska.gov



Support Services Division



Trust
Land Office