

Presentation by  
**Alaska Oil and Gas Conservation Commission**  
John K. Norman, Commissioner  
at

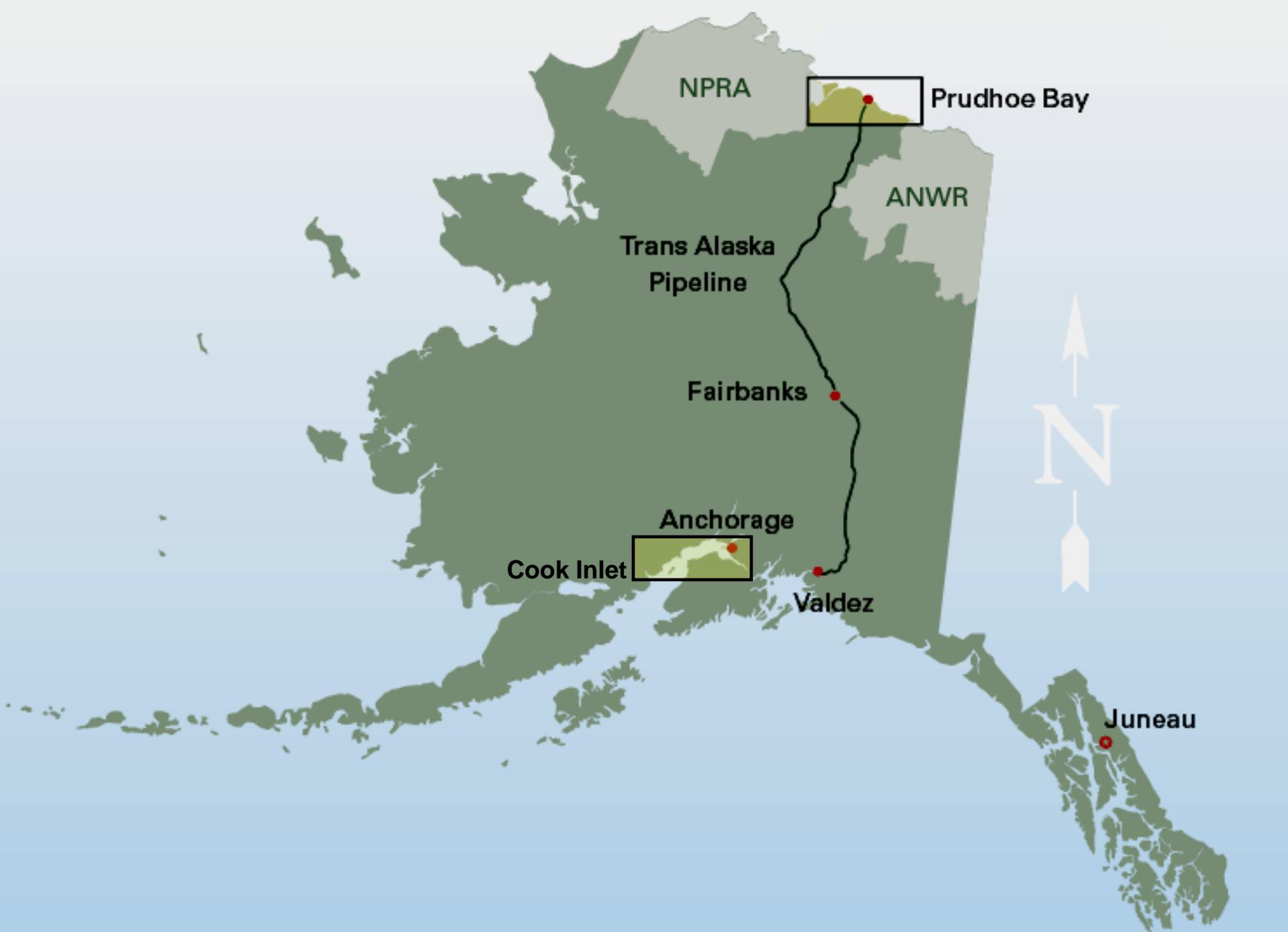
# **Canada Flaring and Venting Regulators Forum**

**Yellowknife, NT**

**June 19, 2009**







Source: State of Alaska, Division of Oil and Gas

# Alaska Timeline

- 6,000 Years Ago-Most recent migration from Siberia across the Bering Land Bridge. Earliest migration 20,000 or more years ago.
- 1725- Peter the Great sends Vitus Bering to explore the North Pacific.
- 1772-1799-Russian settlements established at Unalaska, Kodiak and Sitka.

- 1774-1794-Juan Perez, James Cook and George Vancouver explore Alaska waters.
- 1799- Russian-American Company granted Trade charter.
- 1847- Hudson Bay Company establishes Fort Yukon.
- 1855-U.S. Navy explores North Pacific around Aleutian Islands and Bering Sea.
- 1859-Russian delegation to the United States authorized to negotiate sale of Alaska.

- 1867-William Seward, Secretary of State under President Andrew Johnson, negotiates purchase of Alaska from Russia for \$7.2 million; treaty signed March 30 and formal transfer takes place October 18 at Sitka.
- 1884-Organic Act gives Alaska its first civil government.
- 1897-1900-Klondike gold rush in Yukon Territory; heavy traffic through Alaska on the way to the gold fields.

- 1906-Peak gold production year. Alaska granted non-voting delegate to Congress. Governor's office moves from Sitka to Juneau.
- 1912-Territorial status granted to Alaska; first territorial legislature convenes the following year.
- 1942-Dutch Harbor bombed, Attu and Kiska islands occupied by Japanese forces. Alaska Highway built - first overland connection to the Lower 48.

- 1957-Oil discovered at Swanson River on Kenai Peninsula near Anchorage.
- 1958-Alaska Oil and Gas Conservation Commission established.
- 1958- Congress passes Statehood legislation; statehood proclaimed January 3, 1959; first general election.
- 1968-Oil and gas discovered at Prudhoe Bay on Alaska's North Slope; \$900 million North Slope oil-lease sale the following year; pipeline proposal follows.

- 1971-Congress approves Alaska Native Claims Settlement Act, granting title to 44 million acres of land and providing \$962.5 million to Alaska Natives.
- 1977-Trans-Alaska Pipeline from Prudhoe Bay to Valdez completed; first oil shipment by tanker from Valdez to Washington's Puget Sound.
- 2009-Alaska celebrates 50 years of statehood.

Source: The Alaska Almanac, Alaska Northwest Books, Graphic Arts Center Publishing Co.

# Alaska Oil and Gas Conservation Commission

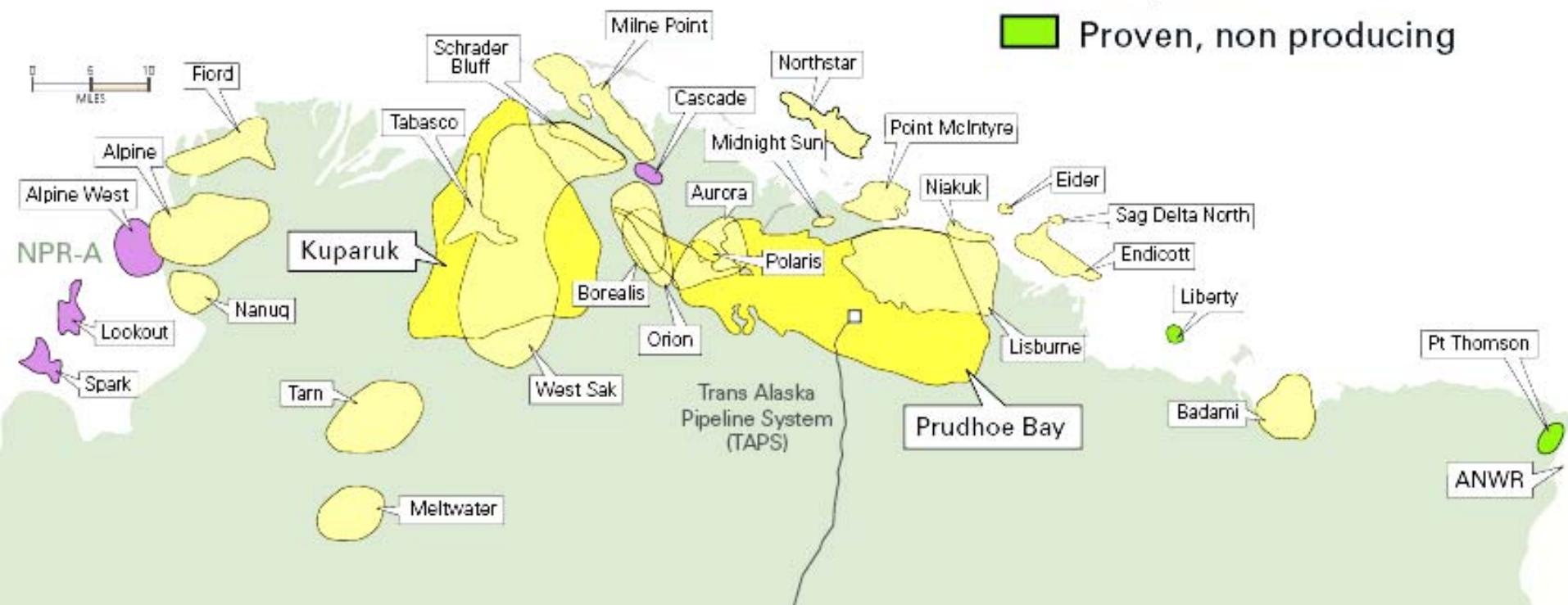
Issues	<b>Oil Company (Regulated Community)</b>	<b>Land Owner (e.g. DNR DOG or Native Corporation)</b>	<b>ADEC (Exercises Police Powers of the State)</b>	<b>AOGCC (Exercises Police Powers of the State)</b>
Ownership of Resource	Lessee of Oil & Gas Lease (Has Right to Drill and Produce)	Landlord & Lessor of Oil & Gas Lease	Role Is Regulatory, Not Proprietary- Mainly Surface & Air	Role Is Regulatory, Not Proprietary- Mainly Sub-surface
Jurisdiction	Only on Lands Where They Have Right to Drill and Produce	Owner's Land Only	State, Federal and Private Lands	State, Federal and Private Lands
Economics	Profit Oriented	Manages Owned Resources for Revenue & Other Values	Regulates to Protect environment	Regulates to Prevent Waste, Protect Correlative Rights, & Promote Greater Recovery
Net \$\$ Interest	Owns Majority of Production	Owns Minority of Production (Royalty Interest)	None- Regulates Only	None- Regulates Only

AOGCC generally regulates sub-surface activities.  
ADEC and other agencies have regulatory authority over most surface activities.



# North Slope

- Producing Fields
- Prospects
- Proven, non producing



Source: State of Alaska, Division of Oil and Gas

# North Slope

## ■ North Slope Cumulative Production

- Oil – 15.5 Billion barrels
- Gas – 69.7 TCF
- Gas Re-injection – 63.4 TCF
- Net Gas Production = 6.3 TCF (sales, field use, flaring, etc...)

## ■ North Slope Gas Reserves in Producing Fields

- 27.4 TCF

## ■ Gas Reserves in Pt Thomson

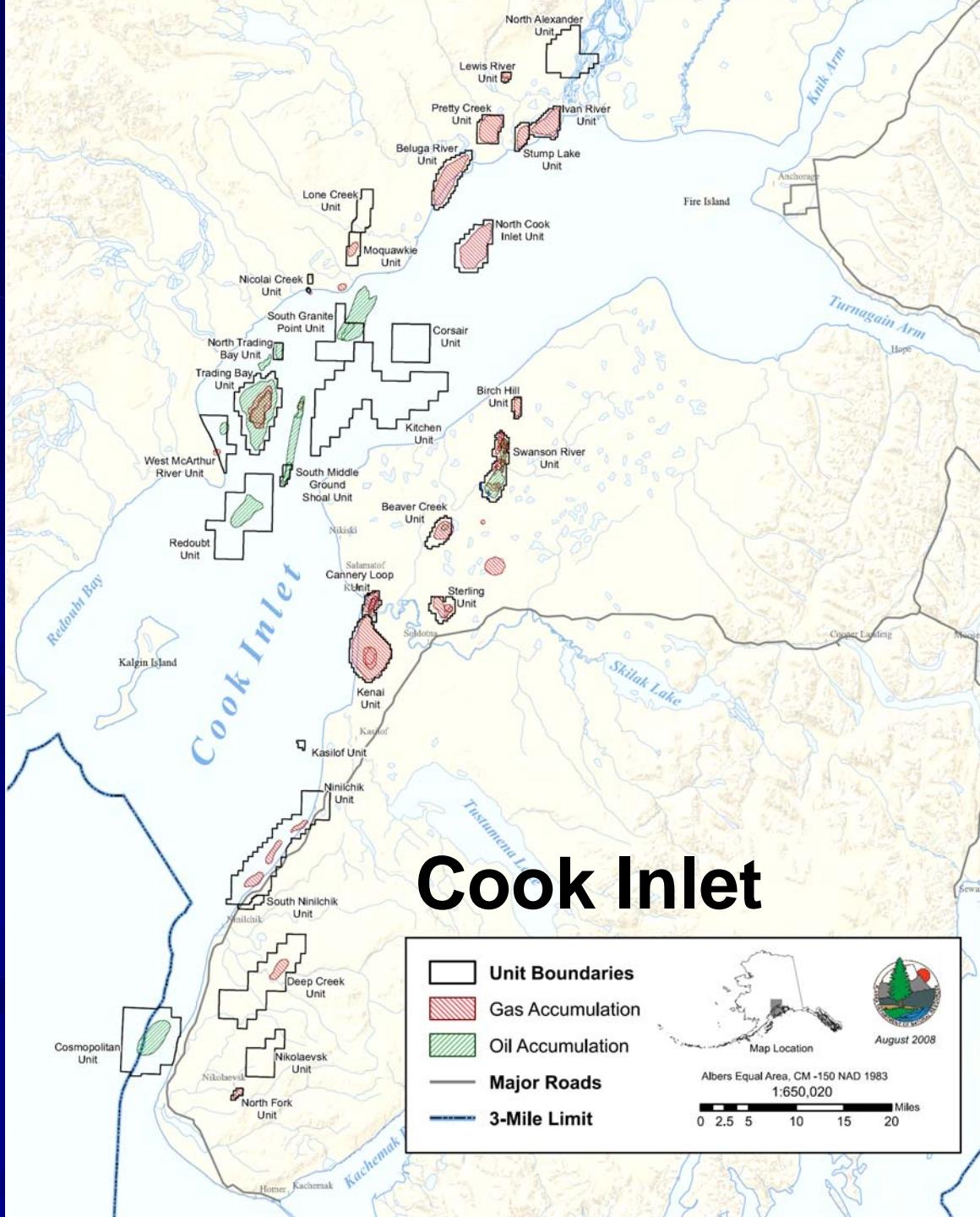
- 6 to 7 TCF

## ■ Total North Slope Undiscovered Gas Resource Potential

- 222.6 TCF

### North Slope Potential :

- Conventional Gas Resources - 119.1 TCF
- Gas Hydrates Gas Resources - 85.4 TCF
- CBM Gas Resources - 18.1 TCF



# Cook Inlet

## ■ Cook Inlet Cumulative Production

- Oil – 1.3 Billion barrels
- Gas – 10.5 TCF
- Gas Injection – 2.9 TCF
- Net Gas Production = 7.6 TCF (sales, field use, flaring, etc...)

## ■ Cook Inlet Gas Reserves in Producing Fields

- 1.2 TCF

## ■ Total Southern Alaska Gas Resource Potential

- 2.1 TCF

# Central and Offshore

- **Total Central Alaska Gas Resource Potential**
  - 5.5 TCF
- **Total Alaska Outer Continental Shelf Gas Resource Potential**
  - 132 TCF
  - Beaufort and Chukchi Seas – 104.4 TCF
  - Cook Inlet – 1.2 TCF
  - Remaining Planning Areas – 26.4 TCF



# Gas Flaring – 1960's – 70's

Source: AOGCC 50<sup>th</sup>  
Anniversary Publication



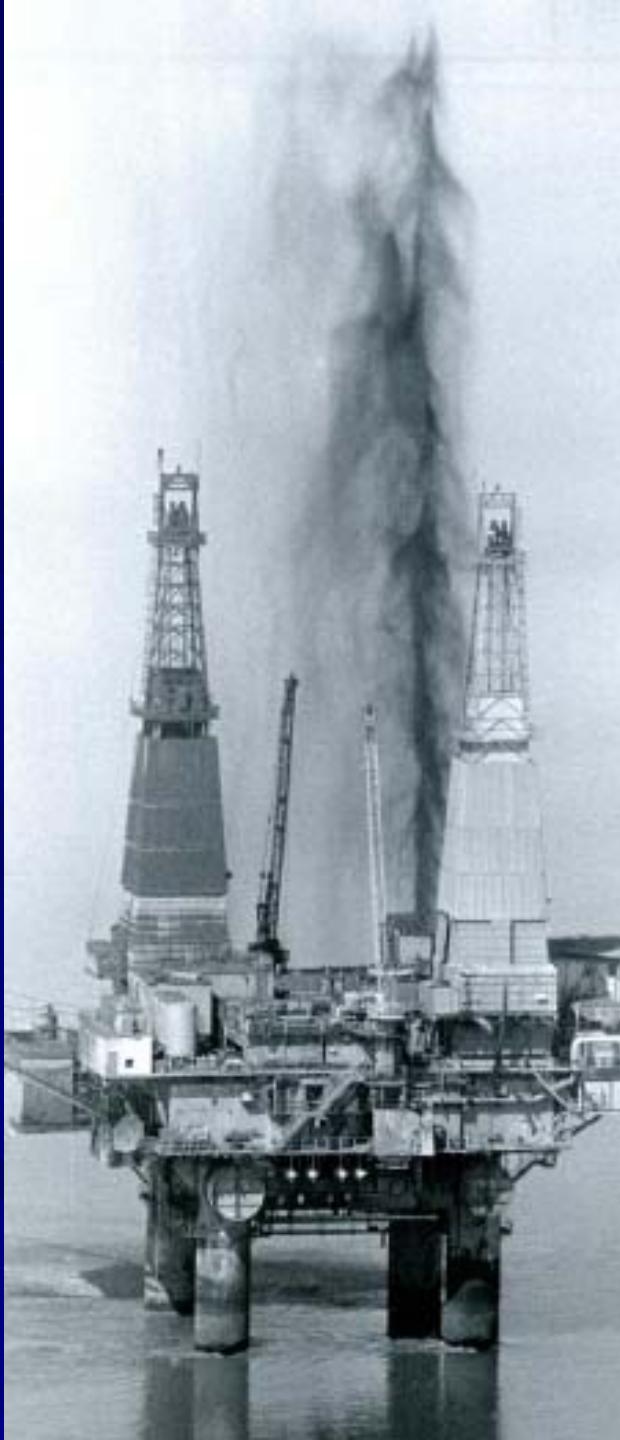
# 1970 AOGCC Hearings on Flaring

Source:  
Anchorage Daily Times  
17



Source: AOGCC 50<sup>th</sup> Anniversary Publication

## Cook Inlet – New Industrial Facilities



# Gas Blow-Out Cook Inlet - 1985

Source: Anchorage Daily  
News

# North Slope – Black Smoke



# Current Gas Disposition

## ■ Statewide Gas Disposition for Last Twelve Months

- Sold – 5.53%
- Rejected – 87.57%
- Lease Operations – 6.28%
- Other – 0.43%
- Flared – 0.07%
- Pilot Purge – 0.11%

STATE OF ALASKA  
ALASKA OIL AND GAS CONSERVATION COMMISSION  
**FACILITY REPORT OF PRODUCED GAS DISPOSITION**

1. Facility Number	2. Facility Name	3. Field	4. Operator	5. Month/Year of Disposition
<b>Disposition</b>		<b>Volume MCF</b>	<i>20. For production from multiple pools, list contribution of each pool as a percent of Total Volume.</i>	
6. Sold				
7. Reinjected				
8. Flared or vented 1 hour or less				
9. Flared or vented more than 1 hour (see instr.)				
10. Pilot and Purge				
11. Assist Gas				
12. Fuel gas used in lease operations.				
13. Other (see instructions)				
<b>14. TOTAL VOLUME (ITEMS 6-12)</b>				
15. NGL Gas Equivalent				
16. Purchased gas				
17. Transferred from:				
18. Transferred to: (Express as a negative #)				
19. Remarks:				

I hereby certify that the foregoing is true and correct to the best of my knowledge.

Signature \_\_\_\_\_ Title \_\_\_\_\_

Printed Name

Phone

Date

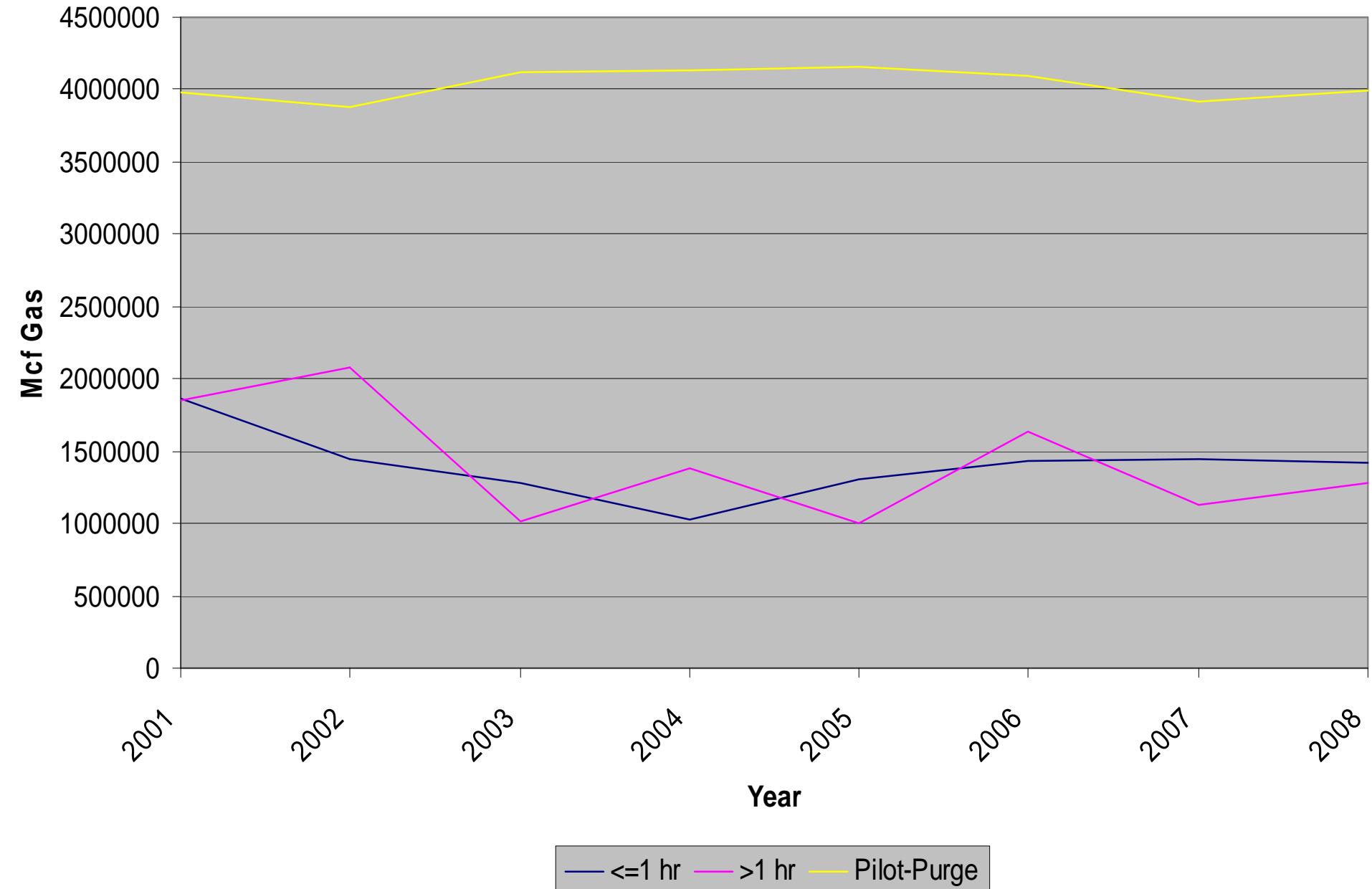
**Note:** All volumes must be corrected to pressure of 14.65 psia and to a temperature of 60° F. Authority 20 AAC25.235.

# Alaska Total Flare - By Year

YEAR	<= 1 HOUR	> 1 HOUR	PILOT / PURGE	TOTAL (Mcf)	TOTAL (Mcm)
2001	1,860,976	1,851,200	3,973,997	7,686,173	217,672
2002	1,442,539	2,084,995	3,874,951	7,402,485	209,638
2003	1,278,136	1,017,662	4,121,202	6,417,000	181,729
2004	1,024,622	1,378,804	4,128,884	6,532,310	184,995
2005	1,299,748	1,007,126	4,157,183	6,464,057	183,062
2006	1,430,461	1,636,853	4,097,532	7,164,846	202,908
2007	1,443,265	1,127,669	3,922,651	6,493,585	183,898
2008	1,418,510	1,278,708	3,996,187	6,693,405	189,557
2009	383,530	340,065	1,354,725	2,078,320	58,858

Source: AOGCC, 6/2009

## Alaska Total Flare - By Year



# Proposed Natural Gas Pipeline

## ■ Proposed Alaska Gas Pipeline Specifications

- 1715 Miles
- 48 Inch Diameter Pipeline
- 16 Compressor Stations
- 4.5 BCF/D Initial Throughput
- 5.9 BCF/D Potential Expanded Capacity

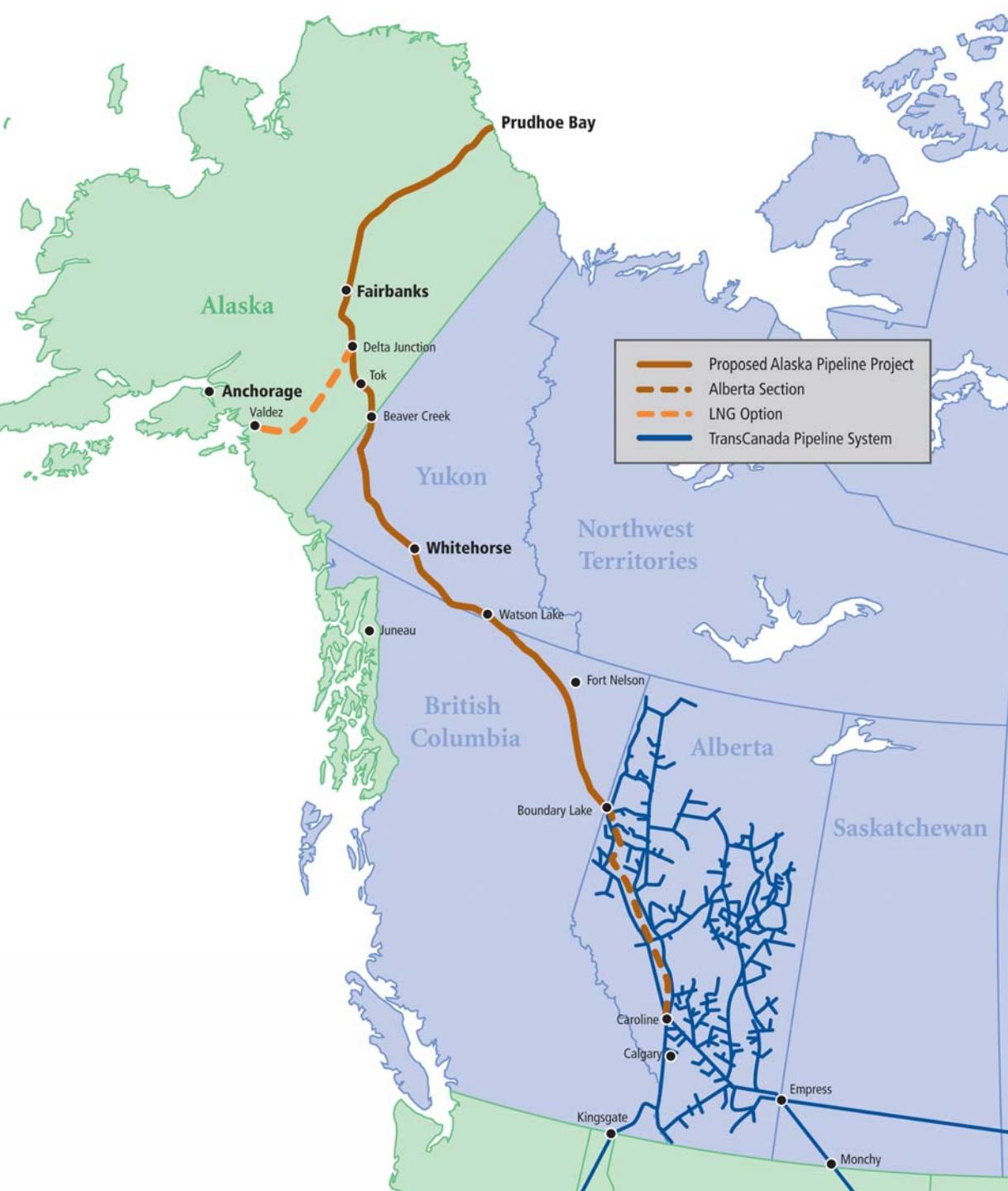
# The Project

4 billion ft<sup>3</sup>/day To North American Consumers

## Project Components

- North Slope Gas Transmission Lines
- Gas Treatment Plant on the North Slope
- Large diameter, high pressure pipeline to Alberta
- Extension of pipeline to Lower 48 will be undertaken if it improves project success or reduces transportation costs

How much is 4 billion cubic feet per day?  
6-8% of US daily consumption



# Alaska Pipeline Project

Source: TransCanada

# Alaska Oil and Gas Conservation Commission (AOGCC)

## Additional Sources:

- AOGCC Production Database
- AOGCC 50th Anniversary Publication
- Resource Assessment and Field Development Study of the Thomson Sand, in the Point Thomson Area, North Slope Alaska
- USGS National Assessment of Oil and gas Resources Update (December, 2008)
  - MMS Planning Area Resources Addendum to Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation's Outer Continental Shelf, 2006
- TransCanada's Application for AGIA License

333 W. 7<sup>th</sup> Ave., Ste. 100  
Anchorage, AK 99501  
(907)279-1433

[www.aogcc.alaska.gov](http://www.aogcc.alaska.gov)

# Questions?