

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

**Canada Flaring and Venting  
Regulators Forum**

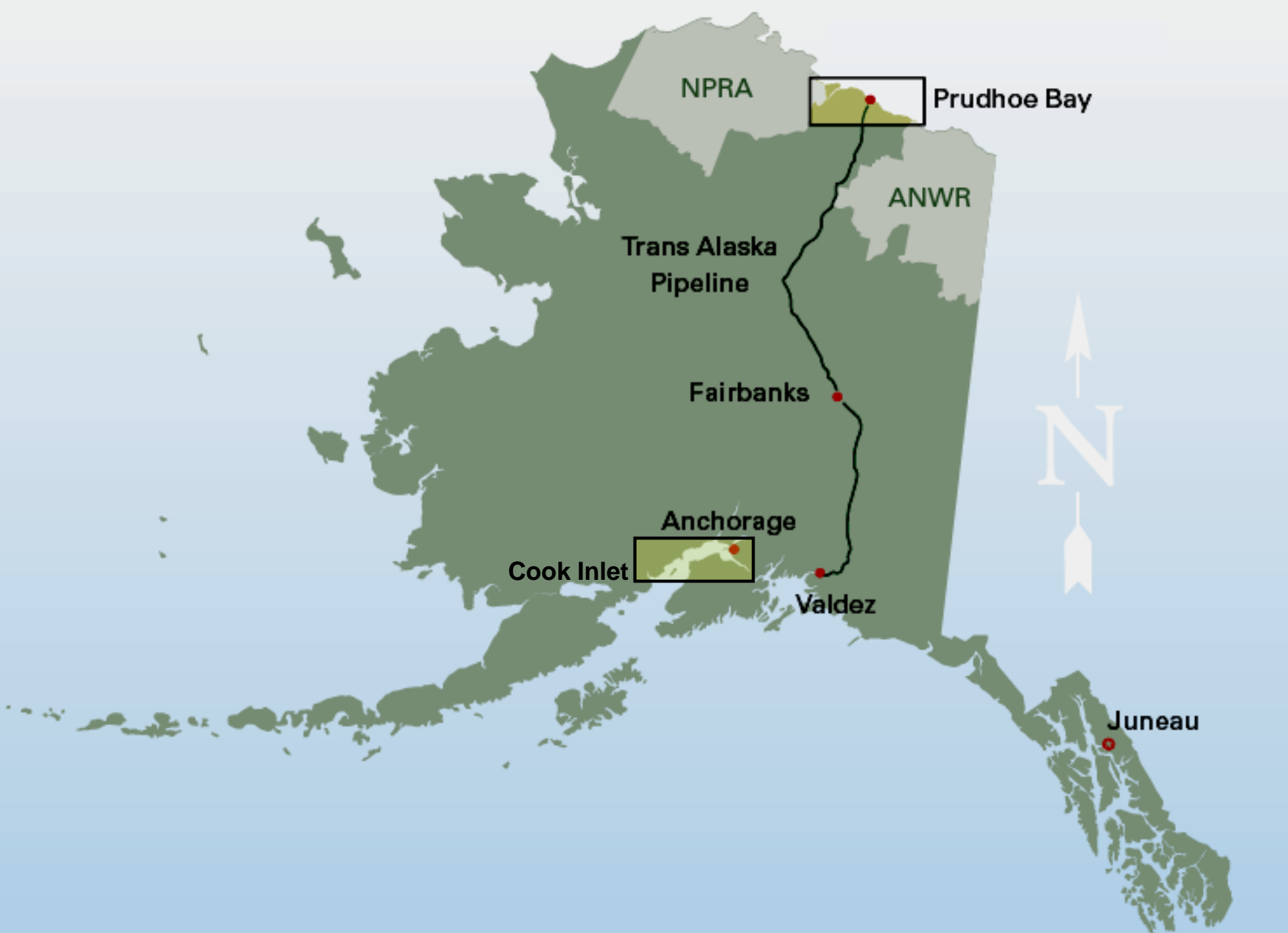
**Yellowknife, NT**

**June 19, 2009**









# 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.

# Alaska Oil and Gas Conservation Commission

| <b>Issues</b>         | <b>Oil Company<br/>(Regulated<br/>Community)</b>           | <b>Land Owner<br/>(e.g. DNR DOG<br/>or Native<br/>Corporation)</b> | <b>ADEC<br/>(Exercises<br/>Police Powers of<br/>the State)</b> | <b>AOGCC<br/>(Exercises<br/>Police Powers of<br/>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-<br>Mainly Surface & Air   | Role Is Regulatory, Not Proprietary-<br>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     | Owens Majority of Production                               | Owens Minority of Production (Royalty Interest)                    | None- Regulates Only   | None- Regulates Only   |

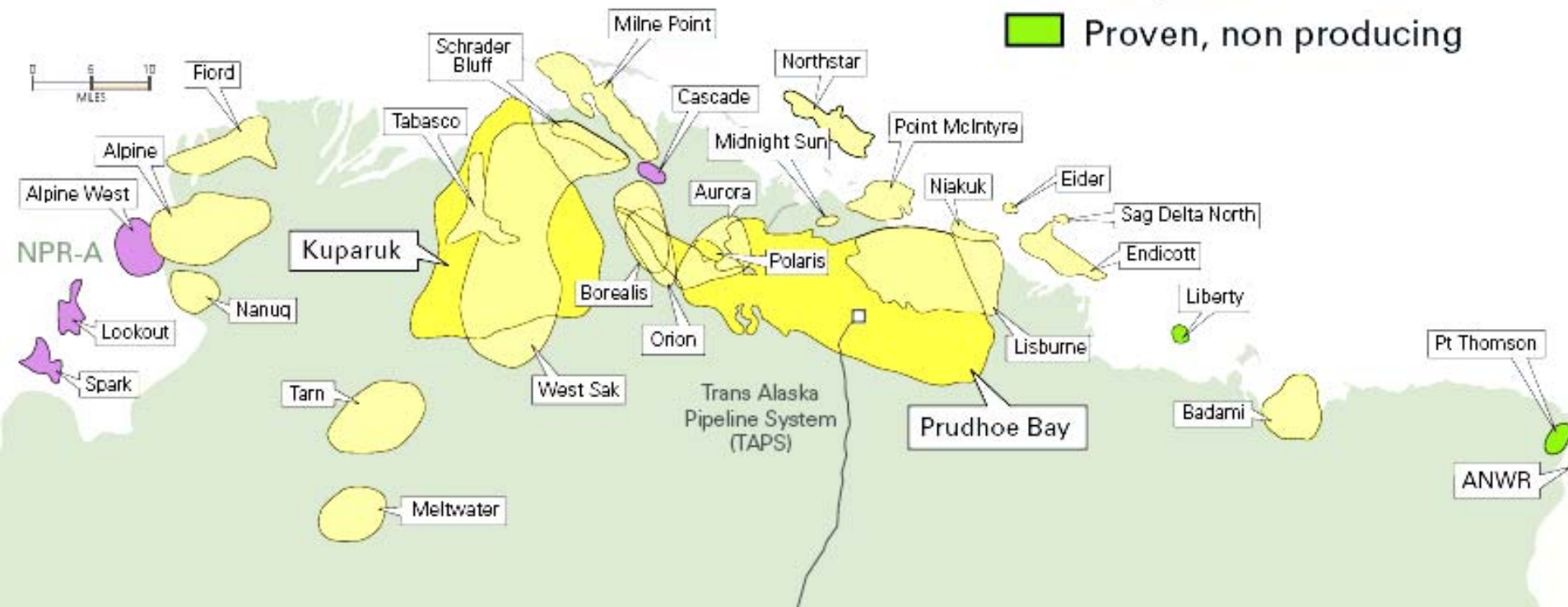
AOGCC generally regulates sub-surface activities.  
ADEC and other agencies have regulatory authority over most surface activities.



Source: State of Alaska,  
Division of Oil and Gas

# 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

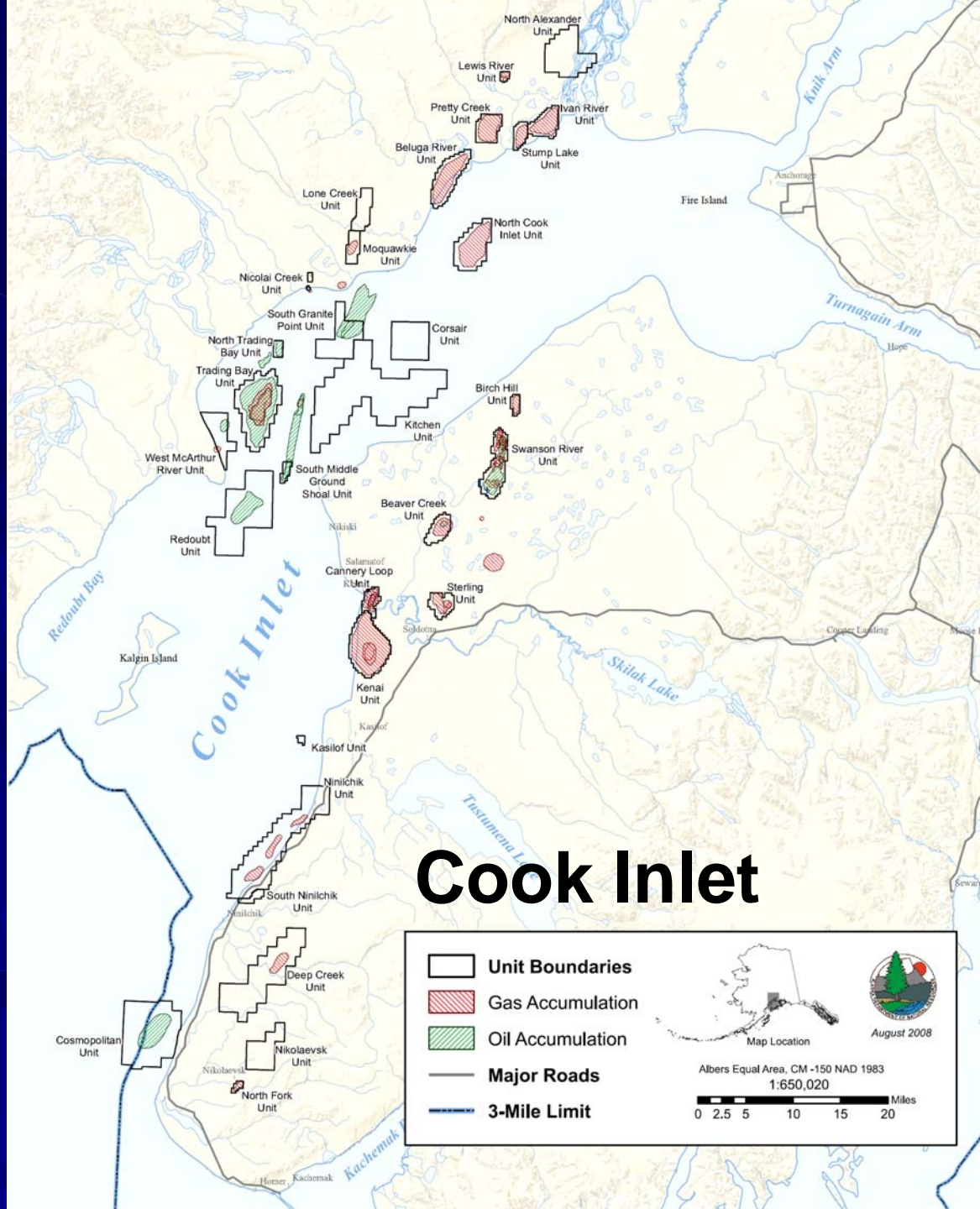
- 6 to 7 TCF

## ■ 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



Source: State of Alaska,  
Division of Oil and Gas

# 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





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%
- Reinjecting – 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 |
|--------------------|------------------|----------|-------------|------------------------------|

| Disposition                                       | Volume MCF   | 20. For production from multiple pools, list contribution of each pool as a percent of Total Volume.  |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|---|--------------|---|-------------------|-----------|---------|--|----------------------|--------|--|-----|-----------|--|-----|--------------|--|-----|--------|--|--|-----|--|--|--|--|--------------------|--|------------|--|--|--|--|--|
| 6. Sold   |              | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 40%;">Pool Name</th> <th style="width: 30%;">Pool Code</th> <th style="width: 30%;">Percent</th> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>   | Pool Name         | Pool Code | Percent |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
| Pool Name   | Pool Code    |   | Percent           |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|   |              |   |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|   |              |   |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|   |              |   |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|   |              |   |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|   |              |   |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|   |              |   |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|   |              |   |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|   |              |   |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|   |              |   |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
| 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>              |              | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4" style="background-color: #d3d3d3;">Official Use Only</th> </tr> <tr> <td rowspan="3" style="width: 30%;">Authorization &gt;1 hr:</td> <td style="width: 30%;">Safety</td> <td style="width: 30%;"></td> <td style="width: 10%;">MCF</td> </tr> <tr> <td>Lease Use</td> <td></td> <td>MCF</td> </tr> <tr> <td>Conservation</td> <td></td> <td>MCF</td> </tr> <tr> <td colspan="2">Waste:</td> <td></td> <td>MCF</td> </tr> <tr> <td colspan="4" style="height: 20px;"> </td> </tr> <tr> <td colspan="2" style="text-align: right;">Commissioner _____</td> <td colspan="2" style="text-align: right;">Date _____</td> </tr> </table> | Official Use Only |           |         |  | Authorization >1 hr: | Safety |  | MCF | Lease Use |  | MCF | Conservation |  | MCF | Waste: |  |  | MCF |  |  |  |  | Commissioner _____ |  | Date _____ |  |  |  |  |  |
| Official Use Only                                 |              |   |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
| Authorization >1 hr:                              | Safety       |   | MCF               |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|   | Lease Use    |   | MCF               |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|   | Conservation |   | MCF               |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
| Waste:  |              |   | MCF               |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
|   |              |   |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
| Commissioner _____                                |              | Date _____  |                   |           |         |  |                      |        |  |     |           |  |     |              |  |     |        |  |  |     |  |  |  |  |                    |  |            |  |  |  |  |  |
| 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 60o F. Authority 20 AAC25.235.

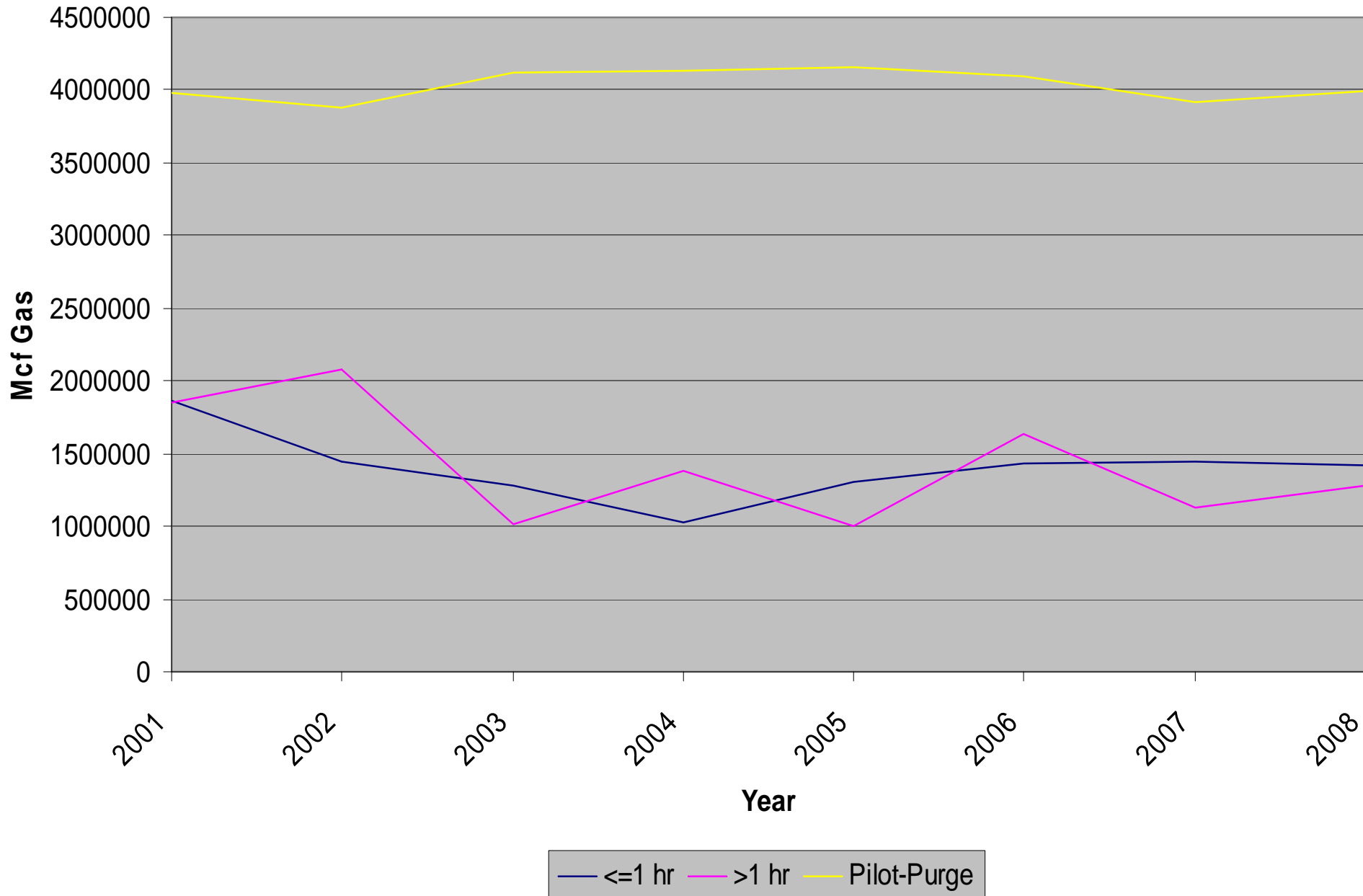
# Alaska Total Flare - By Year

| 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?