

# COOK INLET

## OIL & GAS RESOURCES

### The Federal Outer Continental Shelf



Drew Comer, Geologist  
Department of the Interior  
U.S. Minerals Management Service

**South Central Alaska Energy Forum**

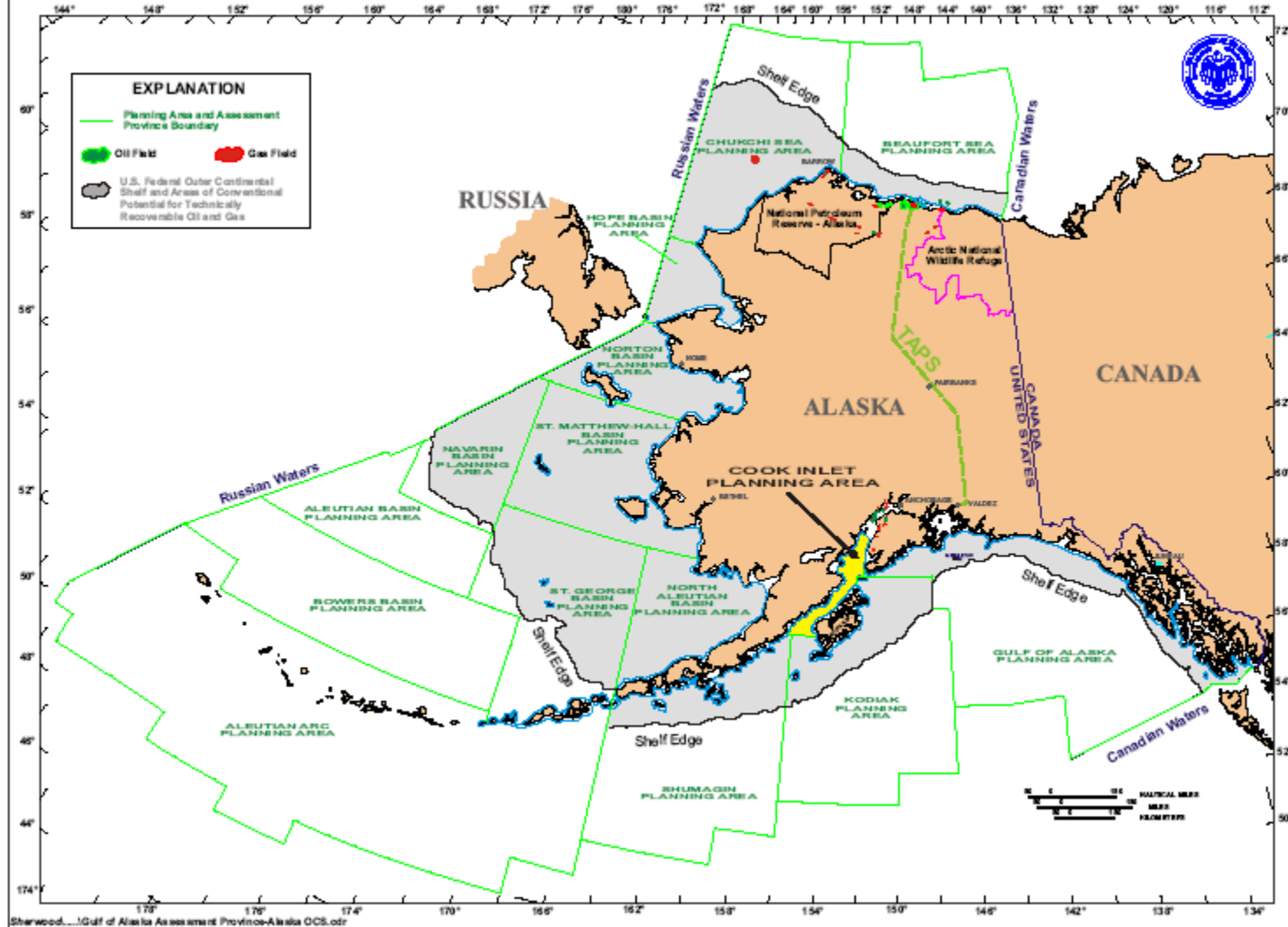
**September 20-21, 2006**



# MMS Alaska OCS Region 2006 National Assessment

Undiscovered Oil & Gas Resources  
Cook Inlet Planning Area

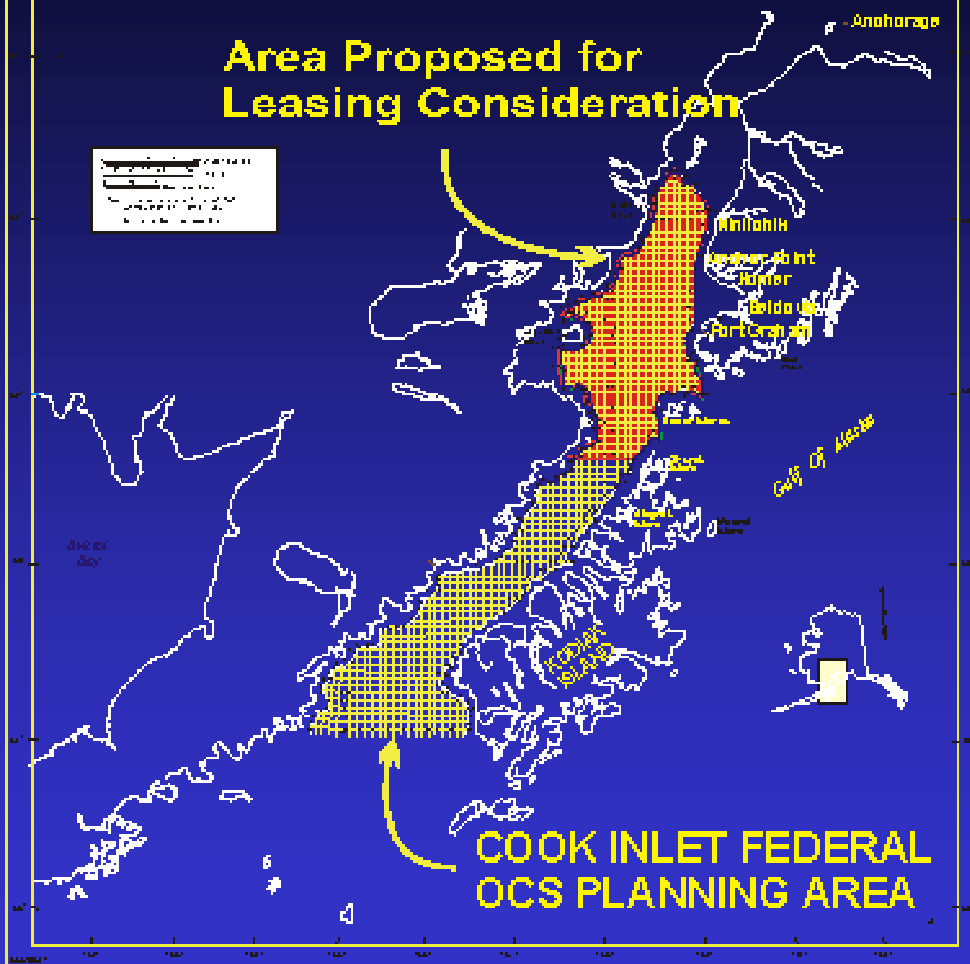
# 2006 Cook Inlet Assessment Province and Alaska OCS



# COOK INLET

2002 - 2007 FIVE-YEAR LEASING PROGRAM

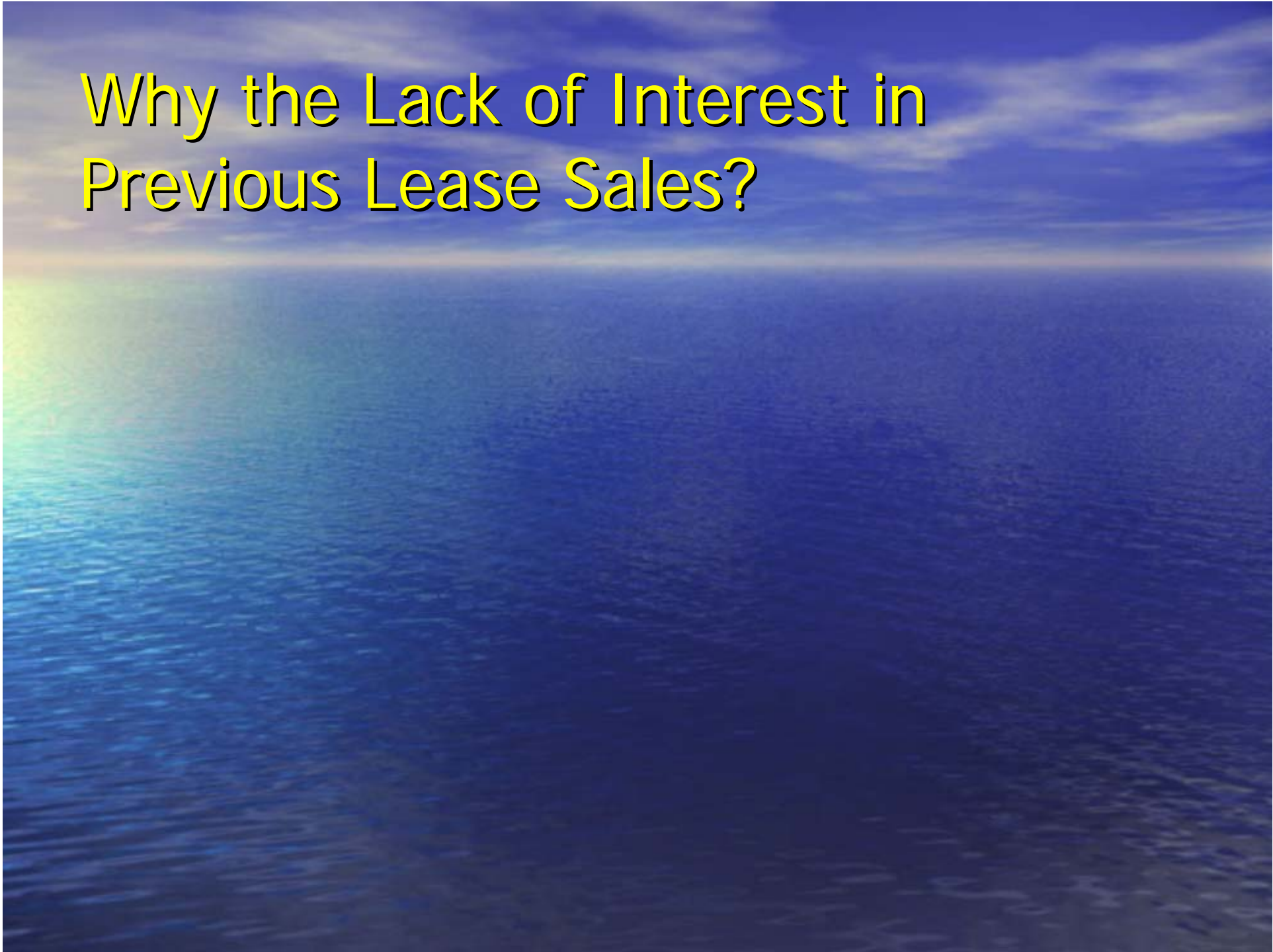
## Area Proposed for Leasing Consideration



COOK INLET FEDERAL OCS PLANNING AREA



# Why the Lack of Interest in Previous Lease Sales?



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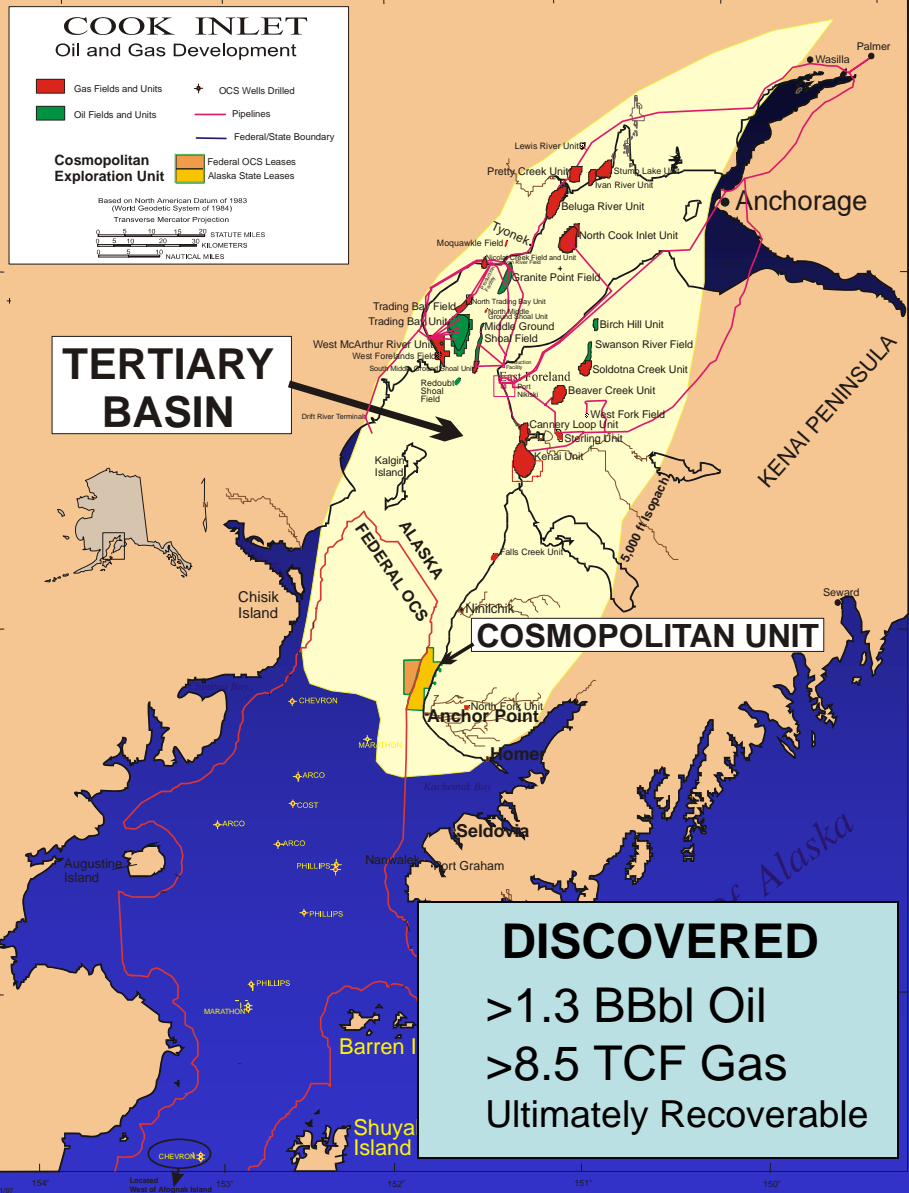
- Lower Prices for Oil & Gas
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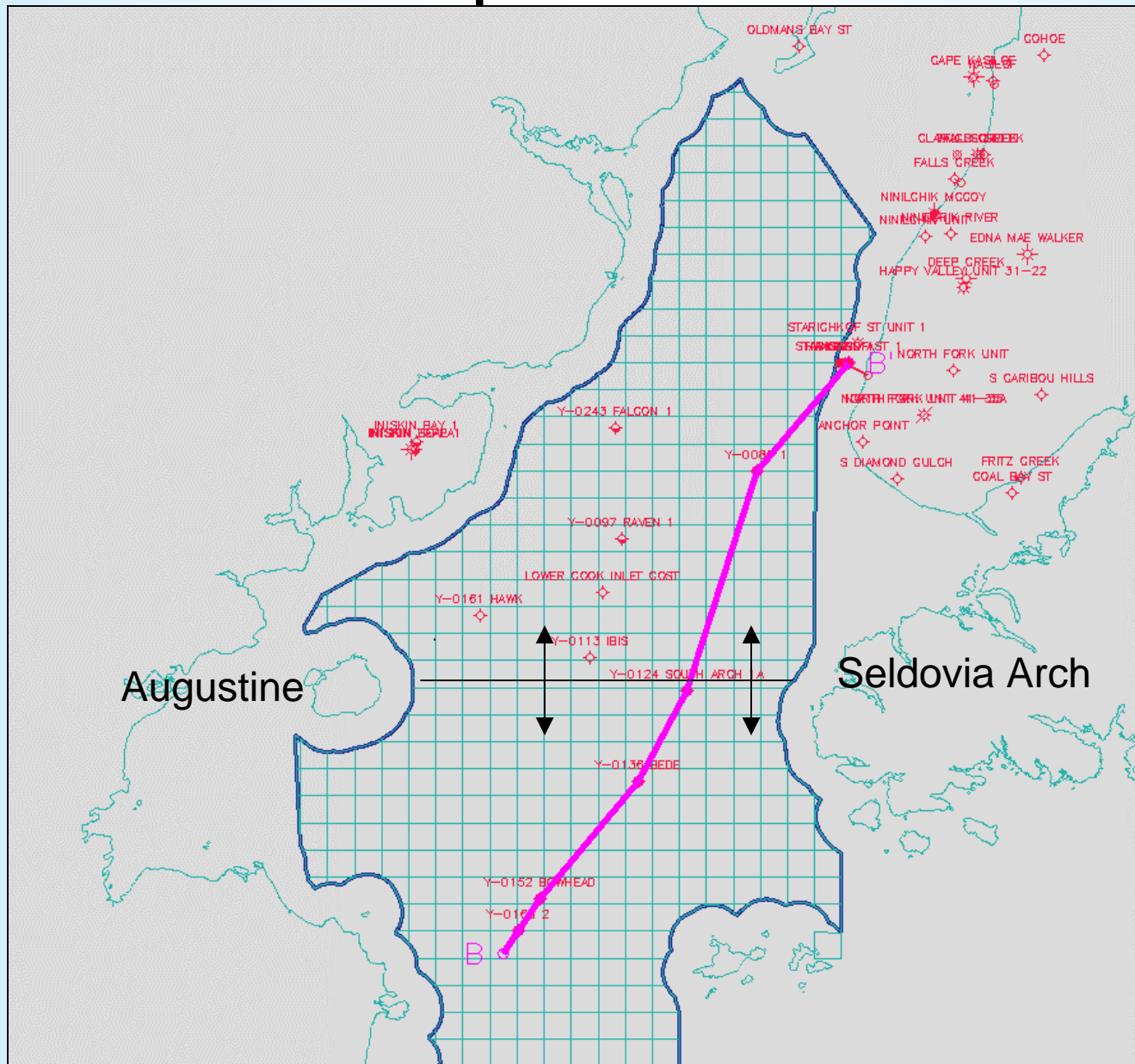
- Lower Prices for Oil & Gas
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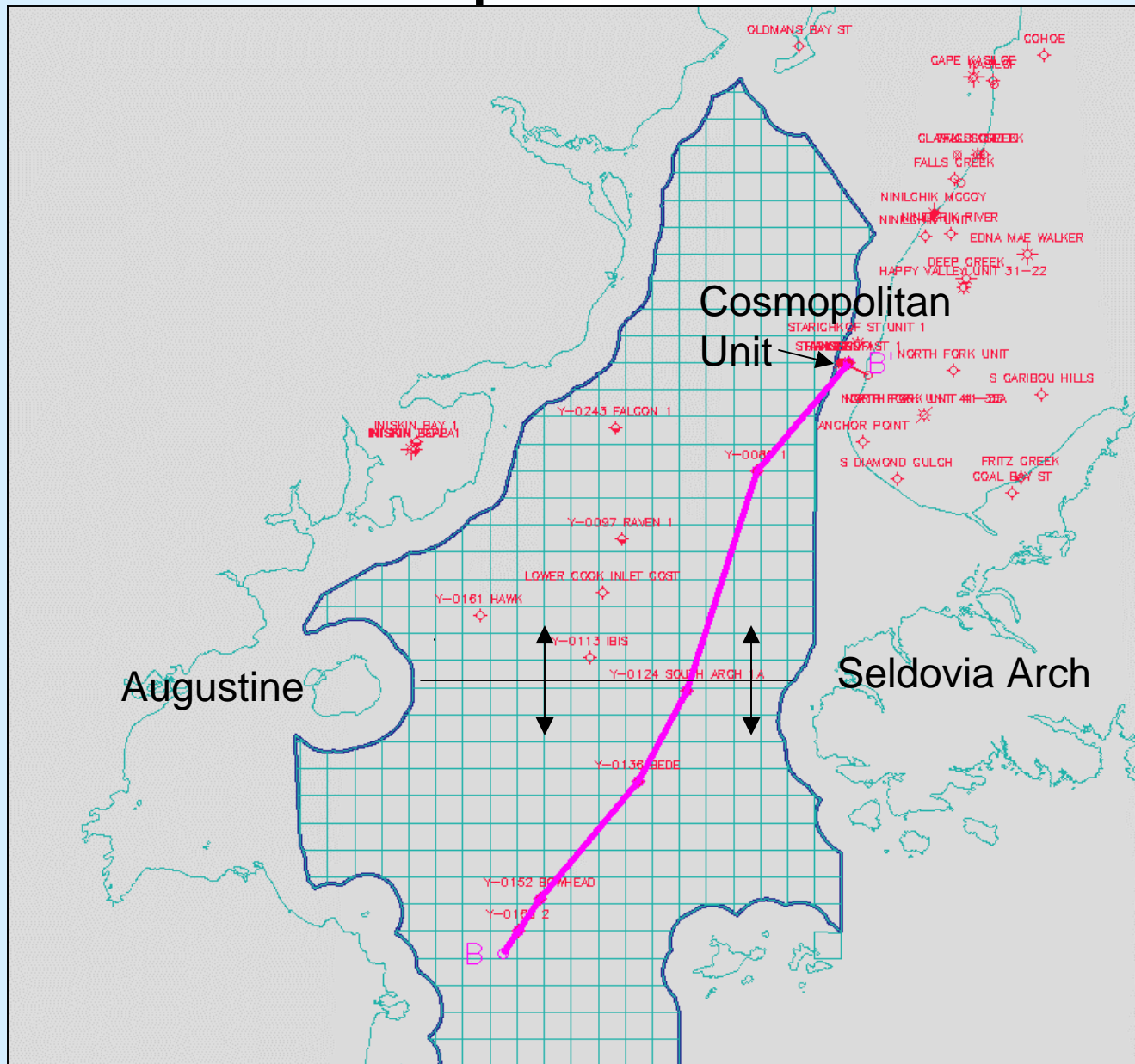
- Lower Prices for Oil & Gas
- Limited Sale Area in 1997
- Company Reorganizations
- Small Companies Staying Onshore
- Lack of a Jackup Rig in Inlet
- Lack of 3-D Seismic Data



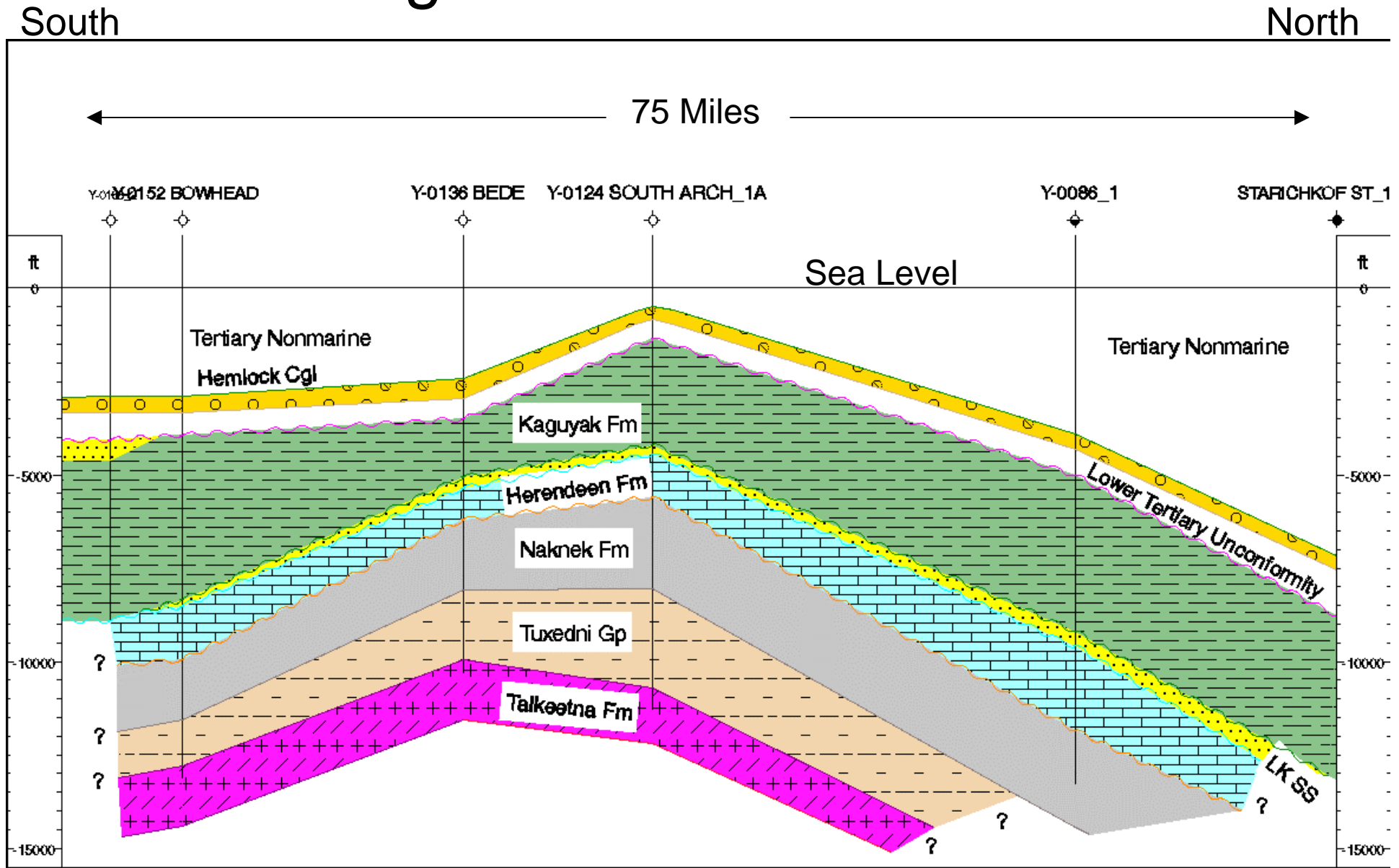
# Location Map of Cross-Section



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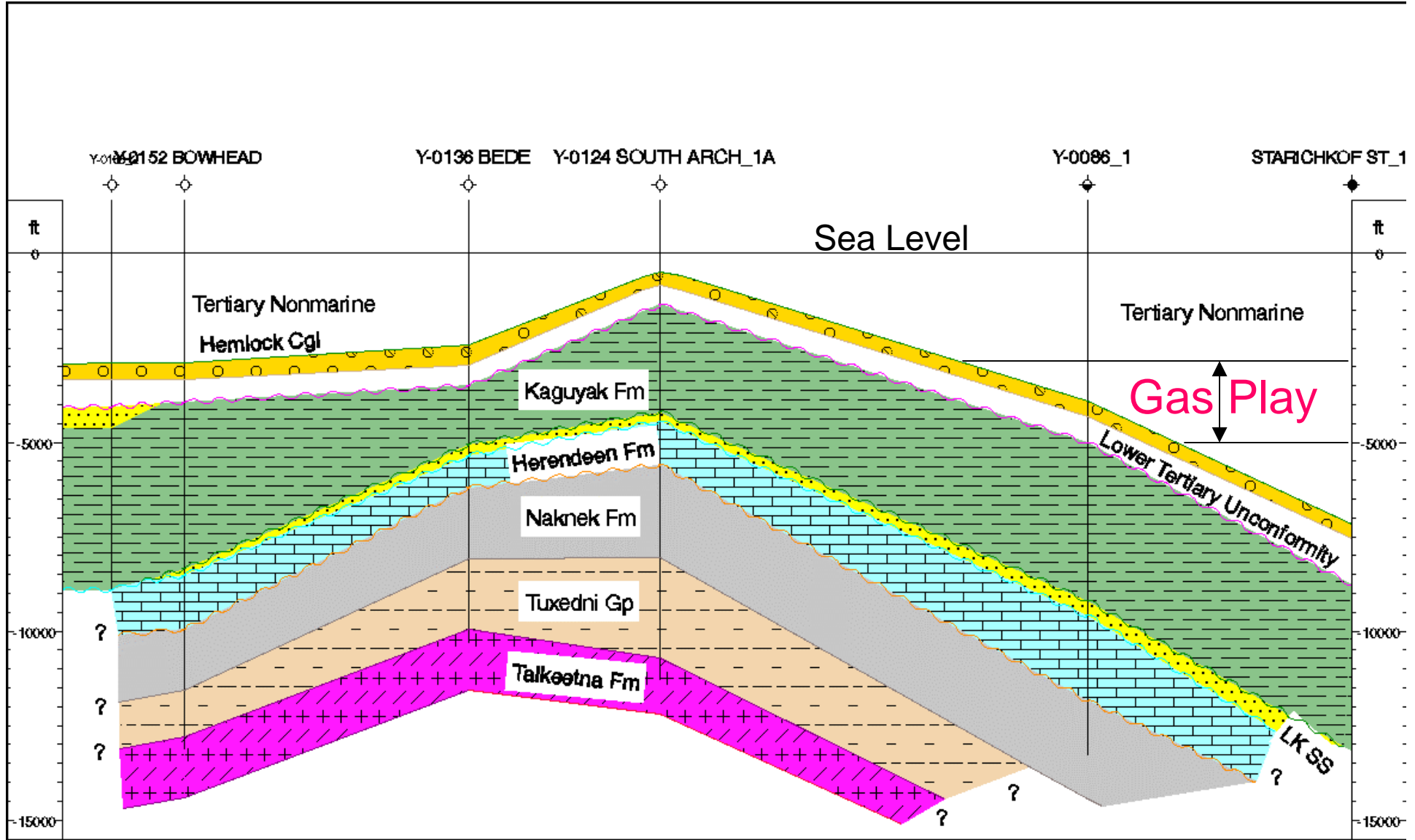
# Augustine-Seldovia Arch



# Augustine-Seldovia Arch

South

North







Petroleum Play -- Geologically  
Related Prospects with Similar:

# Petroleum Play -- Geologically Related Prospects with Similar:

- Hydrocarbon Source Rock

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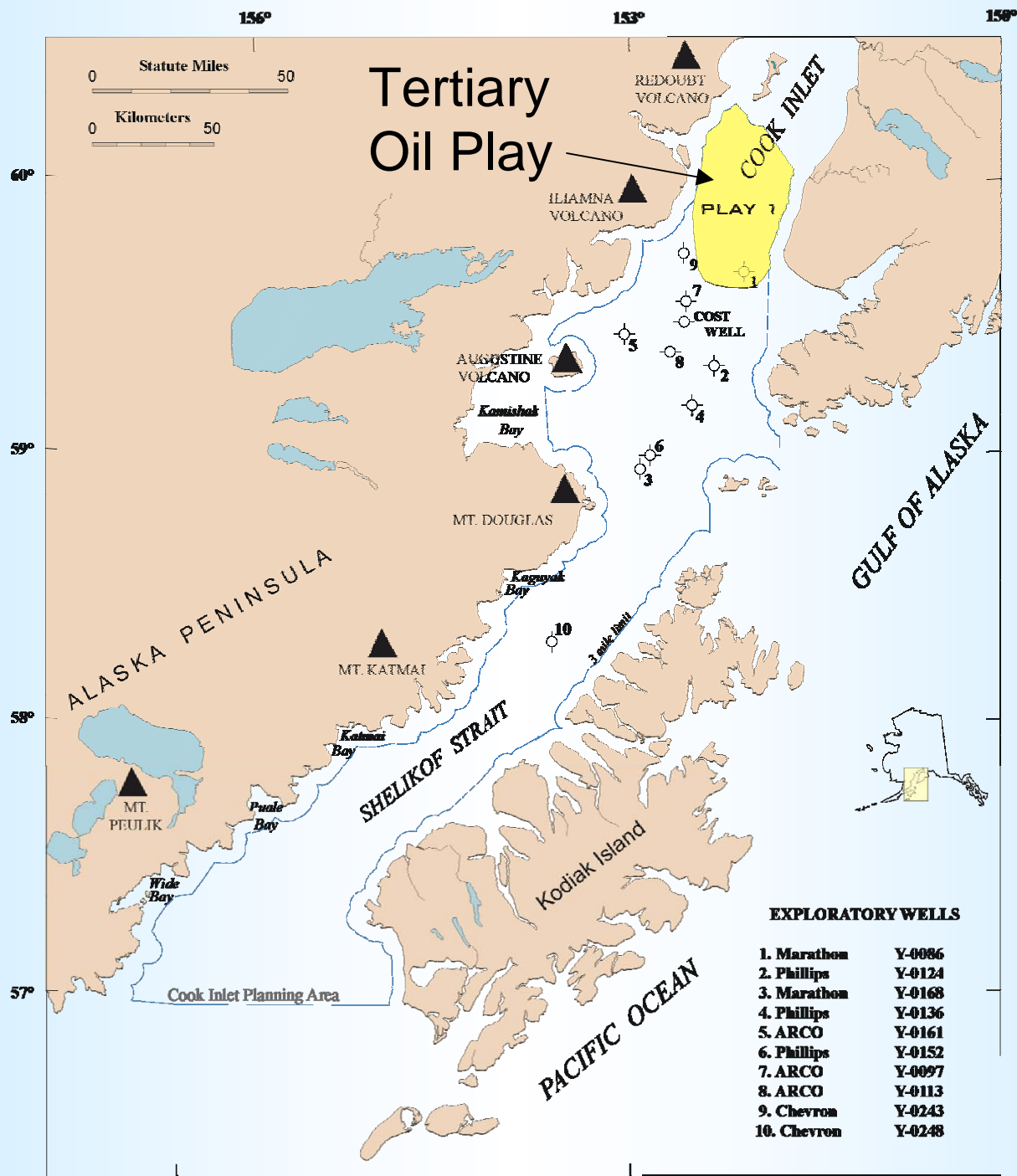
- Hydrocarbon Source Rock
- Reservoir Rock

# Petroleum Play -- Geologically Related Prospects with Similar:

- Hydrocarbon Source Rock
- Reservoir Rock
- Trapping Mechanism

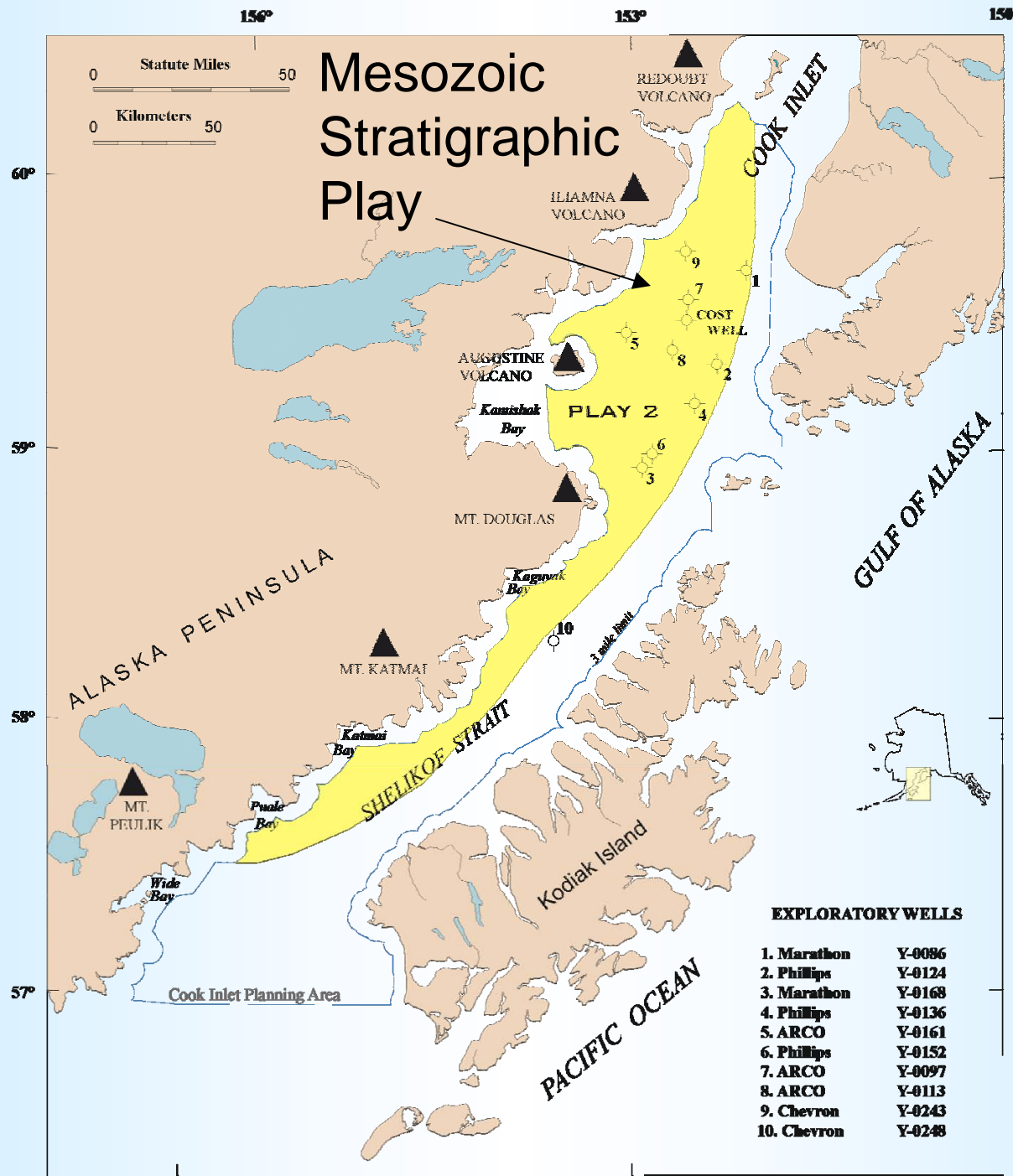
# Cook Inlet Oil and Gas Plays

- 1. Tertiary Oil Play



# Cook Inlet Oil and Gas Plays

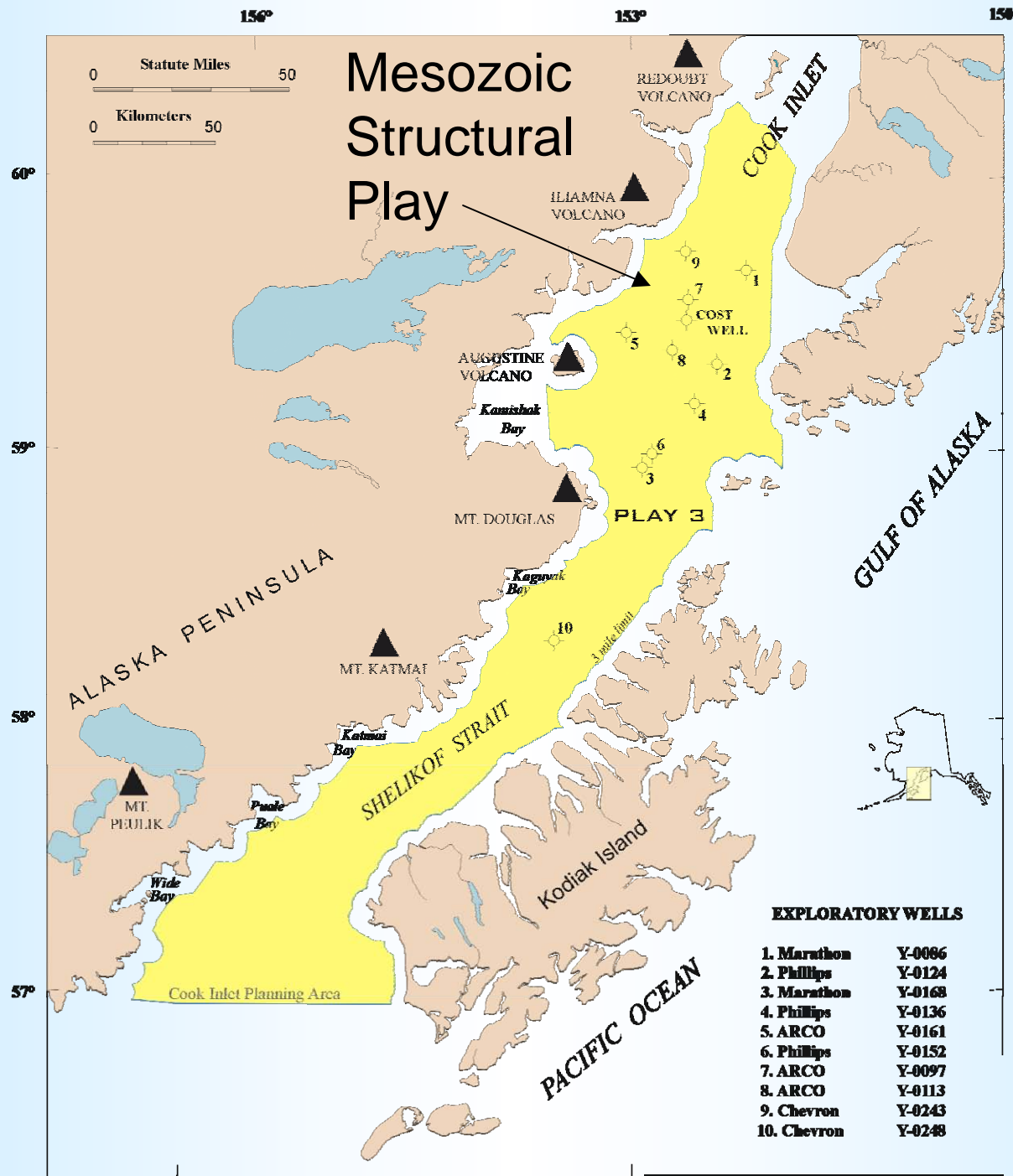
- 1. Tertiary Oil Play
- 2. Mesozoic Stratigraphic Play





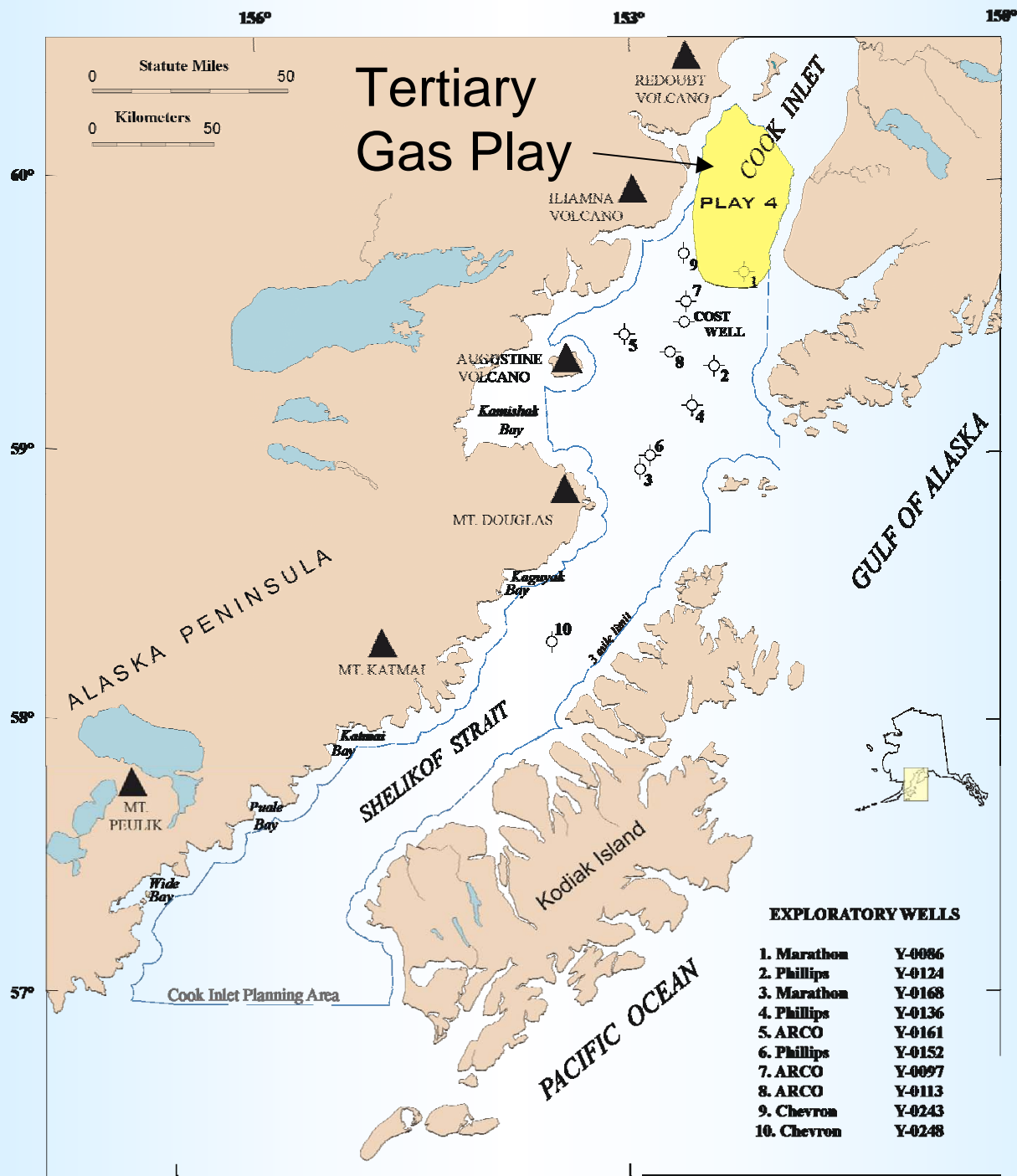
# Cook Inlet Oil and Gas Plays

- 1. Tertiary Oil Play
- 2. Mesozoic Stratigraphic Play
- 3. Mesozoic Structural Play



# Cook Inlet Oil and Gas Plays

- 1. Tertiary Oil Play
- 2. Mesozoic Stratigraphic Play
- 3. Mesozoic Structural Play
- 4. Tertiary Gas Play



# Tertiary Gas Play

COOK INLET

PLAY 4

COST WELL

GULF OF ALASKA

ALASKA PENINSULA

SHELIKOF STRAIT

PACIFIC OCEAN

Kodiak Island

### EXPLORATORY WELLS

- |             |        |
|-------------|--------|
| 1. Marathon | Y-0086 |
| 2. Phillips | Y-0124 |
| 3. Marathon | Y-0168 |
| 4. Phillips | Y-0136 |
| 5. ARCO     | Y-0161 |
| 6. Phillips | Y-0152 |
| 7. ARCO     | Y-0097 |
| 8. ARCO     | Y-0113 |
| 9. Chevron  | Y-0243 |
| 10. Chevron | Y-0248 |

60°

59°

58°

57°

156°

153°

150°

0 Statute Miles 50  
0 Kilometers 50

Cook Inlet Planning Area

# Cook Inlet Oil Play Potential

(Mean, Million Barrels)

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| Play                     | Technically Recoverable | Economically Recoverable |
|--------------------------|-------------------------|--------------------------|
| 1 Tertiary Oil           | 346                     | 335                      |
| 2 Mesozoic Stratigraphic | 349                     | 310                      |
| 3 Mesozoic Structural    | 327                     | 278                      |
| 4 Tertiary Gas           | 0                       | 0                        |
| Total                    | 1,012                   | 923                      |

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\$60/Bbl

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# Cook Inlet Gas Play Potential

(Mean, Trillion Cubic Feet)

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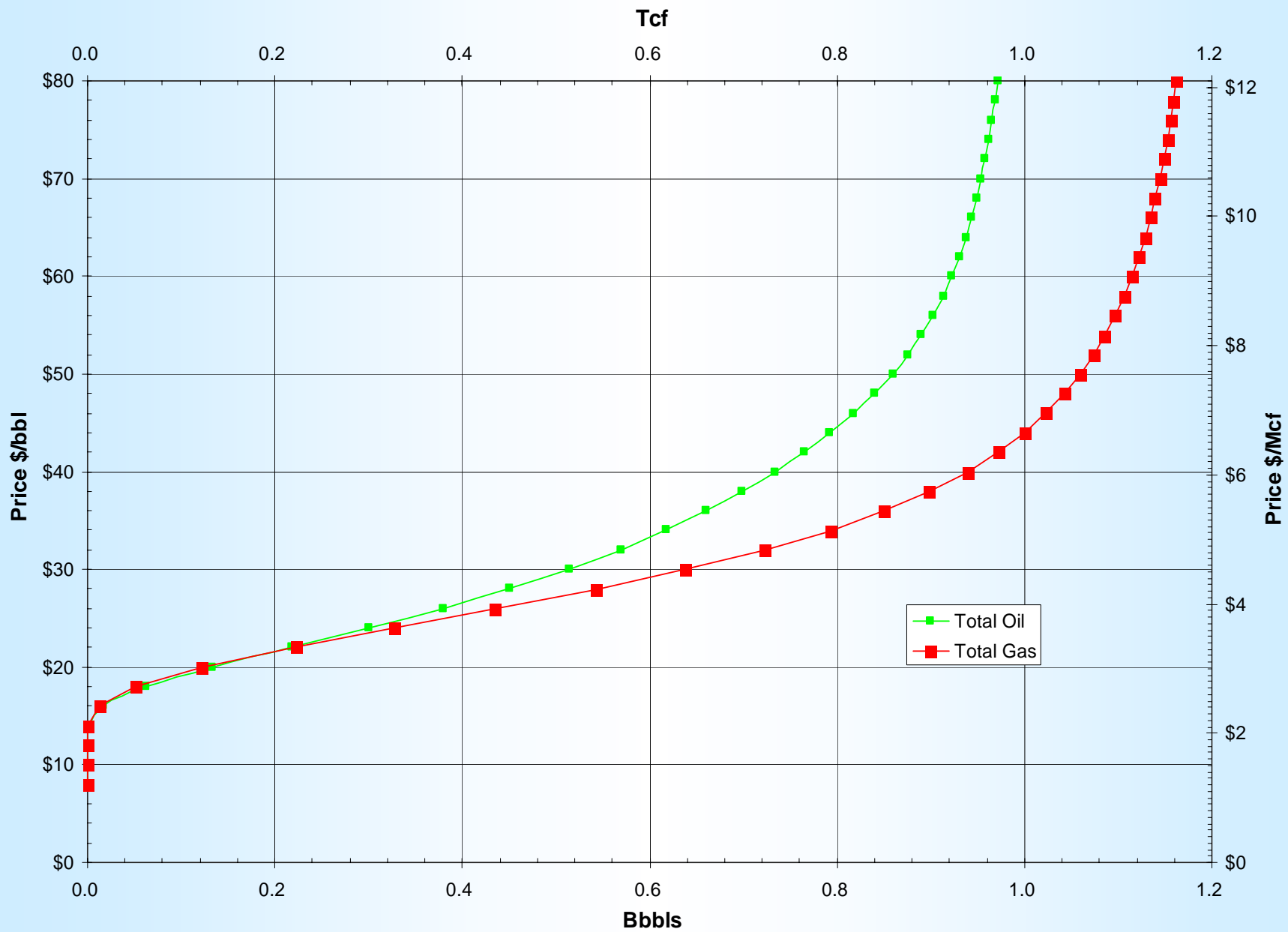
|   | Play                   | Technically Recoverable | Economically Recoverable |
|---|------------------------|-------------------------|--------------------------|
| 1 | Tertiary Oil           | 0.126                   | 0.125                    |
| 2 | Mesozoic Stratigraphic | 0.157                   | 0.139                    |
| 3 | Mesozoic Structural    | 0.151                   | 0.127                    |
| 4 | Tertiary Gas           | 0.767                   | 0.723                    |
|   | Total                  | 1.201                   | 1.115                    |

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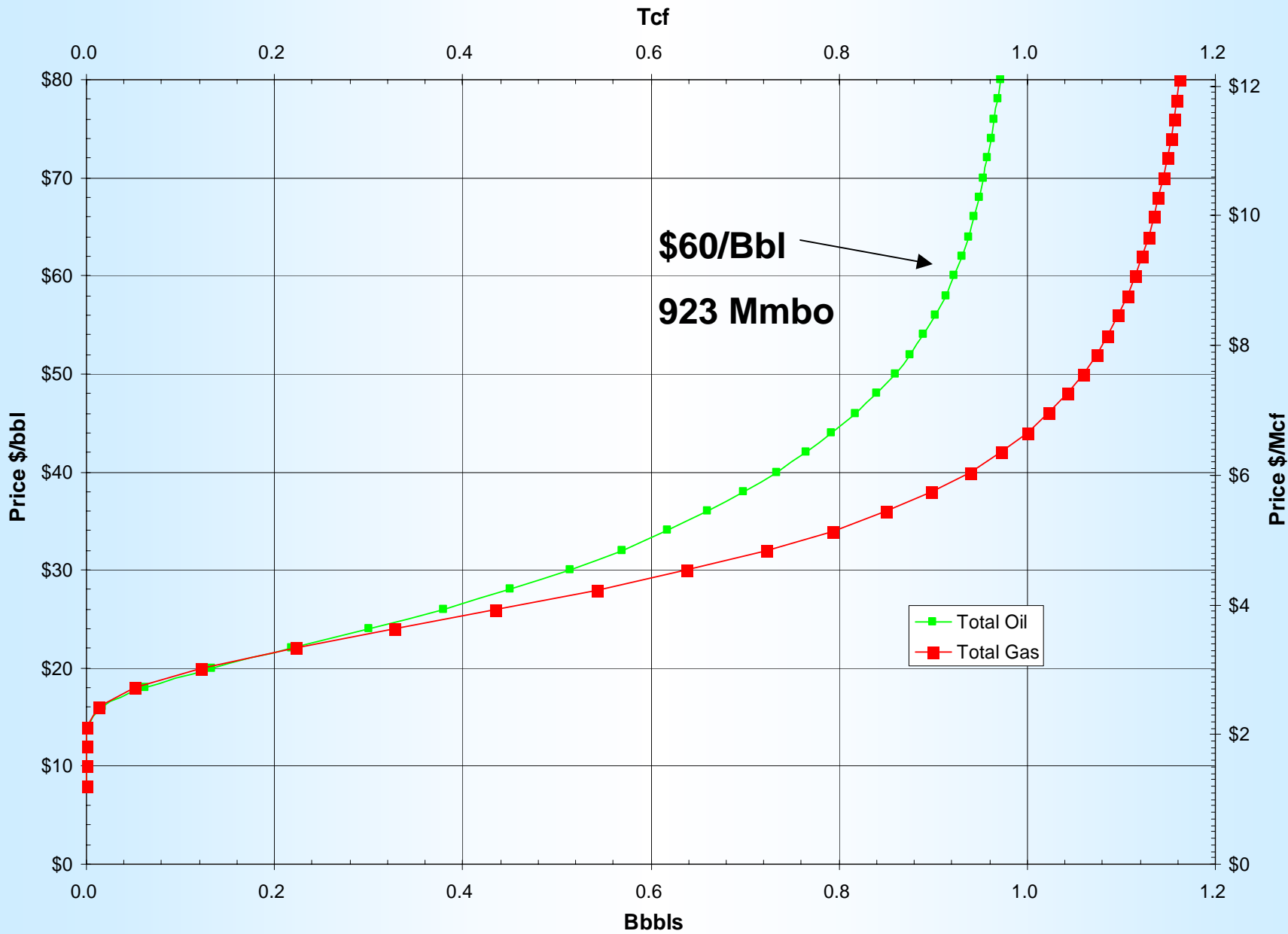
\$9/Mcf

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### Cook Inlet Price/Supply Curve (Mean)

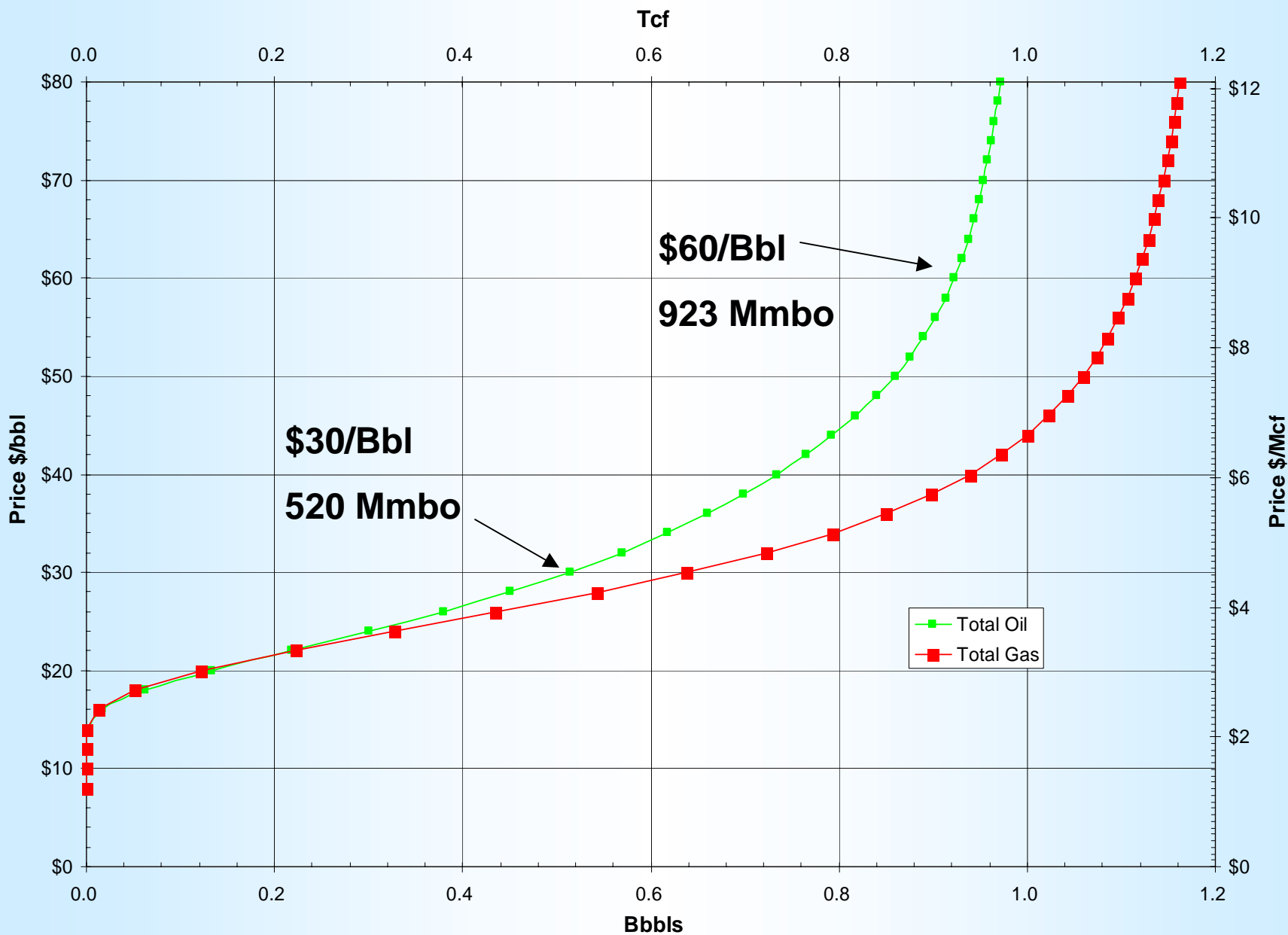


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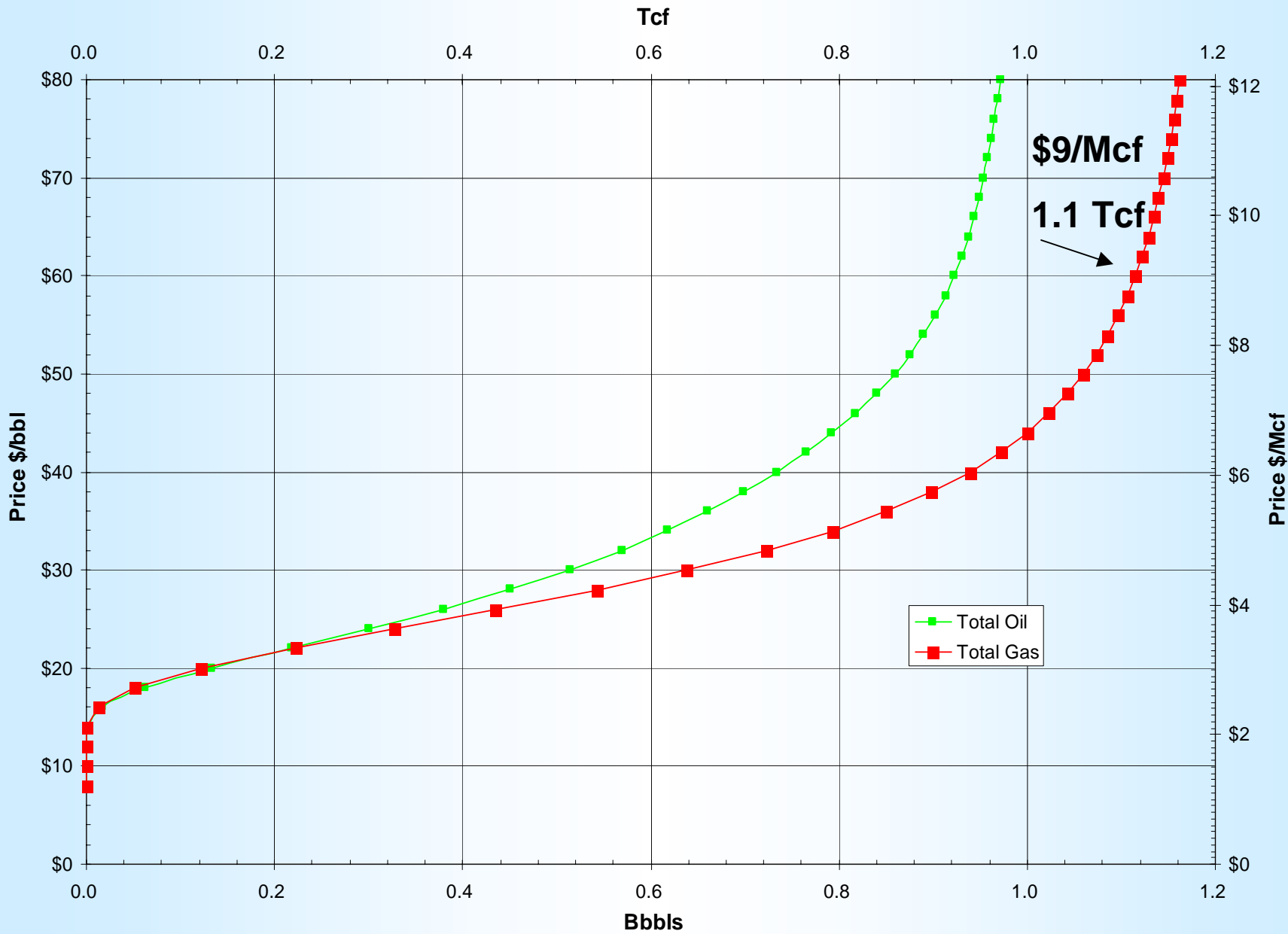




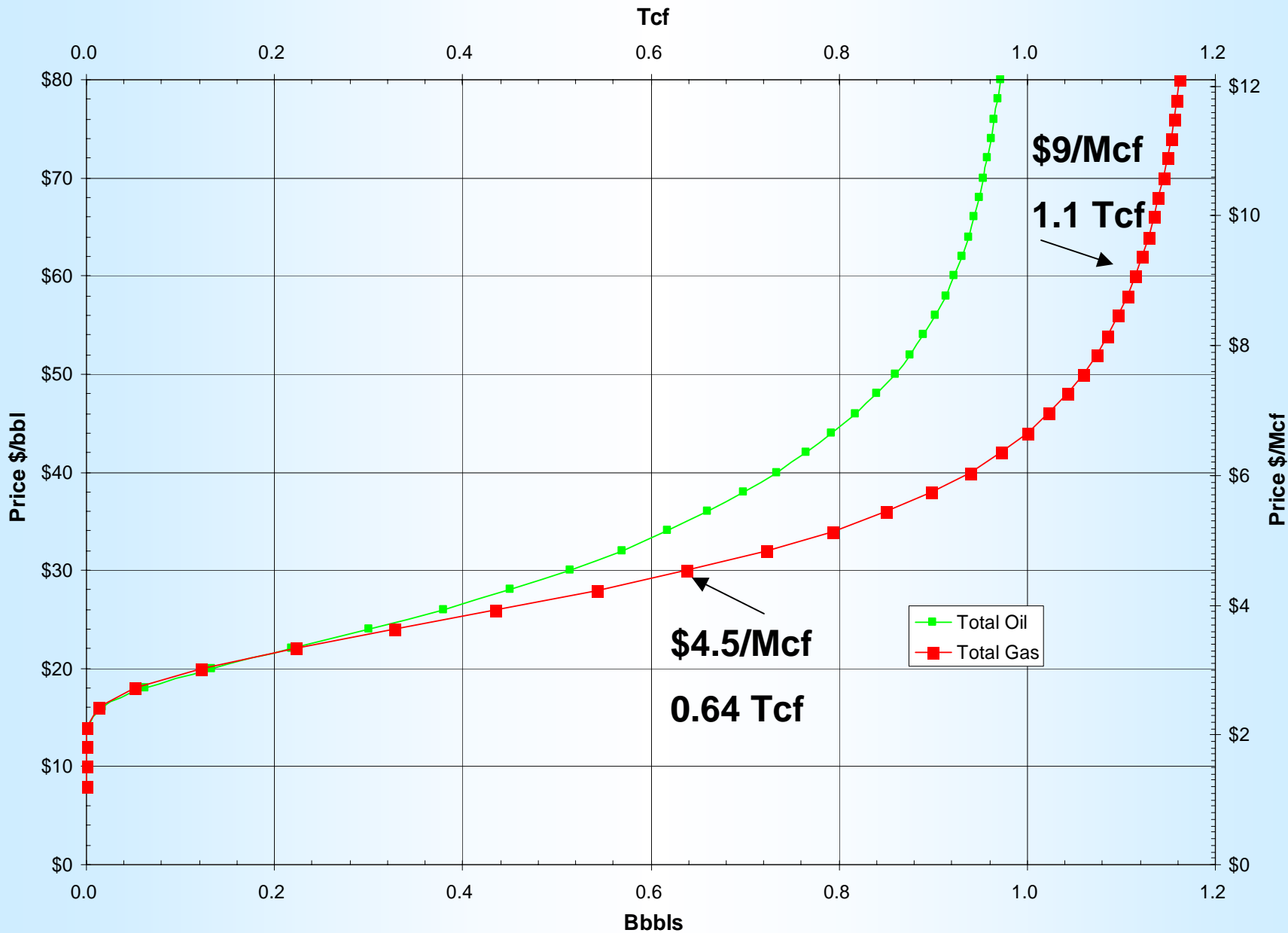
### Cook Inlet Price/Supply Curve (Mean)



### Cook Inlet Price/Supply Curve (Mean)



### Cook Inlet Price/Supply Curve (Mean)



# Cook Inlet Federal OCS Undiscovered Oil & Gas Resources

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Risked, Technically Recoverable

Chance of Success      95%      Mean      5%

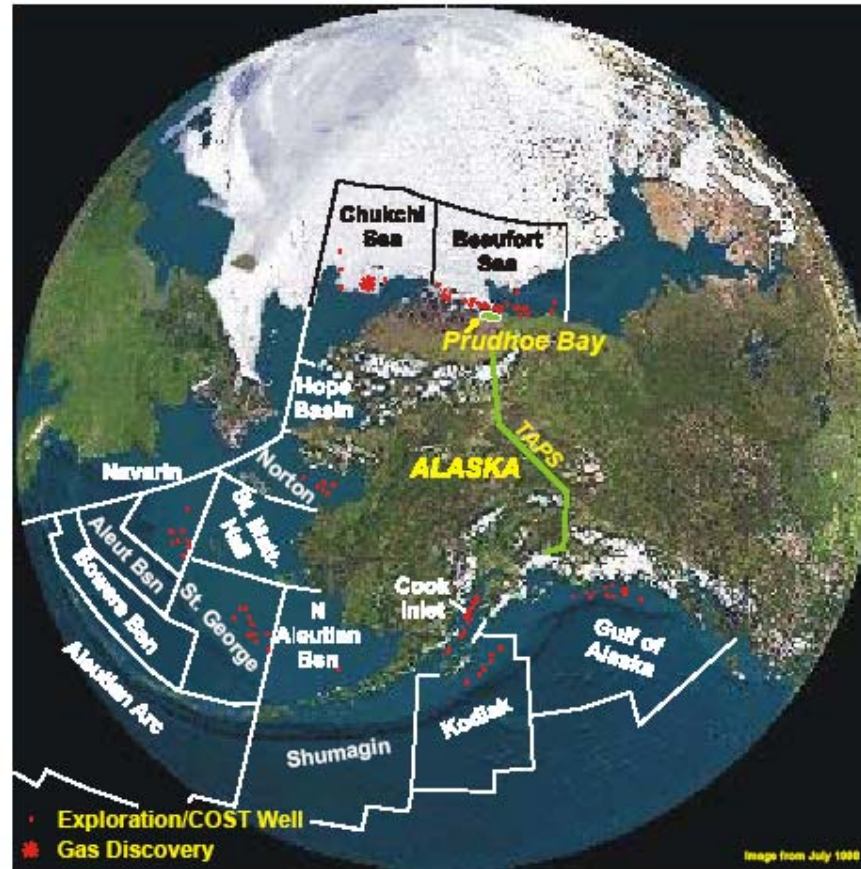
|                            |       |       |       |
|----------------------------|-------|-------|-------|
| Gas<br>Trillion Cubic Feet | 0.027 | 1.201 | 3.478 |
| Oil<br>Billion Barrels     | 0.057 | 1.012 | 2.850 |

2006 National Assessment

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# Undiscovered Oil and Gas Resources, Alaska Federal Offshore

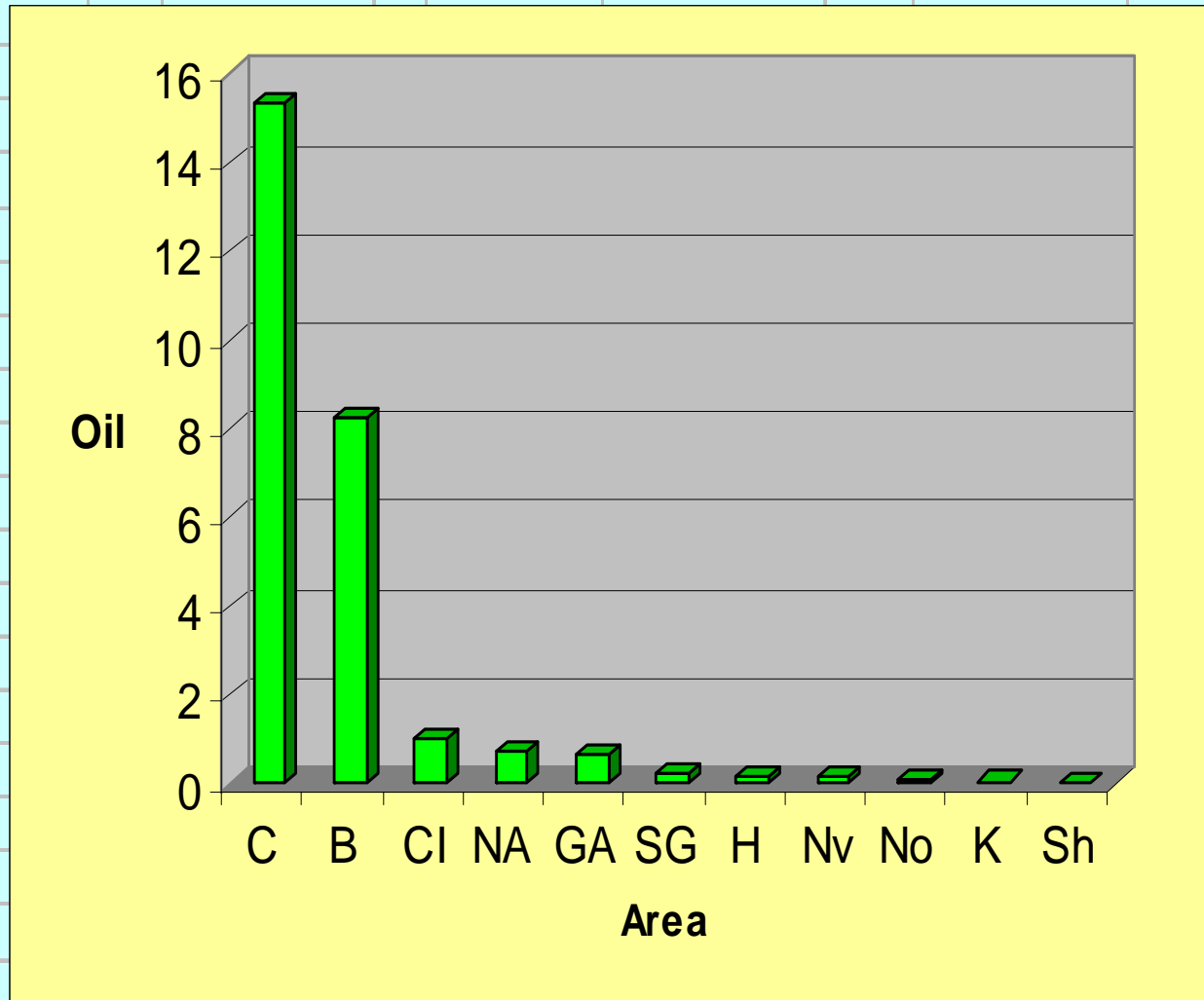
As of 2006



**MMS** U.S. Department of the Interior  
Minerals Management Service  
Alaska OCS Region

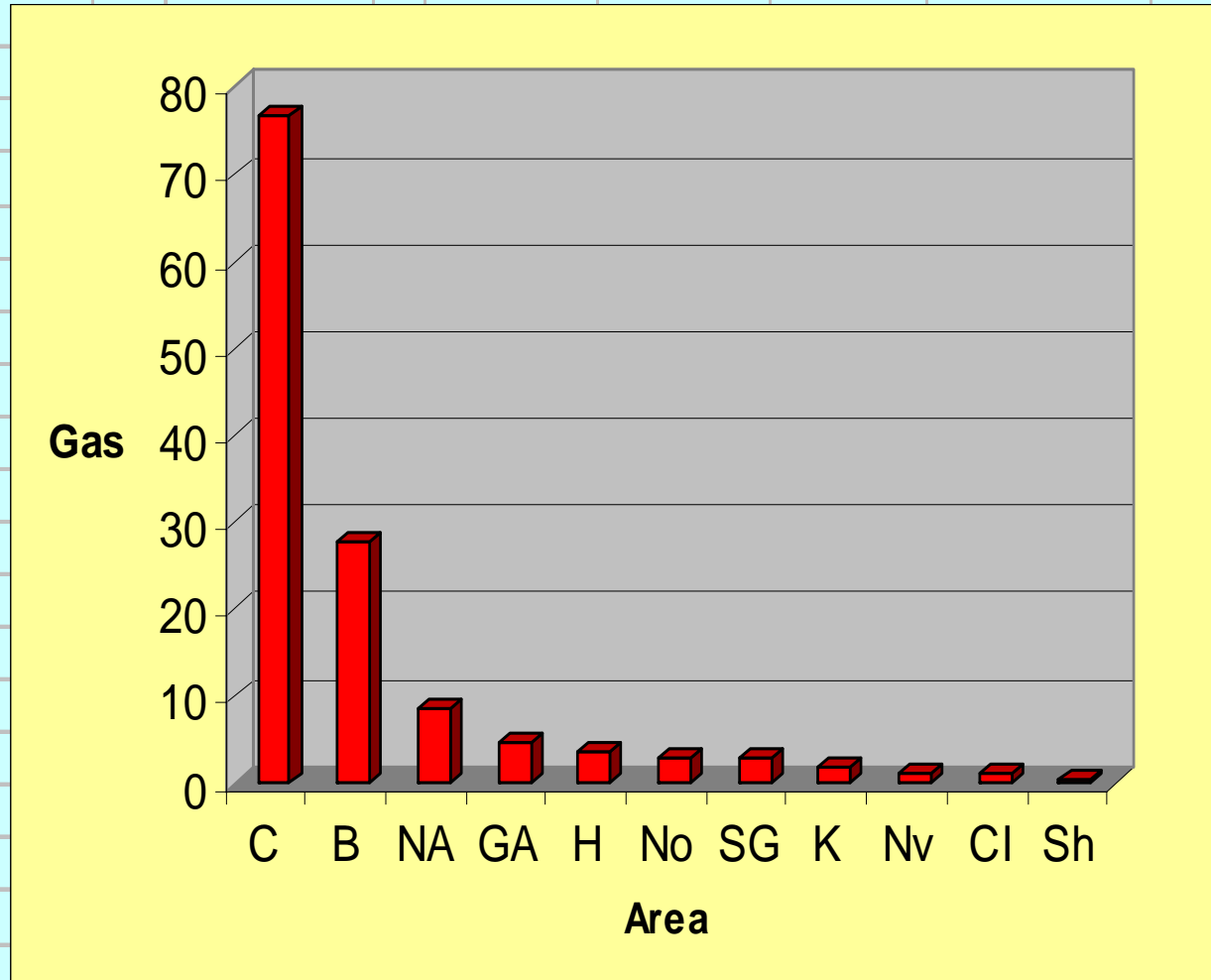


**MMS Alaska 2006 National Assessment**  
**Area Comparisons - OIL (mean - BBO)**  
 Undiscovered, Technically Recoverable Resources



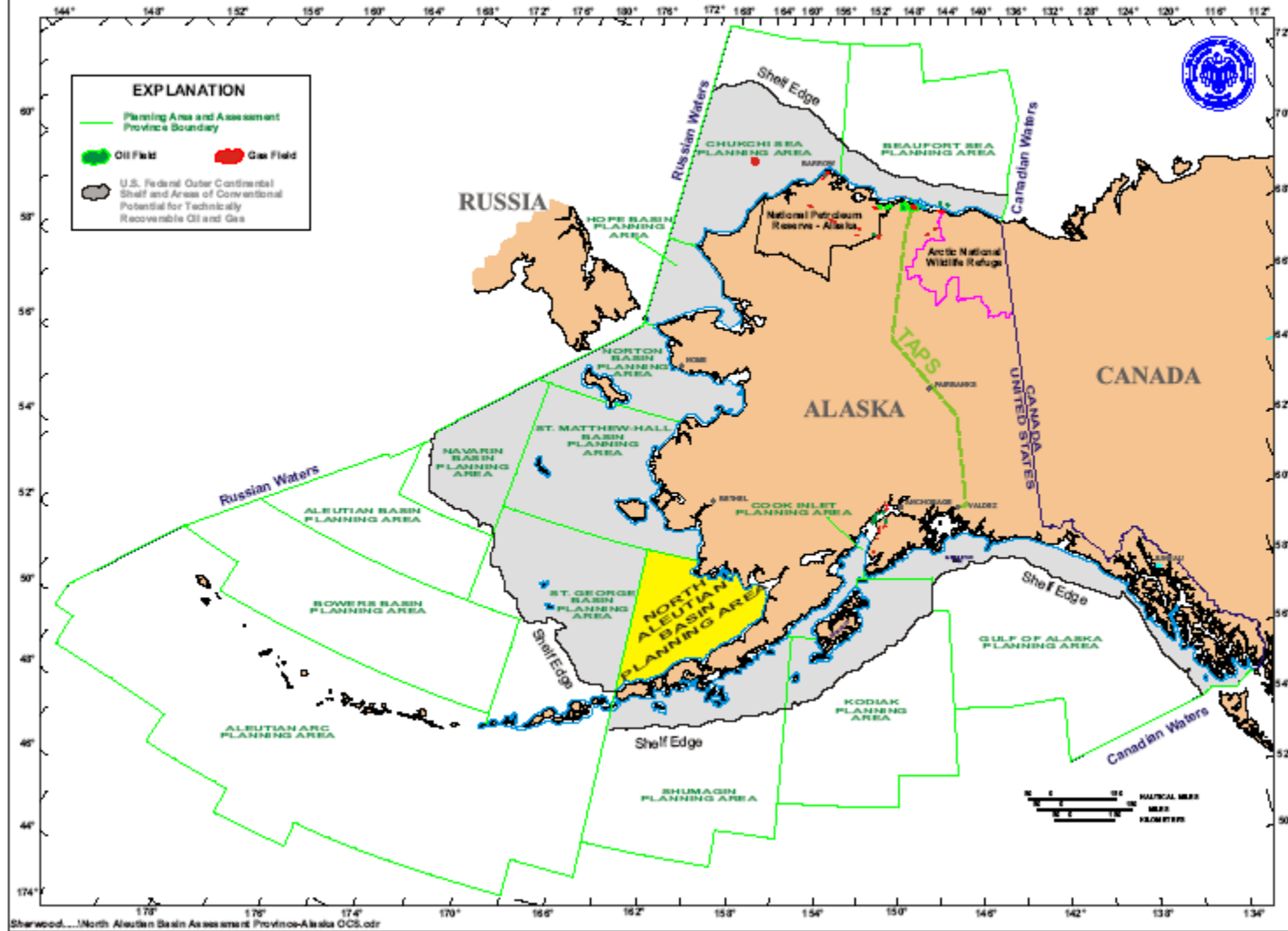
| AREA        |    | OIL<br>mean<br>(BBO) |
|-------------|----|----------------------|
| Chukchi     | C  | 15.38                |
| Beaufort    | B  | 8.22                 |
| Cook Inlet  | CI | 1.01                 |
| N. Aleutian | NA | 0.75                 |
| GOA         | GA | 0.63                 |
| St. George  | SG | 0.21                 |
| Hope        | H  | 0.15                 |
| Navarin     | Nv | 0.13                 |
| Norton      | No | 0.06                 |
| Kodiak      | K  | 0.05                 |
| Shumagin    | Sh | 0.01                 |

**MMS Alaska 2006 National Assessment  
Area Comparisons - GAS (mean - TCFG)  
Undiscovered, Technically Recoverable Resources**



| AREA        |    | GAS<br>mean<br>(TCFG) |
|-------------|----|-----------------------|
| Chukchi     | C  | 76.77                 |
| Beaufort    | B  | 27.65                 |
| N. Aleutian | NA | 8.62                  |
| GOA         | GA | 4.65                  |
| Hope        | H  | 3.77                  |
| Norton      | No | 3.06                  |
| St. George  | SG | 2.80                  |
| Kodiak      | K  | 1.84                  |
| Navarin     | Nv | 1.22                  |
| Cook Inlet  | CI | 1.20                  |
| Shumagin    | Sh | 0.49                  |

# 2006 North Aleutian Basin Assessment Province and Alaska OCS





# North Aleutian Basin OCS Undiscovered Oil & Gas Resources

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Risked, Technically Recoverable

Chance of Success      95%                      Mean                      5%

|                            |       |       |        |
|----------------------------|-------|-------|--------|
| Gas<br>Trillion Cubic Feet | 0.404 | 8.622 | 23.278 |
| Oil<br>Billion Barrels     | 0.019 | 0.753 | 2.505  |

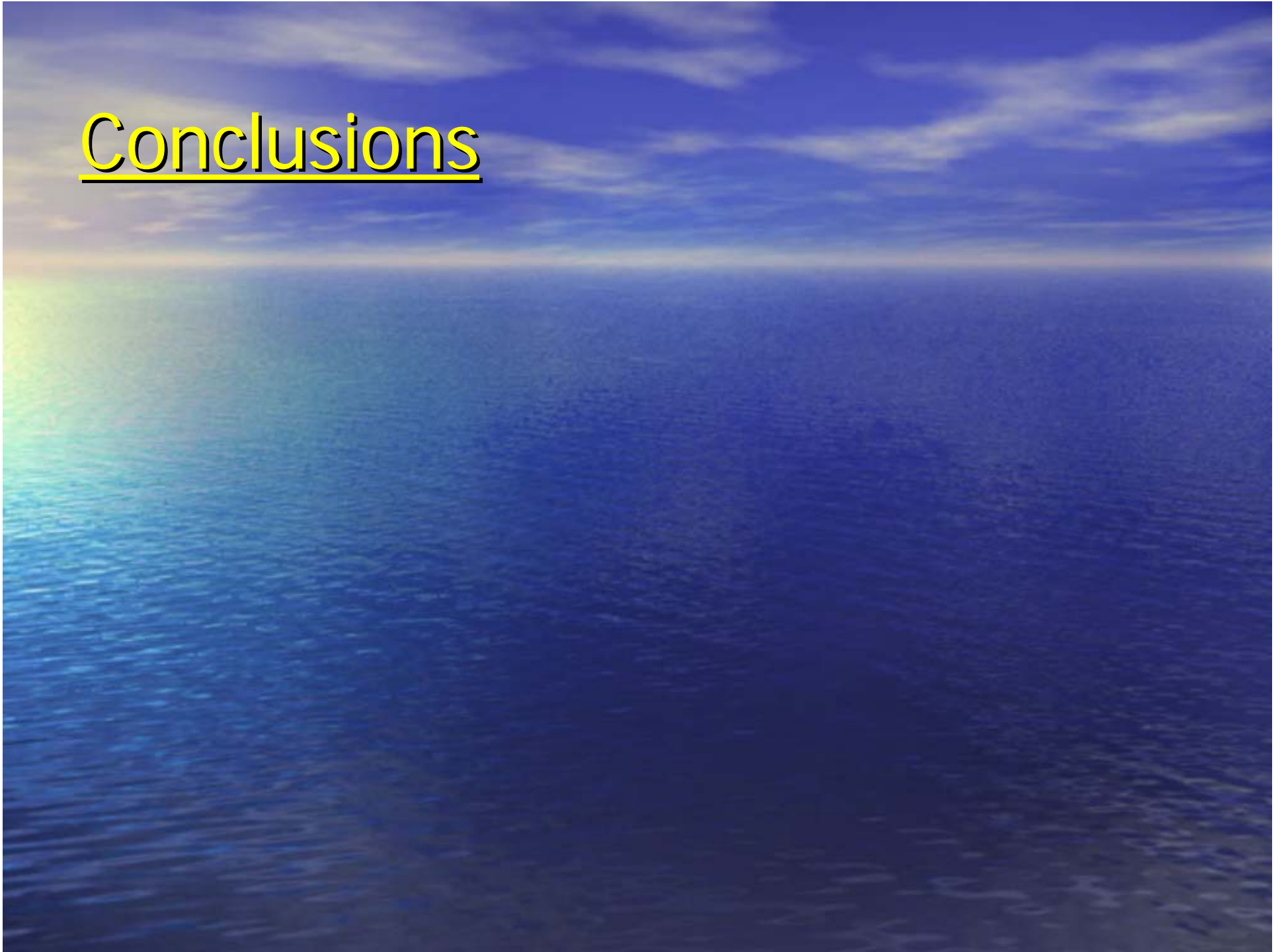
2006 National Assessment

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# MMS Draft 5-Year EIS Lease Sale Schedule 2007-2012

- 2007: Chukchi Sea
- 2009: Beaufort Sea
- **2009: Cook Inlet Special Interest Sale**
- 2010: Chukchi Sea
- **2010: North Aleutian Basin?**
- **2011: Cook Inlet Special Interest Sale**
- 2011: Beaufort Sea
- 2012: Chukchi Sea
- **2012: North Aleutian Basin?**

# Conclusions



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- Approximately 1 BBbl Undiscovered Oil

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- Cook Inlet Lease Offerings in 2009 & 2011

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- Approximately 1 BBbl Undiscovered Oil
- Approximately 1.2 Tcf Undiscovered Gas
- Cook Inlet Lease Offerings in 2009 & 2011
- High Gas Potential in North Aleutian Basin

# FOR MORE INFORMATION 2006 National Assessment



[www.mms.gov/alaska/re](http://www.mms.gov/alaska/re)

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