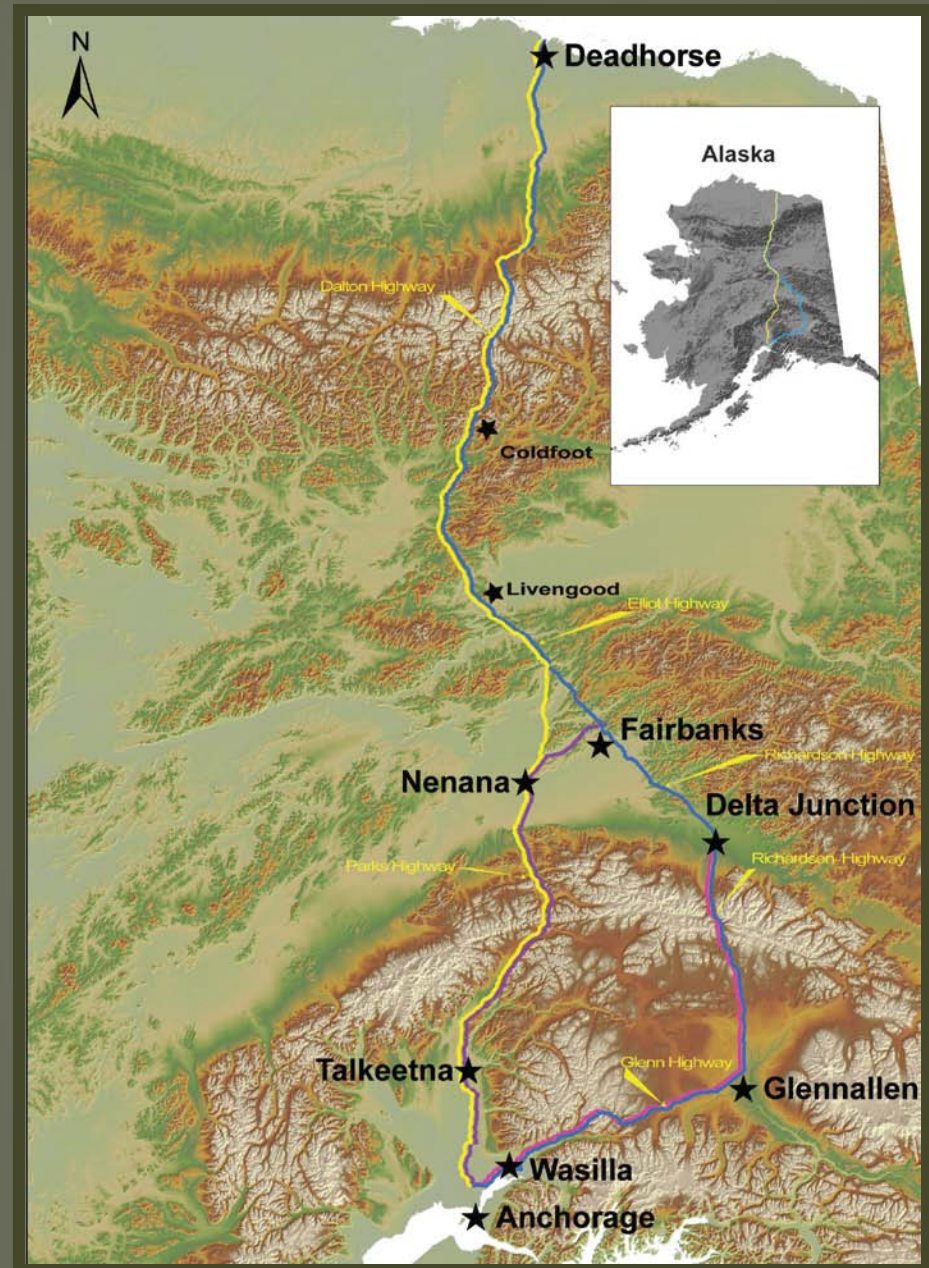


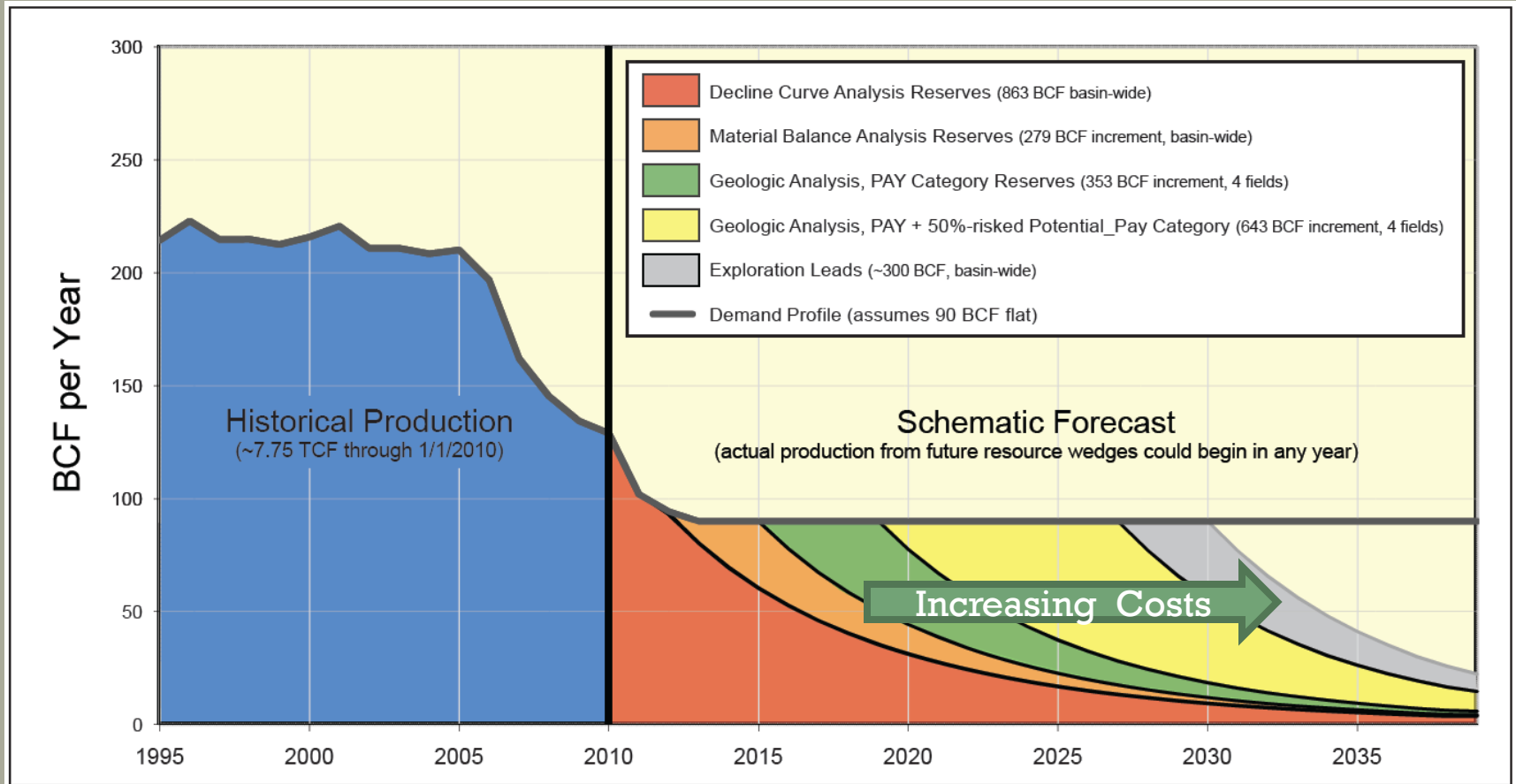
Potential Infrastructure for In-State Gas Distribution

Stand Alone Parks Highway Route Analysis

Senate Resources
April 1, 2010

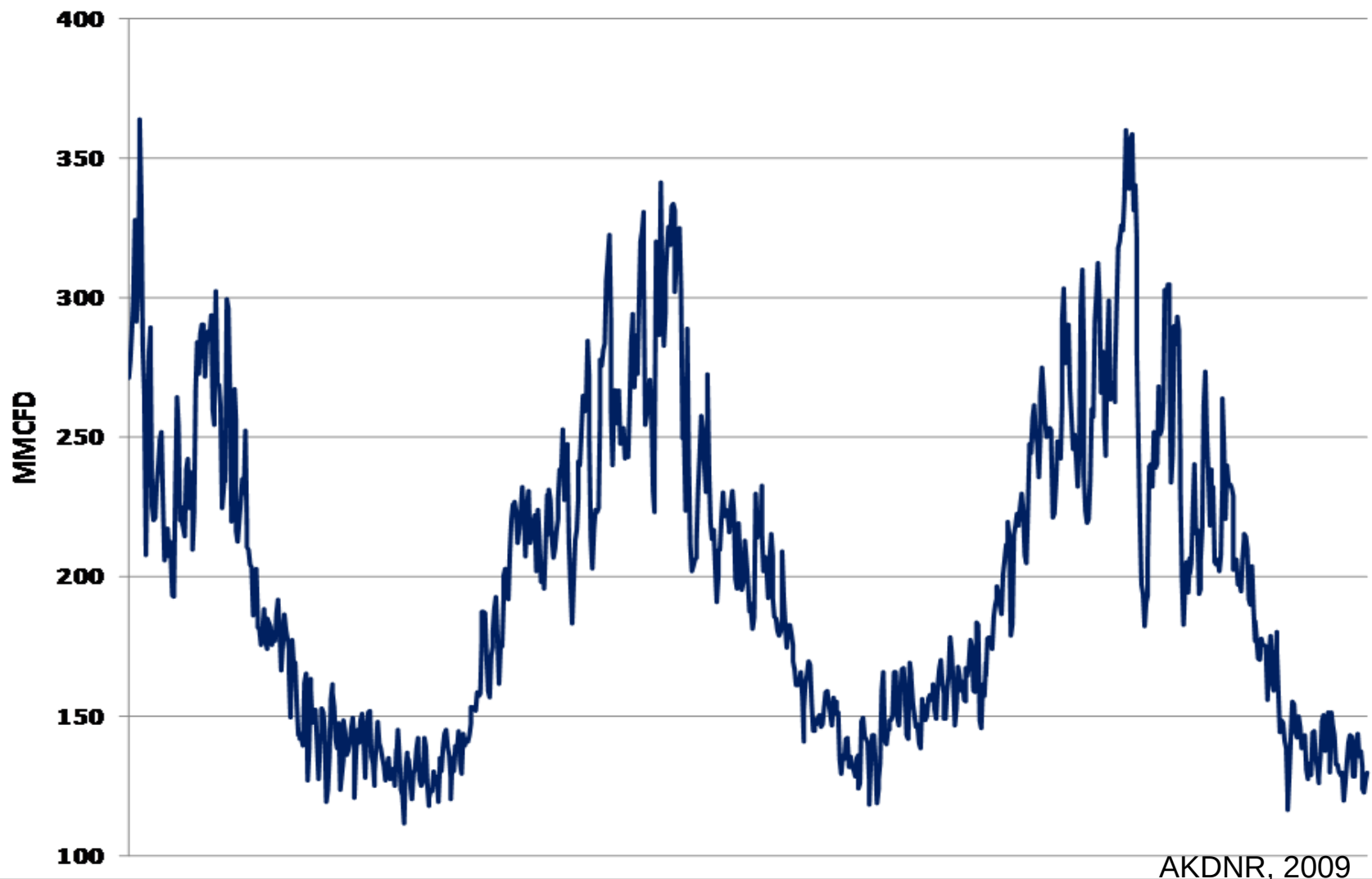


The Problem: Cook Inlet Production Forecast

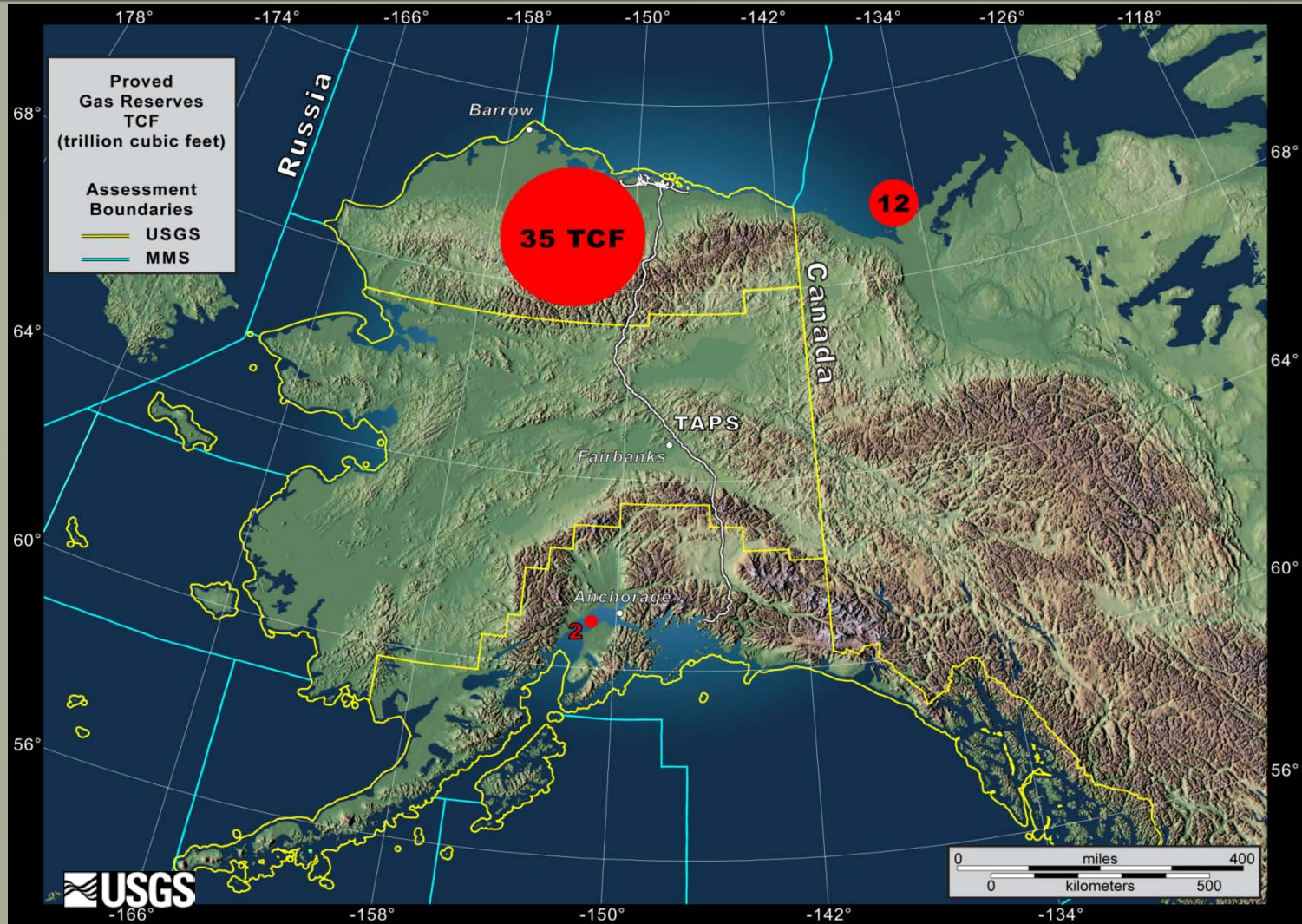


Division of Oil & Gas, Dec. 2009

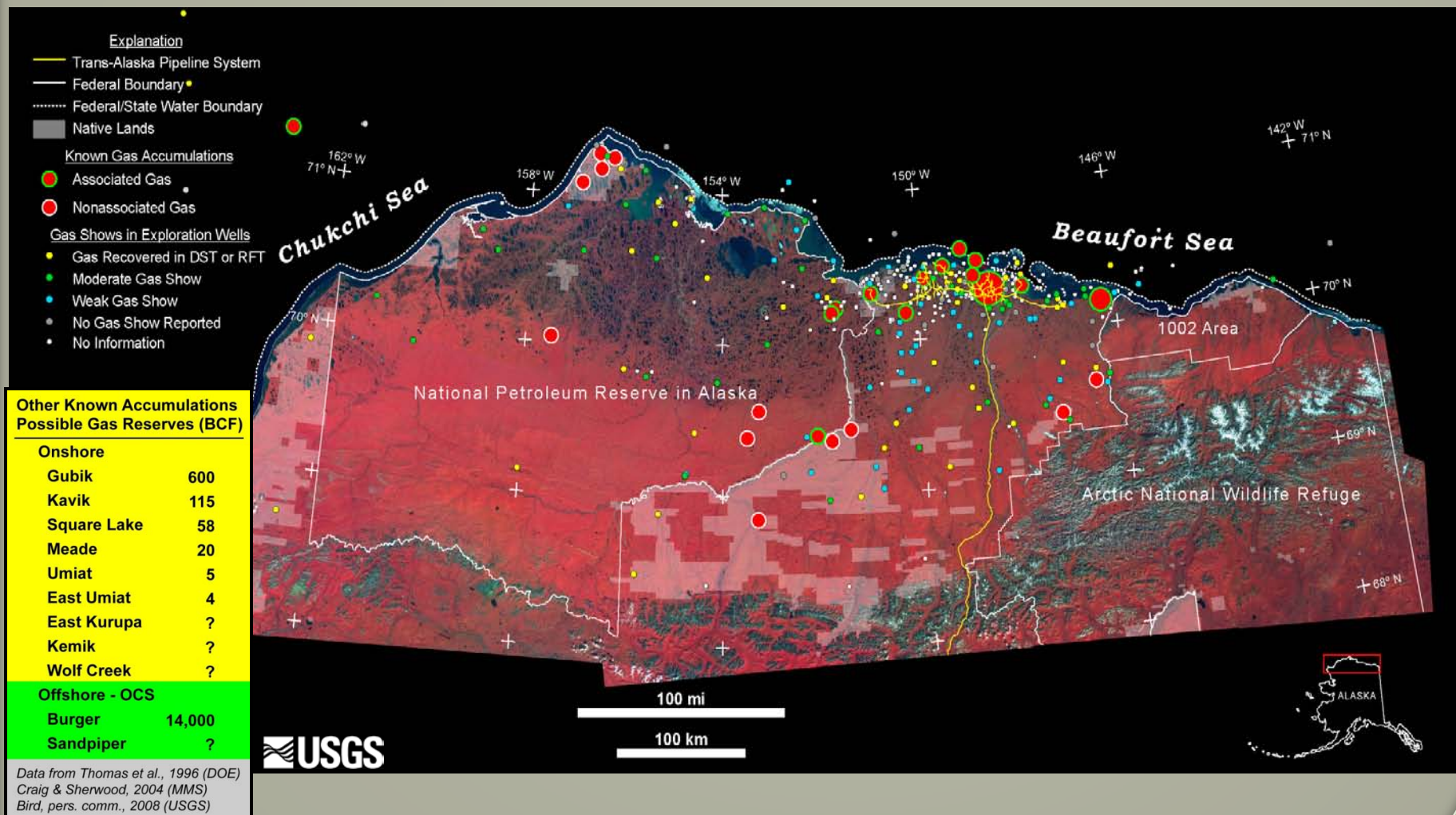
Historical Daily Gas Usage for Power and Heating in Southcentral Alaska



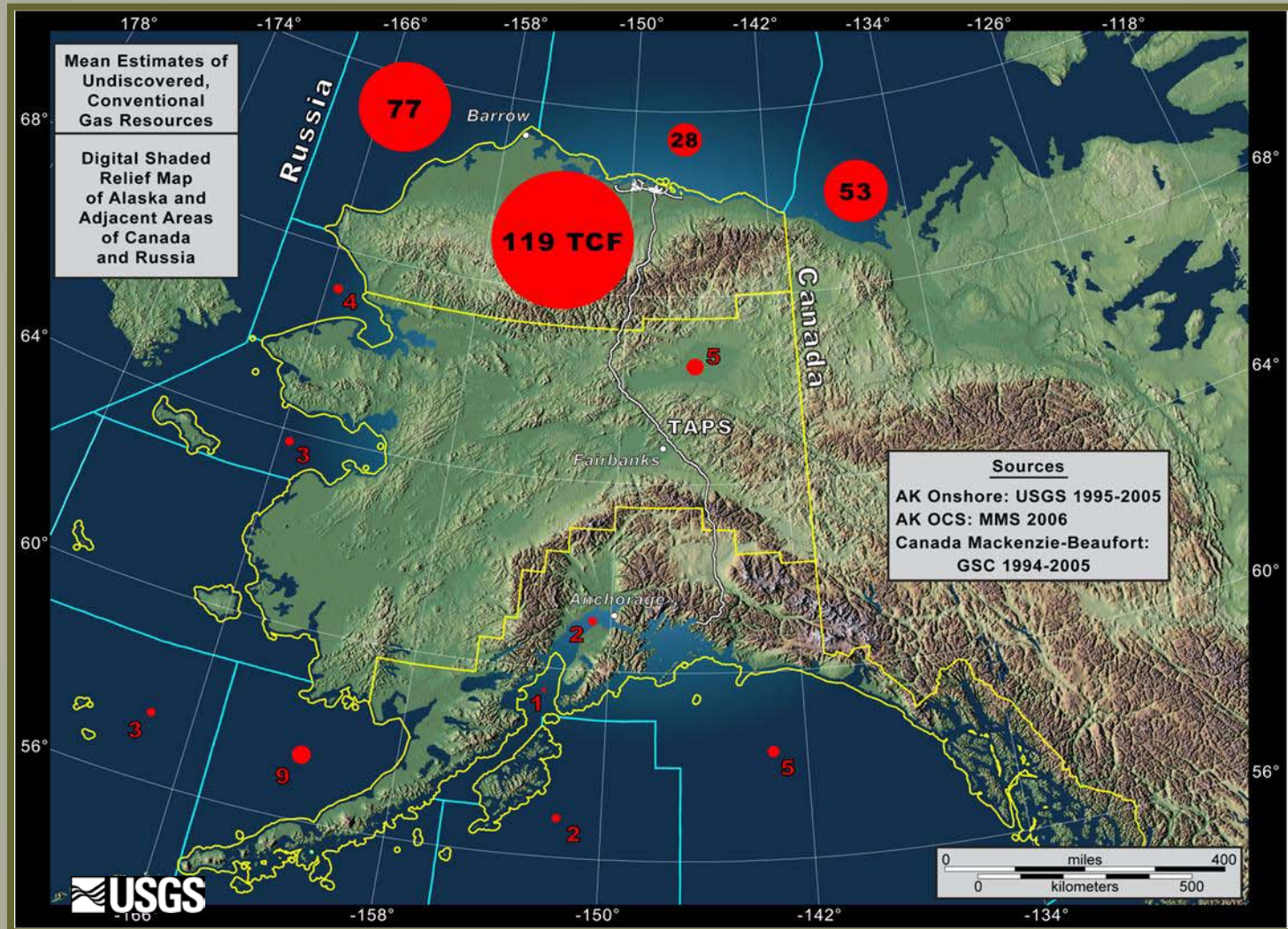
Potential Solution; Proven Gas Reserves



Known Gas Accumulations in Arctic Alaska

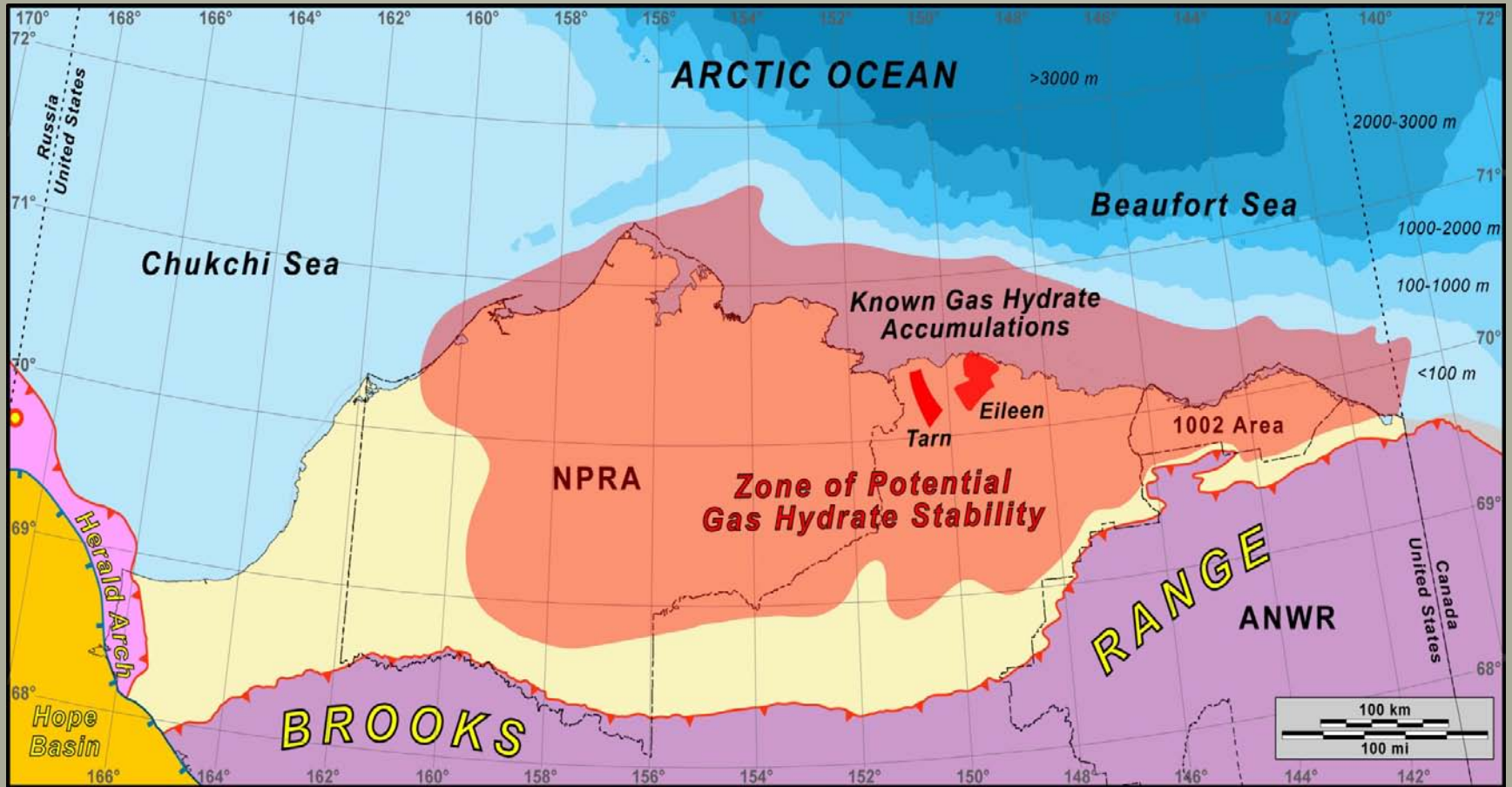


Undiscovered Conventional Gas Potential



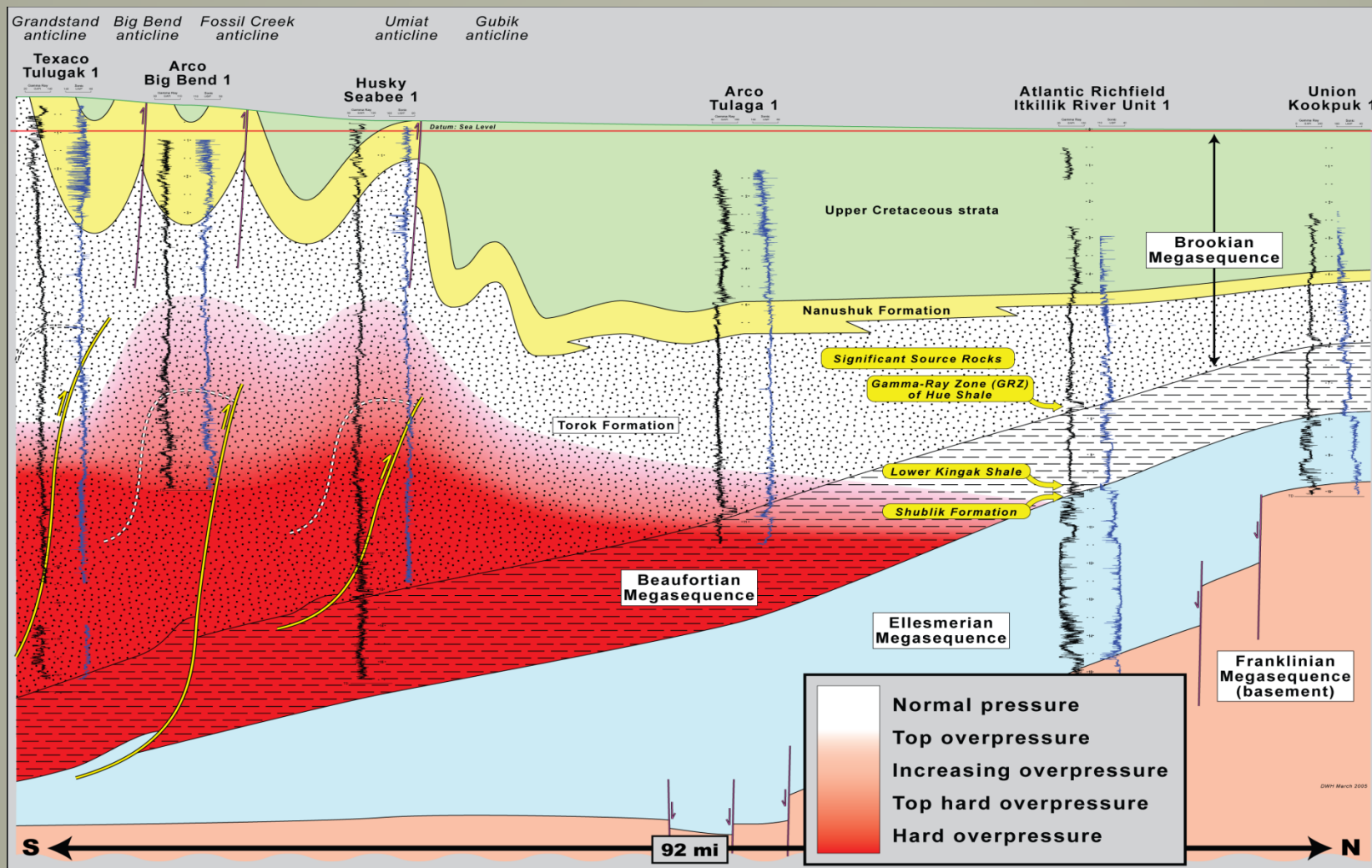
Gas Hydrates

Northern Alaska Zone of Potential Hydrate Stability



Information from Tim Collett (USGS)

Overpressured Natural Gas in the Colville Basin



In-state Gas Infrastructure

- ▲ Evaluate a stand alone gas pipeline project along the 'Bullet Line' route that transports gas from the North Slope to tidewater at Cook Inlet
- ▲ Work in parallel with large diameter and spur line efforts to keep all options open
- ▲ Reduce risk to in-state gas line projects by acquiring major permits, determining cost of transport, and economic analysis
- ▲ Prepare permit and data package to transfer project to pipeline developer

Work Completed

- ▲ Route Alternative Analysis - Parks and Richardson Highway routes:
 - ◆ Associated comparative pipeline cost estimates
 - ◆ Environmental Surveys
- ▲ Initial Project Description (for permitting)
- ▲ Commercial Group Scoping Document
- ▲ Initial Review of ENSTAR Capital Cost Estimate – Pipeline
- ▲ 3 Major permits applied for

Work Underway

- ▲ Updating pipeline cost estimates
- ▲ Developing cost of facilities
- ▲ Cost of transport analysis
- ▲ Preparing detailed project description
- ▲ Continued engineering support for EIS and ROW process
- ▲ Developing data package for cost of service analysis
- ▲ Work with commercial group and identify new market potential.

Cost of Transport Analysis

- ▲ 16 Material Balances
 - ◆ 4 Scenarios
 - ◆ 4 Flow Rates per scenario (250mmscfd each)
- ▲ Match Facility Component Cost to Each Balance
- ▲ Generate Annual Schedules for Capital Outlays, Revenues and Expenses
- ▲ Feeds Data To Economic Analysis

Four Scenarios Considered

Address costs of North Slope gas conditioning

▲ Scenario 1: Reference case

- ◆ Residue gas from the Prudhoe Bay Central Gas Facility (CGF)
- ◆ North Slope gas conditioning

▲ Scenario 2: Move conditioning off North Slope

- ◆ CGF residue gas
- ◆ Gas conditioning at Fairbanks and Cook Inlet
- ◆ CO₂ sequestered in Cook Inlet formations

Four Scenarios Considered

Address NGL transport

▲ Scenario 3: Transport utility grade gas

- ◆ CGF residue gas
- ◆ Conditioning and NGL extraction on North Slope with NGL returned to producers
- ◆ Commercial Group requested this scenario be addressed

▲ Scenario 4: Transport enriched gas

- ◆ Spike with NGL no longer required for enhanced oil recovery at Prudhoe Bay (33,000 bpd LPG in 2008)
- ◆ Export NGL in excess of in-state consumption

Four Flow Rates Per Scenario

Pipe inlet (MMscfd)	Compressor stations on 24-inch pipeline	Train size (MMscfd)	Trains added in 1 st year	Trains added in 2 nd year
250	None	250	1	0
500	2	250	1	1
750	5	375	1	1
975	11	500	1	1

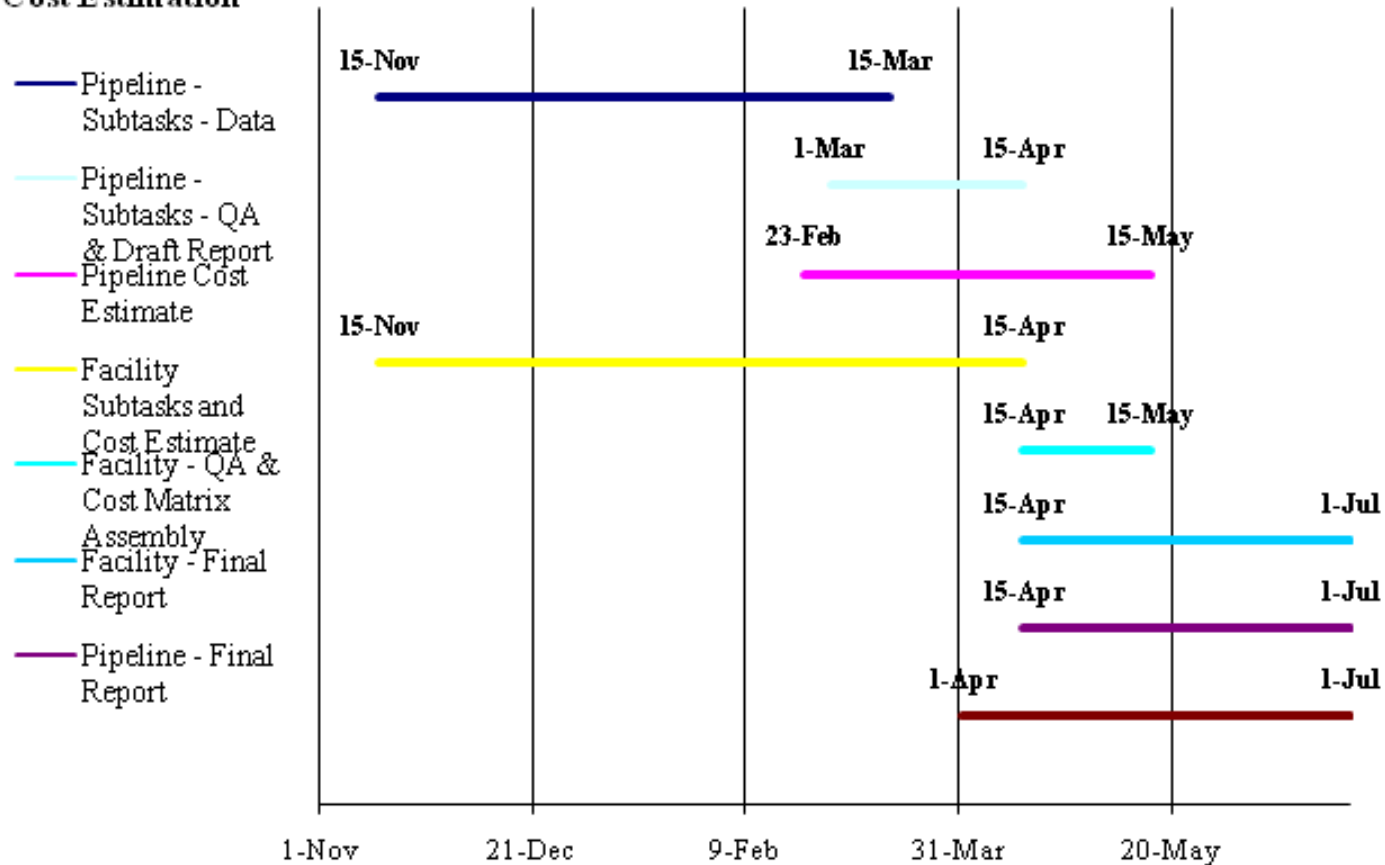
Cost of Service Analysis

- ▲ Cost of transport developed for all pipeline and facilities scenarios at various flow rates
- ▲ Cost of Service to the consumer – residential and/or industrial developed from those models
- ▲ Analyzed using an industry standard commercial model
- ▲ Includes commodity, transmission and distribution, and non-infrastructure components
- ▲ All inputs ranged or scenario based

Costing Work Schedule

Scope of Work Schedule

Cost Estimation



Permit Status

▲ U.S. Army Corps of Engineers Section 404/10

- ◆ Filed November 16, 2009
- ◆ Expect 404/10 permits shortly after NEPA Record of Decision

▲ State of Alaska Title 38 Right-of-Way

- ◆ Filed November 25, 2009
- ◆ Review timeline undefined

▲ Bureau of Land Management Right-of-Way

- ◆ Filed November 25, 2009
- ◆ Expect ROW approval shortly after NEPA Record of Decision

Environmental Field Programs

- ▲ To support permits
- ▲ To support EIS
- ▲ 2010 Program
 - ◆ Wetlands
 - ◆ Lake studies for water availability
 - ◆ Stream crossings and fisheries
 - ◆ Cultural resources

Time Line Goal

Stand Alone Gas Pipeline Project

Fast Track Schedule*

DRAFT

SCHEDULE	2009				2010				2011				2012				2013				2014				2015				2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Engineering Support																																
Design Basis	=>																															
Corridor Selection	=>																															
Conceptual Design	=>	=====																														
Alternatives Analysis		==																														
Project Description (filing)	=>	=====																														
Final Project Description					=====																											
Cost Estimate & Logistics	=>				=====																											
Project Documentation Package					=====																											
Permitting																																
COE 404					=====																											
Federal and State ROW					=====																											
Draft EIS						X																										
Final EIS							X																									
Additional Permits and NTP's					=====																											
Project Review & Sanction																																
Company Due Diligence								=====																								
Transfer of Permits								==																								
Project Sanction													X																			
Detailed Engineering Design																																
Pipeline								=====					=====				=====				=====			=====								
Facilities								=====					=====				=====				=====			=====								
Cost Estimate & Logistics													=====				=====				=====			=====								
GCP Construction																																
Order Equipment													X																			
Fabricate Modules																	=====				=====			=====								
Pre-construction Preparation																																
Module sea-lift																																
Install & Testing																																
Compressor Stations																																
Order Equipment													X																			
Fabricate Skids																	=====				=====			=====								
Pre-construction Preparation																																
Construction & Testing																																
Pipeline																																
Order Pipe and Valves													X																			
Pre-construction Preparation																	=====				=====			=====								
Construction & Testing																																
NGL Plant & Storage																																
Order Equipment													X																			
Fabricate Skids																	=====				=====			=====								
Pre-construction Preparation																																
Construction & Testing																																
Start-up																																
Start-up & Operations																																

* Assumes timely availability of fabrication facilities, equipment and craftsman for GCP

Questions/Comments