9-01-09 Presentation Cook Inlet Natural Gas

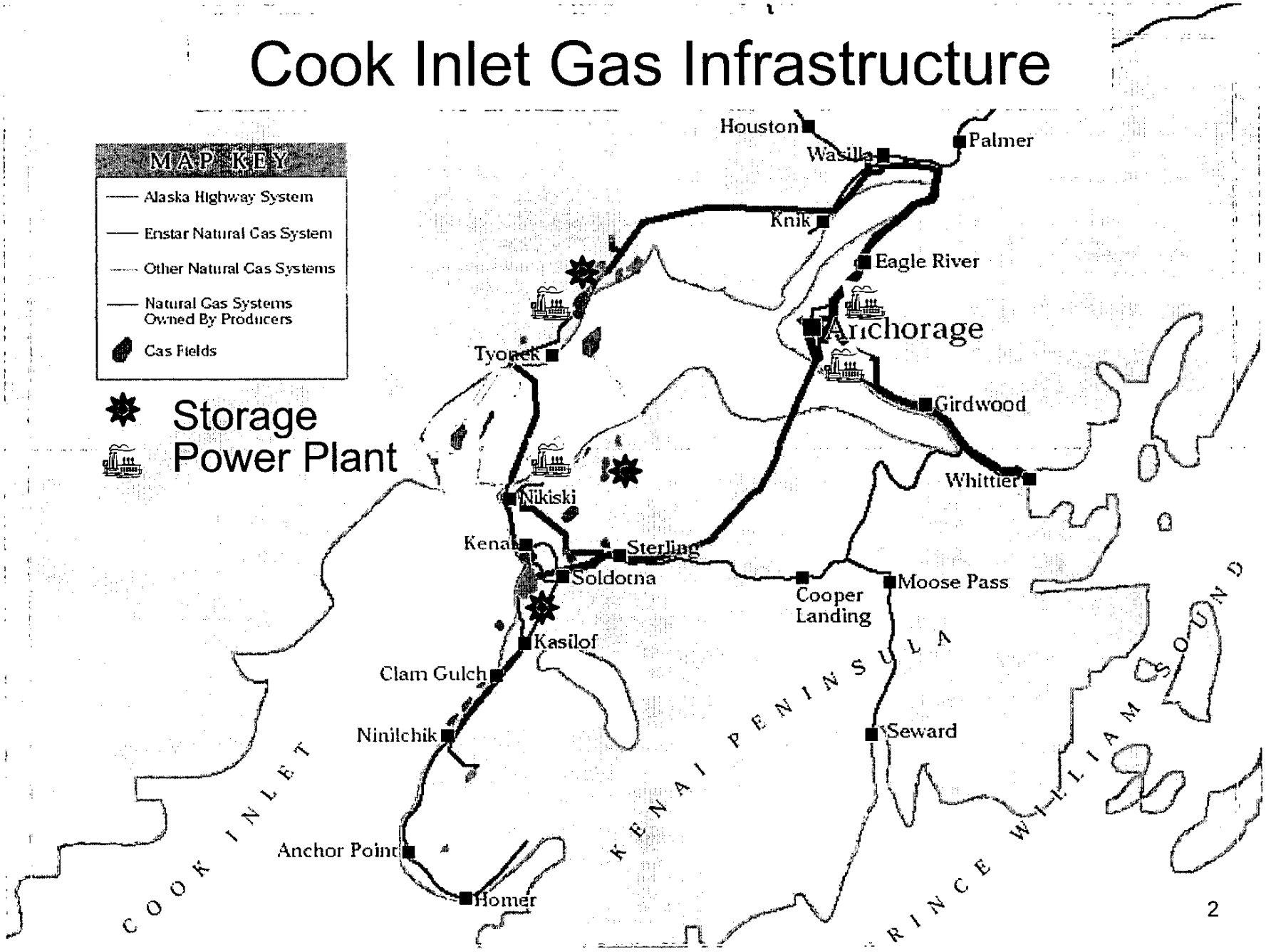
<target><bill></bill><subject>9-01-09 Presentation Cook Inlet Natural Gas</subject><comm>HENE26</comm></target>

ENSTAR
Natural Gas Company

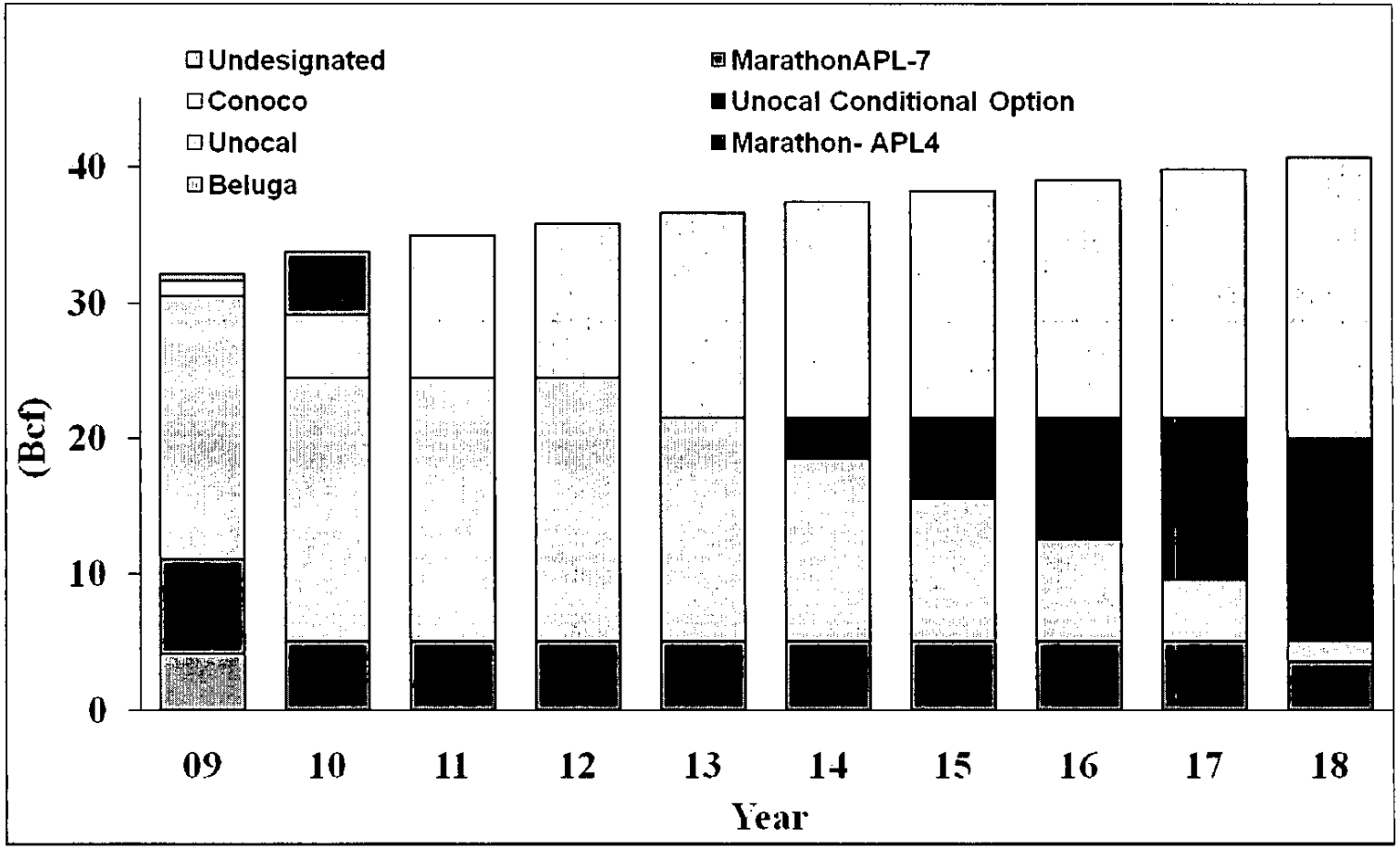
House Special Committee on Energy

September 1, 2009

Cook Inlet Gas Infrastructure



Gas Supply – Winter 2009/2010 Outlook



ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

Cook Inlet
Peak Day Comparison

	2/3/99	1/9/07	1/3/09
Average Temp	-19° F	-10° F	-11° F
On ENSTAR System	272	292	314*
Off ENSTAR System:			
CEA Beluga	83	83	60*
CEA/HEA Nikiski	14	12	12
Nikiski LNG	224	150	40
Fertilizer Plant	157	0	0
Other Industrials	13	6	14
Total Cook Inlet Deliverability Est.	763	543	440
Less Storage Volumes**	0	~43	~60
Well Supply	763	500	380

Volumes in MMcf

*CEA Beluga Received 20 MMcf from ENSTAR System

** Source DNR 3/17/09 House Energy Committee Presentation

ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

ENSTAR 2009/2010 Supply Portfolio

2009

- Beluga River Unit Producers
- ConocoPhillips
- Marathon APL-4
- Marathon APL-7
- Union

FORECASTED PEAK 270MMcfd

2010

- ConocoPhillips
- Marathon APL-4
- Marathon APL-7
- Union

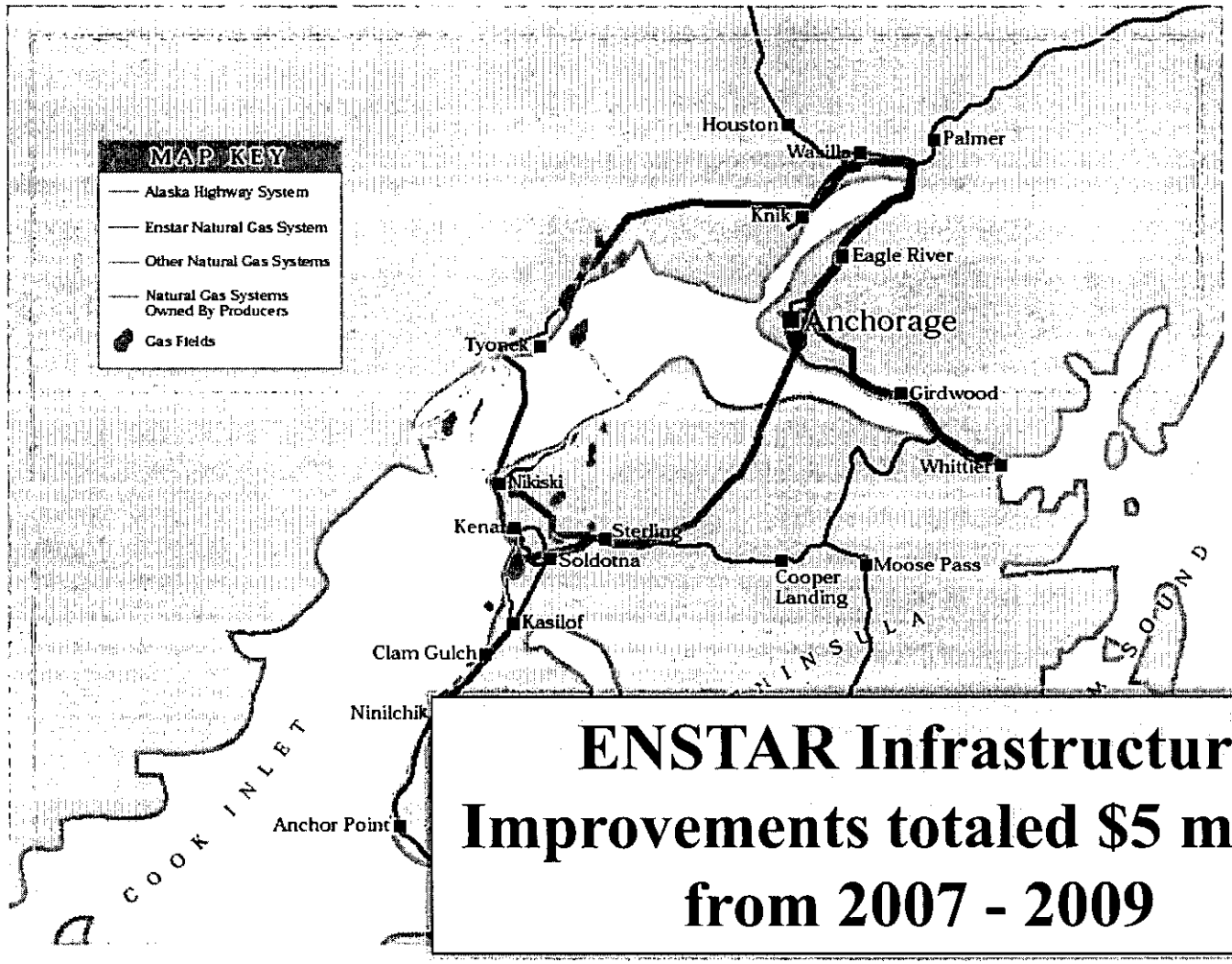
FORECASTED PEAK 282MMcfd

ENSTAR's requirements are contracted for until Dec 31, 2010

ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

ENSTAR System



ENSTAR Infrastructure Improvements totaled $5 million from 2007 - 2009

ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

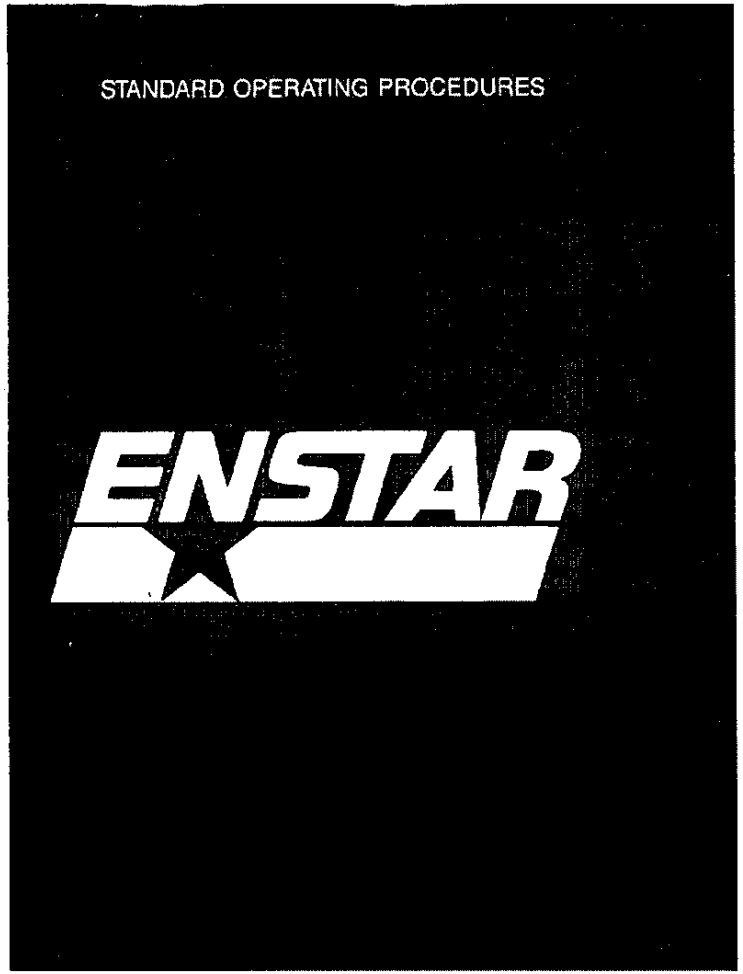
ENSTAR Operations

- ENSTAR staffed 24/7/365
  - Trained staff to respond to emergencies
- Central Operations center in Anchorage
  - Regional Offices in Soldotna & Wasilla
- Alternative Gas Control locations
  - Wasilla & Sterling
- Redundant Communications Network
- Equipment & Supplies pre-staged
  - Anchorage, Wasilla, Soldotna,& Sterling

ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

ENSTAR Standard Operating Procedures



OPERATIONS DEPARTMENT
STANDARD OPERATING PROCEDURES

TABLE OF CONTENTS

Updated: May 29, 2009

SOP NUMBER	REVISION NUMBER	Date Issued	TITLE	CFR 192 Procedure	This Procedure Applies to APC	ENSTAR	Fox Richardson (Dayon Utilities and Honeywell)
1000			General Information				
1	004	8/15/06	Procedure Manual Policy Statement	No	x	x	x
10	004	8/15/06	How to Use This Manual	No	x	x	x
15	005	8/15/06	How to Add, Change or Delete a Procedure	No	x	x	x
20	004	8/15/06	Operations Organization Chart	No	x	x	x
1100			Emergency Procedures/Safety				
1	004	8/15/06	Hazard Communication Program	No	x	x	x
5	014	8/15/06	ENSTAR Emergency Operating Plan	Yes	x	x	x
10	010	8/15/06	Reporting Incidents	Yes	x	x	x
15	004	8/15/06	Reporting Safety Related Conditions	Yes	x	x	x
20	002	8/15/06	Hearing Conservation Program	No	x	x	x
25	008	8/15/06	Operator Qualification Plan	Yes	x	x	x
30	003	8/15/06	Easement and ROW Safety	Yes	x	x	x
35	006	8/15/06	Respiratory Protection Standards	No	x	x	x
40	003	8/15/06	Lockout Tagout Procedures	No	x	x	x
45	003	8/15/06	Excavation Standards	No	x	x	x
50	004	8/15/06	Damage Response Procedures	Yes	x	x	x
55	003	8/15/06	Uniform Policy	No		x	
60	004	8/15/06	Customer and Emergency Response Official Education Program	Yes	x	x	x
62	003	5/29/09	Public Awareness Program	Yes	x	x	x
65	002	8/15/06	Customer Pipe Notification	Yes	x	x	x
70	002	8/15/06	Confined Space Entry Procedure	No	x	x	x
75	003	8/15/06	Oil Spill Reporting and Cleanup Procedures	No	x	x	x
85	003	8/15/06	Prevention of Accidental Ignition of Natural Gas	Yes	x	x	x
90	003	8/15/06	Eye Protection Policy	No	x	x	x
1200			Security				
1	002	8/15/06	Security Assessment and Security Plan	Yes	x	x	x
5	004	8/15/06	Unauthorized Natural Gas Usage Prevention and Handling Procedures	No	x	x	x
10	006	8/15/06	Security Practices for Valves, Regulator Stations and Metering Stations	Yes	x	x	x
1300			Engineering and Design				
5	004	8/15/06	Station and Valve Identification Numbering System	Yes	x	x	x
6	002	8/15/06	Operating Valve Maintenance Procedure	Yes	x	x	x
10	003	8/15/06	Transmission System Class Location and MAOP Review Procedures	Yes	x		
15	003	8/15/06	Engineering Records Retention Procedures	No	x	x	x
20	003	8/15/06	Expenditure Request	No	x	x	
1400			Damage Prevention				
1	005	8/15/06	Damage Prevention Program	Yes	x	x	x
5	006	8/15/06	Line locating Policy and Procedures	No	x	x	x
15	003	8/15/06	Routine Leak Surveying Procedure	Yes	x	x	x
20	011	5/29/09	Pipeline Surveillance and Patrol	Yes	x	x	x
25	005	8/15/06	Investigation of Accidents and Material Failures	Yes	x	x	x
30	003	8/15/06	Pipeline Markers	Yes	x	x	x
1500			Corrosion Control				
5	010	4/1/09	Corrosion Control Policy	Yes	x	x	x
1600			Gas Control				
1700			Gas Measurement and Regulation				
1	003	8/15/06	Safe Entrance to Gas Handling Facilities	No	x	x	x
5	004	8/15/06	Regulator Station Maintenance Procedure	Yes	x	x	
10	001	8/15/06	Periodic Meter Change-Out Program	No		x	
15	007	4/1/09	Meter Location Standards and Drawings	No		x	x
20	004	8/15/06	Natural Gas Odorant Handling Procedures	Yes	x	x	
30	002	8/15/06	Displacement Meter Handling Techniques	No	x	x	
35	001	8/15/06	Meter Control System	No		x	
1800			Compressor Stations				
5	004	8/15/06	Gusanet Compressor Station Operation	Yes	x		
10	003	8/15/06	Kalifornsky Compressor Station Operation	Yes	x		
15	002	8/15/06	Compressor Station Maintenance	Yes	x		
20	004	8/15/06	Compressor Station Tests and Inspections	Yes	x		

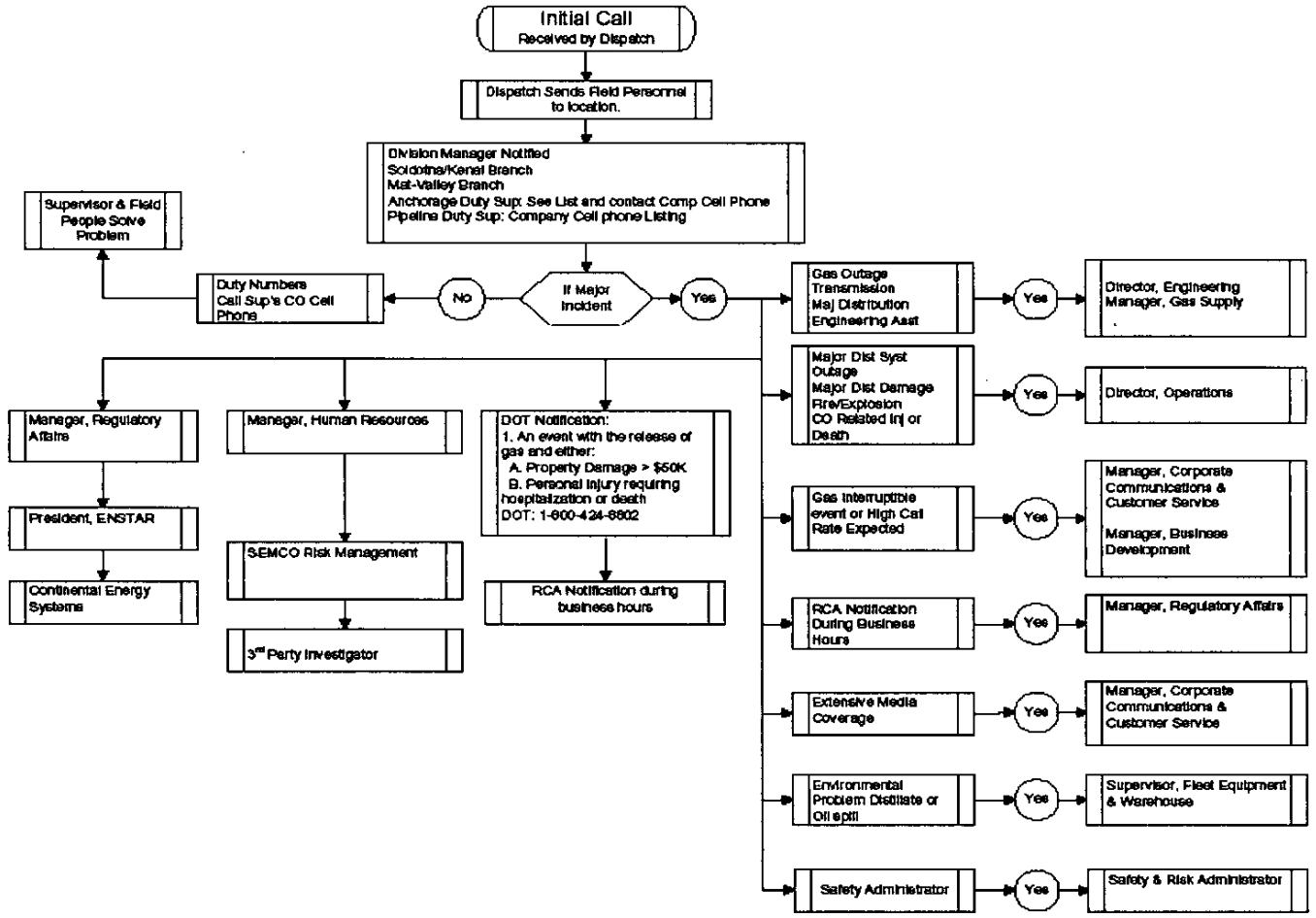
ENSTAR Natural Gas Company

All Our Energy Goes Into Our Customers

Standard Operating Procedures

- Comprehensive Review of Emergency Operating Plans
  - Gas Supply Disruption
  - Gas Leaks
  - Damages- contractors/homeowners
  - Natural Disasters
  - Fires
- Employee Training
  - Operator Qualifications Program
- PHMSA annually audits ENSTAR
  - Two audits successfully concluded early summer 2009

ENSTAR Emergency Response Call Tree*



*phone numbers redacted

Cook Inlet Gas Supply Coordination

- Primary utility users of gas

CHUGACH
POWERING ALASKA'S FUTURE

ENSTAR
Natural Gas Company

75 SEVENTY-FIVE YEARS
ML&P
ANCHORAGE, AK

- ENSTAR hosts Annual Shippers/Producers Meeting
- Shippers forecast demand
  - Annual/Monthly/Daily
- Daily nominations on ENSTAR Pipelines coordinated between
  - ENSTAR/Shipper/Supplier

Incident Management

Gas Supply Interruption

presented to:

House Special Committee on Energy

September 1, 2009

September 1, 2009

Railbelt Utility Coordination

The success of meeting the daily energy requirements of Southcentral Alaska requires the coordination of all Railbelt Utilities.

ENSTAR Natural Gas Company

MEA

GVEA

HEA Homer Electric Association, Inc.

CHUGACH POWERING ALASKA'S FUTURE

75 SEVENTY-FIVE YEARS ML&P ANCHORAGE, AK

September 1, 2009

Chugach Plans for Potential Events

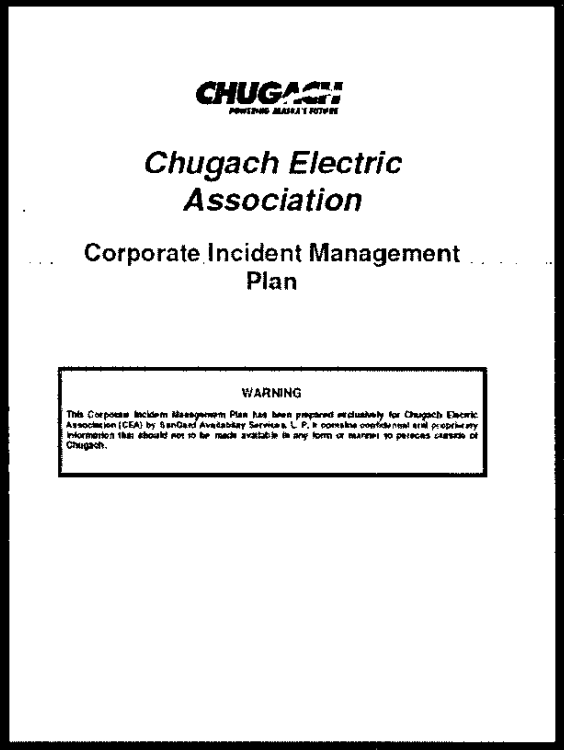
- Severe weather
- Avalanche
- Flood
- Accidental & Intentional damage
- Fire
- Dam breach
- Hazardous material release
- SCADA disruption
- Gas supply interruption
- Explosion
- Earthquake
- Wildlife
- Volcanic activity

September 1, 2009

Most Events do not Impact Consumers

- Knowledgeable and well-trained staff are available 24/7
- Redundancy and backup systems are designed into electric system
- System Operating rules maintain maximum flexibility
- Joint utility coordination reduces risks

Corporate Incident Management Plan Provides Incident Response Oversight



Chugach's Overall Incident Management Plan

- Incident notification
- Management reporting
- Management and incident team contact information
- Situation assessment & reporting
- Emergency operations center
- Damage assessment
- Salvage & restoration
- Transition from crisis-to-normal operations

September 1, 2009

Additional Chugach and Inter-Utility Plans

Chugach Plans

- Accounting Recovery Plan
- Member Services Recovery Plan
- Information Systems Disaster Recovery Plan
- Cooper Lake Hydro Incident Plan
- Volcano Preparedness Plan
- Alstom Strategic Alliance
- WESCO Strategic Alliance

Inter-Utility Plans

- Intertie Operating Committee and Sub-Committee Agreements
- Railbelt annual joint G&T planning
- Coordinated inter-utility assistance based on ASCC Mutual Assistance Agreement
- Gas coordination working group
- Statewide Operations Managers Group
- Enstar's tariff section 1200 – covering gas shortage cost sharing and a interruption program
- Alaska Partnership for Infrastructure Protection

September 1, 2009

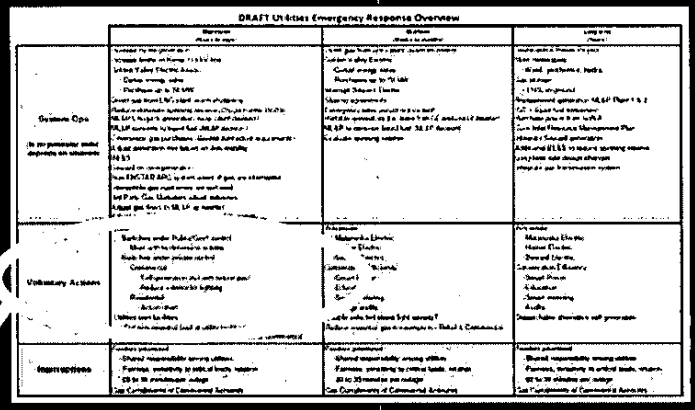
Gas Supply Interruption Incident Response Overview

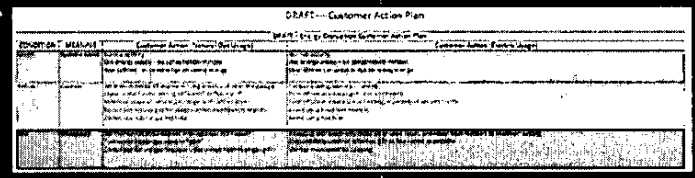
SHORT-TERM MID LONG

System Operations

Voluntary Consumer Response

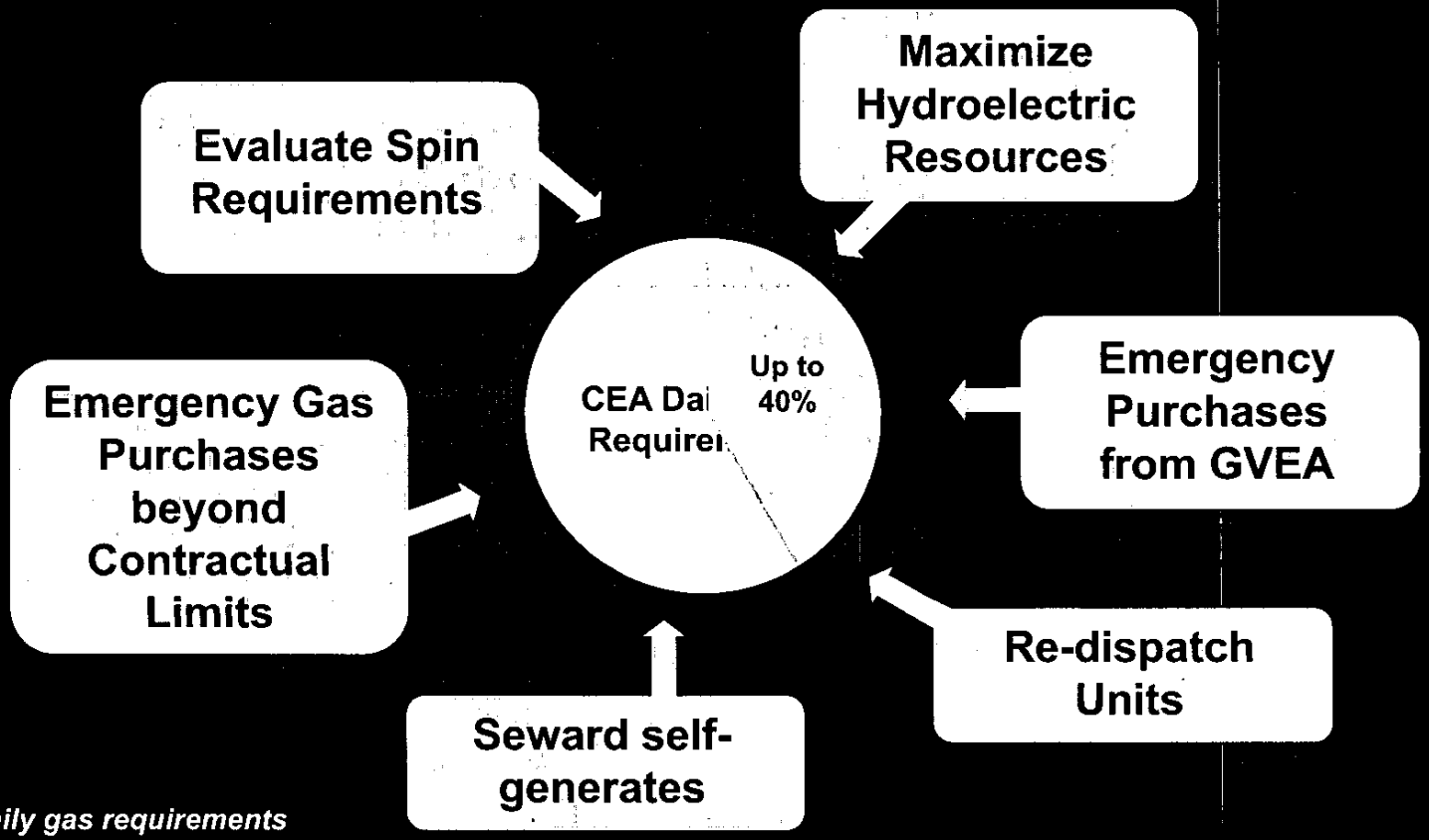
Consumer Interruptions





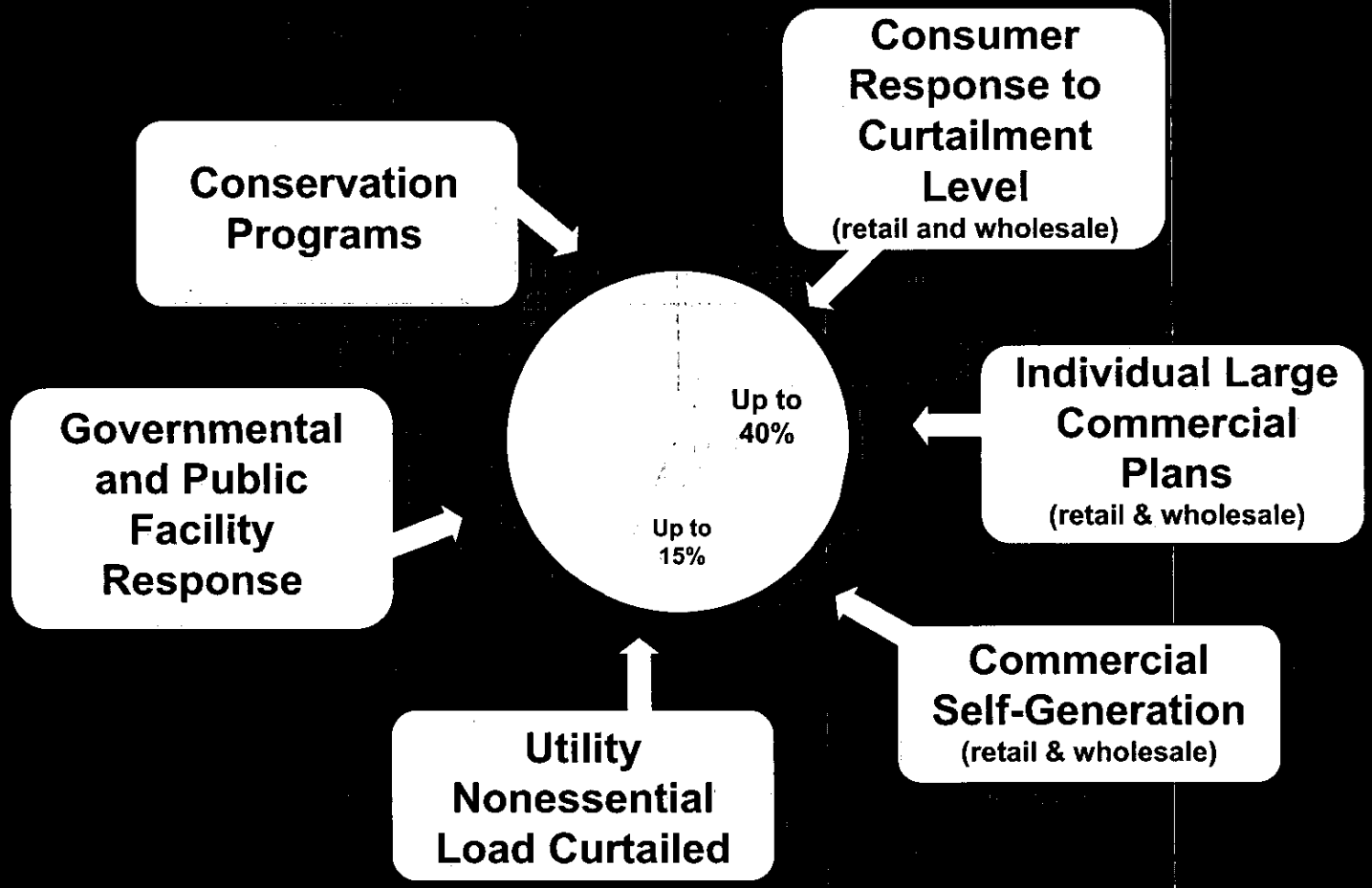
September 1, 2009

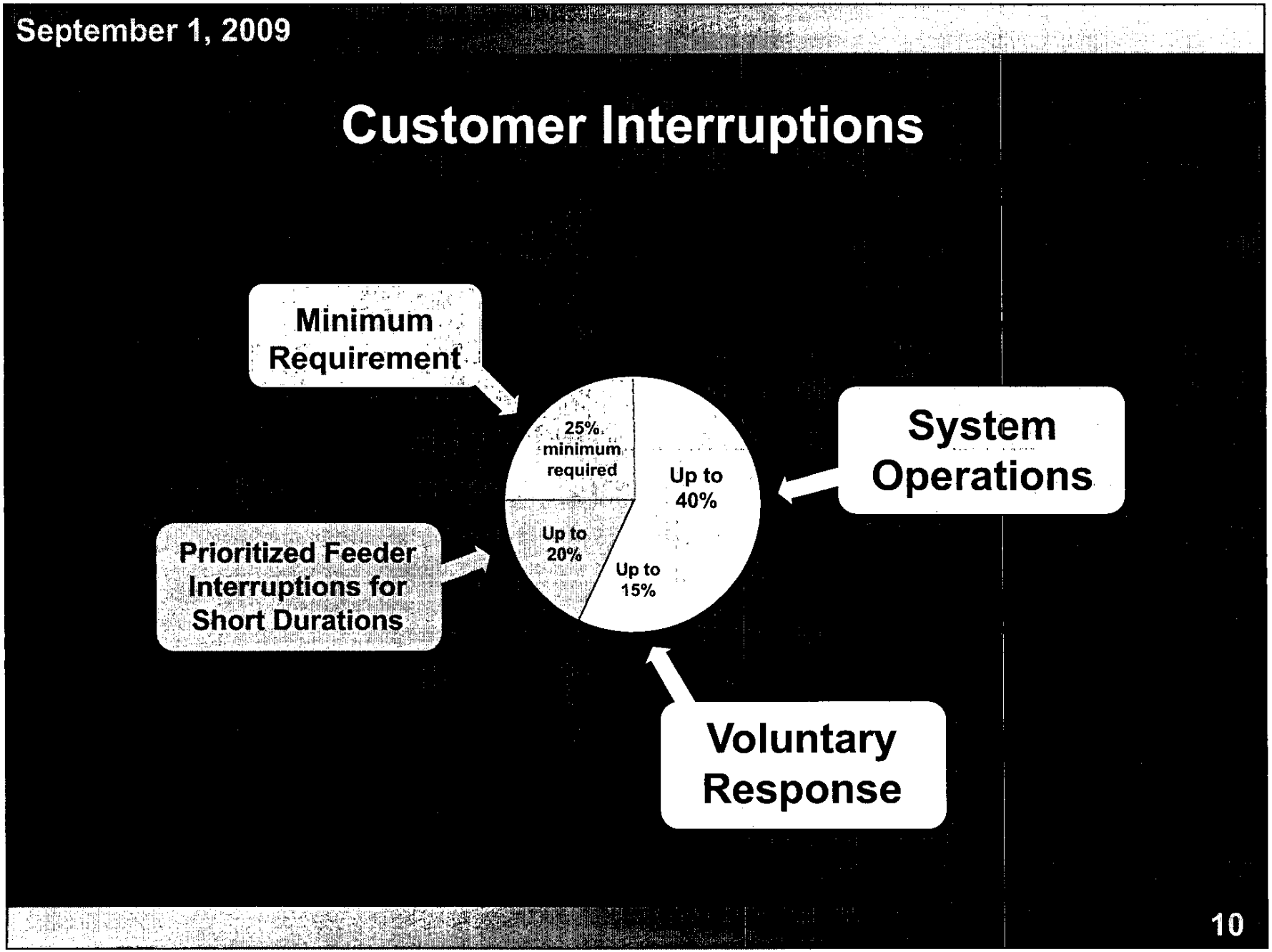
System Operations Response to a Gas Supply Interruption



** - CEA daily gas requirements include Chugach retail and wholesale members MEA, HEA and SES*

Voluntary Consumer Response to a Gas Supply Interruption




September 1, 2009
Customer Interruptions
Minimum Requirement
25% minimum required
Up to 40%
System Operations
Prioritized Feeder Interruptions for Short Durations
Up to 20%
Up to 15%
Voluntary Response
10

September 1, 2009

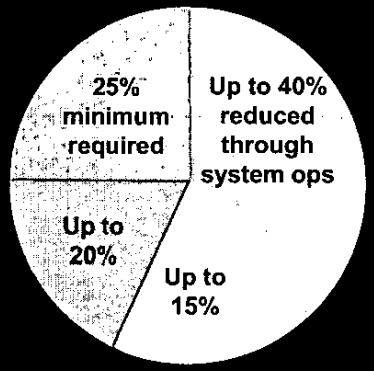
Daily Gas Peak Requirements & Potential Curtailments

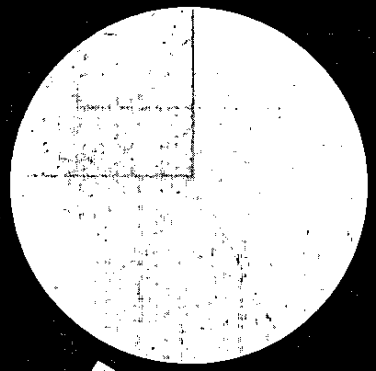
Utility	Daily Demand (mmcf/d)	% Curtailment	Curtailment (mmcf/d)
ML&P	38,000	~75%	~28,000
Chugach	95,000	~75%	~70,000
Enstar	270,000	~10%	~27,000
Total:	403,000	~31%	~125,000

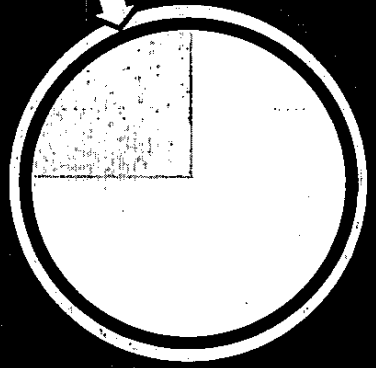
September 1, 2009

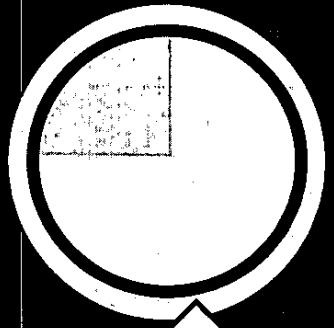
Looking Forward

Reducing Gas Demand









New Power Plants Reduce Fuel Reqs.

Liquid Fuel Operation & Natural gas Storage

Conservation, Efficiency Programs & Renewable Resources Reduce Fuel Reqs.

Next Steps

By September 30, 2009

- Conduct electric & gas utility tabletop exercise with system operators

Coordination with Municipality of Anchorage

- By September 18, 2009 - community education plan
- October 2009 - energy conservation month & notification of alert status
- October 2009 – conduct real-world test of voluntary curtailment
- By October 23, 2009 - complete MOA Emergency Action Plan
- By November 6, 2009 – MOA tabletop exercise
- By November 13, 2009 - review of MOA tabletop exercise and modify MOA Emergency Action Plan accordingly

DRAFT Utilities Emergency Response Overview

	Short-term *(Hours to days)*	Mid-term *(Weeks to months)*	Long-term *(Years)*
System Ops **(In no particular order, depends on situation)**	Increase hydro generation Increase limits on Kenai 115 kV line Golden Valley Electric Assoc. - Curtail energy sales - Purchase up to 70 MW Divert gas from LNG plant *(warm shutdown)* Reduce/eliminate spinning reserve *(Chugach arms SILOS)* ML&P/Chugach generation swap *(Joint decision)* ML&P converts to liquid fuel *(ML&P decision)* Emergency gas purchases *(Beyond contractual requirements)* Adjust generation mix based on deliverability BESS Seward on own generation Non-ENSTAR/APC system users of gas are interrupted Interuptible gas customers are curtailed 3rd Party Gas Marketers adjust deliveries Adjust gas flows to ML&P as needed Adjust gas delivery points based on deliverablity	Divert gas from LNG plant *(warm shutdown)* Golden Valley Electric -Curtail energy sales -Purchases up to 70 MW Seward on own generation Sharing agreements Emergency rates *(would require tariff)* Portable generators *(i.e. lease from GE and use oil bladder)* ML&P to continue liquid fuel *(ML&P decision)* Evaluate spinning reserve	Southcentral Power Project Replacement generation ML&P Plant 1 & 2 More renewables -Wind, geothermal, hydro Gas storage - LNG, in-ground IGT – liquid fuel conversion Purchase power from GVEA Cook Inlet Resource Management Plan Intergrate Seward generation Additional BESS to reduce spinning reserve Long-term rate design changes Integrate gas transmission system
Voluntary Actions	Retail -Switches under Public/Gov't control -Meet with to determine actions -Switches under private control Commercial -Self-generation *(not with natural gas)* -Reduce exterior/lot lighting Residential -Action chart Utilities own facilities -Cut non-essential load at utility facilities Reduce non essential gas consumption - Retail & Commercial	Wholesale -Matanuska Electric -Homer Electric -Seward Electric Conservation/Efficiency -Smart Power -Education -Smart metering -Energy audits Disable selected street light circuits? Reduce essential gas consumption - Retail & Commercial	Wholesale -Matanuska Electric -Homer Electric -Seward Electric Conservation/Efficiency -Smart Power -Education -Smart metering -Audits Dispatchable alternative self-generation
Interruptions	Feeders prioritized -Shared responsibility among utilities -Fairness, sensitivity to critical loads, rotation -20 to 30 minutes per outage Gas Curtailments of Commercial Accounts	Feeders prioritized -Shared responsibility among utilities -Fairness, sensitivity to critical loads, rotation -20 to 30 minutes per outage Gas Curtailments of Commercial Accounts	Feeders prioritized -Shared responsibility among utilities -Fairness, sensitivity to critical loads, rotation -20 to 30 minutes per outage Gas Curtailments of Commercial Accounts

Revised 8/26/2009

Energy Policy for Alaska

Presented by:
Chris Rose, Renewable Energy Alaska Project
Bill Popp, Anchorage Economic Development Corporation
The House Energy Committee
November 17, 2009

The Stakeholder Advisory Panel

- Rep. Bryce Edgmon & Rep. Charisse Millett, House Energy Committee Co-Chairs
- Adam Berg, Jeff Turner & Larry Persily, Legislative Staff
- Gwen Holdmann, Alaska Center for Energy & Power
- Robert Venables, Southeast Conference
- Scott Goldsmith, ISER
- Jason Brune, RDC
- John Davies, Alaska Cold Climate Housing Research Center
- Ralph Anderson, Bristol Bay Native Association
- Bill Popp, AEDC
- Bob Pawlowski, Denali Commission
- Denali Daniels, Denali Commission
- Caitlin Higgins, Alaska Conservation Alliance
- Stacy Schubert, Municipality of Anchorage
- Marilyn Leland, Alaska Power Authority
- Meera Kohler, Alaska Village Electric Cooperative
- Ron Miller, Energy Consultant
- Chris Rose, REAP

The Purpose

- To develop a statewide energy policy as the basis for a long-term vision to address Alaska's energy challenges and opportunities
- Through adopted policy, align state government in a unified set of strategic goals for the State of Alaska
- Lead to the development of a comprehensive energy plan to achieve the strategic goals of the State of Alaska

The Key Steps

1. **Establish the Energy Policy**
2. **Develop Strategic Goals**
3. **Create the Plan to Achieve the Goals**
4. **Implement Programs and Projects**

Principles Guiding the Process

- The future success of Alaska's statewide economy is tied to available, reliable, and affordable energy for:
  - Residential users
  - Commercial users
  - Industrial users
- Worldwide supply and demand for fossil fuels and concerns about global climate change will affect the price of fossil fuels in the future

The Starting Point of the Policy

- Tri-Borough Commission Energy Policy
  - Matanuska-Susitna Borough Mayor Curt Menard
  - Municipality of Anchorage Mayor Mark Begich
  - Kenai Peninsula Borough Mayor John Williams
- Established a diverse 13 member task force to develop proposed energy policy in October, 2007
- Adopted Southcentral region energy policy proposal February 7, 2008
- **The House Energy Policy Stakeholders Advisory Panel agreed that many of the principles in this policy could be applied statewide**

The Fundamentals of the Policy

- Promotes energy efficiency and conservation
- Promotes development of renewable and non-renewable energy resources
- Promotes economic development through cost-effective, long-term sources of energy for communities statewide
- Supports energy research, education, and workforce development
- Supports coordination of governmental functions and promotes streamlining of regulatory processes, avoiding duplication of effort, and overall coordination of effort by all levels of government

The Key Steps Going Forward

1. **Establish the Energy Policy**
2. **Develop Strategic Goals**
3. **Adopt the Plans to Achieve the Goals**
4. **Implement Programs and Projects**


Thank You!

DRAFT----Customer Action Plan

DRAFT - Energy Disruption Customer Action Plan			
CONDITION	**MEANING**	**Customer Action (Natural Gas Usage)**	**Customer Action (Electric Usage)**
Green	Systems Good	Normal activity Use energy wisely – Be conservation-minded Your utilities can provide tips on saving energy	Normal activity Use energy wisely – Be conservation-minded Your utilities can provide tips on saving energy
Yellow	Caution	Set thermostat to 65 degree in living areas, and 40 in the garage Lower water heater setting to "warm" or "vacation" Minimize usage of natural gas range, and clothes dryer Do not use natural gas fire places, decorative heaters or grills. Do not use natural gas hot tubs	Postpone doing laundry or dishes Turn off unnecessary lights and electronics Turn off unnecessary space heating, especially in unused rooms Avoid using head bolt heaters Avoid using hot tubs
Red	Emergency	Set thermostat at 60 degrees in living areas (55 if away) Turn water heater gas valve to "pilot" Do not use natural gas fireplaces, decorative heaters or gas grills	If heating with electricity, close off unused rooms and lower heat registers to minimum setting Consolidate household activities into as few rooms as possible Use the microwave for cooking

8/25/20092:52 PM

1592

COMMONWEALTH
NORTH

Energy for a Sustainable Alaska: the Railbelt Predicament

Testimony before House Energy Committee

04/01/10

Study Group Chairs

Mary Ann Pease & David Wight

Study Group Members

Nils Andreassen
Institute of the North
Chris Birch
NANA Development Corp
Hallie Bissett
BP Exploration Alaska
Deborah Brollini
Alaska Native Tribal Health Consortium
Patrick Burden
Northern Economics
Katie Conway
Brian Davies
Davies Consulting
Brit DelMoral
Daniel Dieckgraeff
ENSTAR Natural Gas Company
Pat Doyle
Anchorage Daily News
Jim Egan
Commonwealth North
Carl Ekstrom
Anchorage Community Development
Joe Farrell
ConocoPhillips Alaska
Therese Gramercy
TGML Publications

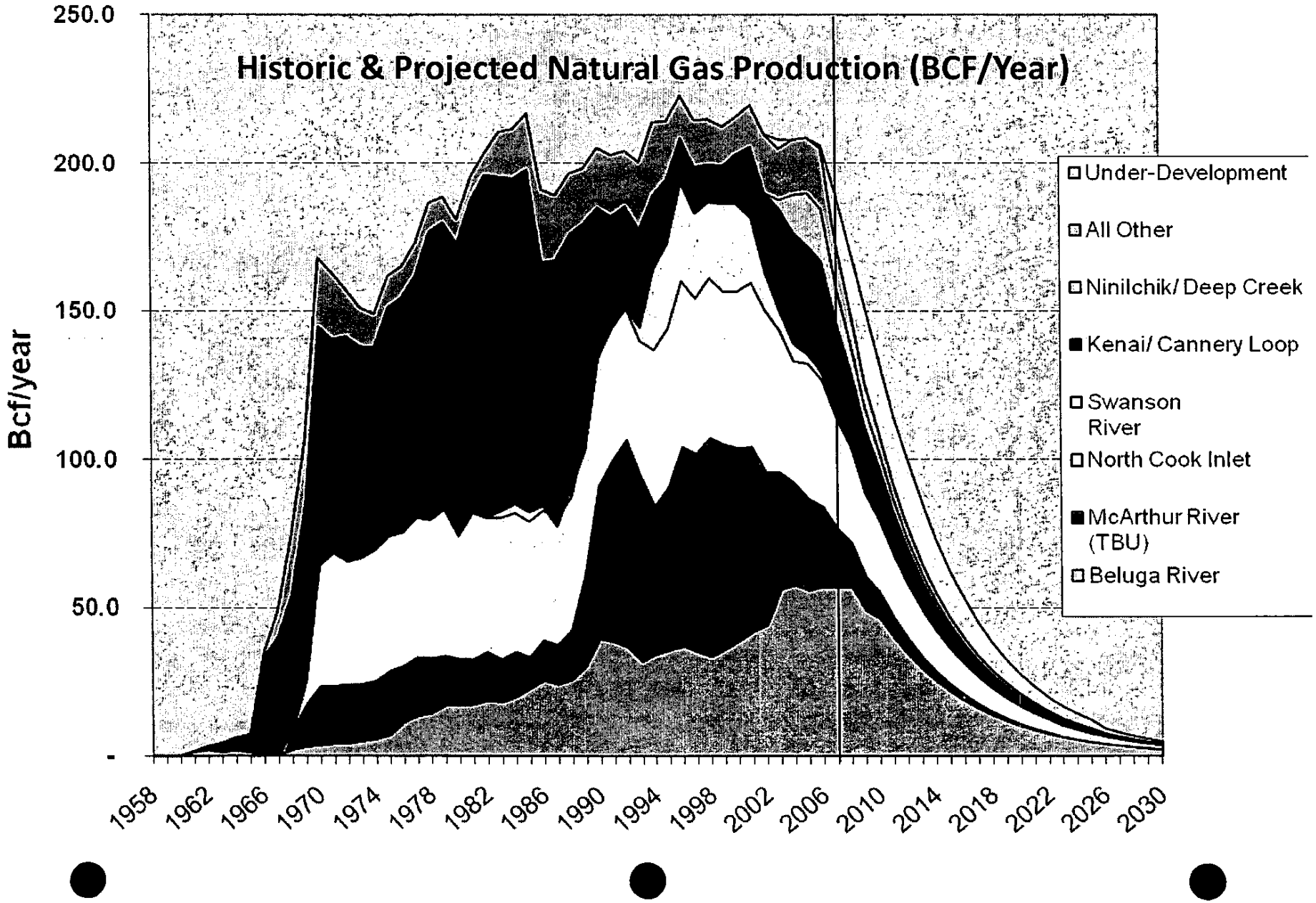
Joe Griffith
Matanuska Electric Association
Harold Heinze
Alaska Natural Gas Development Authority
James Hemsath
Alaska Industrial Development and Export Authority
Carolyn Heyman-Layne
Sedor, Wendlandt, Evans & Filippi LLC
Scott Heyworth
Alaska Natural Gas Development Authority
David Hudspeth
Abacus Finance Ltd.,
Grant Hunter
Grant W. Hunter JD MLS
Anthony Izzo
TMi Consulting
Lonnie Jackson
Rural Energy Enterprises
Wilson Justin
Mt. Sanford Tribal Consortium
Brad Keithley
Perkins Coie LP
Elizabeth Kennedy
Meera Kohler
Alaska Village Electric Co-op, Inc.

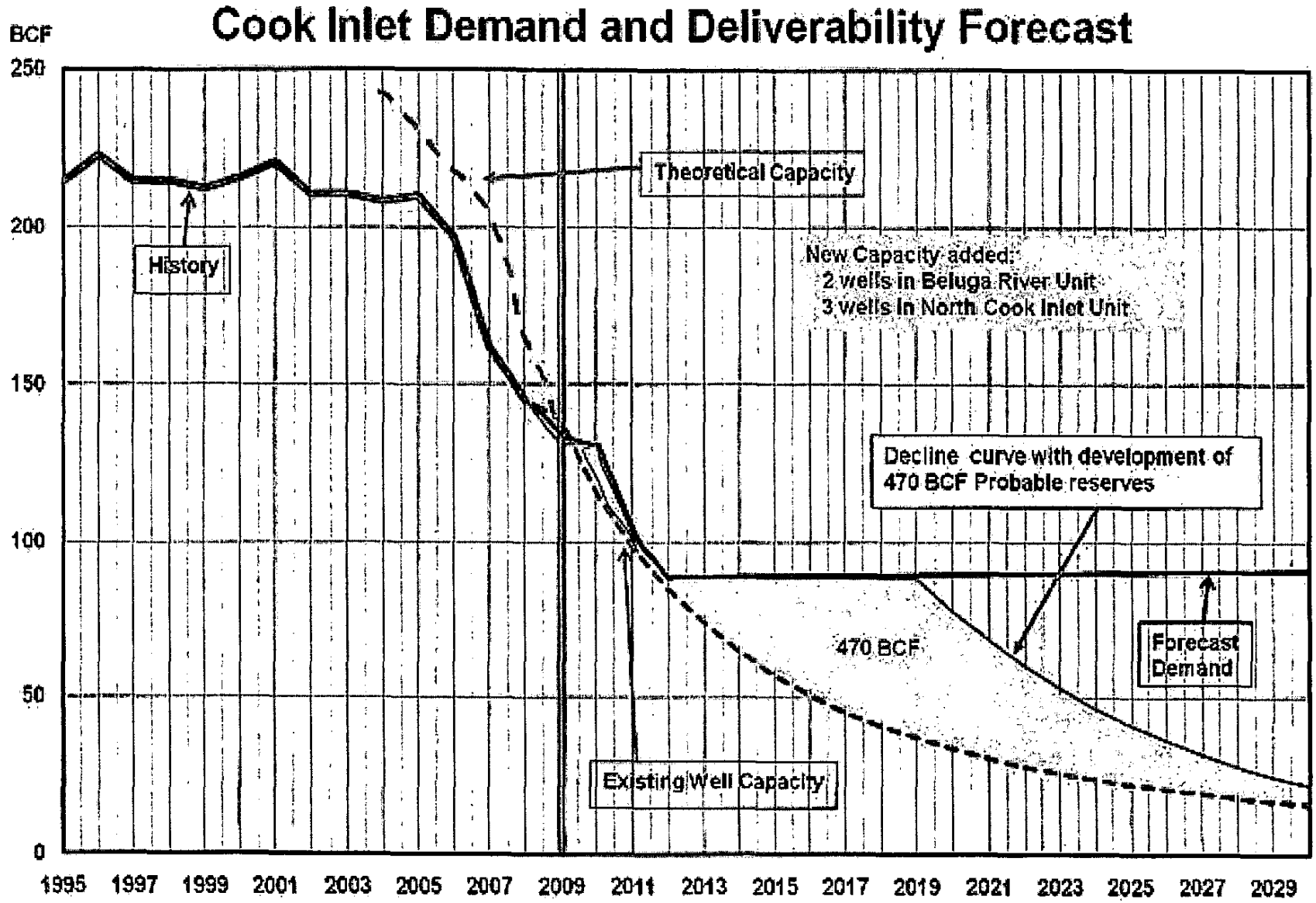
Marilyn Leland
Alaska Power Association
David Marquez
NANA Development Corp
Chris Menefee
Hoefler Consulting Group
Andrew Niemiec
Knik Arm Bridge and Toll Authority
Arden Page
James Posey
Municipal Light & Power
Peter Raiskums
Denali Alaska FCU
Ashley Schmiedeskamp
Cook Inlet Region, Inc.
Debra Schnebel
Scott Balice Strategies
Lee Schoen
SeaWolf Consultants
Colleen Soberay
Ch2M HILL, Inc.
Jerry Strang
Nick Szymoniak
Enstar Natural Gas
Tim Wiepking
Richard Wilson
Richard G. Wilson and Associates

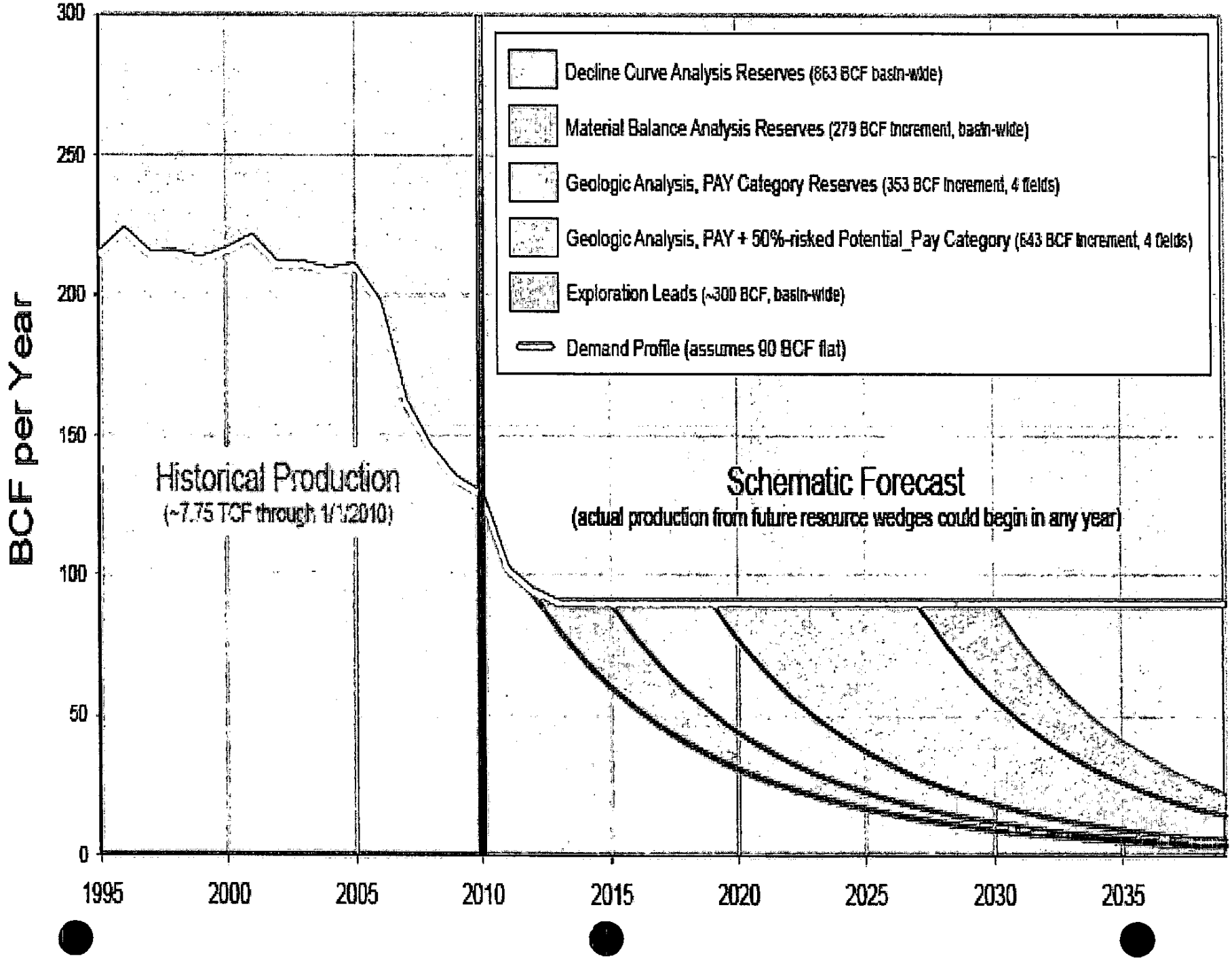
Committee Presentations

March 26, 2009 – Initial Meeting
April 10, 2009 – **Harry Noah** (Governor's Director of In-State Gas Pipelines)
April 24, 2009 – **Steve Haagenson** (Executive Director of AIDEA Energy)
May 1, 2009 – **Dan Clark** (ConocoPhillips)
May 8, 2009 – **Debra Schnebal** (Public/Private Partnerships)
May 22, 2009 – **Colleen Starring** (ENSTAR)
June 5, 2009 – **Carri Lockhart** (Marathon)
June 12, 2009 – **Dan Seamount** (Experienced Cook Inlet Exploration geologist)
June 19, 2009 – **Robert Pickett** (Regulatory Commission of Alaska)
June 26, 2009 – **Kurt Gibson** (Department of Natural Resources, Division of Oil and Gas)
July 10, 2009 – **John Lau** (ENSTAR) "Bullet Line" Gas Pipeline
July 17, 2009 – **Steve Gilbert** (Alaska Wind Energy)
August 7, 2009 – **Kate Giard & Tony Price** (Regulatory Commission of Alaska)
August 14, 2009 – **Don Anderson** (nuclear energy alternatives)
August 21, 2009 – **Scott Waterman** (Alaska Housing Finance Corporation)
August 28, 2009 – **Nick Goodman** (TDX Power) & **Bryan Carey** (AEA & AIDEA)
September 4, 2009 – **Daniel Patrick** O'Tierney (Chief Assistant Attorney General RAPA)
October 9, 2009 – **Mary Ann Pease** (MAP Consulting/Propane Project)
October 16, 2009 – **James Strandberg** (Alaska Energy Authority)
October 23, 2009 – **Kevin Banks** (Kevin Banks, Director of the Division of Oil and Gas)
November 11, 2009 – **Gene Therriault** (Governor's Chief Energy Advisor)
November 20, 2009 – **Meera Kohler** (President and CEO Alaska Village Electric Cooperative)
December 4, 2009 – **Roger Marks** (President of the Anchorage Chapter of the US Association for Energy Economics)
December 11, 2009 – **Kevin Harper** (Program Manager, Black & Veatch - GRETC)
January 8, 2010 – **Rebecca Logan** (Chairman, Chugach Electric Association) & **Representative Charisse Millett**
January 28, 2010 – **Harold Heinze** (CEO, Alaska Natural Gas Development Authority)

The Southcentral Gas Predicament

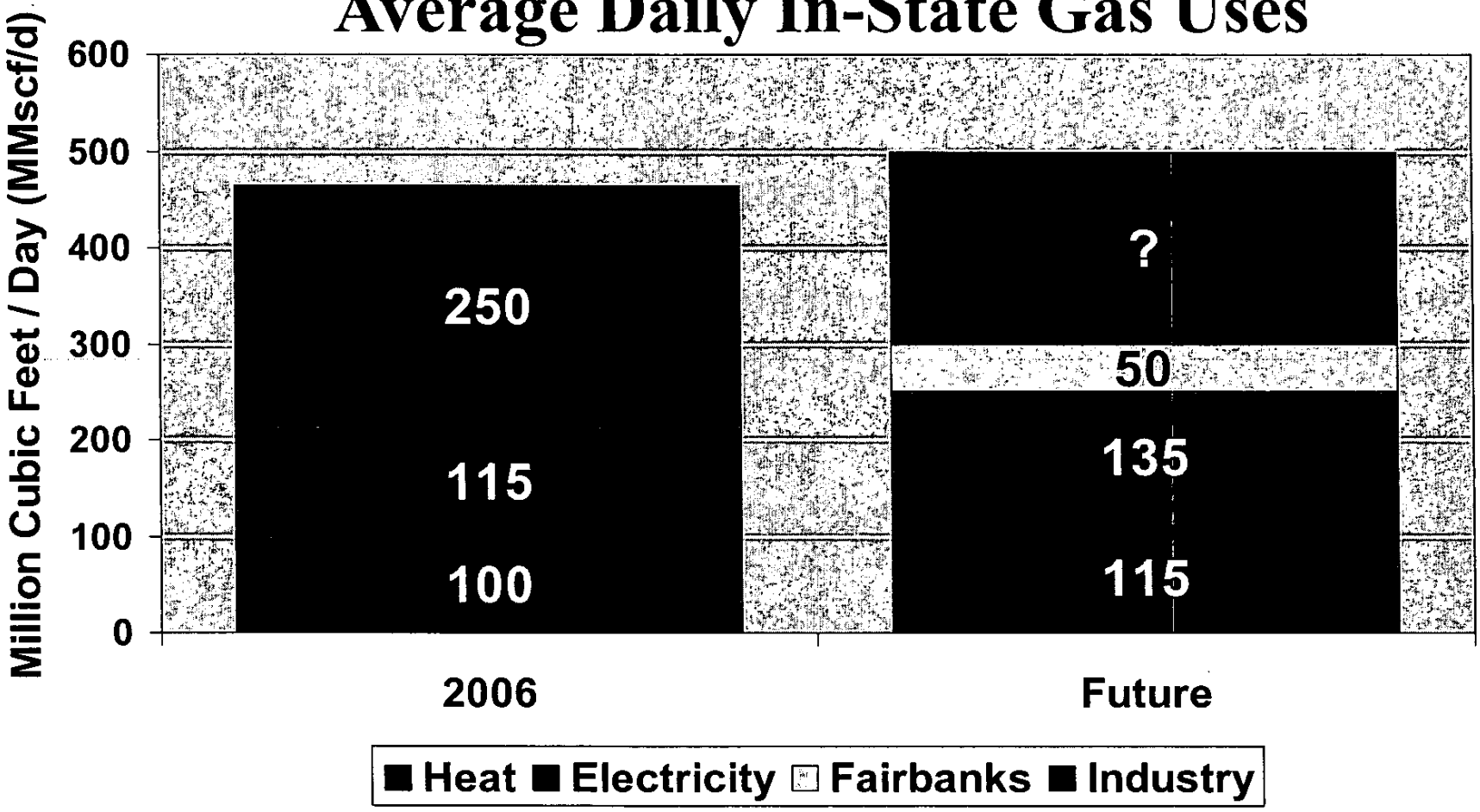



Cook Inlet Demand and Deliverability Forecast
BCF
250
200
150
100
50
0
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021
2023
2025
2027
2029
Theoretical Capacity
History
New Capacity added:
2 wells in Beluga River Unit
3 wells in North Cook Inlet Unit
Decline curve with development of
470 BCF Probable reserves
470 BCF
Forecast
Demand
Existing Well Capacity


BCF per Year
300
250
200
150
100
50
0
1995
2000
2005
2010
2015
2020
2025
2030
2035
Decline Curve Analysis Reserves (863 BCF basin-wide)
Material Balance Analysis Reserves (279 BCF increment, basin-wide)
Geologic Analysis, PAY Category Reserves (353 BCF increment, 4 fields)
Geologic Analysis, PAY + 50%-risked Potential_Pay Category (643 BCF increment, 4 fields)
Exploration Leads (~300 BCF, basin-wide)
Demand Profile (assumes 90 BCF flat)
Historical Production
(~7.75 TCF through 1/1/2010)
Schematic Forecast
(actual production from future resource wedges could begin in any year)

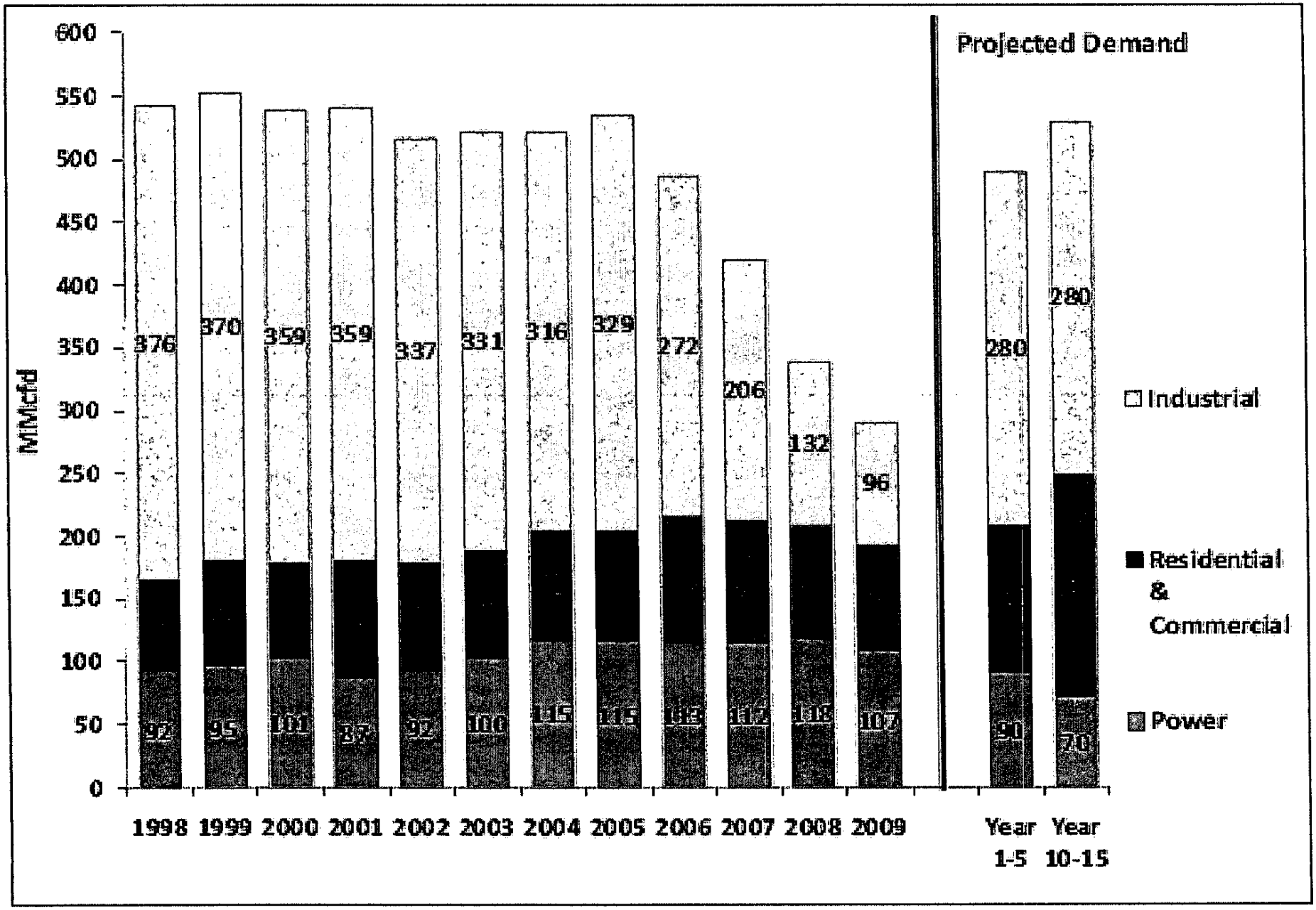
Deliverability

Average Daily In-State Gas Uses



(250 mmscfpd) / (4.5 BCFPD) = 5 %

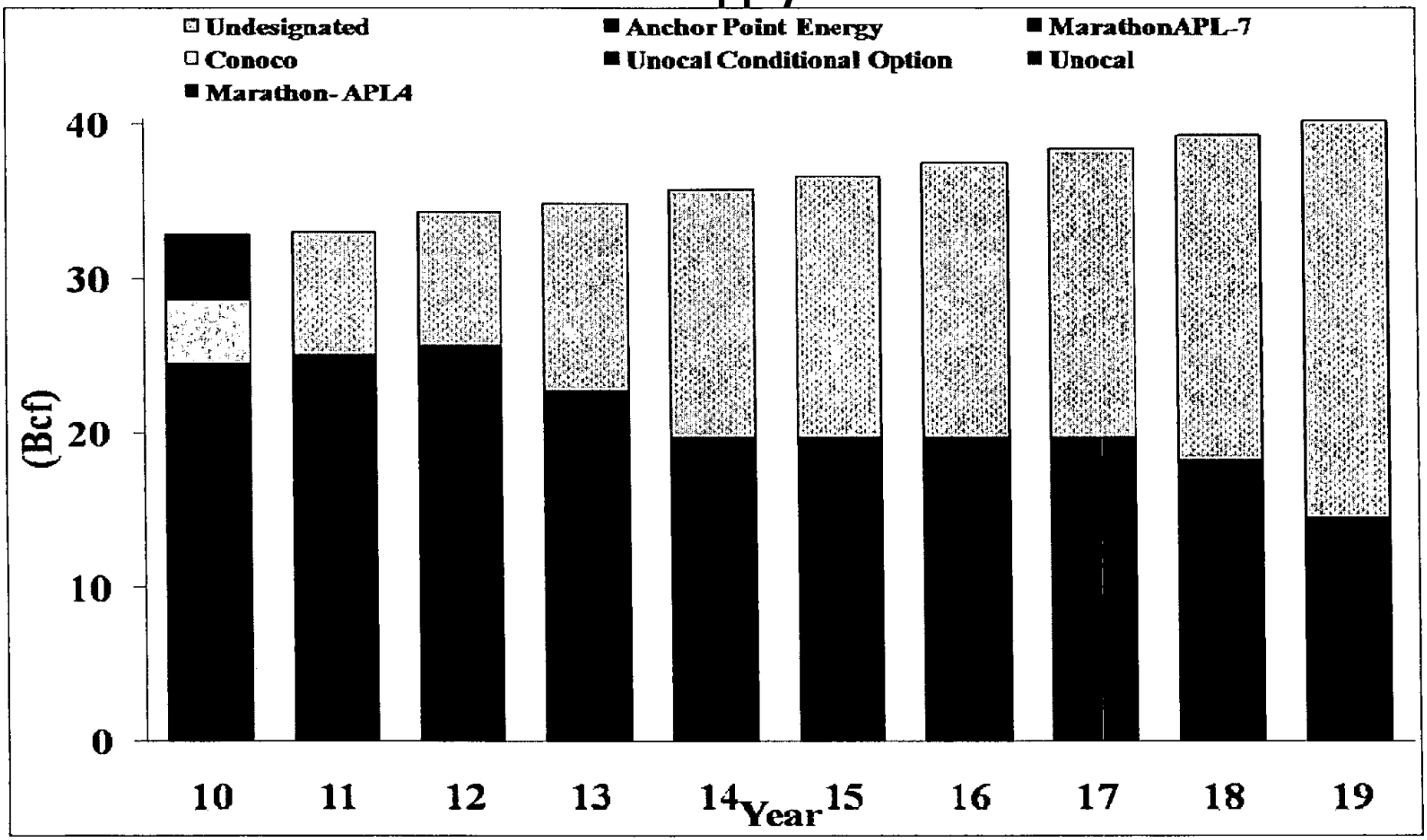
Historic and Projected Total Annual Average Daily Demand for Natural Gas



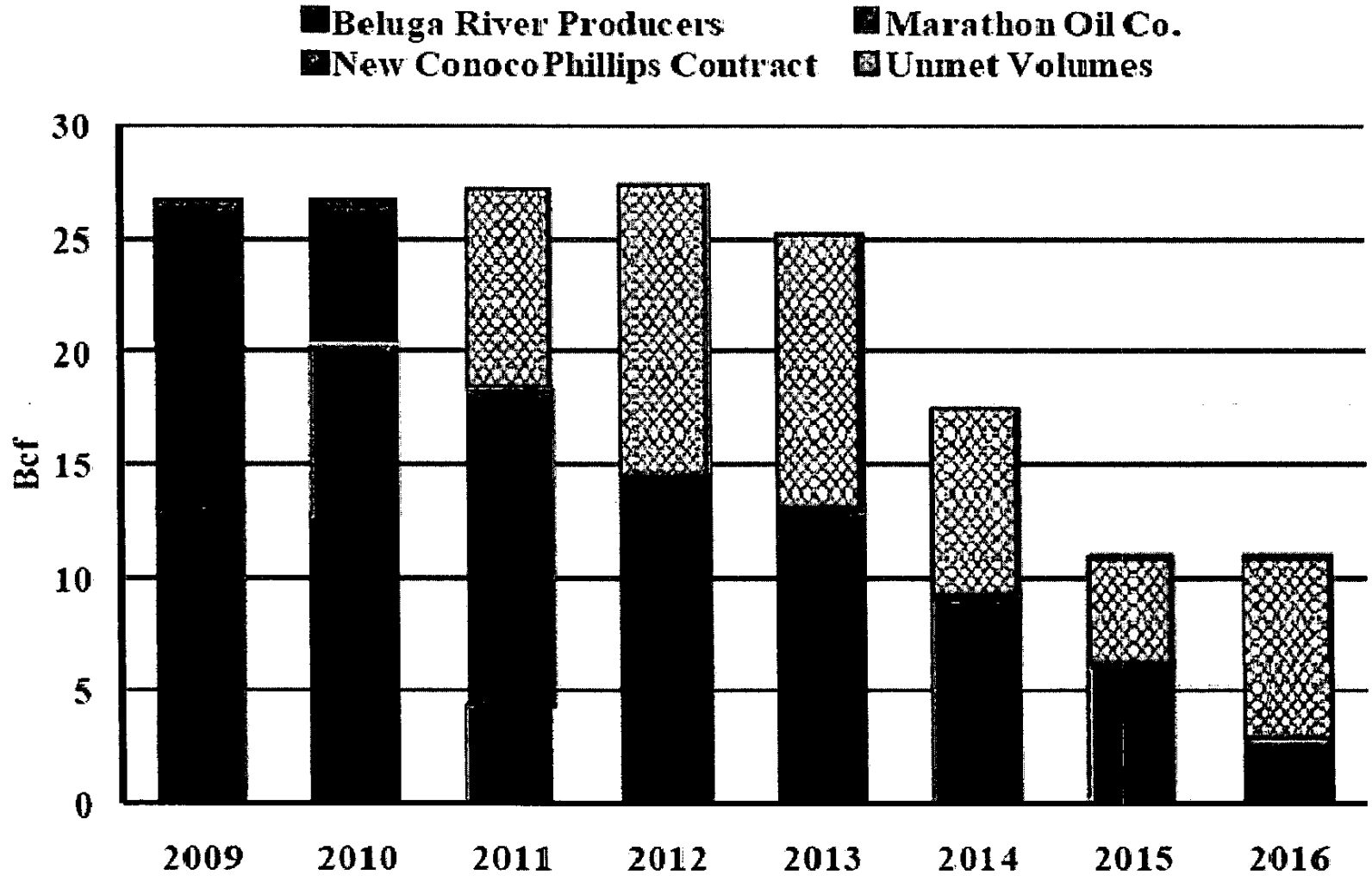
The Current Southcentral Energy Supply Scenario

The Not So Convenient Truth

Enstar Gas Supply Outlook

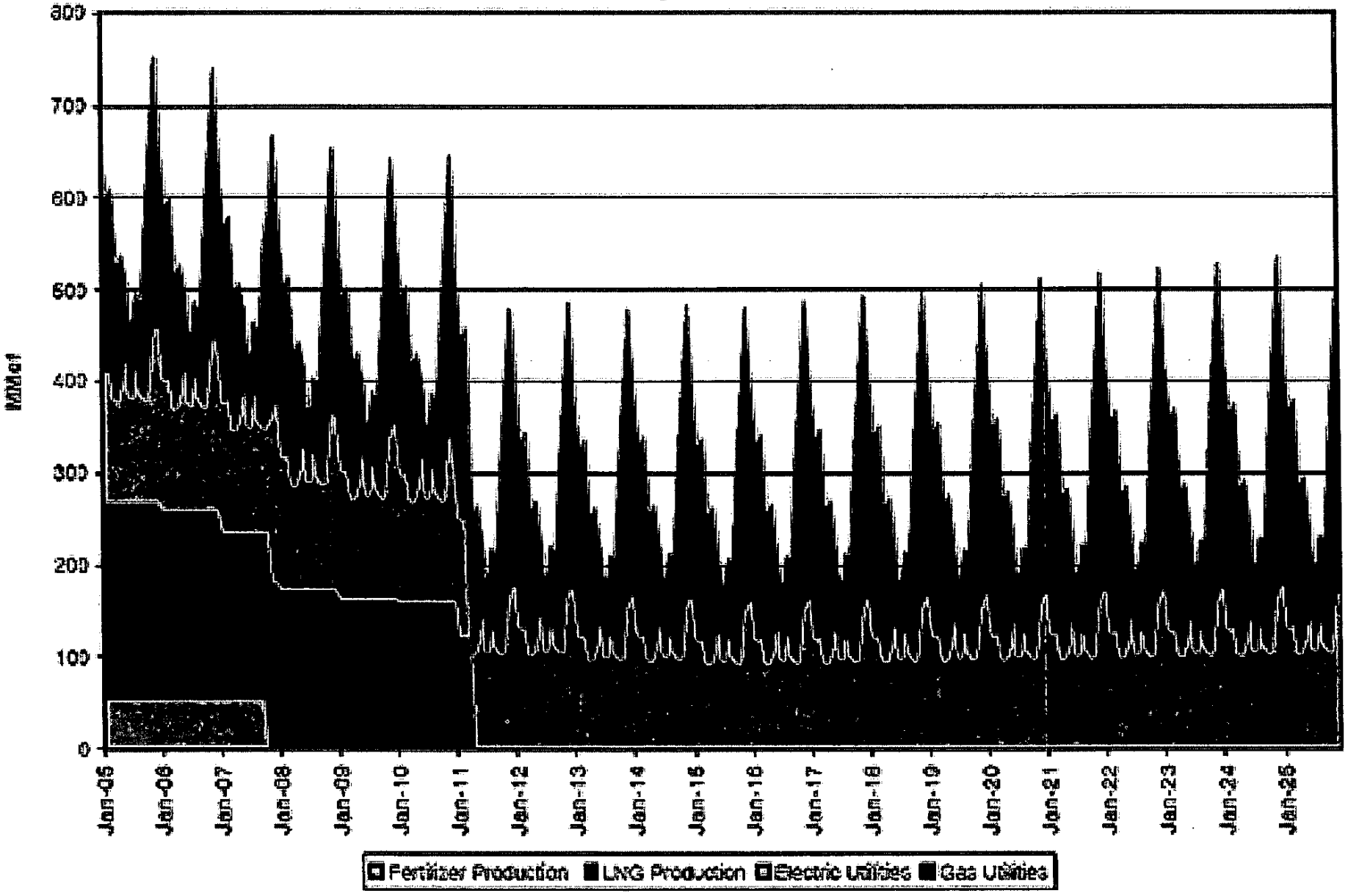


Chugach Electric Association Gas Supply



Source: Chugach Long-Term Natural Gas Volume Forecast, April 2009 Update

Natural Gas Demand Forecast Peak Daily Demand



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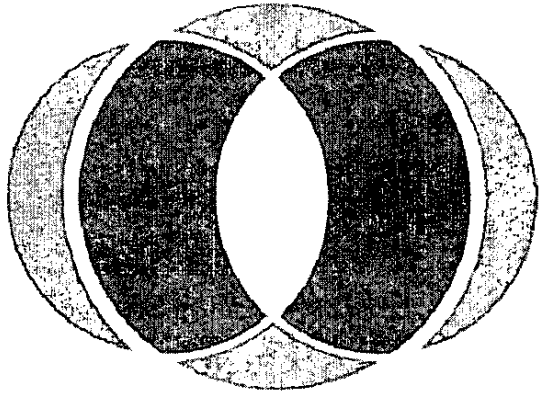

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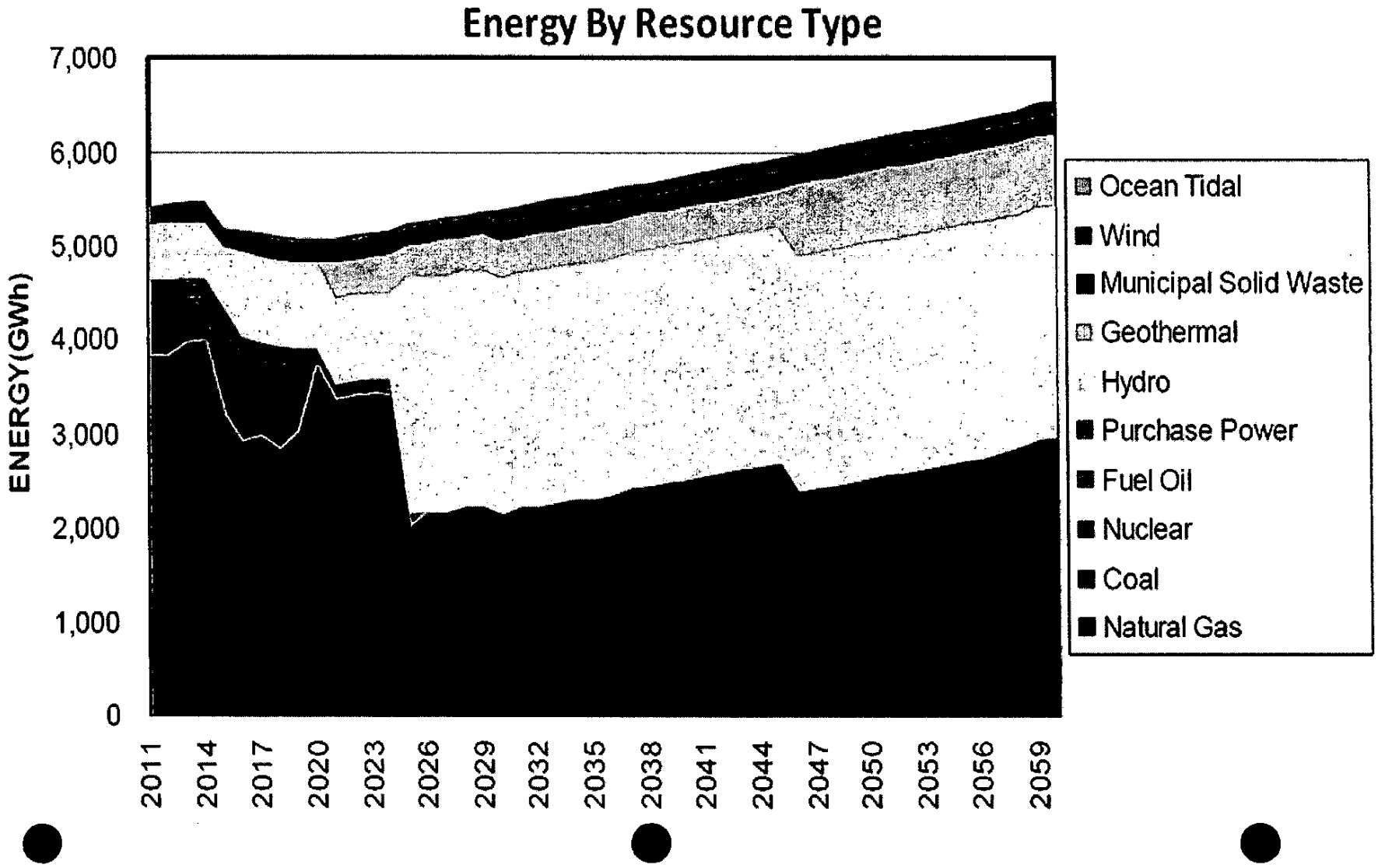
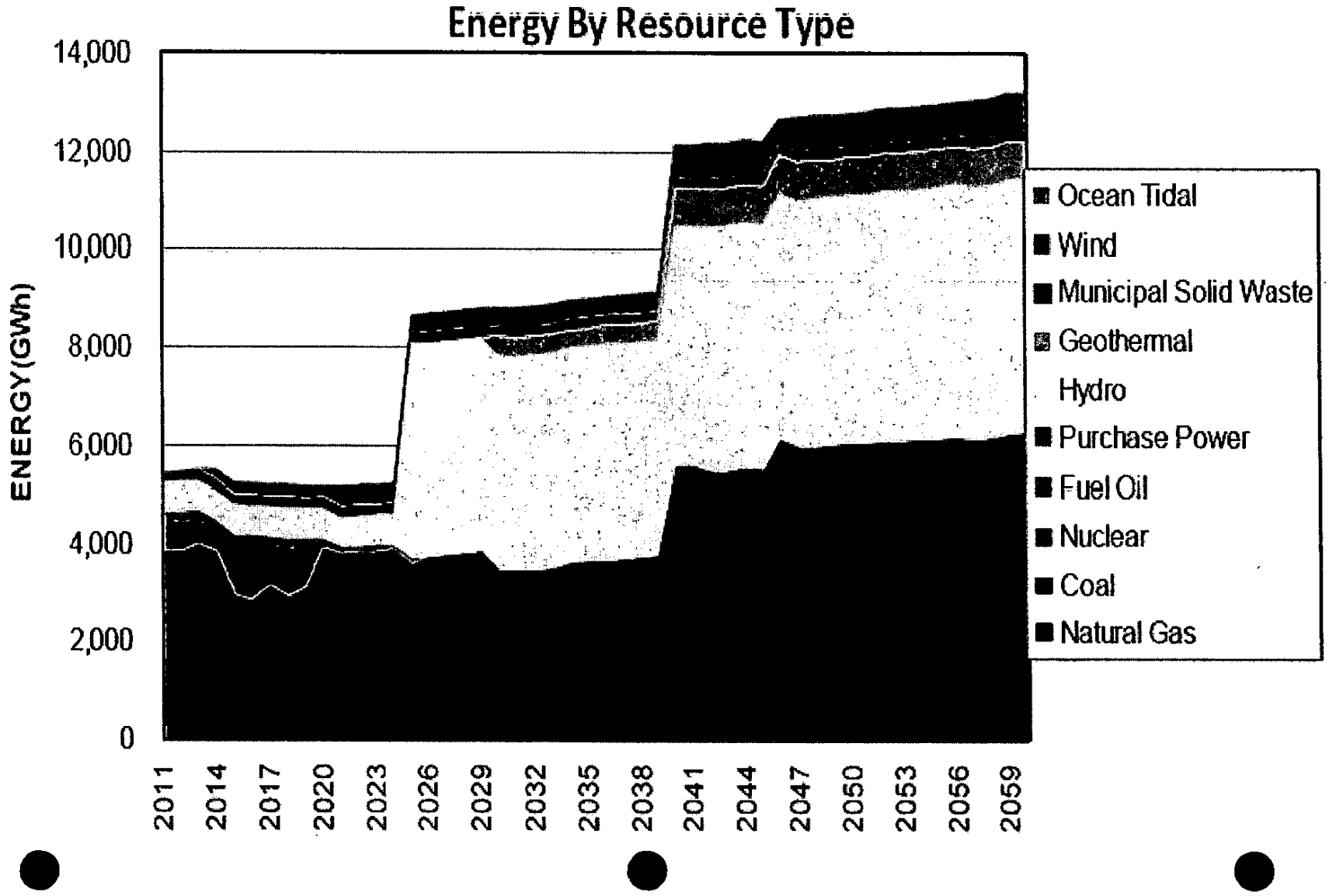
With Great Energy Opportunity Comes Great Responsibility and Leadership

Alaska has significant energy potential and a vast natural resource base. Many energy alternatives could play a critical role in the diversification of Alaska's energy portfolio in an economic and sustainable model. We must move forward to protect Alaska from the economic drag associated with continued volatility of world, national and local fuel prices, and offer stable opportunities for citizens and business to invest in the future.

Results – Scenario 1B



Results – Scenario 2B



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Framing the Energy Issues Timeframe for Policy Decisions

- Now
- Transition
- Longer term

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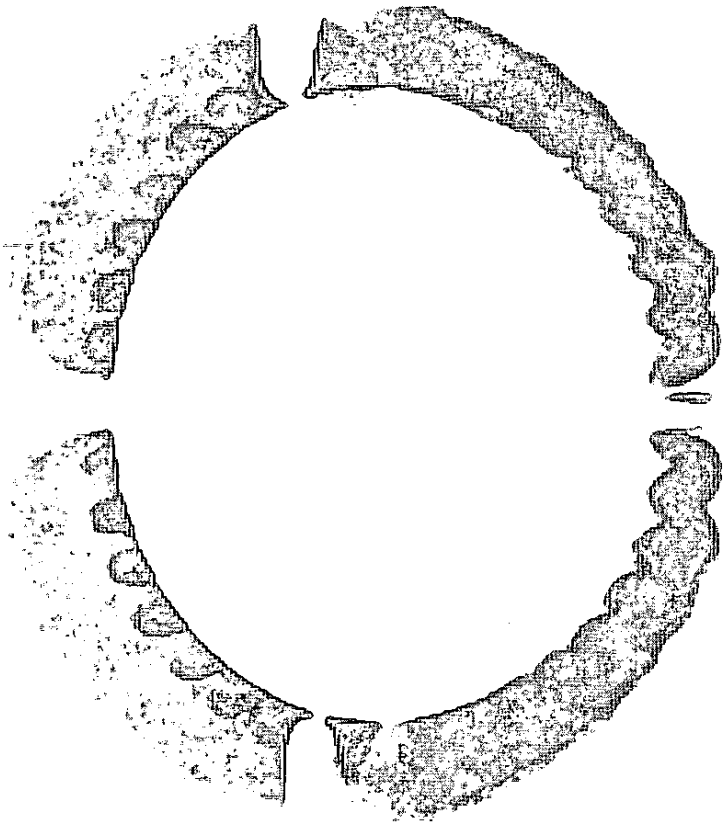
Now - Deliverability Response

- Mayor's tri-color preparedness grid
  - Being prepared
  - Having a plan
  - Conservation
- Real savior – ML&P's ability to switch to all diesel generation – saving the natural gas for the rest of the heating grid



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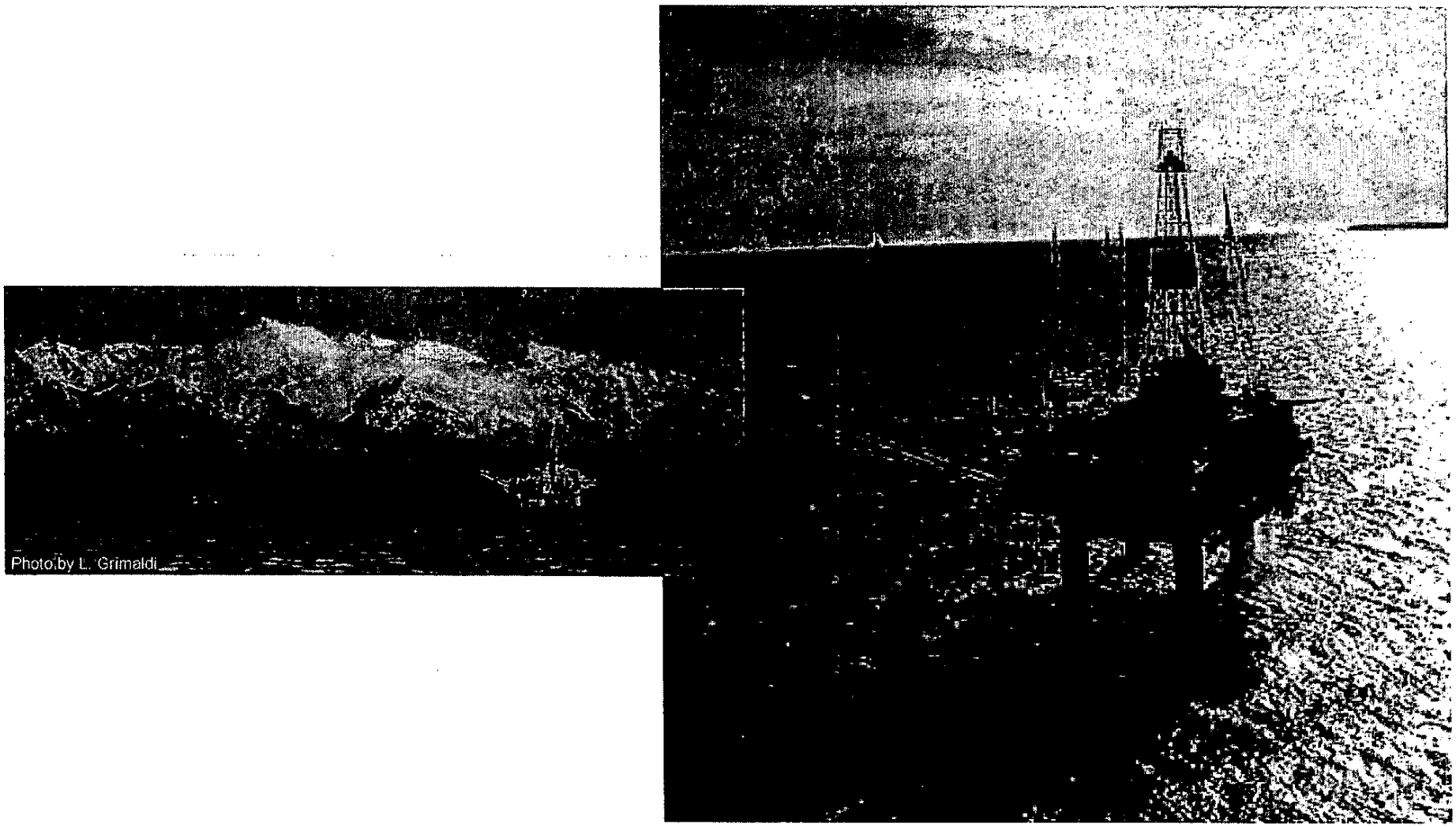
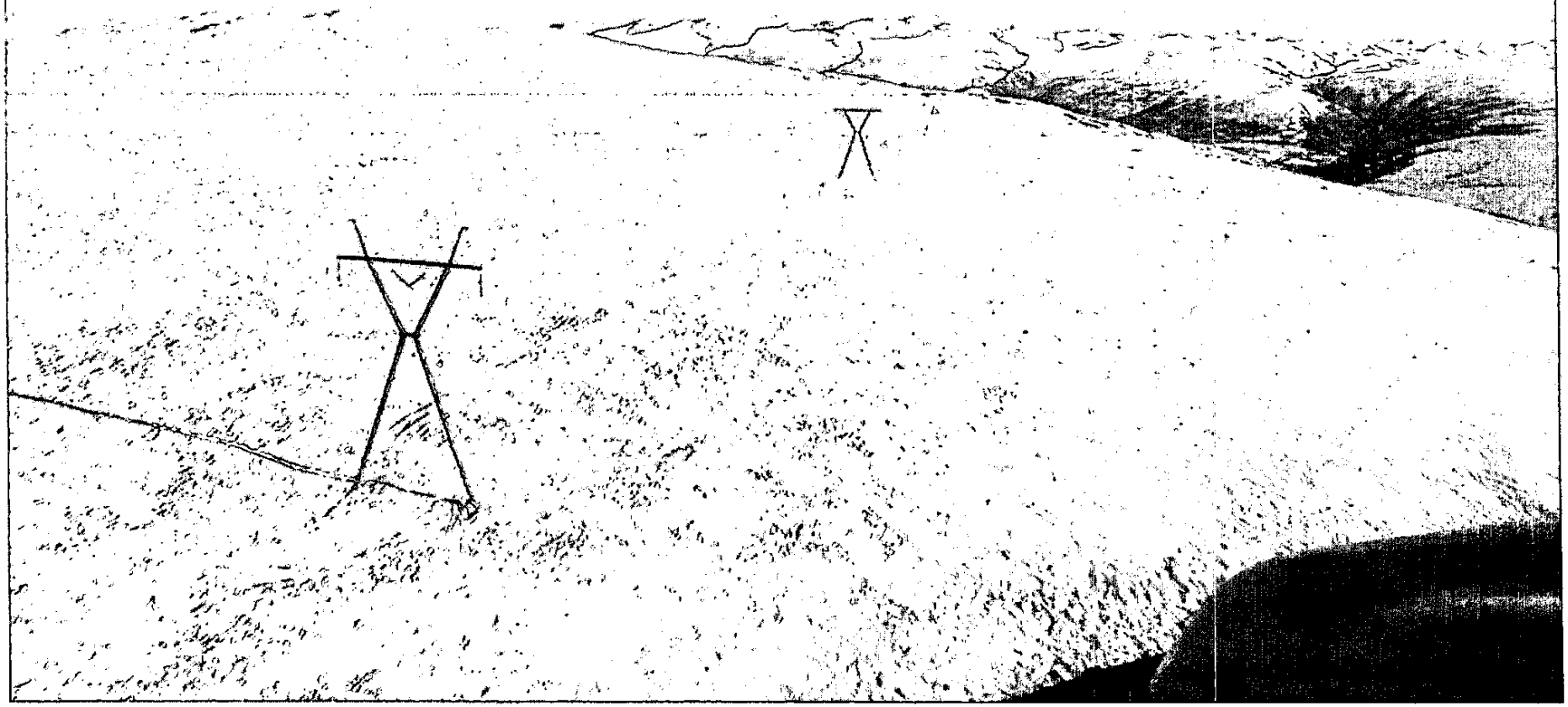
Intermediate Term Transitional Solutions

- Gas Storage
- Import LNG
- Drill more wells – Cook Inlet and elsewhere
- In-state gas line
- Renewables – Fire Island wind

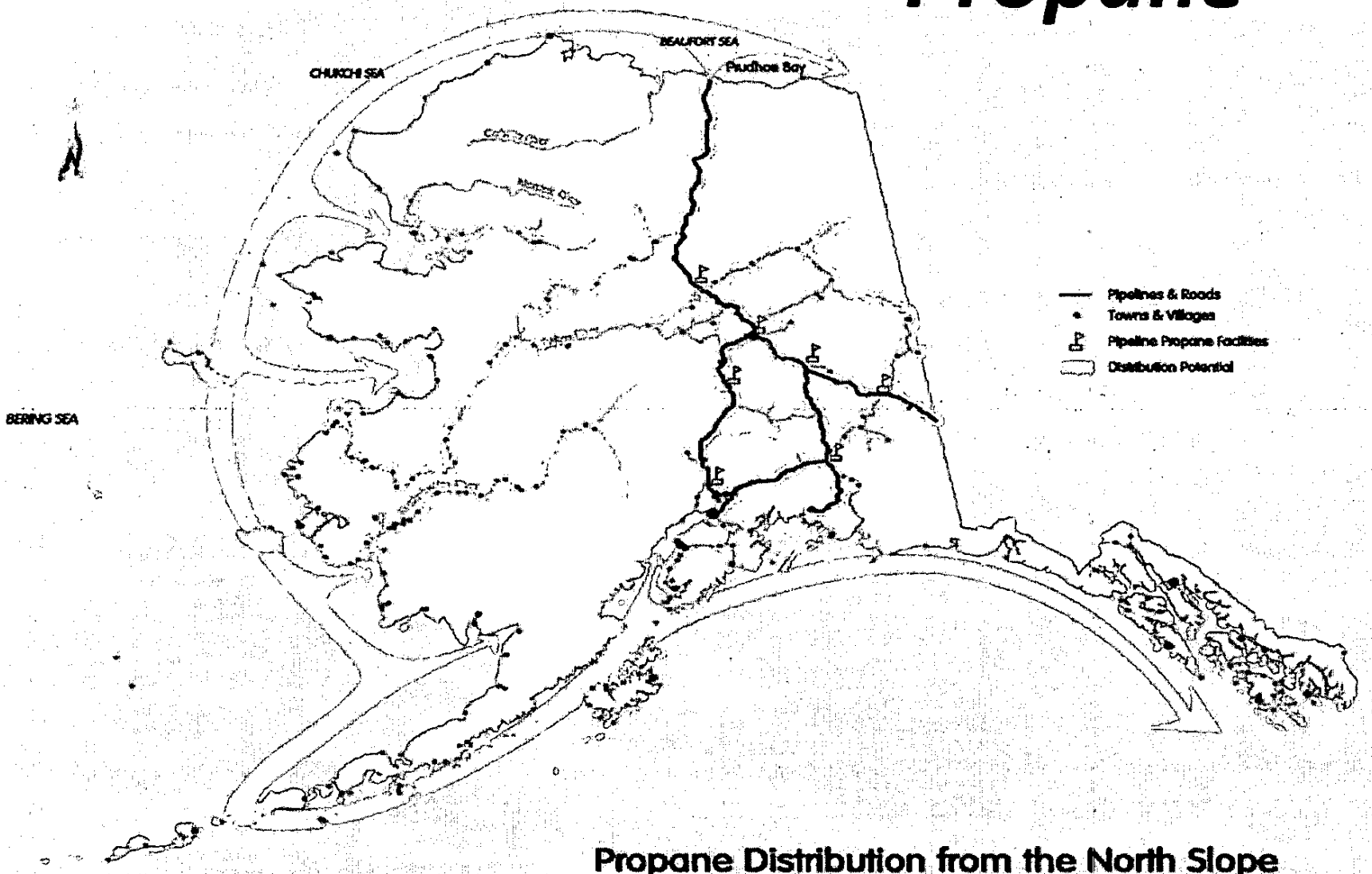
Encourage Increased, Near Term Exploration and Drilling



Gas Storage



Propane



Propane Distribution from the North Slope

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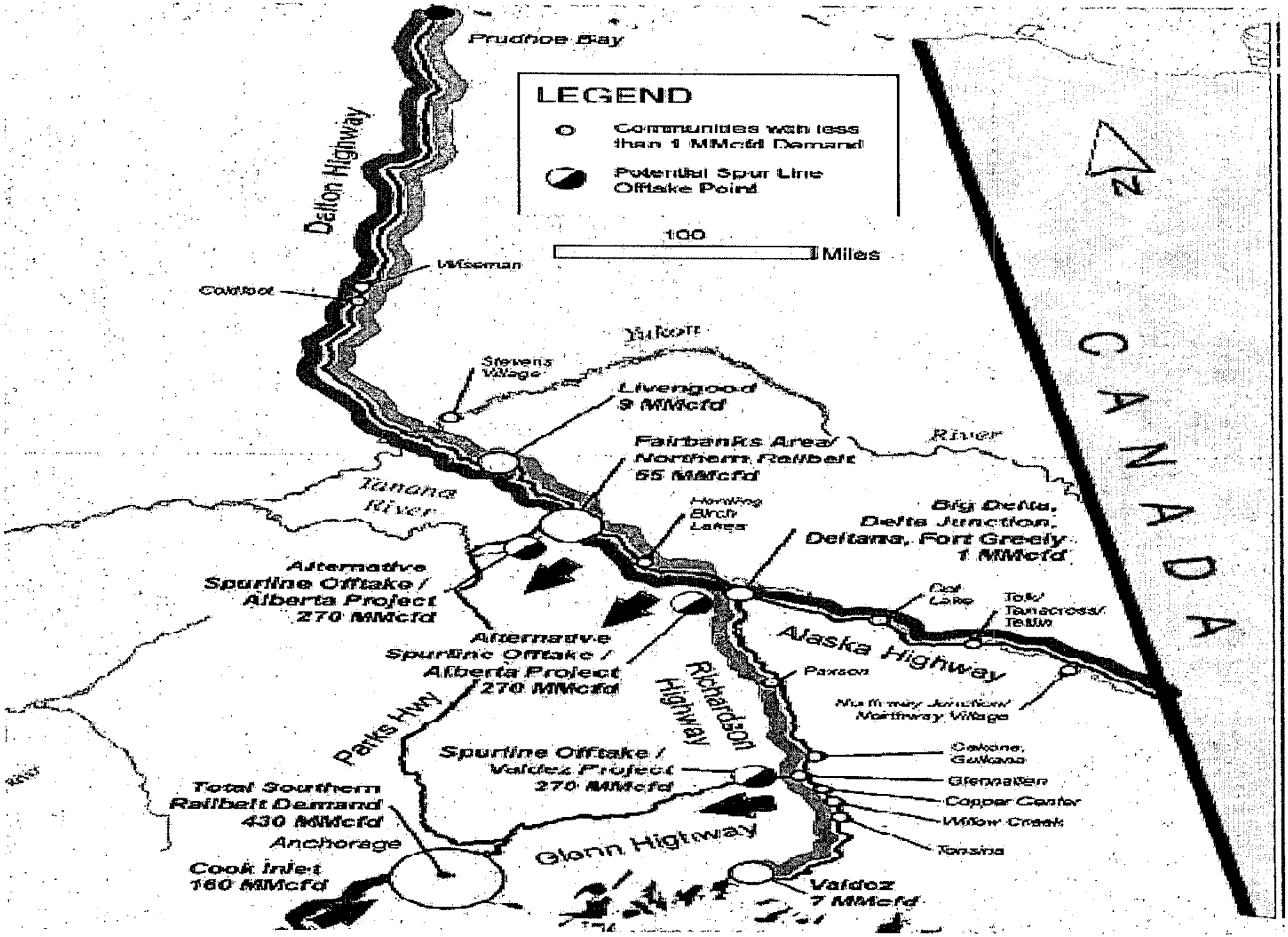
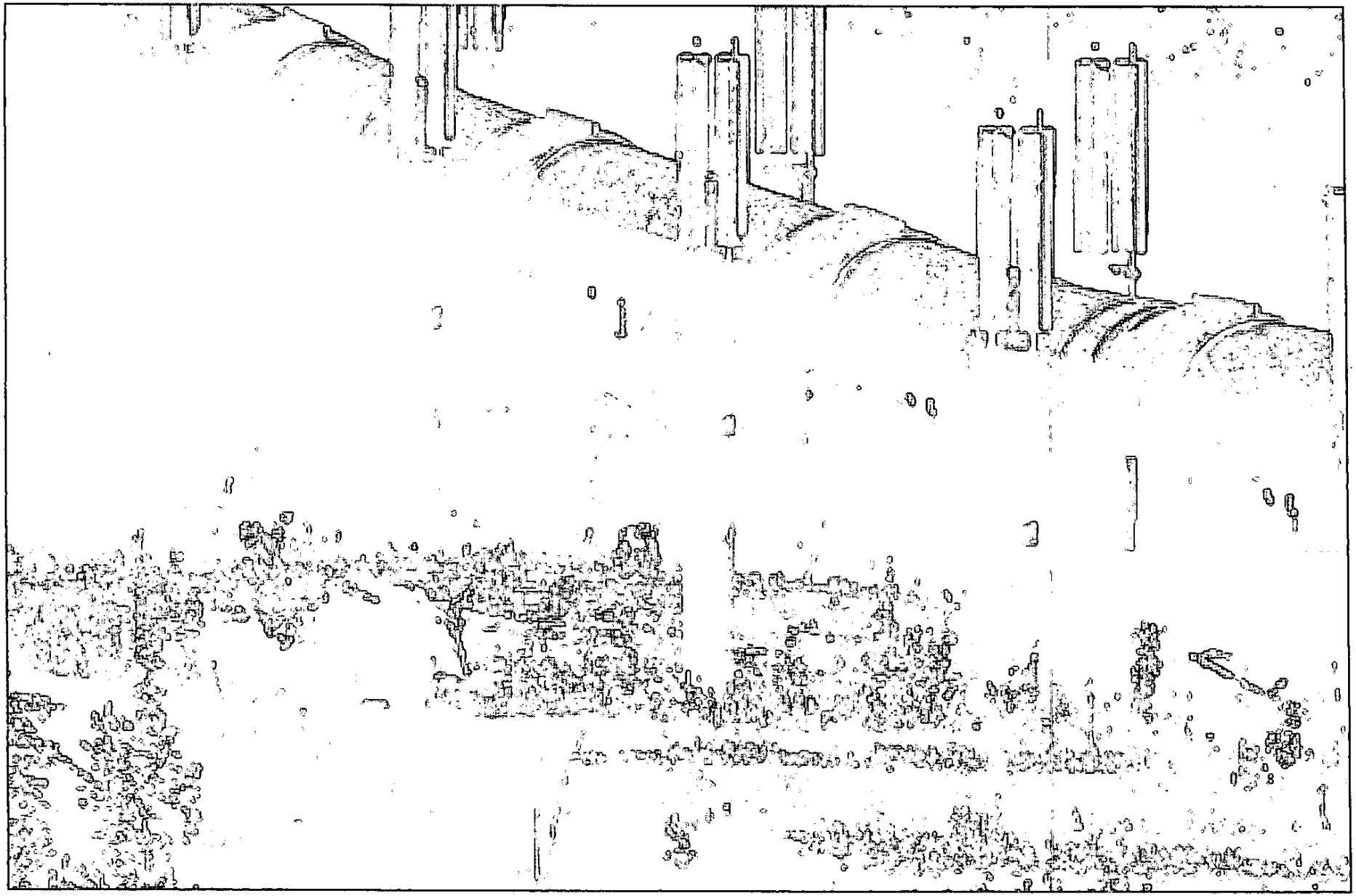
Long Term
Future Solutions

- Most options/Most time/Richness of Solutions
- Main line
- North Slope gas into Southcentral
- Susitna and other large scale renewable projects
- All have a *Big $$$ price tag*

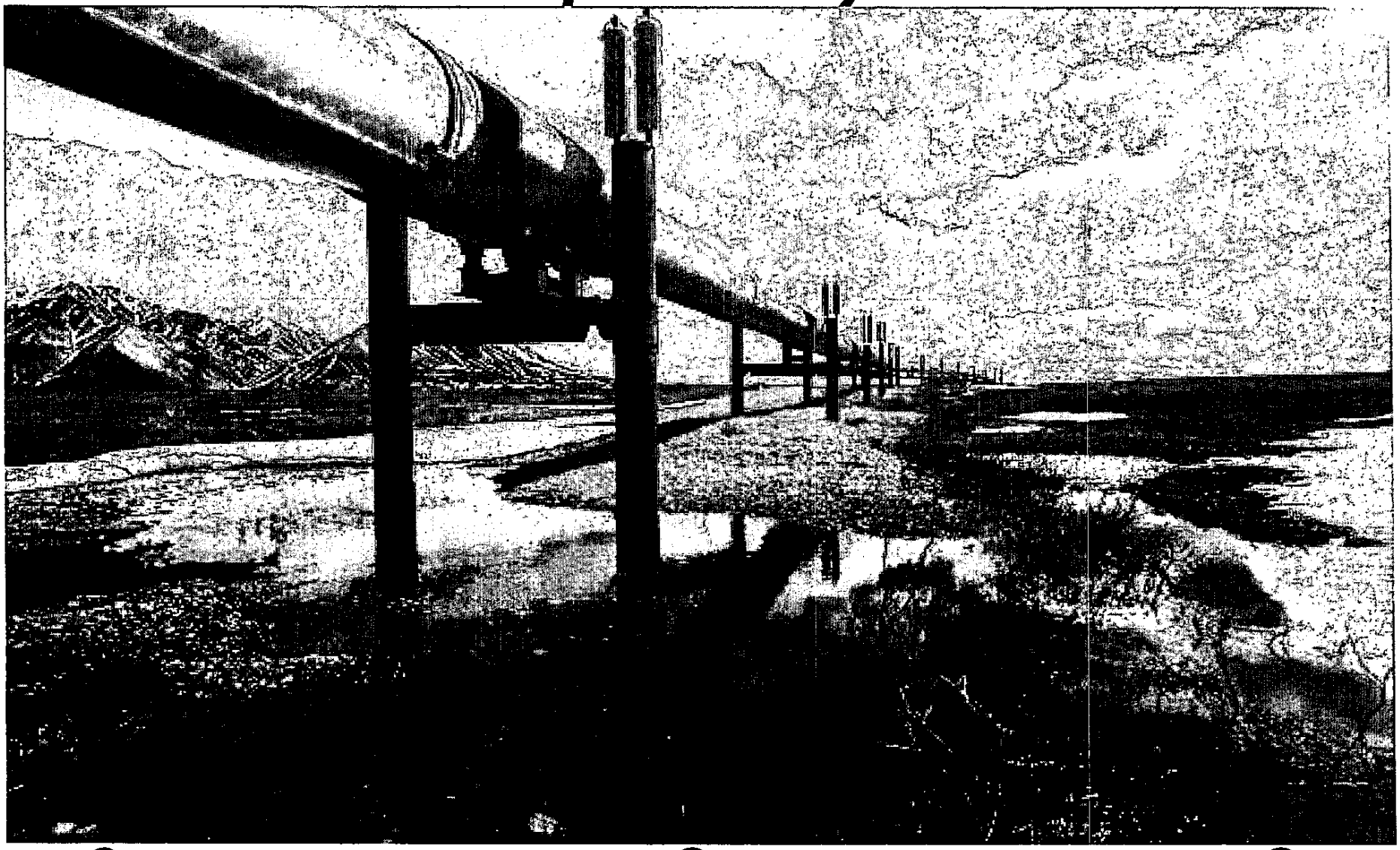


Source: Alaska Map Co. based on the results of this study, 2009.

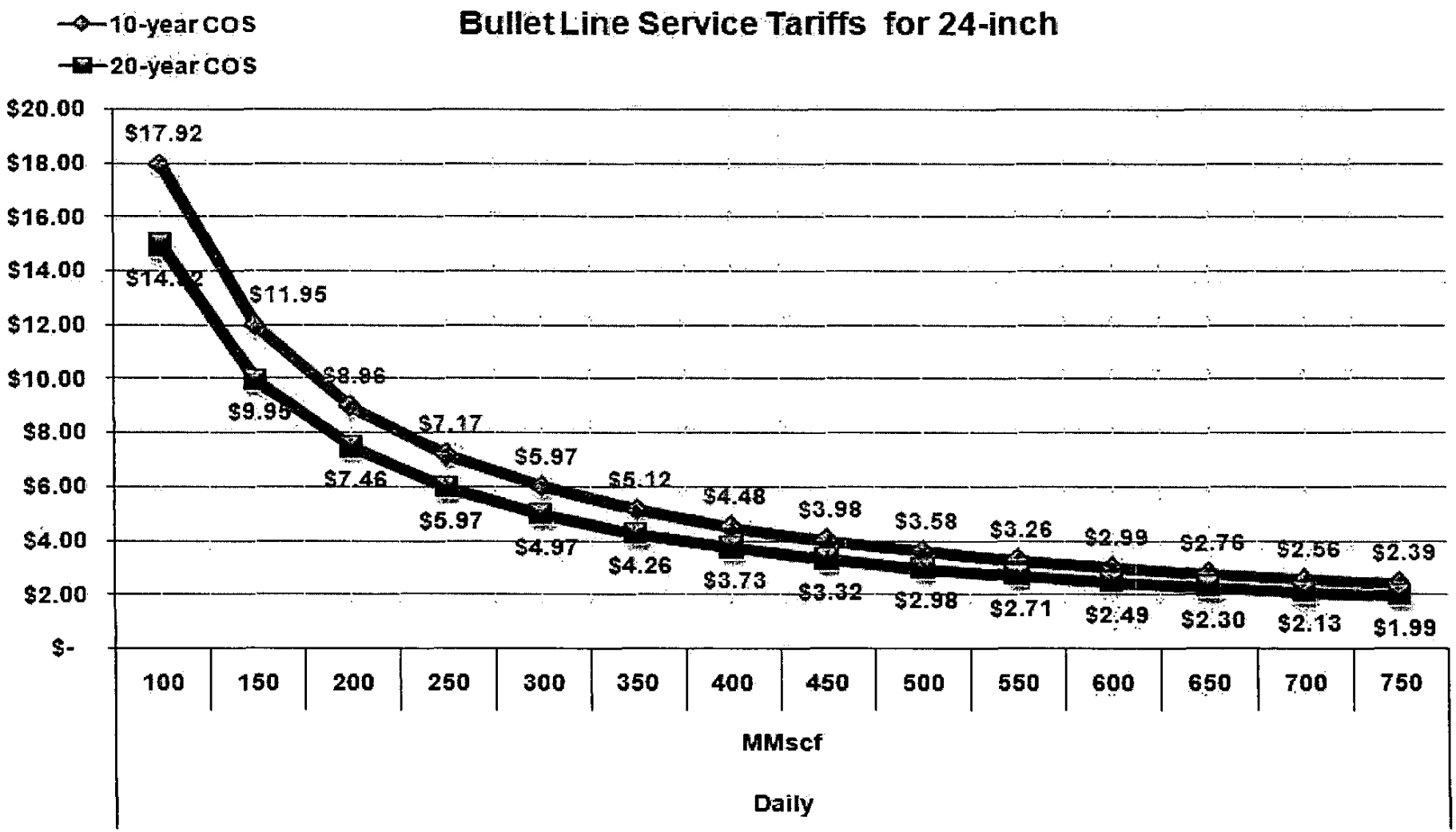
North Slope Gas Pipeline to Lower '48



Spur Line: Beluga to Fairbanks Natural Gas Pipeline System



Bullet Line


10-year COS
20-year COS
Bullet Line Service Tariffs for 24-inch
$20.00
$18.00
$16.00
$14.00
$12.00
$10.00
$8.00
$6.00
$4.00
$2.00
$-
$17.92
$14.32
$11.95
$9.95
$8.96
$7.46
$7.17
$5.97
$5.97
$5.12
$4.97
$4.48
$4.26
$3.98
$3.73
$3.58
$3.32
$3.26
$2.98
$2.99
$2.71
$2.76
$2.49
$2.56
$2.30
$2.39
$2.13
$1.99
100
150
200
250
300
350
400
450
500
550
600
650
700
750
MMscf
Daily

Hydroelectric Energy
Bradley Lake Dam

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Recommendations

Alaska is rich in natural energy sources and yet many Alaskans struggle to meet rising energy costs. Commonwealth North commissioned this study to evaluate solutions and facilitate dialogue relevant to energy policy throughout Alaska and develop guidelines and recommendations for a secure energy future. After extensive discussion and debate with involved and knowledgeable citizens, Commonwealth North formulated the following findings and actions items as a means for addressing the current energy issues along the Railbelt.

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Recommendation 1

Assess the potential of a gas deliverability disruption in the near future due to the extreme load on the system coupled with potential deliverability constraints.

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Recommendation 2

Address immediate deliverability and cost issues in both Railbelt and rural areas by leading implementation of stop-gap measures to encourage conservation, alternative energy and efficiency.

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Recommendation 3

Make gas storage available as soon as possible to help utilities meet deliverability challenges.

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Recommendation 4

Establish a clear regulatory standard for review of gas supply contracts.

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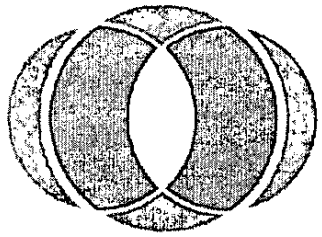
Recommendation 5

Implement a policy of fuel diversification with the long term goal of reduced dependence on diesel for much of rural Alaska.



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Recommendation 6

Adopt a strategy to diversify Alaska's energy portfolio within the next 15 years to include other viable energy alternatives including hydro, coal, propane, wind, geo-thermal, and other renewable energy projects.

1626

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Recommendation 7

Encourage development of oil and natural gas potential and the construction of a natural gas pipeline.

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What Can be Done Now

Continue the energy dialogue and establish a pro-active approach and reasoned policy action on energy issues in Alaska.

1628

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Energy for a Sustainable Alaska

A Commonwealth North Energy Study

Alaska State Legislature

Please enter into the record my testimony to the House Energy committee name committee on HB 306 bill/subject . dated 1-29-01 .

Proposed Cook Inlet AND natural gas storage Project update

Signed: Jerry McCutcheon
Testifier

Representing (Optional)

Box 101839 Anchorage 99510
Address

Susitna Hydro xoxo@yahoo.com
Phone No.

RCA
RCA.mail@Alaska.gov [from RCA file]

The RCA's request for a determination if the RCA has the authority to regulate gas storage.

First, On Monday the 11th I made a request to see or hear the testimony in this case, which was heard the 8th and have received nothing, not so much as an acknowledgment of my request.

The hearing was set on Christmas Eve and heard a week after New Years. Truly, the hearing was a very hastily contrived hearing for exclusive benefit of Enstar/ TransCanada / Conoco / Chevron/ Marathon. There was no finding of facts by the RCA on which an informed public could comment or time to comment.

Second. It appears the RCA is being compliant to the requests of Enstar/ TransCanada/ Conoco/ Marathon/Chevron/etal. and not acting in the public interest or public trust. The RCA would foist on the Cook Inlet gas consumers an unnecessary gas storage scam, which would allow the continued the fleecing of the Cook Inlet gas consumers by Conoco/ Marathon/ Chevron /Enstar. As former Governor Murkowski's Attorney General pointed out the charges for gas were "excessive", "unjustified" and "unwarranted". Those problems have not been addressed.

Third. There has been no showing that there is need for unregulated gas storage let alone regulated. Is there a possibility gas storage competition? Would the RCA be an unnecessary burden if there were to be several gas storage facilities? Why would RCA's regulation of gas storage be in the public interest in view of the fact that RCA's regulation of the Cook Inlet gas market certainly has not been in the public interest? Why would RCA act differently as a gas storage regulator than the RCA has in the past? The RCA had the obligation to make those determinations before the RCA made the request for authority to regulate or allow gas storage. The RCA did not make the above determinations.

Fourth. There has been no showing of RCA's fitness to regulate gas storage. If gas storage is regulated by the RCA the way the RCA has regulated Cook Inlet gas, the gas storage market will become the collusively property of Conoco/ Marathon/Chevron/ Enstar. See Governor Murkowski's Attorney Generals investigation into Cook Inlet gas pricing.

Fifth. Just recently a formal study on Cook Inlet proven gas has been released. That study demonstrates that there are ample supplies of proven Cook Inlet gas, 1.15 tcf, which I believe is understated, closer to 1.5 tcf. The knowledge of ample Cook Inlet gas has been kept from the public and it appears the RCA never formally inquired although the RCA informally knew there were ample supplies of Cook Inlet gas available for the development of sufficient gas supplies for the Cook Inlet Gas Consumer. The RCA failed to act on behalf on the Cook Inlet gas consumer.

It appears that the RCA never raised question of ample Cook Inlet gas or the question of access to market but deliberately acted to aide and abet the collusive behavior of Conoco/ Marathon / Chevron/Enstar allowing them to control the market to the exclusion of others.

Sixth. Apparently the RCA has never made an inquiry as to the amount of gas and gas pressure that could be made available from the existing reservoirs with infill drilling and horizontal drilling from existing wells all of which the RCA had and still has obligation to do before pursuing gas storage authority.

Seventh. The cost construction of a gas storage facility with its injection infrastructure and additional wells will cost more than the simple infill drilling of existing gas reservoirs which must be done in any event to obtain the necessary gas. Then there is the cost of the purchase of gas; the cost of the transportation of the gas to the storage reservoir; the cost of injection of the gas into the storage reservoir; the cost of the gas storage; the cost of the gas necessary build up and provide the gas storage reservoir minimum working pressure, that gas will be lost and not available to be marketed for life of the gas storage reservoir and the gas consumer will pay over and over again for the life of the gas storage reservoir for gas the gas consumer can not use, the cost gas production and the cost gas transportation to market; all of which the gas consumer must bear. Compared the to simple infill drilling for and production of gas.

With gas storage most of the current producers hope to escape having to do what they are required to do by their lease agreements, Alaska 's Constitution and the "Public Trust Doctrine".

Eight. I request the RCA withdraw the RCA's request for storage determination and do what the RCA should have done years ago, make determination of the costs of infill drilling and horizontal drilling from existing wells in producing reservoirs as well as the pressures and volumes to be had.

Nine. Since it is already known that there are ample supplies of Cook Inlet gas available for the infill and horizontal drilling, it was incumbent upon the RCA to notify the Governor and DNR, requesting that the State leases, Alaska's Constitution and the Public Trust Doctrine requirements be enforced so that those supplies of gas were and are made available to the Cook Inlet gas consumer.

Further, the RCA had an obligation to inform the public when the public was and is being stampeded into accepting the fact that there was no alternative but to accept the dictates of Conoco/Marathon/Chevron/ TransCanada/Enstar that there were not ample supplies of Cook Inlet gas and the public must accept "excessive", "unwarranted" and "unjustified" cost of gas when in fact that were much less costly alternatives. The RCA did not act in the public interest or trust!

Tenth. There is little doubt in my mind that the RCA commissioners not only knew of the ample supplies of Cook Inlet gas for the infill drilling but also did not make a request for compliance with the leases, Alaska's Constitution and the Public Trust Doctrine so that Conoco/ Marathon/ Chevron/Enstar could continue to act collusively to determent of the Cook Inlet gas consumer.

Jerry McCutcheon susitnahydronow@yahoo.com Draft 01/15/10

Cook Inlet Natural Gas Use
Chugach Electric Association

The Alaska State Legislature
House Special Committee on Energy
Co-Chairs
Bryce Edgmon & Charissee Millett
Representatives, Dahlstrom, Johansen, Ramras, Peterson and Tuck
March 17, 2009

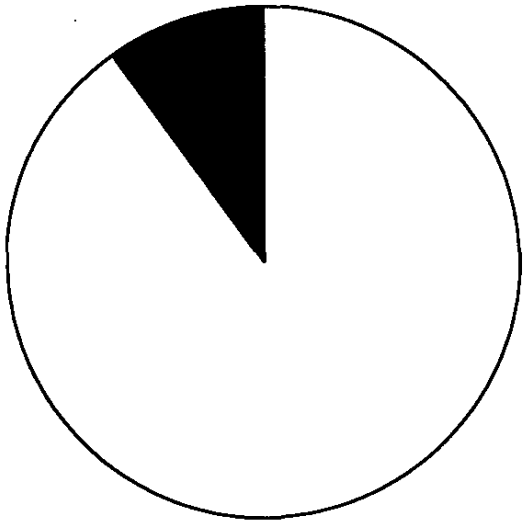
Bradley Evans, CEO
Chugach Electric Association, Inc.

Current Natural Gas Situation

- **Natural gas is important to regional economy**
- **Moving from an era of abundance to limited supply raises new issues**
  - Security of supply
  - Affordability
- **Many organizations are involved**
  - Chugach, Enstar, the producers, DNR, DOR
  - Parties have different priorities
  - Knowledge is stove-piped

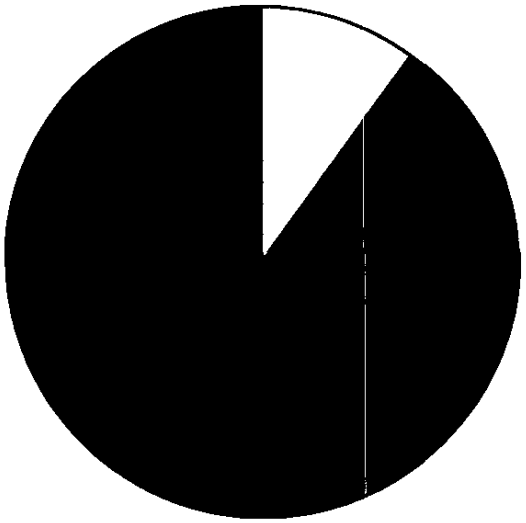
Chugach's fuel mix

Today – 90/10



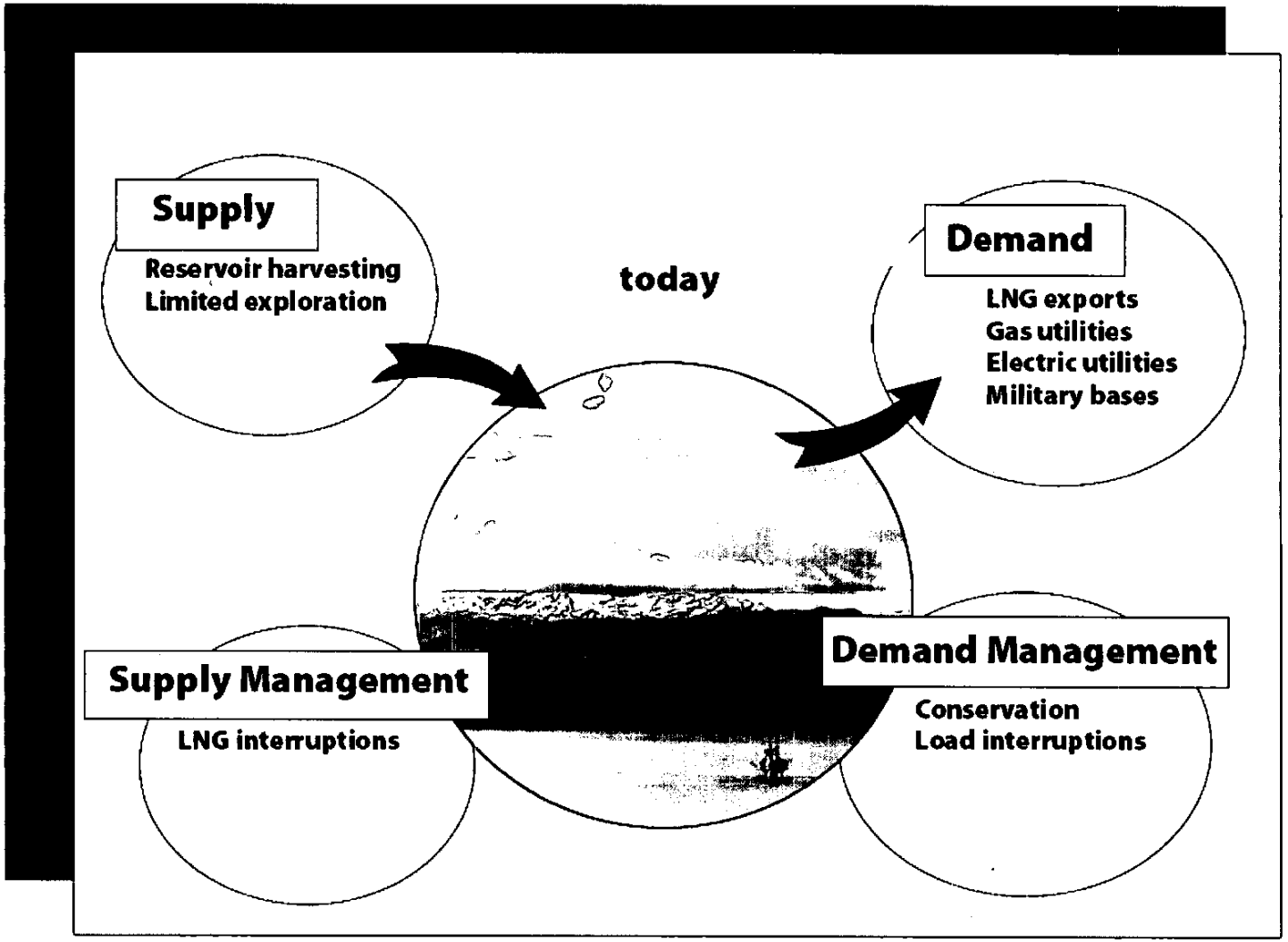
□ Gas ■ Hydro

Future – 10/90

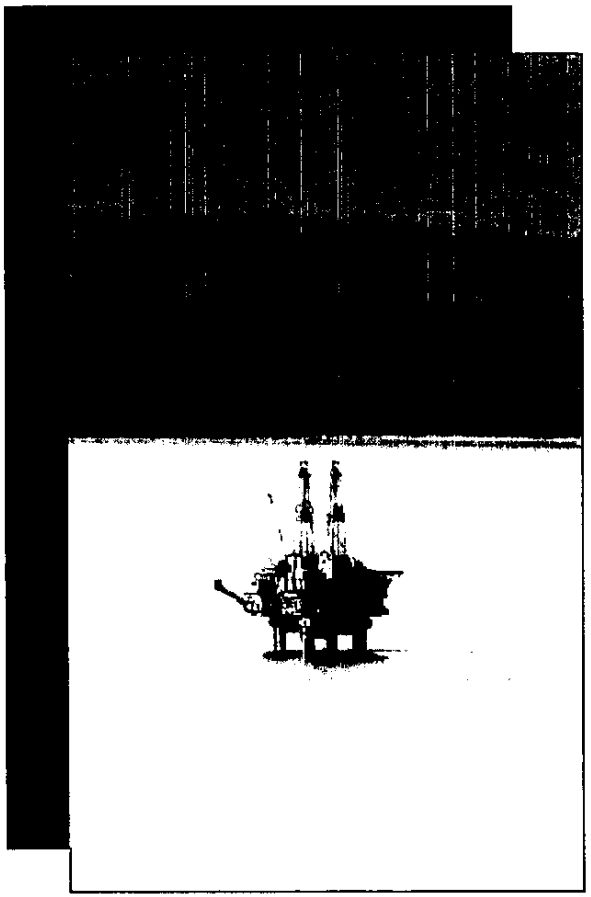


□ Gas ■ Renewable

Cook Inlet Supply Demand Situation Today

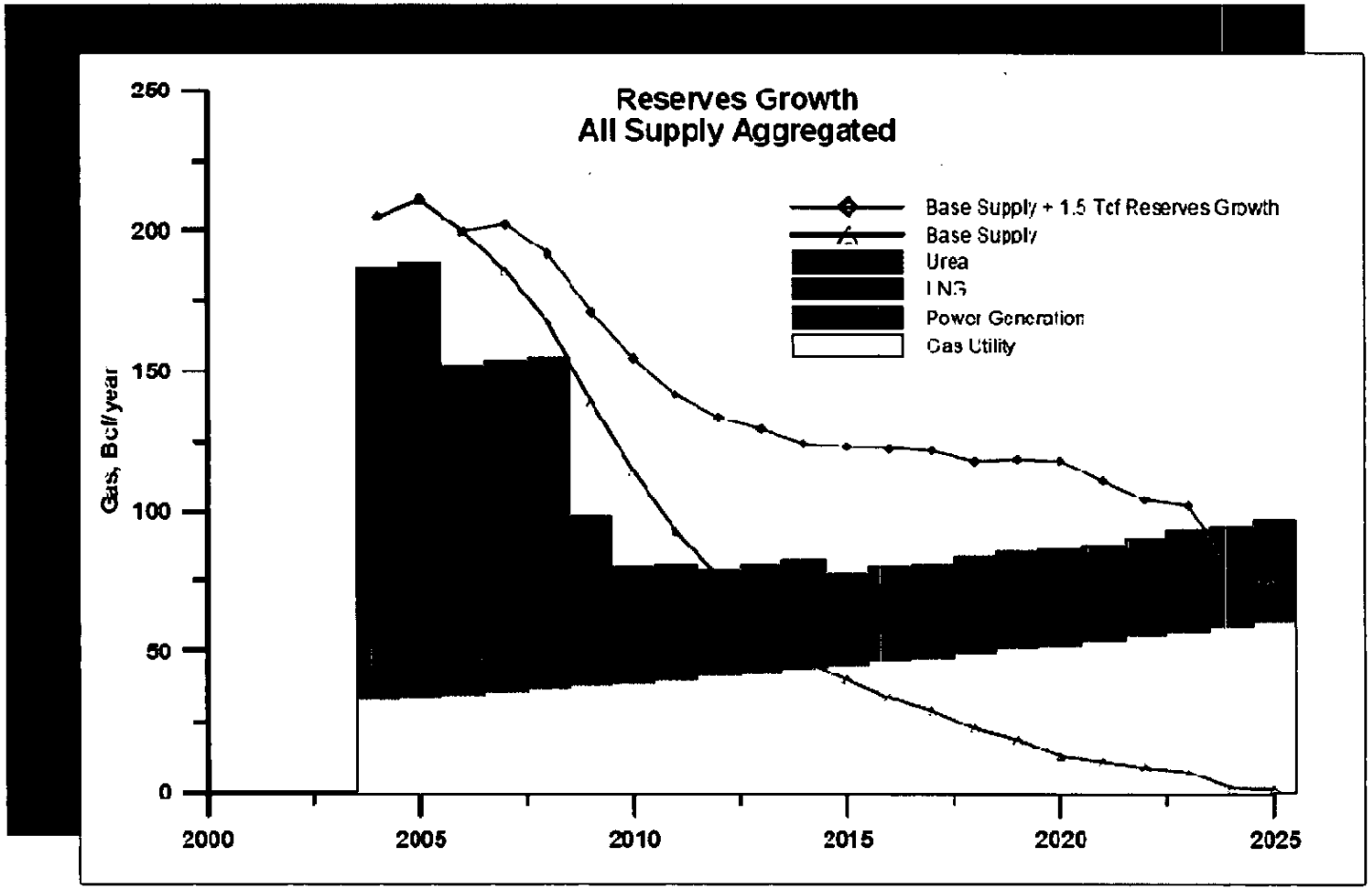


Where will future gas supply come from?



- Cook Inlet Exploration?
- Spur Line?
- Bullet Line?
- LNG Import?
- Alternative fuels?

Without reserves growth, supply will not meet gas demand for utility needs



Slide courtesy of ANGDA

Recommendations

- Cook Inlet Resource Management Plan
- Cook Inlet Public Gas Authority

Comprehensive Cook Inlet Resource Management Plan

- Meet & protect consumer needs
- Address fuel supply security
- Increase transparency & information sharing
- Provide input to a Railbelt IRP
- Provide guidance for investment decisions
- Optimize resource management
- Provide information for rational policy decisions

Next Steps

- **Administration taking lead**
- **Detailed scoping of the plan by stakeholders**
  - DOR, ANGDA, DNR, Utilities, other
- **Development of a steering committee**
- **Funding support from legislature**
- **Report due to legislature by date certain**

Cook Inlet Public Gas Authority

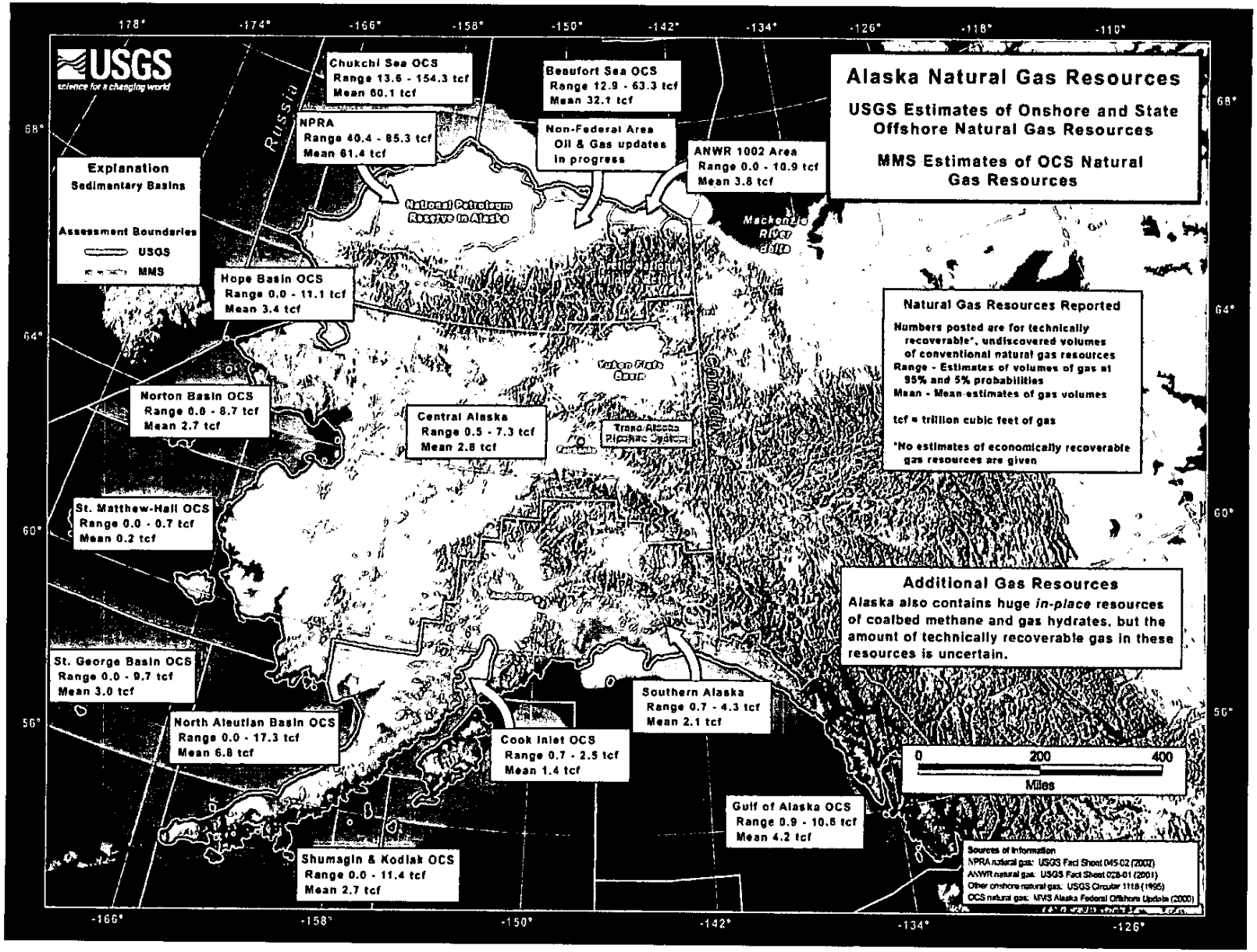
- A non-profit gas agency
- Secure economical, long-term wholesale natural gas for all end-users
- Stabilize and reduce the cost of natural gas for the benefit of all customers
- Members to include electric and gas utilities

Summary

- Utilities are dependent on Cook Inlet natural gas for electric supply
- Affordable electric rates sustain economy
- Gas demand is outpacing supply
- Renewable energy & conservation will help
- Alternatives need to be identified
- Time is of the essence

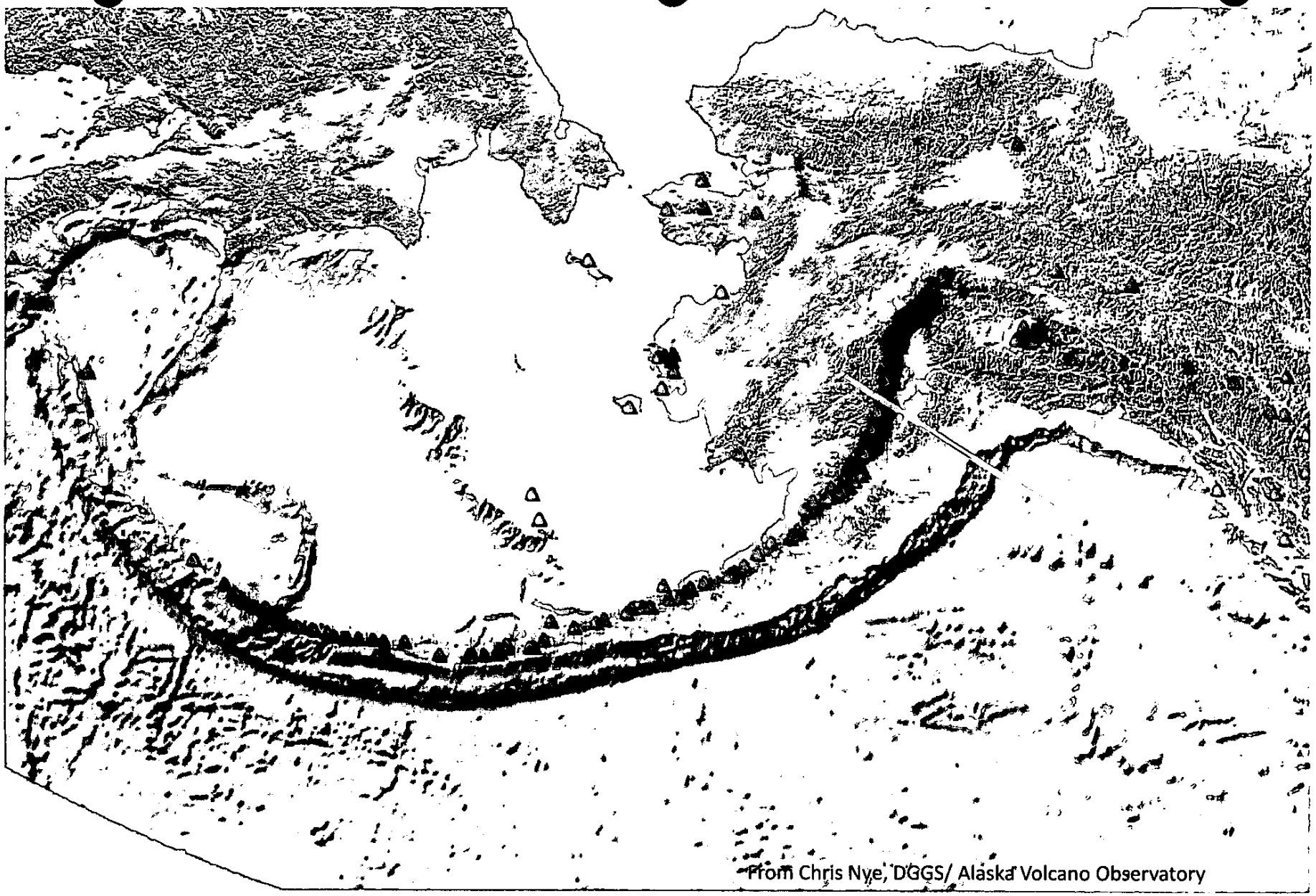
Division of Oil and Gas
House Energy Committee
Cook Inlet Oil & Gas

Kevin R. Banks
Director
March 2009


USGS
science for a changing world
Alaska Natural Gas Resources
USGS Estimates of Onshore and State Offshore Natural Gas Resources
MMS Estimates of OCS Natural Gas Resources
Chukchi Sea OCS
Range 13.6 - 154.3 tcf
Mean 80.1 tcf
Beaufort Sea OCS
Range 12.9 - 63.3 tcf
Mean 32.1 tcf
NPRA
Range 40.4 - 85.3 tcf
Mean 61.4 tcf
Non-Federal Area
Oil & Gas updates in progress
ANWR 1002 Area
Range 0.0 - 10.9 tcf
Mean 3.8 tcf
Russia
National Petroleum Reserve in Alaska
Mackenzie River Delta
Explanation
Sedimentary Basins
Assessment Boundaries
USGS
MMS
Hope Basin OCS
Range 0.0 - 11.1 tcf
Mean 3.4 tcf
Natural Gas Resources Reported
Numbers posted are for technically recoverable*, undiscovered volumes of conventional natural gas resources
Range - Estimates of volumes of gas at 95% and 5% probabilities
Mean - Mean estimates of gas volumes
tcf = trillion cubic feet of gas
*No estimates of economically recoverable gas resources are given
Norton Basin OCS
Range 0.0 - 8.7 tcf
Mean 2.7 tcf
Central Alaska
Range 0.5 - 7.3 tcf
Mean 2.8 tcf
Trans-Alaska Pipeline System
St. Matthew-Hall OCS
Range 0.0 - 0.7 tcf
Mean 0.2 tcf
Additional Gas Resources
Alaska also contains huge in-place resources of coalbed methane and gas hydrates, but the amount of technically recoverable gas in these resources is uncertain.
St. George Basin OCS
Range 0.0 - 9.7 tcf
Mean 3.0 tcf
Southern Alaska
Range 0.7 - 4.3 tcf
Mean 2.1 tcf
North Aleutian Basin OCS
Range 0.0 - 17.3 tcf
Mean 6.8 tcf
Cook Inlet OCS
Range 0.7 - 2.5 tcf
Mean 1.4 tcf
0 200 400
Miles
Gulf of Alaska OCS
Range 0.9 - 10.6 tcf
Mean 4.2 tcf
Shumagin & Kodiak OCS
Range 0.0 - 11.4 tcf
Mean 2.7 tcf
Sources of Information
NPRA natural gas: USGS Fact Sheet 045-02 (2002)
ANWR natural gas: USGS Fact Sheet 028-01 (2001)
Other onshore natural gas: USGS Circular 1118 (1995)
OCS natural gas: MMS Alaska Federal Offshore Update (2000)
178°
-174°
-166°
-158°
-150°
-142°
-134°
-126°
-118°
-110°
68°
64°
60°
56°

Cook Inlet Geology

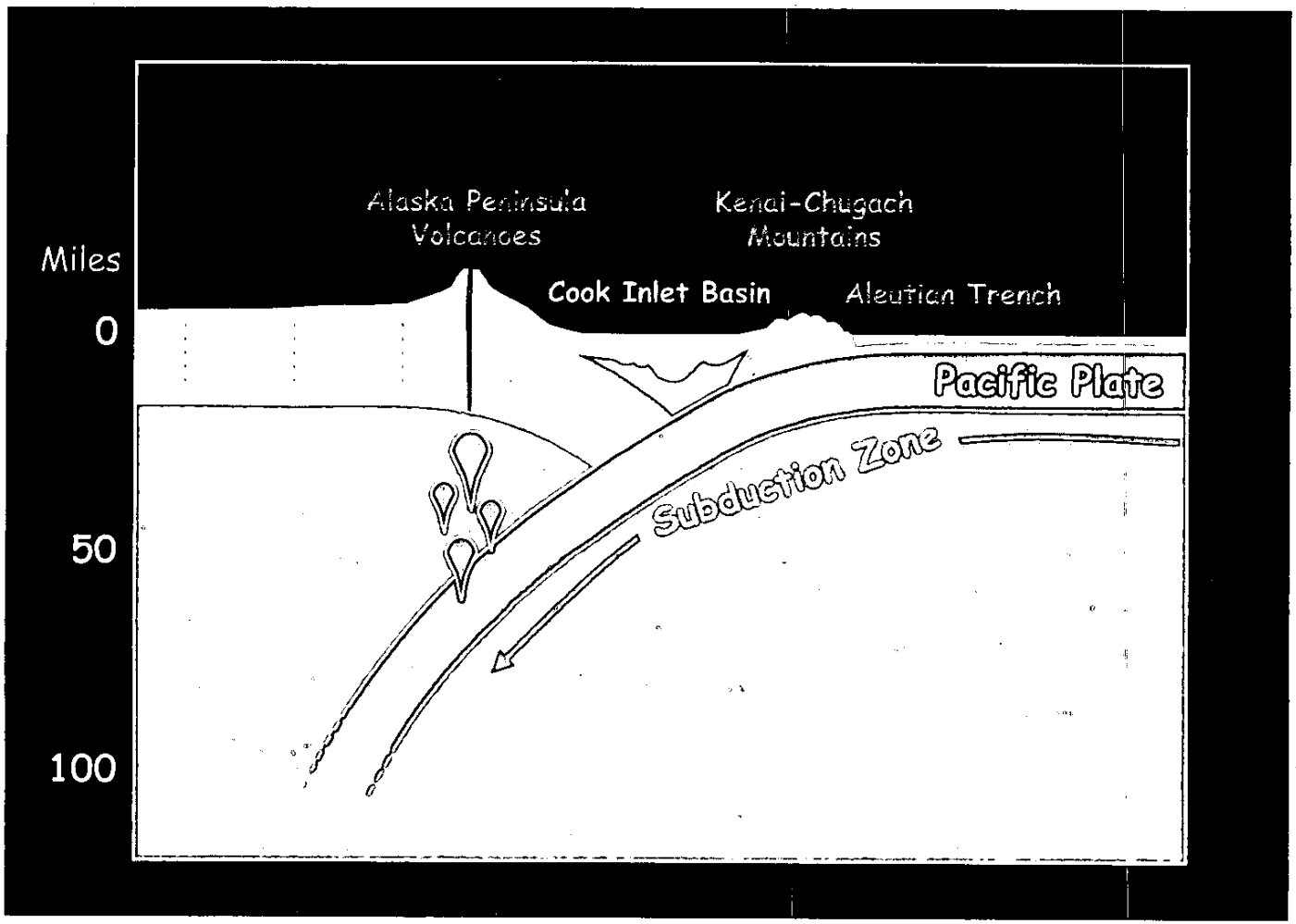
1646



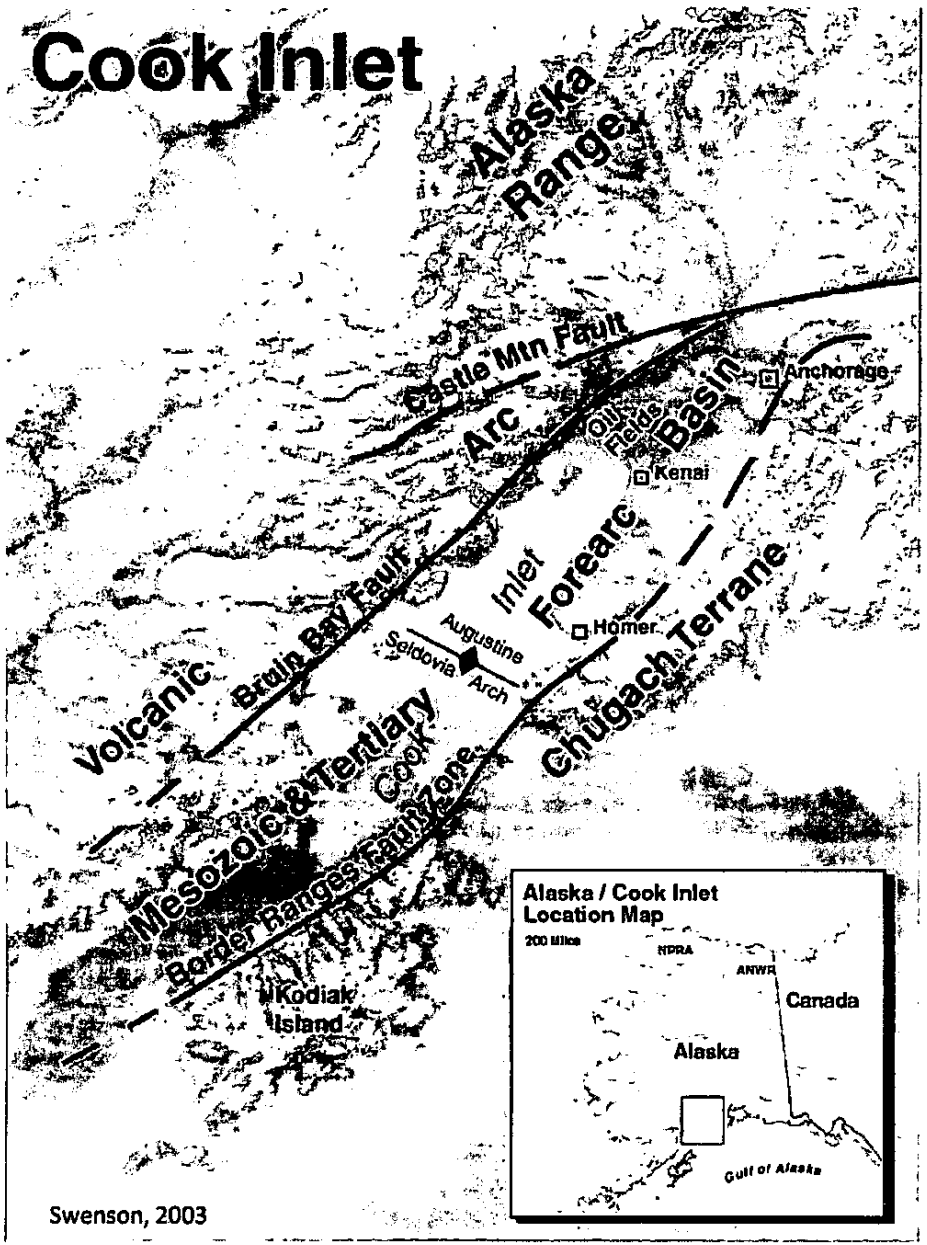
From Chris Nye, DGGS/ Alaska Volcano Observatory

UPPER COOK INLET BASIN
Basin / Reservoir Origins

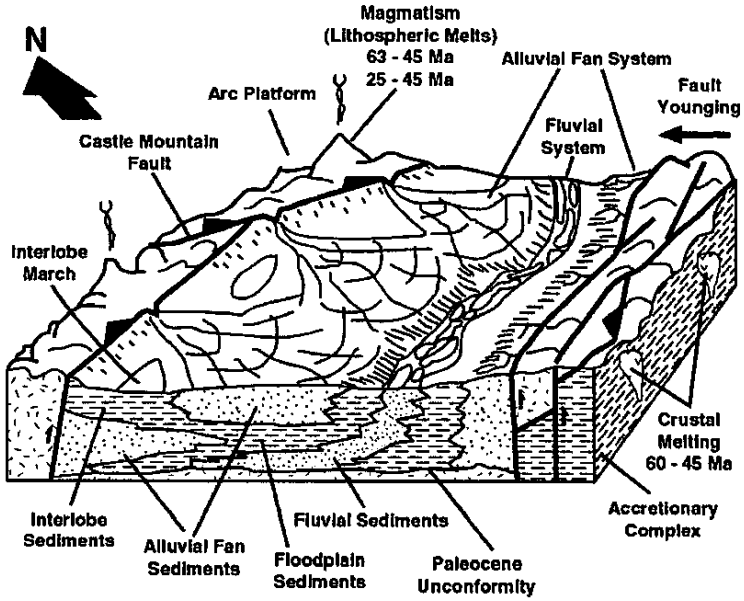
NW SE

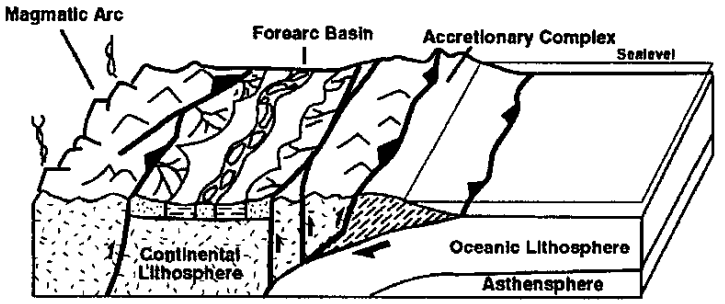


Modified from:
Tornqvist, T., 2005, Principles of Sedimentology and Stratigraphy, University of Chicago, http://www.uic.edu/classes/geol/eaes350/



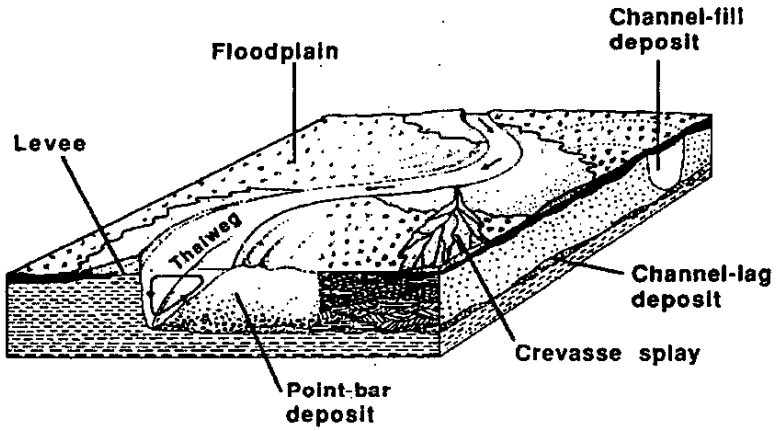
Importance of Provenance

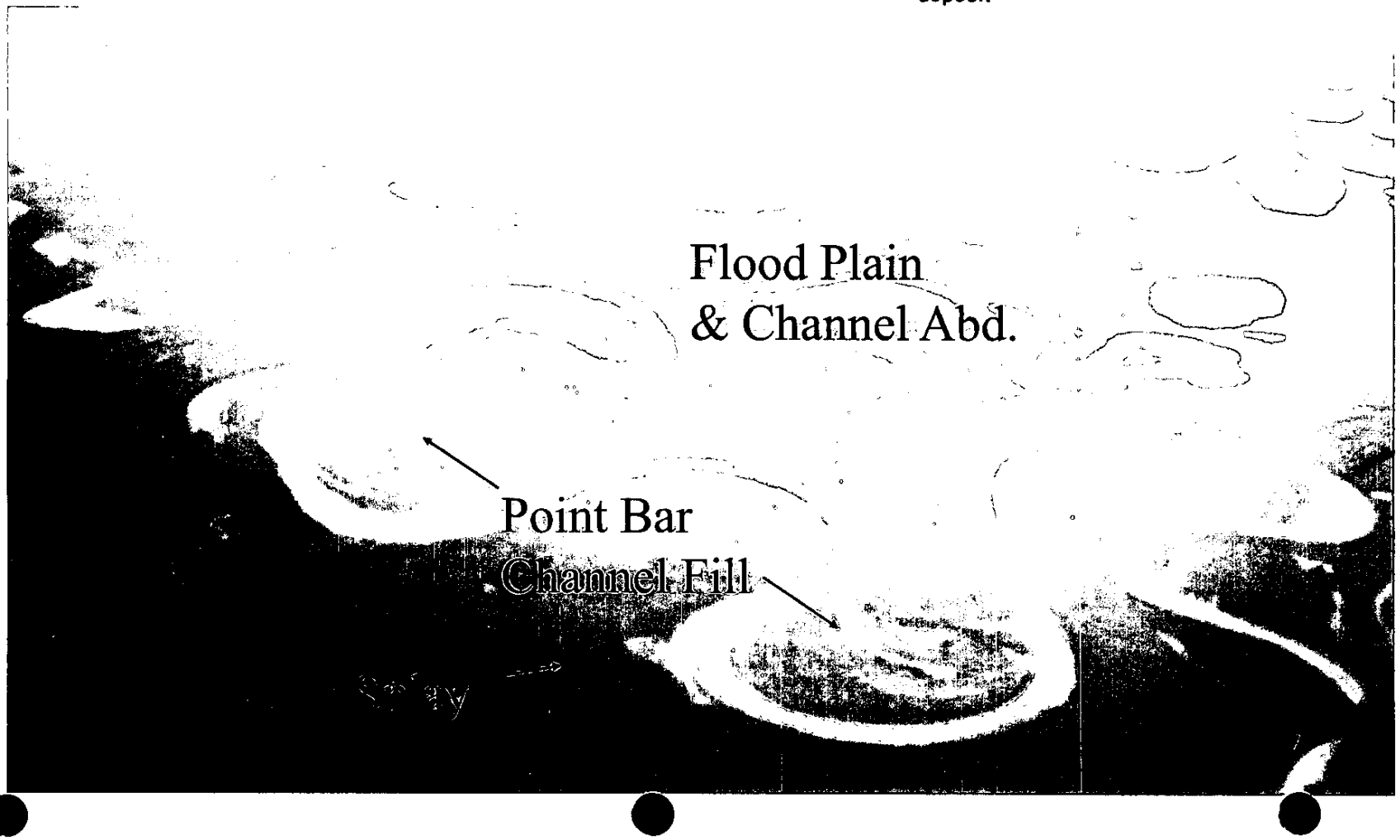




McGowen, et. al., 1994

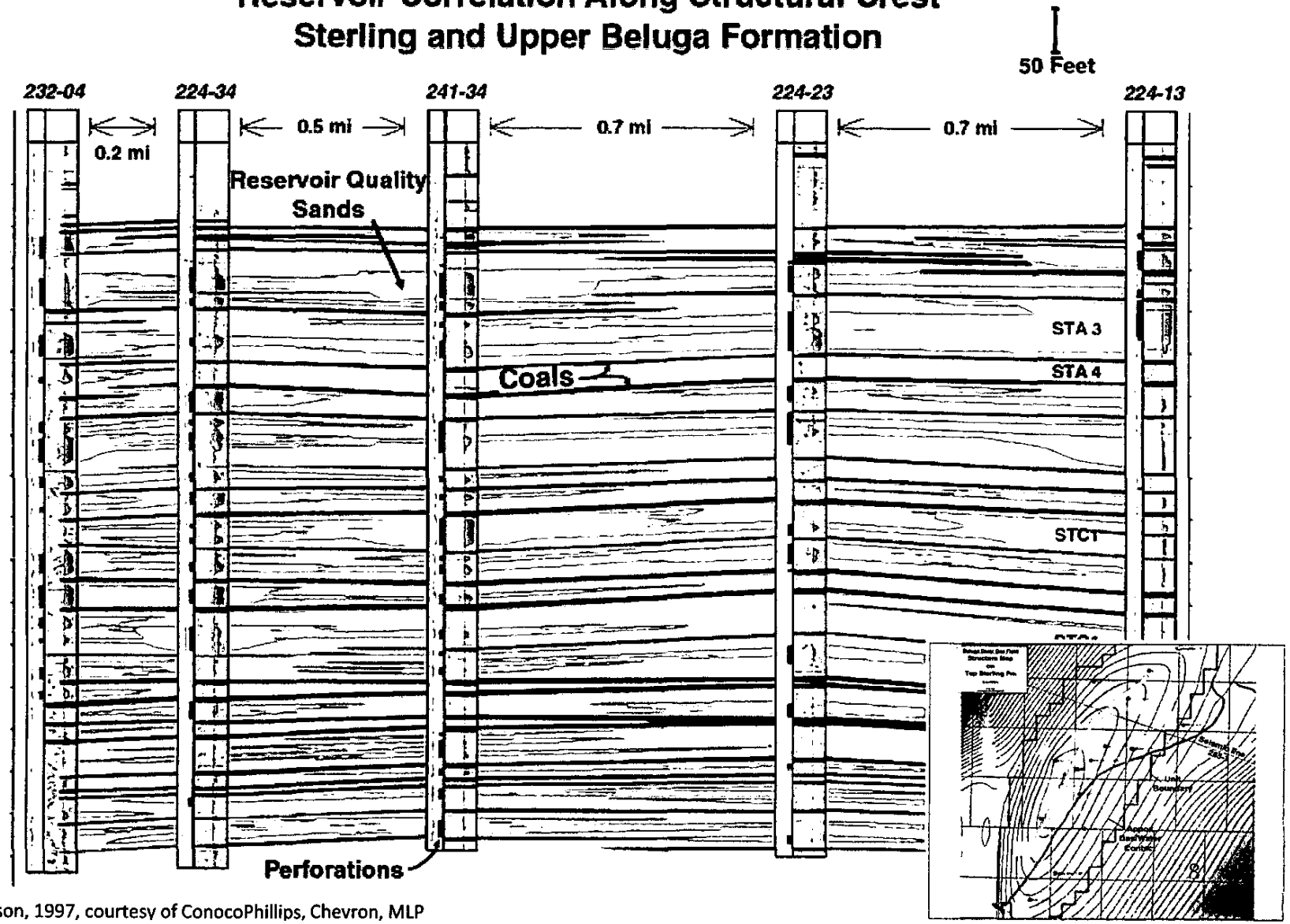
Tertiary Basin Depositional Systems





Sand Distribution in a Fluvial System

Beluga River Gas Field
Reservoir Correlation Along Structural Crest
Sterling and Upper Beluga Formation

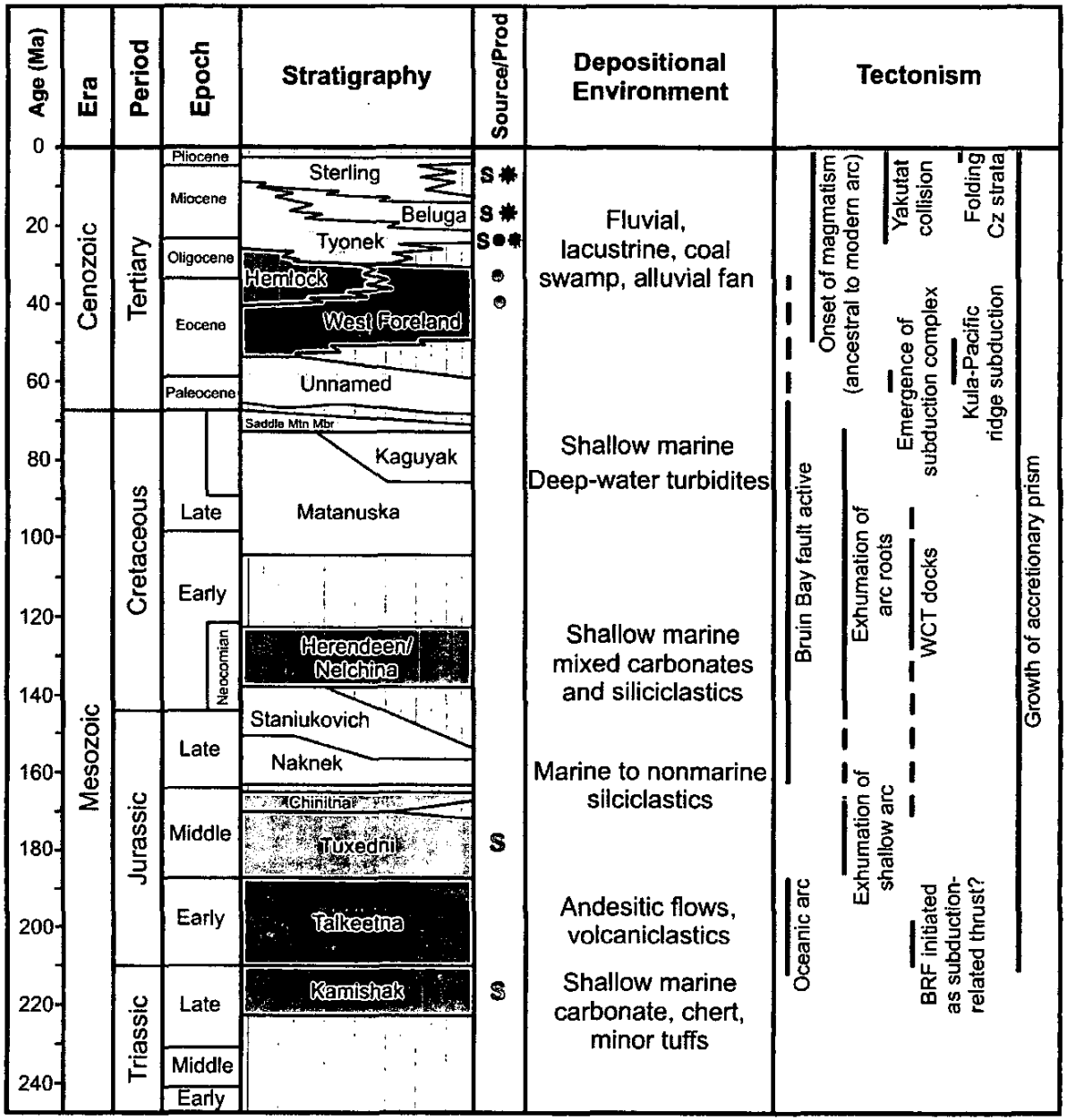


From Swenson, 1997, courtesy of ConocoPhillips, Chevron, MLP

Up to 30,000 feet of Mesozoic marine and marginal-marine strata

Up to 25,000 feet of Tertiary age nonmarine strata

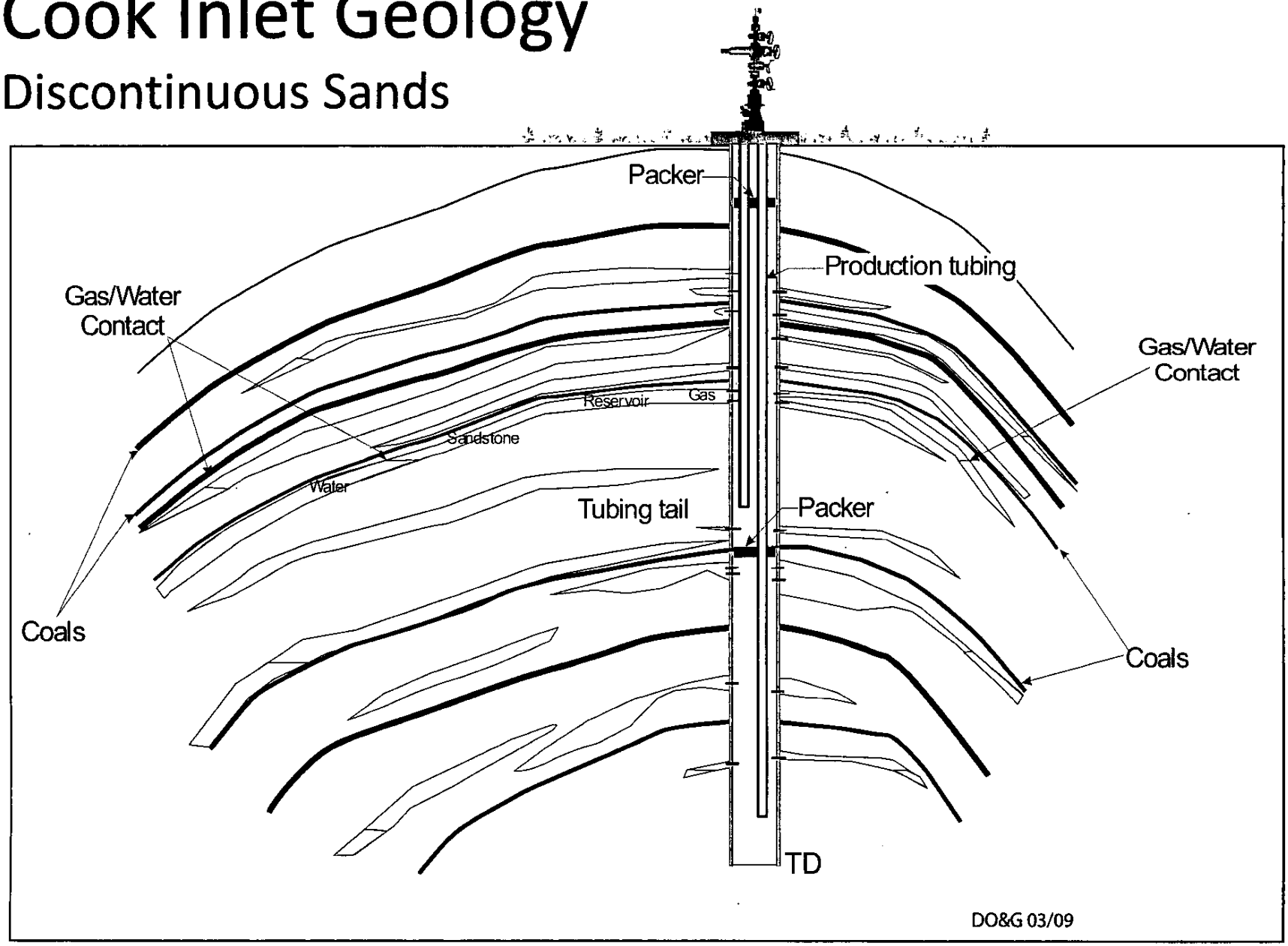
Basin fill modified by folding and faulting

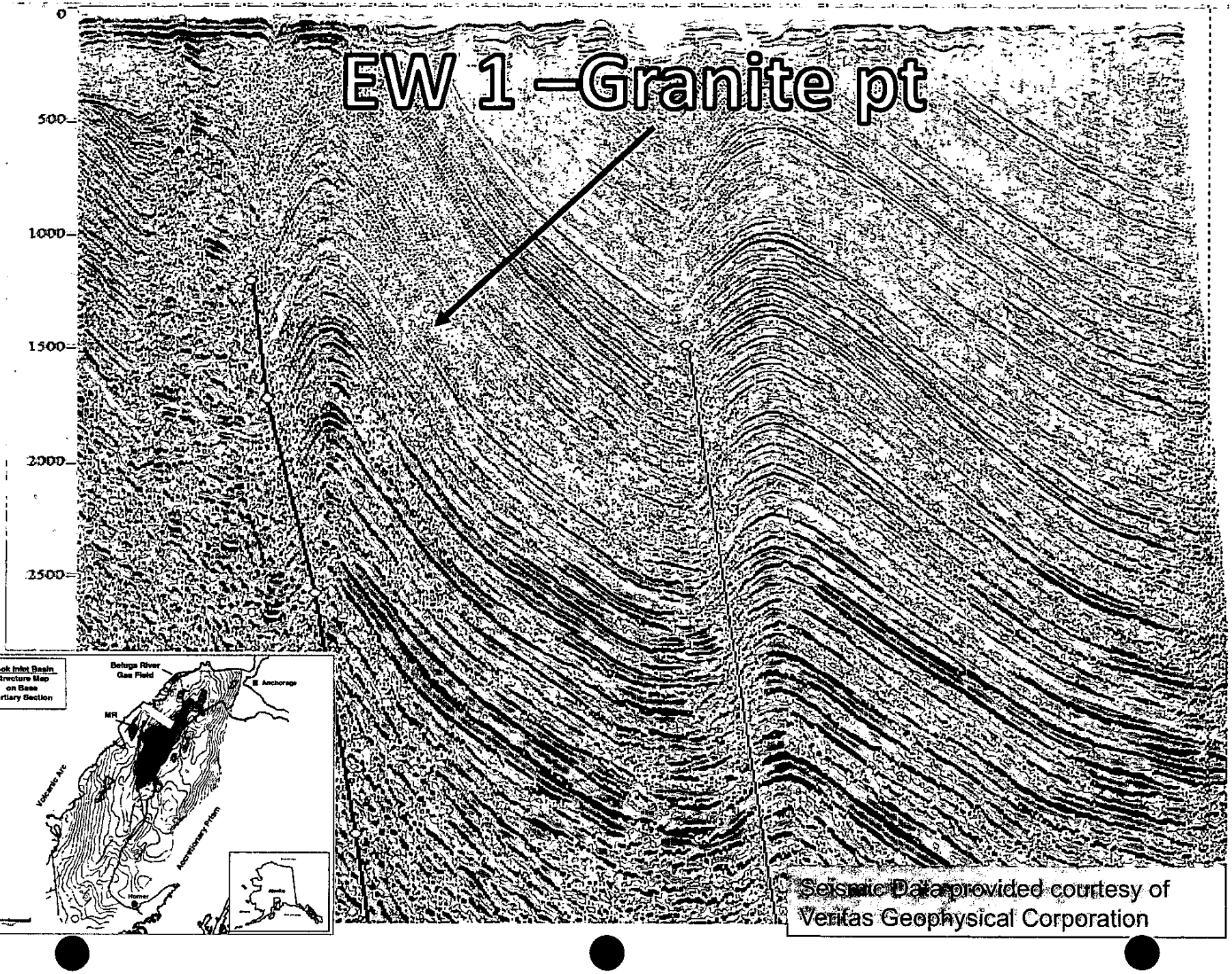


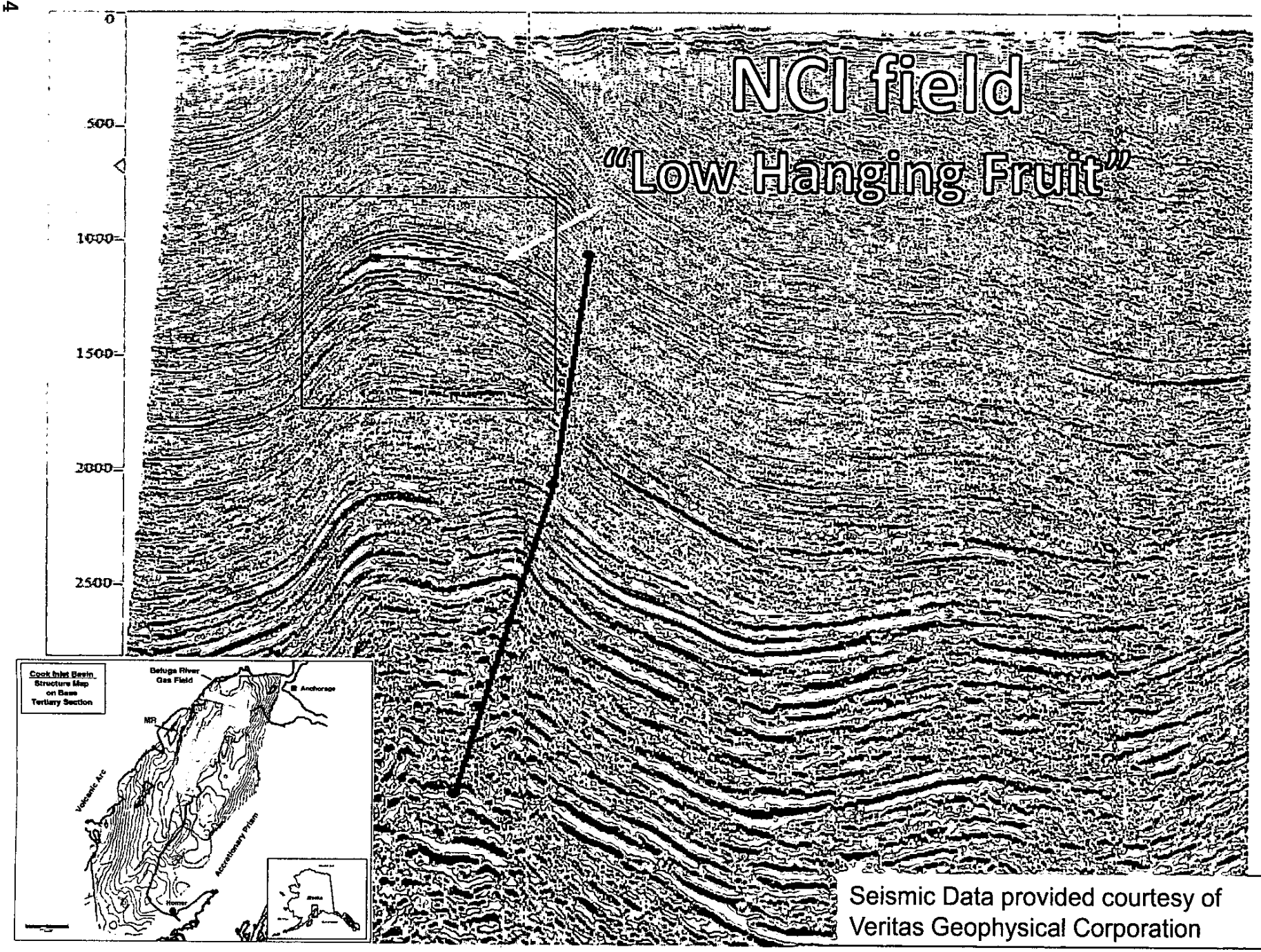
Modified from Curry and others (1993) and Swenson (2002)

Cook Inlet Geology

Discontinuous Sands

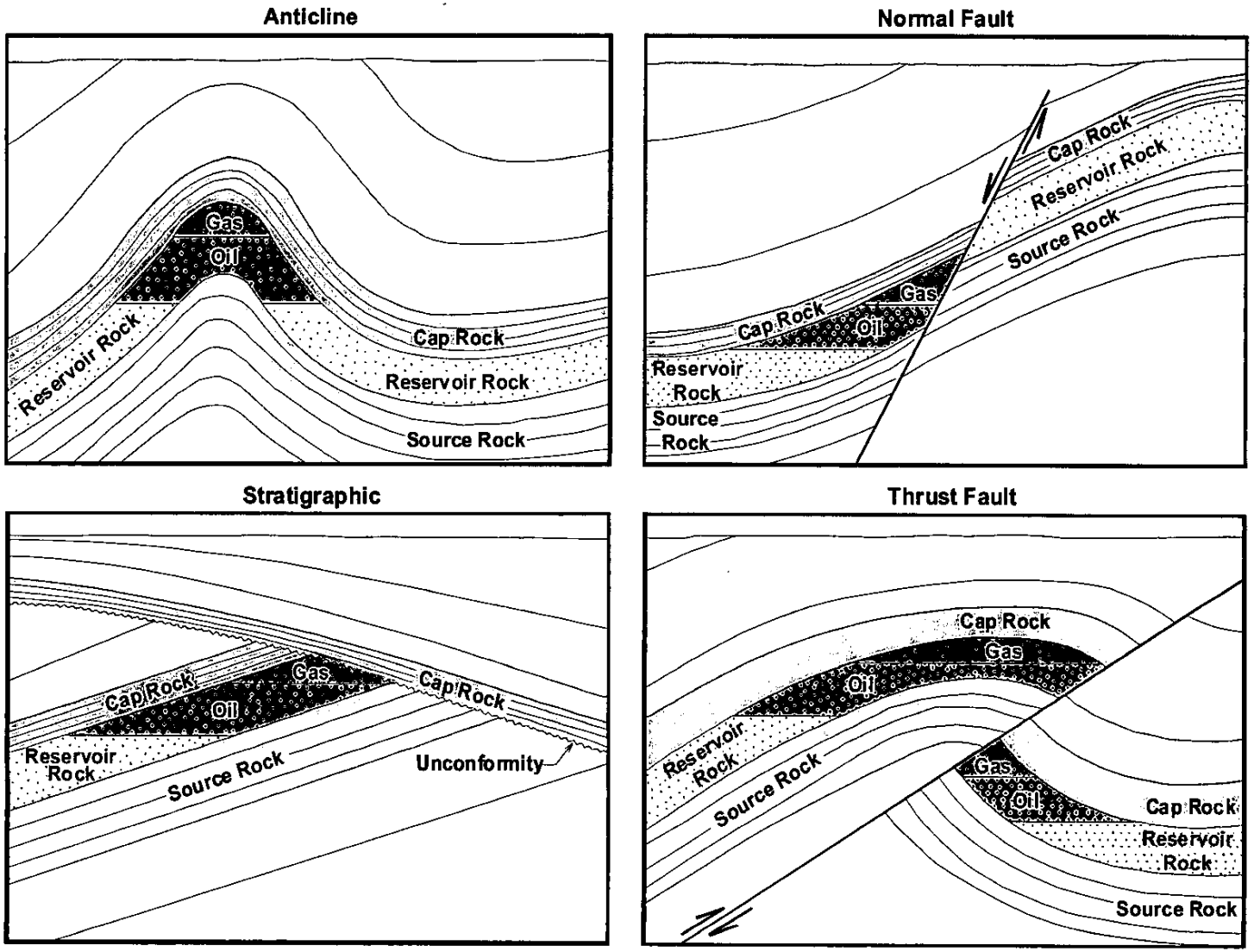



EW 1 –Granite pt
0
500
1000
1500
2000
2500
Cook Inlet Basin
Structure Map
on Base
Tertiary Section
Beluga River
Gas Field
Anchorage
MR
Volcanic Arc
Accretionary Prism
Homer
Seismic Data provided courtesy of
Veritas Geophysical Corporation

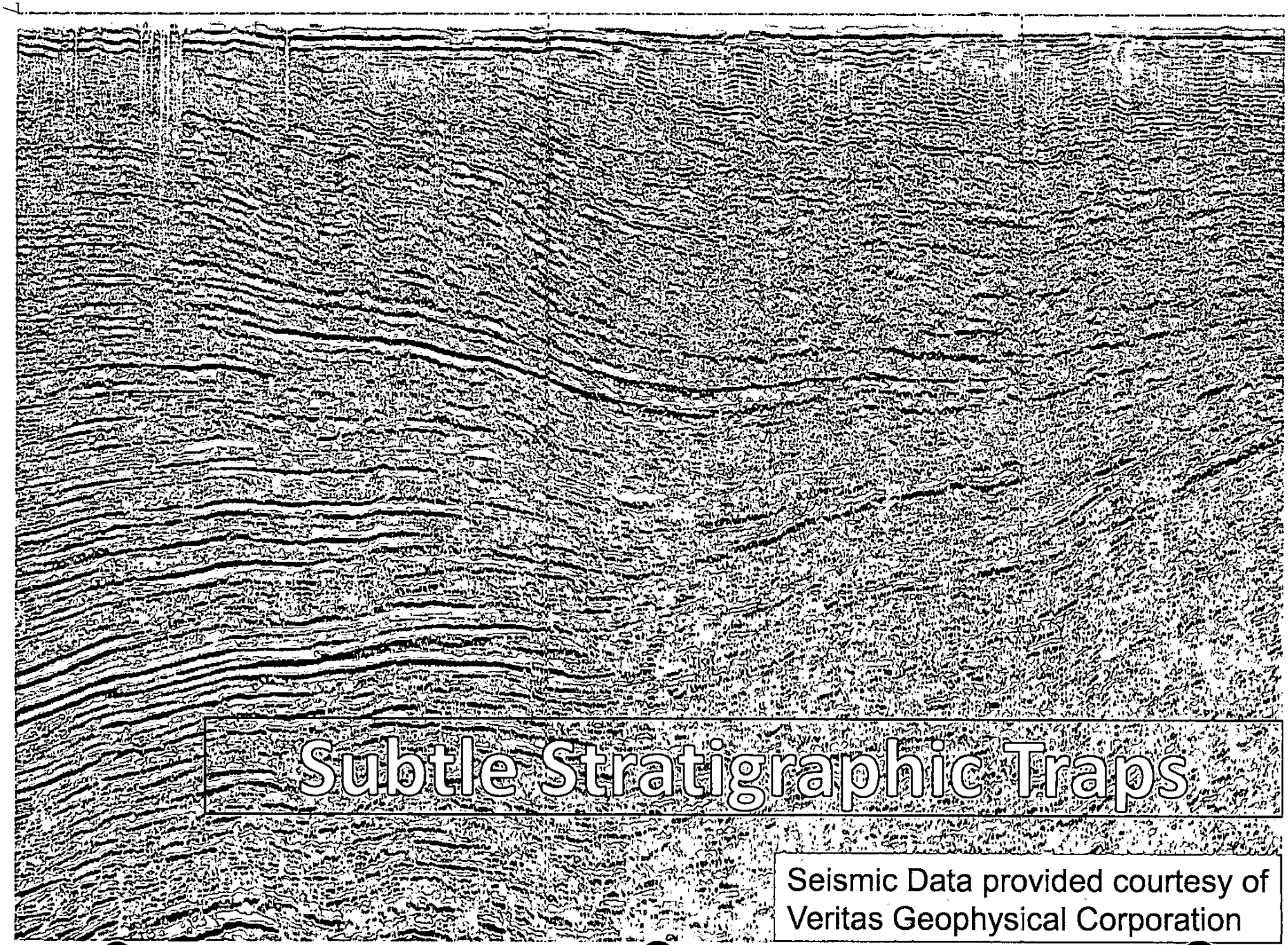

NCI field
"Low Hanging Fruit"
0
500
1000
1500
2000
2500
Cook Inlet Basin
Structure Map
on Base
Tertiary Section
Beluga River
Gas Field
Anchorage
MR
Volcanic Arc
Accretionary Prism
Seismic Data provided courtesy of
Veritas Geophysical Corporation

NC field
"Flat-Spots"
Seismic Data provided courtesy of
Veritas Geophysical Corporation

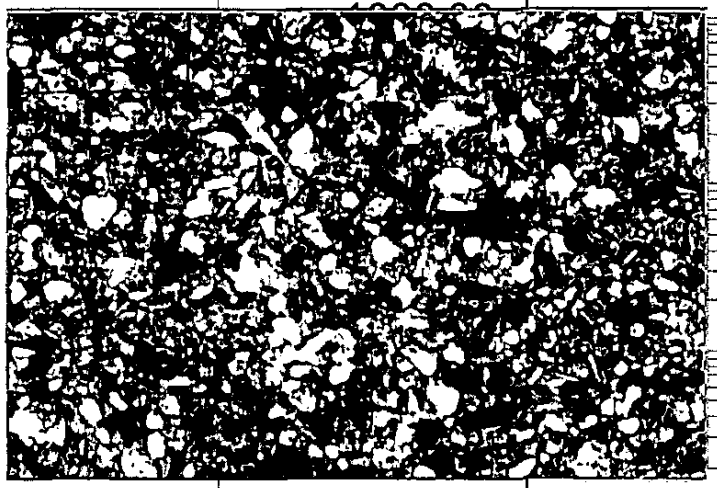
New Gas from New Exploration Play Types

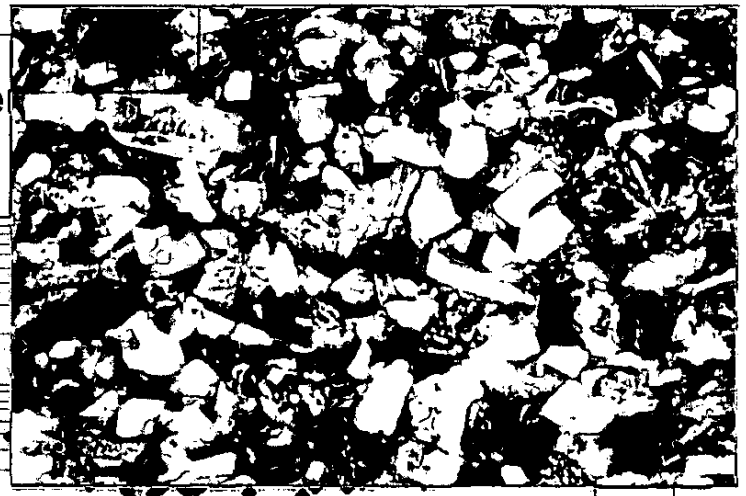


Oil and Gas Trapping Mechanisms

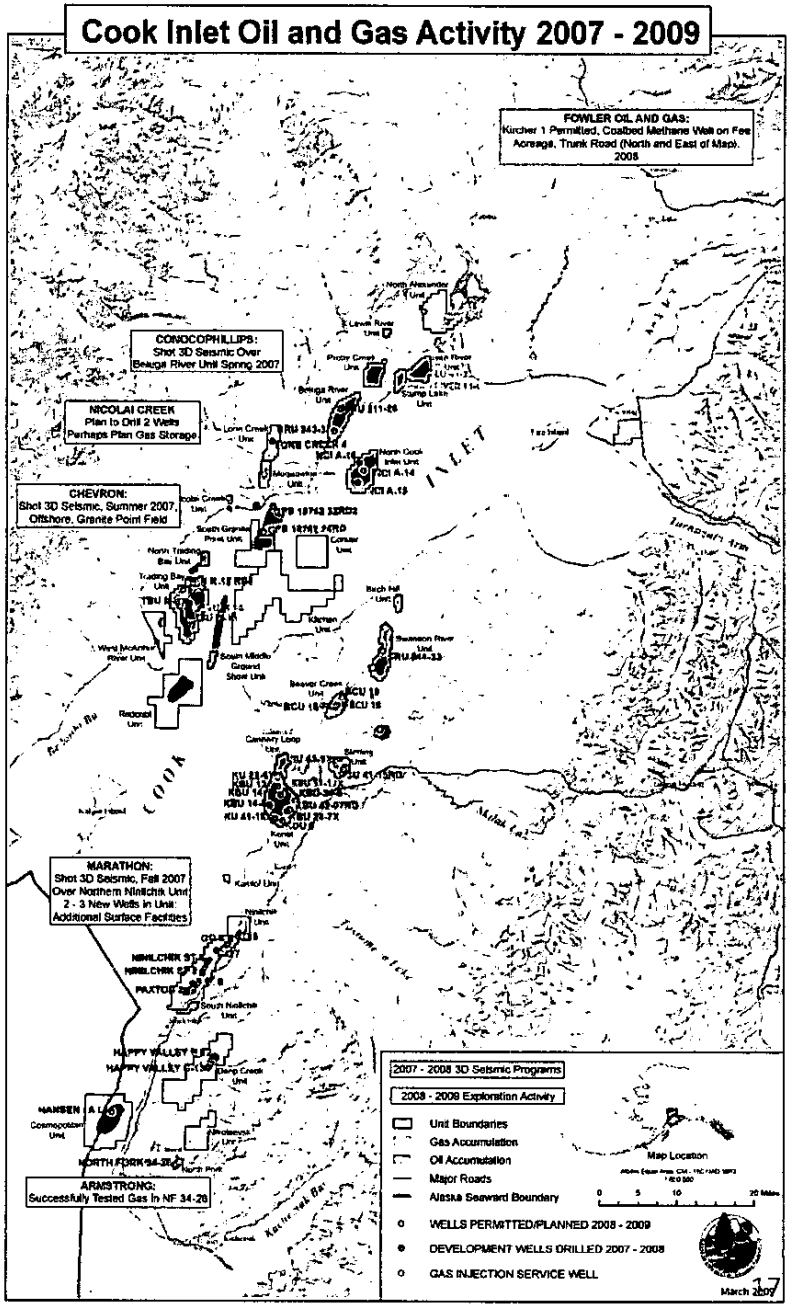

Subtle Stratigraphic Traps
Seismic Data provided courtesy of
Veritas Geophysical Corporation

Tight Gas Sands



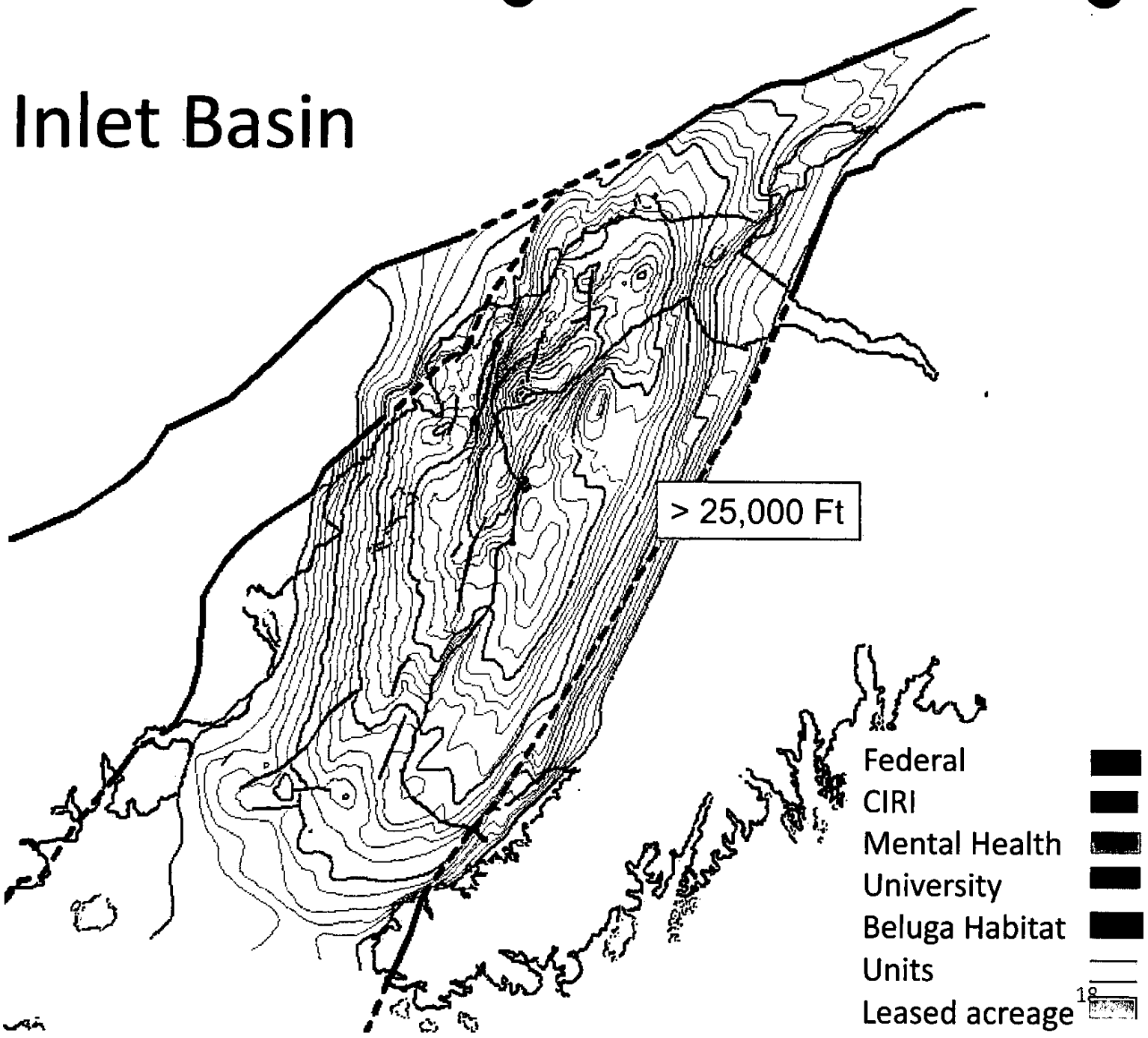


Cook Inlet Industry Activity

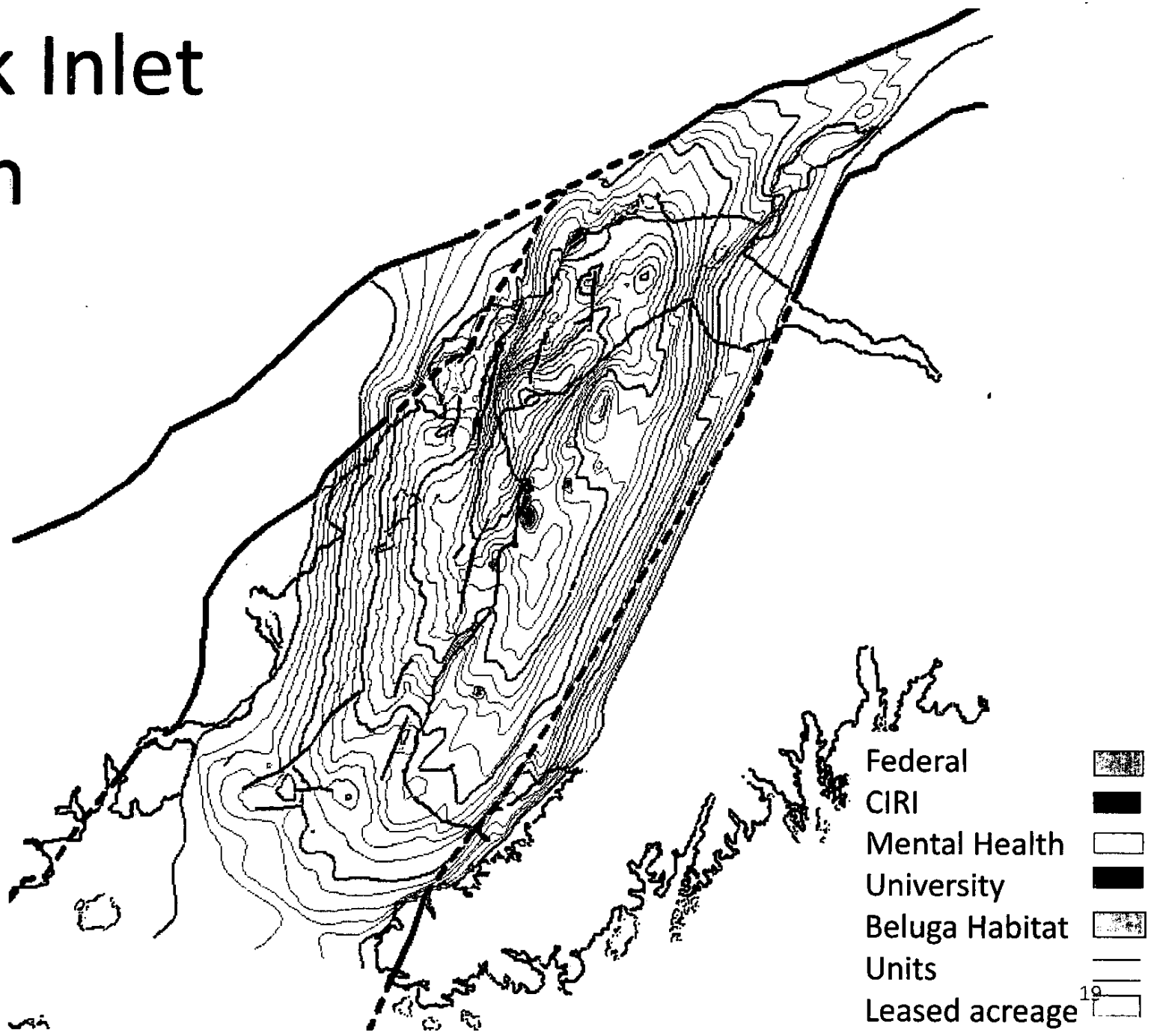


www.dog.dnr.state.ak.us/oil/products/maps/cookinlet/

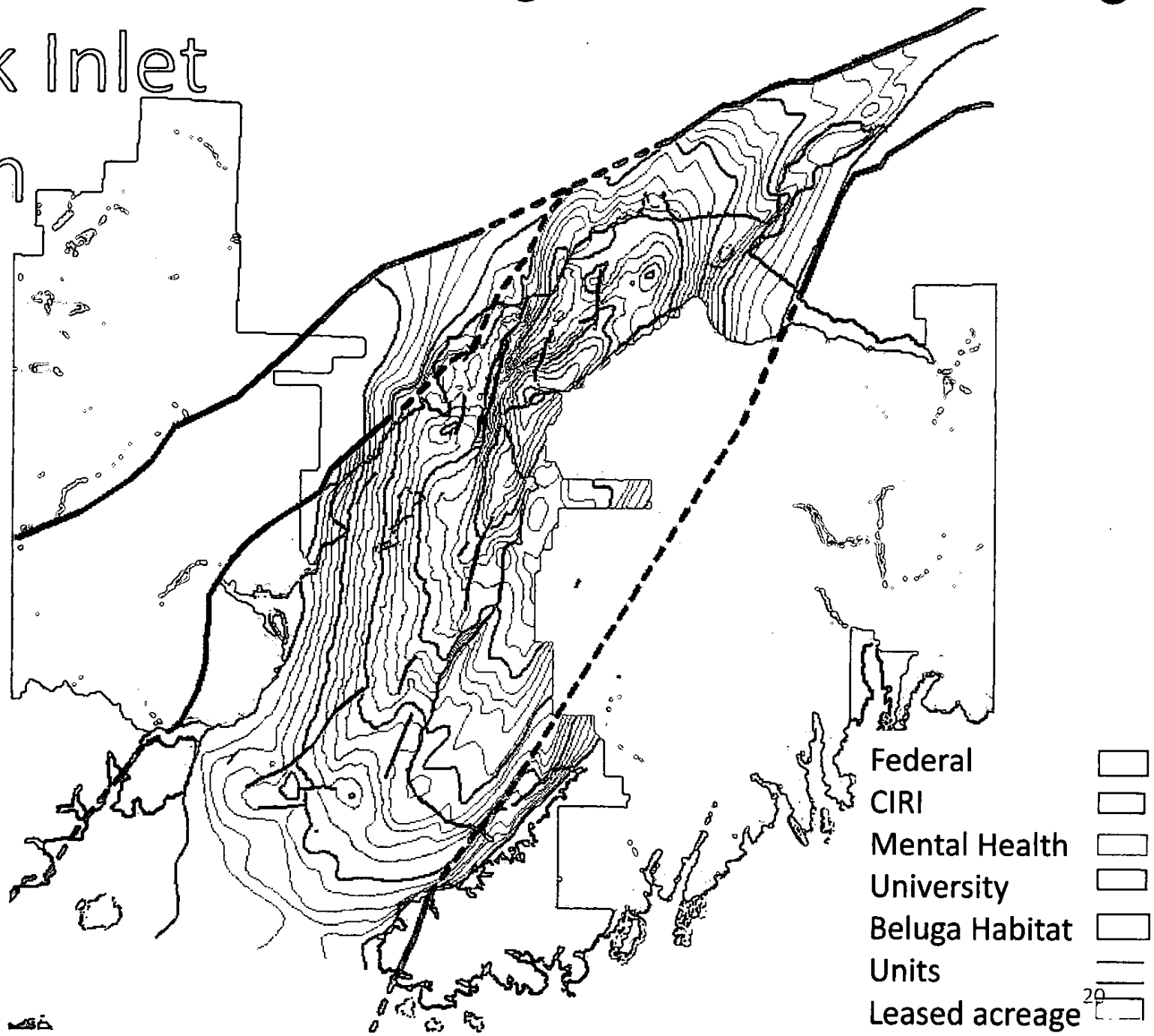
Cook Inlet Basin



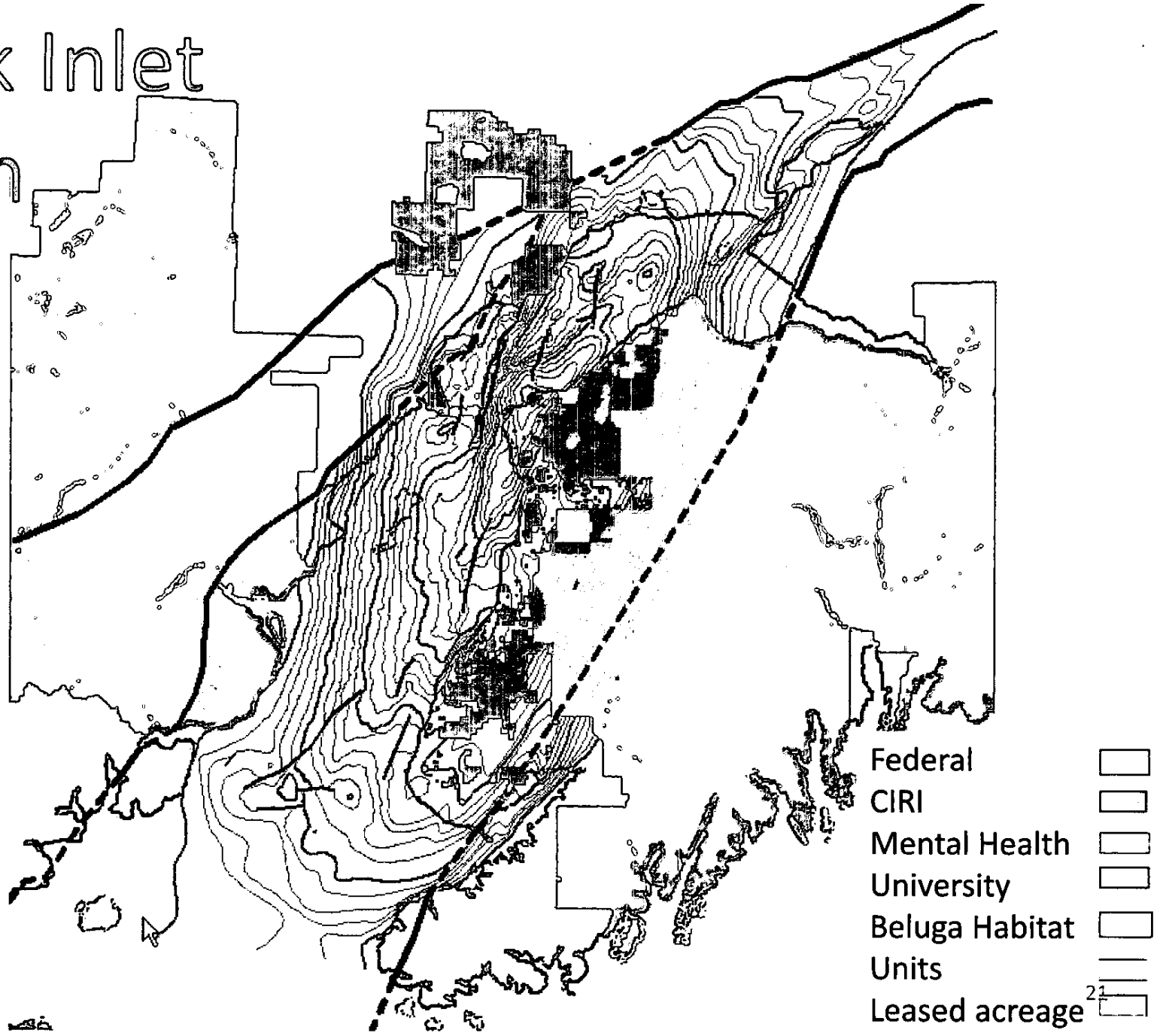
Cook Inlet Basin



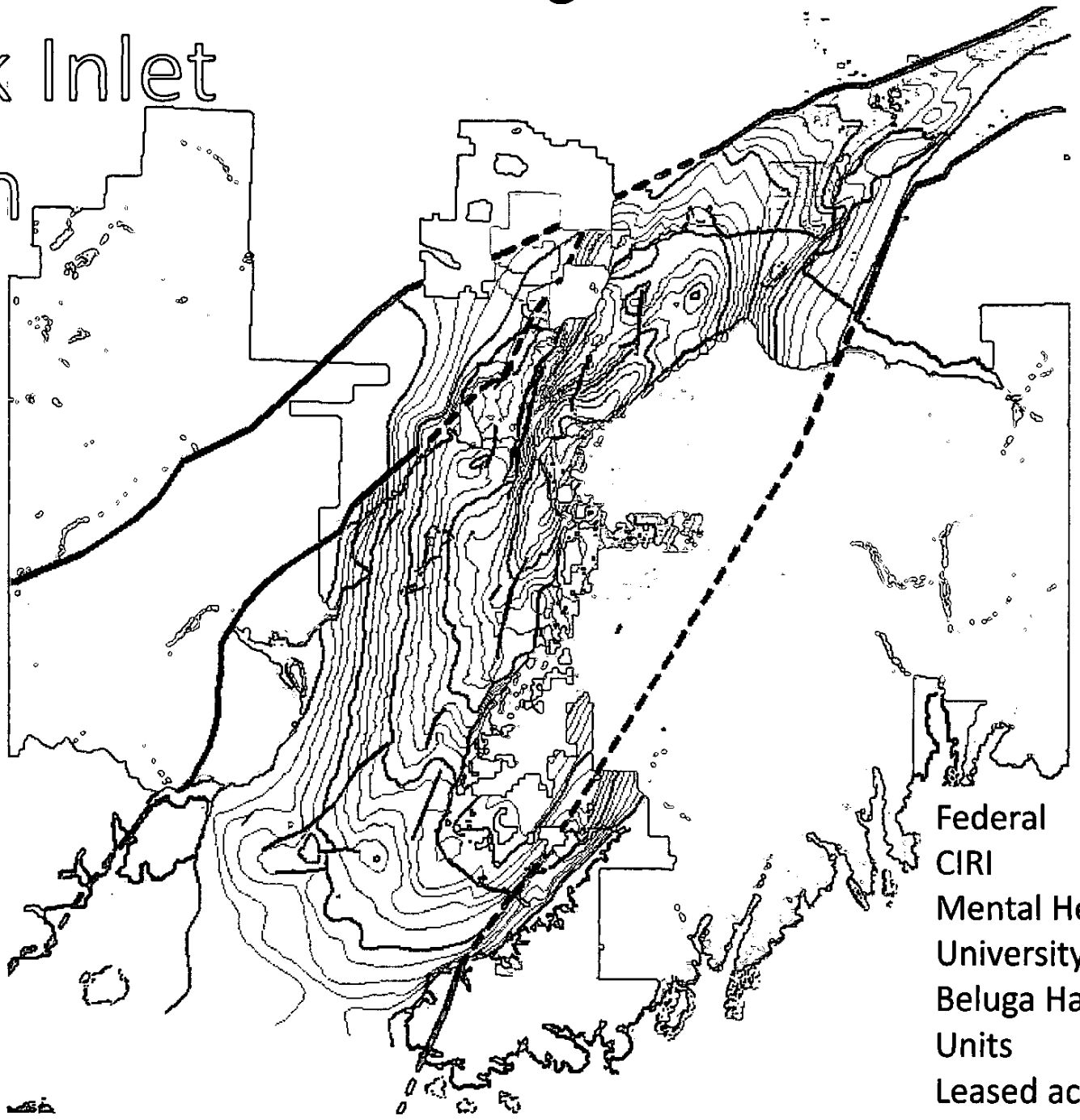
Cook Inlet Basin



Cook Inlet Basin

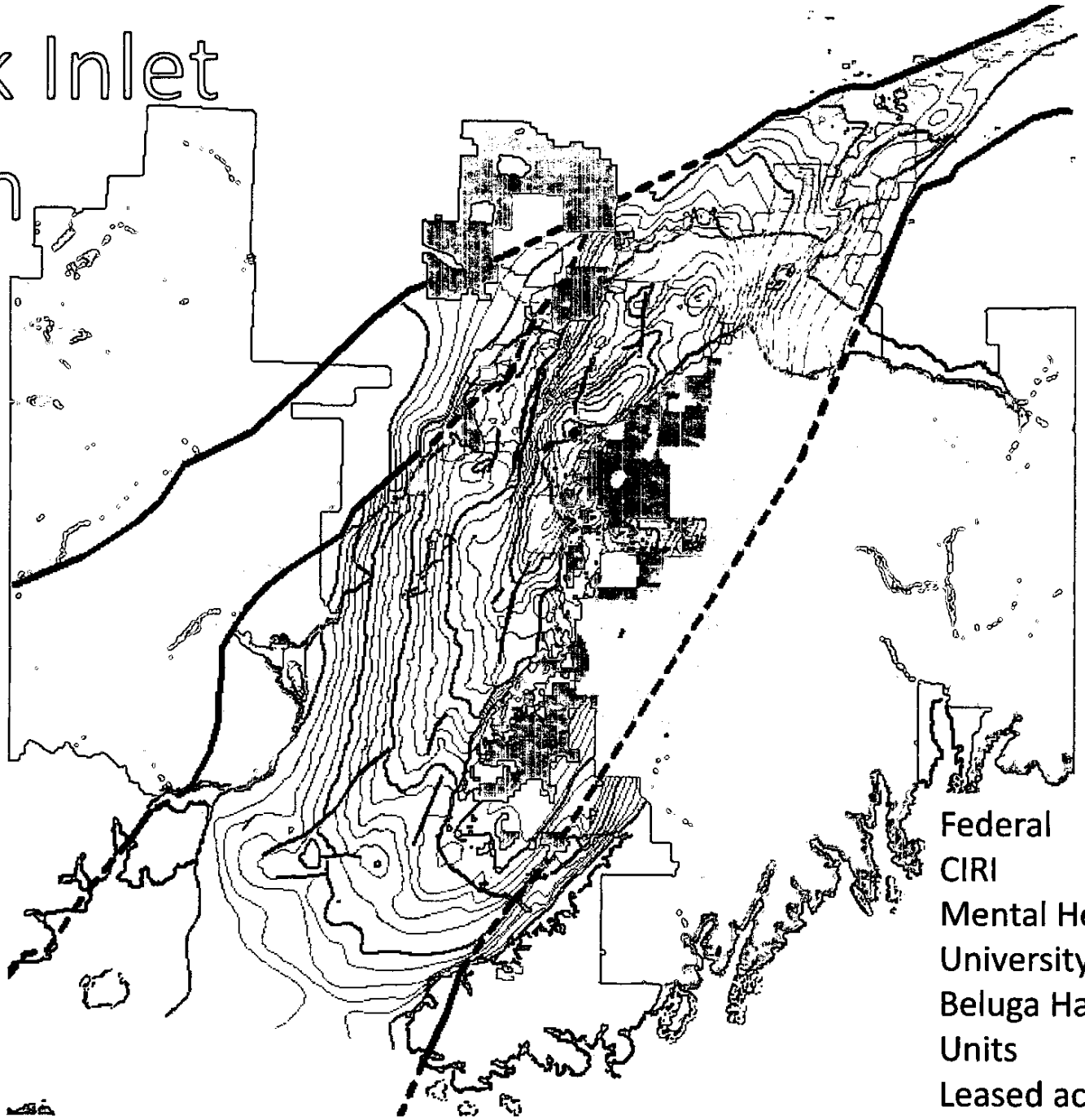


Cook Inlet Basin



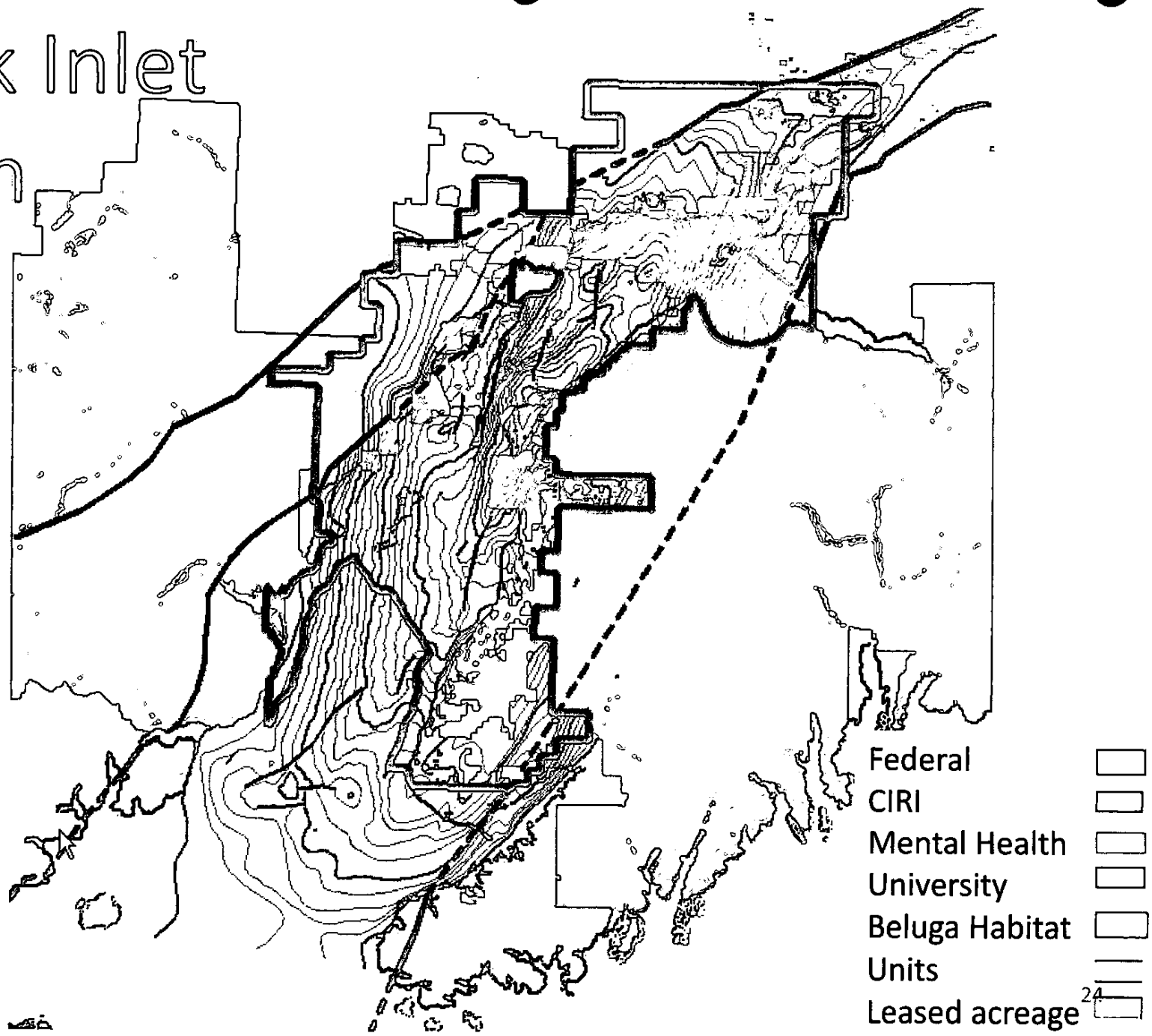
1665

Cook Inlet Basin

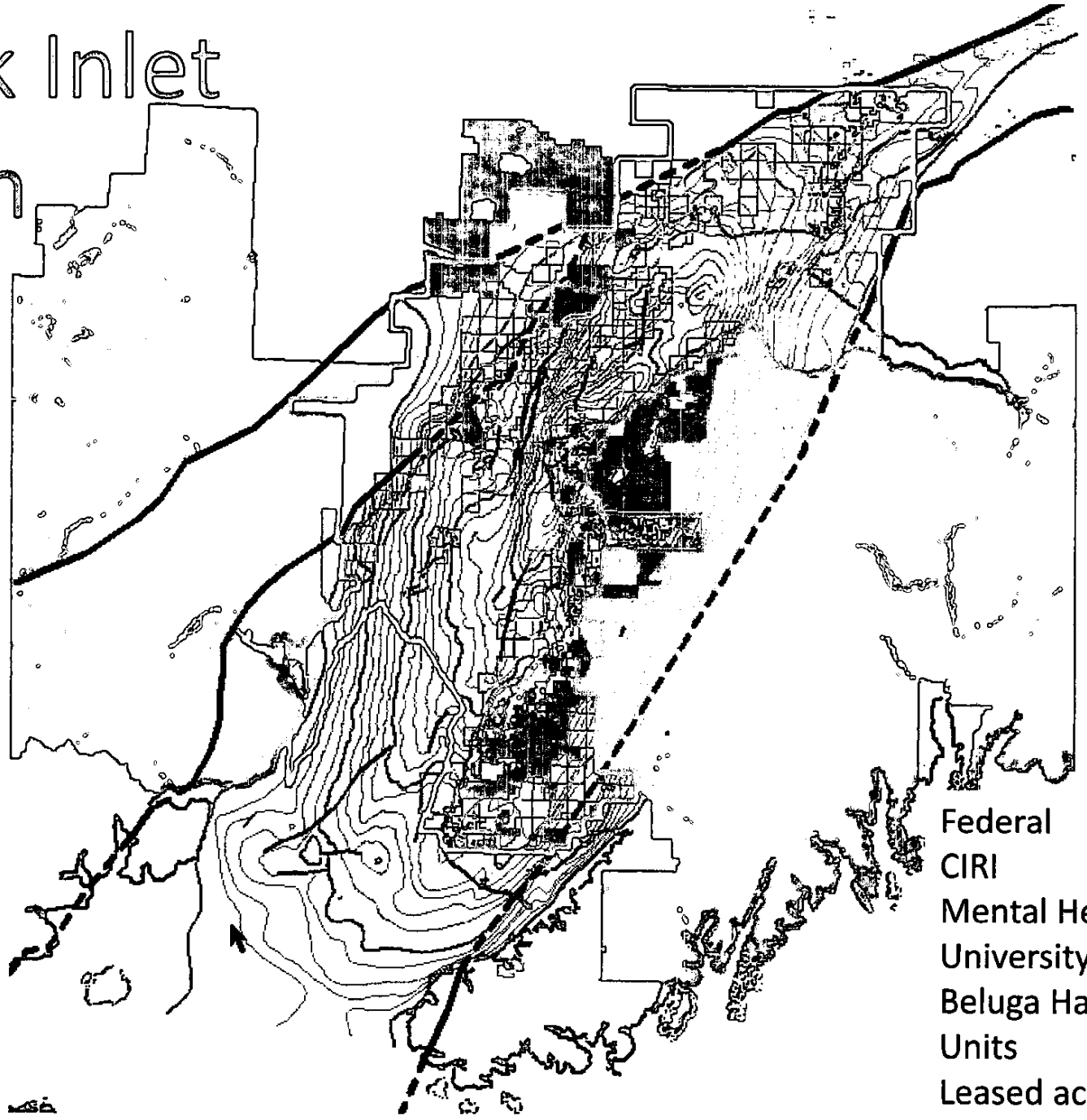


1666

Cook Inlet Basin



Cook Inlet Basin



History of Oil and Gas in Cook Inlet

Oil & Gas Cook Inlet Milestones: 1800s-1940s

1800s: Oil seeps documented along Gulf of Alaska

Early to Mid-1900s: The search for oil continues

1890s
- Oil claims staked on Iniskin Peninsula at Oil Bay

1896
- Oil claims staked at Katalla

1890s

1902
- Oil discovered Katalla
- Wells drilled on Iniskin Peninsula at Dry Bay

1902

1910
- Alaska lands withdrawn from leasing due to oil glut

1910

1920
- Shallow well drilled Anchorage
- Alaska lands reopened for leasing

1928
- Shallow well drilled Chickaloon

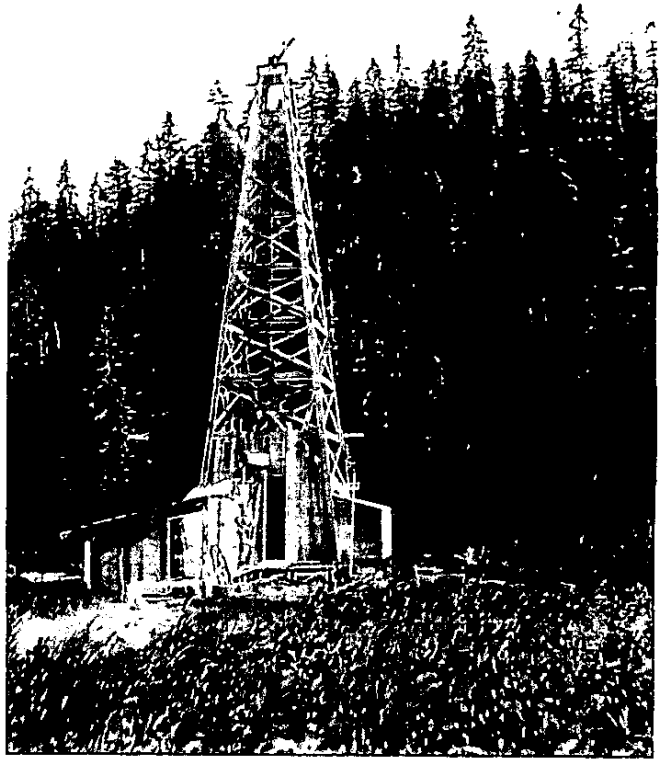
1920

1920s-1940s
- Further exploration on Alaska Peninsula, Iniskin Peninsula, Gulf of Alaska, with no commercial success

1930-1949

1670

Katalla



The Early Years

APRIL-INISKIN WELL -1941
FLOWING 47 GR OIL-1800 #

Oil & Gas Cook Inlet Milestones: 1950-1959

Early 50s: Federal acreage limit per company changes from 15,360 to 100,000 acres

Focus shifts to the Kenai Peninsula

1951
•Sterling Highway completed

1950

Mid-50s: Promoting and brokering leases in Cook Inlet takes off

1953-54
•Richfield & Marathon file for Swanson River leases (71,000 acres) & Unocal files for leases north of Kenai (200,000 acres)

1955
•AK Gulf Oil #1 near Knik & Rosetta #1 near Houston drilled
•Richfield, Marathon & Unocal combine leases to form Swanson River

1953-1955

Late 50s: Leasing rush in southern Alaska, 100 companies active & 18MM acres under lease

1955
•Oil discovered Swanson River

1957
•Chevron buys 50% of ARCO's interest in Cook Inlet for $30MM

1958
Swanson Oil Field production begins

1958
•Gas discovered Deep Creek

1959
•Gas discovered Kenai Gas Field
•Alaska Statehood
•First offshore lease sale Cook Inlet

1956-1959

Oil & Gas Cook Inlet Milestones: 1960-1969

Early 60s: Exploratory drilling activity explodes

1960
- Gas discovered West Fork
- Kenai Gas Field production begins

1961
- Gas discovered Sterling & Falls Creek (Ninilchik)
- 1962
- Gas discovered Beluga River & North CI
- Gas discovered Lone Creek & West Foreland
- Oil discovered Middle Ground Shoal

1960-1962

Mid-60s: Placement of offshore production platforms begins
Exploratory drilling peak: 1966
Development drilling peak: 1968

1964
- Gas discovered Kasilof & Cannery Loop
- Oil discovered Tyonek Deep

1965
- Gas discovered Birch Hill
- Oil & Gas discovered Granite Point & Trading Bay
- Oil discovered McArthur River

1966
- Gas discovered Ivan River & Nicolai Creek

1967
- Gas discovered Beaver Creek
- Gas discovered Moquawkie & North Fork
- Gas discovered 3 Mile Creek 1967
- Oil discovered North Trading Bay
- Oil discovered Starichkof (Cosmopolitan)

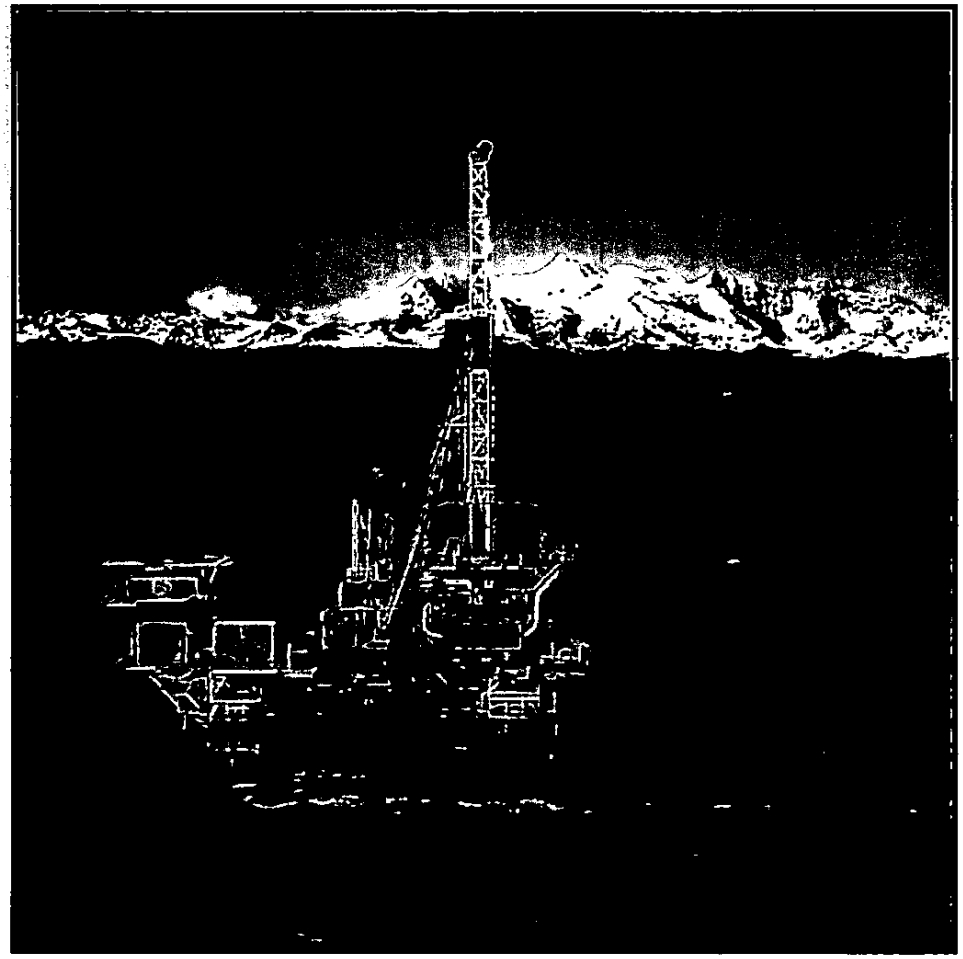
1964-1967

1968
- Oil discovered Prudhoe Bay
- Oil discovered Redoubt Shoal
- Gas discovered Albert Kaloa, Lewis River
- Unocal fertilizer plant starts operation

1969
- Moon Landing
- Gas discovered Pretty Creek
- Nikiski LNG begins exporting to Japan
- Tesoro Refinery begins operation

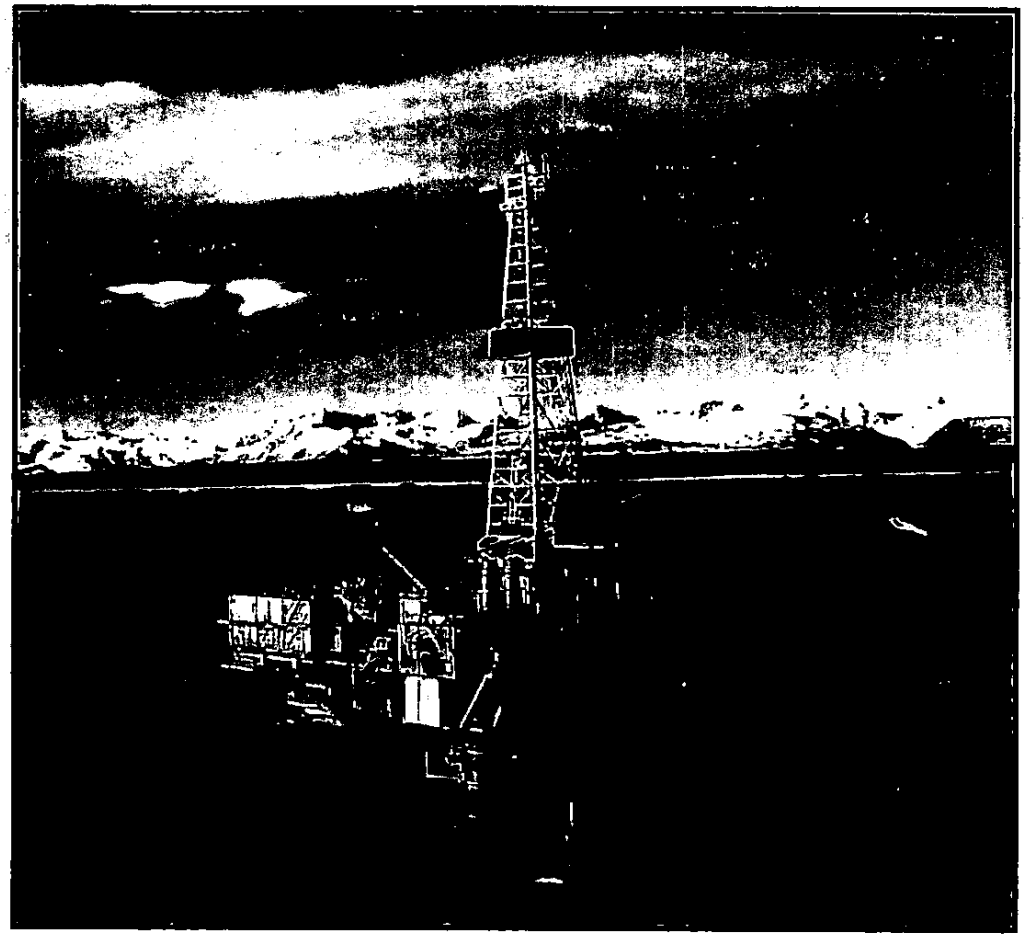
1968-1969

Baker Platform, Cook Inlet



CIRCAC

Monopod Platform, Cook Inlet



CIRCAC

Cook Inlet Oil & Gas Milestones: 1970 - 1989

Early 70s: Exploration in Gulf of Alaska, federal OCS

1970
- CI Oil peaks at 225,000 b/d
- Gas discovered Nikolaevsk

1971
- ANCSA gives AK Natives 44MM acres and $962MM in cash

1976
- Tesoro pipeline from Nikiski refinery to Anchorage airport & port
- Permanent Fund established

1970-1976

Late 70s: Gas exploration increases as new LNG and iron ore reduction projects are considered

1977
- TAPS completed

1978
- Gas discovered Stump Lake
- Unocal fertilizer plant at Nikiski expanded 1978

1977-1979

Early 80s: Exploration in lower C.I., federal OCS, Upper C.I. at Kalgin Island, Fire Island, and S.R.S.

1981
- Legislature decrees state to receive all seismic data shot on its lands

1983
- Gas discovered Wolf Lake

1985
- Marathon installs Steelhead platform

1989
- Valdez oil spill in Prince William Sound 1989
- Natural gas prices deregulated 1989

1980-1984

Mid to Late 80s: Recession – oil price crash and state spending cut; 1 in 10 jobs disappear from Alaska workforce

1985-1989

Cook Inlet Oil & Gas Milestones: 1990 - 1999

1990s: Anadarko partners with ARCO
Union Texas partners with CIRI
Forcenergy partners with Stewart, DANCO, Marathon and Unocal

1990
•Ocean Energy succeeds Unocal as operator of Pioneer Unit in MatSu Coalbed Methane project

1991
•Oil discovered West McArthur River

1992
•Petro Star builds Valdez refinery

1993
•ARCO continues SCI and Sunfish drilling campaign (science driven)

1990-1993

1994
•Union Texas explores CIRI land

1994

1996
•Cook Inlet gas peaks at 223 bcf/year
•State starts areawide leasing

1998
•Cross Timbers (XTO) purchases Shell's interest in Middle Ground Shoal Field

1999
•Nikiski LNG plant export license extended 10 years

1995-1999

Cook Inlet Oil & Gas Milestones: 2000-2006

Focus shifts to Lesser Known Players: Armstrong, Aurora, Stormcat, Pelican, Escopeta, Rutter & Wilbanks, Benchmark, Geopetro enter CI

2000
- Osprey platform set at Redoubt Shoal
- Agrium buys Unocal fertilizer plant at Nikiski

2001
- Seven natural gas exploration wells drilled in CI
- Evergreen succeeds Ocean
- BP's Gas to Liquids plant begins operating in Kenai

2000-2001

2002
- Production begins Redoubt Shoal
- Dillion & Baker platforms shut in
- Aurora buys last of Anadarko's CI Assets
- Swanson River gas storage

2003
- Alaska Stranded Gas Development Act reauthorized

2005
Pretty Creek Gas Storage project

2006
- RCA rejects APL-5 (Henry Hub)
- Kenai (2006) Gas Storage project

2002-2006

Cook Inlet Oil & Gas Milestones: 2007-2009

Focus shifts to Lesser Known Players: Armstrong, Aurora, Stormcat, Pelican, Escopeta, Rutter & Wilbanks, Benchmark, Geopetro enter CI

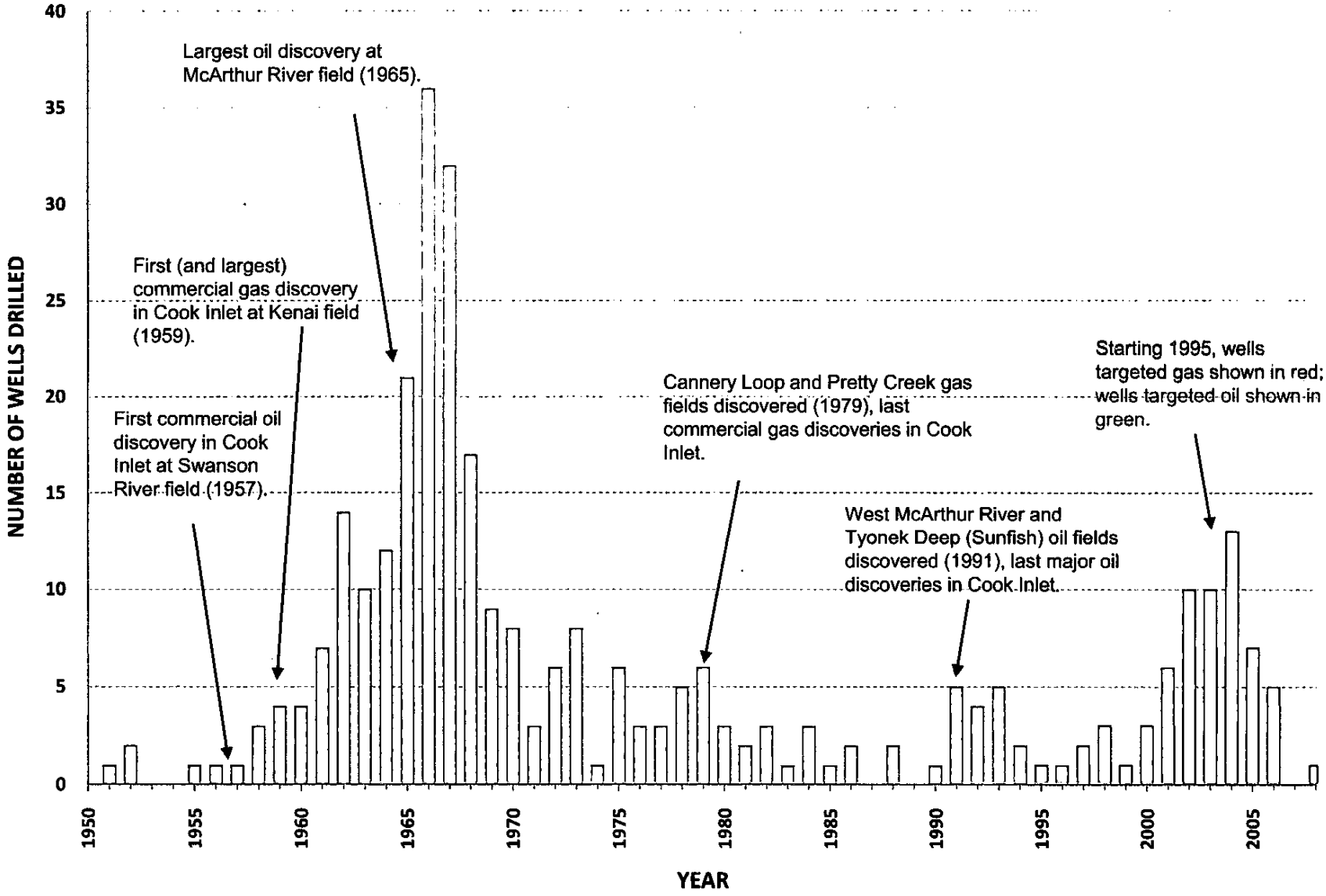
2007
- Pacific buys Forest assets
- Agrium closes fertilizer plant
- Corsair, Kitchen Units formed first offshore units in CI since Redoubt in 1997
- Pioneer at Cosmopolitan Hansen well sidetrack
- Chevron & Marathon continue to drill for/develop gas at Ninilchik, Kenai & Cannery Loop (ongoing)

2008
- Armstrong, North Fork Unit drills 2nd well – first well drilled 40 years ago, needs pipeline extension from Happy Valley to monetize gas
- RCA accepts APL-6 with stipulations
- Enstar rejects RCA stipulations
- Weighted Average Cost of Gas (WACOG) in effect
- Redevelopment work in Beluga, 2 wells drilled & NCI, 3 wells drilled (2008)
- LNG plant extension through 3/2011

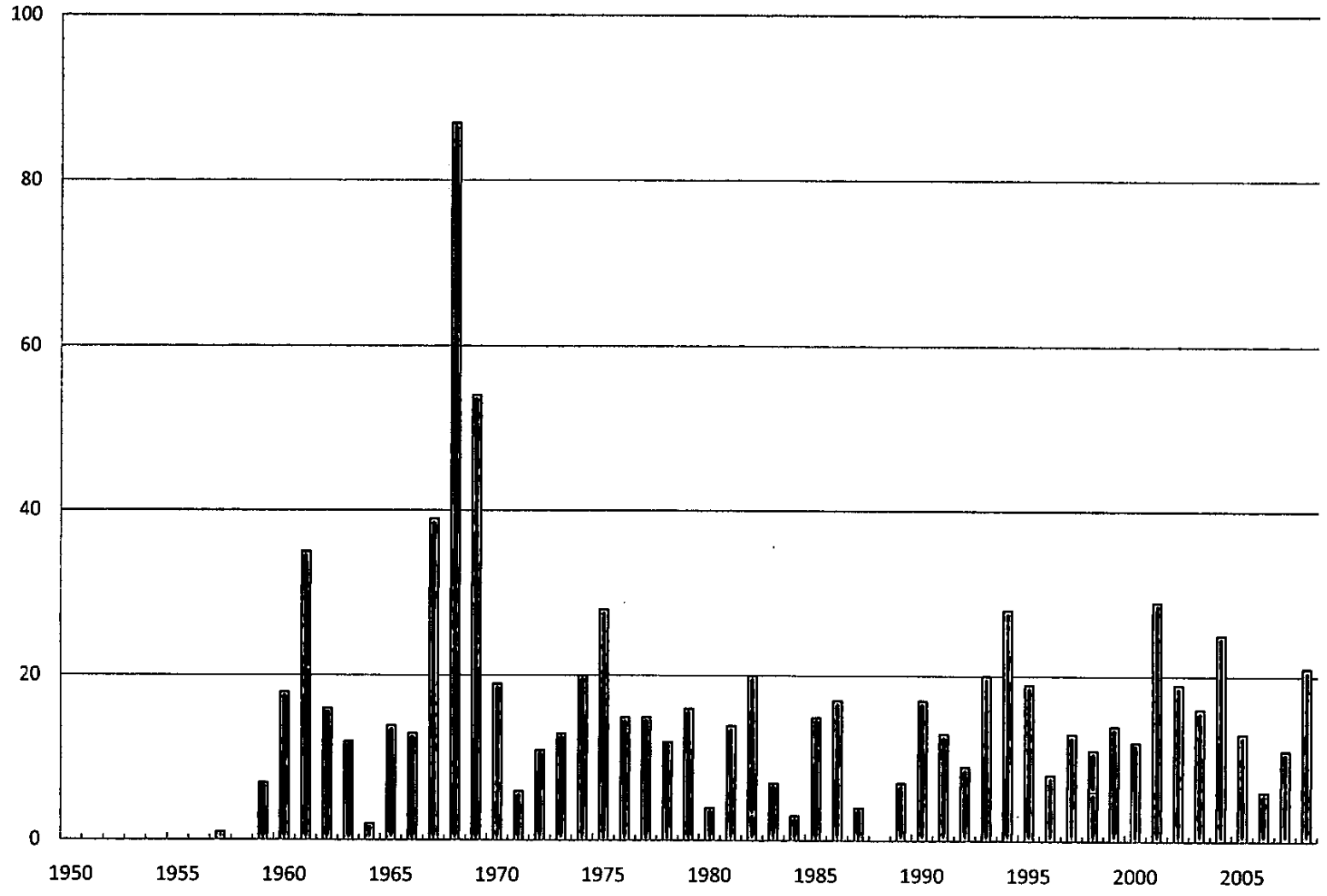
2009
- Pacific files for bankruptcy

2007-2009

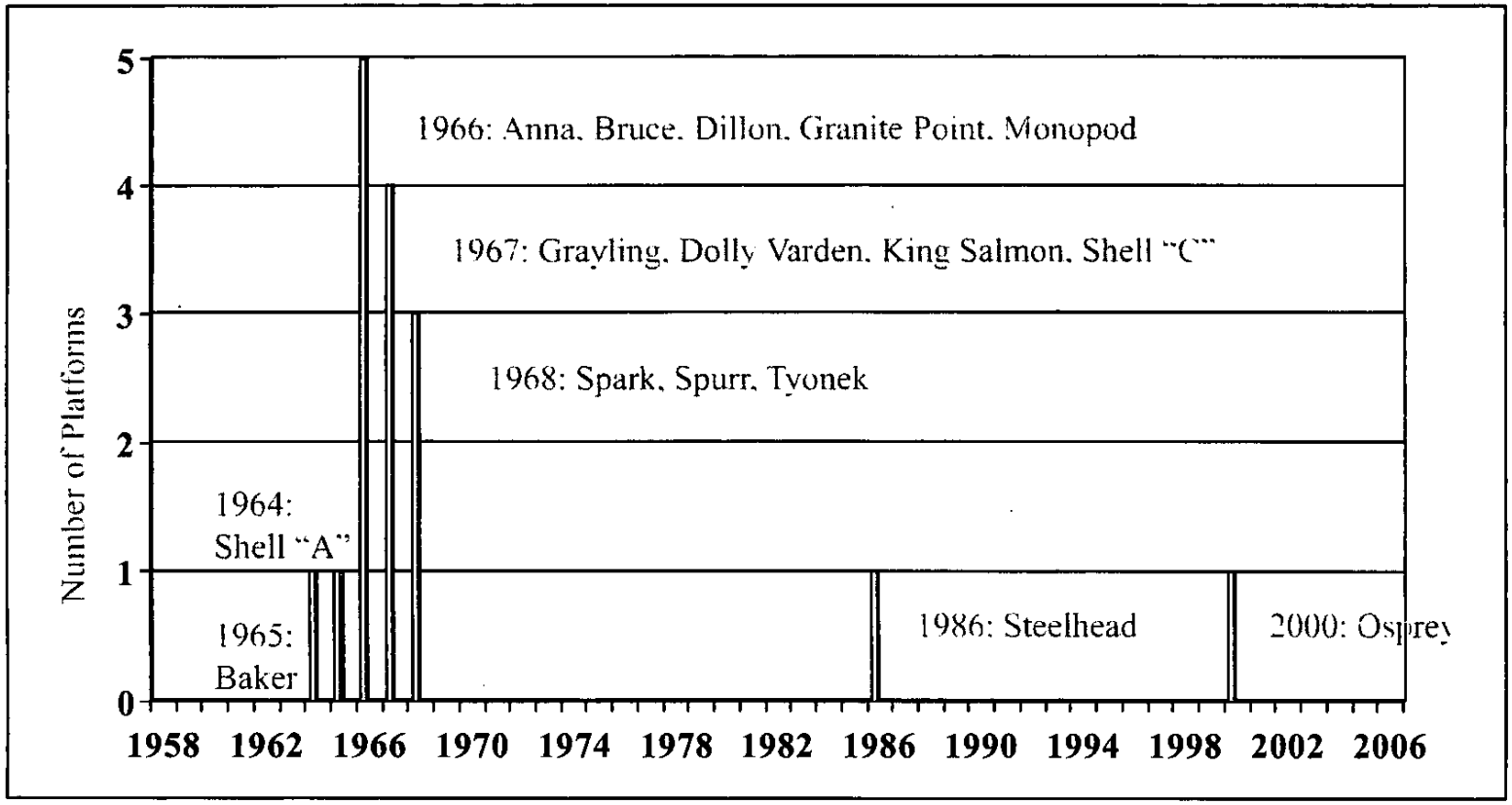
Cook Inlet Exploration Wells Drilled, 1950 - 2008



Cook Inlet Development Wells

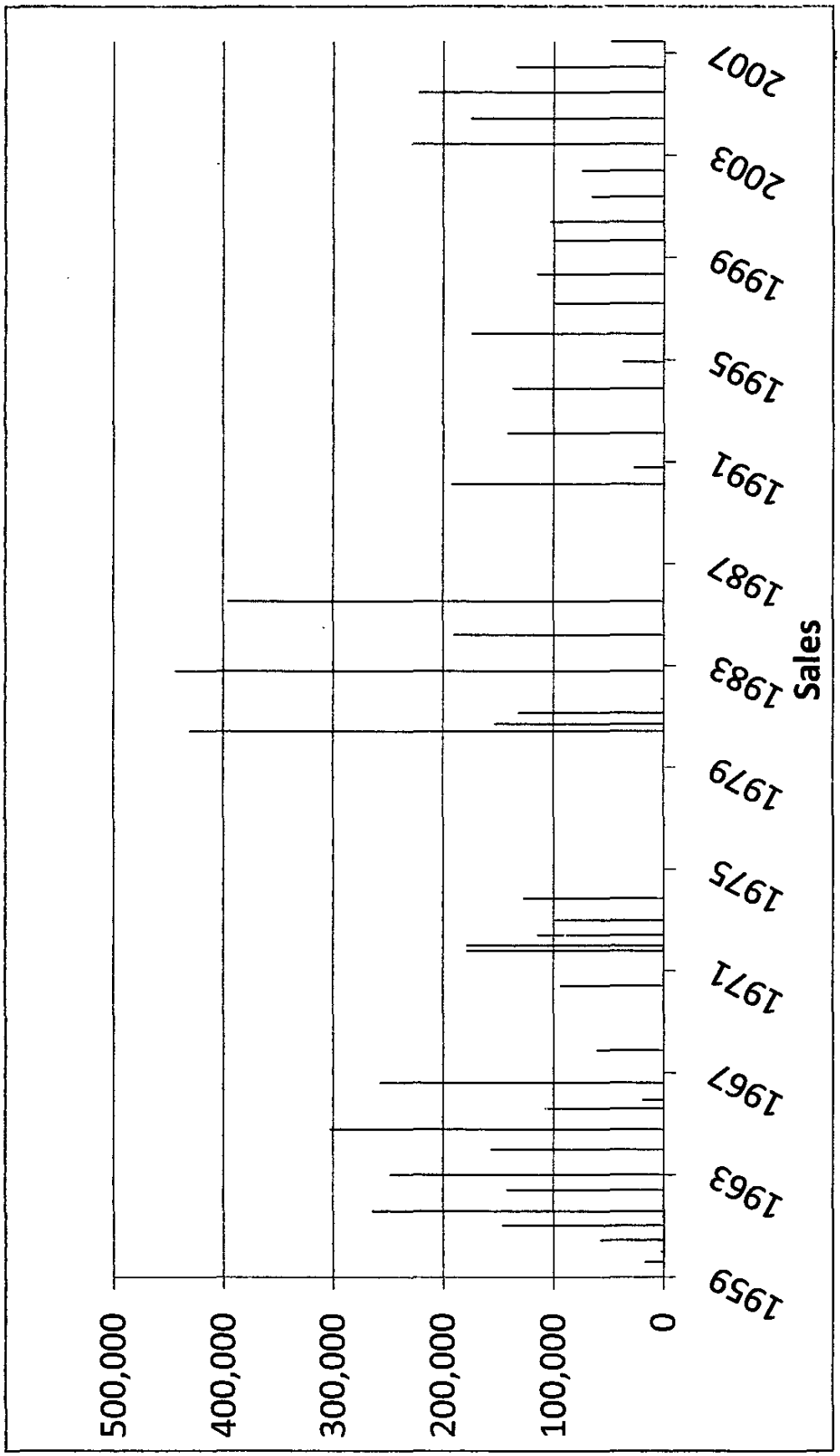


Cook Inlet Oil & Gas Platforms



LS 03/09

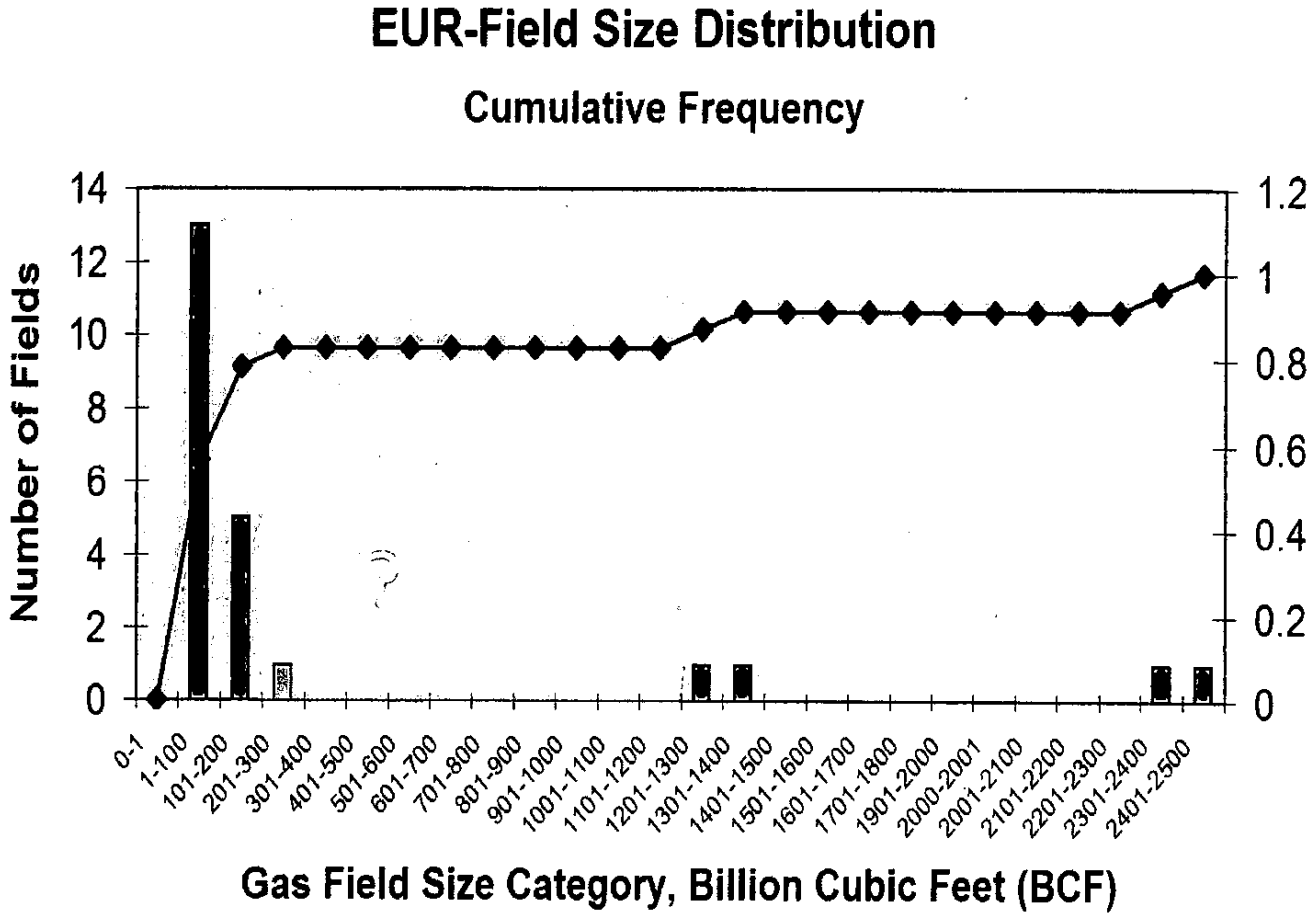
Cook Inlet - State Acres Leased



Cook Inlet Gas Exploration Statistics

- 85% of gas discovered early in exploration cycle while drilling for oil
- Only structural traps had been explored for or developed — stratigraphic trap potential essentially untapped
- Nearly one in ten fields >2 tcf
- 4 largest fields have 86% of reserves
- Field-size distribution lacks discoveries in 300-1300 bcf range — yet to be discovered?

Gas Field Size Distribution
Cook Inlet



Nicoli Creek	3
Stump Lake	6
Pretty Creek	6
West Fork	7
Lewis River	9
North Fork	12
Falls Creek	13
Birch Hill	22
Sterling	26
N Trading Bay Ur	30
Moquakie	43
Wolf Lake	50
Trading Bay	90
Ivan River	104
M G S	112
Cannery Loop	116
Granite Point	137
Swanson River	145
Beaver Creek	242
BRU	1266
McAurther River	1384
NCI	2328
Kenai	2425

TOTAL= 8576 bcf

Mean = 373 tcf

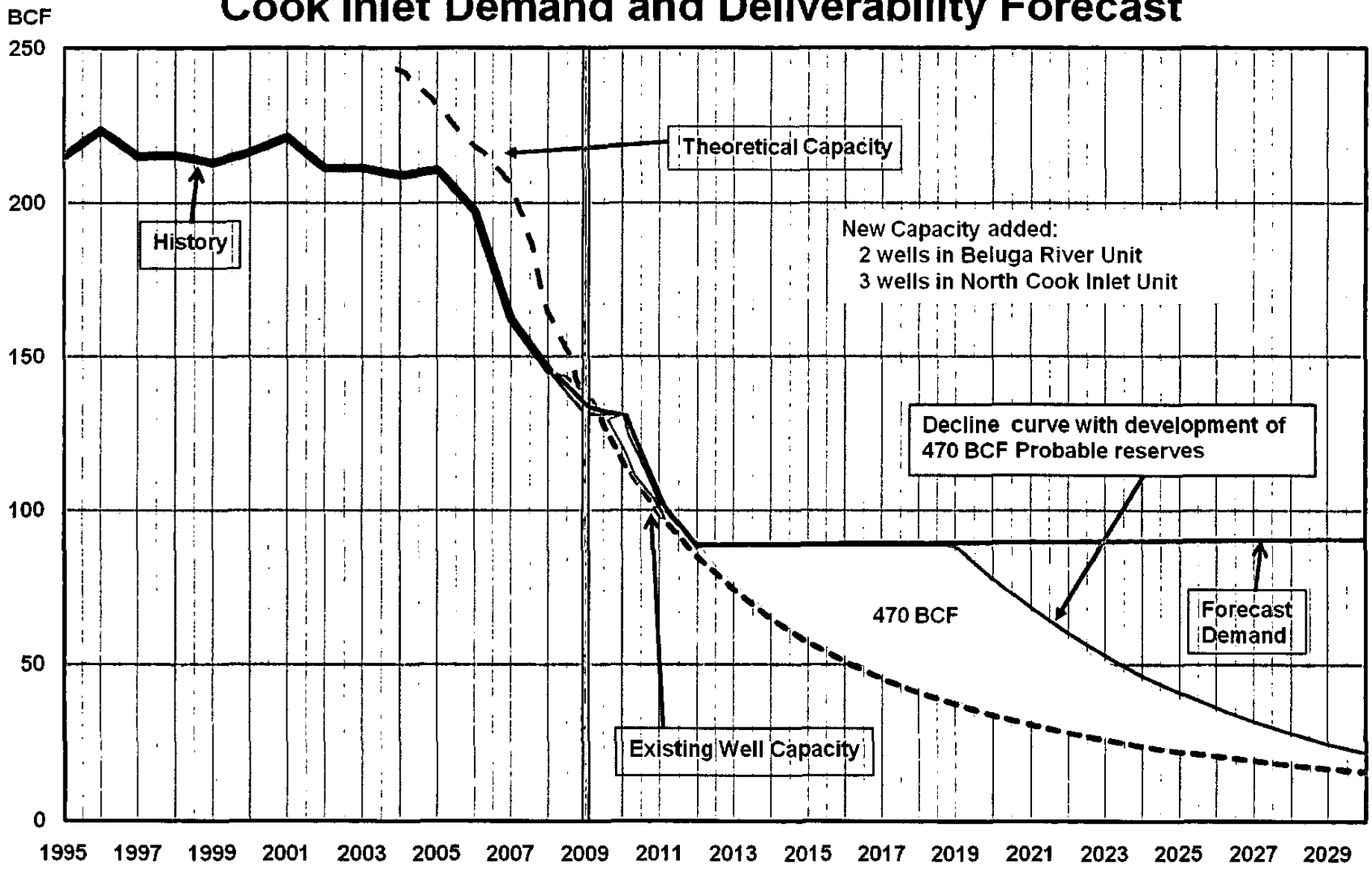
Cook Inlet Oil & Gas Exploration

- Minimal focused exploration for natural gas in the Cook Inlet until recent years
- Oil and gas exploration is inherently risky, with a low chance of economic success with long lead time
- Difficult data acquisition with thick coals and low velocity surface
- The best chance of success is achieved when numerous geologic concepts are tested, which requires access to entire sedimentary basin, numerous exploration wells
- Market certainty, modern high resolution geologic data, and non-volatile pricing are key to meeting economic risk thresholds
- In the Cook Inlet, most of the "easy" (inexpensive) gas has been found and delineated

What does the future hold?

- Is there more gas to be found?
  - Yes
- Where will it be found?
  - In existing fields
  - In new exploration play types
- What are the hurdles?
  - Land access over all basin
  - Expensive data gathering and drilling costs
  - Complicated limited market

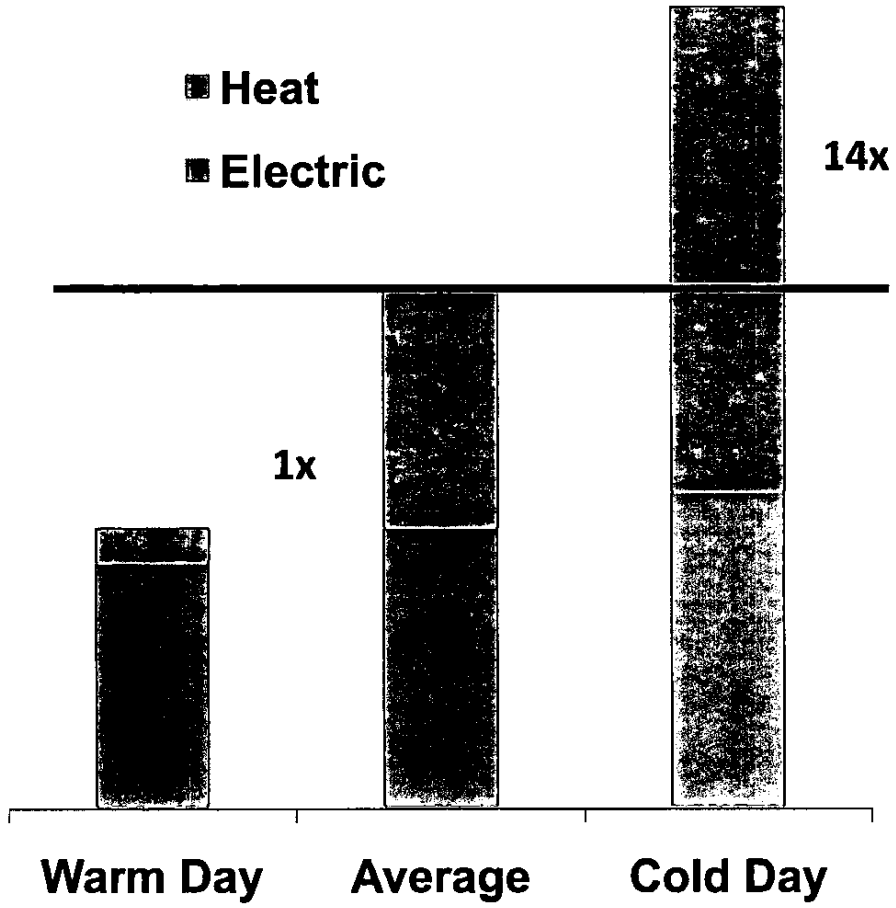
Cook Inlet Demand and Deliverability Forecast



Historic Deliverability

	2/3/1999	1/9/2007	1/3/2009
Average Temperature	-19^0 F	-10^0 F	-11^0 F
On Enstar System	272	292	314
CEA Beluga	83	83	60
CEA/HEA Nikiski	14	12	12
LNG	224	150	40
Agrium	157	0	0
Other Industrials	13	6	14
Total Deliverability	763	543	440
less Storage Volumes	0	~43	~60
Well Supply	763	500	380

Cook Inlet Daily Gas Demand

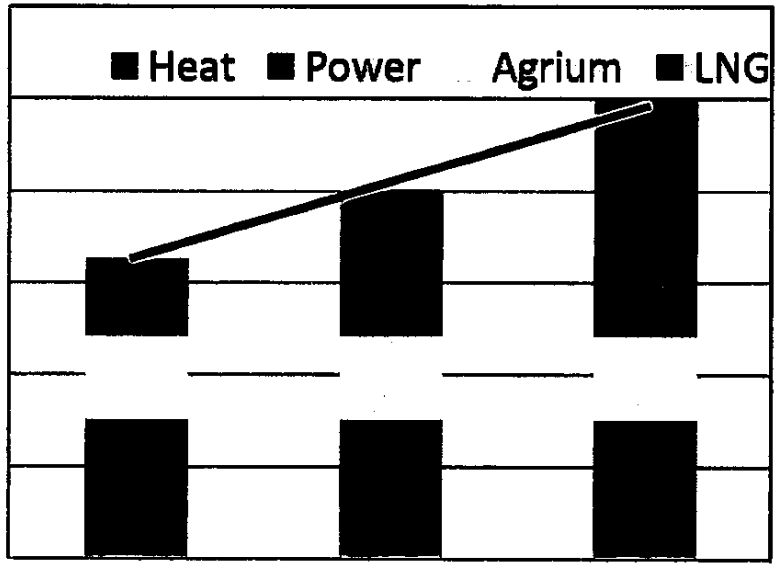


Deliverability

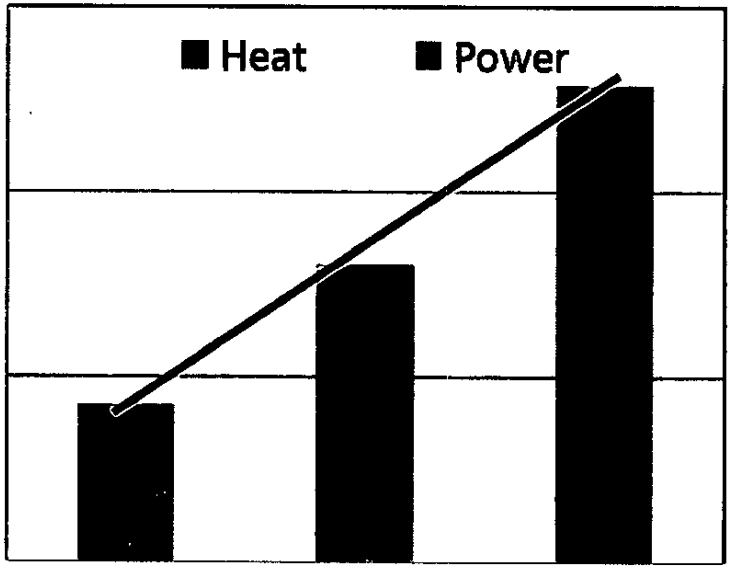
Seasonal
Needle Peek
Intra-day

Wells
Pipelines
Compression
Connectivity
LNG, Agrium
Gas Storage
Line Pack

Industrial Base Load



Peak Swing 50%



Peak Swing 200%

Kenai LNG Export Agreement

- COP – 2 wells in Beluga
- MRO – 2 wells in Ninilchik, 3 wells in Kenai
- Catalog well and seismic data for sale
- RFP to buy gas for LNG plant
- Enstar contract reasonably approvable by RCA
- Fill unmet need of Chugach 5.2 BCF in 2010 through good faith negotiation approvable by RCA

Projects for 2009

- Gas Storage Expansion Plans
- Exploration and Development
- Lease Sales
- Coordination with Federal Government

Gas Storage Expansion Plans

- Continue to develop Cook Inlet storage capacity
- Engaging producers and utilities on storage
- Actively working one potential storage lease
- Potential for storage in winter 09/10

Lease Sales

- Final Best Interest Finding for Cook Inlet issued January 20, 2009
- Areawide Sale tentatively scheduled for May 2009

Coordination with Federal Government

- Encouraging exploration and development of federal lands.
- Continue partnering with Minerals Management Service and Bureau of Land Management in managing and oversight of jointly-owned lands (Beluga River and Cosmopolitan Units).

Oil and Gas Fields of Cook Inlet as of February 2009

COOK INLET FIELD NAME	DISCOVERY DATE	DISCOVERY OPERATOR WELL NAME	ORIGINAL OPERATOR	DATE OF PRODUCTION	CURRENT OPERATOR
Swanson River	1957	Richfield SRU 34-10	**SOCAL (Chevron)	oil and gas 1958	Chevron
Deep Creek	1958	SOCAL Deep Cr 1RD	UNOCAL	gas 2004	Chevron
Kenai	1959	UNOCAL KU 14-06	UNOCAL	gas 1960	Marathon
West Fork	1960	Halbouty W Fork 1B	Halbouty Alaska Oil	gas 1978	Marathon
Falls Creek (Ninilchik Unit)	1961	SOCAL Falls Cr Unit 1	SOCAL (Chevron)	gas 2003	Marathon
Sterling	1961	UNOCAL SU 23-15	UNOCAL	gas 1962	Marathon
Middle Ground Shoal	1962	Pan Am GS ST 17595 1	Pan Am/Shell	oil and gas 1965	XTO/Chevron
North Cook Inlet	1962	Pan Am Cook Inlet ST 17589 1	Pan Am	gas 1969	ConocoPhillips
Beluga River	1962	SOCAL BRU 212-35	SOCAL (Chevron)	gas 1963	ConocoPhillips
Lone Creek	1962	Superior Chuit ST 1	Aurora	gas 2003	Aurora
West Foreland	1962	Pan Am W Foreland 1	Forest	gas 2001	Pacific Energy
Kasilof	1964	UNOCAL Kasilof ST 1	Marathon	gas 2006	Marathon
Tyonek Deep (NCI Unit)	1964	Phillips Cook Inlet ST 17589 1A	Phillips	undeveloped	ConocoPhillips
Cannery Loop	1964	UNOGAL KU 13-08	UNOCAL	gas 1988	Marathon
Birch Hill	1965	SOCAL Birch Hill Unit 22-25	SOCAL (Chevron)	undeveloped	Chevron
Trading Bay	1965	UNOCAL Trading Bay 1A	UNOCAL	gas -1965 oil -1967	Chevron
Granite Point	1965	Mobil Granite Point 1	Mobil/Pan Am	gas and oil 1967	Chevron
McArthur River	1965	UNOCAL Grayling 1A	UNOCAL	gas -1967 oil -1965	Chevron
Moquawkie	1965	Mobil Moquawkie 1	Mobil	gas 1967	Aurora
North Fork	1965	SOCAL N Fork Unit 41-35	SOCAL (Chevron)	undeveloped	Armstrong
Nicolai Creek	1966	Texaco Nicolai Cr ST 1	Texaco	gas 1968	Aurora
Ivan River	1966	SOCAL IRU 44-01	SOCAL (Chevron)	gas 1990	Chevron
Starichkof (Cosmopolitan)	1967	Pennzoil Starichkof ST 1	Pennzoil	undeveloped	Pioneer
Beaver Creek	1967	Marathon Beaver Cr Unit 1	Marathon	oil 1972	Marathon
North Trading Bay	1967	ARCO Trading Bay ST 1	ARCO	oil 1968	Marathon
Three Mile Creek	1967	Superior TMC ST 1	Aurora	gas 2005	Aurora
Albert Kaloa	1968	Pan AM Albert Kaloa 1	Pan Am	gas 1970 & 2004	Aurora
Lewis River	1968	SOCAL Lewis River 13-02	Cities Service	gas 1984	Chevron
Redoubt Shoal	1968	Pan Am RSU 2	Forcenergy	oil 2002	Pacific Energy
Pretty Creek	1969	Halbouty Theodore River 1	UNOCAL	gas 1986	Chevron
Nikolaevsk	1970	SOCAL N Fork Unit 11-04	SOCAL (Chevron)	undeveloped	Chevron
Stump Lake	1978	UNOCAL Stump Lake Unit 41-33	SOCAL (Chevron)	gas 1990	Chevron
Wolf Lake	1983	ARCO Wolf Lk ARCO CIRI 1	Marathon	gas 2001	Marathon
West McArthur River	1991	Stewart WMRU Stewart 1	Stewart	gas and oil 1993	Pacific Energy
Kustatan	2005	Forest Kustatan Field 1	Forest	gas 2005	Pacific Energy

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* Original Operator is the operator at the time of initial development. If field is undeveloped, the original operator is the discovering operator.

** Chevron was originally known as Standard Oil of California (SOCAL). SOCAL changed its name to Chevron in 1984.

Cook Inlet Oil and Gas Activity 2007 - 2009