

SCOMM

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Alaska Oil and Gas Conservation Commission (AOGCC)

Overview and Update
&
Permitting Description



Photo of Alpine Field taken by Lou Grimaldi

AOGCC

Overview and Update

- What we do at the AOGCC
- Staffing and organization
- 2005 highlights
- Industry activity
- Current challenges and projects

What we do at the AOGCC

- Quasi-judicial State regulatory agency
 - Oversight for underground operations
 - Alaska private and public lands and waters
 - All but Denali National Park
- Regulate drilling and production for oil & gas
- Protect correlative rights
- Promote greater ultimate recovery
- Manage Class II UIC program of the EPA
 - Protect underground fresh water

AOGCC website: www.aogcc.alaska.gov

AOGCC Goals and Strategies

PREVENT PHYSICAL WASTE OF THE RESOURCE

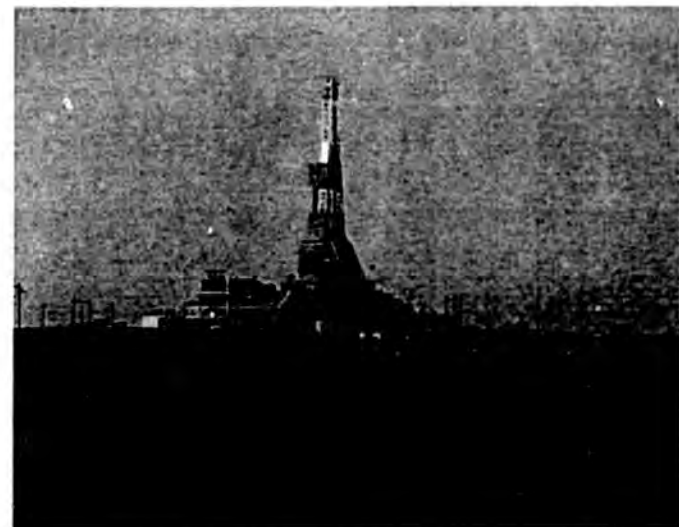
- **Evaluate drilling programs to ensure proper well design, construction and well control equipment.**
- **Inspect wells and drilling projects to verify compliance with approved regulations, procedures and safety requirements for drilling and production practices.**
- **Evaluate proposals for reservoir development.**



AOGCC Goals and Strategies (Continued)

PROMOTE GREATER ULTIMATE RECOVERY

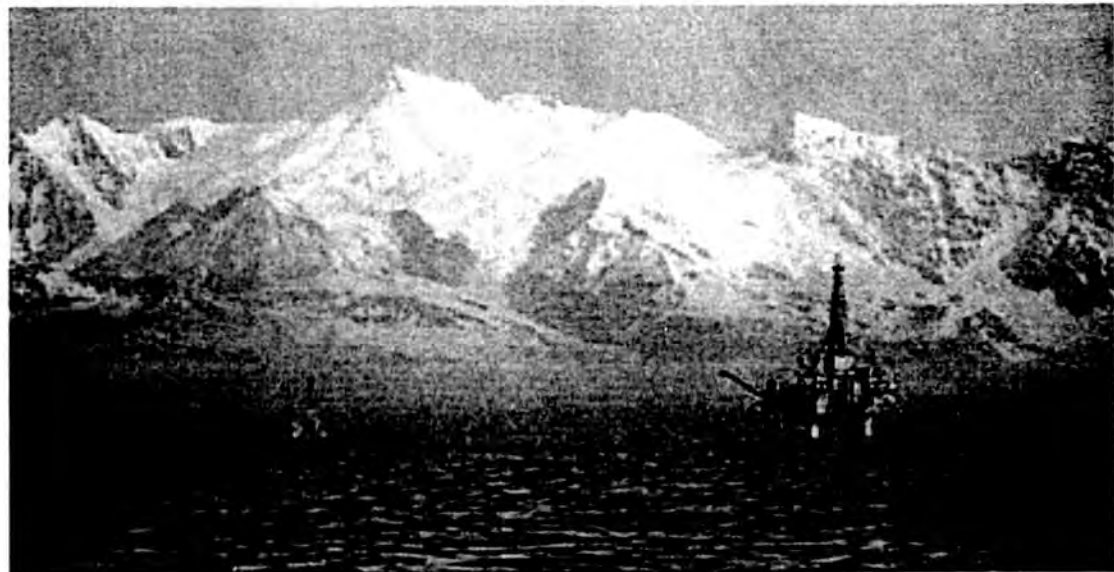
- **Analyze production data, including reservoir pressures, gas-oil ratios, water cut, etc., to ensure these variables fall within the required parameters necessary to provide for greater ultimate recovery.**
- **Review and approve development proposals, including plans for enhanced oil recovery operations and gas development.**



AOGCC Goals and Strategies (Continued)

INDEPENDENTLY ASSESS OIL AND GAS DEVELOPMENT

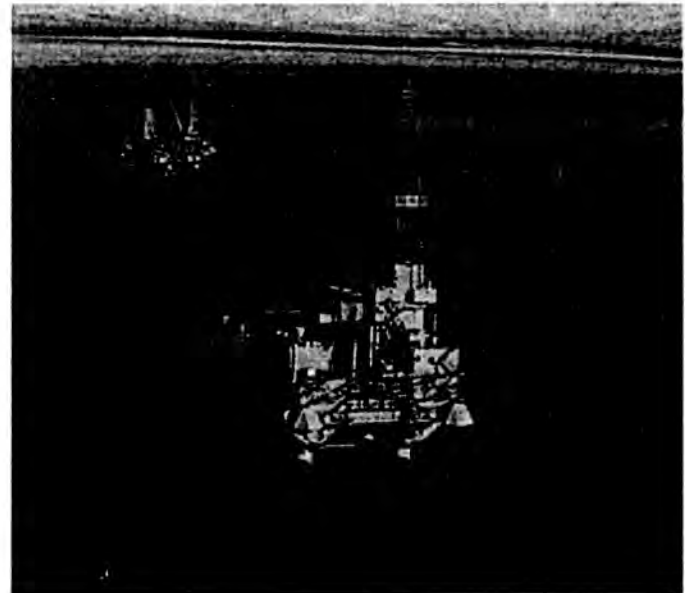
- **Independently audit/verify that oil and gas proposals are in compliance with the purposes and intent of Title 31.**



AOGCC Goals and Strategies (Continued)

PROTECT ALASKA'S UNDERGROUND SOURCES OF DRINKING WATER

- **Provide engineering and geological review of all applications for EOR & underground disposal of drilling wastes.**
- **Provide engineering and geological review of all applications to drill oil and gas wells.**



AOGCC Goals and Strategies (Continued)

PROTECT CORRELATIVE RIGHTS

- Provide all owners of oil and gas rights the opportunity to recover their fair share of the resource through well spacing regulations, permit review, and pooling authority.

WHEN NECESSARY ADJUDICATE DISPUTES BETWEEN OWNERS

- Provide a public forum to resolve disputes between owners.

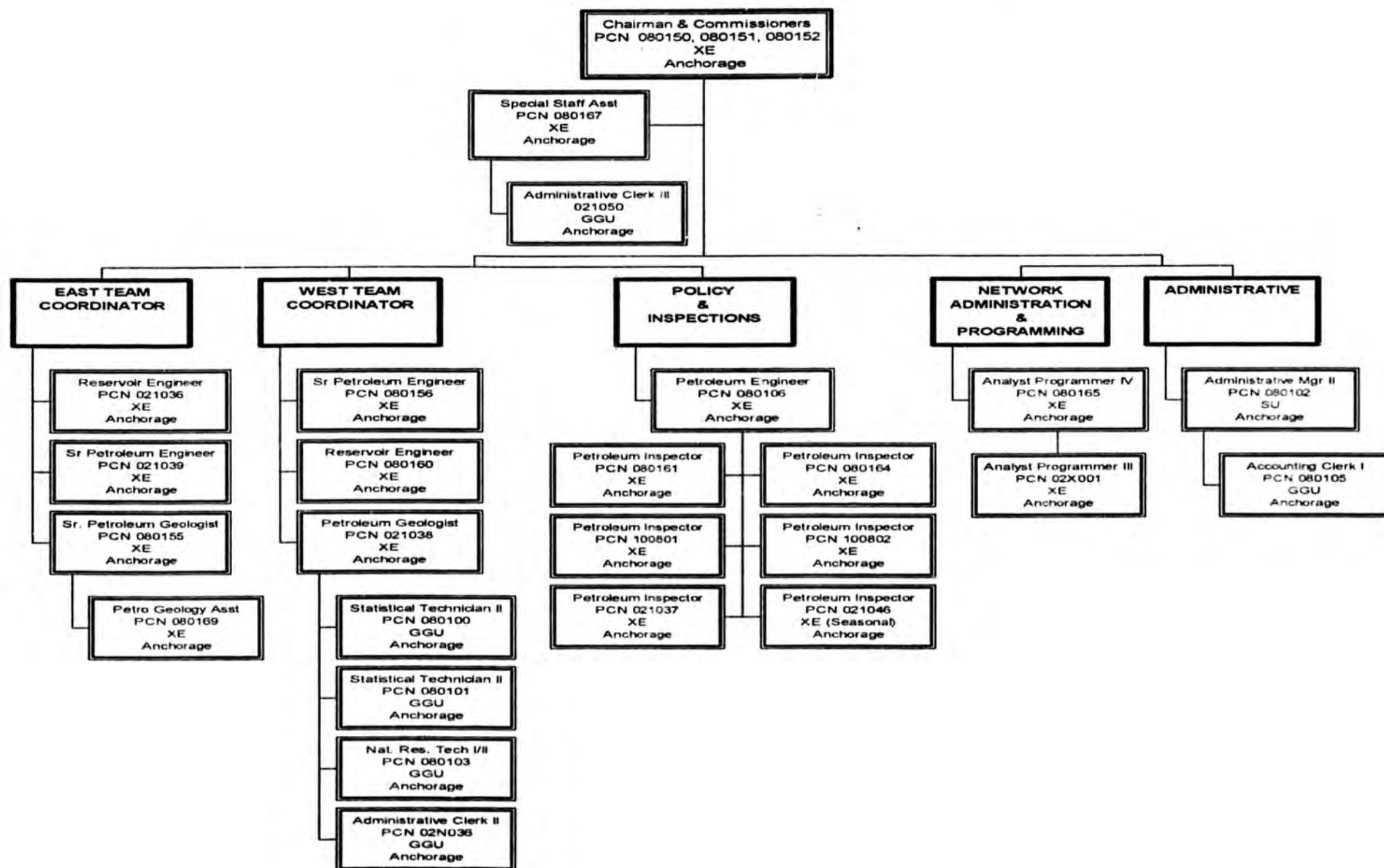


Where Does AOGCC Fit In?

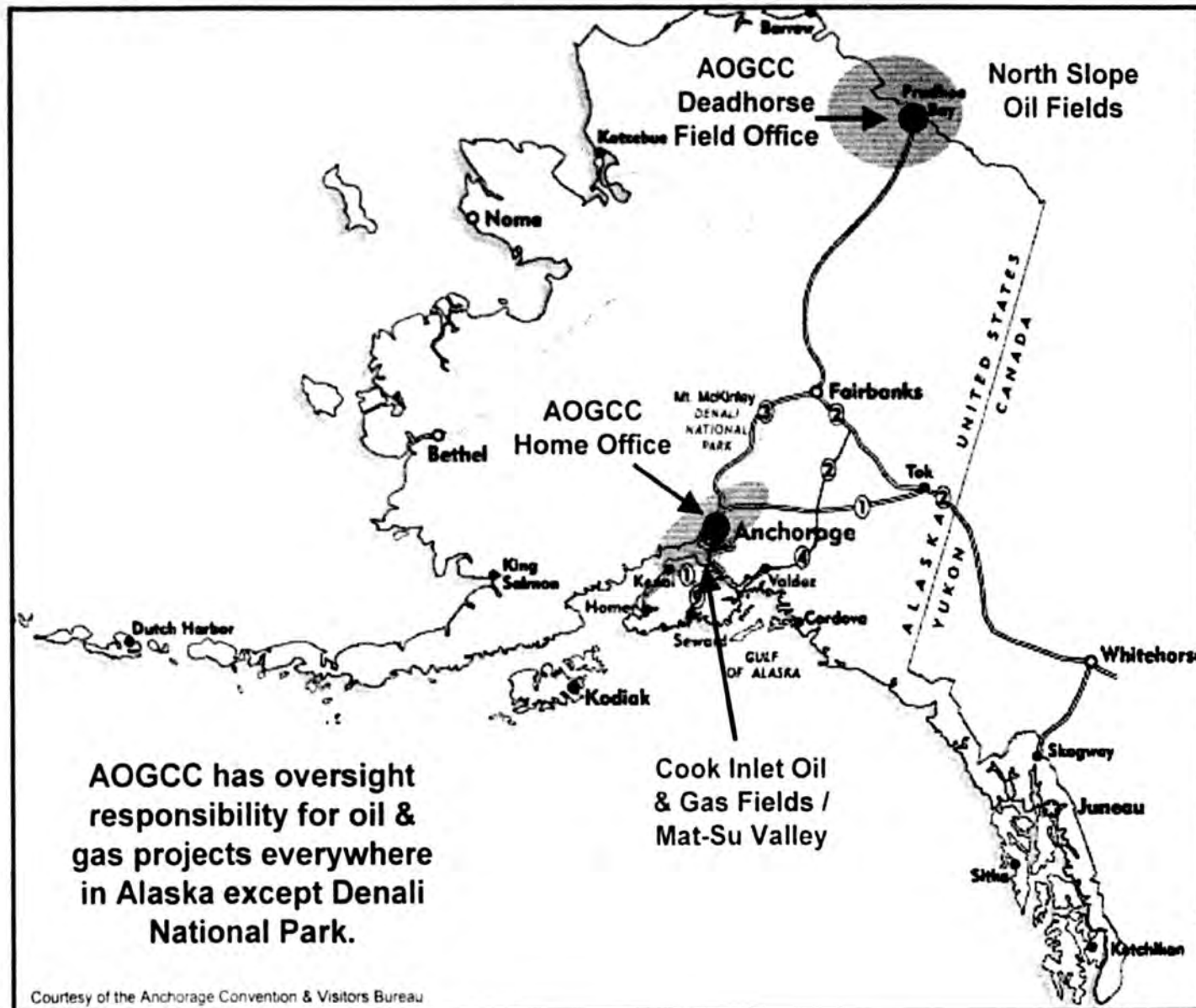
Issues	Oil Company (Regulated Community)	Land Owner (e.g. DNR DOG or Native Corporation)	ADEC (Exercises Police Powers of the State)	AOGCC (Exercises Police Powers of the State)
Ownership of Resource	Lessee of Oil & Gas Lease (Has Right to Drill and Produce)	Landlord & Lessor of Oil & Gas Lease	Role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

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

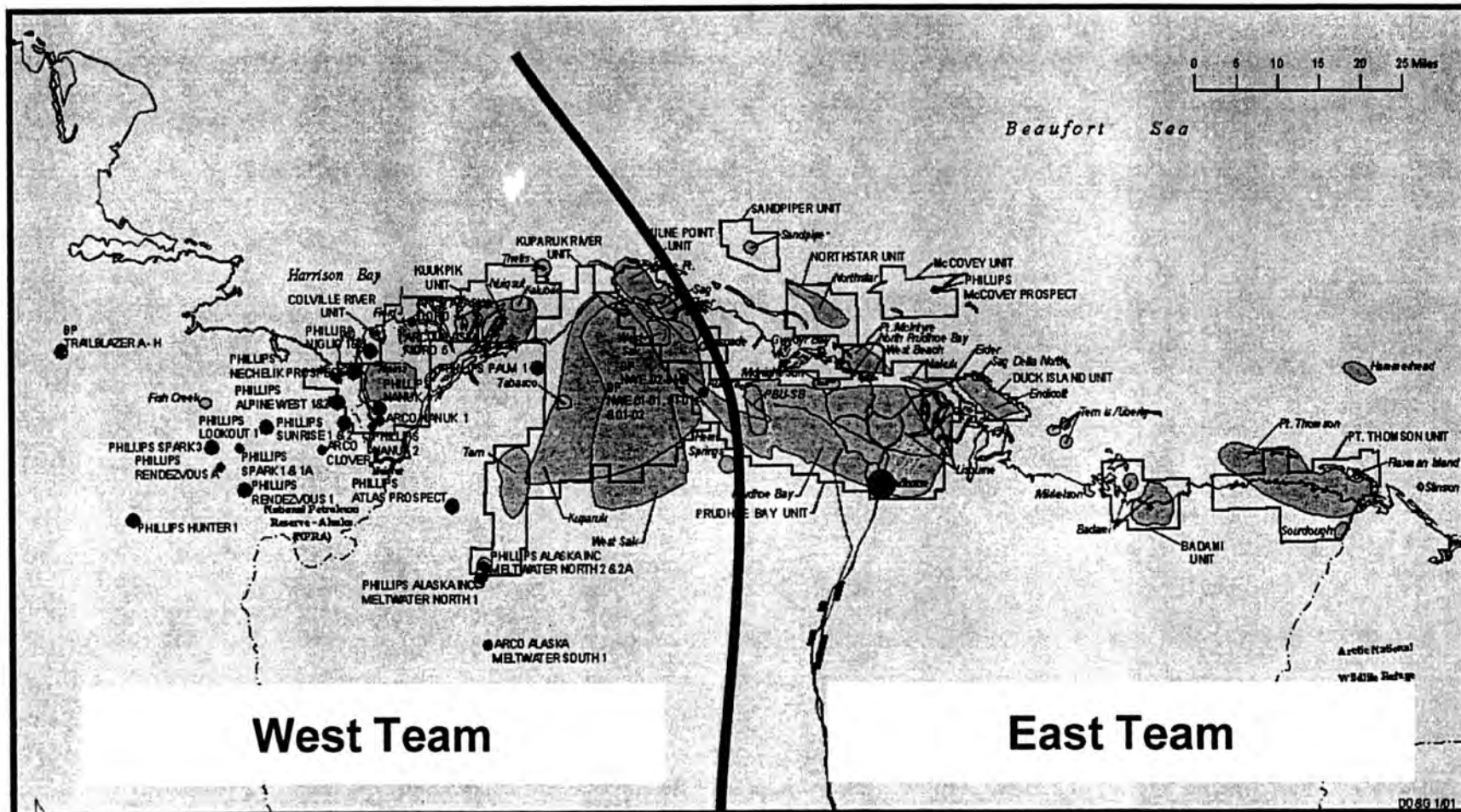
AOGCC Staffing



Work Sites



North Slope



Geographic Delineation of Decisions Teams

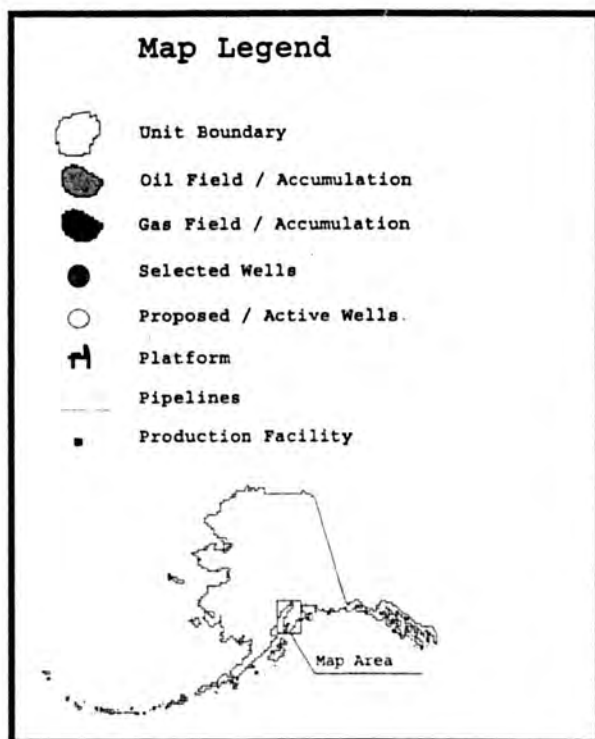
Map Legend

- Units
- Oil Field / Accumulation
- 2001 Prospects
- Active Wells
- Road
- Trans-Alaska Pipeline



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Cook Inlet



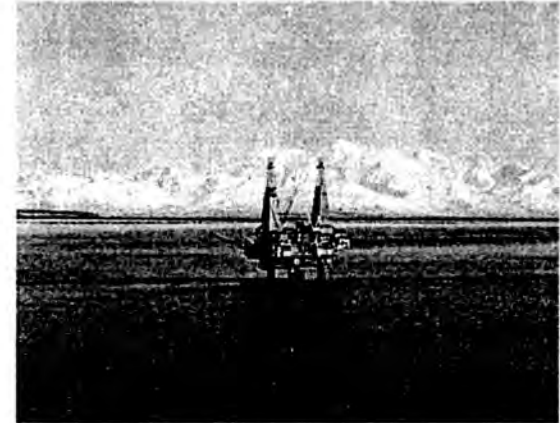
Geographic Delineation of Decisions Teams



AOGCC 2005 Highlights

- Key accomplishments

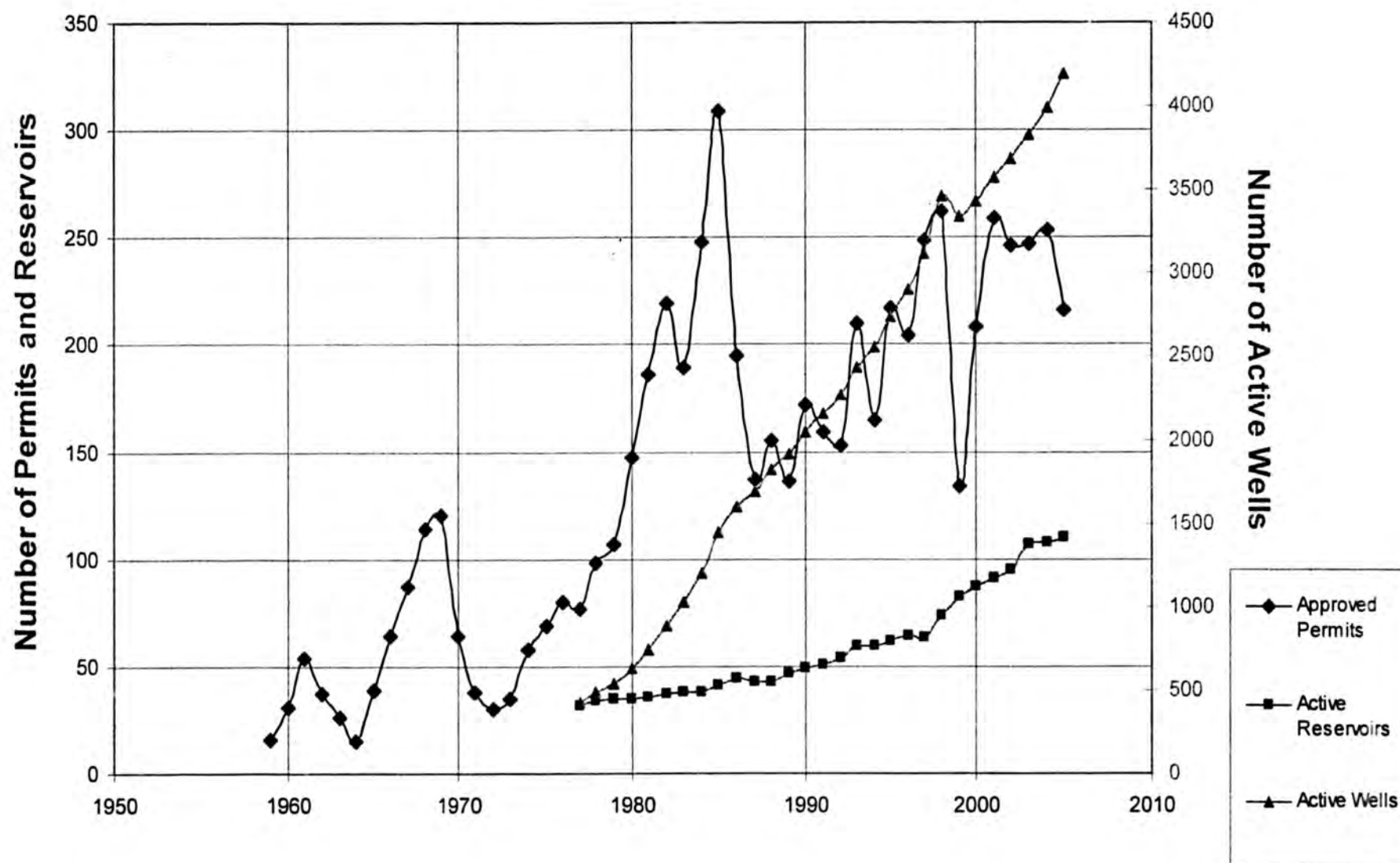
- 88 orders and approvals
- 216 drilling permits approved
- 388 sundry applications approved
- 5 enforcement actions

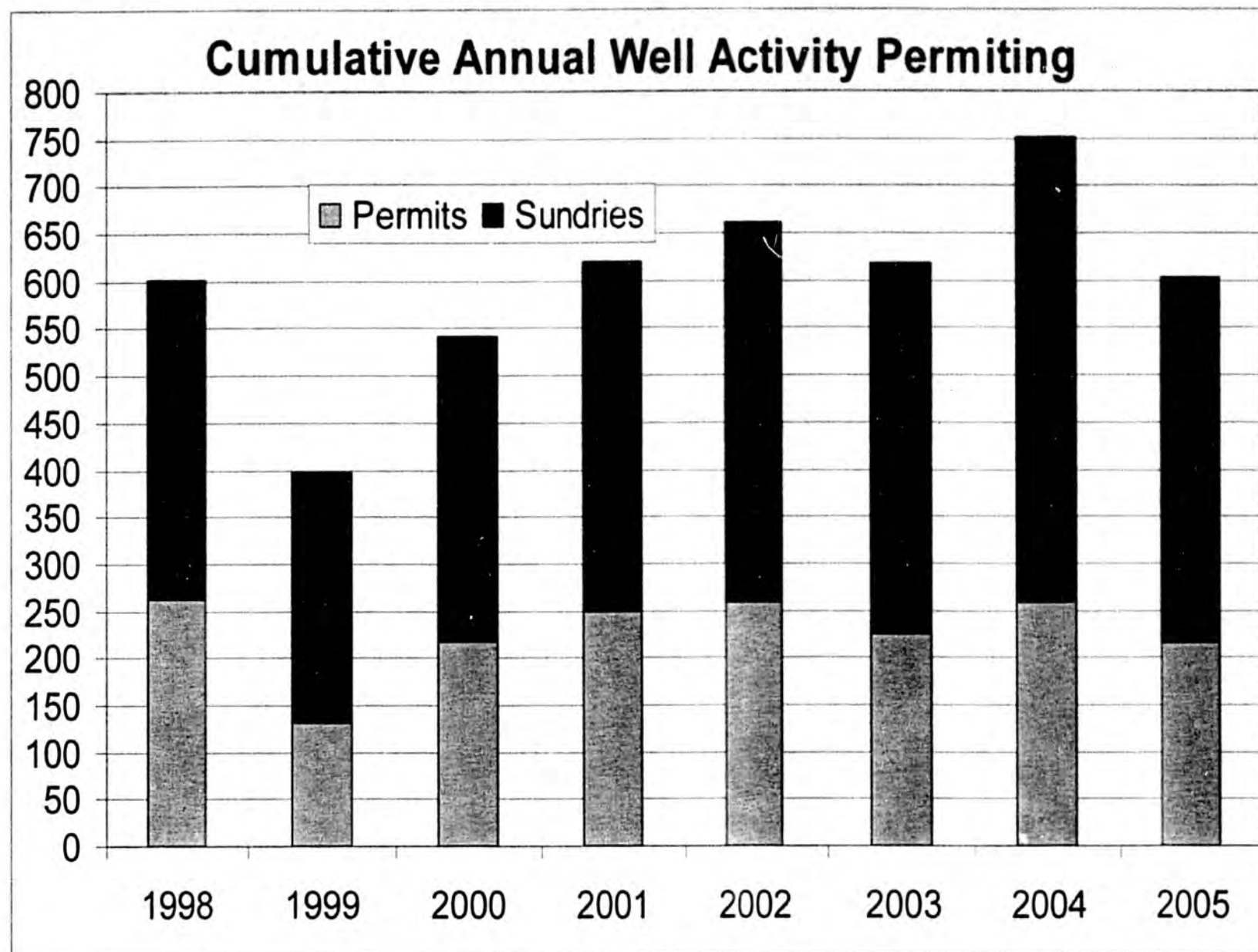


- Highlights of rulings and findings

- 8 orders establishing / modifying pool rules
- 7 orders approving / extending pilot projects
- 8 orders approving / modifying enhanced oil recovery
- 2 orders approving underground storage of hydrocarbons
- 9 orders approving / modifying / denying disposal injection operations
- 4 orders reducing paperwork for routine operations

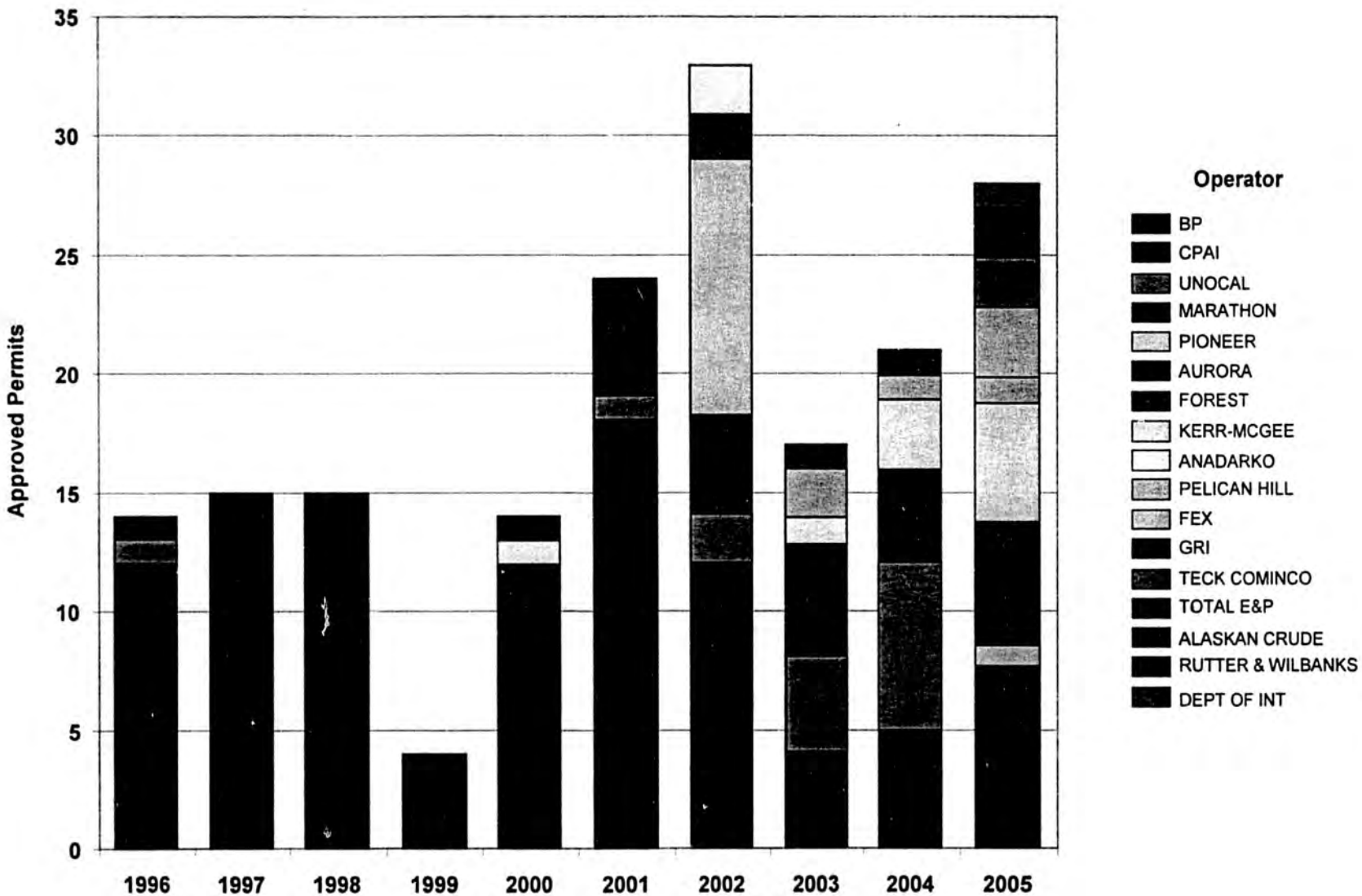
Alaska Oil & Gas Activity





In 2005, activity did not decrease. Wellwork complexity and time per job increased.

EXPLORATORY WELL PERMITS (1996 - 2005)



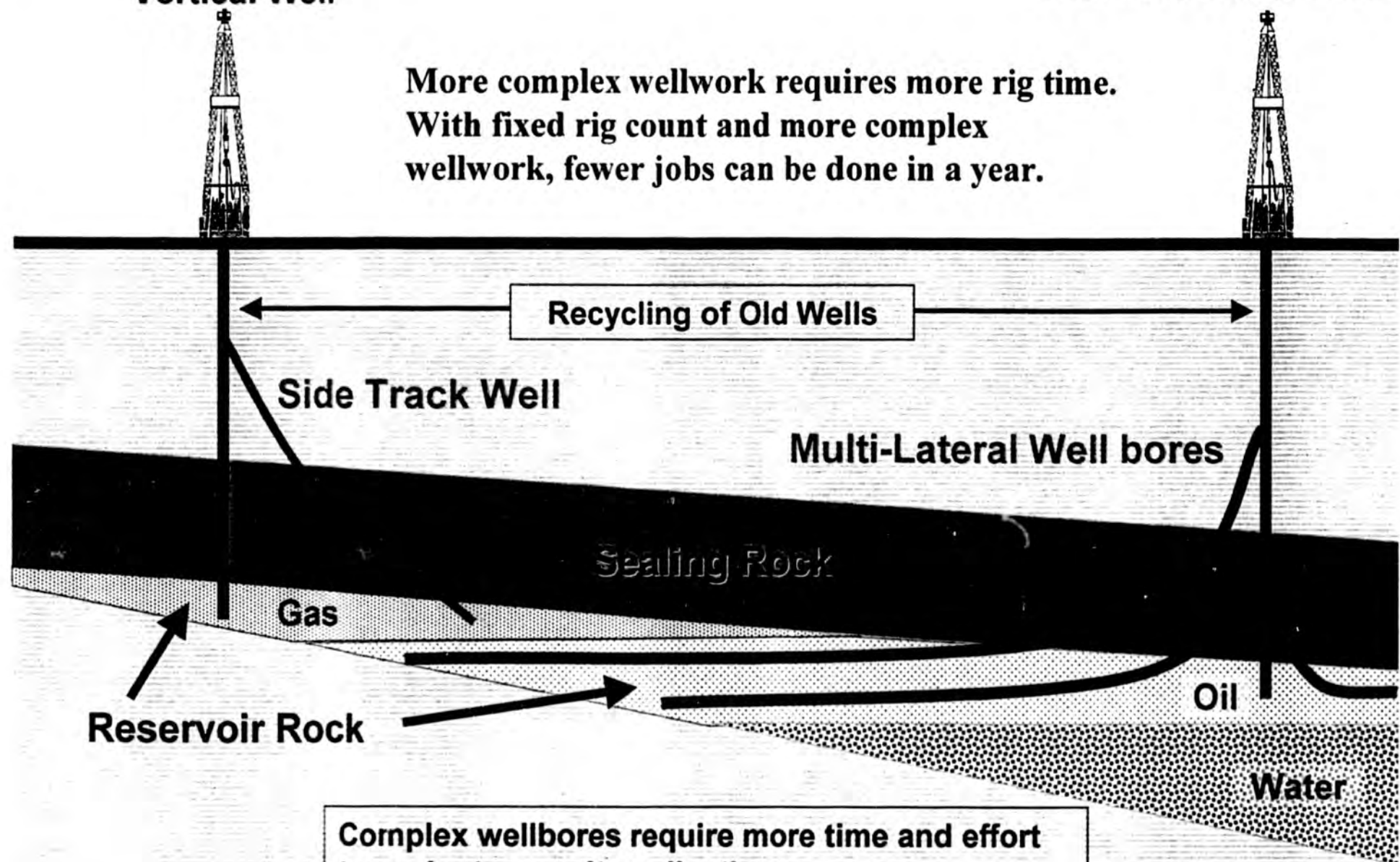
EXPLORATORY WELL PERMITS (1996 - 2005)

OPERATOR	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total
CONOCOPHILLIPS ALASKA, INC	9	10	4	3	8	17	10	4	5	7	77
BP EXPLORATION (ALASKA) INC	3	4	8	1	1	1	2				20
UNION OIL CO OF CALIFORNIA	1					1	2	4	7		15
MARATHON OIL CO	1		1		1	2	4	3	1	1	14
PIONEER NATURAL RESOURCES ALASKA, INC.							11			1	12
AURORA GAS LLC			1					2	3	4	10
FOREST OIL CORP		1			2	3	2			1	9
KERR-MCGEE OIL & GAS CORP									3	5	8
ANADARKO PETROLEUM CORPORATION					1		2	1			4
PELICAN HILL OIL AND GAS INC.							1	2	1	1	4
FEX L.P.										3	3
GRI INC			1		1						2
TECK COMINCO ALASKA INCORPORATED										2	2
TOTAL E&P USA, INC.								1	1		2
ALASKAN CRUDE CORP										1	1
RUTTER AND WILBANKS CORPORATION										1	1
U S DEPT OF INTERIOR										1	1
Year Totals	14	15	15	4	14	24	33	17	21	28	185

Vertical Well

Extended Reach Well

**More complex wellwork requires more rig time.
With fixed rig count and more complex
wellwork, fewer jobs can be done in a year.**



Key Challenges and Projects

- Determine the impacts of major gas sales upon ultimate hydrocarbon recovery from Prudhoe and Pt. Thomson reservoirs before gas sales off-take rates can be approved. – **Mitigation of oil losses**
- Facilitate expanded statewide exploration and development, including NPR-A and exploration licensing areas that are outside the North Slope and Cook Inlet. – **Increased production**
- Evaluate and respond to the need for a revised regulatory scheme to safely oversee new development of nonconventional, shallow and gas storage resources. – **Responsible development**
- Finalize AOGCC's Internet-based Well and Production Information System available to anyone in the world. – **Help increase investment in Alaska**

Key Challenges and Projects (continued)

- Maintain an active role to protect Alaska's UIC program. Take over responsibility for Class I injection wells from EPA.
 - **Faster permit decisions**
- Respond to changing conditions in mature oil fields to make certain operations are conducted in a safe and skillful manner while ensuring that recovery of oil and gas resources is maximized. – **Safer operations and less resource waste**
- Conduct comprehensive review of natural gas production in Alaska and of all gas which is being flared, vented or otherwise not put to beneficial use. – **Less resource waste**
- Continue to evaluate ways to increase the AOGCC's efficiency.
 - **Reduce costs**

AOGCC Permitting

- Types of permits

Drilling, Well or Program Modifications, Underground Injection, Orders, Special Considerations

- Permitting process

- Application filed with supporting documentation
- Program checked for conformance to regulations
- Commission approval or denial

- Our performance

- Permit to drill average decisions – 7 days
- Sundry application average decisions – 4 days

Types of AOGCC Permits

- Drilling
- Wellwork
- Underground injection
- Conservation Orders
- Special development considerations

Drilling Permits

- Location
 - Surface, bottomhole, and trajectory
- Total depth
- Fluids used
- Tubulars used
- Cementing
- Blowout prevention equipment & procedures

Wellwork

- Abandon a completion
- Add or plug perforations
- Stimulate producing pools
- Convert to/from production/injection
- Repair / pull tubing
- Suspend or abandon a well

Underground Injection

- Enhanced recovery
 - Water
 - MI
 - Dry gas
 - CO₂
- Gas storage
- Waste disposal

Conservation Orders

- Determination of well status (oil or gas)
- Allowable offtake rates by well or pool
- Performance monitoring requirements
- Well spacing
- Voidage replacement
- Reporting requirements
- Pilot project approval

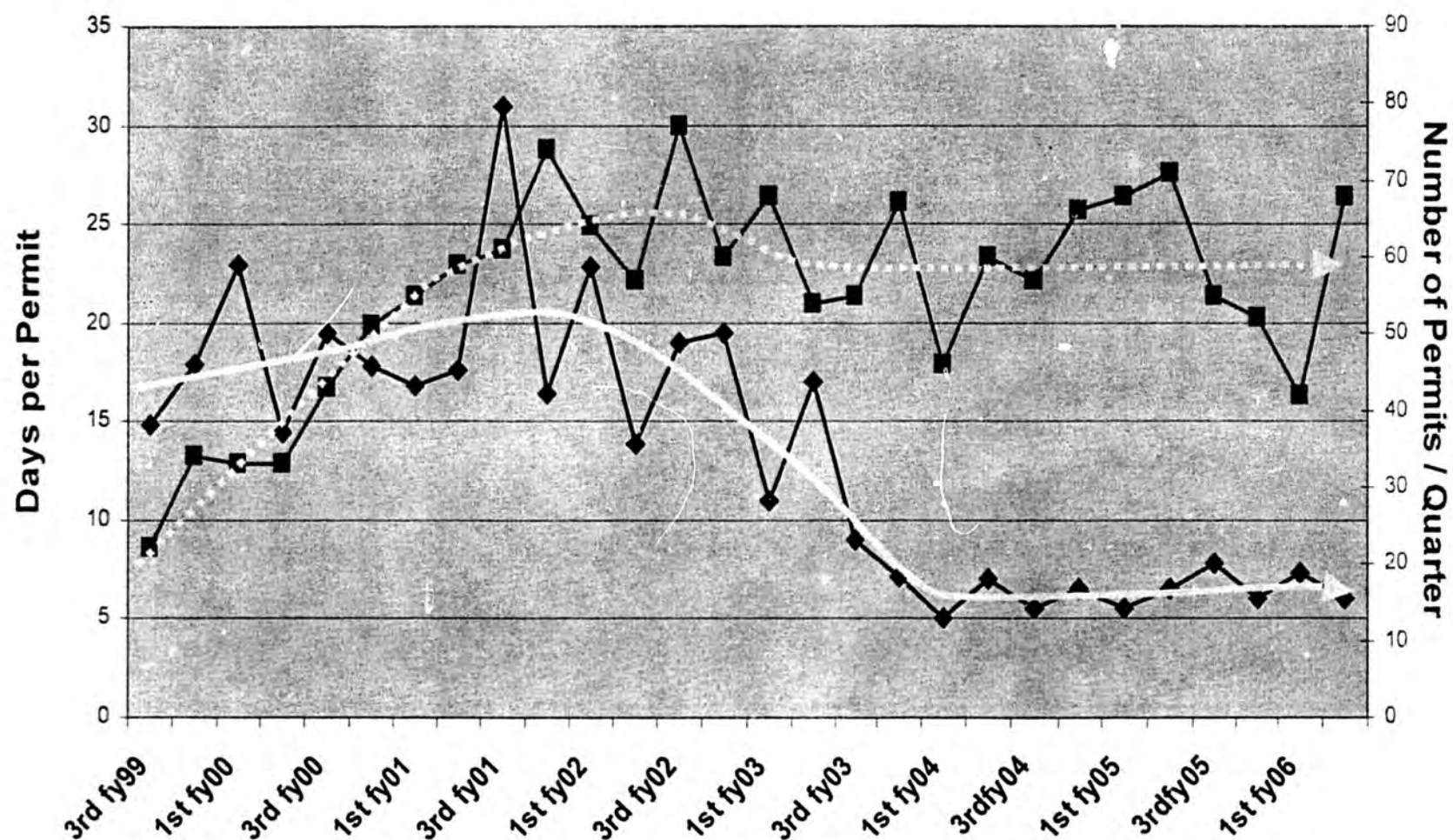
Special Development Considerations

- Spacing exceptions
- C-plan exemptions
- Annular disposal
- Information dissemination

Permitting Process

- Application filed with supporting documentation
 1. Received and logged in
 2. Recorded in Commission database
- Program checked for conformance to regulations
 1. Lease, ownership, bonding, well spacing
 2. Pipe and cement programs, BOP equipment
 3. Shallow drilling hazards, H₂S, site conditions
 4. Good oilfield practices, maximum resource recovery
- Commission approval or denial

Drilling Permit Approval Time



Although review process has gotten more complex and thorough, review time has remained ~ 7 days.

Sec. 31.05.005. Alaska Oil and Gas Conservation Commission created.

(a) There is created as an independent quasi-judicial agency of the state the Alaska Oil and Gas Conservation Commission, composed of three commissioners appointed by the governor and confirmed by the legislature in joint session. In making appointments to the commission under AS 31.05.009 (1) ~~and (2)~~ and this subsection, the governor shall consider and give preference to a person who demonstrates experience in oil and gas operations in the state.

(b) The governor shall designate one member of the commission as chair of the commission. This member shall serve as chair for a term of four years, but may not be appointed for successive terms as chair of the commission.

Sec. 31.05.007. Term of office; vacancy; removal.

(a) The term of office of each member is six years. A commissioner, upon the expiration of a term, shall continue to hold office until a successor is appointed and qualified.

(b) A vacancy arising in the office of a commissioner shall be filled by appointment by the governor and confirmed by the legislature in joint session, and, except as provided in AS 39.05.080 (4), an appointee selected to fill a vacancy shall hold office for the balance of the full term for which the predecessor on the commission was appointed.

(c) A vacancy in the commission does not impair the authority of a quorum of commissioners to exercise all the powers and perform all the duties of the commission.

(d) The governor may remove a commissioner from office for cause including but not limited to incompetence, neglect of duty or misconduct in office. A commissioner, to be removed for cause, shall be given a copy of the charges and afforded an opportunity to be publicly heard in person or by counsel in the commissioner's own defense upon not less than 10 days' notice. If a commissioner is removed for cause, the governor shall file with the lieutenant governor a complete statement of all charges made against the commissioner and the governor's finding based on the charges, together with a complete record of the proceedings.

Sec. 31.05.009. Qualifications of members.

Members shall be qualified as follows:

(1) one member shall be a petroleum engineer who

(A) holds a certificate of registration as an engineer under AS 08.48 and, under regulations adopted to implement that chapter, has qualified as a petroleum engineer; or

(B) has earned a degree from a university in the field of engineering and has at least 10 years of professional subsurface experience in the oil and gas industry in drilling, well operations, production process operations, reservoir engineering, or a combination thereof; for the purposes of this subparagraph, a person meets the requirement of earning a degree in the field of engineering if the person obtains an undergraduate or graduate degree in engineering that meets the requirements for program accreditation by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology and the person completes university or industry training specific to petroleum engineering that illustrates application of engineering principles to the problems encountered and methods used in the petroleum industry, including

drilling, production, reservoir engineering, fluid flow through subsurface formations, and hydrocarbon transportation;

(2) one member shall be a geologist who

(A) holds a certification as a professional geologist under AS 08.02.011 and has professional experience in the field of petroleum geology; or

(B) has earned a degree in the field of geology from a university accredited in the field of geology and has a minimum of 10 years professional experience in the field of petroleum geology; and

(3) one member who must be certified, trained, or experienced in either the field of petroleum engineering or the field of petroleum geology.