

# straight talk



*Alaska Oil and Gas Association*

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## Without A Trace... Arctic Ice Roads

Exploration drilling at remote locations on the North Slope occurs during a limited winter season. The use of ice roads to access these remote locations—and often the use of ice pads at the drilling location—has dramatically reduced the impact on the sensitive Arctic tundra.

Ice roads are constructed with water drawn from permitted water sources – typically lakes, and occasionally mine sites. Certified fish screens are used to ensure that withdrawing water from the source does not impact any wildlife, such as stickleback fish. After determining the most appropriate route – taking into account grades, lakes or willow crossings – an initial 3-inch thick layer of ice is constructed and the “rough-in” phase of construction begins.

Ice chips (or “aggregate”) are produced from grounded sections of lakes and then mixed with water to build the road, ramps, bridges and creek crossings, as well as to raise any low areas. Ice roads are typically a minimum of six inches thick with any grades in the road designed to be less than 5 percent. Extra care is taken to ensure no damage occurs to willow trees or their root systems.

Roadside delineators are placed along the outer edges to show the boundary of the road surface and guide crews in limited visibility weather conditions.

During the final phase of construction, roads are flooded with a finishing coat that provides a cap to the road surface, reduces the tendency for blowing snow to accumulate on the road and adds to the wear surface. Snow berms on the side of the road are removed to reduce drifting on the road.

Once in use, the roads are continually maintained to ensure road integrity and prevent deterioration. Additional water is hauled in water trucks and applied as necessary. Any drifting snow is removed. On-going cleanup activities ensure that the ice road virtually disappears after the ice melts at season’s end.

Ice roads are critical to today’s oil and gas operations on the North Slope, and they provide environmentally-sound access to Alaska’s most remote locations.

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Ice road with delineators in place.  
(Courtesy of Anadarko Petroleum Corporation)

**Member Spotlight**

# Anadarko Petroleum Corporation

Anadarko is a large, U.S. independent provider, focusing almost exclusively on exploration and production with no refineries or retail stations.

**What year did Anadarko arrive in Alaska?**

Anadarko first participated in an exploration well as a partner with Exxon Mobil at Thetis Island (offshore the North Slope near the current Ooguruk development) in 1993.

**Where does Anadarko operate in Alaska?**

Anadarko now focuses exclusively on the North Slope but did have acreage in Cook Inlet and made a gas discovery at Moquawkie. In 1998 Anadarko entered into an agreement to explore for oil & gas on Arctic Slope Regional Corporation's (ASRC) lands, which are primarily in the foothills of the North Slope. Anadarko currently has about 1.4 million net (about 4 million gross) state, federal and ASRC exploration acres on the North Slope.



Anadarko's Chandler 1 insulated pad in winter. (Courtesy of Anadarko Petroleum Corporation)



Anadarko's Chandler 1 insulated pad in summer. (Courtesy of Anadarko Petroleum Corporation)

**Where else does Anadarko do business?**

Anadarko is the largest independent deepwater producer in the Gulf of Mexico and in addition to Alaska, has production and/or exploration in Algeria, Brazil, China, Indonesia, Mozambique and West Africa.

**What is Anadarko's production in Alaska?**

Anadarko partnered with ARCO in the Alpine discovery and continues to be a 22% owner of Alpine and surrounding satellite production, with over 6 million barrels of net annual production.

**What type of exploration plans does Anadarko have for Alaska?**

Anadarko is operating two exploration rigs this winter looking for gas, one on ASRC lands near Umiat (drilling the Chandler and Gubik prospects) and another exploring at Wolf Creek in NPR-A. ♦

## Did You Know?



**Oil and gas revenues benefit the State and local communities**

- In the state's fiscal year ending in June, 2008, oil and gas revenues represented 90 percent of Alaska's unrestricted general fund.
- The industry paid property taxes to local governments totaling \$358 million (FY08).

Visit [www.aoga.org](http://www.aoga.org) for more facts about Alaska's oil & gas industry.

# AOGA Educational Seminar and Tour

AOGA sponsored an educational seminar for all newly elected legislators, current legislators and legislative staff in early January. During the half-day session, information was presented about all aspects of Alaska's oil and gas industry by company representatives with expertise in each of the disciplines. The seminar began with an overview of industry operations in the Cook Inlet and was followed by a series of presentations demonstrating the lifecycle of a typical North Slope project. Government revenue, refining and offshore presentations rounded out the afternoon. Copies of all the presentations are available at our Web site: [www.aoga.org](http://www.aoga.org).

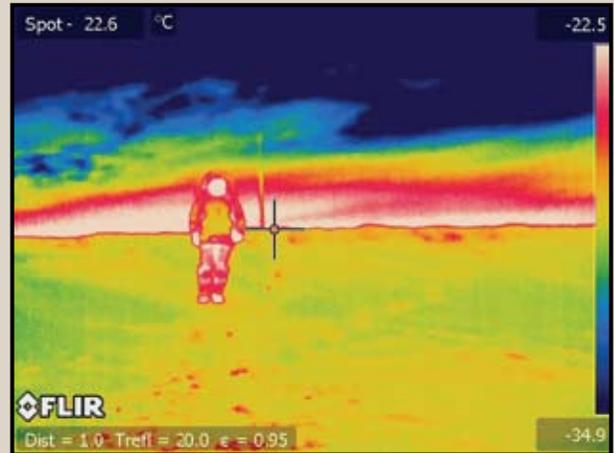
The following day, four newly elected legislators traveled to the North Slope as part of the education effort. Joining the tour were Sen. Joe Paskvan of Fairbanks, Rep. Cathy Munoz of Juneau, Rep. Bob Herron of Bethel and Rep. Chris Tuck of Anchorage.

The tour included a stop at the gas handling facility at Pump Station 1. The group also traveled 10 miles northeast of Prudhoe Bay to Endicott, the first continuously producing offshore field in the Arctic. Tour participants were able to observe offshore ice road construction currently underway from the kickoff point of the Endicott causeway, as well as preparations for expansion of the island for placement of surface facilities to develop the offshore Liberty field in federal OCS waters.

"The seminar and tour provided a means to learn about, and see first-hand how the industry operates in Alaska," stated AOGA Executive Director Marilyn Crockett. "We look forward to providing future opportunities." ❄️



Alaska State Representatives Tuck, Munoz and Herron visit Endicott during their AOGA North Slope tour.



Team members calibrate the hand held FLIR for the ground survey.

## On the Job

**Diane Sanzone, Biologist, BP Exploration (Alaska) Inc. & Julie Lina, Regulatory and Environmental Affairs Coordinator, Pioneer Natural Resources Alaska, Inc.**

Their names are Diane Sanzone and Julie Lina, and they are the veterans of an expedition Diane likens to "looking for a light bulb in the snow from 1,000 feet in the air."

The process is called Forward Looking Infrared, or FLIR, and it's being used by oil and gas companies to minimize the impact on polar bear dens during ice road construction. The pair endured subzero temperatures and fierce winds in Alaska's remote Arctic region aerially combing large areas of dark, frozen tundra in search of "hotspots." Any potential heat signatures were then inspected in finer detail on the ground. On this particular expedition, the pair was tasked with identifying maternal polar bear dens.

"Initially, it's like staring intensely at a Rorschach (inkblot) test for hours at a time," Diane says of her experience. But the weeks-long expedition proved fruitful and resulted in data that can be used by both oil and gas companies and the U.S. Fish and Wildlife Service.

Diane has been in Alaska for seven-plus years. Currently a biologist for BP Exploration (Alaska), she says her time here has been filled with many adventures that have taken her off the proverbial beaten path. After arriving in Alaska from Cape Cod, Mass., she spent a two-month stint in the Arctic National Wildlife Refuge. To this day, it's Alaska's northernmost regions that still inspire the most awe for Diane.

*(continued on page 5)*

## Regulatory Spotlight

# Permits for a "Typical" North Slope Project

### Federal Programs

- ✓ National Environmental Policy Act
- ✓ U.S. Army Corps of Engineers Section 404/10
- ✓ Endangered Species Act
- ✓ Marine Mammal Protection Act
- ✓ Bureau of Land Management Oil and Gas Permitting (NPRA)
- ✓ Minerals Management Service OCS
- ✓ Executive Orders Affecting Energy Projects
- ✓ Other Federal Authorizations and Consultations
- ✓ National Historic Preservation Act (also see SHPO)
- ✓ Essential Fish Habitat (50 CFR Part 600, 805, 930; Subpart J)
- ✓ Federal Communications Commission (FCC) – Radio and Wired Communications and Construction Permit
- ✓ U.S. Coast Guard Aides to Navigation Permit (coastal facilities)
- ✓ Federal Aviation Administration (FAA) Standards Review (airstrip)
- ✓ U.S. Coast Guard Sec. 9 Bridge Permit
- ✓ Environmental Protection Agency Ocean Dumping Permit (Sec. 103 – Marine Protection, Research and Sanctuaries Act)

### Federal and State Programs

- ✓ Clean Air Act – Air Permitting Program
- ✓ Coastal Zone Management Act/Alaska Coastal Management Program
- ✓ Waste Management and Underground Injection Control (UIC)
  - Resource Conservation and Recovery Act (RCRA)
  - ADEC Solid Waste Regulations
  - Underground Injection Control Program (EPA and AOGCC)
- ✓ Oil Spill Contingency Plans

- OPA 90
- Oil Discharge Prevention and Contingency Plan (ADEC)
- Spill Prevention, Control and Countermeasure Plan (EPA)

### State and Local Programs

- ✓ Alaska Department of Natural Resources (DNR)
  - Unit Plan of Development
  - Lease Plan and Unit Plan of Operations
  - Miscellaneous Land Use Permits
  - Material Sales Contracts
  - Temporary Water Use and Water Rights
  - Alaska Coastal Management Program Consistency Determinations
- ✓ Alaska Department of Fish and Game (ADF&G)
  - Fish Habitat Permits
- ✓ Alaska Department of Environmental Conservation (ADEC)
  - Permit to Construct (wastewater disposal/drinking water system)
  - Permit to Operate (wastewater disposal/drinking water system)
  - Sec. 401 Water Quality Certification (Sec. 402 and 404 permits)
  - Wastewater disposal permit (APDES application and Class I)
  - Food Service Permit
- ✓ Alaska Oil and Gas Conservation Commission (AOGCC)
  - Permit to Drill; Pool Rules; Area Injection Orders; Metering; etc.
- ✓ ADNRS State Historic Preservation office
  - Sec. 106 National Historic Preservation Act consultation (archeological, cultural, historic resources)
- ✓ North Slope Borough Land Management Regulations





**AOGA Executive Director Message**

## Critical Principles in Alaska’s Complex Regulatory Regime Must be Maintained

By Marilyn Crockett, Executive Director

Since the dawn of the environmental movement in the early 1970’s, Alaska’s regulatory regime in Alaska has evolved in parallel with major federal initiatives. The end result is that resource development in Alaska today is governed by a sophisticated, yet complex, regulatory regime.

In this issue of *Straight Talk* we’ve included a list of 40 federal, state and local permits required for a “typical” North Slope project. This list is the tip of the iceberg, however, in that it does not begin to capture the significant number of permits, approvals, stipulations, reporting requirements, and monitoring required under each of the listed programs.

The oil industry necessarily views permitting as a critical path requirement but also as a risk to project success. Why? Because permitting an oil and gas project in Alaska can be—and often is—as unpredictable as the weather.



An ice road near the Gubik field. (Courtesy of Peak Oilfield Service Co.)

In addition to the important objective of protection of the environment, to be successful, permitting programs must embody the following principles:

- **Provide for development of Alaska’s resources for the benefit of all Alaska residents**
- **Contain clear and concise requirements**
- **Be unambiguous and avoid opportunities for misinterpretation**
- **Provide predictable and firm timelines**
- **Provide predictability regarding applicable requirements and scope**
- **Avoid duplication of other state and federal permitting programs**

These critical principles are the foundation of the current Alaska Coastal Management Program (ACMP) championed by DNR Commissioner Tom Irwin and adopted by the Alaska Legislature in 2003. The Legislature has before it legislation substantially amending the ACMP in a manner which will undermine the current program and expand its scope. Now, as we did then, we pledge to work with the Legislature to ensure that these critical principles are maintained to provide for a strong, healthy permitting system for Alaska. ♦

**(On the Job continued from page 3)**

A 20-year veteran of Alaska, Julie – a regulatory and environmental affairs coordinator for Pioneer Natural Resources Alaska, Inc. – describes herself as “part geologist, part biologist.” Her hobbies span the seasonal spectrum. She recently retired from 15 winters of sprint dog mushing, and now spends her summers on the water, boating and fly fishing.

Diane and Julie say conducting the FLIR surveys was a long, involved process, and they give generous credit to the mission’s unsung heroes. “This trip was very successful,” Diane says. “However, we may have had a very different outcome if not for the help of the great support team and the top-notch pilots.” Despite the frigid temperatures, rough terrain and challenging schedule, both Diane and Julie reaffirm the success of this trip and its collaborative process as a positive impact for both companies and the wildlife which inhabit the North Slope. ♦



A member of the team uses a handheld FLIR unit to conduct the ground portion of the surveys.

# Member Companies

AOGA's members are companies that represent the majority of oil and gas exploration, production, refining, transportation and marketing activities in Alaska. Our members are:

Alyeska Pipeline Service Company  
 Anadarko Petroleum Corporation  
 BP Exploration (Alaska) Inc.  
 Chevron  
 Eni Petroleum  
 ExxonMobil Production Company  
 Flint Hills Resources, Alaska  
 Marathon Oil Company  
 Pacific Energy Resources Ltd.  
 Petro-Canada (Alaska) Inc.  
 Petro Star Inc.  
 Pioneer Natural Resources Alaska, Inc.  
 Shell Exploration & Production Company  
 StatoilHydro  
 Tesoro Alaska Company  
 XTO Energy, Inc.



## AOGA Staff

From left to right: Tamara Sheffield, Support Services; Marilyn Crockett, Executive Director; Kara Moriarty, Deputy Director; Sami Glascott, Regulatory Affairs.

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