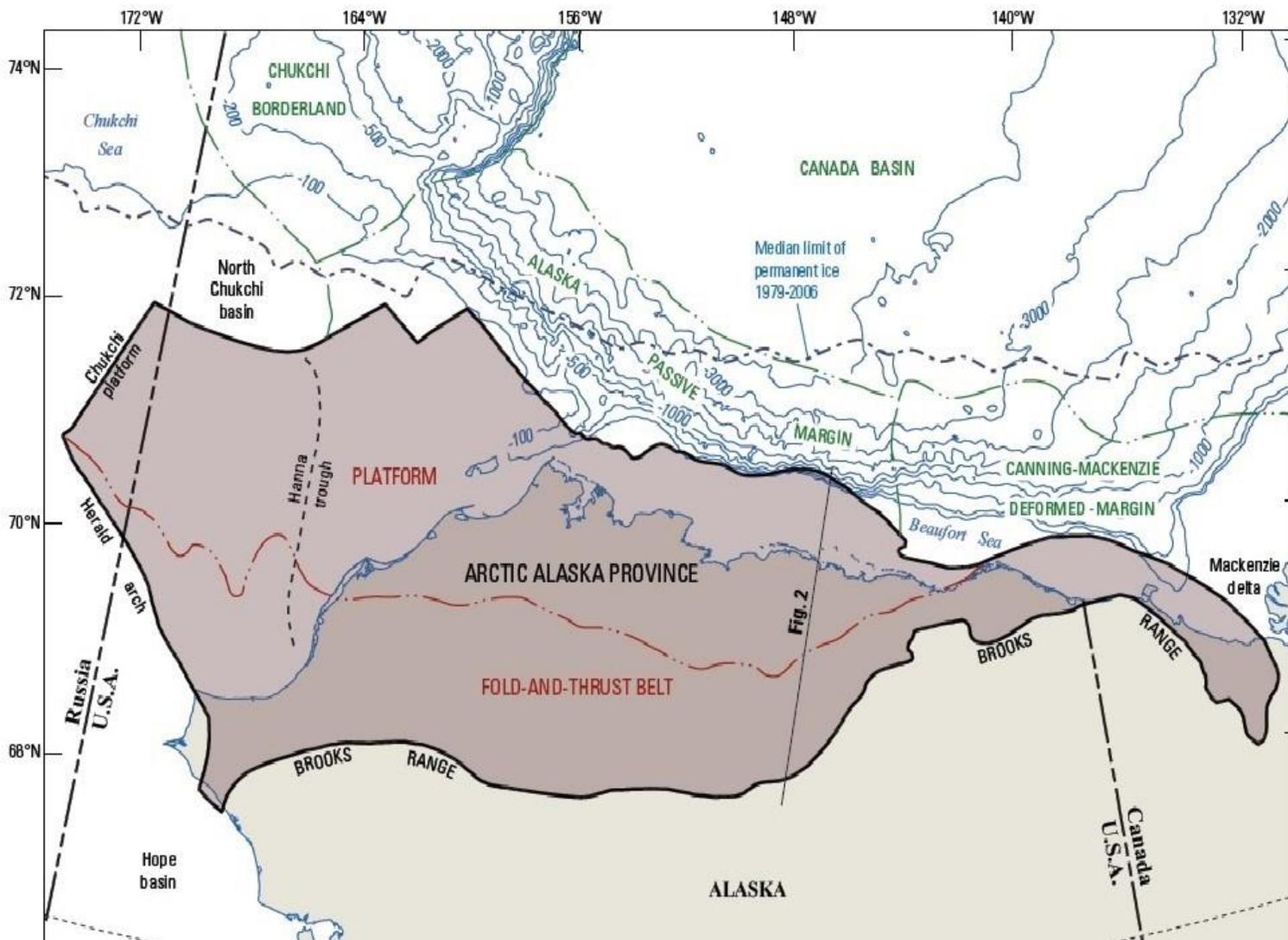


Offshore Arctic Exploration and Production :

A team approach

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Finding, developing, and renewing the personnel resources for Arctic operations to successfully explore and develop offshore oil and gas resources depends on identifying individuals who possess:

- Wisdom – from Knowledge gained
- Knowledge - from Understanding
- Understanding - from Experience
- Experience - from "hands-on" application

These personnel must have professional backgrounds in:

- Naval Architecture: stability, structural, drilling vessel design and operation
- Marine Engineering: power, marine systems
- Mechanical Engineering: equipment design, subsea, pipelines
- Ocean Engineering: ice mechanics, drilling and production rig design
- Business Administration
- Field Development and Production

Having A little knowledge can be dangerous, if not properly supported and utilized!

A 2009 U.S. Geological Survey (USGS) report revealed that oil and gas exists below the offshore waters of the Arctic in significant quantity in more than one or two reservoirs. This estimate made the offshore Arctic Region that much more alluring to risk takers willing to explore and develop the regions due to the potential reward. However, knowing there are petroleum resources is one thing, but safely overcoming the significant challenges and obstacles presented in the Arctic outer continental shelf (OCS) is another.

Developing this remote and environmentally extreme region can be compared to the challenges that were overcome putting a man on the moon; similar to when NASA began developing manned space flight over 50 years ago. That feat was not achieved through the efforts of the U.S. government and one or two commercial companies, but rather through the successful management of "teams" of experienced, technically-proven individuals with varying, but complementary, backgrounds and experience. These individuals, when given a specific challenge, worked together and with other teams, also with varying backgrounds, to integrate ideas and focus their combined efforts to achieve the goal.

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Successfully and safely producing oil and gas from the offshore Arctic Region creates a similar situation today. On October 19, 2009 USGS published the report titled “Arctic Oil and Natural Gas Potential,” which laid out the potential “undiscovered recoverable” oil and natural gas reserves in the Arctic Region, including areas of the Alaska OCS. That report concluded that the Arctic as a whole holds approximately 22% of the world’s undiscovered conventional oil and gas resources, producing high stakes specifically for Arctic OCS oil development.

The good news regarding the size of potential reserves was countered with bad news: high costs, high risks, and lengthy lead times to production thanks to other noted factors. This “bad news” was confirmed by the report’s “included fact” that 15 large Arctic oil and natural gas fields “are awaiting development” and that most of these fields were discovered in the 1970s and early 1980s, over 40 years ago. Forty-plus years have passed since these initial discoveries were made with little if any development activity to date.

Any group of teams assembled to address Arctic exploration, and especially the OCS, must have a background and experience in:

- Design
- Regulatory Compliance (example: United States law for U.S. Regulated Regions)
- Operation
- Planning
- Maintenance
- Logistics (including Ice Management)

All derived from:

- High latitude Arctic experience (including daily perils).
- Understanding and respect for the challenges of the environment and success in overcoming those challenges.
- A keen awareness of local people, their cultures, and ways to address their concerns.
- Knowing and understanding the rules and regulations to be applied to operate safely and incident free.
- Knowing and understanding how to protect people, so that they can function and work safely.
- Knowing and understanding local response capabilities for any emergency response.
- Knowledge of local assets available to respond to unforeseen situations.
- Staying abreast of technology advances and their application for use in the Arctic Region.
- Looking for ways to successfully apply new technology to address the challenges faced.

This is today’s challenge and reality for oil exploration in the Arctic and specifically its OCS regions. It must be balanced with the following observation made by the Department of the Interior (DOI)

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“Report to the Secretary of the Interior on the “Review of Shell’s 2012 Alaska Offshore Oil and Gas Exploration Program,” dated March 8, 2013. The traditional operator-specific, “go it alone” model, common with exploration programs in other regions, is not appropriate for Arctic OCS operations. The DOI report appears to be calling for the industry to come together and develop a joint approach for exploring and for developing Arctic OCS oil and gas resources. Like the 1960s moon shot, a joint effort by focused teams can create ways to overcome common challenges, deal with unexpected circumstances, and safely operate in high latitude environments.

The industry’s business model, however, has always been to consolidate companies and protect “intellectual property” developed to overcome obstacles, such as those to be encountered when exploring and developing the Arctic OCS, rather than working “together” to collectively overcome shared obstacles. Today we see some operators with vested Arctic OCS interests partnering with others to work together and move steadily forward to explore, develop, and produce oil and gas from the Arctic OCS. This is a first step toward what the DOI report calls for the industry to do. Operators must depend heavily on many subcontractors to operate in the Arctic’s extreme environment. Will segments of this support industry follow suit in partnering and working together for the collective good it could accomplish?

One only needs vision and knowledge of where to look, and what to look for, to complete the picture and achieve success for the industry: helping it to successfully and safely explore and develop the Arctic OCS.

Cover Caption: The Arctic, including areas in the outer continental shelf, holds approximately 22% of the world’s “undiscovered recoverable” oil and natural gas reserves. Source USGS.

About Joseph White

Joseph White is a member of Endeavor Management’s Arctic Team. He has over 40 years of hands-on technical support for operations and engineering design experience, of which 25 plus years has been offshore Arctic related, obtained while serving on the technical staff of vessel owners and operators. Mr. White earned a degree in Naval Architecture and Marine Engineering from Mississippi State University

This Endeavor Insight is brought to you by Endeavor Management, a management consulting firm that leads clients to achieve real value. Endeavor Management’s Arctic Team can provide independent and unbiased oversight when tackling the challenges of the Offshore Arctic. For more information contact Bruce Crager, Executive Vice President at 713-459-1215 or bcrager@endeavormgmt.com

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About Endeavor

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