

*Oil Production in the Arctic National  
Wildlife Refuge: The Technology and the  
Alaskan Oil Context*

February 1989

NTIS order #PB89-169239

**OIL PRODUCTION IN THE  
ARCTIC NATIONAL WILDLIFE REFUGE**

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**The Technology & the Alaskan Oil Context**



CONGRESS OF THE UNITED STATES OFFICE OF TECHNOLOGY ASSESSMENT

**Recommended Citation:**

U.S. Congress, Office of Technology Assessment, *Oil Production in the Arctic National Wildlife Refuge: The Technology and the Alaskan Oil Context*, OTA-E-394 (Washington, DC: U.S. Government Printing Office, February 1989).

Library of Congress Card Catalog Number 88-600565

For sale by the Superintendent of Documents U.S. Government Printing Office,  
Washington, DC 20402-9325

# Foreword

This OTA assessment responds to requests from the House Committee on Merchant Marine and Fisheries and the Senate Committee on Energy and Natural Resources for an examination of some technical issues concerning the potential future development of oil resources within the coastal plain of the Arctic National Wildlife Refuge (ANWR) in northeastern Alaska. Because geologists suspected that large quantities of oil might lie beneath the coastal plain, Congress had earlier exempted the plain from a Federal Wilderness designation given to about 8 million acres within ANWR. The U.S. Department of Interior has released a "legislative environmental impact statement" recommending the immediate leasing of the entire coastal plain for oil exploration and development. Upon release of that report, the plain's future became the focus of a high-stakes debate among a variety of environmental, business, Alaskan native, and government groups with greatly conflicting views of the appropriate balance of commercial, environmental, and other values of the plain. Differing hopes for the plain's future have emerged, ranging from full-scale oil development to wilderness designation and protection from man-caused change.

In deciding the future of the ANWR coastal plain, Congress must address a wide variety of issues ranging from the environmental impacts of oilfield exploration, development, and production in an Arctic environment to the economic and national security benefits of potential additional oil production in Alaska. These issues have been explored in a wide-ranging series of congressional hearings sponsored by four House and Senate committees, reports issued by business and environmental groups, executive branch reports, and a series of studies conducted by the Congressional Research Service and the General Accounting Office.

This report presents the results of an assessment of a subset of these issues focusing in particular on: the oilfield technology being used to develop the Alaskan North Slope's oil resources and the likely configuration of that technology as it might be applied in the future to the coastal plain; and the prospects for future North Slope oil production, especially the likelihood that the flow of oil through the Trans Alaskan Pipeline System will suffer a serious decline during the next decade.

A forthcoming OTA assessment, scheduled for release in the fall of 1989, will assist Congress in addressing a third issue--ANWR's potential role in future U.S. liquid fuel supplies. The assessment (entitled *Technological Risks and Opportunities for Future U.S. Energy Supply and Demand*) will examine, among other subjects, trends in future U.S. oil production and use, and the potential to reduce oil use by substituting alternative fuels and improving energy efficiency.

OTA is indebted to the numerous individuals who contributed substantial time to this report, providing information and advice and reviewing drafts.



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Many other individuals reviewed and made comments on sections of the report. In particular, OTA wishes to thank Carl Behrens, Congressional Research Service, David Campbell, National Wildlife Federation, Paul Deissler, Houston, Texas, E. Kaarlela, Bureau of Land Management, Lawrence Kumins, Congressional Research Service, Helmut Merklein, Energy Information Administration, James Mielke, Congressional Research Service, John Moore, Congressional Research Service, John Pearson, Energy Information Administration, Joseph Riva, Congressional Research Service, Milton Russell, University of Tennessee, William Sackinger, University of Alaska, Fred Sissine, Congressional Research Service, Arlon Tussing, ARTA, Inc., Seattle, Washington, Michael Utt, Unocal Corporation, and David Watts, Office of the Solicitor, U.S. Department of the Interior.

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