

ALASKA LEGISLATURE SPECIAL COMMITTEE/SUBJECT FILES 8672

2338 SCOMM 96: HOUSE SPEC. COMM. ON OIL & GAS, 1995-1996

CS FOR HOUSE JOINT RESOLUTION NO. 7(O&G)
IN THE LEGISLATURE OF THE STATE OF ALASKA
NINETEENTH LEGISLATURE - FIRST SESSION

BY THE HOUSE SPECIAL COMMITTEE ON OIL AND GAS

Offered:

Referred:

Sponsor(s): FINKELSTEIN, Navarre, Grussendorf, Brown, B.Davis, Porter, Davies, Kubina

A RESOLUTION

1 Supporting the lifting of the ban on the export of Alaska North Slope crude oil,
2 requesting the President of the United States to present to the United States
3 Congress a recommendation that it is both in the national interest to lift the ban
4 on the export of Alaska North Slope crude oil and discriminatory to the state
5 to maintain the ban, and endorsing passage of H.R. 70 and S. 70, companion
6 federal legislation to remove restraints on the export of that oil.

7 BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

8 WHEREAS the President of the United States has, by executive order, continued the
9 ban on the export of Alaska North Slope crude oil contained in 50 U.S.C.S. Appx. 2406(d)
10 (sec. 7(d), Export Administration Act of 1979) that prohibits, with tightly restrictive
11 exceptions, the export of domestically produced crude oil transported by pipeline over the
12 right-of-way granted by 43 U.S.C. 1652 (sec. 203 of the Trans-Alaska Pipeline Authorization
13 Act); and

14 WHEREAS the ban on the export of Alaska North Slope crude oil effectively limits
15 its sale to the domestic American market; and

1 **WHEREAS** Alaska North Slope crude oil required to be transported and delivered for
2 sale in the domestic market incurs approximately \$2 - \$4 per barrel in higher transportation
3 charges than if the oil could be exported to Pacific Rim countries; and

4 **WHEREAS** the higher transportation cost associated with shipping Alaska North Slope
5 crude oil to the Gulf Coast states reduces the wellhead price of the oil; and

6 **WHEREAS**, over a seven-year period of time, Alaska would gain \$700,000,000 to
7 \$1,600,000,000 in state taxes and royalties if the ban is lifted; and

8 **WHEREAS** lower wellhead prices make uneconomic the threshold for exploring for
9 and producing all North Slope oil and, as a result, production from certain existing and newly
10 discovered oil fields is currently uneconomic; and

11 **WHEREAS** the transportation cost savings from lifting the Alaska North Slope crude
12 oil export ban will be available for reinvestment in domestic exploration, and development of
13 marginal and newly discovered oil reserves will increase production and enhance the nation's
14 energy and economic security; and

15 **WHEREAS**, according to the June 1994 U. S. Department of Energy report on
16 exporting Alaskan North Slope crude oil, reserve additions in Alaska alone could be as large
17 as 200,000,000 to 400,000,000 barrels, a size that roughly equals the known reserves in major
18 North Slope fields, such as Point McIntyre; and

19 **WHEREAS** the export ban singles out Alaska, effectively penalizing the state and
20 reducing revenue needed for vital state programs; and

21 **WHEREAS**, according to the U. S. Department of Energy June 1994 report, exporting
22 Alaska North Slope crude oil to Pacific Rim nations will decrease the substantial trade deficit
23 with nations that have expressed a strong interest in purchasing Alaska produced oil; and

24 **WHEREAS** the proposal to lift the Alaska North Slope crude oil ban has enjoyed
25 strong support in the Legislature of the State of Alaska, the Legislature of the State of
26 California, and the United States Congress; and

27 **WHEREAS** lifting the oil export ban would result in a net increase in United States
28 employment from 11,000 to 16,000 jobs nationwide; and

29 **WHEREAS**, by the end of the decade, exporting Alaska North Slope crude oil could

1 generate from 10,000 to 25,000 jobs;

2 **BE IT RESOLVED** that the Alaska State Legislature supports lifting the ban on
3 export of Alaska North Slope crude oil; and be it

4 **FURTHER RESOLVED** that the President is respectfully requested to present to the
5 United States Congress a recommendation that it is both in the national interest to lift the ban
6 on the export of Alaska North Slope crude oil and discriminatory to the state to maintain the
7 ban; and be it

8 **FURTHER RESOLVED** that the Alaska State Legislature endorses H.R. 70 and S.
9 70, pending companion federal legislation removing the restraints on the export of Alaska
10 North Slope crude oil.

11 **COPIES** of this resolution shall be sent to the Honorable Bill Clinton, President of the
12 United States; the Honorable Al Gore, Jr., Vice-President of the United States and President
13 of the U.S. Senate; the Honorable Newt Gingrich, Speaker of the U.S. House of
14 Representatives; the Honorable Bob Dole, Majority Leader of the United States Senate; to the
15 Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the
16 Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress;
17 and to all other members of the United States Senate and the United States House of
18 Representatives serving in the 104th United States Congress.

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9-LS0310NC

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1/25/95

Rep. Rokeberg

CS FOR HOUSE JOINT RESOLUTION NO. 7(O&G)

IN THE LEGISLATURE OF THE STATE OF ALASKA

NINETEENTH LEGISLATURE - FIRST SESSION

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14 the Honorable Bob Dole, Majority Leader of the United States Senate; to the Honorable Ted
15 Stevens and the Honorable Frank Murkowski, U.S. Senators, and the Honorable Don Young,
16 U.S. Representative, members of the Alaska delegation in Congress; and to all other members
17 of the United States Senate and the United States House of Representatives serving in the 104th
18 United States Congress.

SCOMM

96:19

FISCAL NOTE

STATE OF ALASKA

BILL NO. HJR13

1995 LEGISLATIVE SESSION

Revision Date: Original

Dept Affected: Natural Resources

Title: Endorsing, in principle, legislation authorizing oil and gas leasing, exploration, and development on the coastal...

BRU: Resource Development

Component: Oil & Gas Development

Sponsor: Rep. Navarre, Grussendorf, Brown

Requestor: REP. POKEBERG

Component Serial No. 439

Expenditures/Revenues

(Thousands of Dollars)

OPERATING EXPENDITURES	FY96	FY97	FY98	FY99	FY00	FY01
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0
CAPITAL EXPENDITURES	0.0	0.0	0.0	0.0	0.0	0.0
CHANGE IN REVENUES ()	0.0	0.0	0.0	0.0	0.0	0.0

FUND SOURCE

(Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY95) cost: \$ None

POSITIONS

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

ANALYSIS:

(Attach a separate page if necessary)

There is no fiscal impact associated with implementation of this resolution.

House Joint Resolution 13 does not enact any legislation that will require action by the Division of Oil & Gas, as this is strictly a resolution document stating that the Alaska State Legislature supports in principle federal legislation authorizing oil and gas leasing, exploration, and development on the coastal plain of the Arctic National Wildlife Refuge, but opposes any unilateral reductions in royalty revenue from that exploration and development and any attempts by the Congress or the President to coerce the State of Alaska into accepting less than was promised at statehood.

Prepared by: Jim Eason, Director *Jim Eason for 1/23/95*

Phone: 762-2547

Division: Oil & Gas

Date: 23-Jan-95

Approved by Commissioner:

Date: 1/23/95

Agency: Natural Resources

PREPARER TO PROVIDE ALL DISTRIBUTION COPIES TO GOVERNOR'S LEGISLATIVE OFFICE

B

HOUSE COMMITTEE REPORT

1/25/95

(7)

Date Referred: January 16, 1995

FURTHER REFERRALS:

Resources
FinanceDate of Committee Action: 1/24/95The HOUSE SPECIAL COMMITTEE ON OIL AND GAS Committee considered:HJR 13

HOUSE JOINT RESOLUTION NO. 13 ENDORSING ANWR LEASING W/O ROYALTY CHANGE

Endorsing, in principle, legislation authorizing oil and gas leasing, exploration, and development on the coastal plain within the Arctic National Wildlife Refuge, provided the legislation does not contain a provision decreasing this state's royalty.

recommends it be replaced
with the following committee substitute CS HJR 13 (OTG) ☐ the same title
☒ a new title

☐ additional referral to _____ Committee☐ attached amendment(s)

ADOPTS: _____ Letter of Intent

ATTACHES NEW FISCAL NOTE(S):

(Dept)

APPROVES PREVIOUS:

(Dept/Date)

☐ fiscal note(s) _____☐ fiscal note(s) _____☒ zero fiscal note(s)DNR☐ zero fiscal note(s) _____

SIGNING WITH RECOMMENDATIONS

	DP	DNP	NR	AM
<u>Ken Brice</u> Brice	☒			
<u>W. J. Williams</u> Williams	☒			
<u>G. Davis</u> G. Davis	☒			
<u>B. Davis</u> B. Davis	☒			
<u>David Finkelstein</u> Finkelstein			☒	
<u>Van Rokeberg</u> Rokeberg	☒			
	(5)		(1)	

CHAIR'S SIGNATURE

Van Rokeberg
Rokeberg

COMMITTEE TAPE LOG

COMMITTEE: HONG DATE: 1/24/95 TIME: 10:06 AM 10/1
 SUBJECT: HJR 13 - Opening ANWR
 MEMBERS: Rep. Rokeberg, Rep. B. Davis, Rep. G. Davis, Rep. Williams
Rep. Brice, Rep. S. OGAN FY

SPEAKER	TAPE#	SIGNIFICANT INFORMATION
Rokeberg	95-1 Side A	Committee Called to order 10:06
	000	Members Present: Rokeberg, Brice, Ogan
HJR 13	012	Endorsing the opening of ANWR
	021	Motion to move HJR 13
G. Davis	022	Rep G. Davis Objected -
Rokeberg	038	Asked to hear the presentation by Rep. Navarre.
Rokeberg	057	Declared the hearings open
1	1	10:08 Finklestein came to Attend.
Rep. Navarre.	073	Commented on the results of the National elections, and stressed the importance of acting on this issue. The advancement of technology is such that we can develop the resources safely.
	125	90-10 split is best left out of this resolution.
	143	Commented on the protection of the Porcupine Caribou Herd.
Rokeberg	164	Thanked Rep. Navarre Call for Questions.
	174	Called Pt. Barrow for teleconference.
Mayor George of North Slope.	183	Mayor of Barrow stated that ANWR is under the Jurisdiction of the North Slope Borough and the people support development. Commented on the history of oil production on the North Slope.
	230	stated the benefits of opening ANWR.
Rokeberg	240	Thanked the Mayor
Warren Oosthuizen	254	Dir. of Wildlife Mgmt.
		-Urged the members to vote in favor of HJR 13

COMMITTEE TAPE LOG

COMMITTEE:

H 046

DATE:

1/24/95

TIME:

10:06 AM 20/2

SUBJECT:

HJR13 - Opening ANWR

MEMBERS:

SPEAKER	TAPE#	SIGNIFICANT INFORMATION
Rokeberg	243	Asked "How much hunting occurs in area 1002" - Do they take Caribou? Thanked the Witness
Debbie Reinwand	320	(Arctic Power) Anchorage: Urged the members to vote for HJR13.
Beverly Ward	350	ARCO AK. - ARCO is convinced that ANWR can be explored without danger to the local wildlife. Opening of ANWR will benefit the entire U.S.A.
Rokeberg	378	- Called witness from Anchorage
Jerry Weaver	382	Board of ARCTIC Power - Strongly second the previous comments.
Cindy Shonellor	395	Arctic Power: Urged a "Yes" vote on HJR13
Rokeberg	400	Joe Green was recognized in the Committee Rm.
Anchorage	409	- Appreciate the Committee for efforts
Chuck Sullivan	424	The Alliance: Supports HJR13: stressed state & national security.
Jerry Daggling	458	"The Alliance" Thanked the committee for efforts
Mathey Tanyani	467	Arctic Power: Opening ANWR in 1002 is important to Alaska's future. Urged a vote for HJR13
Becky Gray	486	Resource Dev. Council = Urged a Rapid Vote for HJR13. Stressed Alaska's technology & willingness to urge safety.
Manuel Frey	510	AK AFL-CIO ⇒ supported the opening of ANWR. HJR13 will help bring about the final opening of ANWR.
Frank Dillon	547	AK Trucking Assoc: We need to educate other people about Alaska's excellent environmental record. Urged passage of HJR13

COMMITTEE TAPE LOG

COMMITTEE:

H046

DATE:

1/24/95

TIME:

10:06 AM 303

SUBJECT:

HJR13 - Opening ANWR

MEMBERS:

SPEAKER	TAPE#	SIGNIFICANT INFORMATION
Keith Burke	575	Gen. Mgr. Oil & Gas Support is essential in America today. We are above 50% foreign oil consumption. Strongly urge a Rapid passing of HJR13
Rokeberg	590	Asked for other communities to join in the teleconference.
Anekdoevik	600	Mayor of Anekdoevik: supported HJR13 under provisions. No land may be leased to other parties.
Rokeberg	620	Called for other witnesses from around the state. -Public testimony is closed.
Brice	630	-There was no discussion of States rights to insure a 90-10 split. Proposed an Amendment on pg. 3.
Rokeberg	653	-Has considered that action previously.
Brice	655	-Asked about the nature of that consideration. -It must be made clear that the states position in the past was that we want the 90-10 maintained.
Rep. Maclean	678	Opposed Rep. Brice's Amendment.
Rep. Brice	687	-This is a Resolution and we can write it any way we want to.
Rep. Maclean	695	
Rep. Maclean	693	Brice will kill the bill.
Rokeberg	696	-This is difficult
Finklestein	700	-This is flexible & we will face these issues
Mr. Davis	704	-No problems with expressing the 90-10 split
Rep. Brice	726	-Suggested the Congressional Delegation run for state house. Congress shouldn't dictate our action
	74	
B. Davis	748	-This is an uphill battle for Alaska. They knew how we feel about 90-10. Urged Brice to withdraw his motion
Rokeberg	784	Called for vote on Amendment.
		AYES: 7 NAYS: 5 Motion is defeated

YAYS - Rokeberg, B. Davis, Mr. Davis, William S, S. Ogan
Yeu. - Brice, Finklestein.

COMMITTEE TAPE LOG

COMMITTEE:

HONG

DATE:

1/24/95

TIME:

10:06 AM 4/24

SUBJECT:

HJK13 - Opening FNUK

MEMBERS:

[illegible]

MIKE NAVARRE

REPRESENTATIVE

DISTRICT 9

ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES

DURING SESSION
STATE CAPITOL
JUNEAU, AK 99801-1182
(907) 465-3779

HOME ADDRESS
Box 169 — KENAI, AK 99611
(907) 262-7842

SPONSOR STATEMENT

January 20, 1995

TO: Representative Norman Rokeburg, Chair
House Special Committee on Oil & Gas

FROM: Representative Mike Navarre

SUBJECT: HJR 13, Supporting oil and gas leasing, exploration, and development on the coastal plain within the Arctic National Wildlife Refuge.

.....
House Joint Resolution 13 was introduced to encourage federal legislation authorizing oil and gas leasing, exploration, and development of the coastal plain of Alaska's Arctic National Wildlife Refuge. A caveat to this request for action includes that the United States Congress should recognize and support the statehood compact which will not include a reduction in the state's royalty rights.

The State of Alaska continues to support safe, reasonable, and responsible development of the Arctic National Wildlife Refuge. Advancing technology combined with an industry that has continually become more sensitive to responsible development ensures environmentally sound development.

Approximately 85% of the current state budget is derived from oil and gas. The responsible development of ANWR means a wide range of economic possibilities for the State of Alaska, ranging from jobs for Alaskans, to contracts for support industries, to an improved revenue stream for quality of life enhancements. Revenue generation would also add significantly to the Permanent Fund.

America's dependence on imported oil continues to increase and we are now at a point where 50.4% of our domestic demand is supplied by imports. The increase of imports is due to declining U.S. oil production (a 40 year low according to the American Petroleum Institute).

I believe opening the coastal plain of the Arctic National Wildlife Refuge is a positive move for both the United States and the State of Alaska. The dependence on imported oil must be reduced and economic stability of Alaska must be secured.

Thank you for your consideration.

Anchorage Daily News

VOL. XLX, NO. 4 84 PAGES

ANCHORAGE, ALASKA, WEDNESDAY, JANUARY 4, 1995

PRICE 50¢

TOTAL P.03

Young enters new Congress swinging

Alaska representative targets environmentalists, land-use policies

By DAVID WHITNEY
Daily News reporter

WASHINGTON — When the 104th session of Congress opens today under Republican control, it will be Day One of an expected two-year battle between the Alaska congressional delegation and environmentalists over federal land-use policy.

Rep. Don Young, the new chairman of the House Resources Committee, is itching for the fight.

In an interview, Young called

■ **OPENING DAY:** Eager Republicans plan an ambitious start. A-3

national environmental groups "despicable" promoters of the lock-up of federal lands from public use. He vowed to reverse years of land-use policy that he said puts environmental protection ahead of jobs.

"People will see I'm a good steward," Young said. "I'll prove

to the American people that I'm correct."

In the Senate, land-use policy will be in the hands of Sen. Frank Murkowski, who takes over as chairman of the Senate Energy and Natural Resources Committee. While Murkowski spoke more cautiously than Young in a recent meeting with reporters, he is at least as passionate about environmental organizations.

National environmental leaders so far have been reluctant to say

much about the delegation's new powers, fearing that they will prematurely ignite a confrontation with the Alaskans.

At a recent press conference, National Wildlife Federation chief Jay Hair said environmentalists will work with Young and Murkowski where they can, and oppose them where they must.

Murkowski has yet to say in detail what his agenda will be.



Daily I

Rep. Don Young

Please see Back Page, **YOUNG**

Continued from Page A-1

The first order of business will be hearings on U.S. assistance in constructing nuclear power plants in North Korea under an agreement to keep the communist nation from building nuclear weapons, Murkowski said.

After that, he said, the panel will hold hearings on domestic energy production and oil imports, which could become the background for a push to open the Arctic National Wildlife Refuge to drilling.

Legislation to turn the refuge's coastal plain into wilderness off limits to drilling is a top item on environmentalists' agenda. The area, prized for its unspoiled wildlife habitat, is also regarded as the most promising site for a

giant oil discovery in North America.

"One of the priorities we are going to address is the energy review coming out in April by the Department of Energy," Murkowski said. "We feel that ANWR is going to be a part of that, relative to how we decrease our dependence on imported oil. Half our trade deficit is the price of imported oil."

In the House, where Speaker Newt Gingrich has outlined an aggressive schedule in the opening months of the Congress, Young predicted quick action on a slate of bills.

Sweeping revisions to the Endangered Species Act that are certain to weaken it, laws to pay private-property owners for federal actions that regulate use of their land, and

a wetlands protection bill that will ease development restrictions in Alaska will pass the House by July, Young pledged.

After that, Young said, he will turn his attention to Alaska issues. Among these are attacks on Forest Service policies that he said are hampering timber production in the Tongass National Forest and lifting the ban on the export of North Slope crude oil.

Young also predicted that legislation allowing oil drilling in the Arctic refuge will be enacted before the 1996 presidential elections, although he declined to say how he intends to pull that off.

Young concedes that his agenda amounts to frontal assault on environmentalists who lobby on Capitol

Hill. He said he intends to limit their influence by not inviting them to testify at committee hearings and conducting most of those hearings outside Washington and in the local communities around the country that will be most affected by the panel's decisions.

"Our major goal is to solve some of these environmental issues that have swung so far to the left," he said.

"What I'm going to do in my reign as chair is to show people who environmentalists are, who the people who drive around in their limousines and live in their big mansions and say 'I'm an environmentalist' and how elitist they really, truly are," he said.

"There's 57 different organizations that live

around this hill that make a living telling the farmer he's wrong, that make a living telling the guy who's cutting a tree down that he's wrong, that make a living telling everyone that man's occupation on the earth is a cancer on the Earth," Young said.

"That's why I get so frustrated with them because they are the most despicable group I've ever dealt with," he said.

Scott Kearin, executive director of the Alaska Wilderness League, a group set up by former New York Rep. Bob Mrazek to fight oil development in the Arctic refuge and protect the Tongass from over cutting, was incensed by Young's attack.

"To insult environmentalists like this is very unfair," he said. "I don't

even own a car and know a single rich environmentalist. We are this for the money, certainly don't make much money as a men."

Still, Kearin said the new power of the delegation is troubling.

The result, he predicted, will be the reinvigoration of the national environmental movement, turned lethargic after Clinton's election in 1992.

"There's been some complacency in the movement for the last couple of years, but this will certainly change that," Kearin said. "Alaska is special to Americans, and the situation has them worried."

NATION A-3

Most oil used in U.S. in 1994 was imported

The Associated Press

WASHINGTON—For the first year ever, more than half of the oil used in the United States in 1994 came from foreign sources, with total imports for the year setting a record, a trade association reported today.

Nearly 8.9 million barrels of oil a day were imported last year, or 50.4 percent of total domestic demand, while U.S. oil production fell to a 40-year low, the American Petroleum Institute said.

The statistics were expected to

Congress favoring tax breaks for domestic oil producers and for new oil and gas development in the United States, including in controversial areas such as the Arctic National Wildlife Refuge in northern Alaska.

Sen. Frank Murkowski, R-Alaska, chairman of the Senate Energy and Natural Resources Committee, already has promised a broad review of U.S. energy policies, including a hard look at the growing imports and what should be done to boost domestic production.

CRS Report for Congress

Domestic Oil: Past, Present, and Future

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ALASKA STATE LIBRARY

Joseph P. Riva Jr.
Specialist in Earth Sciences
Science Policy Research Division

March 14, 1994



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DOMESTIC OIL: PAST, PRESENT, AND FUTURE

SUMMARY

Annual domestic crude oil¹ production peaked in 1970 at about 3.33 billion barrels and then began a slow decline that continued for the next seven years. Then, between 1977 and 1986, production leveled off, with yearly oil output fluctuating around three billion barrels. The long production decline was arrested by a significant increase in domestic oil drilling, especially of development wells within known fields. During the drilling boom of the early 1980s, only one percent of the successful oil wells were wildcats that discovered new fields, and these new fields provided only about seven percent of proved reserve additions. The drilling boom was a domestic response to rising world oil prices, but in 1986 world oil prices fell sharply and domestic oil well drilling again responded in kind. Since 1987 fewer than 20,000 oil wells have been drilled yearly (compared to a peak of over 61,000 in 1984) and the number of producing oil wells has declined by more than 55,000 in the past three years. The dramatic decrease in domestic drilling was mirrored in reduced oil production, by 1992 down about 20 percent from 1985. Domestic crude oil demand in 1992 was about 4.7 billion barrels, some 2.2 billion barrels of which was supplied by imports. This amount of imported oil is equal to an average of 15 supertankers entering U.S. ports each day. OPEC countries contributed about 54 percent of these 1992 oil imports. Domestic crude oil production is estimated to continue to decline, by four percent in 1993 to 20 percent by the decade's end (compared to the 1992 level). Future declines in domestic oil production will lead to increasing imports, most of which will likely have to come from the Middle East. The future output from the mature oil producing regions of the United States will depend on an even more intensive exploitation of known fields through massive infill drilling and enhanced oil recovery operations and the search for ever smaller undiscovered oil accumulations. Such activities require extensive development activity, with even marginal production gains dependent upon significant increases in drilling effort. Since a return of the drilling boom is unlikely, as it is primarily dependent on world oil price, the extent of the projected domestic oil production decline will depend mostly on future exploration and development success in the key frontier regions of Alaska's North Slope and the outer continental shelves (especially offshore California), where there are still prospects for the discovery of giant fields. Since exploration and development activities in frontier regions have long lead times, near-term Federal leasing decisions will greatly affect end of century production and, therefore, imports and balance of payments.

¹Excludes natural gas liquids.

DOMESTIC OIL: PAST, PRESENT, AND FUTURE

INTRODUCTION

The United States today is powered by oil. It provides 41 percent of total domestic energy requirements, a far larger portion than any other single energy source. Nearly half of this oil is imported, while over 80 percent of the total oil consumed is for transportation, asphalt, and petrochemical feedstocks, where a substantial substitution of economic non-oil based substances is not expected soon. Thus, domestic oil production and oil imports will remain a very important component of domestic energy demand into the foreseeable future. Because of the energy security and balance of payments problems associated with importing very large amounts foreign oil, projections of future domestic oil production are important in energy, economic, and foreign policy considerations.

DOMESTIC OIL PRODUCTION HISTORY

The Drilling Boom

When crude oil output in a mature oil producing region peaks and begins to decline, past experience has been that the decline is irreversible. Thus, when domestic crude oil production peaked in 1970 at about 3.33 billion barrels per year and began a slow decline, there was a general expectation that the decline would continue. This judgement was based upon the knowledge that proved reserves were decreasing and that even optimistic estimates of undiscovered resources indicated that some two-thirds of the Nation's original recoverable oil resource base had already been discovered. However, it was also assumed that field growth would persist at historic rates. Oil fields often appear to grow over time as continuous development proves additional reserves by infill drilling on closer spacing, field extension, exploitation of new producing zones, or enhanced oil recovery operations. About a decade after the production peak, domestic drilling increased to unprecedented levels in response to world oil price increases (see table 3). In the early 1980s, about 99 percent of the successful oil wells were development wells associated with known fields. About 95 percent of the development drilling was of infill wells, drilled on closer spacing within the boundaries of known fields. The remaining successful development wells either found new reservoirs in producing fields or extended their boundaries. Of the total successful domestic oil wells drilled, only one percent were wildcats that discovered new fields, and these new discoveries provided only about seven percent of proved reserve additions. In spite of the poor exploration results, domestic production did not continue its decline; rather it was sustained at

The average per well oil reserve additions since 1980 and the number of wells estimated to have been drilled for oil in 1993 are shown in table 1 for each region. The two values are multiplied to estimate yearly regional reserve additions to be used in the 13-year projection (to 2005) shown in table 2.

TABLE 1. Regional Reserve Additions and Estimated Oil Wells Drilled in 1993
(in million barrels)

Region	Reserve Additions Per Oil Well 1980-1992 Average	Estimated Oil Wells Drilled	Regional Reserve Additions
Alaska	4.369	130	568
California	.144	1735	250
Rocky Mts./N. Gt. Plains	.117	648	76
W. Texas/E. New Mexico	.074	4452	329
Gulf Coast	.121	2173	263
Midcontinent	.024	2813	68
Eastern Interior	.010	1085	11
Michigan Basin	.083	31	3
Appalachians	.006	467	3

SOURCE: Derived from: U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves. 1980 to 1992 Annual Reports. DOE/EIA-0216 (80-92), and Quarterly Completion Reports, American Petroleum Institute, 1980-1993.

It can be seen from table 1 that Alaska and California have been the best regions of the United States in which to drill an oil well, with average per well reserve additions substantially higher than those in the other domestic regions. During the 1980s, more than half of the oil reserve additions in California came from enhanced recovery operations in the large heavy oil fields of the San Joaquin basin. About one-third of California oil reserve additions came from large fields discovered offshore. New offshore fields accounted for most of the oil reserve additions in 1981 and 1982. In the early 1980s, drilling was resumed in the Santa Barbara Channel and several offshore fields were discovered and developed in the region, which includes the Santa Maria basin. Enhanced heavy oil recovery operations accounted for most reserve additions in 1984 through 1989. For California to continue to record average per well reserve additions that are considerably higher than the national average, both enhanced oil recovery projects and offshore exploration and development must be successfully continued.

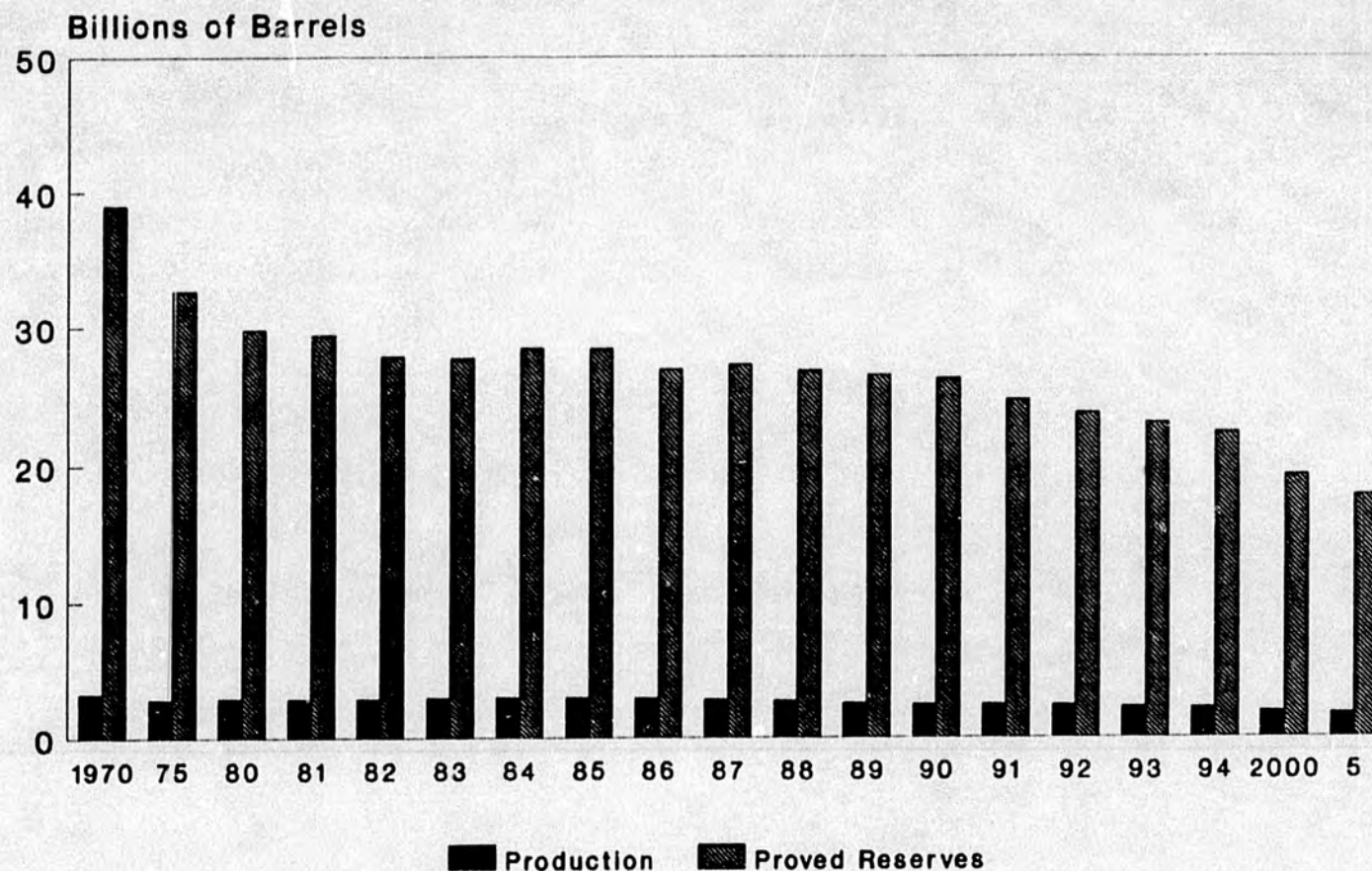
The super-giant Prudhoe Bay field on the North Slope of Alaska still accounts for nearly three-quarters of the State's oil production and one-fifth of total U.S. oil production. The daily output from an average Prudhoe Bay production well is about 1,200 barrels, compared to nine barrels for the rest of the United States. An average Prudhoe Bay well is worth more than 133 average domestic wells. However, the field began to decline in 1988 at a rate that is projected to average between eight and ten percent per year through the year 2000. Year to year decline rates may be above or below this amount because projects such as the recent infill drilling and gas injection program will partially offset the field's natural decline. All of Alaska's oil fields are expected to be in decline by 1995. If the oil deficit is to be made up, the additional output will have to come from new discoveries. However, exploration efforts in the Gulf of Alaska, the Bering Sea basins, the Chukchi Sea, and the Beaufort Sea, with a very few exceptions, have been unsuccessful.

A major prospective region that remains undrilled lies between Prudhoe Bay and the Canadian border. This is the Arctic National Wildlife Refuge. The region contains the largest undrilled onshore geologic structures known in the United States and has been assessed by the Department of the Interior to contain an economically recoverable oil resource ranging to over nine billion barrels. The actual amount of recoverable oil in the refuge can not be known without exploration drilling and could be more, or less, than estimated. Because of the lack of exploration success in other regions of Alaska, sustaining its recent per well reserve additions of 60 times the Lower-48 State average very likely will depend upon a successful exploration and development program in the Arctic National Wildlife Refuge.

Such development is currently the subject of great controversy, with the final decision to be made by Congress. The refuge, one of the premier wildlife reserves in the United States, does, however, hold the prospect of a giant oil discovery. Giant oil fields in the United States (those that originally contained at least 100 million barrels of recoverable oil) are relatively scarce. Of the 33,900 domestic oil fields that have been discovered to date, only 288 are giants (0.8 percent).² Yet, these few fields have contributed nearly 60 percent of total domestic oil production and still contain just over 61 percent of proved domestic oil reserves. Because of their large size and anomalous geology, they are usually found early in the exploration cycle. About half of the known giant oil fields were discovered before World War II. Recently few giant fields have been found, because almost all of the remaining undiscovered domestic giant oil fields are likely to be site-specific to a relatively few areas in Alaska and on the outer continental shelves. New giant fields, from which large amounts of oil can be produced from relatively few wells, are needed to shore up declining domestic oil production, thus helping to keep energy affordable. Civilizations are built and maintained with energy. While conservation holds great promise, and energy R&D may contribute substantially, for the foreseeable future the economic prosperity of the United States, as well as the rest of the industrial

²U.S. Fields With Ultimate Oil Recovery Exceeding 100 Million BBL. Oil and Gas Journal, Jan. 31, 1994. p. 82-83.

Figure 1.
Past and Projected
United States Oil Status



The years of 1993, 1994, 2000 and 2005
are estimates.

recovery from production wells that were normally spaced. Future output in the mature oil provinces in the Lower-48 States also will depend upon the meticulous search for the numerous, but generally very small, fields thought to remain undiscovered. Thus, reserve additions in such mature areas mostly will be a function of the number of holes drilled. Since a very high level of drilling activity, which does not appear to be forthcoming, will be necessary to sustain production, domestic oil output is projected to decline.

The Status of the Domestic Petroleum Industry

The prospects of a return to a drilling boom are not favorable. Currently less than 20,000 wells (exploratory, development, and dry holes) are drilled for oil per year and the number of producing wells has declined by more than 55,000 in the past three years (to about 584,000). It is estimated that only 13,534 wells were drilled for oil in 1993, an increase over the 12,389 wells drilled in 1992, but a decline from the 17,393 wells drilled in 1991. The domestic fleet of drilling rigs has been declining since 1982, from 5,644 to 2,043, and less than half of the remaining rigs are normally drilling at any one time. In June 1992, the active rig count fell below 600 for the first time since record-keeping began in 1940. The average for 1992 was 718.2 active rigs, a new low. The decreasing rig count put an estimated 45,000 oil workers out of work in 1991 and 1992, part of 450,000 oil workers who have lost their jobs in the past decade.³

Another indication of the depressed nature of domestic oil exploration is the small number of seismic crews prospecting for oil, the fewest since the count has been recorded (74 percent less than in 1974). Laws and regulations that limit access to the high potential areas in the United States, coupled with crude oil prices below \$20 per barrel, have resulted in very low rates of return on domestic investments, causing exploration and development activities by U.S. petroleum companies to be focused internationally where, because of larger prospects, the potential return on investment is much higher. U.S. oil companies spent only 74 percent as much on domestic oil exploration in 1992 as in 1991. Since 1988, domestic exploration and development spending by the 30 largest oil companies has decreased by 30 percent (to \$10.5 billion). Domestic spending accounted for only 35 percent of the companies' exploration and development budgets in 1992. The U.S. oil industry, in the past five years, has spent some \$30 billion more finding and developing foreign oil resources than developing domestic oil fields.⁴

As a result, domestic crude oil production in May 1992 fell to its lowest monthly level (7.05 million barrels per day) in 30 years, while in July crude oil

³Oil Rig Count Drops to Record Low. The Energy Daily, June 18, 1992. p. 3.

⁴Anderson: Oil and Gas Firms Continue Foreign Flight. The Energy Daily, June 1, 1992. p. 3; Foreign Exodus of Oil Firms Continuing, Anderson Finds. The Energy Daily, July 1, 1992. p. 1-2; Domestic Oil Exploration Off Sharply - Anderson. The Energy Daily, May 27, 1993. p. 4; and Oil Exodus Slowed in '92, But Trend to Continue. Salomon. The Energy Daily, Sep. 8, 1993. p. 4.

enhanced oil production. The decline was partially a result of low oil prices (injected chemicals are expensive) and partly due to technical problems. In chemical recovery projects, the reservoir sometimes appears to inhibit the chemical processes and the desired oil recoveries are not achieved. Since each reservoir has unique properties, specific chemical systems must be designed for each application. Chemical recovery projects, as well as thermal and gas injection projects, will have to be increased to offset declining primary and secondary production. However, no enhanced recovery technology will be able to provide production rates comparable to those achieved in the exploitation of new oil discoveries.¹⁰

Oil Imports

It appears that the Earth originally contained around 2,332 billion barrels of recoverable oil, of which some 31 percent already has been produced and consumed. If the remaining oil were evenly distributed and exploration and development everywhere proceeded at the average pace achieved in the United States, world oil production could be sustained at about its current level (22 billion barrels per year) for around 75 years. Then, toward the end of the next century, a declining resource base would force down yearly world oil production.¹¹ However, since the world's remaining oil is very unevenly distributed (see table 4), future oil production must be projected on a country-by-country basis. This can be illustrated by calculating the number of years into the future a country may be able to sustain current production by using the U.S. experience as a model of exploration and development.

The results of such projections are shown in table 5, with the countries listed downward in order of increasing time of sustainable production. It is interesting to note that the United States is the leading member in the short-term sustained production category. The next two members, Canada and the United Kingdom, export large amounts of oil to the United States. Due to projected future production declines, however, they can not be expected to be long-term suppliers. Likewise, Trinidad ships substantial amounts of crude oil to the United States, and may experience increasing difficulties in doing so in the future. Norway and Colombia, both important exporters of crude oil to the United States, are estimated to be unable to sustain current production levels past the end of the century.

The countries with the long-term production potential and the potential to significantly increase current crude oil production are, with the exception of a few former Soviet republics, grouped in the Persian Gulf. It is to this region that the United States, and the rest of the world, must turn for future major oil supplies. As a representative of most of these countries, OPEC is reacting to

¹⁰Doscher, T.M. and J. A. Kostura. Enhanced Oil Recovery and Domestic Oil Reserves 10 Years Later. SPE/DOE Fifth Symposium on Enhanced Oil Recovery, Tulsa, Oklahoma, Apr. 20-23, 1986. p. 7.

¹¹Riva, Joseph P., Jr. Dominant Middle East Oil Reserves Critically Important to World Supply. Oil and Gas Journal, Sep. 23, 1991. p. 62-68.

The volume is not only smaller, the oil left in the fields will be more difficult to extract.

After secondary recovery methods have been used, the extraction of additional oil requires more sophisticated and expensive techniques. These enhanced oil recovery techniques usually attempt to reduce oil viscosity by the introduction of heat (steam) or of other injected substances such as carbon dioxide, polymers, solvents, surfactants, micellar fluids, or even microorganisms in various combinations depending upon reservoir conditions and crude oil properties. These processes (sometimes termed tertiary recovery techniques) can further increase recovery to 40 to 80 percent of the in-place oil depending upon the process employed and the physical properties of the reservoir and of the oil.⁸

In 1980, some 333,000 barrels of oil per day were lifted by enhanced oil recovery operations. By 1992, domestic enhanced oil recovery had more than doubled to about 761,000 barrels per day (11 percent of total production). In the future, the achievement of such significant increases in enhanced oil recovery production will present substantial problems. About 61 percent of current enhanced oil recovery production is derived from thermal (steam) treatment of heavy oil fields, but such production is lower than in 1986, being inhibited by the low price of heavy oil and the environmental laws in California. Thermal recovery has been most successful in California-type reservoirs that are over 50 feet thick and contain high saturations of heavy oil. Increased heavy oil production has been constrained in California because of the air pollution associated with the burning of the oil to produce steam. However, natural gas is increasingly being used to fuel thermal projects, helping to ease environmental impacts and restrictions, and allowing a small (1.4 percent) increase in thermal recovery in the past two years.

Gas injection recovery increased by 36 percent since 1990 due to additional carbon dioxide injection projects in West Texas and hydrocarbon gas injection at Prudhoe Bay. Carbon dioxide flooding has been relatively successful in West Texas carbonate reservoirs, principally because of high residual oil saturation and the proximity of large natural sources of carbon dioxide in Colorado and New Mexico. The oil development infrastructure in West Texas is in place, making the expansion of carbon dioxide injection into other nearby oil fields economical. Prudhoe Bay contains a huge natural gas cap that can be used for pressure maintenance to recover additional oil in the field since it cannot be otherwise commercially produced. Thermal recovery plus gas recovery accounts for about 99 percent of domestic enhanced oil recovery. These are relatively site-specific processes, as described above.⁹

Chemical recovery has more general application, but has declined by 90 percent since 1988 and accounts for only about one percent of domestic

⁸Ibid.

⁹Moritis, Guntis. EOR Increases 24% Worldwide; Claims 10% of U.S. Production. Oil and Gas Journal, Apr. 20, 1992. p. 51-79.

TABLE 5. Time to Which Current Oil Production Can Be Sustained

<u>Mid 1990's</u>	<u>End of 20th Century</u>
United States	Indonesia*
Canada	Colombia
United Kingdom	Egypt
Australia	Argentinian
Trinidad & Tobago	Norway
Angola	Ecuador
	Oman
<u>Early 21st Century</u>	<u>Mid 21st Century</u>
Brazil	India
Russia	China
Malaysia	Ukraine
Qatar*	Libya*
Algeria*	Brunei
Nigeria*	Romania
<u>Late 21st Century</u>	<u>22d Century</u>
Azerbaijan	Turkmenistan
Yemen	Uzbekistan
Mexico	Kazakhstan
Iran*	Venezuela*
	Saudi Arabia*
	UAE*
	Iraq*
	Tunisia
	Kuwait*

*OPEC Countries

self-defeating, according to OPEC, to thus create short-term security of supply without first obtaining long-term security of demand at the higher levels. However, with increasing oil demand and the declining productive capacity in the rest of the world, the longer term economic prospects of OPEC appear quite favorable.

Some 2.223 billion barrels of crude oil was imported into the United States in 1992, about 48 percent of supply. This amount of imported oil would require an average of 15 supertankers entering U.S. ports each day. OPEC contributed about 54 percent of 1992 oil imports. Since most of OPEC's long-term production capacity is centered in the Middle East (a region in which tensions have reached the explosion point on numerous occasions, triggering wars, illegal occupations, coups, revolutions, sabotage, terrorism, and oil embargoes), the security of the U.S. energy supply remains a concern.

CRS Issue Brief

Arctic Resources: Over a Barrel?

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Updated January 22, 1992

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Arctic Resources: Over a Barrel?

SUMMARY

On Nov. 1, 1991, the Senate rejected an attempt to consider S. 1220, a bill which contains a title that would open the Arctic National Wildlife Refuge (ANWR) to development. The Senate sponsor of that bill stated that he now sees ANWR development legislation as unlikely for the remainder of the 102d Congress. Because of the Senate vote, it seems unlikely that the House will take up ANWR legislation.

ANWR is an area rich in fauna, flora, and oil potential. Current law forbids energy leasing. Development proponents argue that any ANWR oil would help to insulate our energy markets from the recurring crises of the Middle East, and could be developed safely. Opponents argue that ANWR's balanced ecosystem is more valuable intact, provides no lasting energy security, can be replaced by a variety of cost-effective alternatives, and should be legally designated as wilderness, or at least remain as an area in which energy development is forbidden. The Bush Administration supports ANWR development. In January 1991, the Department of the Interior increased its estimate of "the marginal probability of economic success (i.e., the potential for oil recovery)" from 19% (a high figure by industry standards) to 46%.

Efforts in the 100th and 101st Congresses to allow development of the coastal plain of the ANWR in northeastern Alaska terminated with the *Exxon Valdez* oil spill. However, the crisis in the Persian Gulf gave a major boost to development proponents, though the failure of the market to sustain the higher prices of late 1990 has diminished their arguments somewhat. In addition, President Bush made increased drilling in frontier areas, including ANWR, a centerpiece of his proposed national energy policy. Proponents argue that, while an ANWR discovery would not eliminate dependence on foreign oil, it could alleviate the problem to some degree. As before, the current legislative options include designating the area as wilderness, thereby ending the potential for development. Congress could also allow exploration, with or without development, to proceed. Another option is to take no action. This choice, the one made by the last two Congresses, also prevents development, since the relevant statute requires congressional action for oil development to occur.

Many complex and difficult issues would be involved with a decision to proceed. Though seismic studies and drilling outside the ANWR coastal plain strongly suggest there is or was a significant quantity of oil, whether and how exploratory drilling might proceed, who would pay the costs, and how the leasing options would be awarded are some of the many questions involved. How would the small Native population (around 200 people) living on the Refuge fare, and how would Native groups dependent on caribou calving in the area be affected? What environmental protection measures would be appropriate, and how would change of habitat affect the great wealth of plant and animal populations? Assuming there are development revenues from bonuses, rents, and royalties, how would these monies be divided among the Federal Government, the State of Alaska, and others?

access under certain circumstances for energy development in ANWR and on other Federal lands (except national parks). This amendment was dropped in conference. (See CRS Issue Brief 90116 regarding oil and the Persian Gulf crisis.) Hearings have begun in four congressional committees in the 102d Congress. (For a full list of congressional actions on ANWR since the 99th Congress, see CRS Report 91-325.)

In the 102d Congress, the Senate Energy and Natural Resources Committee reported S. 1220 (in lieu of S. 341), which contains a title that would open the 1002 area to development. An amendment to strike the title was defeated in Committee by a vote of 8 to 11. On Nov. 1, 1991, after several days of debate on a motion to proceed to consideration of the bill, a cloture vote occurred on a filibuster organized by various opponents of the bill (including especially those opposed to ANWR development). The cloture motion failed, 50-44. (Sixty votes were needed to invoke cloture.) Sen. Johnston, the sponsor of S. 1220, has stated that he believes that ANWR legislation is dead for the 102nd Congress. Whether that belief is shared by Members of the House remains to be seen.

Legislative Choices

Congress has three basic choices for ANWR legislation. One option is designating the area as wilderness, thereby preventing energy development. This choice, like the failure to find oil, would add to pressures for alternative energy supplies and strategies. Supporters of this option argue that the entire, balanced ecosystem is most valuable in the aggregate and worth preserving intact. (See H.J.Res. 239, H.R. 39, and S. 39.)

A second option is passing legislation permitting energy leasing in the 1002 area. Supporters of development argue that the ANWR area is the best U.S. onshore prospect remaining and that its development is necessary for long-term national security and for improving the balance of trade. They also argue that effects on animals, especially caribou, would not be serious, but concede that wilderness values would be lost. Many observers feel that no ANWR development bill can pass unless it is linked to a broader energy policy which encourages conservation and alternative energy sources. If the development option is chosen, Congress could also decide the pace and conditions for any oil development, and whether to adopt a preliminary exploration program. (See S. 109, S. 341, S. 570, S. 1220, H.R. 759, H.R. 1301, and H.R. 1320.)

The third option, and the one actually chosen by the previous two Congresses (and apparently by the Senate in the 102d), is taking no action, thereby preventing onshore energy development at this time. Those supporting delay often argue that not enough is known about either the probability of discoveries or about the environmental impact if development is permitted. Others argue that oil deposits should be saved for an unspecified "right time." Some will argue that the recent volatile oil market demonstrates that now is just such a time.

A central question is whether the petroleum is needed at the possible expense of other values in ANWR. If oil is found in ANWR, it would not contribute to national security or the trade balance until 10 or 15 years from now -- when any oil would first appear in quantity. But 10 to 15 years may be enough time to pursue other energy alternatives. Opponents of development point out that the oil estimate from even a large field is equivalent to one year or less of current national consumption.

Geological Variables And Development Options

The fundamental conflict of energy development versus wilderness protection is exacerbated by uncertainty over how much oil is present in the 1002 area. This uncertainty prompted some Members of Congress to consider proposals to clarify how much petroleum is at stake in ANWR. The oil industry was encouraged by the discovery in 1989 of an apparently new field only 2 miles from Prudhoe Bay. An initial test well produced 2,500 barrels per day; years ago, discovery wells at Prudhoe produced 10,000 barrels per day. The field has not yet been developed due to low energy prices and the high cost of infrastructure development.

Potential Energy Resources

Few have challenged the DOI interpretation of the 1002 area geological data. Seismic studies and drilling outside the 1002 area strongly suggest a relatively high probability for significant recoverable oil. Estimates of undiscovered economically recoverable reserves range from less than 1 billion barrels to more than 9 billion barrels of petroleum. ANWR by itself would do little to reduce U.S. dependence on foreign oil, but it could reduce the trade imbalance due to importing oil over an extended period.

If the low range of DOI's estimate (one field of less than one billion barrels) is correct, then 30 years of production could begin in about 10 years. More likely are several fields of varying sizes producing sequentially over 50 years or more. Any associated natural gas would not be immediately economic, but its later production could extend beyond 50 years. (Current prices for natural gas are too low make any gas pipeline parallel to TAPS cost-effective.)

While the actual amount of recoverable crude oil in ANWR cannot be known without exploratory drilling, DOI now estimates that if economically recoverable oil is found, the mean resource estimate is about 3.57 billion barrels. This estimate would translate to a production plateau of about 600,000 barrels per day. The plateau would probably spread over 15 years, with lower production before and after that period.

Estimates of Probability of Economic Success

Additional fuel was added to the debate on Feb. 6, 1991, when BLM announced that it had revised its estimate of the marginal probability of economic success (i.e., finding economically recoverable quantities of oil) from 19% to 46%. The latter figure is almost unprecedentedly high by industry standards. In addition, the minimum economic field size was newly estimated at 400 million barrels, down from 440 million barrels. The revision was due to new information concerning "four wells drilled near the coastal plain, 800 line miles of reprocessed geophysical data ..., and additional seismic data from offshore areas near the coastal plain." Further explanation came in a BLM report of Apr. 8, 1991. Among other reasons provided for the large change were the fact that a small decrease in the minimum field size can have a substantial effect on the likelihood of finding such a minimum field; and that new data suggests more strongly than before that the fields inside the 1002 area are continuations of the oil-rich geological strata to the east and west, and not entirely different layers. The Natural Resources Defense Council sued DOI claiming that the new estimate requires a new supplemental LEIS. The case is continuing in Federal court in the District of Columbia.

The 102d Congress may wish to consider several of these issues in any ANWR development legislation:

1. Should some limit be set on the size of DOI's initial lease offerings in the 1002 area, to reduce the chance of selling all of the best prospects in the first sale?
2. Should tract size be limited in order to spur competition and maximize bonus revenues? Or should tract size be larger than usual for onshore leasing in order to encourage development coordination, facilitate wildlife protection, and improve coordination of rehabilitation after industry activity ends?
3. Should a particular leasing period be mandated for the area, and if so, how long should the period be?

Environmental Quality Management

If ANWR is developed, Congress would face three kinds of environmental quality management issues: resource management, pollution, and waste disposal. Congress could choose to leave these matters to administrative agencies under authorities of existing laws. Alternatively, Congress could impose a higher standard of environmental protection because the area is in a wildlife refuge or because of the fragility of the Arctic environment.

Gravel and water resources are essential for oil exploration and development in an arctic setting. Potential legislative issues include protection of water resources necessary for animals, especially fish; regulation of water use and gravel extraction; and setting fees for and allocating any revenues from exploiting these resources. An issue not addressed in the FLEIS is the possibility of a rise in sea level during the active phase of production. In the flat coastal plain, the coast line could change substantially, even with only a moderate rise in sea level; over the course of 50 years of production, developments once on land might need protection from shallow salt water or pack ice. Air and water pollution primarily raise questions of subtle, long-term ecological effects. Potential legislative issues include the adequacy of existing standards, research needs, monitoring, and assurance that the standards are met. Waste disposal includes three major waste streams: drilling fluids, toxic wastes, and nontoxic bulk wastes. Legislative issues include the adequacy of current waste disposal requirements, the development of alternatives to landfills, and also liability concerns that can make consolidation of disposal facilities unattractive to oil companies. (See Archived Issue Brief 89058 for a history of the debate on this issue. For a presentation of a range of specific environmental quality issues, see CRS Videotape *Arctic Oil, Arctic Refuge*.)

5. Should the location of major support facilities (e.g., service centers and ports) be restricted to reduce the impact on sensitive species (e.g., polar bears, snow geese)?

Port and Offshore Activity

Section 1003 of ANILCA does not cover the role the 1002 area might play as a land base for State or Federal offshore activity. Both the United States and Alaska are proceeding with offshore leasing adjacent to the 1002 area. Even if the 102d Congress does not open ANWR (thus preventing development), it may wish to consider controlling the use of the 1002 area as a support center, port, or pipeline corridor for offshore development. (See CRS Issue Brief 89028 for background on OCS energy programs.)

Management of Support Services: Avoiding Past Mistakes

Activities of the independent support service industry in the Prudhoe Bay area, particularly at Deadhorse, have been widely criticized. (Firms in this industry are generally employed by, rather than part of, major oil companies.) At Deadhorse, the State leases land for these independent services (repair, cleaning, laundry, aircraft supply, etc.). Issues include:

1. If development is permitted, should Congress specify the location of support facilities within the Refuge or require them to be located outside the Refuge?
2. Should Congress set financial standards or require bonds for participation in ANWR services to minimize abandoned service sites?
3. Should Congress require a unified service center such as the one at Kuparuk field (west of Prudhoe Bay) for ANWR?
4. Should Congress mandate that garbage be hauled out of ANWR?

Access: Roads and Legal Conflicts

For Congress, a key access issue could be the logistical conflict between the area's management as an industrial site versus management as a refuge devoted not only to wildlife conservation but also to recreation (including sport fishing and hunting), and subsistence uses, among other functions. This conflict would become more intense with added human populations and road networks resulting from development. In contrast to the current free but difficult access at ANWR, access to the State-owned Prudhoe Bay complex is strictly (if not always effectively) controlled. Visitors' and workers' belongings are searched for firearms, alcohol, and drugs. None of these requirements now applies to the 1002 area. Moreover, hunting, even for subsistence, is forbidden at Prudhoe and limited in other developed areas. Similar restrictions are not found in the 1002 area, and may conflict with the Refuge's purposes as currently interpreted. The State of Alaska is debating the opening of the TAPS haul road (which is now closed to private vehicles north of the Brooks Range). Private vehicles could drive as far as Deadhorse. Such an opening could pose new risks of poaching or wildlife disturbance,

1. If development is permitted, should the current access or hunting rights of Native users be restricted? Should sport hunting be restricted to maintain subsistence opportunities if game populations diminish?
2. Are polar bears, which are currently legally taken only by Natives, at special risk from a potentially increasing Native population and improved Native mobility? If so, should the largely unrestricted Native take be examined by Congress?
3. What voice will subsistence users have in new regulations as 1002 development (if any) evolves?
4. What provision, if any, should be made to minimize impacts of development on Native culture among both north slope and interior groups?

Revenue Allocation

If oil is present, ANWR development revenues from bonuses, rents, and royalties, as well as from sales of gravel and water, could generate billions of dollars for the landowners. Peak annual royalties alone might range from \$200 million to \$2.5 billion, followed by declining revenues for 30-50 years. If Alaska owns submerged lands in the Refuge, it could receive substantial revenues directly. (See **Legal Issues**, below.) Whatever the Federal fraction of the income, Congress must decide:

1. If development is permitted, should Alaska receive its current 90% statutory share of certain revenues from Federal mineral leases on federally owned lands; and considering the terms of the Alaska Statehood Act, could Congress change Alaska's share? (See CRS report 87-63A.)
2. Should any Federal revenues from ANWR be used for land acquisition in Alaska or elsewhere as part of the mitigation for reduced habitat values in a developed 1002 area? If so, how should the revenues be allocated?

Legal Issues

Certain issues are being addressed not only in legislation, but also in various courts.

During the 100th Congress, DOI preliminarily negotiated land exchanges with some Alaskan Native groups, trading oil and gas rights in the 1002 area for land or surface rights belonging to the Natives within seven other refuges in Alaska. Controversy over whether DOI could proceed with the exchanges without congressional approval was resolved by P.L. 100-395. This act expressly requires congressional approval for exchanges or other conveyances involving lands in ANWR's coastal plain. Exchanges could be a part of the development alternatives considered by Congress.

H.R. 1199 (Owens)

Amends the Internal Revenue Code of 1986 to deny the option to expense intangible drilling and development costs for any well drilled within ANWR, to provide incentives for the removal of crude oil and natural gas through enhanced oil recovery techniques, and for other purposes.

H.R. 1301 (Dingell, by req.)

One title of a bill to develop a national energy strategy provides for energy leasing on the Arctic Coastal Plain. Introduced Mar. 6, 1991; referred to Committees on Energy and Commerce; Interior and Insular Affairs; Armed Services; Merchant Marine and Fisheries; Science, Space, and Technology; Government Operations; Judiciary; Public Works and Transportation; and Ways and Means.

H.R. 1320 (W. Jones)

Authorizes exploration, leasing, development, and production in ANWR; distribution of any revenues; creates a new National Wildlife Refuge; and for other purposes. Introduced Mar. 7, 1991; referred to Committees on Merchant Marine and Fisheries, and on Interior and Insular Affairs.

H.J.Res. 239 (Mrazek)

A bill to honor former Rep. Morris K. Udall by designating the Arctic Coastal Plain of ANWR as wilderness. Introduced April 30, 1991; Referred to Committee on Interior and Insular Affairs.

S. 39 (Roth)

Amends the National Wildlife Refuge Administration Act to designate the Arctic Coastal Plain of ANWR as wilderness. Introduced Jan. 14, 1991; referred to Committee on Environment and Public Works. Hearing held Apr. 19, 1991 (S.Hrng. 102-88). Reported Nov. 25, 1991 (S.Rept. 102-241).

S. 109 (Murkowski)

Authorizes DOI to lease lands in the coastal plain of ANWR for oil and gas exploration, development and production. Introduced Jan. 14, 1991; referred to Committee on Energy and Natural Resources.

S. 341 (Johnston)

A comprehensive national energy policy bill. Title VII deals with ANWR. Introduced Feb. 5, 1991; referred to Committee on Energy and Natural Resources. Hearings held various dates (S.Hrng. 102-5). S. 1220 reported in lieu -- see below.

S. 570 (Johnston, by req.)

One title of this bill to implement the Administration's national energy strategy authorizes energy leasing on the coastal plain; sets up leasing program, environmental requirements; and provides for disposition of revenues. Introduced Mar. 6, 1991; referred to Committee on Energy and Natural Resources.

S. 1220 (Johnston)

Comprehensive national energy policy bill. One title opens ANWR to development. Introduced June 5, 1991; reported by Committee on Energy and Natural Resources

- Outer Continental Shelf leasing and development, by Malcolm M. Simmons.
[Washington] Updated regularly.
CRS Issue Brief 89028.
- Oil and Iraq's invasion of Kuwait, by Carl Behrens, Robert Bamberger, Marc Humphries, and Bernard A. Gelb. [Washington] Updated regularly.
CRS Issue Brief 90116
- The proposed St. Matthew Island land exchange: Authority of Secretary of the Interior to exchange lands under the Alaska National Interest Lands Conservation Act, by Pamela Baldwin. [Washington] June 21, 1982. 39 p.
- Whether Congress unilaterally may amend a mineral lease revenue distribution formula that appeared in the Alaska Statehood Act, by Thomas J. Nicola. [Washington] 1987. 12 p.
CRS Report 87-63 A
- World oil and the ANWR potential, by Robert L. Bamberger and Carl E. Behrens. [Washington] 1987. 14 p.
CRS Report 87-438 ENR

Statistics may add pressure to open ANWR

Oil imports account for half of U.S. use for the first time

By H. JOSEF HEBERT
Associated Press Writer

WASHINGTON — Oil imports reached nearly 8.9 million barrels a day in 1994, for the first time accounting for more than half of U.S. petroleum use, an industry group said Wednesday.

Imports last year reached 50.4 percent of domestic demand, largely because of continued decline in U.S. oil production, which fell to a 40-year low, the American Petroleum Institute said in its annual supply and demand review.

"Overall, U.S. (domestic) crude oil production fell to 6.6 million barrels a day, its lowest annual level since 1954," said the API report. It said imports climbed 3.4 percent compared to 1993, when foreign oil accounted for 49.9 percent of all petroleum used in the United States.

The statistics were expected to add support in Congress for expansion of domestic oil drilling, including pressure to open the Arctic National Wildlife Refuge in Alaska to drilling. It also could support demand for tax benefits for U.S. independent oil companies that have had hard economic times for years.

Sen. Frank Murkowski, R-Alaska, chairman of the Senate Energy and Natural Resources Committee, already has promised a broad review of U.S. energy policies, including a hard look at the growing imports and what should be done to boost domestic production.

Murkowski has been a strong advocate of drilling along the coastal strip of the Arctic refuge. Environmentalists have fiercely opposed it, arguing it would lead to ecological damage in a pristine region that should be preserved in its natural state.

The API said the nearly 8.9 million barrels of oil imported daily in 1994 eclipsed the previous high for imports recorded in 1977 by 109,000 barrels a day. This occurred even though Americans used 800,000 fewer barrels a day last year than in 1977.

The annual review also found:

■ Petroleum's share of the total energy supply continued to decline to just over 40 percent. It had been 48.7 percent in 1977. Demand for natural gas continued to grow faster than oil demand, largely because of wider gas availability and more electric utilities turning to natural gas.

■ Gasoline deliveries totaled 7.6 million barrels a day in 1994, about the same as in 1978, as greater highway travel and the growth in the number of vehicles offset improved fuel efficiency. Gasoline demand increased 1.7 percent between 1993 and 1994.

■ Demand for home heating oil continued a four-year decline, reflecting the continuing shift from oil to natural gas and relatively warm weather in parts of the country that use oil for heating. Since 1990, the demand has dropped nearly 20 percent.

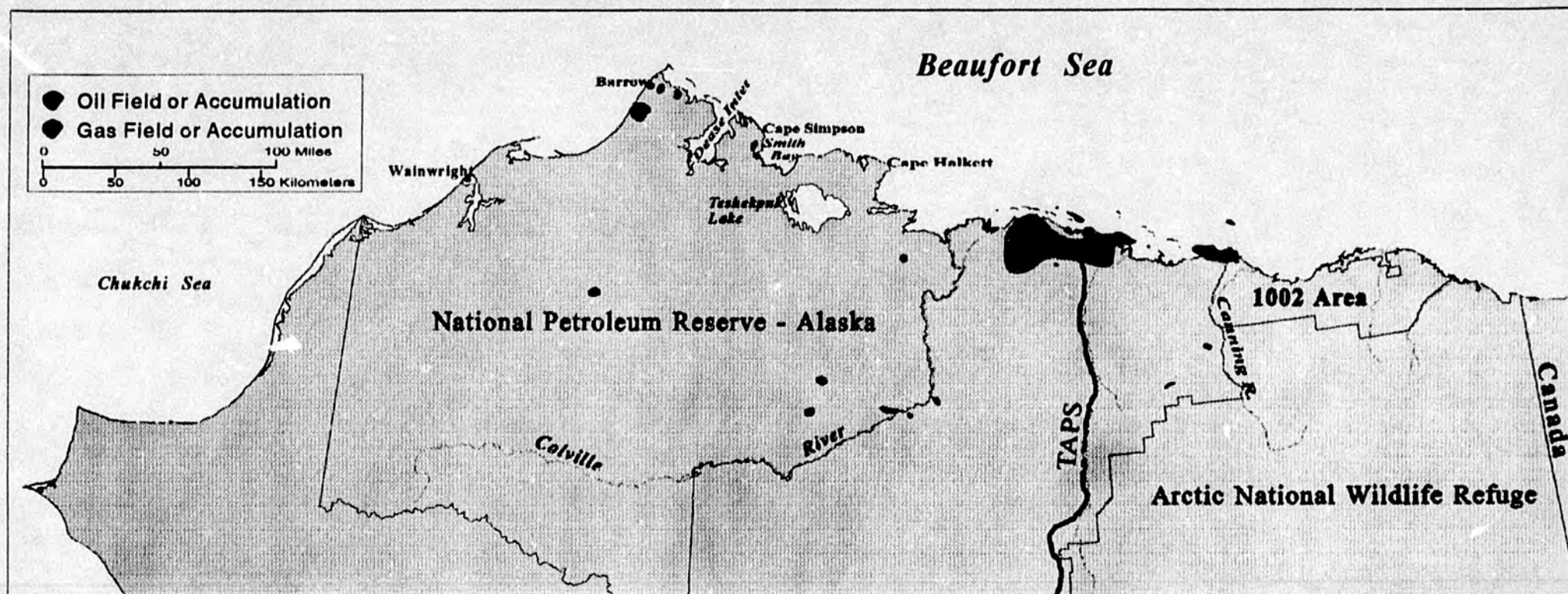
■ Overall demand for distillate fuel overall rose 4.6 percent as increased demand for diesel offset the decline in demand for heating oil.

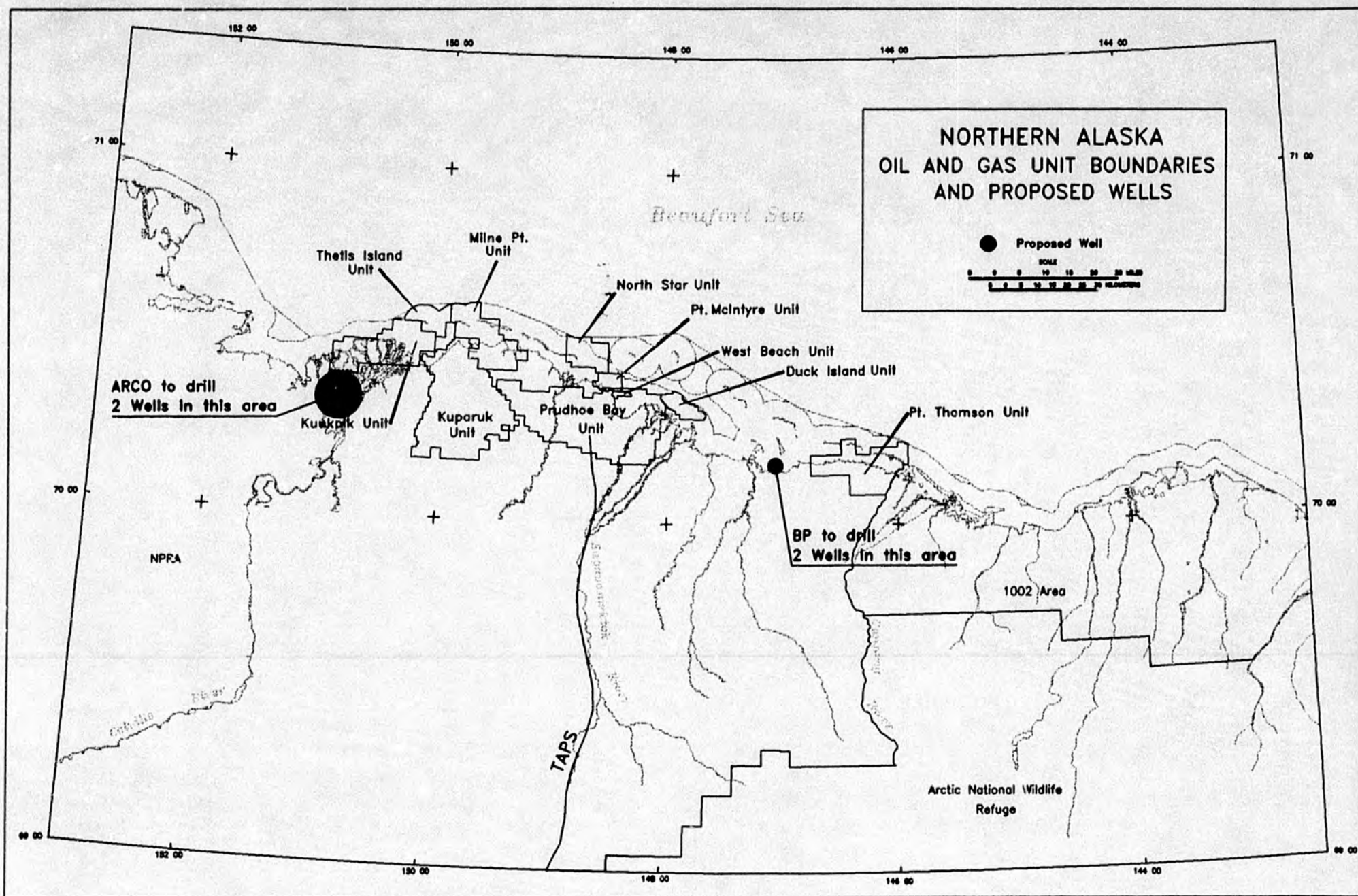
■ Demand for kerosene jet fuel jumped 9.4 percent from 1993, reflecting greater demand from airlines and conversion of some military aircraft to the fuel.

Meanwhile, refineries operated at 92.7 percent of capacity last year, up from 91.5 percent in 1993. At year's end, total inventories of crude oil and refined products stood at 1.064 billion barrels, 0.4 percent more than at the end of 1993.

1-19-95 CLARION

Northern Alaska Oil & Gas Fields





Jobs and
Energy for
America's
future



A N W R

Why is opening the ANWR Coastal Plain such a hot issue?

Today, the United States imports over half its oil from unstable foreign countries that don't care for their environment like Americans do. We spend over one billion dollars a week on imported oil. This means we lose American jobs and add to our deficit woes. And when we have to defend our access to foreign oil, we lose American lives, as in the Persian Gulf confrontation.

But the Coastal Plain of the Arctic National Wildlife Refuge (ANWR) may hold billions of barrels of recoverable oil. In fact, its neighbors to the west at Prudhoe Bay, North America's largest oil field development, currently supply 25% of our domestic oil.

Relying on Alaska to provide energy to heat your home each winter is a lot more sensible than looking to Middle Eastern despots for stable energy supplies.

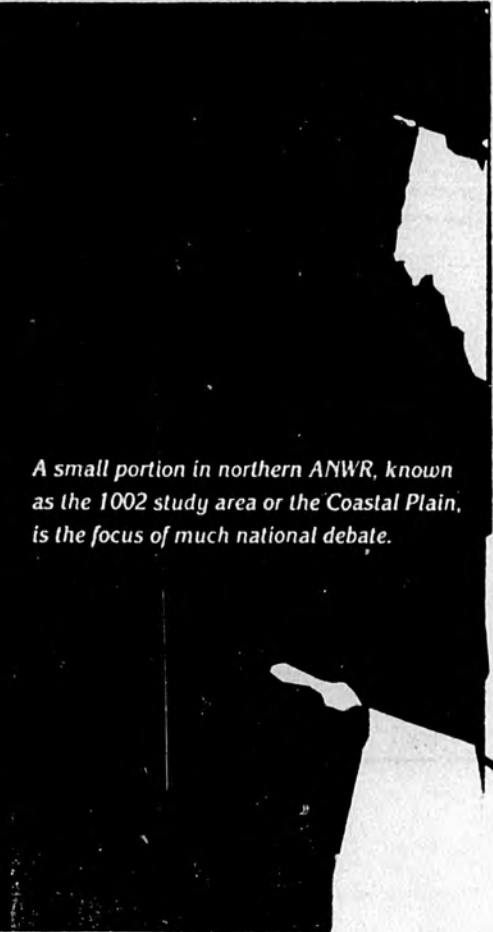


*North Slope temperatures
are at their lowest in February,
averaging - 20 degrees.*

But won't development hurt Alaska's beautiful scenery?

The Alaska that most people are shown is full of bold mountaintops, lush vegetation and spectacular glaciers. However, the Coastal Plain area proposed for development (also known as the 1002 study area of ANWR) is flat, windswept and treeless. With a maximum of five inches of snow per year, it is virtually an arctic desert. Very few outside visitors venture into this region. Plus, very little of ANWR's Coastal Plain would be affected by development — about 12,000 acres, or an area about the size of Dulles airport. Of that 12,000 acres, only 2,000 acres would actually be covered by facilities.

Don't let opponents of American jobs and American oil fool you. If you ever see a picture of ANWR with mountains in the background, you are seeing the protected area to the south — not the 1002 study area.



A small portion in northern ANWR, known as the 1002 study area or the Coastal Plain, is the focus of much national debate.

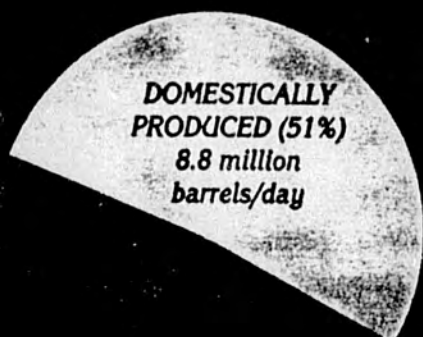


What about

Prudhoe Bay?

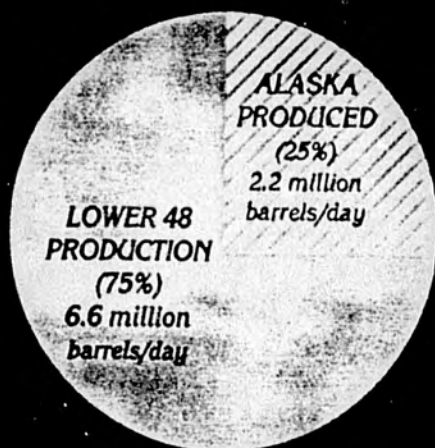
ANWR is used by a large caribou herd about two to three weeks per year. At Prudhoe Bay the caribou population has increased six-fold since development began. Geese and many other migratory birds continue to thrive as well.

An interesting fact about Prudhoe Bay is that all facilities, roads and support structures must be removed when the field closes. Yet, there is one species of previously threatened bird that now nests on a man-made gravel causeway leading to a drill site. That species is increasing in size, and authorities are talking about keeping this one gravel road in place to provide continued nesting habitat. Just another example of development and the environment co-existing and in fact, providing opportunities for wildlife growth.



How much oil does the U.S. import?

The United States uses about 17.4 million barrels of oil and natural gas each day. Of that, we import 8.6 million barrels.



How much of our domestic oil comes from Alaska?

Of the 8.8 million barrels of oil and natural gas produced each day in the U.S., 2.2 million, or about 25 percent, are produced in Alaska.

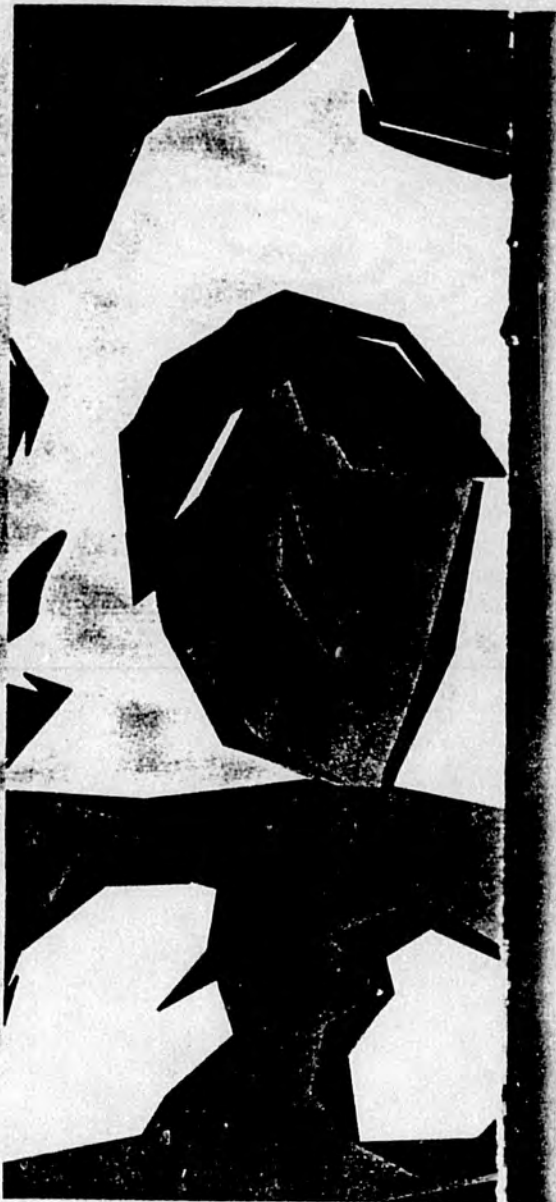
Is it just the oil companies that want to open the 1002 study area?

Definitely not! More than 70% of Alaskans favor oil exploration and production in the Coastal Plain of ANWR. We have seen the benefits of Prudhoe Bay — both for this state and for the country. We know that oil exploration and recovery in ANWR can be clean and safe and that it's in the best interest of America. The strongest arguments come from the Inupiat Eskimos of Kaktovik, who live right in the area. They are firm supporters of onshore oil development.

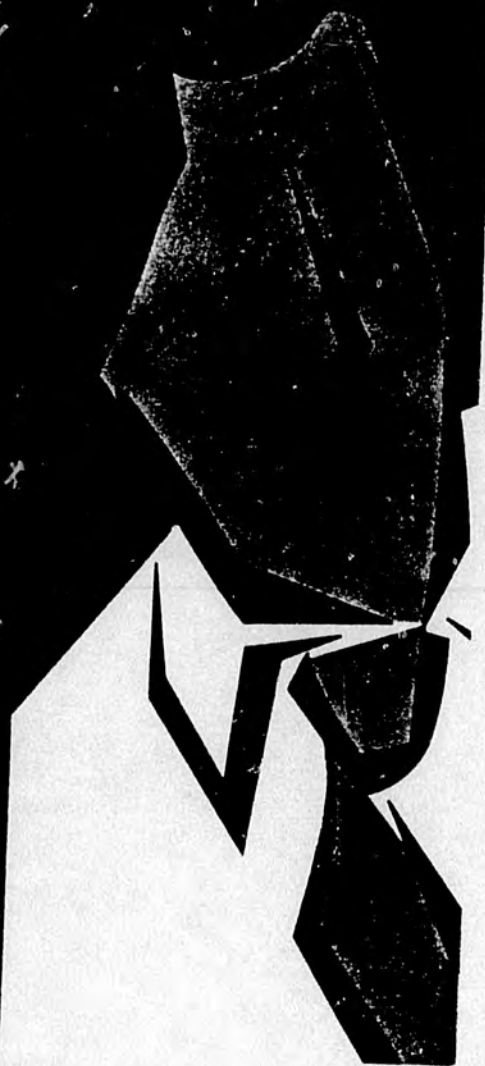
What is Arctic Power?

We are a group of Alaskans from all walks of life who realize that the Coastal Plain can be an invaluable source of energy and jobs for our country. We want to help lessen America's dependence on foreign oil. We want to slow the tide of American dollars going overseas and keep that money here — to save and create jobs in the United States. Already, more than 450,000 American oil industry jobs in the last decade have disappeared.

We believe it's important to keep the door to ANWR's Coastal Plain open. The best hope for America's energy independence lies on a tiny, barren sliver of land on our northernmost shore.



What can I do
to help create more than
250,000 jobs for Americans?





ARCTIC
POWER



ARCTIC POWER
4220 B Street, Suite 201
Anchorage, Alaska 99503
(907) 563-2697



William D. Van Dyke
Petroleum Manager

ALASKA DEPT. OF NATURAL RESOURCES
DIVISION OF OIL AND GAS
3601 "C" STREET, 13th FLOOR
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ANCHORAGE, ALASKA 99510-7034
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James J. Hansen
Chief Petroleum Geophysicist

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Kenneth A. Boyd
Deputy Director

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James E. Eason
Director

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FAX (907) 562-3852



9-LS0273AK
Chenoweth
1/23/95

CS FOR HOUSE JOINT RESOLUTION NO. 13 (O&G)
IN THE LEGISLATURE OF THE STATE OF ALASKA
NINETEENTH LEGISLATURE - FIRST SESSION

BY THE HOUSE SPECIAL COMMITTEE ON OIL AND GAS

Offered:

Referred:

Sponsor(s): REPRESENTATIVES NAVARRE, Grussendorf, Brown, Davies, Kubina, MacLean

A RESOLUTION

1 **Urging the United States Congress to pass legislation to open the coastal plain of the**
2 **Arctic National Wildlife Refuge, Alaska, to oil and gas exploration, development, and**
3 **production.**

4 **BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:**

5 **WHEREAS** in sec. 1002 of the Alaska National Interest Lands Conservation Act
6 (ANILCA), the United States Congress reserved the right to permit further oil and gas
7 exploration, development, and production within the coastal plain of the Arctic National Wildlife
8 Refuge, Alaska; and

9 **WHEREAS** the oil industry, the state, and the United States Department of the Interior
10 consider the coastal plain to have the highest potential for discovery of very large oil and gas
11 accumulations on the continent of North America, estimated to be as much as 10,000,000,000
12 barrels of recoverable oil; and

13 **WHEREAS** the residents of the North Slope Borough, within which the coastal plain is
14 located, are supportive of development in the "1002 study area"; and

15 **WHEREAS** oil and gas exploration and development of the coastal plain of the refuge

1 and adjacent land could result in major discoveries that would reduce our nation's future need for
2 imported oil, help balance the nation's trade deficit, and significantly increase the nation's
3 security; and

4 **WHEREAS**, for the first year ever, more than one-half of the oil used in the United
5 States has come from foreign sources as domestic crude oil production fell to 6,600,000 barrels
6 per day, its lowest annual level since 1954; and

7 **WHEREAS** development of oil at Prudhoe Bay, Kuparuk, Endicott, Lisburne, and Milne
8 Point has resulted in thousands of jobs throughout the United States and projected job creation
9 as a result of coastal plain oil development will have a positive effect in all 50 states; and

10 **WHEREAS** Prudhoe Bay production is declining by approximately 10 percent a year;
11 and

12 **WHEREAS** opening the coastal plain of the Arctic National Wildlife Refuge now allows
13 sufficient time for planning environmental safeguards, development, and national security
14 review; and

15 **WHEREAS** the oil and gas industry and related Alaskan employment have been severely
16 affected by reduced oil and gas activity, and the reduction in industry investment and
17 employment has broad implications for the Alaskan work force and the entire state economy; and

18 **WHEREAS** the 1,500,000-acre coastal plain of the refuge comprises only eight percent
19 of the 19,000,000-acre refuge, and the development of the oil and gas reserves in the refuge's
20 coastal plain would affect an area of only 5,000 to 7,000 acres, which is one and one-half percent
21 of the area of the coastal plain; and

22 **WHEREAS** 8,000,000 of the 19,000,000 acres of the refuge have already been set aside
23 as wilderness; and

24 **WHEREAS** the oil industry has shown at Prudhoe Bay, as well as at other locations
25 along the Arctic coastal plain, that it can safely conduct oil and gas activity without adversely
26 affecting the environment or wildlife populations;

27 **BE IT RESOLVED** by the Alaska State Legislature that the Congress of the United
28 States is urged to pass legislation to open the coastal plain of the Arctic National Wildlife
29 Refuge, Alaska, to oil and gas exploration, development, and production; and be it

1 **FURTHER RESOLVED** that that activity be conducted in a manner that protects the
2 environment and uses the state's work force to the maximum extent possible.

3 **COPIES** of this resolution shall be sent to the Honorable Bill Clinton, President of the
4 United States; the Honorable Al Gore, Jr., Vice-President of the United States and president of
5 the U.S. Senate; the Honorable Bruce Babbitt, Secretary of the Interior; the Honorable Newt
6 Gingrich, Speaker of the U.S. House of Representatives; the Honorable Robert Dole, Majority
7 Leader of the United States Senate; to the Honorable Ted Stevens and the Honorable Frank
8 Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the
9 Alaskan delegation in Congress; and to all other members of the United States Senate and the
10 United States House of Representatives serving in the 104th United States Congress.



UDELHOVEN

Oilfield System Services, Incorporated

11401 Olive Lane
Anchorage, Alaska 99515
Fax 907-522-2541
907-344-1577

To the Alaska legislature

Subject ANWAR Resolution

Chairman Norm Rokeberg and members of committee

I, James Udelhoven strongly support this committees work in passing a pro-ANWR resolution. I support oil development in the coastal plain of Alaska and moving this agenda forward at this time is of paramount importance to the state of Alaska and the nation.

James Udelhoven


PRESIDENT

**House Special Committee on Oil and Gas
CS HJR 13**

Testimony of Beverly Ward,
Government Relations, ARCO Alaska, Inc.
January 24, 1995

MR. CHAIRMAN, members of the House Oil and Gas Committee. My name is Beverly Ward. I represent Arco Alaska, Inc. It is my pleasure to come before you today to speak in support of CS HJR 13, a resolution to open the Coastal Plain of the Arctic National Wildlife Refuge to oil and gas exploration and development. As you know ARCO has been an operator of the Prudhoe Bay and Kuparuk oil fields since their initiation. Our experience in operating Arctic oil fields has given us a thorough understanding of the local environmental requirements and convinces us that the Coastal Plain can be explored and developed without causing harm to the health and viability of the Refuge ecosystem.

As you know our technologies have advanced significantly since we pioneered the design and operation of oil development in the Arctic. Using today's technology, our presence is compatible with local fish, wildlife, and their habitats. The existence of productive and abundant populations of birds, caribou, and fish throughout all North Slope oil fields is evidence of our ability to be good neighbors with all current land users.

We envision technologies of the future being even more advanced, further reducing our "footprint," while maximizing the benefits of continued resource development to our State, our citizens, and to our Nation. These benefits range from the creation of exploration and development jobs for Alaskans, to additional State tax revenues, to manufacturing jobs in other states and National Security issues. The opening of ANWR will benefit not only Alaska but the entire United States. We believe it is time to move forward with exploring the most potentially productive area in Alaska.

ARCO Alaska, Inc. supports and encourages you to pass CS HJR 13.



LEGISLATIVE TELECONFERENCE NETWORK

50080

SIGN-IN SHEET

SPONSOR: House Special Comm on Oil - Gas

SUBJECT: HJR 13 - Endorsing AOWA Learning

START/END TIME: 10:00 DATE: 1-24-95

Post-it™ brand fax transmittal memo 7671 # of pages 2

To	From
Oil & Gas Comm	Alan
Co.	Alaska
Dept.	
Fax #	Phone #
465-6790	258-8174

FLAVAL :

	Name/Representing	Address	Zip	Phone No.	Testify	Observe	Bill No.
1.	Jobbie Reinwand/Arctic Power	3730 W. 64th	99503	363-2677	✓		CS 13
2.	Mario Frey / ATZ-CIO	2501 Commercial Dr	99501	273-4571	✓		
3.	Jerry Weaver National Bank of Alaska	301 W. Northern Lts Blvd	99500	265-2920	✓		CS 13
4.	Cynthia Scherck - Personnel Mgr	701 E. Turner	99503	563-2587	✓		CS 13
5.	J. B. Stiles - DRIVEN CORP	FAIRVIEW AVE	99501	276-6868	✓		CS 13
6.	Keith Duple/Hed Alliance	4220 B St	99503	523-2276	✓		CS 13
7.	Chae Sumner / Parker Perkins Co	P.O. Box 112070 Anchorage AK	99571	349-1591	—		CS 13
8.	ERIC JORDELING / B2 SERVING CO	4653 BOWARD ST. ANCH	99507	349-6518	✓		CS 13
9.	MATTHEW I. ELLIOTT INVEST LBS	611 E 12th Ave	99501	284-6662	✓		CS 13
10.	Billy Gay Resource Development Council	121 W. Fairview, Suite 250	99503	276-0700	✓		11
11.	James Hansen / Alaska Oil & Gas	3601 C St. Anch	99576	762-2588		✓	CS 13
12.	Frank J. Dillon	3143 Minnesota Dr Anch	99501	276-1149	✓		
13.							
14.							
15.							

A FAX

TO: *Tim Nash*

FAX #: *465-6790*

FROM: *Lacen*, BARROW LEGISLATIVE
OFFICE

FAX #: 852-7114

PHONE #: 852-7111

RE: *Participant lists for*

*Barrow,
Atgasuk, &
Anaktuvuk Pass*

DATE: *1-24*

OF PAGES FOLLOWING: *3*

01/24/95 LEGISLATIVE TELECONFERENCE NETWORK LTN1205
 11:49:56 CONFERENCE UPDATE PAGE 05 - PARTICIPANTS BY SITE L312
 TCN 50080 (S) T/C DATE: 01/24/95 TIME: 10:00 to 12:00 STATUS: 5 IN-PROG
 SITE - LIO BAR VTS ANA NO 1 GENERATE OBSERVERS 00 GENERATE TESTIFIERS 00
 ? NO TITLE FIRST MI LAST NAME AFFILIATION TYPE AGENDA REF
 STREET CITY ST ZIP TELEPHONE
 ? 1 MR. PAUL HUGO MAYOR, CITY OF AP T 1 HJR 13
 GENERAL DELIVERY ANAKTUVUK PASS AK 99721 907
 ? 2 MR. BILLY TAGAROOK O 1 HJR 13
 PO BOX 21055 ANAKTUVUK PASS AK 99721 907
 ? 3 MR. ZACHARIAS HUGO O 1 HJR 13
 GENERAL DELIVERY ANAKTUVUK PASS AK 99721 907
 ? 4
 ? 5 AK 907
 ? 6 AK 907
 ? 7 AK 907
 ? (A=Add D=Delete U=Update Participant)
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01/24/95 LEGISLATIVE TELECONFERENCE NETWORK 17N1205
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 ? NO TITLE FIRST MI LAST NAME AFFILIATION TYPE AGENDA REF
 STREET CITY ST ZIP TELEPHONE
 ? 1 MR. JAMES AIKEN, SR. SELF O 1 HJR 13
 GENERAL DELIVERY ATQASUK AK 99721 907
 ? 2 AK 907
 ? 3 AK 907
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 ? 5 AK 907
 ? 6 AK 907
 ? 7 AK 907
 ? (A=Add D=Delete U=Update Participant)
 MSG:
 ENTER Pg# 10 PF5 Update Page 5 PF7 Bwd PF8 Fwd PF10 Update Page5/Send List A

01/24/95 LEGISLATIVE TELECONFERENCE NETWORK LTN1205
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 ? NO TITLE FIRST MI LAST NAME AFFILIATION TYPE AGENDA REF
 STREET CITY ST ZIP TELEPHONE
 ? 1 MR. WARREN MATUMBEAK NORTH SLOPE BORO T 1 HJR 13
 PO BOX 69 BARROW AK 99723 907 852 0350
 ? 2 MR. GEORGE AHMAOGAK NORTH SLOPE BORO T 1 HJR 13
 PO BOX 69 BARROW AK 99723 907 852 0200
 ? 3 MS. JANELLE EVERETT KBRW RADIO O 1 HJR 13
 PO BOX 109 BARROW AK 99723 907 852 6811
 ? 4 _____ AK _____ 907 _____
 ? 5 _____ AK _____ 907 _____
 ? 6 _____ AK _____ 907 _____
 ? 7 _____ AK _____ 907 _____
 ? (A=Add D=Delete U=Update Participant)
 MSG:
 ENTER Pg# 10 PF5 Update Page 5 PF7 Bwd PF8 Fwd PF10 Update Page5/Send List A

01/24/95

LEGISLATIVE TELECONFERENCE NETWORK SYSTEM

LTN1150

10:16:22

PARTICIPANT LIST (ALL PARTICIPANTS)

BY:ANC

TCN:50080

SCHEDULED FOR:01/24/95 10:00 TO 12:00

FOR:ANC

PUBLIC HEARING

HOUSE SPECIAL COMMITTEE ON OIL AND GAS

LOCATION: ANCHORAGE

HJR 13	DEBBIE	REINWAND	ARCTIC POWER	TESTIFY ✓
HJR 13	JERRY	WEAVER	NBA <i>see JP - cannot</i>	TESTIFY
HJR 13	CINDY	SCHEBLER	PERSONNEL PLUS	TESTIFY
HJR 13	R.B.	STILES	DRVEN CORP	TESTIFY <i>AK Coal</i>
HJR 13	KEITH	BURKE	THE ALLIANCE	TESTIFY <i>Alliance</i>
HJR 13	CHUCK	SULLIVAN	PARKER DRILLING	TESTIFY
HJR 13	ERIC	DORPELING	BJ SERVICE	TESTIFY
HJR 13	MATTHEW	FAYNARI	ALLVEST LAB	TESTIFY
HJR 13	BECKY	GAY	RESOURCE DEV CNCT	TESTIFY
HJR 13	MANO	FREY	AFL/CIO	TESTIFY
HJR 13	FRANK	DILLON	AK TRUCKERS	TESTIFY

PLEASE ADD THIS NAME

VALDEZ IS ALSO CN-LINE. NO ONE TO TESTIFY

01/24/95

LEGISLATIVE TELECONFERENCE NETWORK

LTN1405

10:07:38 N

CONFERENCE DISPLAY PAGE 05 - PARTICIPANTS BY SITE

L300

TCN 50080 (C) T/C DATE: 01/24/95 TIME: 10:00 to 12:00 STATUS: 5 IN-PROG

SITE: LIO ANC VTS ANCHORAGE

1	DEBBIE	REINWAND	ARCTIC POWER	T 01 HJR 13 (907)000-0000
2	JERRY	WEAVER	NBA	T 01 HJR 13 (907)000-0000
3	CINDY	SCHEBLER	PERSONNEL PLUS	T 01 HJR 13 (907)000-0000
4	R.B.	STILES	DRVEN CORP	T 01 HJR 13 (907)000-0000
5	KEITH	BURKE	THE ALLIANCE	T 01 HJR 13 (907)000-0000
6	CHUCK	SULLIVAN	PARKER DRILLING	T 01 HJR 13 (907)000-0000
7	ERIC	DORPELING	BJ SERVICE	T 01 HJR 13 (907)000-0000
8	MATTHEW	FAYNARI	ALLVEST LAB	T 01 HJR 13 (907)000-0000

MSG:

ENTER Pg# 06 PF2 NextC# ynnnn PF3 Exit PF5 Update PF7 Bwd PF8 Fwd PF12 Quit

01/24/95

LEGISLATIVE TELECONFERENCE NETWORK SYSTEM

LTN1150

10:09:16

PARTICIPANT LIST (ALL PARTICIPANTS)

BY:ANC

TCN:50080

SCHEDULED FOR:01/24/95 10:00 TO 12:00

FOR:ANC

PUBLIC HEARING

HOUSE SPECIAL COMMITTEE ON OIL AND GAS

LOCATION:ANCHORAGE

HJR 13	DEBBIE	REINWAND	ARCTIC POWER	TESTIFY
HJR 13	JERRY	WEAVER	NBA	TESTIFY
HJR 13	CINDY	SCHEBLER	PERSONNEL PLUS	TESTIFY
HJR 13	R.B.	STILES	DRVEN CORP	TESTIFY
HJR 13	KEITH	BURKE	THE ALLIANCE	TESTIFY
HJR 13	CHUCK	SULLIVAN	PARKER DRILLING	TESTIFY
HJR 13	ERIC	DORPELING	BJ SERVICE	TESTIFY
HJR 13	MATTHEW	FAYNARI	ALLVEST LAB	TESTIFY
HJR 13	BECKY	GAY	RESOURCE DEV CNCT	TESTIFY
HJR 13	MANO	FREY	AFL/CIO	TESTIFY

PLEASE ADD THESE TWO NAMES!

01/24/95 LEGISLATIVE TELECONFERENCE NETWORK SYSTEM LTN1150
09:57:22 PARTICIPANT LIST (ALL PARTICIPANTS) BY:BAR
TCN:50080 SCHEDULED FOR:01/24/95 10:00 TO 12:00 FOR:BAR

PUBLIC HEARING HOUSE SPECIAL COMMITTEE ON OIL AND GAS

LOCATION:BARROW

HJR 13 MR. WARREN MATUMEAK NORTH SLOPE BOROTESTIFY

HJR 13 MR. GEORGE AHMAOGAK NORTH SLOPE BOROTESTIFY

01/24/95 10:32:33 LEGISLATIVE TELECONFERENCE NETWORK SYSTEM LTN1120
MESSAGE FROM: LIOCLAC IN BARROW JNU

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6-1
Nay - yeas

AMENDMENT TO HJR 13

Representative Finkelstein

Page 3, Line 1 insert "FURTHER RESOLVED that the Congress
join with the state in providing strict standards for the protection of land,
water, and wildlife resources, including the habitat of the Porcupine
Caribou herd, during the exploration and development of the coastal plain
of the Arctic National Wildlife Refuge; and be it

Finkelstein
Voted yes

34

Failed
6-1
Nay - Yeas

AMENDMENT TO HJR 13

Representative Finkelstein

Page 3, Line 1 insert "FURTHER RESOLVED that the Congress
join with the state in providing strict standards for the protection of land,
water, and wildlife resources, including the habitat of the Porcupine
Caribou herd, during the exploration and development of the coastal plain
of the Arctic National Wildlife Refuge; and be it

Finkelstein
Voted yes

1/24/95

AMENDMENT NO.

PAGE 1, LINE 8

INSERT:

WHEREAS the people of Alaska wish to be treated fairly under the provisions of the Alaska Statehood Act; and

SCOMM

96:20

STATE OF ALASKA

BILL NO. HJR19

1995 LEGISLATIVE SESSION

Revision Date: Original

Dept Affected: Natural Resources

Title: Opposing the ban on the export of Alaska North

BRU: Resource Development

Slope crude oil; ...

Component: Oil & Gas Development

Sponsor: House Special Committee on Oil & Gas

Requestor:

Component Serial No.

439

Expenditures/Revenues

(Thousands of Dollars)

OPERATING EXPENDITURES	FY96	FY97	FY98	FY99	FY00	FY01
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES	0.0	0.0	0.0	0.0	0.0	0.0
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CHANGE IN REVENUES ()	0.0	0.0	0.0	0.0	0.0	0.0
------------------------	-----	-----	-----	-----	-----	-----

FUND SOURCE

(Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY95) cost: \$

None

POSITIONS

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

ANALYSIS:

(Attach a separate page if necessary)

There is no fiscal impact associated with implementation of this resolution.

Prepared by: Jim Eason, Director

Division: Oil & Gas

Approved by Commissioner:

Agency:

Natural Resources

Phone:

762-2547

Date:

20-Jan-95

Date:

1/30/95

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104TH CONGRESS
1ST SESSION

S. 70

To permit exports of certain domestically produced crude oil, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JANUARY 4, 1995

Mr. DOLE (for Mr. MURKOWSKI) (for himself, Mr. BREAUX, Mr. STEVENS, and Mr. HEFLIN) introduced the following bill; which was read twice and referred to the Committee on Banking, Housing, and Urban Affairs

A BILL

To permit exports of certain domestically produced crude oil, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. EXPORTS OF ALASKAN NORTH SLOPE OIL.**

4 Section 28 of the Act entitled "An Act to promote
5 the mining of coal, phosphate, oil, oil shale, gas, and so-
6 dium on the public domain", approved February 25, 1920
7 (commonly known as the "Mineral Leasing Act") (30
8 U.S.C. 185), is amended—

9 (1) by striking subsection (s) and inserting the
10 following:

1 "EXPORTS OF ALASKAN NORTH SLOPE OIL

2 "(s)(1) Subject to paragraphs (2) and (3), notwith-
3 standing any other provision of law (including any regula-
4 tion), any oil transported by pipeline over a right-of-way
5 granted pursuant to section 203 of the Trans-Alaska Pipe-
6 line Authorization Act (43 U.S.C. 1652) may be exported.

7 "(2) Except in the case of oil exported to a country
8 pursuant to a bilateral international oil supply agreement
9 entered into by the United States with the country before
10 June 25, 1979, or to a country pursuant to the Inter-
11 national Emergency Oil Sharing Plan of the International
12 Energy Agency, the oil shall be transported by a vessel
13 documented under the laws of the United States and
14 owned by a citizen of the United States (as determined
15 in accordance with section 2 of the Shipping Act, 1916
16 (46 U.S.C. App. 802)).

17 "(3) Nothing in this subsection shall restrict the au-
18 thority of the President under the Constitution, the Inter-
19 national Emergency Economic Powers Act (50 U.S.C.
20 1701 et seq.), or the National Emergencies Act (50 U.S.C.
21 1601 et seq.) to prohibit exportation of the oil"; and

22 (2) by striking subsection (u).

3

1 SEC. 2. EFFECTIVE DATE.

- 2 This Act and the amendments made by it shall take
3 effect on the date of enactment.

○

F:\M4\THOMAS\THOMAS.005

H.L.C.

104TH CONGRESS
1ST SESSION**H. R. 70**

IN THE HOUSE OF REPRESENTATIVES

Mr. THOMAS of California (for himself and Mr. YOUNG of Alaska) introduced the following bill; which was referred to the Committee on

A BILL

To permit exports of certain domestically produced crude oil, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. EXPORTS OF ALASKAN NORTH SLOPE OIL.**

4 Section 28 of the Mineral Leasing Act (30 U.S.C.
5 185) is amended—

6 (1) by amending subsection (s) to read as fol-
7 lows:

F:\M4\THOMAS\THOMAS.005

H.L.C.

2

1 "EXPORTS OF ALASKAN NORTH SLOPE OIL

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3 standing any other provision of law (including any regula-
4 tion), any oil transported by pipeline over a right-of-way
5 granted pursuant to section 203 of the Trans-Alaska Pipe-
6 line Authorization Act (43 U.S.C. 1652) may be exported.

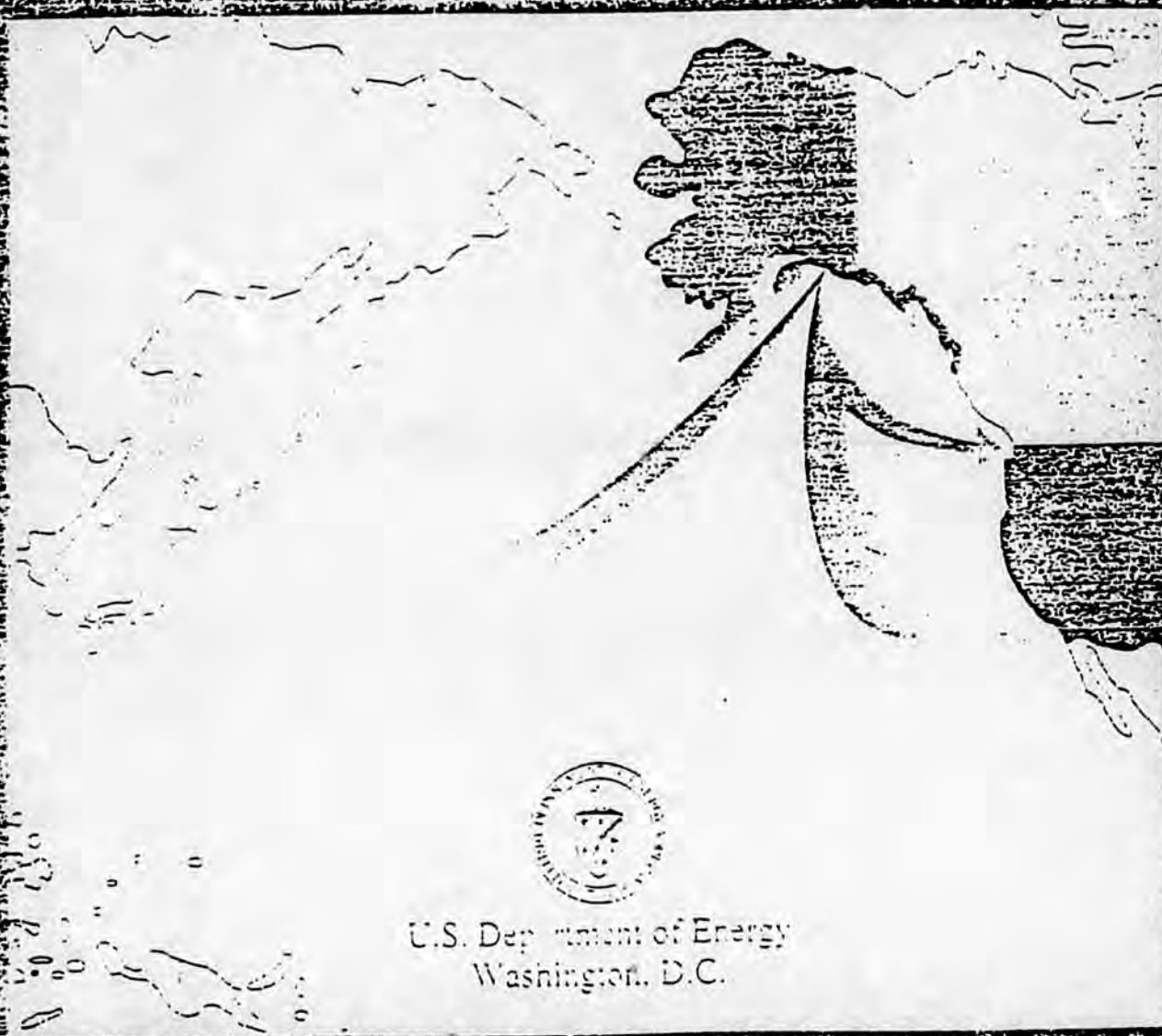
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8 pursuant to a bilateral international oil supply agreement
9 entered into by the United States with the country before
10 June 25, 1979, or to a country pursuant to the Inter-
11 national Emergency Oil Sharing Plan of the International
12 Energy Agency, the oil shall be transported by a vessel
13 documented under the laws of the United States and
14 owned by a citizen of the United States (as determined
15 in accordance with section 2 of the Shipping Act, 1916
16 (46 U.S.C. App. 802)).

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18 thority of the President under the Constitution, the Inter-
19 national Emergency Economic Powers Act (50 U.S.C.
20 1701 et seq.), or the National Emergencies Act (50 U.S.C.
21 1601 et seq.) to prohibit exportation of the oil."; and

22 (2) by striking subsection (u).

EXPORTING ALASKAN NORTH SLOPE CRUDE OIL

Benefits and Costs



June 1994

EXPORTING ALASKAN NORTH SLOPE CRUDE OIL

Benefits and Costs



U.S. Department of Energy
Washington, D.C.

June 1994

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PREFACE

The Department of Energy study examines the effects of lifting the current prohibitions against the export of Alaskan North Slope (ANS) crude. The study concludes that permitting exports would benefit the U.S. economy. First, lifting the ban would expand the markets in which ANS oil can be sold, thereby increasing its value. ANS oil producers, the States of California and Alaska, and some of their local governments all would benefit from increased revenues. Permitting exports also would generate new economic activity and employment in California and Alaska. The study concludes that these economic benefits would be achieved without increasing gasoline prices (either in California or in the nation as a whole).

Lifting the export ban could have important implications for U.S. maritime interests. The Merchant Marine Act of 1970 (known as the Jones Act) requires all inter-coastal shipments to be carried on vessels that are U.S.-owned, U.S.-crewed, and U.S.-built. By limiting the shipment of ANS crude to U.S. ports only, the export ban creates jobs for the seafarers and the builders of Jones Act vessels. Because the Jones Act does not apply to exports, however, lifting the ban without also changing U.S. maritime law would jeopardize the jobs associated with the current fleet of Jones Act tankers. Therefore the report analyzes selected economic impacts of several maritime policy alternatives, including:

- o Maintaining current law, which allows foreign tankers to carry oil where export is allowed;
- o Requiring exports of ANS crude to be carried on Jones Act vessels; and
- o Requiring exports of ANS crude to be carried on vessels that are U.S.-owned and U.S.-crewed, but not necessarily U.S.-built.

Under each of these options, lifting the export ban would generate economic benefits.

This report does not fully address the implications of changing U.S. maritime law. For example, the report does not examine whether limiting exports of ANS crude to Jones Act vessels would be consistent with existing U.S. international trade policies and commitments. Because this report does not address these trade-related issues, it makes no attempt to weigh the benefits of lifting the ban against any costs that might result from changes in U.S. maritime law.

Based on a limited review of environmental issues this report finds no plausible evidence of any direct negative environmental impacts from lifting the ban. Further, the Administration is committed to maintaining its current policy against the development of Arctic National Wildlife Refuge (ANWR) and environmentally-sensitive areas of the Outer Continental Shelf (OCS).

EXECUTIVE SUMMARY

OVERVIEW OF FINDINGS

Our examination of the Alaskan North Slope (ANS) crude oil export issue found that there would be a significant number of benefits to the United States from allowing the export of ANS crude. The principal conclusions of this study are:

- o Exporting ANS crude oil would partially relieve the downward pressure on West Coast prices of both ANS and California crude oils. Little, if any, increase in consumer petroleum prices would be likely.
- o Higher crude oil prices would lead to better oil producer profitability, which in turn, would raise investment in domestic oil production.
 - Incremental production in Alaska and California could be as high as 100 to 110 thousand barrels per day (mb/d) by the end of the decade.
- ⑧ - Reserve additions in Alaska alone could be as large as 200 to 400 million barrels--a size that roughly equates to the known reserves in major North Slope fields such as Point McIntyre, or Endicott.
- o Improving conditions for West Coast oil producers would raise royalty revenue for the Federal Government and tax and royalty revenues for the States of Alaska and California. During the years 1994 to 2000:
 - Federal receipts related to royalties and sales of Elk Hills oil production would total between \$99 and \$180 million (1992 \$).
- Alaska would gain \$700 million to \$1.6 billion in State severance taxes, income taxes, and royalties.
- California returns from the State share of Federal royalties and State and local taxes would be \$180 to \$230 million.
- Under the low oil price scenario three-fourths of these benefits accrue between 1994 and 1996.
- o Exporting ANS crude oil would result in a substantial net increase in U.S. employment. In all cases examined, gains related to increases in oil industry investment and State and Federal revenues would be much larger than job losses in the U.S. maritime sector.
 - ⑪ - By 1995, the net increase in U.S. employment would be from 11,000 to 16,000 jobs. By the end of the decade, exporting ANS crude could generate from 10,000 to 25,000 jobs. The range of estimates grows over time due to uncertainty in future oil prices.

- The estimate of the level of net job generation is relatively insensitive to whether ANS oil is exported on foreign-flag, U.S.-flag, or Jones Act tankers (U.S.-constructed and -crewed). Exporting oil in foreign-flag vessels would be the least expensive option, thereby generating higher returns for producers and the State of Alaska. This would lead to the highest level of overall job creation, but also would produce the highest level of job losses in the maritime sector. Exporting ANS crude on Jones Act vessels would lower corporate returns, oil production, and revenues for Alaska, but job losses in the maritime sector would be small. These differences offset each other, thereby eliminating the sensitivity to the method of exportation.¹
 - Direct, indirect, and induced employment losses related to the maritime sector could be as high as 3,300 jobs if foreign-flag tankers are employed for exports of ANS crude oil.
- n No significantly negative environmental implications were found.
- Lifting the ANS export ban would decrease the incentive for opening the Arctic National Wildlife Refuge (ANWR), and would not affect California production from Outer Continental Shelf (OCS) areas.
 - No modifications to the Trans-Alaskan Pipeline System (TAPS) would be required, although incremental production arising from ANS crude exports would extend the economically viable lifetime of the system a few years.
 - Exporting ANS crude probably would decrease crude oil tanker movement in U.S. waters.
 - Greenhouse gas emissions from generating steam to produce additional heavy oil would increase slightly, but this increase would be insignificant.

This report does not fully address the implications of changing U.S. maritime law. For example, the report does not examine whether limiting exports of ANS crude to Jones Act vessels would be consistent with existing U.S. international trade policies and commitments. Because this report does not address these trade-related issues, it makes no attempt to weigh the benefits of lifting the ban against any costs that might result from changes in U.S. maritime law.

The aspects of the study that lead to these findings and the study methodology are summarized in the sections that follow. The body of the report and its appendices provide details.

THE CURRENT SITUATION

The inability to export excess ANS crude oil depresses the open market price of ANS crude on the West Coast. This accounts for part, but not all, of the large differential between the refined value of West Coast crude oil and the low prices refiners offer producers for indigenous crude

¹ If an export restriction only required U.S.-flag ships to be used (i.e., thereby allowing foreign-built vessels into the ANS trade), then the negative employment effects could be greater. This would be the case if the financial attractiveness of ANS exports drew U.S.-flag ships from other international trade that foreign-flag ships then assumed.

oils. The result is that the West Coast generates the largest gross refiner margins in the world. Our preliminary analysis of West Coast petroleum markets concluded that:

- o California refiners today purchase the State's indigenous crude for prices that are between \$0.90 and \$2.50 per barrel lower than its refined value relative to ANS crude oil. This market bias probably would remain even if exporting ANS crude raised the price of all West Coast crudes.
- o The low cost of acquiring West Coast crude oil is not shared with consumers of refined products. West Coast petroleum product prices are, and always have been, at parity with those in other parts of the United States, despite West Coast refiners' low crude oil costs. The result is a gross refiners' margin on the West Coast that averaged \$2.40 per barrel, or 31 percent higher than the U.S. average.²
- o The margin on the West Coast is large enough to accommodate an increase in crude oil prices of \$1.00 to \$2.00 per barrel without hampering the refinery investment needed to meet future environmental standards.

Currently, ANS and California crude oil production still exceeds West Coast requirements, although ANS production has fallen to the point that relatively little is being sold into the Gulf Coast spot market. If ANS production continues to decline sharply, the surplus may evaporate in the next few years. On the other hand, ANS production has shown a resilience that defies pessimistic predictions of some market analysts. The following section describes the study methodology formulated to address this uncertainty.

STUDY METHODOLOGY

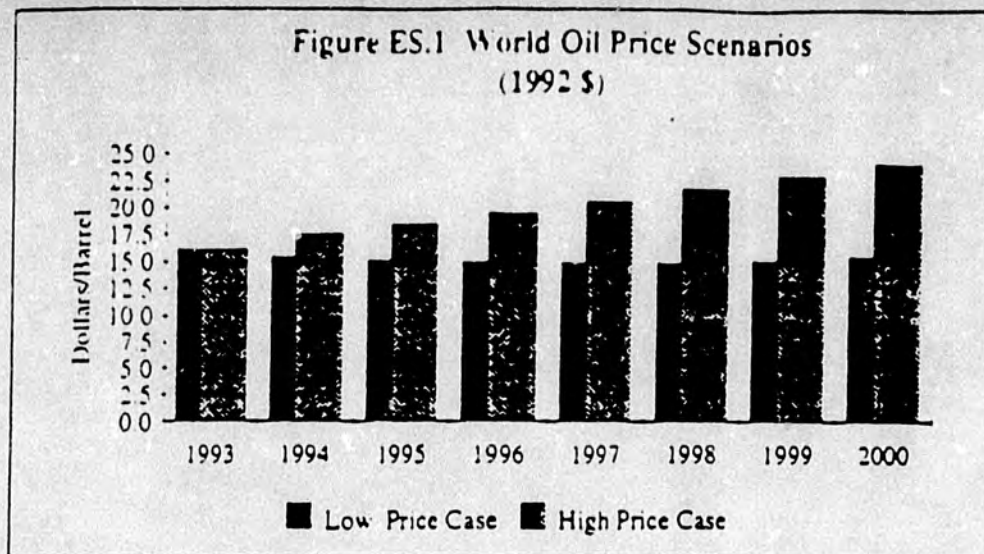
Oil Prices

The study considers two scenarios. In the first, world oil prices would stay constant in real terms through the remainder of the decade. In the second, there would be a \$7.50 per barrel real price growth during 1994 to 2000. These price paths, displayed in Figure ES.1, are the high and low price paths from the Energy Information Administration (EIA) 1994 Annual Energy Outlook-1994 (AE094).

Initially, we thought the low price case would be most favorable to ANS crude oil exports. Accordingly, for consistency, assumptions in the low price case were given export-favorable values. In the high price case, assumptions were given values that tended to reduce the benefits, or raised the costs, of ANS crude oil exports. This approach was favored over a point estimate base case analysis due to the wide range of uncertainty in many areas.

ANS and California crude oil price statistics were examined to determine their historic relationships to world oil prices. This relationship was assumed to continue until the West Coast crude oil supply excess disappears through either a natural decline in domestic production or exports of ANS crude oil.

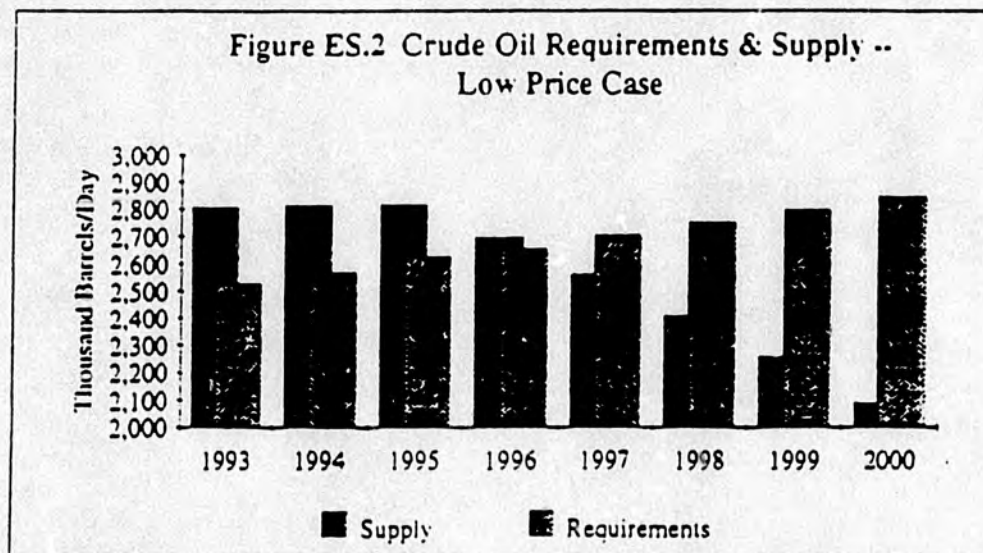
² This understates the regional differences because California is such a large part of the national average refining capacity.



We assumed that when the West Coast crude oil surplus disappears, ANS crude prices would rise to "world market" levels. This is defined as the cost of Arab Light crude oil delivered to California. In the low price case, we added a refining premium determined in our refinery analyses--typically \$0.20 to \$0.35 per barrel. In the high price case, to remain conservative, no refinery premium was added. The value of ANS crude in Japan was similarly determined. California crude oil is assumed to rise also, but only by 80 percent of the increase in ANS prices. Our data analysis showed that this figure is consistent with historic patterns.

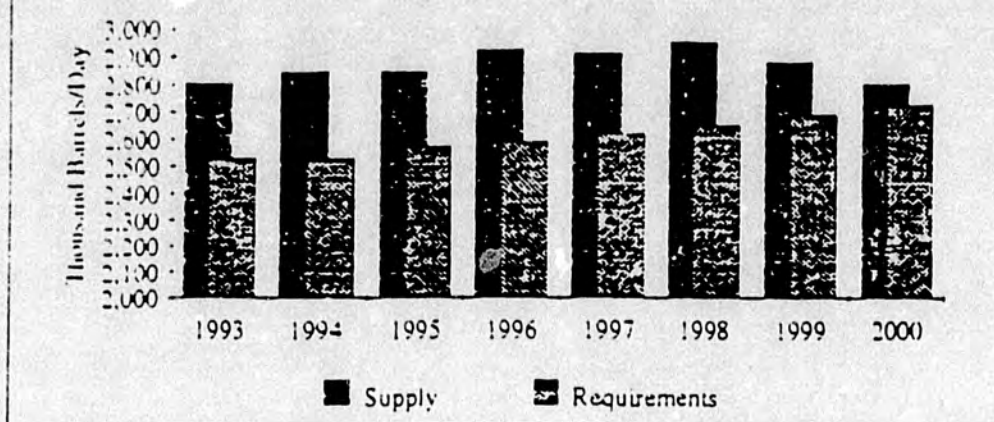
Crude Oil Requirements and Supply

Starting with EIA's AEO94, high and low price case petroleum consumption projections for the U.S. West Coast (PADD V)³, we estimated refinery crude requirements. Two domestic crude oil production scenarios were developed that were indicative of high and low price conditions. The results are the supply-demand patterns shown in Figures ES.2 and ES.3.



³ PADD V consists of Alaska, Arizona, California, Hawaii, Nevada, Oregon and Washington.

Figure ES.3 Crude Oil Requirements & Supply --
High Price Case



The important features of these two cases are:

- o Under low price conditions, rising petroleum product consumption increases crude oil requirements. At the same time, lower prices depress domestic production so that, by 1997, the PADD V surplus has disappeared.
- o In the high price case, lower consumption and higher oil production perpetuate the surplus throughout the decade.

Export Scenarios and Tanker Requirements

The Jones Act (The Merchant Marine Act of 1920) requires oil transported between U.S. ports to be moved in U.S.-constructed, -built, -owned, and -crewed tankers. In 1993, about 35 Jones Act tankers were used to transport ANS crude oil.*

- o In the low price scenario, tanker requirements would fall steadily throughout the decade: by 2000, only 21 tankers would be needed.
- o In the high price case, shipping requirements would actually increase to 38 tankers by 1995 to 1996, then fall to 29 vessels by 2000.

These cases provide the baseline against which three export scenarios were evaluated. The options for export of ANS crude oil were:

- o In the first case, exports would be permitted on world trade, foreign-flag vessels. There would be ample supply of foreign-flag vessels, so costs would be at world levels (that is, the shipping cost would be about \$0.40 per barrel to Japan).

* Several more foreign-flag tankers transport crude oil to the Virgin Islands refinery.