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# Find Alaska oil tops estimates

By RANDY SMITH

A new study of oil reserves in Alaska shows that the United States has much more oil than current estimates indicate, the Daily News has learned.

In fact, the study, prepared by the Alaska Natural Resources Department, has found that oil reserves may be as much as 13% higher than the current estimate of 27.1 billion barrels.

In a telephone interview from Juneau with the Daily News, Alaska Natural Resources Commissioner Robert LeResche confirmed the existence of the new assessment of oil reserves that may be found on either side of the giant Prudhoe Bay oil field.

"It's obviously significant to the nation," said LeResche. The study will be made public once he makes sure it doesn't contain any confidential, proprietary information, he added.

The Prudhoe Bay reserves are well known.

The main oil field there contained an estimated 9.6 billion barrels before oil companies began drilling hundreds of wells in the 25-square-mile area, and LeResche said it still holds about 8 billion barrels.

In the last four or five years, LeResche added, about 40 to 50 wells have been drilled in the area to the east and west of the Prudhoe field, and oil has been found in at least 16 of them.

Based on those strikes, the Alaska state engineers have come up with an initial estimate of the reserves in a surrounding area LeResche said was "nine or ten times larger."

One oil industry source told The News that the Alaska study calculates those reserves at between 1.3 billion and 3.6 billion barrels. LeResche said those numbers are "in the ballpark."

The American Petroleum Institute, the oil companies' trade association, said in May that known U.S. oil reserves as of Dec. 31, 1979, were 27.1 billion barrels.

An API statistician confirmed that the institute's last reserve estimate doesn't include the area outside Prudhoe. To the east is a federally protected wilderness—and to the west is a naval petroleum reserve. ■

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NEW YORK, FRIDAY, OCTOBER 3, 1980

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# DAILY NEWS



SUGGESTION

ATTACK OUTLINE ON CARTER ENERGY

Candidate Jimmy Carter on July 11, 1975 said, "Our nation must act. Neither the world economy nor the American economy can withstand a continuation of present circumstances and trends." He demanded that, "We move boldly toward a goal of reasonable national energy self-efficiency."

FACTS:

- 1. The North Slope contains the finest onshore oil and gas province in Northern America:

Nat'l Petro Reserve: 30.00 billion barrels of oil equiv. at 1% probability range  
Douglas Arctic Range: 36.64 billion barrels of oil equiv. at 1% probability range  
Prudhoe Bay: 9 billion barrels of oil and 27 trillion cub. feet of gas proven

- 2. Over 2/3 of the North Slope is under federal management, the remainder (encompassing Prudhoe Bay) is state-owned and is the only land currently being tapped for oil and gas.

- 3. Carter administration's track record on North Slope:

- a) The Arctic Range potential is tremendous, and Carter has the authority at this time by executive order to open this area up to exploration, yet has lobbied heavily to lock-up this land and term it as wilderness where it cannot be touched and the order can only be rescinded by congressional legislature.

Carter's main concern has been the environmental groups on his back. They are concerned about the porcupine caribou who spend two to three months a year on one section of the range giving birth to their young. This theory doesn't hold water because all exploration is done in winter when the ground is frozen and not during the months the caribou are there.

- b) The Nat'l Petroleum Reserve has almost the potential of the Arctic Range, yet the only work being done on it is federal government testing (it is not open to private industry) and Carter has lobbied to terminate the funds backing up the only testing being done.

BIGGEST FACTOR: If Carter opened up the NPRA and the Arctic Range today and private industry walked in, it would be eight to ten years before a single barrel of oil were produced.



significantly, the Department of the Interior's news release characterizing what the study results mean in terms of oil and gas potential appears contrary to the data developed by the Survey and included in the Department's own report. While the report suggests strong oil and gas potential, Interior's news release states that the Wildlife Range does not warrant exploration at this time.

Overall, we feel the data developed does not support a decision to close the Range to oil and gas exploration. On the contrary, the analysis would seem to support a decision for exploration to acquire more data before reaching any decisions.

Following are our specific observations.

METHOD USED BY INTERIOR IN  
ASSESSING OIL AND GAS POTENTIAL

On May 1, 1980, your Committee requested that Interior assess the oil and gas potential of the Range using the same statistical approach applied to the National Petroleum Reserve in Alaska (NPRA) and prepare a report expressing this potential with a range of probabilities and resource estimates, including field size. Since no drilling has been done on the Range and there is no seismic (geophysical) data available, Interior's assessment was based on surface geology and on data from adjacent areas--the NPRA, Prudhoe Bay, northwest Canada, and the Beaufort Sea.

The initial input came from a 12-member Geologic Assessment Committee composed of 11 U.S. Geological Survey employees, and 1 member from the State of Alaska government, all reportedly experts with considerable experience in Alaskan geology. There was no industry representation, although many of the members are former industry employees. This Committee, using available data and personal expertise about the Wildlife Range and adjacent areas, formed a consensus of opinion about the geologic parameters necessary to determine the probability of the existence of oil and gas in areas felt to have some potential within the Range.

The Geologic Assessment Committee designated 10 likely stratigraphic areas or "plays," felt to have some potential for oil and gas. The Committee then assessed the probability of the various geologic factors affecting a hydrocarbon deposit--reservoir thickness, reservoir area, porosity, etc. A consensus was reached, and all of these factors run through the computer using the same program that was employed in



assessing the NPRA under section 105(b) of the Naval Petroleum Reserves Production Act of 1976. Some of this data was run five or six times until the Committee felt comfortable with the output. Apparently no documentation was retained for any but the final run. There was also no documentation of each Committee member's personal input into each parameter or factor--only one overall consensus after the Committee was through deliberating. In addition, there were no minutes or other record of what transpired during the deliberations.

The computer calculated probabilities of the total oil and gas in place--as well as for each of the 10 areas--and also estimated the probabilities of pool size. The data was then provided to the Resource Appraisal Review Committee, composed of nine U.S. Geological Survey representatives, and assisted by three representatives from the Department of the Interior. There was no industry or State representation. We were told that the Interior Department members were concerned mainly with applying the computer program to the data and did not participate in the decisionmaking process. We were told the Review Committee's primary purpose was to subject the data to a rigorous review and cross-examination. The Review Committee re-ran the data twice in an attempt to further refine it.

#### ANALYSIS OF THE DATA

Your letter to us specifically asked whether any study data was changed as Interior's report to the Senate Energy Committee was developed. The answer is yes. Many changes were made along the way, some documented, and some not. Most Committee members felt they were aware of the changes and the rationale and were in agreement with them; however, some were not aware of the impact of the changes.

The changes did not appear to us to be a major redirection of the study (although some changes were significant); instead they were attempts by the Committees to refine the data's accuracy. For example, the main changes made by the Review Committee's re-running of the computer program were to acknowledge the possibility of more deposits of oil and gas, but they also reflected a reduction in the size of each prospect. Following are the results of each successive run:

Changes to Oil and Gas Resource Data

Percentile	Geologic Assessment Committee Run			1st run			Resource Appraisal Review Committee 2nd run		
	Oil (billion barrels)	Billion barrels of oil equivalent	Pool size (million barrels)	Oil (billion barrels)	Billion barrels of oil equivalent	Pool size (million barrels)	Oil (billion barrels)	Billion barrels of oil equivalent	Pool size (million barrels)
100	0	0	.11	0	0	.02	0	0	.04
99	0	0	1.54	0	.09	1.38	0	.33	1.38
98	0	0	2.55	0	.22	2.53	.03	.49	2.50
97	0	0	3.79	0	.37	3.71	.08	.61	3.61
96	0	0	5.28	0	.47	4.96	.12	.75	4.85
95	0	.01	7.01	.01	.57	6.35	.16	.86	6.18
90	0	.16	18.43	.13	.99	14.92	.38	1.31	14.02
75	.01	1.03	130.03	.79	2.21	65.17	1.12	2.48	54.09
50	1.40	3.48	883.34	2.51	4.65	313.70	2.71	4.74	216.43
25	5.43	8.29	2,937.83	6.04	9.16	1,118.02	5.87	8.52	720.71
10	12.07	15.74	7,247.30	12.58	16.72	3,086.90	11.29	14.71	2,101.78
5	18.24	22.47	11,037.98	18.68	23.40	5,506.99	17.03	20.53	3,810.57
4	20.40	24.39	12,381.20	20.73	25.41	6,576.91	18.67	22.17	4,506.89
3	22.56	27.48	14,184.17	23.25	28.42	8,053.68	20.44	24.79	5,557.92
2	26.69	30.87	17,714.43	28.09	32.26	10,537.91	24.86	28.85	7,325.41
1	34.72	41.36	23,789.52	36.82	41.31	16,139.91	31.99	36.64	10,803.95
0	117.66	125.14	103,878.81	117.46	120.71	187,994.39	92.10	96.83	77,859.25

Source: Copied long-hand by GAO staff from computer runs examined at the U.S. Geological Survey, Anchorage, Alaska, on July 11, 1980.



The results of the Committees' efforts were a rather lengthy Geologic Assessment Committee report--about 45 pages--and a much shorter Review Committee report. These had not been finalized at the time of our review. We were allowed to look at the draft report, but were denied copies, so we are unable to provide copies to you.

Our analysis identified one factual deviation between these reports and Interior's July 1980 report released to the public. The deviation concerns the supposition included in Interior's report--as well as its news release--that only about 20 to 25 percent of any oil discovered in the Range might actually be recovered because it may be heavier than conventional crude oil. This, however, is not included in the Survey's reports nor supported by the Assessment Committee experts we questioned concerning this matter.

In addition--although not a change in the data--because of the condensing of Interior's July report, there was obviously considerable information in the Committees' reports that was not made public. The two most significant omissions we identified were (1) absence of the full range of confidence levels. These should have been provided in order to show the Committees' thinking of the entire range instead of just two points on the scale and (2) absence of data on pool size which significantly influences the economics of the situation. We copied this information by hand and it is presented in table 1.

The final drafts of the Committee reports were being circulated among the members for comment during the time of our review, and most members had not yet read them. Also, Interior's July 1980 report was released just as we were completing our work, so we were not able to obtain all Committee members' views on that report either. However, of the Committee members we questioned, most were reasonably satisfied with the estimates developed--although not satisfied with the Department of the Interior's news release downplaying the oil and gas potential of the Range.

Some Committee members were uncertain about the merits of the methodology used, which deviated in several respects from that generally used by the Survey. Most of the members we spoke with, however, were comfortable with the methodology. The basic methodology was developed by the Canadian Geological Survey and modified by the U.S. Department of the Interior. The approach used is more costly and time-consuming than the Survey's traditional approaches, but is considered desirable because



it provides a set of data conducive to economic analysis. We noted, however, that the report did not contain an economic analysis similar to the analysis included in the December 1979 report on the NPRA--and the Department does not plan to prepare one. Some of those with whom we spoke felt that an economic analysis would probably make the Wildlife Range look quite promising for oil and gas exploration.

The Resource Appraisal Review Committee did, incidentally, perform a traditional (Resource Assessment Group, or RAG) assessment for comparative purposes. The traditional approach projected .8 billion and 17.6 billion barrels of oil at the 95-percent and 5-percent confidence levels, respectively, versus .2 and 17.0 using the Canadian-developed methodology.

#### OIL AND GAS POTENTIAL OF THE WILDLIFE RANGE

As previously mentioned, there is a dearth of information with which to assess the oil and gas potential of the Wildlife Range and thus Survey's assessment was based on surface geology and on data extrapolated using personal knowledge and expertise from adjacent areas--the NPRA, Prudhoe Bay, northwest Canada, and the Beaufort Sea.

Based on the analysis, ~~their report shows considerable potential for oil and gas.~~ This was previously pointed out by us <sup>1/</sup> and reflected the views of most geologists with whom we spoke. ~~However, this potential was not reflected in the Department's recent news release.~~

In addition, we noted that Interior's report compares the Range's oil and gas potential with that of NPRA and that its news release suggests that NPRA has greater potential. While the Survey's study of the Wildlife Range does reflect a smaller resource potential than NPRA at high confidence levels, this may be a reflection of the lack of data rather than the lack of potential, because it shows a higher oil potential than NPRA at the lower confidence levels.

Following are the probabilities of oil in the NPRA as reported by Interior in December 1979, and for the Wildlife Range as reported by the Survey's Resource Appraisal Review Committee in June 1980--data not included in the Department's report.

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<sup>1/</sup>See our report, "Oil and Gas Potential in the Arctic National Wildlife Range," EMD-80-56, Jan. 22, 1980.



Table 2

Comparison of Oil and Gas Potential  
of NPRA and Wildlife Range

Probability that quantity is at least given value	NPRA		Wildlife range	
	Oil	BOE (note a)	Oil	BOE (note a)
100%	-	-	0	0
99	-	-	0	.33
98	-	-	.03	.49
97	-	-	.08	.61
96	-	-	.12	.75
95	1.04	2.08	.16	.86
90	1.35	2.66	.38	1.31
75	-	-	1.12	2.48
50	6.03	8.57	2.71	4.74
25	10.01	13.26	5.37	8.52
10	13.72	17.33	11.29	14.71
5	16.45	20.35	17.03	20.53
4	-	-	18.67	22.17
3	-	-	20.44	24.79
2	-	-	24.86	28.85
1	24.80	30.00	31.99	36.64
0	-	-	92.10	96.83

a/Billion barrels of oil equivalent; includes both oil and natural gas.

Source: Wildlife Range data was hand-copied by GAO personnel from computer data in Survey offices in Anchorage, Alaska, on July 11, 1980. NPRA data from the "Final Report of the 105(b) Economic and Policy Analysis," Department of the Interior, December 15, 1979.

at the 5-percent confidence level, the Wildlife Range becomes more promising than NPRA, even though only one-tenth the size.

Another aspect of the Geologic and Resource Appraisal Review Committees' work that probably should have been included in the July 1980 report is pool size. This data was developed, but not published. It is a critical factor, especially in Alaska, since pool size has a major impact on the economic viability of a deposit--and since the committees' assessment, shown below, indicated a higher probability for larger pools in the Wildlife Range than in NPRA.

Table 3

Field Size Distribution  
(millions of barrels in place)

<u>Percentile</u>	<u>NPRA</u>	<u>Wildlife Range</u>
100	0	.04
99	.42	1.38
98	.78	2.50
97	1.17	3.61
96	1.54	4.85
90	4.12	14.02
75	13.33	54.09
50	56.46	216.43
25	275.47	720.71
10	1,007.23	2,101.78
5	2,043.00	3,810.57
4	2,501.93	4,506.89
3	4,243.62	5,557.92
2	6,581.47	7,325.41
1	6,581.47	10,803.95
0	178,845.23	77,859.25

Source: NPRA data from the "Draft Report of the 105(b) Economic and Policy Analysis," Department of the Interior, July 31, 1979. Wildlife Range data was hand-copied by GAO personnel at the Survey office in Anchorage, Alaska, on July 11, 1980.



Thus, the Survey's analysis of the Wildlife Range compares quite favorably with the NPRA in terms of the possibility of large, commercial-sized deposits.

Further, the Wildlife Range pool size was downgraded to the figures shown on the previous page by the Resource Appraisal Review Committee. To reflect the possibility of smaller pools, the number of drillable prospects was increased, but the size of each deposit reduced. Not all those we spoke with were aware that the pool size had been reduced with each re-run of the data. We assume that the deposit size was reduced to avoid unrealistically increasing the total resources in place. The changes in pool size with each successive run can be seen on table 1.

It was also pointed out to us by a Committee member that in addition to the potential for large deposits, the economic viability of the Wildlife Range is further strengthened by its relative nearness to transportation such as the Trans-Alaska Pipeline System.

#### CONCLUSIONS

The Committees convened by the U.S. Geological Survey to assess the oil and gas potential of the Wildlife Range consisted of an impressive body of expertise, and they appear to have been given full independence in performing their appraisal.

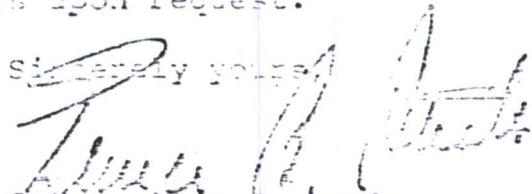
Changes were made, but they were made by the Committee members in an attempt to refine the data, and most of the Committee members we spoke with were satisfied with the estimates developed. It was also the view of most of those with whom we spoke that the Range has very high oil and gas potential - something not reflected in the Department of the Interior's news release on its study.

Given the absence of geophysical and exploratory drilling data, and after examining the full Range of potential developed by Survey's Committees, closing of the range to oil and gas exploration is not in our view supportable. On the contrary, the information developed by Survey Committees appears to support a decision for exploration to acquire more data before a decision is reached.

Finally, because Interior would not furnish us the data, we are unable to provide copies of the data generated by Interior supporting the study. We are generally aware, however, of what documentation is available and we will be glad to discuss it with you should you desire.

As discussed with your office, because of the time deadline required for this effort, the Department of the Interior has not been given the opportunity to review or comment on the contents of this report. This report is being sent today to Senator Jackson. Also, we plan no further distribution until 30 days from the date of issuance unless you publicly announce its contents earlier. After the 30-day period, we will send copies to interested parties and make copies available to others upon request.

Sincerely yours,

  
Comptroller General  
of the United States



DEPT. OF INTERIOR NEWS RELEASE ON WILDLIFE RANGE

"Secretary Andrus cautioned against drawing premature conclusions from these estimates. 'The estimates indicate that it is extremely unlikely that the Wildlife Range contains a 'supergiant' oil accumulation like Prudhoe Bay, '."

"In my view, the Wildlife Range should be the last place we look for oil and gas."

Testimonies by Secretary of Interior on Wildlife Range

February 1, 1979: "I made it clear to the public that while we very much wanted the Congress to pass the bill, we would be prepared to use our executive authorities if necessary.

"We have done everything we could, Mr. Chairman, to work with the 95th Congress to facilitate passage of legislation, and that effort was stymied. . . .Having exhausted all the legislative solutions, we did not hesitate to do what we knew had to be done.

"Thus, on December 1, (1978) the President signed proclamations designated 17 new national monuments. Thirteen of the monuments are to be administered by the National Park Service, two by the Fish and Wildlife Service, and two by the Forest Service.

"Nonetheless, those same persons expressed surprise and anger at the President's actions. Mr. Chairman, I would say to those persons now that if they are unhappy with the monuments, then they should work for passage of the bill--instead of trying to delay or kill it.

February 13, 1979: "I do appreciate the opportunity to present the administration's view on H.R. 39, the Alaska National Interest Lands Conservation Act of 1979."

"I want to reaffirm our strong support for those recommendations, especially the Arctic National Wildlife Range. Our bottom line recommendation assumes that the balance of the areas would be placed in the wilderness study category until the formal requirements of the Wilderness Act are completed."

"In 1977, the Administration took a deliberately conservative approach and recommended approximately 49 million acres for wilderness designation, some 43.3 million acres of Interior-managed lands and 5.6 million acres of existing national forests. I want to reaffirm our strong support for those recommendations, especially the Arctic National Wildlife Range."



# Limits on Use of 40 Million Alaskan Acres Extended for 20 Years by Interior Agency

By a WALL STREET JOURNAL Staff Reporter  
WASHINGTON — The Interior Department extended for 20 years restrictions on the use of 40 million acres of federal land in Alaska.

Cecil Andrus, the Interior Secretary, said he extended the limits because he feared that a legislative "stalemate" could prevent Congress from acting this year to add the land to the national parks, wildlife-refuge and wilderness systems. The restrictions, imposed late in 1978, had been slated to expire late in 1981.

Under the limits, existing mining claims will still be honored. But new claims aren't being granted, and most other forms of commercial development are banned.

## Carter-Imposed Limits

In November 1978, President Carter imposed limits on the development of 110 million acres of Alaskan lands. About 56 million acres were later designated national monuments, rendering them permanently off-limits to developers. The remaining land, including the 40 million acres affected by Mr. Andrus's latest action, was placed under temporary restrictions while further action was studied.

Legislation to set aside the land permanently, which the Carter administration supports, probably would supersede the actions taken by the President and Mr. Andrus. But the Interior Secretary said a recent decision by Senate leaders to delay a floor vote on the bill until after the July 4 recess made him "very concerned that the lateness of that date will lead to a stalemate in the closing days of the 96th Congress."

In the closing days of the Senate's 1978 session, Mr. Andrus said, Alaska-lands legislation died "because of deliberate obstructionism based on the threat of a one-man fil-

## Standard Milling to Pay A Fine to Pension Plan, Settling U.S. Lawsuit

By a WALL STREET JOURNAL Staff Reporter  
WASHINGTON—The Labor Department said Standard Milling Co., Kansas City, Mo., agreed to pay its employe pension plan \$195,000 to settle a government lawsuit against the producer of grain and cereal.

The department's suit, filed in U.S. district court in Wilmington, Del., the state in which the company is incorporated, alleged that Standard Milling violated federal pension laws by "causing its pension plan to sell company stock to the company at less than market value."

Without admitting any violations of the 1974 Employe Retirement Income Security Act, the company agreed to make the payment and to ensure that company officers and agents don't exercise any control over Standard Milling stock remaining in the pension plan.

ibuster. I wouldn't want to see that happen again this year."

## Dig at Alaska Senator

Mr. Andrus's remark was a dig at Alaska's Democratic Sen. Mike Gravel, who is backed by prodevelopment interests in the state and who still opposes the bill. Alaska-lands legislation passed the House twice, once in 1978 and again last year.

Even though the temporary restrictions weren't scheduled to expire until late next year, the Interior Department said "continuing uncertainty" over congressional action made it necessary to extend them immediately. The department said Mr. Andrus's action can't be reversed by later Secretaries, so the lands will be protected even if President Carter isn't re-elected.

Moreover, administration officials said, Mr. Andrus regards the Alaska situation as one of his major pieces of unfinished business. The former Idaho governor isn't expected to remain in his post next year.

# Mission Insurance Mulls Boosting Payout On Rise in Earnings

By a WALL STREET JOURNAL Staff Reporter  
LOS ANGELES—Spurred by an approximate 46% rise in operating earnings for 1979, Mission Insurance Group Inc. said directors will be asked to give "strong consideration" to raising the dividend for the seventh time since the final quarter of 1976, E. Richard DeRosa, president, said.

Mission currently pays a quarterly dividend of 17 cents a share.

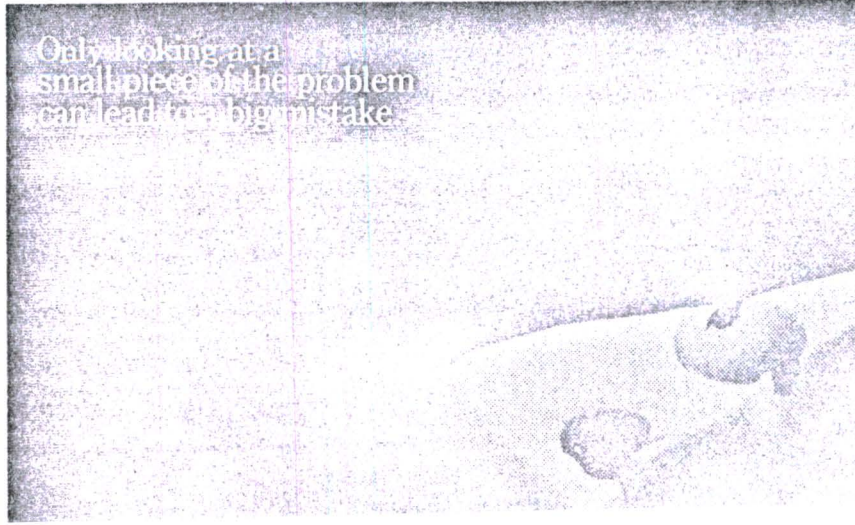
Mr. DeRosa said the insurance service holding company expects to report that operating profit for the year rose to \$32 million, or \$4.10 to \$4.15 a share, from the year-earlier \$21.8 million, or \$3.16 a share. Mission had 606,000 more shares outstanding in 1979 as the result of a private placement. The 1978 per-share earnings are adjusted for a three-for-two stock split paid last October. The executive said revenue for the year rose about 32% to \$324 million from \$247 million.

Operating earnings in the fourth quarter rose about 58% to \$8 million, or \$1.02 a share, from the year-earlier \$5.1 million, or 78 cents a share, Mr. DeRosa said in an interview. Revenue rose about 32% to \$91 mil-

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# THE C IN HEALTH C



Only looking at a small piece of the problem can lead to a big mistake.



# Alaska's oil potential termed huge

CLAIMING THAT there is a virtual black-out of information concerning Alaska's enormous energy resources, the Energy Committee of Commonwealth North says the State could be producing 4.5 to 5 million b/d of oil.

A non-profit corporation, Commonwealth North (CN) is chaired by two former Alaska Governors (William A. Egan and Walter J. Hickel). Working committees within the non-partisan organization study critical issues facing the State and prepare well-researched action papers. The report on Alaska's energy resources is the most recent of those papers.

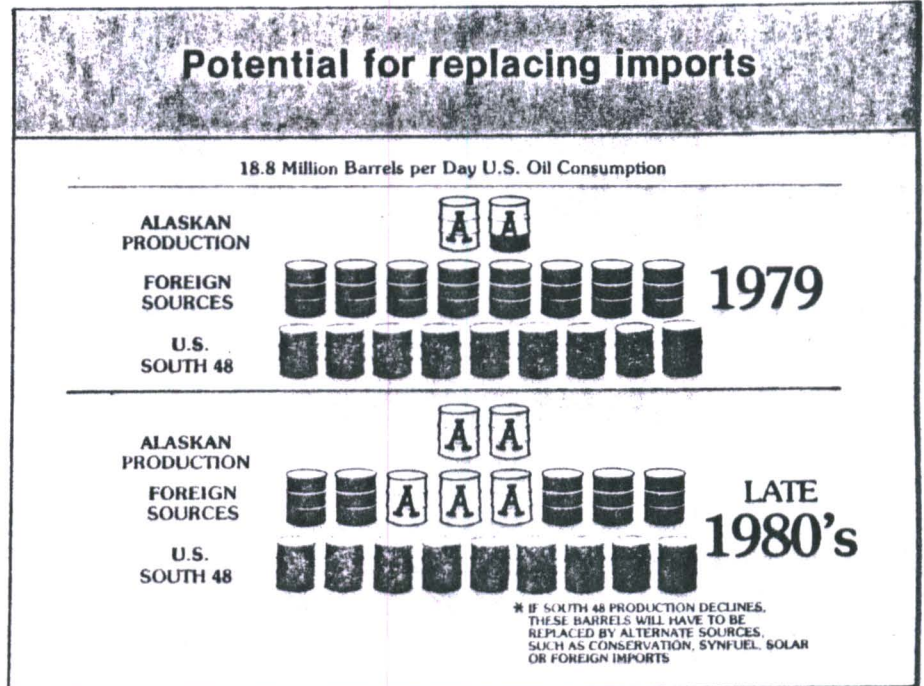
"Responsible estimates of potential recoverable oil in Alaska," says the study, "range from 22 to 138 billion bbl. The larger figure compares favorably with Saudi Arabia's 110.4 billion bbl of estimated reserves."

Despite all this, according to CN, "Many Americans think Alaska's oil and gas resources are being actively sought and produced, but the reverse is true. Only seven rigs are at work in the State, compared to 366 in Louisiana and 807 in Texas."

According to the paper, the main deterrent to Alaska becoming part of the solution to the national energy crisis is the Federal government. "Less than 0.03% of Alaska is privately owned, and no Federal lease sale of the onshore oil potential land has taken place in Alaska since 1966," asserts the study.

## Untapped potential

On the hydrocarbon potential of Alaska, CN's Energy Committee concludes:



- There are 250,000 sq miles of onshore sedimentary basins in Alaska, and another 300,000 sq miles off-shore.

Outside of Prudhoe Bay and Cook Inlet, only 136 wells have been drilled in these oil and gas potential regions since 1900, compared to over 2 million wells in the rest of the United States.

- Most of the onshore potential oil and gas areas in Alaska are unexplored. The majority of this acreage will be off limits to exploration if the Alaska lands legislation passes. Such legislation would place 123 million prime acres of Alaska in permanent, exclusive land classification, even though the exploration of the resource base in these areas is in its infancy.

- One area, the Arctic National Wildlife Range, has the greatest oil and gas potential of any area in North America. Reports,

downplayed by government, say it could contain enough oil to supplant all foreign imports for up to 10 years.

Only 0.05% of the Arctic Range would be needed for exploration and production of oil and gas. No scientific evidence exists showing that such activity would threaten the wildlife with extinction or even population reduction.

"If government at all levels encourages the finding and transporting of Alaska oil," states CN, "the control over the U.S. by the OPEC nations can be substantially reduced."

Alaska oil, adds the study, could have a positive impact in this situation, as shown in the accompanying diagram. The illustration assumes that annual U.S. oil consumption will be held constant, through conservation or the production of other energy alternatives.



ALASKAN OIL RESERVES  
Reagan for President  
February 20, 1980

The estimates by the Department of Energy and the American Petroleum Institute (API) include only proven oil reserves in Alaska. Geologists can determine from the earth's geological structure, however, whether oil is likely to be discovered in a region. These are known as potential reserves. It is essential that these reserves be included in estimates of a region's oil reserves in order to accurately portray the true productive possibilities for the region.

The U. S. Geological Survey (USGS) reports in Circular 725, first published in 1975, that there are up to 59 billion barrels of oil potentially recoverable in Alaska. But, notes Joseph Barnea, ~~senior fellow of the United Nations Institute for Training and Research~~, USGS figures nearly always underestimate potential energy and mineral reserves, meaning that the reserves of the types of crude oil considered could actually be much higher.

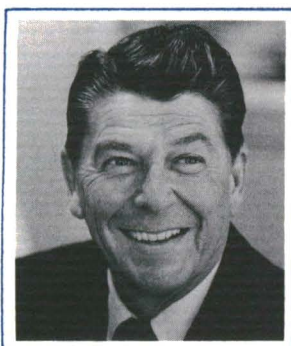
In fact, the Department of Natural Resources of the State of Alaska estimates Alaska's potentially recoverable reserves at up to 138 billion barrels of oil. (Open File Report #50, "Alaska and the Impact of Federal Lands Policies -- Oil and Gas," Division of Geological and Geophysical Surveys, R. M. Klines, et. al.)

It is important to note that neither figures from the State nor the USGS make any reference to heavy crude oil. Heavy crude has such a thick density that it generally was not considered producible by the oil industry until very recently.

At the World Conference on Heavy Crude Oil and Tar Sands at Edmonton, Alberta, in June 1979, experts agreed that heavy oil normally doubles the size of estimated reserves of lighter crudes. Thus, by the USGS's pessimistic figures, Alaska's recoverable potential could be as high as 118 billion barrels; by the State figures, it could be as high as 276 billion barrels.

This compares to the following figures for Saudi Arabia. According to DeGolyer and MacNaughton's Petroleum Statistics 1978, Saudi Arabia's proven reserves are 110 billion barrels; API says 165 billion barrels.

The crucial point is that America is an energy-rich nation. We do have the potential oil supply if government will allow it to be explored and produced. At the very least, it can be said that there are more potential oil reserves in Alaska than have been discovered in Saudi Arabia. This is not to downgrade Saudi Arabia's reserves; certainly they may be higher as well. But Saudi Arabia's world market power in oil stems largely from its proven reserves, an amount of oil that is exceeded by Alaska's potential oil reserves.



## REAGAN for PRESIDENT

9841 Airport Boulevard  
Suite 1430  
Los Angeles, California 90045  
(213) 670-9161

March 14, 1980

### MEMORANDUM

TO: Dick Allen

FROM: Kevin Hopkins

RE: Elk Hills

Ben Zycher provided the following information on the Elk Hills oil reserve:

1. Production: 160,000 barrels per day, 80% of which is the government's share.
2. Reserves: 700-750 million barrels. 400-450 million barrels have been produced so far. Thus, original reserves were 1.1 to 1.2 billion barrels.
3. North Slope: Prudhoe Bay was never a Naval Petroleum Reserve, but the area to the west of it is; however, this area produces very little oil.
4. Other Naval Petroleum Reserves:  
Teapot Dome in Central Wyoming, about 5% the size of Elk Hills and producing 5,000 barrels per day  
The area south of Elk Hills, which is almost depleted
5. Ownership: Before 1977, the Navy owned Elk Hills. It was transferred to the Department of Energy in 1977. At that time, oil prices were about \$12/barrel.
6. Auction: Oil at Elk Hills is auctioned off every 3 or 6 months, and sold at the spot price.
7. DOE Revenues: Approximately \$1.6 billion/year (160,000 barrels/day x .80 government claim x \$35/barrel x 365 days)
8. Oil Prices (assumed in FY 1981 budget):  
Elk Hills sour: \$35.39/barrel  
sweet: \$36.21/barrel  
Teapot Dome sour: \$30.80/barrel  
sweet: \$34.05/barrel



#### Additional Alaska oil reserve information

Milton Copulos, an energy analyst at the Heritage Foundation, a Washington-based public policy organization, has recently written that "it is credibly estimated that the state has undiscovered, recoverable reserves of from 59 to 100 billion barrels of oil using today's technology."

In a conversation with Copulos, he indicated that there was good reason to believe that the Alaska reserves exceeded 100 billion, and therefore were on par with those of Saudi Arabia. He bases his figures in part on the USGS figures from Circular 725, 1978 edition (which is to be reissued this June), from which he extrapolates by using the recovery factor, etc.

He also pointed out that between 1967 and 1978, a total of 861 wells for oil/natural gas were drilled, while during the same period 27,798 were drilled in California. There has been little drilling in Alaska, and inadequate leasing, as well as increasing federal control of potential oil-producing land.



~~SECRET~~  
SOLUTIONS TO THE NATIONAL ENERGY CRISIS: WHY NOT ALASKA?

A Report by Commonwealth North

Prepared by the Energy Committee November 1979

For comparison, according to DeGolyer and MacNaughton's Petroleum Statistics 1978, 22 billion barrels is more than the total estimated reserves in Venezuela and nearly as much as in OPEC's Abu Dhabi. Fifty-nine billion is equal to the total reserves in the Soviet Union, which now ranks as the largest daily oil producer in the world.

**The most pessimistic estimates peg Alaska's recoverable oil reserves as greater than Venezuela's and perhaps equal to the Soviet Union's.**

USGS ESTIMATES

The USGS Resource Appraisal Group is the source of the most conservative estimate of Alaska's hydrocarbon potential. Circular 725, published first in 1975, the latest USGS document available on the subject, pegs Alaska's undiscovered recoverable oil potential within a range of 12 to 49 billion barrels, and estimates natural gas potential at 29 to 132 trillion cubic feet. Added to the already proven recoverable oil reserves, the total becomes 22 to 59 billion barrels of oil and 61 to 164 trillion cubic feet of natural gas.

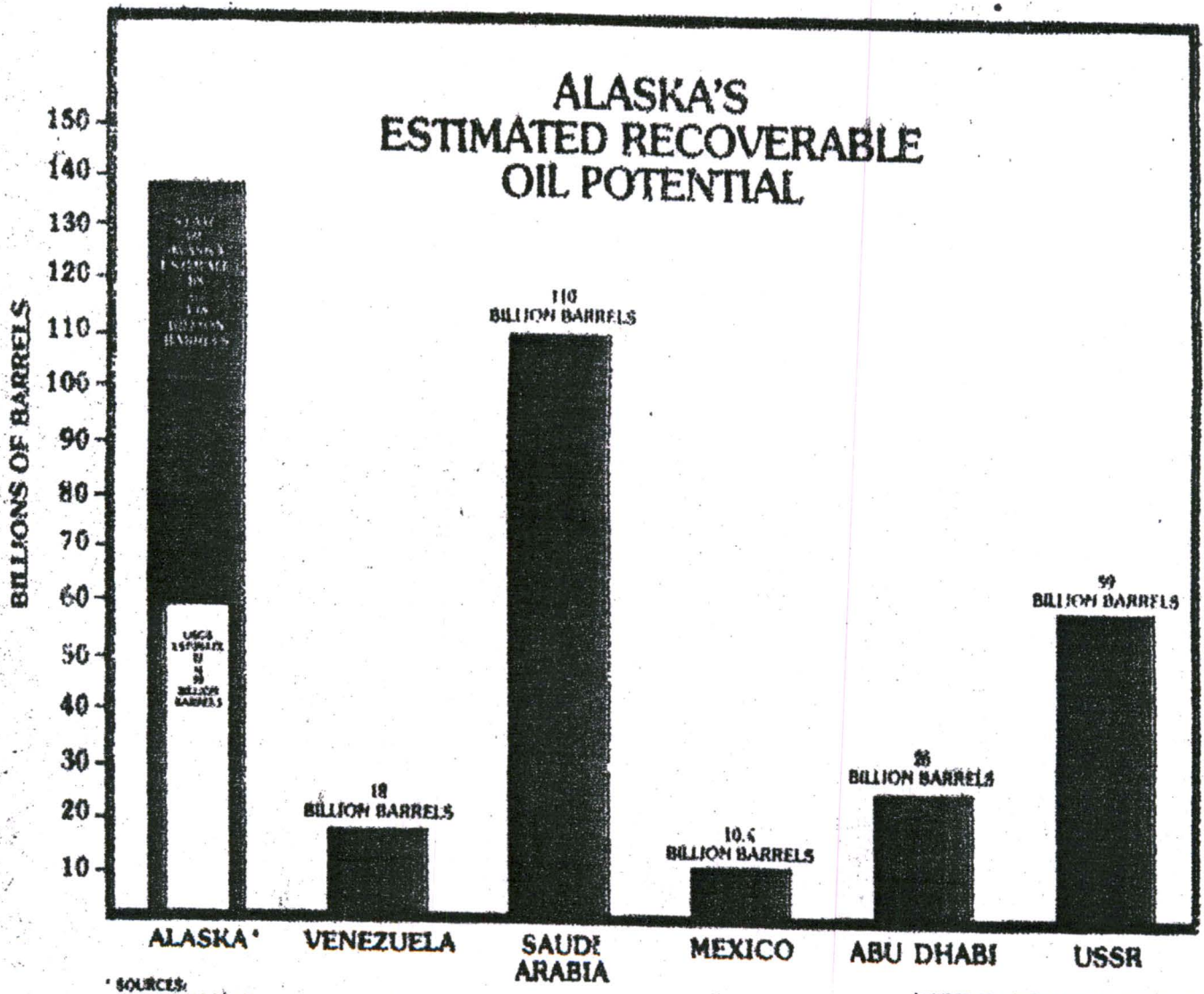


The Appraisal Group is currently revising their estimates, which insiders predict will be even more pessimistic due to the unsuccessful drilling in the past two years in OCS waters in Alaska's Northern Gulf.

These estimates by the Appraisal Group, a small team of employees located in an office in Denver, Colorado, are prepared through computer projections extrapolated from theoretical models and scientific rock work done by Survey geologists over



# ALASKA'S ESTIMATED RECOVERABLE OIL POTENTIAL



\* SOURCES:  
USGS CIRCULAR 725  
STATE OF ALASKA OPEN FILE 50

SOURCE OF INTERNATIONAL ESTIMATES  
DEGOLYER McNAUGHTON 1978

the past seventy years.

**Critics attack USGS  
data as a product of  
"ivory towerism."**

Critics attack much of this data as the product of "ivory towerism," in which rocks were studied academically. But information on geologic changes and structure is so scant, the critical guides to oil and gas deposits (permeability, porosity, organic content and structural traps) cannot be evaluated with any assurance. And geochemistry, the now sophisticated science of chemical analysis of source materials, has only recently been adopted by the Survey.

The other principal data used by the USGS is supplied by the American Petroleum Institute (API). These figures are accumulated from estimates provided by oil companies who have deemed it appropriate to release such information to the public. Traditionally, vital exploratory information is kept confidential. For obvious competitive reasons, oil companies are notoriously secretive with information they are willing to share.

Dr. Joseph Barnea, senior fellow of the United Nations Institute for Training and Research (UNITAR), claims that USGS figures nearly always underestimate potential energy and mineral reserves.

**Proprietary information  
must be added to the  
total data base.**

"I have fought with the USGS personnel for years," he says. "They continually exclude data from the private sector. On that basis, wise and rational judgements cannot be made by policy makers. Proprietary information must be added to the total data base, and it can be done without revealing specific numbers for regions for



which private enterprise is in competition."

As there are so many unknowns on the Alaska frontier, everyone's figures are vulnerable to honest challenge. One definite conclusion can be drawn. It requires an equal act of faith to stake the nation's future on the relatively pessimistic USGS figures as to judge the estimates of former governors Hickel and Egan as incorrect.

#### ESTIMATES FROM THE STATE OF ALASKA

The most recent inventory of Alaska's oil and gas potential was produced in two volumes by the State of Alaska in October, 1977. Based on a study by the Department of Natural Resources in 1974, the report lists the estimated speculative oil resources on and off-shore, excluding the Arctic National Wildlife Range, as 76.1 billion barrels of recoverable oil and 439.6 trillion cubic feet of gas.

In the discussion of procedures, the authors of the earlier document write, "It is therefore considered that pessimistically the figures could be 25% too high, but with the addition of a few giant oil fields, they may be 50% too low."

When these percentages are calculated and added to the potential of the Arctic National Wildlife Range, (14 billion barrels; see discussion below) and already discovered reserves (9.9 billion barrels), Alaska's potential would be somewhere between 68 and 138 billion barrels of recoverable oil.

**There are so many unknowns, everyone's figures are vulnerable to honest challenge.**

**Neither the state nor the USGS has any estimates of the heavy crude oil potential in Alaska.**

It is important to note that neither the figures from the State nor the USGS make any reference to heavy crude oil. Heavy crude has such a thick density it generally was not considered producible by the oil industry until very recently.

At the world conference on Heavy Crude Oil and Tar Sands at Edmonton, Alberta in June of 1979, experts agreed that heavy oil normally doubles the size of estimated reserves of lighter crude.

In Alaska, there is no data on heavy crude, except for an estimated 1.9 billion barrels at Prudhoe Bay. But the lack of information may only indicate the absence of interest on the part of the oil industry. To date, facing the costly economics of oil recovery in Alaska, the drilling companies have written off as a "dry hole" anything short of a giant field of light or medium range crude.

But, as the cost of oil escalates worldwide, the feasibility of producing heavier crudes will come within reach.

Ten new production break-throughs were unveiled at the Edmonton conference. In some countries, heavy crude is already in production. Depending on the depth at which it is found, it most definitely promises to be a cheaper product than oil from highly-touted shale.

As the nation takes stock of its oil reserves, the unexplored sedimentary basins in Alaska loom in importance. Many of them may soon be "off limits" to drilling because of Federal land withdrawals. One of these, and by far the most highly rated, is the Arctic National Wildlife Range.

To date, drilling companies have written off as a "dry hole" anything short of a giant field.

The unexplored sedimentary basins in Alaska loom in importance.



Strosoparty growth

Historical File

Walter Wms. distinguished economist at Temple U. (Black)

"There are a number of people black & white who have a stake in costly social programs and the continual existence of poor & dependent people. These are the people who advocate feeding the horses in order to feed the sparrows?"

Prof. Williams suggests there is a form of pol. corruption worse than fraud. It is the use of moral language to disguise a new form of slavery. They need the poor as a spring board to power. "Compassionate gent." he says, "can turn out to be the Great White Father in the plantation on the hill."

Alaska - Estimated potential oil reserve 138 bil. barrels - Saudi Arabia has only 110 bil. But Al. has only 7 oil rigs <sup>working</sup> ~~producing~~ - Texas has 207 - La. 366, Al. is pumping 1.6 mil. B's. a day - could pump 5 mil.

<sup>(Contrast of Prudhoe Bay & Cook inlet)</sup>  
Only 136 wells have been drilled in Al's 250,000 sq. miles of sedimentary basins + 300,000 sq. miles of offshore since 1900. Over 2 mil. drilled in rest of U.S.

Arctic Nat. Wildlife range has the greatest potential for oil & nat. gas in N.A. It could contain enough oil to replace total imports for 10 yrs. Only 1/2 of <sup>the area</sup> 16 would be needed for exploration & production. Right now Alaska provides 18% of our oil.

Why was a USGS survey in 1976 by C.B. MUKK & B.A. KOSOSKI on the potential of the Arctic Nat. Wildlife range - done for US Fish & Wildlife, buried & never made public? The report said the area could match the Prudhoe Bay area.

Since 1970 Cong. has passed ~~The Nat.~~  
The Nat. Environmental Policy Act  
The Clean Air Act  
" " " " Amendments  
The " Water " "  
" " " " "  
The Marine Mammal Protection Act.

The Critical Endangered Species Act  
The Historic Preservation Act.  
" Solid Waste Disposal "  
" Fed. Water Pollution Control <sup>act</sup> "  
" Coastal Zone Mgmt. Act "  
" Fed. Land Policy Mgmt. Act "





COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

B-199626

JUL 18 1980

The Honorable Mark O. Hatfield  
Ranking Minority Member  
Committee on Energy  
and Natural Resources  
United States Senate

Dear Senator Hatfield:

Subject: Oil and Gas Potential in the William O.  
Douglas Arctic Wildlife Range (EMD-80-104)

As you and Senator Jackson requested on June 10, 1980, supplemented by discussions with your office, we examined the Interior Department's study of the oil and gas potential of the William O. Douglas Arctic Wildlife Range in northeast Alaska to assure that all pertinent data is being provided to the Committee without modification or change.

We examined all data made available to us and spoke with people involved in the study. Unfortunately, our review was hampered by the Department's refusal to obtain copies of all documentation. We were allowed to examine the data but were not given copies of pertinent reports and other documents.

We satisfied ourselves, however, that the data presented in Interior's July 10, 1980, report to your Committee accurately reflects the data developed by the experts in the Geological Survey, and that the experts were given full latitude in developing the information. In addition, the Survey's team followed the approach requested by your Committee, and--given the absence of any seismic (i.e., geophysical) or any subsurface drilling data on the Wildlife Range itself--did the best they could with what they had. Interior's public report on the results, however, is highly condensed and excludes certain data that would seem highly relevant in any assessment of the Range's oil and gas potential.

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