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Testimony

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Alaskan Crude Oil Exports

Testimony by
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Before the
Subcommittee on International Economic Policy
and Trade
Committee on Foreign Affairs
House of Representatives



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Mr. Chairman, Members of the Subcommittee:

It is a pleasure to testify before you today on the preliminary results of our ongoing review of the consequences of lifting the existing ban on the export of Alaskan North Slope (ANS) crude oil. The Chairman of the Subcommittee on Energy and Power, House Committee on Energy and Commerce, requested this review and has agreed for us to testify before you.

Our review has focused on the changes in the Alaskan oil trade that are likely to occur through 1995, both with and without the ban, and how these changes would affect the U.S. economy and our energy security.¹ I should caution you that because our work is ongoing, our results are subject to change.

In summary, if the ban is removed, some ANS crude will almost certainly be exported to Pacific Rim countries. Exports are likely because the cost of transporting oil to the Pacific Rim is low and the characteristics of ANS crude may make it more suitable to the needs of Pacific Rim refiners than it is to West Coast refiners. At a minimum, exports will include the Alaskan crude that is currently shipped at high cost to distant U.S. ports on the East Coast, the Caribbean, and the Gulf of Mexico. However, because Alaskan production is declining, sometime in the next several years these shipments will probably cease. In addition to East Coast shipments, some of the oil that would have gone to the U.S. West Coast is also likely to be exported.

The probable effects of exporting ANS crude will be to

-- increase the price of ANS crude at the wellhead and,

¹GAO previously analyzed these issues in the report Pros and Cons of Exporting Alaskan North Slope Oil (GAO/NSIAD-83-69, Sept. 26, 1983).

consequently, the price that West Coast refiners pay for crude oil,

- promote economic efficiency by reducing oil transportation costs, increasing domestic oil production, allowing better use of refinery processing resources, and ensuring that ANS oil is allocated to its highest valued uses,
- hurt the maritime industry because exports are likely to be transported on foreign flag rather than U.S. flag tankers, and
- increase total U.S. oil imports, but decrease net imports (total imports minus exports) to the extent that oil production and refinery efficiency increase.

BACKGROUND

The Export Administration Act of 1979 states that "no domestically produced crude oil transported through the Alaskan pipeline may be exported from the United States." The purpose of this ban was to restrict "the export of goods where necessary to protect the domestic economy from excessive drain of scarce materials and to reduce the serious inflationary impact of foreign demand." This provision of the law was part of the compromise that permitted the construction of the Trans-Alaska Pipeline. The act allows the ban to be lifted only upon the President's certification that the export of Alaskan oil is in the national interest and meets several other specified conditions.

ALASKAN CRUDE OIL DISTRIBUTION

Let me first describe the situation as it now stands. In 1989, ANS crude shipments totaled about 1.8 million barrels per day (MMBD).

About 1.3 MMBD went to the West Coast; about 0.3 MMBD to eastern U.S. ports via the Trans-Panama Pipeline--the U.S. Gulf Coast, East Coast, and Caribbean; and the remainder to refineries in Alaska, Hawaii, and the U.S. Virgin Islands. Chart 1 illustrates this distribution pattern.

Since 1987, the amount of ANS oil shipped to eastern ports has declined as a result of decreasing ANS production and increasing West Coast consumption. Because transportation costs to eastern ports are considerably higher than those to the West Coast, Alaskan producers sell most of their oil to West Coast refiners.

This trend is expected to continue, so that some time in the near future ANS crude shipments to eastern ports will cease. The exact timing of this development will depend to a large extent upon the rate of decline of Alaskan production. Using the Energy Information Administration's (EIA) base case assumption of Alaskan production, shipments to eastern ports could cease by 1992, even if West Coast demand for Alaskan production remains constant. Chart 2 shows this distribution pattern.

IMPACT OF LIFTING THE BAN ON ALASKAN OIL DISTRIBUTION

As I indicated briefly at the outset, if the ban on Alaskan oil is lifted, there is general agreement that the oil now shipped to eastern U.S. ports--about 0.3 MMBD--will be exported to Pacific Rim countries. This will occur, to a large extent, because such action would reduce transportation costs by a considerable amount. Chart 3 illustrates the resultant pattern of oil distribution. You may view this chart as illustrating the minimum impact of lifting the ban.

In addition, some of the oil that is now shipped to the West Coast may also be exported, but opinions vary on how much. A possible

maximum impact of lifting the ban might be one in which the only ANS oil that would continue to be shipped to the West Coast would be oil used by integrated oil companies, that is those that produce oil in Alaska and transport it to their own refineries on the West Coast. In 1989, these companies used about 0.6 MMBD of ANS crude. Chart 4 illustrates a pattern of trade based upon this assumption of exporting about 1.0 MMBD.

To better understand the effect of lifting the Alaskan oil export ban, we requested that EIA carry out an analysis using its Transportation and Refining of International Petroleum model. This model simulates world petroleum activities, including crude oil production and transportation, refinery operations, and petroleum products distribution. Preliminary results from the model indicate that if the ban had been lifted in 1988, in addition to the oil going to East and Gulf Coast ports, a substantial amount of the oil transported from Alaska to the West Coast would be exported to Pacific Rim countries. One reason why this might occur is that Pacific Rim refiners may be willing to pay more for Alaskan oil than are West Coast refiners because it better suits their product demand and refinery configuration.

While these model results are useful in analyzing the potential impact of lifting the ban, they may overestimate the actual changes in trade patterns that will take place in the short run. This occurs because the model does not take into account institutional constraints and other "frictions" that inhibit or delay market adjustments.

ECONOMIC IMPACTS

Basically, lifting the ban would have two general kinds of economic effects. First, effects will occur on economic efficiency. In a well functioning oil market, economic efficiency means producing oil so long as incremental benefits exceed

incremental costs of production and allocating oil to its highest value uses, in both a national and international context. Second, parties that are involved in Alaskan oil trade will be affected, creating both "winners" and "losers."

Efficiency Increases

I would first like to discuss potential economic efficiencies to be gained from lifting the ban. Currently, a declining, but significant, amount of Alaskan oil is making its way to eastern U.S. ports. Lifting the ban would accelerate the disappearance of this trade because Alaskan producers could reduce their transportation costs and receive higher wellhead prices by selling their oil to Pacific Rim countries. This would produce an economic efficiency gain.

Another potential gain in economic efficiency could arise in the refining sector. As you know, light crudes are more suited for the "light" petroleum products, such as gasoline and diesel fuel, that are preferred on the West Coast. Evidence suggests that U.S. West Coast refiners have invested in additional "downstream" refining capacity to process medium-gravity Alaskan oil than needed to process lighter crudes. This has occurred because West Coast refiners have been able to purchase Alaskan oil at a lower price because of the export ban.

If Alaskan oil were priced at world market levels, which we would expect if the ban was lifted, these U.S. refineries might instead purchase lighter crudes. While this would increase the price they pay for crude oil, EIA's analysis suggests that it might allow refiners to free up downstream processing capacity. If this occurs, refiners may be able to increase the volume of lighter petroleum products they produce. This could produce a gain in economic efficiency.

Lifting the ban could also promote economic efficiency by reducing the amount of heavy petroleum products, such as residual oil, produced by West Coast refiners. Residual oil can be used, among other things, to power ships and generate electricity. Because Alaskan oil is relatively heavy, refiners currently produce more residual oil than desired. This supply of residual oil depresses its price and leads to more of its consumption than might otherwise occur. EIA's analysis suggests that lifting the ban would reduce production of residual oil if refiners purchase lighter crudes that yield a smaller volume of residual fuel.

The ban has also affected wellhead prices for Alaskan oil and, as a result, Alaskan and Californian crude production. Preliminary results of the EIA model suggested that lifting the ban might increase wellhead prices for Alaskan oil by somewhere between less than \$1.00 to more than \$2.00 per barrel, depending on the amount exported. This is likely to lead to some increases in production of both Alaskan and Californian oil, although the size of any increase is uncertain.

Finally, a key aspect of economic efficiency deals with ensuring that products are allocated to their highest value uses. In this regard, both the United States and its trading partners might be made better off by lifting the ban. Pacific Rim nations would have access to Alaskan oil that has the potential of better fitting their industrial needs, and the West Coast would import more light crudes, which better fit its needs for light-end products.

Potential Winners and Losers

As I mentioned in my introduction of potential economic effects, lifting the ban could produce winners and losers. Oil producers in Alaska and California would particularly benefit from increased wellhead prices if the ban is lifted. On the other hand, lifting

the ban is likely to hurt both independent oil refiners on the West Coast and the maritime industry.

Independent California refiners are likely to be hurt if the export ban is lifted because they will have to pay higher prices for Alaskan and Californian crudes. Unlike integrated producer-refiners, against whom they compete, the independent refiners will not benefit from increases in wellhead prices. EIA's model analysis suggests that refineries can be expected to mitigate this loss by purchasing lighter crudes, which are more ideally suited for producing gasoline. Lower costs of processing these lighter crudes may, to some extent, help offset increases in the refiners' crude oil acquisition costs.

It is unclear to what extent the refiners will be able to pass along increased crude oil costs to their customers in the form of increased product prices. While, as I noted earlier, EIA's modeling suggests a substantial increase in the price of Alaskan crude, it shows little change in consumer prices for gasoline on the West Coast. We have identified at least two possible reasons why. First, a switch by U.S. refineries to lighter crudes could mean more gasoline produced than under the ban. Second, the availability of imported gasoline may limit price increases for gasoline. In contrast, the price of residual fuel may rise substantially as a result of lifting the ban. This rise is not unexpected given the larger than desired supply of this fuel produced as a by-product of processing Alaskan crude. A large portion of California residual fuel is either exported or sold to foreign shipowners for fuel.

The U.S. maritime industry also stands to lose from lifting the ban on ANS crude exports. As a result of the Jones Act (the Merchant Marine Act of 1920), U.S. flag tankers transport virtually all this crude. This trade is important to the industry. In 1989, 67

tankers totaling 7.3 million deadweight tons (dwt) were involved.² According to November 1989 fleet lists, these ships represented 39 percent of the U.S. tanker fleet by numbers and 56 percent by tonnage. If the ban is lifted and some of this oil is exported, foreign flag tankers, because their costs are lower, are likely to transport that oil. The result will be a loss of U.S. ships, which will be laid up, scrapped, or sold, and the loss of jobs.

To analyze the impact of lifting the ban on the maritime industry, we asked the U. S. Maritime Administration to provide us information on the impact on U.S. tankers during the period 1990 to 1995 using the two scenarios I discussed earlier. Chart 3 highlighted the first scenario in which only Alaskan crude that would have gone to U.S. Gulf Coast, East Coast, or Caribbean ports would be exported. Chart 4 illustrated the second scenario, in which a substantial amount of oil that would have gone to the West Coast would also be exported. The information provided by the Maritime Administration also took into account the decline in Alaskan production that EIA estimates will take place between 1990 and 1995.

According to the Maritime Administration, 33 U.S. ships will be threatened by declining ANS production during the period 1990 through 1995 even with the ban in place. The effect of minimal exports would be to accelerate the loss of some of these ships. Under the maximum export scenario, the Maritime Administration believes that an additional 7 ships, or a total of 40, would be threatened.

The loss of ships under either scenario would reduce the availability of U.S. tankers for national defense purposes. In 1988, the Commission on Merchant Marine and Defense, a Presidential

² Some of these vessels took part only occasionally. For the year, transportation of ANS crude required the full-time equivalent of 40 ships.

commission made up of active and former government and industry officials, carried out the most recent study of national defense tanker needs. It defined the characteristics of a "militarily useful" tanker and outlined U.S. tanker requirements to support a global war. It determined that a militarily useful tanker is one of less than 100,000 dwt, the tanks of which are coated so that it can transport military petroleum products. Furthermore, U.S. requirements in a global war are 9.9 million dwt. According to the information provided by the Maritime Administration, 13 of the 33 ships that could be lost under the first scenario are militarily useful. As I noted earlier, the demand for these tankers on their current routes is likely to disappear, with or without the ban. Under the second scenario, 14 of the 40 tankers that could be lost are militarily useful.

ENERGY SECURITY

Lifting the ban on Alaskan crude exports would affect U.S. energy security in three ways. First, it would increase total, or gross, U.S. imports. Second, it would probably lead to a decrease in net imports. Finally, in an integrated world oil market, U.S. energy security depends in large part on this market's smooth and efficient functioning. Lifting the ban would contribute, in a small way, to this end.

Gross U.S. imports will increase because exports from Alaska will be replaced on the world market. It is difficult to tell with certainty where these imports will come from. However, on the basis of analysis provided by EIA's model, much of the imports will probably come from the Middle East, Southeast Asia, and Latin America.

U.S. net imports, that is total imports less exports, will probably decline because exports would not be replaced on a barrel-for-barrel basis. As I indicated earlier, imported crude might lead to

improved refinery efficiency with the result that refiners, particularly on the West Coast, may be able to meet the demand for light products with less crude. Furthermore, increased U.S. production, arising from higher crude prices in Alaska and California, would reduce the need for imports.

Worldwide oil market efficiency would improve to some extent also if the ban is lifted. This development would contribute to U.S. energy security in two ways. First, increased U.S. production would help diminish, to at least a small extent, world dependence on insecure oil supplies. Second, greater security and diversification of supply would reduce the likelihood of U.S. trading partners in the Pacific bidding up world oil prices as sharply as they might otherwise in a disruption.

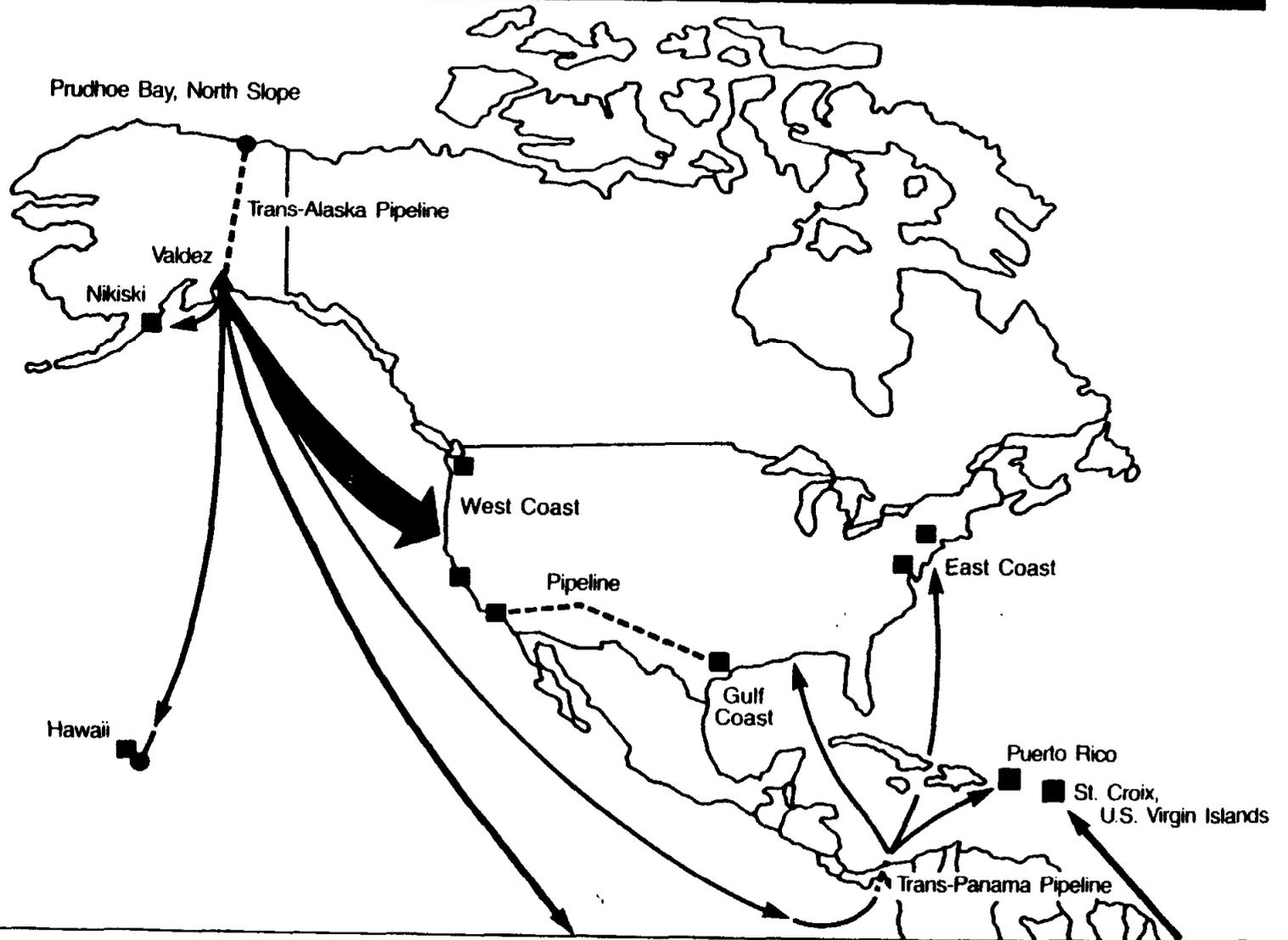
OBSERVATIONS

Overall it appears that lifting the ban on Alaskan oil exports could result in a substantial amount of Alaskan oil being transported to Pacific Rim countries. This would probably lead to gains in economic efficiency, but also it would probably have negative effects on the maritime industry and independent refiners on the West Coast. It would, of course, benefit crude oil producers in Alaska and California. From an energy security perspective, lifting the ban would increase total U.S. oil imports but, probably, decrease net imports as a result of increased oil production and improvements in refinery efficiency.

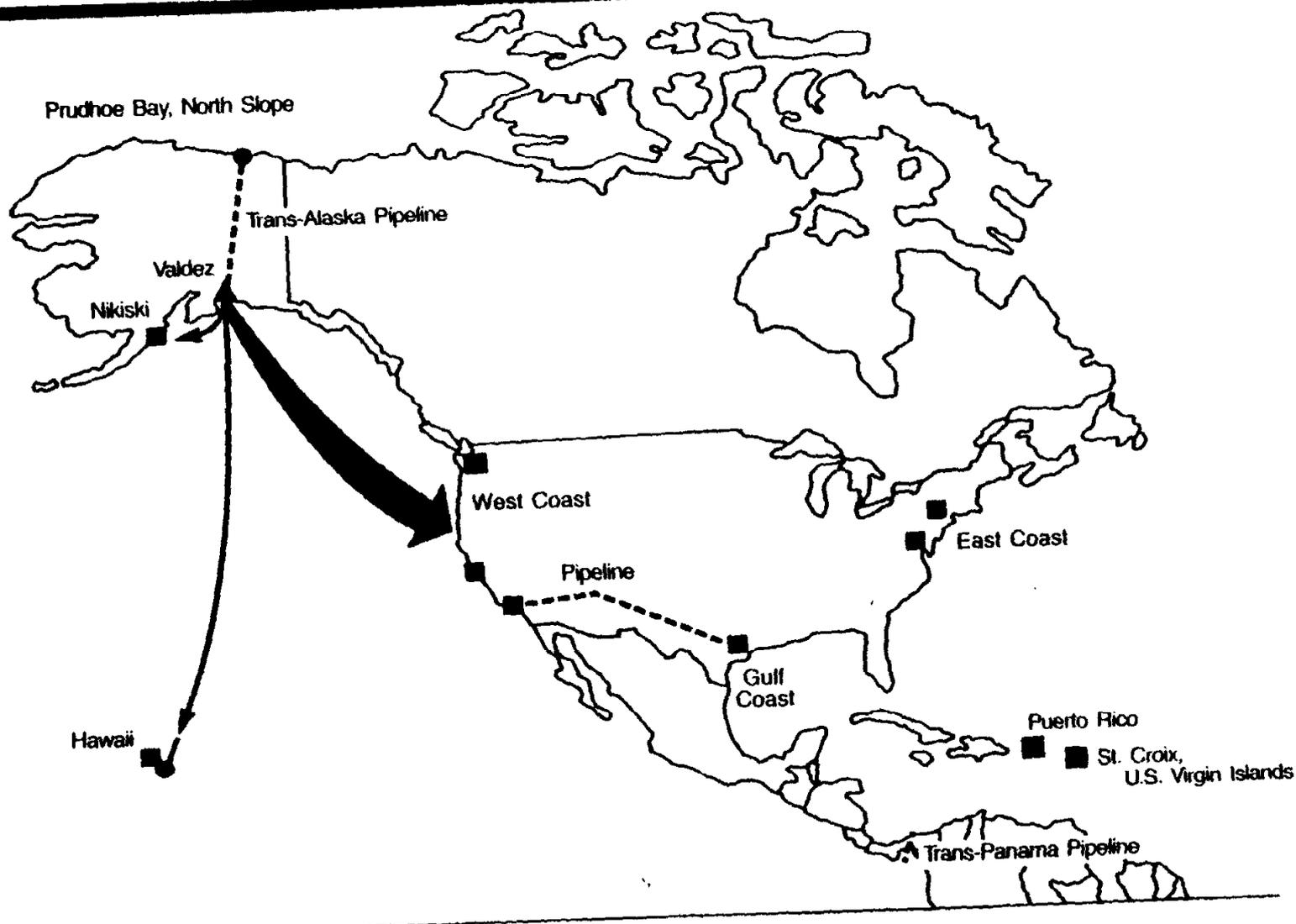
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I hope that my remarks will be useful to you in deliberating whether to renew the ban on the export of Alaskan crude oil. I will be glad to respond to any questions you or your colleagues may have.

GAO Alaskan Oil Export Ban In Place — 1990

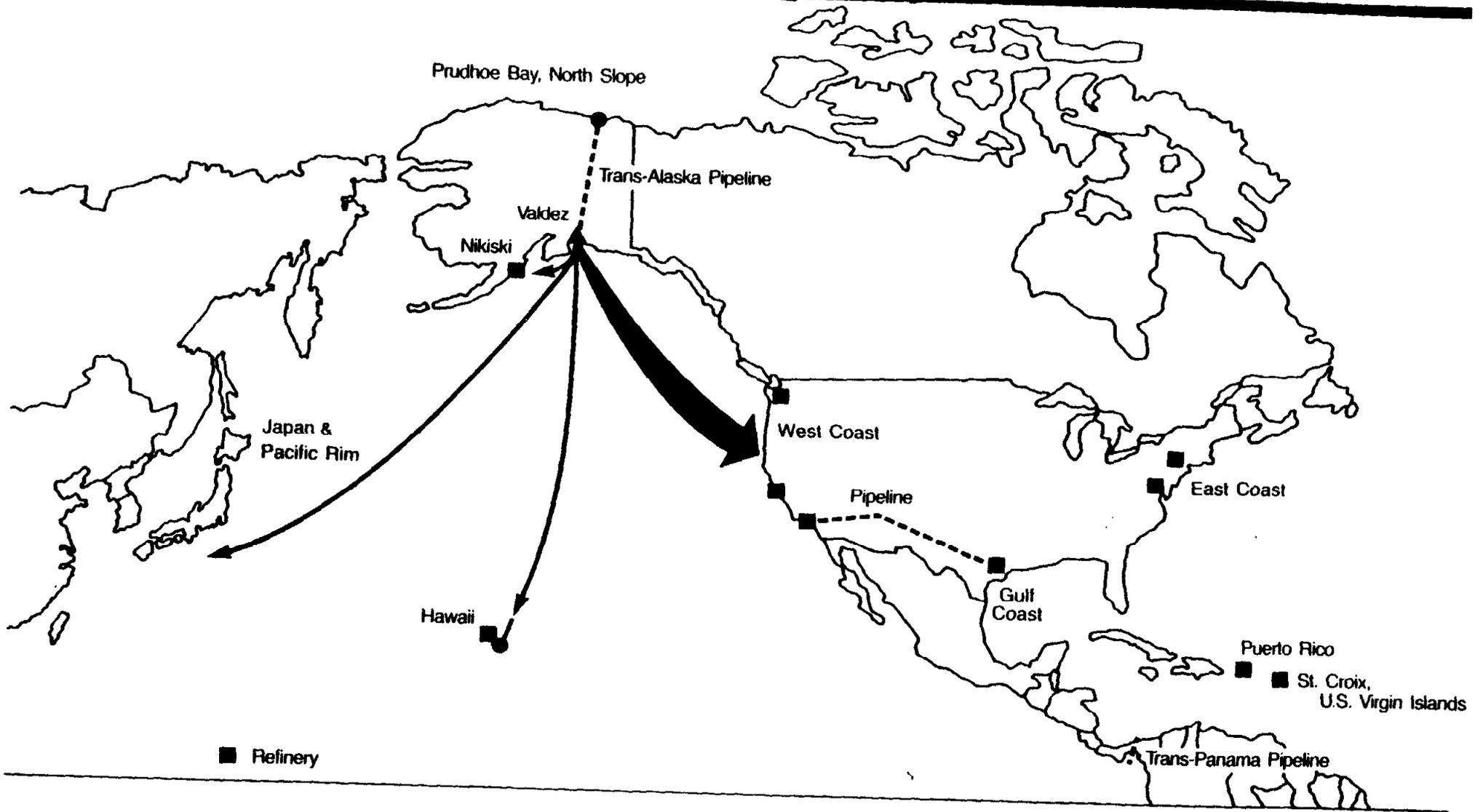


GAO Alaskan Oil Export Ban In Place — 1995



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Alaskan Oil Export Ban Lifted — Minimum Export Scenario



GAO Alaskan Oil Export Ban Lifted — Maximum Export Scenario

