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National Interests and Sovereignty In the Arctic Ocean Oct 74

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National Interests and Sovereignty In the Arctic Ocean

October 1974

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SUMMARY

Sovereignty issues in the Arctic Ocean mirror to a certain extent those found elsewhere, with significant additional complications. Perhaps the most important of these is the contention by the USSR and Canada that they have extraordinary jurisdiction over activities in the ice-covered waters between their coasts and the North Pole. Another complication relates to the Svalbard Archipelago, where Norway's sovereignty is circumscribed by an international treaty that fails to resolve the question of who has rights to the surrounding continental shelf. (OUO)

Each of the five countries adjoining the Arctic has developed its own peculiar mix of activities and policies in the region because of different economic, military, and political interests. In the United States and Canada, the main focus of Arctic interest is on petroleum development and associated environmental matters. Military and security interests have received less attention, and both countries, together with Norway and Denmark, have been receptive to cooperative programs. In contrast, the USSR's Arctic Ocean policy is dominated by the military, which is apprehensive about foreign activity on the Soviet side of the Arctic and resists any special consideration of the Arctic in international political forums. (C)

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Central Intelligence Agency Directorate of Intelligence October 1974

NATIONAL INTERESTS AND SOVEREIGNTY IN THE ARCTIC OCEAN

The Arctic has taken on a new importance in recent years, following a long period when it was out of the mainstream of world economic and strategic affairs. The decreasing supply of easily available minerals — particularly fuels — in the rest of the world, together with improved technology, has made the mineral wealth of this remote region increasingly attractive. Its exploitation, however, will not be without obstacles. Among the major problems are some unique Arctic Ocean* jurisdictional questions and disagreement about the environmental fragility of the region. All this is further complicated by Soviet and Western military sensitivities and by competing as well as cooperative scientific activities in the area. (OUO)

During the last decade the United States has made several attempts to bring some order to international Arctic matters through multilateral agreements with other Arctic powers on economic development, scientific research, and protection of the environment. Progress has been delayed and sometimes blocked by the Soviet Union, whose military services view such agreements dimly. 25X6A

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Now, pressures from the UN Law of the Sea (LOS) negotiations are stimulating new interest in international relationships in the Arctic Basin. LOS issues such as jurisdiction over marine resources, navigation through international straits, control

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^{*} The Arctic Ocean is arbitrarily defined for purposes of this paper as the ocean area and the connecting seas lying north of the Arctic Circle. Most of the North Atlantic region between Greenland and Norway is not truly Arctic in a physical sense.

over pollution, and freedom of marine scientific research pose some particularly thorny questions. Should seaward limits of national jurisdiction agreed upon at a Law of the Sea Conference be made applicable to the Arctic? Will Arctic straits be considered international straits and included in a regime of unimpeded navigation? Is the Arctic Ocean, in essence a semienclosed sea bounded by only five countries, subject to the deep seabed common heritage concept? Can Arctic nations unilaterally extend pollution controls over these waters without regard to internationally accepted mechanisms? (OUO)

This study provides a factual background for consideration of questions such as these. It examines Arctic sovereignty, resources, transportation, and scientific and military interests and attempts to put them in perspective. (OUO)

SOVEREIGNTY ISSUES

Five countries border the Arctic Ocean -- the United States, Canada, Denmark, Norway, and the USSR. The entire Arctic Ocean shoreline is crossed by only two international land boundaries, U.S. (Alaska)-Canada and USSR-Norway (foldout map). The most recent land boundary change in the Arctic occurred in 1944 when Finland ceded the Pechenga area to the USSR, thereby giving the USSR and Norway a common boundary to the Arctic coast. This boundary was delimited through the territorial sea in the Varangerfjord area in 1957. (U)

The only offshore boundaries in addition to the Varangerfjord line are: (1) the U.S.-Russia Convention Line of 1867 through the Bering Strait and extending northward to the "Frozen Ocean"; (2) the boundary delimiting the continental shelf between Greenland and Canada, agreed to in 1973; and (3) the Spitsbergen Treaty Line of 1920, which encloses the islands of the Svalbard Archipelago.* None of these boundaries is now in dispute. (U)

^{*} The names Spitsbergen and Svalbard are sometimes used inter-changeably. The name Spitsbergen applies only to the largest island in the archipelago, and Svalbard is the collective name for all islands within the Treaty area. (U)

Disagreement remains however, on Jurisdiction over the seas and seabeds offshore. The USSR has advanced a so-called sector claim to all lands between its coast and the North Pole, and both Canada and the USSR take the position that they have special rights in adjoining Arctic seas. The problem is compounded by the presence of landfast and drifting ice, making unclear the distinction between "Arctic territories" and "Arctic waters" and the applicability of the concept of "open sea" to the Arctic Ocean. (U)

USSR

Like the Czarist regime before it, the Soviet Government has advanced several claims to sovereignty in the Arctic. In 1926 the USSR asserted ownership of all lands and islands within the triangular area, or sector, bounded by the mainland coast on the south and the meridians 32°04'34"E and 168°49'30"W. On Soviet maps the western sector line is drawn to exclude the Spitsbergen treat/area; the eastern line is drawn from the North Pole's the Arctic Circle, ending in the Bering Strait slightly east of the longitude of the U.S.-Russia Convention Line of 1867 (fold-out map). (U)

In subsequent writings, Soviet jurists and Arctic authorities have often claimed that the sector includes the open seas, drift ice, and superjacent air space. The Soviet Government has not followed up these assertions by formal decree but is of the view that the Arctic Ocean has unique characteristics of both land and sea and thus requires special adaptations of the law to deal with its problems. It continues to keep the sector concept alive by delimiting the sector on Soviet maps as "Polar Domains (Polyarniye Vladenii) of the USSR." Also, during recent Norwegian-USSR continental shelf boundary discussions, the USSR pressed for acceptance of a line following its sector claim.* On other occasions, Soviet spokesmen have taken the position that Arctic problems should be resolved bilaterally and have shown great apprehension about any international cooperative arrangements or international regime for the entire Arctic. (C)

^{*} Soviet-Norwegian continental shelf and Svalbard boundary problems are discussed further under Norway.

The USSR claims a 12-mile zone bordering the entire USSR coast as territorial waters.** Apart from the lack of universal acceptance of this or any other width, the definition of such waters in the Arctic poses the problem of fixing the shoreline in areas where permanent or temporary ice projects into the sea. Application of the 12-mile zone in the Soviet Arctic has so far caused international dispute only in respect to the straits at the east and west ends of the Kara Sea, both less than 24 miles wide. (OUO)

The terms "internal waters," "historic waters," and "closed seas" have also been applied by many authoritative Soviet writers to numerous Arctic coastal water areas. Internal water status, implying complete sovereignty, has at times been claimed for the Kara, Laptev, White, East Siberian, and parts of the Barents and Chukchi Seas on the basis of historic factors or because the Arctic ice cover is a "land-like" entity which encloses them on the seaward side. Recent Soviet publications list only the White Sea and a few bays in this category. (U)

The activities of U.S. icebreakers, aircraft, submarines, and drift stations have put Soviet attitudes and intentions regarding the polar sector to a practical test. In response, the Soviet Union has shown some flexibility in regard to its broad quasi-official sector and internal seas claims, but it has been resolute in maintaining authority in and over coastal waters. The USSR has shown little sensitivity to U.S. drift stations and clvil aircraft in the northern part of its sector and has conducted similar operations in all other Arctic sectors. At the same time, it has made clear that it would not welcome a U.S. visit to Soviet drift stations in the area. (C)

During several summers in the 1960's, U.S. Coast Guard icebreakers conducting oceanographic surveys in the Arctic attempted unsuccessfully to transit the USSR's Northern Sea Route. Soviet authorities maintained close surveillance of the ships, and although they did not physically block the vessels, they did strongly reaffirm Soviet authority in these waters by diplomatic note. The United States rejected the Soviet claims but turned back rather than attempt to pass through the 22-mile-wide Vil'kitskiy Strait.

^{**} All distances and areas throughout this study are in nautical miles unless specified otherwise.

The USSR denies the U.S. contention that its Arctic straits are international straits with rights of innocent passage.* Significantly, in 1972 the USSR sent one of its own research vessels as far east as Prudhoe Bay, on the north coast of Alaska, suggesting Soviet acceptance of the concept of free international passage through the open parts of the Arctic Ocean. (C)

In Law of the Sea negotiations the USSR has proposed coastal state rights over the continental shelf to the 500-meter isobath or 100 miles, whichever is farther seaward. This formulation benefits the USSR in the Arctic because the 500-meter isobath closely defines its very broad continental shelf and encloses a substantial area beyond the customary 200-meter shelf limit. vate talks with the United States the Soviet Union has noted that its 500-meter/100-mile proposal is a tentative negotiating position, urged that the Arctic should not be specifically addressed in Law of the Sea negotiations. and again stressed the land-like character of the Arctic ocean. In the face of growing international sentiment for a 200-mile coastal economic zone, the USSR at the Caracas LOS Conference indicated willingness to accept conditionally a 200-mile economic zone if coupled with continental shelf rights to depths of 500 meters. (C)

Canada

Canada's sovereignty problems and policies in the Arctic generally parallel those of the USSR, and each country has cited actions or the other to justify its

"The discovery and the opening up of the Arctic seas, chiefly by the littoral states, and the colossal economic expenditures for the development of productive forces and safe navigational systems led to the recognition, in their wake, of special interests and rights in the polar regions. . . . Legal standards governing the regime of the high seas cannot be fully applied to the Arctic seas inasmuch as this area is covered by icefields almost the whole year round, is located away from the principal sea routes, and has never been used for international shipping. Navigation in the usual sense of the word is simply impossible." Ovanesov, M.; Sorokin, R., "The International Legal Regime of the Arctic," Morskoy Sbornik, No. 6, 1973, pp. 92-96. (U)

^{*} Two Soviet Navy Law of the Sea specialists recently summarized this USSR position as follows:

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policies. Although Canada has never formally made a sector claim, many government officials have publicly supported the concept since 1907 or earlier. In 1946 the Canadian Ambassador to the United States went so far as to state that Canada's sovereignty in its sector extended to the frozen sea as well as to all islands north to the Pole. The present interpretation seems to be that there is no challenge to Canadian sovereignty over any land area in the "sector" and that a decision regarding the water and ice areas beyond land is being reserved for the future. (OUO)

Recent statements by the Government and by leading Canadian polar authorities assert that the distinctive character of Arctic ice and waters implies special rights for the coastal states. This principle has been specifically applied to the waters of the Arctic Archipelago, which the Government has repeatedly claimed to be "Canadian waters." In 1970, following penetration of the Northwest Passage by the U.S. icebreaker-tanker Manhattan, legislation was enacted asserting Canadian jurisdiction for pollution control in a zone extending 100 miles seaward of all land north of 60°. Official commentary on this legislation noted that it was not an assertion of sovereignty but rather an exercise of specific jurisdiction to preserve the environment. At the same time, the Government reiterated its position that the Northwest Passage, through the Archipelago, is neither an international strait nor a part of the high seas, but rather an internal water route. (U)

In LOS negotiations Canada has supported broad coastal state jurisdiction over fisheries, shelf resources, and pollution control. Canada claims rights to mineral resources on the continental shelf and beyond it to the continental slope and rise. These positions were not based on Canada's situation in the Arctic because the shelf everywhere lies within 100 miles of the coast. Canada claimed a 12-mile territorial sea in 1970 and favors straight baselines to the extent "sanctioned" by the International Court of Justice in the 1951 Anglo-Norwegian Fisheries Case. Use of straight baselines connecting the outer points of the outermost Arctic islands would effectively enclose the waters of the Arctic Archipelago. At the Caracas LOS Conference Canada maintained that the concept of a special LOS archipelago legal regime, under consideration for archipelago countries such as Indonesia. should be extended to include coastal archipelagoes such as its own in the Arctic. (OUO)

Norway

Norway has not only the usual interests that might be expected of an Arctic state but also special interests related to its administration of Svalbard. Norway has made no sector claim and has specifically rejected the official and quasi-official sector claims of the USSR and Canada. Since the 1920's Norway has abandoned its claims to Franz Josef Land and the Sverdrup Islands in the USSR and Canadian "sectors" respectively. Full sovereignty is exercised over Jan Mayen Island in the Greenland Sea. (U)

At present, jurisdiction is claimed over a 4-mile territorial sea and a 12-mile exclusive fisheries zone, both measured from straight baselines connecting the outermost points of its mainland and island coasts. The 1951 decision of the International Court of Justice established the validity of this baseline and ruled that the sea route through Norway's coastal islands is in Norwegian internal waters. The Norwegians have indicated that they do not intend to extend their territorial sea claim but are considering extension of the fishing zone to 50 or, more likely, 200 miles. This action would affect mainly the fishing fleets of the USSR, the United Kingdom, and West Germany. In addition, Norway has delimited the 24-mile near shore portion of its sea boundary with the USSR, which ends in a water depth of nearly 300 meters.(U)

The 1920 Treaty on the Status of Spitsbergen, between Norway and 14 other nations, recognized Norway's sovereignty over Svalbard subject to rights specifically reserved to the other signatories.* Foremost among these rights was the guarantee of access to the Archipelago, on a basis of full equality with Norway, for maritime, industrial, mining, and commercial operations. The USSR has actively sought to expand its rights in Svalbard by challenging and demanding participation in certain Norwegian activities and by maintaining

^{*} The United States, Canada, and Denmark were among the original 15 signatories; the USSR is one of 26 countries that subsequently acceded to the Treaty. (U)

a permanent mining population about twice the size of Norway's.* (C)

All parties to the Treaty accept its application to all land areas within the specified boundaries (fold-out map) and to the surrounding 4-mile territorial sea that has been established by Norway. The treaty makers did not anticipate interest in the oil and gas potential of the continental shelf, however, and the Treaty does not state whether it applies to activities there. The Norwegians take the position that it does not, since the shelf surrounding Svalbard is an extension of Norway's continental They interpret the Treaty as limiting the mineral exploitation rights of the other contracting parties to the land area and 4-mile territorial waters of the islands. The USSR has directly questioned Norway's jurisdiction over the Svalbard shelf. Apart from its interest in the potential offshore resources, the USSR is believed to want some formal control, or veto power, over installations that may be built across the strategic entrance to the Barents Sea. (C)

Mainly because of this sovereignty question, in LOS negotiations Norway has favored coastal state rights over exploitation of the continental shelf to 200 miles or 600 meters of water depth, whichever is farther seaward. The adoption of such a regime would unite Norway's and Svalbard's shelves and would strengthen Norway's claim that the entire area is an extension of the mainland continental margin and outside the provisions of the Spitsbergen Treaty. (C)

If it were eventually to be decided that the Spitsbergen Treaty applies to the shelf around the Archipelago, the boundary line between the Norwegian and Svalbard shelves drawn under any usual formula would operate to Norway's

^{*} Several events illustrate the Soviet attitude toward its rights on Svalbard. Norway's sole sovereignty over the islands was questioned in 1944, when the USSR suggested joint Norwegian-Soviet control, and outright cession of Bear Island to the USSR. In 1965 the Soviet Government protested construction of a European Space Research Organization (ESRO) telemetry station on the grounds that it had a military function. For many years the USSR also objected to Norway's plans to build an airfield at Longyearbyen, but finally relented in 1971 on the condition they be allowed to participate in its operation. In negotiations leading to a final airfield agreement, reached in March 1974, the USSR pressed for joint jurisdiction over airfield operations. (C)

disadvantage. By either the equidistance or deepest-water principle it would lie within 150 miles of the Norwegian coast and would place a large area of potential oil and gas resources under the Treaty provisions. (OUO)

Norway's remaining Arctic Jurisdiction problem is with the USSR over their unsettled continental shelf boundary in the Barents Sea. After several years of Norwegian overtures, the USSR has finally agreed to a Norwegian request for formal negotiations, which will begin in the fall of 1974. Preliminary discussions between the parties have revealed basic disagreement over the method of delimiting the boundary. Norway has proposed an equidistant line measured from adjacent land areas. The USSR has countered that delimitation should be based on the sector principle, citing "special circumstances" -- geological, demographic, and historical. A sector boundary would give the USSR control over a larger territory (fold-out map). (C)

Denmark

Denmark does not have, nor is it likely to have, any major sovereignty disputes with other Arctic countries. The continental shelf boundary with Canada was settled in 1973. A sector claim for Greenland has never stirred any apparent interest in Denmark, nor have factors related to Greenland or the Arctic had a prominent effect on Denmark's LOS positions. At present Denmark has a 3-mile territorial sea limit and with some exceptions an additional 9-mile fisheries zone. A demand by Greenlanders for a 50-mile fisheries zone is offset by broader Danish interests. Denmark has not taken a firm position on the delimitation of the outer edge of the continental shelf but would probably accept a 200-mile or a combined depth/distance criterion. (000)

PETROLEUM RESOURCES AND DEVELOPMENT

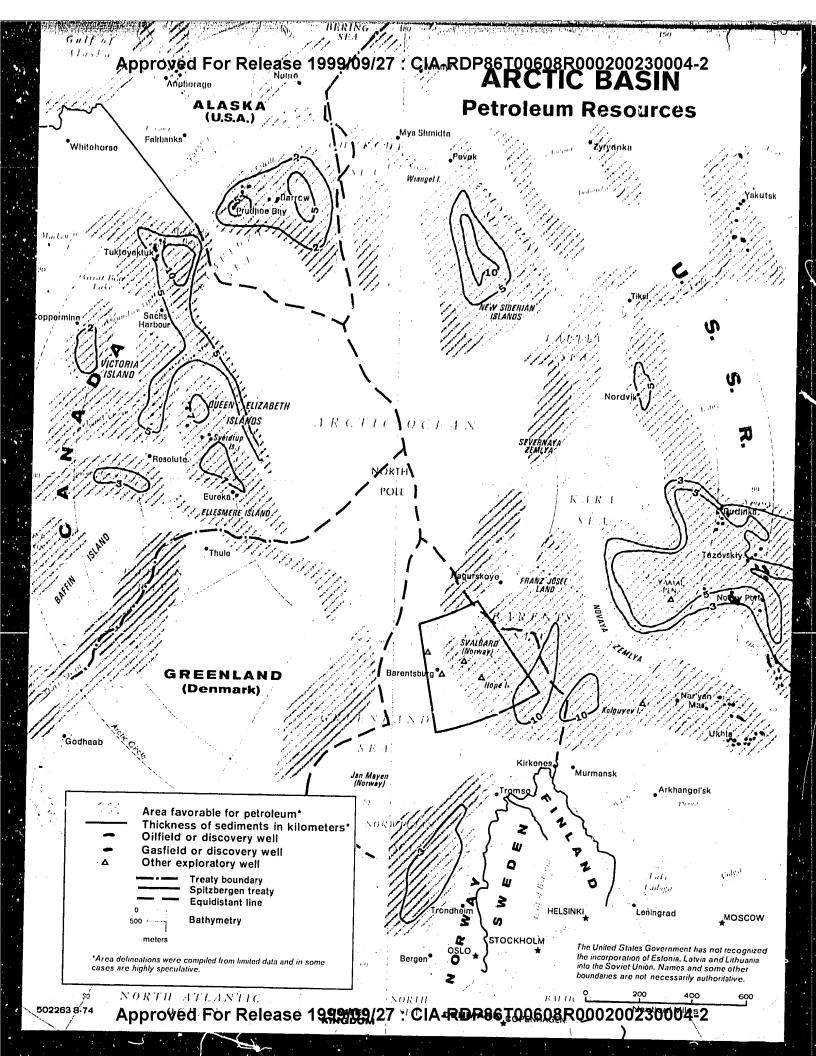
The Arctic Ocean basin, particularly the huge continental shelf of the USSR, is believed to contain some of the largest, and generally least exploitable, petroleum deposits in the world. Optimistic but highly speculative estimates of potential reserves are based largely on extrapolation from onshore geology combined with limited geophysical data derived from scientific surveys. Assessments will gradually become more realistic as a result of oil exploration now underway in several areas (Map A). (U)

The economic importance of future petroleum discoveries may depend as much on the environmental conditions at the site as on the size of the deposit. The severe climate alone causes petroleum extraction in the Arctic to be more difficult and costly than in more ten rate regions. shore, the problem is greatly exacerbated by landfast ice along the coasts and the drifting icepack in the central basin. The icepack thickness averages 2 to 3 meters (6 to 10 feet), and drift rates are up to several miles or more per day throughout the year. Except in those parts of the Barents and Norwegian Seas which are permanently free of ice, offshore drilling from ships or floating platforms is feasible only during the short summer, and drilling from landfast ice is restricted to the winter season. Permanent drilling platforms would be subject to massive forces from moving ice. Underwater drilling and completion techniques offer some promise but would be endangered in much of the area by bottom scouring from ice ridges and icebergs which have drafts of as much as 50 meters and more than 100 meters, respectively. (U)

Several of the possibly oil-bearing geological structures are located in areas where national boundaries have not yet been delimited over the continental shelf. Jurisdiction over other potential deposits could be affected by a new continental shelf treaty establishing new distance and/or depth criteria for coastal state jurisdiction. Any conceivable outcome of future negotiations, however, will leave the USSR with jurisdiction over by far the largest share of the potential petroleum-bearing areas of the Arctic continental shelf. (Table and Map A). (OUO)

USSR

The USSR continental shelf in the Arctic, which is approximately bounded by the 500-meter isobath, covers more than one million square miles. This area accounts for two-thirds of all the USSR shelf area and is nearly twice the size of the total U.S. continental shelf. Soviet specialists have estimated that about 80 percent of the Soviet Arctic shelf has oil and gas potential and that this area contains two-thirds of all USSR offshore petroleum reserves. (U)



ARCTIC SEABED AREAS

 $(1,000'S NM^2)*$

					1.7						
	METERS										
	0-200	200-500	500-3,000	3,000	TOTAL	0-200					
USSR	925 (61%)	220 (36%)	295 (26%)	265 (36%)	1,705 (43%)	1,280 (42%)					
CANADA	305 (20%)	125 (21%)	310 (28%)	180 (24%)	920 (23%)	·670 (22%)					
NORWAY	100 (7%)	140 (23%)	235 (21%)	130 (18%)	605 (15%)	520 (17%)					
GREENLAND	90 (6%)	105 (17%)	165 (15%)	100 (14%)	460 (12%)	390 (13%)					
ALASKA	85 (6%)	10 (2%)	75 (7%)	60 (8%)	230 (6%)	145 (5%)					
ICELAND	5 (0%)	7 (1%)	35 (3%)	3 (0%)	50 (1%)	50 (1%)					
TOTAL	1,510 (100%)	605 (100%)	1,115 (100%)	740 (100%)	3,970 (100%)	3,055					

^{*}Includes area of Arctic Ocean and connecting seas southward to the Arctic Circle; allocated between individual countries to equidistant lines shown on fold-out map.

Soviet capabilities for offshore Arctic exploration range from exceptionally good to inferior. The importance of the Arctic land area to the USSR economy has resulted in substantial transportation and scientific activities in the area and has led to the development of a large cadre of skilled personnel. The USSR, however, lacks sophisticated marine exploration technology and has only a primitive offshore drilling capability. At present only about 2 percent of USSR oil production is obtained from offshore deposits, all from areas where water depths are less than 60 meters. (U)

These weaknesses are being overcome by a greater commitment of resources and by infusion of Western technology. The 800-man Scientific Research Institute of Arctic Geology (NIIGA) has long carried out geological surveys of the Arctic mainland and islands, and since the early 1960's it has

collected extensive aerial and surface geomagnetic data offshore. In 1967 the All-Union Scientific Research Institute for Marine Geology and Geophysics (VNIImorgeo) was organized to map and evaluate the resources of the entire USSR littoral area. (U)

Offshore mineral exploration was made a priority goal of the current Five-Year Plan (1971-75). This commitment was followed by the formation of new exploration organizations and acceleration of exploration activity. Within the Arctic, the Barents Sea was listed as a primary target. Administratively, the Arctic program was strengthened in 1972 by establishment of a new organization -- Sevmorgeo (Northern Marine Geological-Geophysical Association) -- that absorbed NIIGA and several regional geological units. Sevmorgeo's assignment is to study the geological structure and mineral resources of the seabed along the entire USSR Arctic coast. (U)

Although accounts cite favorable structures in all of the USSR's Arctic Seas, the Barents and Kara Seas are generally believed to contain the best petroleum basins. The Barents Sea is the most accessible for study, being the most ice-free, and Sevmorgeo has focused its efforts here thus far, particularly around Svalbard where three exploration ships were reported working in 1973. Aerial magnetic and reconnaissance seismic and hydromagnetic surveys in the southeastern Barents Sea have established the continuation of petroleum-bearing continental structures. Some seismic surveying has also been done around the Yamal Peninsula in the Kara Sea. Only small-scale geological and geophysical surveys (mainly aerial magnetic) have been conducted in the other seas, determining the depth of basement rock and locating the major sedimentary basins. (OUO)

Notwithstanding the increasing pace of Arctic exploration, the USSR is not likely to move quickly toward exploitation -- mainly because there are vast reserves in more accessible regions. The Soviet Minister of Geology recently noted that "this is our future." Any commercial development would probably require Western assistance. Some preliminary discussions have already been held with Western firms regarding exploration in the southeastern Barents Sea and the Kara Sea. (C)

Canada

Most of Canada's relatively small continental shelf in the Arctic Ocean proper (much of the offshore area identified in the Table lies within the Arctic Archipelago) is believed to have good petroleum potential. Almost all of the Arctic continental shelf, delimited by the 500-meter isobath, lies within 100 miles of the Canadian coast. The petroleum potential of the seabed beyond the 500-meter isobath has not been examined and is of no practical interest since ice cover and water depth prohibit exploitation in the foreseeable future. (U)

The Arctic Archipelago and the Mackenzie Delta have been the scene of extensive and rewarding exploration activities since 1968. In both areas oil and gas discoveries are on the verge of being large enough to justify construction of pipelines to markets in the south. To date some 70 exploratory wells have been drilled in the Archipelago and More than 50 in the Delta. Several offshore wells have confirmed the continuation of onshore deposits. Drilling off the Delta has been from man-made islands in less than 3 meters of water and within 8 miles of shore. An exploratory well off Melville Island was recently drilled from the landfast ice in more than 120 meters of water. Plans are also being made to drill farther off the Delta from an ice-strengthened ship during summer, when the Beaufort Sea is partly ice-free. (U)

The Canadian shelf to 200 meters has been fully leased for exploration, and some lease blocks extend offshore to depths of more than 1,000 meters. Extensive seismic and gravity surveys have been conducted over much of this area. A seismic profile extending 135 miles offshore from one of the Arctic islands revealed good secimentary rock thickness to the continental slope. Surveys around the Mackenzie Delta show that thick sediments and many apparent salt domes — often associated with oil — occur on the continental shelf up to 100 miles from shore. (U)

The total recoverable petroleum reserves of Canada north of the 60th parallel has been estimated, based on the limited data available, at 70 to 120 billion barrels of oil and 9.3 to 15 trillion cubic meters (330 to 530 trillion cubic feet) of gas.* About half of this potential

^{*} For comparison, 1973 U.S. consumption was about 6.3 billion barrels of oil and 0.65 trillion cubic meters (23 trillion cubic feet) of gas.

is believed to be located offshore. Excluding the channels between Canada's Arctic islands, the most promising offshore area is north of the Mackenzie Delta, extending to about 100 miles from shore and into waters as deep as 200 meters. This prospective basin may continue offshore to the Prudhoe Bay deposits in Alaska. Canada and the United States have not yet delimited their offshore boundary through this area. (U)

Norway

Norway is currently concentrating its petroleum exploration and development efforts in the North Sea, where several large oil and gas fields have been discovered during the last few years. Production from these new discoveries is expected to exceed Norwegian consumption by 1975. has granted offshore concessions only as far north as 62° in an attempt to postpone the disruptive effect that petroleum development will bring to the existing economic and social order of more northern areas. Privately, the Norwegian Government has also expressed concern about possible Soviet reactions to offshore activity in this strategic submarine passage. The complete results of extensive government-sponsored seismic and gravity surveys to the north of 62° have not been made public but are reported to have revealed large and promising sedimentary structures; the area will probably be opened to limited concessions by 1975 or 1976. (C)

Under Norway's interpretation of the Spitsbergen Treaty, the present prohibition on commercial exploration in the north also applies to Svalbard's continental shelf beyond the 4-mile territorial sea. Petroleum exploration concessions have been granted on Svalbard itself since 1960 and now cover much of its land area and portions of its territorial Exploratory drilling has already been carried out on several of the islands by U.S. and West European firms, with Norwegian participation. Some of the petroleum concession areas are held by Arktikugol, the Soviet coal mining trust on Svalbard, which is drilling on the main island in 1974. Generally, the drilling results have not been released, but continued high interest and what is known of geological structures indicate a potential for important discoveries in the relatively ice-free and shallow seas to the southeast of the main islands. (U)

In February 1974 the USSR proposed to Norway a draft agreement for scientific cooperation in the area covered by the 1920 Spitsbergen Treaty (fold-out map). The agreement proposes joint research in a broad spectrum of scientific

fields and notes that the Soviet agencies implementing the agreement would be Sevmorgeo and Arktikugol, developmental arms of the Soviet Ministry of Geology. This choice of organizations reveals the practical thrust of Soviet intentions: from a purely scientific standpoint the Arctic and Antarctic Scientific Research Institute (AANII) would have been the more appropriate organization to conduct many of these research programs. (C)

The fact that the USSR-proposed agreement includes references to oceanographic and seabed research and would apply to the entire area covered by the Spitsbergen Treaty suggests a Soviet attempt to associate the Treaty with activities on and above the continental shelf. Under its interpretation of the Treaty, the USSR has felt no obligation to request Norwegian approval for the extensive geophysical research which it has carried out over the Svalbard shelf during the last several years. Norway considers these Soviet actions to be a violation of her sovereignty but apparently has not made an official protest. (C)

Although the USSR rejects Norway's claim that the Svalbard shelf comes under the sole jurisdiction of Norway, Soviet authorities seem reluctant to accept the full implications of the reverse position — that all Treaty signatories have equal rights to petroleum exploitation on the shelf. In recent negotiations with Norway, Premier Kosygin expressed reluctance to see "foreign" involvement in oil development in the Barents Sea and suggested that Norway and the USSR might cooperate in the oil operations. This attitude is consistent with other indications that the USSR is concerned about future U.S. installations astride the strategic Barents Sea waterway. (C)

Denmark

Oil discoveries in Arctic North America and northern Siberia have stimulated Danish interest in the possibility of similar finds in Greenland and the surrounding offshore areas. Areas of favorable geological structure have been identified along portions of both the western and eastern coasts, probably extending seaward to the 500-meter isobath, which marks the edge of the continental shelf. From 1969 to 1972, when all permits expired, the Danish Government granted petroleum exploration licenses covering all the favorable areas of the continental shelf to more than a dozen Danish and foreign firms. Prospecting was of a general exploratory nature, but included geological, seismic, and

magnetic surveys. Survey results have not been reported, but continued interest on the part of the exploration firms suggests that they were encouraging. Denmark is now preparing to lease areas off the west coast to the south of 72° and will soon begin negotiations with the companies that have already done survey work. The first actual drilling on the leases will probably not begin before 1976. (OUO)

Alaska

Alaska's North Slope petroleum province is believed to extend out from the coast to the edge of the continental shelf. Within this belt the giant Prudhoe Bay field, which has been drilled only on land, is estimated to have recoverable reserves of more than 10 billion barrels of oil and 850 billion cubic meters (30 trillion cubic feet) of gas. Speculative estimates of the oil and gas potential for all of Arctic Alaska are 40 to 120 billion barrels and 6 to 16 trillion cubic meters (200 to 550 trillion cubic feet), respectively. Some specialists estimate even larger deposits and have speculated that half of the potential may be offshore in the continental shelf. Oil production from Prudhoe Bay is expected to begin moving to markets through the Trans-Alaska Pipeline in 1977 or 1978; gas deliveries will probably begin a few years later via a pipeline through Canada. pletion of these and other pipelines will stimulate production from other fields on the North Slope. (U)

Alaska's Arctic Ocean continental shelf covers about 100,000 square miles to the 500-meter isobath and extends from 15 to 300 miles offshore. Reconnaissance geophysical surveys have been carried out over a large part of the area, and extensive detailed surveys are being planned. No exploration drilling has taken place offshore. A 1969-70 reconnaissance survey in the Chukchi Sea traced promising sedimentary structures over an area of 65,000 square miles to a distance of more than 200 miles west and northwest of the mainland. (U)

TRANS PORTATION

Transportation is a basic and often the most expensive factor in any Arctic activity. Capabilities for both air and sea transportation in the Arctic have reached the stage where all points on the Arctic Ocean are accessible by ice-breaker or aircraft. New super icebreakers on the drawing boards will have a theoretical capability to move across the very center of the ocean. (U)

Both sea and air routes have developed almost exclusively within national, rather than international, frameworks to support specific projects and regional economic needs (Map B). Even international air routes tend to skirt the central Arctic, mainly because significant traffic flows have not developed between points on opposite sides of this large region. (U)

The most important Arctic transportation service is the Northern Sea Route (NSR) system of the USSR, an enterprise that has received large capital investments since the 1930's. The NSR stretches some 3,400 miles from Murmansk to the Bering Sea, linking about 20 ports with the outside world during a 3- to 4-month summer navigation season. Several hundred ships use the route annually, but relatively few make the complete transit. Nearly half of the total three million tons of cargo consists of exports of ores from Noril'sk and timber from Igarka. (The much larger volumes handled by ports on the Barents and White Seas and the 350,000 tons of coal annually shipped by the USSR from Svalbard are not included in the NSR total.) In recent years, a growing share of the USSR's Arctic transportation requirements have been served by the river routes that connect the Arctic Ocean with railroad routes farther south. (U)

Icebreaking capability on the NSR is provided by a fleet of some 15 icebreakers, including the 40,000-horsepower nuclear-powered Lenin. This fleet is supplemented by at least 12 ice-strengthened transports that have a limited capability to clear channels for other ships. The Yermak, the first of three new 36,000-horsepower, deisel-powered icebreakers, entered service this year. Next year. the Arktika, the first of a new series of two 60,000-horsepower nuclear-powered icebreakers, will become operational. These ships, larger than any icebreakers operated by other countries, are apparently designed to extend the shipping season in the western Soviet Arctic to 6 to 9 months. (U)

Operation of the NSR requires a huge investment in ancillary services and has provided part of the economic justification for the USSR's impressive research effort in the Arctic Ocean. In 1967 the USSR "offered" use of the NSR to foreign commercial vessels, but no foreign shipowners accepted, and the offer was withdrawn in 1968. (U)

SLCRET

In Canada, marine transportation to Arctic ports is provided by the Canadian Coast Guard and several private shipping companies. The operations consist entirely of resupply of northern settlements in the Arctic Islands and the Mackenzie Delta. There is no cargo service through the Northwest Passage between eastern and western Canada and no shipment of mineral resources or heavy industrial products out of ports north of the Arctic Circle. shipments into ports in the Arctic Islands amount to a few tens of thousands of tons annually. A somewhat larger amount of traffic is carried into the Mackenzie Delta by barges down the river and by ocean freighters around Alaska. To service these routes and to conduct Arctic research Canada has six icebreakers -- ranging from 6,500 to 24,000 horsepower -as well as several specialized northern supply vessels. (U)

The development of oil and gas fields in the northern Canadian Arctic is causing an increase in cargo shipments, but plans call for the petroleum output to be moved south by pipeline. In 1969 the U.S. icebreaker/tanker Manhattan traveled through the Northwest Passage to the Beaufort Sea, demonstrating the feasibility, if not the economic practicability, of using tankers to ship oil from the high Arctic. Interest in transporting oil through the Arctic Ocean by tankers has since waned because the Manhattan test showed only that the route could be used during summer and because subsequent stringent Canadian pollution legislation would raise tanker construction and operating costs. (U)

Of the other countries that border the Arctic Ocean only the United States carries out regular ship operations in ice-covered waters north of the Arctic Circle. Norway operates a regular shuttle service without icebreaker support to Svalbard during the summer season. Denmark's Ministry of Trade and Shipping controls one medium and one small icebreaker that are used to assist shipping, primarily around southern Greenland. A commercial Danish firm also owns a small fleet of ice-strengthened merchant ships that are used in Greenland waters and are chartered by other nations for use in Arctic as well as Antarctic waters. (U)

United States ship activity in the Arctic Ocean primarily serves scientific and surveying purposes rather than commercial needs. The only cargo service to the northern coast of Alaska, to Point Barrow and Prudhoe Bay, amounted to less than 200,000 tons in 1972. Further development of marine transportation to northern Alaska is impeded by the lack of a deepwater port.

The United States presently has seven icebreakers available for Arctic and Antarctic duties. During the next 2 years two very large (60,000 horsepower) new icebreakers will provide a substantially increased capability for Arctic operations. (U)

FISHERIES

Fisheries north of the Arctic Circle are most highly developed in the relatively ice-free waters of the Barents and Norwegian Seas. Locally important fishing activities off Greenland are carried out primarily to the south of the Arctic Circle along the western and southern coasts. The more extensive ice cover in the remainder of the Arctic Ocean not only impedes development of fish stocks by reducing phytoplankton production but also hampers the operation of trawler fleets. In recent years the gradual cooling of Arctic waters and consequent southward migration of the icepack have pushed fisheries farther to the south; Soviet fishing officials have attempted to compensate for this situation by improving ice forecasting procedures and by constructing special trawlers to operate along the ice margin. (U)

The total annual catch in the Barents and Norwegian Seas averages around 3 million tons, nearly 5 percent of the total world catch. By far the greater part of this catch is taken in waters to the north of the Arctic Circle. The most productive grounds are over the shallow parts of the continental shelf around Norway, Svalbard, and the Kola Peninsula of the USSR. (U)

The Soviet Northern Fisheries Fleet, based in Murmansk, has an annual catch of more than 1 million tons. The Barents and Norwegian Seas each provide about 300,000 tons of this total; the remainder comes from more distant grounds in the Atlantic. Within the Barents Sea the Soviet Fleet has gradually assumed an increasing share of the catch and now has a near monopoly in the eastern part adjoining the USSR coast. Agreements with the United Kingdom and Norway to allow fishing within specified portions of Soviet territorial waters in the Arctic were terminated in 1962 and 1970, respectively. (U)

Norway is Western Europe's most important fishing nation, with an annual catch of nearly 3 million tons. In contrast to the large distant-water trawler fleets operated by the

USSR, the Norwegian fleet has traditionally consisted mainly of small and medium-sized vessels that operate out of settlements along the central and northern coasts. Overfishing and strong foreign competition in traditional fishing areas have in recent years forced Norway to turn increasingly to distant-water fishing, which now nearly equals coastal fishing in total catch. The competition from Soviet, British, and West German fishermen has also resulted in vigorous political agitation for government protection of domestic fishing interests. Consequently, in Law of the Sea negotiations Norway supports a coastal state exclusive fishing zone of 50 to 200 miles. (U)

SCIENTIFIC PROGRAMS

Scientific activities in and over the Arctic Ocean include the normal spectrum of environmental data gathering and research that are commonly performed in other ocean areas. In addition, a significant portion of the total scientific effort is related to the ocean's ice cover and to geophysical phenomena associated with its polar location. The latter category includes research on the effect of the earth's magnetic field on atmospheric events, and measurements of aurora, radio propagation, and energy particles. (U)

The USSR's scientific effort in the Arctic greatly exceeds the combined efforts of all other nations. More than 100 scientific stations on land, many research and merchant ships, and specially equipped aircraft collect data that are used chiefly to support shipping along the Northern Sea Route. Of the research centers north of the Arctic Circle, Murmansk has been visited occasionally by U.S. scientists, and the Krenkel Observatory on Franz Josef Land has periodically been used as a site for a cooperative space program with France. The other research stations are off limits to foreigners (Map C). (C)

Since 1937, the USSR has established 22 manned scientific research stations on the drifting Arctic icepack. In recent years two or three of these drift stations have been operated year-round as research bases; they also function in the spring as aircraft support bases for a wide-ranging oceanographic research program over the entire Arctic basin. To date, thousands of sites on the icepack have been visited by Soviet aircraft operating from stations on the ice and from shore bases. Both aircraft and ships are also used

each year to establish about 20 automatic stations, which report environmental conditions during their drift across the Arctic. In addition to this largely civilian effort, one or more large temporary camps are established each spring by the Soviet Navy to conduct hydrographic, acoustical, magnetic, and possibly other types of research. (S)

The primary responsibility for Soviet Arctic research is held by the Arctic and Antarctic Scientific Research Institute (AANII), which has a staff of 1,500 headquartered in Leningrad. In 1967 AANII conceived an ambitious program called POLEX (Polar Experiment), which has integrated and expanded previously existing research into a decade-long study of air-sea-ice interaction over the entire Arctic tasin. POLEX has been recognized as part of a worldwide effort of the international scientific community and has been coordinated with scientists from the United States and other Arctic nations. (U)

U.S. Arctic research is centered primarily in and around Alaska, with lesser commitments in northern Canada and Greenland and over the Arctic Ocean proper. Unlike the USSR, the United States has not established a large organizational structure to systematically plan and execute large programs over the entire Arctic basin. The National Science Foundation is the lead Agency for U.S. Arctic research, although the Navy devotes more funds to Arctic Ocean studies. The United States has operated an average of one drifting ice station per year since 1951 and has established a few automatic stations and temporary camps, but not on the same scale as the USSR. Some multi-sensor ice reconnaissance flights are also carried out -- most of them by the Navy -- over the Canadian, Greenland, and Alaskan sectors. (U)

Since 1969, planning and preliminary work has been underway on the most complex Arctic Ocean research program so far devised by the United States: the U.S.-Canadian Arctic Ice Dynamics Joint Experiment (AIDJEX) will conduct measurements from an array of manned and unmanned drift stations as well as submarines and aircraft to determine the largescale response of sea ice to its environment. Efforts to integrate the AIDJEX and POLEX programs have made some progress but have been hampered by the extreme Soviet sensitivity toward foreign activities in "their" Arctic area. (C)

A new research program being planned by the National Science Foundation, if approved, would increase U.S. research in support of petroleum development. The program is intended

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to coordinate and expand several agencies' research in marine sciences, ice phenomena, geophysics, and environmental impact assessments, and to interpret the data for practical use. (U)

Aside from limited participation in international projects such as AIDJEX and POLEX, the other Arctic nations lack the means to perform a significant amount of research much beyond their Arctic littoral. Canada's Arctic research is conducted by several ministries and a number of universities from a sparse network of permanent research stations and a larger number of field research camps. Additionally, extensive survey work has been conducted on and around the northern islands by mineral and petroleum firms. Arctic Ocean, Canada is working with the United States on the AIDJEX program and has also done some work at temporary ice stations in the nearshore zone. From March to October systematic aerial surveys of sea ice are carried out over the main waterways between the Arctic islands and over the Beaufort Sea and the Arctic Ocean. The Department of Energy, Mines, and Resources coordinates Arctic research through its Polar Continental Shelf Project, begun in 1959 to study the continental shelf, the waters, and the Arctic islands. Research encompassed by the Project includes any activity judged to be in the national interest that could not be carried out without its support. (U)

Norway's Polar Institute in Oslo has long been an international leader in polar exploration and is a leading national center in geological and terrestrial geophysical studies. It is concerned mainly with research in Svalbard, where studies are carried out each summer, usually together with research parties from several other nations. Much of Norway's work is carried out in conjunction with the USSR: coordinated fisheries expeditions are annually conducted in the Barents Sea, and the USSR has proposed a comprehensive agreement to provide for joint research and exploration on and around Svalbard. (C)

Research on Greenland also has a strong international flavor. Besides the large U.S. participation in geophysical and weather studies at Thule and glaciological studies on the ice cap, Soviet, French, and UK parties have conducted geological and biological research on the island. (U)

MILITARY AND STRATEGIC INTERESTS

Until well after World War II the only parts of the Arctic Ocean that had military significance were the Norwegian and Barents Seas, where naval vessels are able to operate in the relatively ice-free waters. In the mid-1950's the development of long-range aviation and the respective military postures of the USSR and the United States gave new significance to the Arctic's location beneath the shortest air routes between the two countries. On the North American side the United States, in cooperation with Denmark and Canada, built about 50 Distant Early Warning (DEW Line) installations strung across northern Alaska, Canada, and Greenland (Map B). Major airbases were also constructed by the U.S. in Alaska and at Thule, Greenland, and by the USSR in the Soviet North. In the 1960's, as missiles became the primary threat, many DEW Line sites were abandoned or replaced by larger radars built to detect missiles launched across the Arctic. (C)

The potential for offensive military operations on or beneath the ice cover of the Arctic Ocean is not well defined nor understood. Nevertheless, both the USSR and the West show a high degree of interest in maintaining their options and are sensitive to military activities of the other in the region. The principal Soviet and U.S. military interests in the ice-covered part of the Arctic Ocean are in under-ice submarine reconnaissance and transit, and in scientific and surveillance programs. There is no evidence of an intention to develop submarine ballistic missile launch capabilities from under the ice. On the other hand, the marginal ice zone may be a favorable operating environment for submarines attempting to avoid detection. (S)

A new element has been introduced during the last year as the USSR began introducing the new SS-N-8 submarine missile into its operational fleet. This missile's range of more than 4,000 miles enables it to reach U.S. targets from the ice-free portion of the Barents Sea, near Soviet territory,

25X4

USSR military facilities in the Arctic are more extensive than those of any other nation and include elements of naval, air, ground, and rocket force units. By far the most important operational facilities are located on the Kola Peninsula around Murmansk, base of the Northern Fleet. Naval missile test ranges are located in the White and Barents Seas, away

from foreign ship lanes. One of the two main Soviet nuclear test sites and a naval base are on Novaya Zemlya. Military aircraft use about 10 airfields on the Arctic coast and offshore islands, and long-range bombers routinely fly missions over the central Arctic. Aircraft and ballistic missile early warning radars are concentrated around the Barents and White Seas, which the USSR believes to be a probable corridor of foreign attack. (S)

The Northern Fleet, the largest of the four Soviet fleets, is concentrated around Murmansk because this is the only port complex in the western USSR that is both on the open sea and free of ice all year. All naval units operating in the Atlantic and more than half of the USSR's nuclear submarines are controlled by the Northern Fleet. Navy exercises are regularly conducted within about 30 miles of the Kola Peninsula. In general, advanced submarine operations are increasingly being carried out in the Norwegian rather than in the Barents Sea because of the Fleet's growing capability for distant operations. (S)

Soviet submarine under-ice operations are not numerous but are approximately twice the level of U.S. activities. An under-ice probe, apparently in conjunction with hydro-acoustic experiments at drifting ice stations, is conducted about once a year. Complete cross-polar transits were a significant activity between 1963 and 1968, when as many as eight crossings were made.

Soviet defense forces vigorously enforce their control over the USSR's 12-mile territorial sea to minimize Western surveillance of Soviet Navy exercises and missile ranges. Apparently because of the widespread presence of military installations throughout the Arctic, the entire region is, de facto, closed to foreigners with the exception of occasional carefully controlled visits to Murmansk. Submarine-related areas and topics are especially sensitive. Soviet authorities continue to be security conscious about transfers of naval vessels along the NSR and about under-ice operations. In 1974 the Soviet Navy began to acquire new armed icebreakers, suggesting a continuing interest in controlling ice-infested waters. (S)

Norway, a member of NATO, considers its principal military objectives to be the defense of its northern border with the USSR and surveillance of the Arctic Ocean. Most active troops are stationed in northern Norway, an area vulnerable

25X6

25X6

to Soviet subversion or expansionist aims.

Navy is designed primarily for coastal defense and protection of shipping. (S)

The Norwegian Air Force operates from five joint military/civil airfields north of the Arctic Circle, but it has only minimal air defense, tactical air, and transport capabilities. A new airfield being constructed on Svalbard cannot be used by the Air Force because of the non-militarization provisions of the Spitsbergen Treaty. Norway also operates key earlywarning radar sites that monitor Soviet air traffic over the Arctic. (S)

During the last year or so the Norwegian Defense Ministry has stated its intention to bolster defense forces to meet the increasing need to protect Norway's coastal fisheries and the potential need to guard oil installations on the northern continental shelf. The latter concern stems from an awareness of the possibility of conflict with the USSR over allocation of the seabed as well as a belief that the Soviet Union will demand some control over structures on the Norwegian portion of the shelf. (C)

The Arctic military interests of Canada and Denmark are closely interwoven with U.S. plans for defense of North America. Their primary role has been to provide sites for U.S.-operated airbases and aircraft and missile warning systems.

25X6

25X6

OUTLOOK

The five countries bordering the Arctic Ocean have many common Arctic problems but diverse national interests. There is little prospect that growing awareness of their common concerns will persuade them to agree on a special international legal regime for the Arctic. Mutual interests

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in science, pollution control, and economic development -- which might lead to some form of Arctic agreement or compact -- are outweighed by the USSR's interest in maintaining its absolute sovereignty and freedom of action in its sector of the basin. (C)

Economic development in Arctic Ocean coastal and offshore areas is certain to accelerate. Petroleum prospecting will gradually be extended farther to the north in several areas where government policies have postponed development, and production from offshore deposits in the Arctic Ocean will begin by the 1980's. (U)

Improvements in transportation capabilities will keep pace with economic growth. Air transportation development requires a relatively short leadtime and thus responds quickly to requirements. An improvement in shipping capabilities, on the other hand, requires a long period for vessel and port construction, but it will be necessary for large-scale petroleum exploitation. New icebreakers being acquired by the USSR and the United States promise to substantially extend the length of the operating season and to expand the areas open to shipping. (U)

Fishing will continue to be an important activity, but only in the Barents and Norwegian Seas. Already the USSR has a near monopoly on fishing in its sector, and Norway is determined to broaden its exclusive fisheries zone along its mainland coast. There is no indication that Norway will attempt to claim an exclusive fisheries zone around Svalbard's territorial sec. (U)

Impetus for Arctic cooperation has come primarily from scientists. Some cooperative research and data exchange will continue to take place among all of the countries in recognition of cost-sharing efficiencies and because many problems can be solved only by data collection over the entire region. The USSR is less in need of cooperation than are the other nations because of its superior data-collection capability and the liberal data-release policies of the other countries. (000)

Except for the USSR, the Arctic Ocean is of marginal military interest to the bordering countries. The Soviet interest derives mainly from the location of important military facilities along the ice-free coast of the Barents Sea. Strict security policies will remain in force throughout

the USSR Arctic because military installations are located in nearly every Arctic coastal settlement and sensitive military research takes place at the drifting ice stations. (S)

Arctic sovereignty issues are not likely to be settled soon unless there is a compelling need. Ambiguities in Soviet and Canadian intentions regarding their sector claims for example may not be clarified unless forced by some new development in the area. The USSR seems determined that future sessions of the LOS Conference will not become a forum for such discussions, claiming that any Arctic problems can be solved bilaterally. Continental shelf boundaries are largely undelimited bur should not become particularly contentious except for the USSR-Norway boundary in the Barents Promising oil and gas prospects in that area and sharp differences over the proposed method of delimitation are likely to lead to hard bargaining and some deviations from the equidistant line in favor of the USSR. The USSR is also expected to demand some restrictions on Western military activities on Norway's Arctic continental shelf. Furthermore, both the USSR and Canada are determined to maintain control over their Arctic water routes, contending that Arctic straits are not international waterways. (C)

Probably the most important and potentially contentious sovereignty issue in the Arctic concerns jurisdiction over the continental shelf around Svalbard. Norway has no pressing economic need to exploit the mineral resources of the Svalbard shelf. If exploration rights are eventually granted, they will probably be given to the State-owned company. Statoil. Western firms will probably be reluctant to invest heavily in exploration beyond Svalbard's territorial sea without Norwegian approval. The USSR will probably continue to seek a preferred relationship vis-a-vis Norway, with the hope of eventually establishing Svalbard as a condominium. The USSR is not expected to accept any settlement of the Svalbard issue that would give Western countries unrestricted control over offshore structures in the Barents Sea. (C)

