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"I am convinced that non-renewable resources need not necessarily be the sole basis of the northern economy in the future. We should not place absolute faith in any model of development requiring large-scale technology. The development of the whole renewable resource sector -- including the strengthening of the native economy -- would enable native people to enter the industrial system without becoming completely dependent on it.

An economy based on modernization of hunting, fishing and trapping, on efficient game and fisheries management, on small-scale enterprise, and on the orderly development of gas and oil resources over a period of years -- this is no retreat into the past; rather, it is a rational program for northern development based on the ideals and aspirations of northern native peoples.

To develop a diversified economy will take time. It will be tedious, not glamorous, work. No quick and easy fortunes will be made. There will be failures. The economy will not necessarily attract the interest of the multinational corporations. It will be regarded by many as a step backward. But the evidence I have heard has led me to the conclusion that such a program is the only one that makes sense."

--Justice Thomas R. Berger
NORTHERN FRONTIER, NORTHERN HOMELAND
The Report of the Mackenzie Valley
Pipeline Inquiry: Volume One
April 15, 1977

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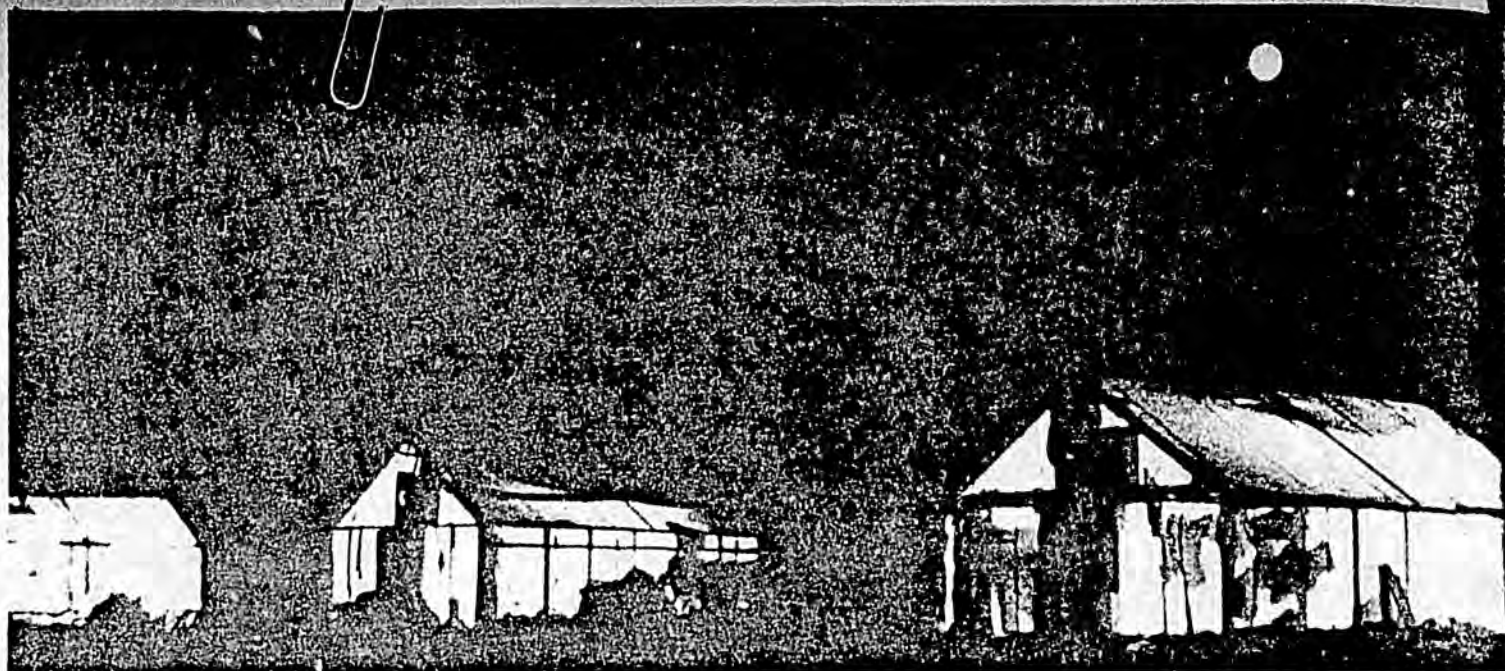
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Hunting camp near Fort Resolution. (R. Fumelleau)

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Postponement of the Pipeline

In my judgment, we must settle native claims before we build a Mackenzie Valley pipeline. Such a settlement will not be simply the signing of an agreement, after which pipeline construction can then immediately proceed. Intrinsic to the settlement of native land claims is the establishment of new institutions and programs that will form the basis for native self-determination.

The native people of the North reject the model of the James Bay Agreement. They seek new institutions of local, regional and indeed territorial government. John Ciaccia, speaking to the Parliamentary Committee convened to examine the James Bay Agreement, said that the Government of Quebec was "taking the opportunity to extend its administration, its laws, its services, its governmental structures through the entirety of Québec." [The James Bay and Northern Québec Agreement, p. xvi] The Dene and the Inuit seek a very different kind of settlement.

They also reject the Alaskan model. The Alaskan settlement was designed to provide the native people with land, capital and corporate structures to enable them to participate in what has become the dominant mode of economic development in Alaska, the non-renewable resource sector. This model is only relevant if we decide against the strengthening of the renewable resource sector in the Canadian North.

The Alaskan settlement also rejects the idea that there should be any special status for native people. That is a policy quite different from the policy formulated by the Government of Canada. In Alaska the settlement was designed to do away with special status by 1991 and to assimilate Alaskan

natives. The Government of Canada faced that issue between 1969 and 1976 and decided against it.

The issue comes down to this: will native claims be rendered more difficult or even impossible of achievement if we build a pipeline without first settling those claims? Must we establish the political, social and economic institutions and programs embodied in the settlement before building a pipeline? Unless we do, will the progress of the native people toward realization of their goals be irremediably retarded? I think the answer clearly is yes. The progress of events, once a pipeline is under construction, will place the native people at a grave disadvantage, and will place the government itself in an increasingly difficult position.

In my opinion a period of ten years will be required in the Mackenzie Valley and Western Arctic to settle native claims, and to establish the new institutions and new programs that a settlement will entail. No pipeline should be built until these things have been achieved.

It might be possible to make a settlement within the year with the Metis, and perhaps to force a settlement upon the Inuit. It would, however, be impossible, I think, to coerce the Dene to agree to such a settlement. It would have to be an imposed settlement.

You can sign an agreement or you can impose one; you can proceed with land selection; you can promise the native people that no encroachments will be made upon their lands. Yet you will discover before long that such encroachments are necessary. You can, in an agreement, promise the native people the right to rebuild the native economy. The influx of whites, the divisions created among the native people, the preoccupations of the federal and territorial

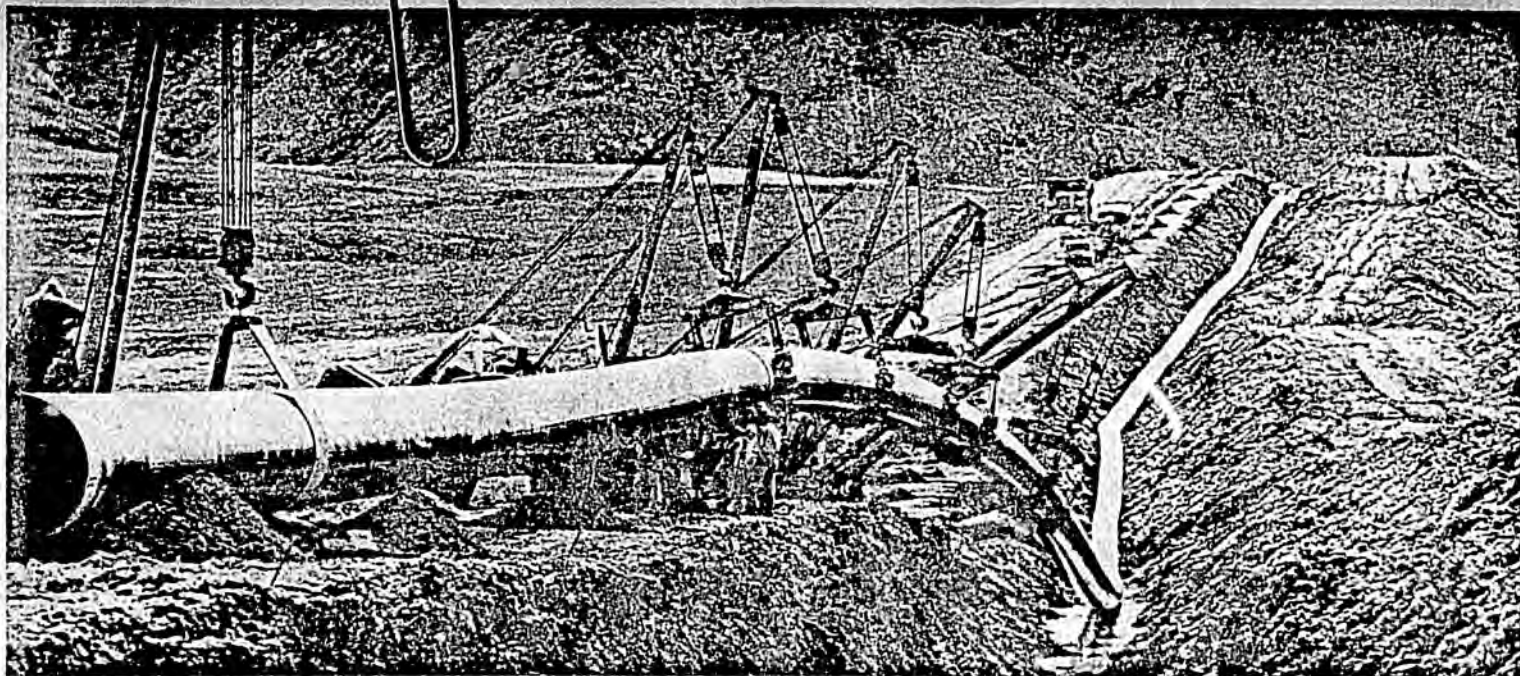
governments, faced with the problems of pipeline construction and the development of the corridor, would make fulfilment of such a promise impossible. That is why the pipeline should be postponed for 10 years.

A decision to build the pipeline now would imply a decision to bring to production now the gas and oil resources of the Mackenzie Delta and the Beaufort Sea. The industrial activity that would follow this decision would be on a scale such as to require the full attention of the government, and entrench its commitment to non-renewable resource development in the North. The drive to bring the native people into the industrial system would intensify, and there would be little likelihood of the native people receiving any support in their desire to expand the renewable resource sector.

If we believe that the industrial system must advance now into the Mackenzie Valley and the Western Arctic, then we must not delude ourselves or the native people about what a settlement of their claims will mean in such circumstances.

It would be dishonest to impose a settlement that we know now — and that the native people will know before the ink is dry on it — will not achieve their goals. They will soon realize — just as the native people on the prairies realized a century ago as the settlers poured in — that the actual course of events on the ground will deny the promises that appear on paper. The advance of the industrial system would determine the course of events, no matter what Parliament, the courts, this Inquiry or anyone else may say.

If we think back to the days when the treaties were signed on the prairies, we can predict what will happen in the North if a settlement is forced upon the native people. We shall soon see that we cannot keep the promises we have made.



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cubic yards. It would be foolish to consider the impact of the borrow requirements of a gas pipeline without taking into account the gravel requirements of an oil pipeline, as well as those of other regional and local projects. Substantial amounts of borrow materials will be required for gas plants and gas-gathering systems in the Mackenzie Delta, for the completion of the Mackenzie Highway and the Dempster Highway, and for airports, not to mention the needs of communities along the route. Gravel provides a quite straightforward example of cumulative impact. There are many other examples, some of them by no means as straightforward, that I shall be dealing with in this report.

The Northern Yukon Corridor and the Mackenzie Valley Corridor

It should be borne in mind that there are two proposed corridors: one across the Northern Yukon and another along the Mackenzie Valley. The following passage from the Pipeline Guidelines makes this plain:

The Government of Canada is prepared to receive and review applications to construct one trunk oil pipeline and/or one trunk gas pipeline within the following broad "corridors":

- i) Along the Mackenzie Valley region (in a broad sense) from the Arctic coast to the provincial [Alberta] boundary;
- ii) Across the northern part of the Yukon Territory either adjacent to the Arctic coast or through the northern interior region from the boundary of Alaska to the general vicinity of Fort McPherson, and thus to join the Mackenzie "corridor"; ... [p. 9]

Arctic Gas propose to build a pipeline from Alaska that would use the corridor across the Northern Yukon as well as the corridor along the Mackenzie Valley. Foothills propose to build a pipeline that would use only the corridor along the Mackenzie Valley.

Arctic Gas propose to transport only Alaskan gas in the corridor across the Northern Yukon, and to transport both Alaskan and Canadian gas in the Mackenzie Valley corridor. Under the Foothills proposal, the Mackenzie Valley corridor would be used to carry only Canadian gas.

Since 1972, as mentioned above, the Government of Canada has assumed that a gas pipeline along either of these corridors would probably be followed by an oil pipeline. That assumption is a sound one: once a gas pipeline is built across the Northern Yukon, there will be every reason for an oil pipeline carrying American oil to follow the same route. You may ask, is not the trans-Alaska pipeline to carry American oil to the Lower 48? The Alyeska pipeline was built to deliver oil to the western states, but the United States still has severe shortages of oil in the midwest and the east. And there are great petroleum reserves in northern Alaska, especially in Naval Petroleum Reserve No. 4 lying to the west of Prudhoe Bay. The urgency of bringing oil from northern Alaska to the markets in the Lower 48 that need it most is obvious. If a gas pipeline and energy corridor were already in place across the Northern Yukon and along the Mackenzie Valley, it is quite likely this corridor would be the route of choice.

Once a gas pipeline is built along the Mackenzie Valley, it is likely that in the future an oil pipeline will follow. Oil has in fact been found in the Mackenzie Delta region. It is said that discoveries of oil in the

Mackenzie Delta and the Beaufort Sea do not justify an oil pipeline today. Nonetheless, while the proven reserves of oil in the Mackenzie Delta region have not yet reached threshold levels, they may do so in time. In any event, it is obvious that if present or future exploration programs reveal large reserves of oil under the Beaufort Sea, the call for an oil pipeline from the Delta to the mid-continent will be made once again.

I think all of this demonstrates the wisdom of the Pipeline Guidelines, which insist that there should be an examination of the impact of an oil pipeline along with the gas pipeline. Any attempt to dismember the policy and to assess the impacts piecemeal, along either the Northern Yukon corridor or the Mackenzie Valley corridor, should be resisted.

The United States' Interest in the Corridor

The Arctic Gas pipeline, if it is built, would provide a land bridge for the delivery of Alaskan gas across Canada to the Lower 48. The implications of this prospect, from the point of view of Canadian policy in the North, should be borne in mind.

The corridor across the Northern Yukon will be an exclusively American energy corridor. The Mackenzie Valley corridor, under the Arctic Gas proposal, will be an American energy corridor as much as it is a Canadian energy corridor. The United States will have an interest in the scheduling of pipeline construction in Canada and, when the pipeline is built, in seeing that it remains safe and secure, because it will be carrying Alaskan gas in bond to the Lower 48. It will be an energy lifeline for the United States,

Trans-Alaska pipeline and gravel haul road.
Sideboom tractors lower pipe into ditch. (Alyeska)

Stockpile of drill pipe. (NFB-McNeill)

Drill rig in the Delta. (Arctic Gas)

Mackenzie Highway right-of-way beside
Mackenzie River. (J. Inglis)



The Corridor Concept

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extending across the Northern Yukon, across the Mackenzie Delta, along the Mackenzie Valley, and then through Alberta, Saskatchewan and British Columbia to the Lower 48. It will supply gas to a complex of industries and urban centres in the United States. The Americans will be dependent on the continuous supply of gas, and the gas being transported from Alaska will be their own gas. Moreover, the United States wants the pipeline to begin to deliver that gas as soon as possible.

There are, of course, pipelines that cross United States territory and carry oil and gas to Canadian markets: the Interprovincial pipeline, which delivers western oil to Ontario; the Portland-Montreal pipeline, which delivers offshore oil to Quebec; and the Great Lakes Transmission Company pipeline, which delivers gas to Ontario. All of them pass through the United States. But these connections cannot be compared in magnitude or impact to the Arctic Gas proposal. They are not pipelines reaching some 2,000 miles from a distant frontier.

The consequences of such American interest in the pipeline are of special concern to the Inquiry. The impact of the pipeline, so far as northern peoples and the northern environment is concerned, will be largely within Canada (the line from Prudhoe Bay to the Alaska-Yukon border is only 200 miles long, whereas the line from the Alaska-Yukon boundary to the Northwest

Territories-Alberta border is 1,000 miles long). The native people's concern over when a pipeline is built, the environmental concern over where it should be built, and the stipulations for protecting the people and the environment apply largely in Canada. The United States cannot be expected to be as concerned as Canada with the seriousness of the social and environmental impact of the pipeline along its route. This difference, coupled with the Americans' rather more urgent need of gas, might result in pressure to complete the pipeline without due regard to the social and environmental concerns in Canada. The risk is in Canada. The urgency is in the United States.

A pipeline 2,200 miles long (in Canada) is a highly vulnerable artery. What measures might have to be taken to forestall an interruption of delivery — an interruption that would affect vital Canadian interests, but even more tellingly, vital American interests? There may be real possibilities for misunderstanding and tension between our two countries, notwithstanding our long history of good relations. These considerations deserve the attention of the Government of the United States as well as of the Government of Canada. It may be that they are not at all daunting. But they should still not be overlooked.

A treaty between Canada and the United States will not cover all possibilities. It will, of course, define the rights of our two

governments with regard to the pipeline and to the gas being transported in that pipeline. And it will establish the ground rules for the transportation of Alaskan gas across Canada to the United States. It cannot do more. I say this because a treaty, although it will regulate the conduct of our two governments, will not necessarily regulate the conduct of the two countries' citizens.

The implications for our relations with the United States of the building and maintenance of the proposed gas transmission system deserve careful consideration by all Canadians. We are not simply considering a proposal to build a pipeline on an isolated frontier. We are considering, in the Arctic Gas proposal, the establishment of an international energy corridor that will cross some 2,200 miles of Canadian territory, opening up wilderness areas that are among the most important wildlife habitat in North America. It will cross lands that are claimed by Canada's native people, a region where the struggle for a new social and economic order and political responsibility is taking place.

It seems to me the question of whether or not there should be a corridor to carry vital energy supplies from Alaska through the heartland of Canada to the Lower 48, is at the threshold of the decision-making process. If Canadians decide that there is to be such a corridor, then we must also consider when it should be established and what route it should follow. These are questions Canadians must decide on their own.



Wilderness

Wilderness is a non-renewable resource. If we are to preserve wilderness areas in the North, we must do so now. The available areas will diminish with each new industrial development on the frontier. We have not yet in Canada developed a legislative framework for the protection of wilderness, but a model exists in the United States.

A century ago, for the first time in history, a tract of land in its natural state was set aside for its own sake, for its intrinsic values, not for the resources it might later provide. That was Yellowstone National Park, and it marked the beginning of the national park system. This idea of preserving unexploited and superb examples of nature was adopted within 15 years in Canada, and it rapidly spread to other nations.

Initially, Canadian and American parks seemed to be designated to preserve natural geological features found in magnificent settings, such as geysers (Yellowstone, 1872) and hot springs (Banff, 1885). In a few years, concern for the giant trees of the Sierra Nevada led to the establishment of Sequoia National Park, and plant life came to be regarded as a valuable component of land in its natural state. Then wildlife was accorded recognition. The idea of preserving wilderness itself continued to develop, culminating in the passage by the United States in 1964 of the Wilderness Act. This Act, in defining wilderness, called it a place:

where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. [p. 1]

I rely here on American experience because I see no difference between the United States and Canada in the perception

of environmental values. I have heard witnesses from Alaska and the Lower 48. What they said about wildlife and wilderness did not distinguish them from Canadians, but rather reinforced my impressions of the values that Canadian society now embraces.

Let me be clear about the importance that is hereby accorded to wilderness. No one seeks to turn back the clock, to return in some way to nature, or even to deplore, in a high-minded and sentimental manner, the real achievements of modern-day life. Rather, the suggestion here is that wilderness constitutes an important — perhaps an invaluable — part of modern-day life; its preservation is a contribution to, not a repudiation of, the civilization upon which we depend.

Wallace Stegner wrote in 1960:

Without any remaining wilderness we are committed ... to a headlong drive into our technological termite-life, the Brave New World of a completely man-controlled environment. ... We simply need that wild country ... [as] part of the geography of hope. [cited in W. Schwartz, *Voices for the Wilderness*, p. 284ff.]

The difficulty in describing the importance of wilderness is that you cannot attach a dollar value to it or to its use and enjoyment, any more than you can to the rare and endangered species, or to archaeological finds. The value of wilderness cannot be weighed in the scale of market values. It is a national heritage. Many who sense change everywhere, recognize that our northern wilderness is irreplaceable.

Sigurd F. Olson, an American naturalist, writing of the Canadian North in *The Lonely Land*, said:

There are few places left on the North American continent where men can still see the country as it was before Europeans came and know some of the challenges and freedoms of

those who saw it first, but in the Canadian Northwest it can still be done. [p. 5]

Wilderness implies to all of us a remote landscape and the presence of wildlife. I think there are three kinds of wilderness species. The first are species that, because of their intolerance of man or their need for large areas of land, can survive only in the wilderness. Such are caribou, wolf and grizzly bear. These species require large areas of wilderness to protect the integrity of their populations and preserve their habitat. Second are the species that conjure up visions of wilderness for every Canadian, although they are often seen in other areas, too. I do not believe there can be a Canadian anywhere who does not think of wilderness on hearing the call of a loon or of migrating geese. Third are the rare and endangered species that do not inherently require a wilderness habitat, but, because they are tolerant of man, have been driven close to extinction. The peregrine falcon, trumpeter swan and whooping crane are well-known examples of species that are abundant (if abundant at all) only in wilderness areas. Our concern is that the process of adaptation and evolution through millennia of each of these species should not be ended. We cannot allow the extinction of these species, if it can be prevented. These species, like wilderness itself, need protection in the North today.

Wilderness is a resource that can be used by both public and private interests, in both a consuming and a non-consuming way. A consuming use of the wilderness destroys or degrades it, and so decreases its value for other users. Industrial and commercial interests are almost invariably consumers; they do not use the wilderness itself, but some aspect of it. Non-consuming use is represented by the traditional pursuits of the

Whistling swans in the Delta. (C. & M. Hampson)

Arctic tern on nest. (C. & M. Hampson)

Ermine. (NFB-Cesar)

Red-throated loon on nest. (W. Campbell)



The Northern Environment

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native people, and by certain recreational activities.

To some people, the notion of preserving a wilderness area inviolate from industry is anathema — as though we were on the brink of starvation and could not survive without exploiting the resources of every last piece of ground in our country. They would argue that the urge to develop, to build, to consume, is fundamental to man's very nature and that this urge ought not to be checked; even if, were we to follow this urge, it would produce no more than a marginal — perhaps even an illusory — increment to our material well-being. But this argument would apply to northern wilderness areas only if there were no other way in which, and no other area where, man could satisfy this urge. This manifestly is not the case.

Wilderness and Northern Land Use

If we decide to preserve the wilderness, then we must withdraw from industrial use the land designated as wilderness. This decision would have certain implications in respect of land use and land use regulations in the North.

Wilderness parks in the North would be a logical extension of our national park system. In fact, some of the provinces have already established wilderness areas. There have been many intrusions into the great national parks along the Alberta-British Columbia boundary. Two national railways

run through these parks (although both were there when the parks were created). The Trans-Mountain oil pipeline from Edmonton to Vancouver and the Trans-Canada Highway cross Jasper National Park. But these national parks are not — and were never intended to be — wilderness parks. In the North, certain ecosystems and certain migratory populations can be protected and preserved only by recognizing the inviolability of wilderness. Our national parks legislation, as it now stands, is not adequate to preserve northern wilderness areas, which, if they are to be preserved, must be withdrawn from any form of industrial development. That principle must not be compromised. It is essential to the concept of wilderness itself as an area untrammelled by industrial man.

Virtually any northern development must involve land, and in areas such as the Mackenzie Delta there has been, during recent years, a dramatic increase in the number of competing uses to which the land is put. The potential for chaotic development, degradation of environmentally important areas, the overwhelming of native people's interests, or even a stalemate in the conflict of interests, is great.

The Mackenzie Valley and the Western Arctic are still at an early stage of industrial development, and the latitude of choice that can be exercised for the future of these areas is still considerable — at least in comparison with most parts of Canada. Nevertheless, with each passing season, and with each decision by the public and private sectors concerning townsite development, transportation facilities, municipal or industrial use

of land, or resource development, the number of options is decreased.

We should recognize that in the North, land use regulations, based on the concept of multiple use, will not always protect environmental values, and they will never fully protect wilderness values. Withdrawal of land from any industrial use will be necessary in some instances to preserve wilderness, wildlife species and critical habitat. Parliament contemplated that withdrawals of land in the North would be made. The Territorial Lands Act provides for lands to be reserved for special purposes such as recreation sites and public parks (under Section 19[b]), for the general good of native people (Section 19[d]), and for use as national forests or game preserves (Section 19[e]). Despite these provisions, no attempt has yet been made to preclude industrial development in any part of the Territories; instead the policy of multiple use has been followed.

In two recently prepared studies on land management North of 60, *Land Management in the Canadian North* by Kenneth Beauchamp and *Land Use and Public Policy in Northern Canada* by John Naysmith the authors argue that we must confront the question of land withdrawal versus its regulation for multiple use. I think they are right.

We should include in our National Parks Act a provision for a new statutory creation: a wilderness park. It would consist of land to be preserved in its natural state for future generations. In chapter 5, I shall recommend that such a wilderness park be established in the Northern Yukon.

Phillips Bay, Yukon coast; breeding and staging area for waterfowl. (I. MacNeil)

Porcupine River. (ISL—G. Calef)

Alaska North Slope. (ISL—G. Calef)



The Northern Yukon

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and the Northern Yukon biota, can be consistent with and complementary to these principles.

We have already some experience in the establishment and management of parks (although not wilderness parks) in the North and have seen their effects on the interests of the native people. At Nahanni Butte the Inquiry was told that the Dene play no part in the management of the South Nahanni National Park. This experience must not be repeated in the wilderness park for the Northern Yukon that I am urging upon the Government of Canada. The conditions I have outlined will, in my judgment, avoid such a repetition and will avoid prejudice to native claims.

In *Runes of the North*, Sigurd Olson, an American naturalist, wrote:

It may well be that with [the help of the native people] the Canadian north, with its vast expanses of primeval country, can restore to modern man a semblance of balance and completeness. In the long run, these last wild regions of the continent might be worth far more to North Americans from a recreational and spiritual standpoint than through industrial exploitation. [p. 156]

It may be said that no one will visit the park because it is too remote. Only the wealthy, it may be argued, will have the opportunity to see the caribou and to enjoy the solitude and the scenery. But Canadians of ordinary means and less are there now, enjoying these wonders of nature. I speak, of course, of the native people. Is that not enough? Canadians from the provinces do not have to visit the wilderness or see the herd of caribou to confirm its existence or to justify its retention. The point I am making here is that the preservation of the wilderness and its wildlife can be justified on the grounds of its importance to the native people. But the preservation of wilderness

can also be justified because it is there, an Arctic ecosystem, in which life forms are limited in number, and where, if we exterminate them, we impoverish the frontier, our knowledge of the frontier, and the variety and beauty of the earth's creatures.

An Alternative Route Across the Yukon

I have recommended that no pipeline be built and no energy corridor be established across the Northern Yukon along either of the routes proposed by Arctic Gas. This means that, if gas from Prudhoe Bay and, subsequently, gas and oil from other sources in Alaska must pass overland to the Lower 48, the pipeline will have to be routed through the southern part of the Yukon Territory. The only overland route that has been seriously advanced as an alternative to the routes proposed by Arctic Gas is the Alaska Highway Route (also known as the Fairbanks Route) which is the route proposed for the Alcan Pipeline. This route would follow the trans-Alaska pipeline from Prudhoe Bay to Fairbanks, the Alaska Highway to the eastern border of Alaska and then cross the Southern Yukon into British Columbia and Alberta.

At Whitehorse, I heard evidence from Arctic Gas and from other participants in the Inquiry, comparing this route with the Coastal and Interior Routes. On the basis of that evidence, many of the concerns that led me to reject the pipeline routes across the Northern Yukon do not appear to apply to the Alaska Highway Route.

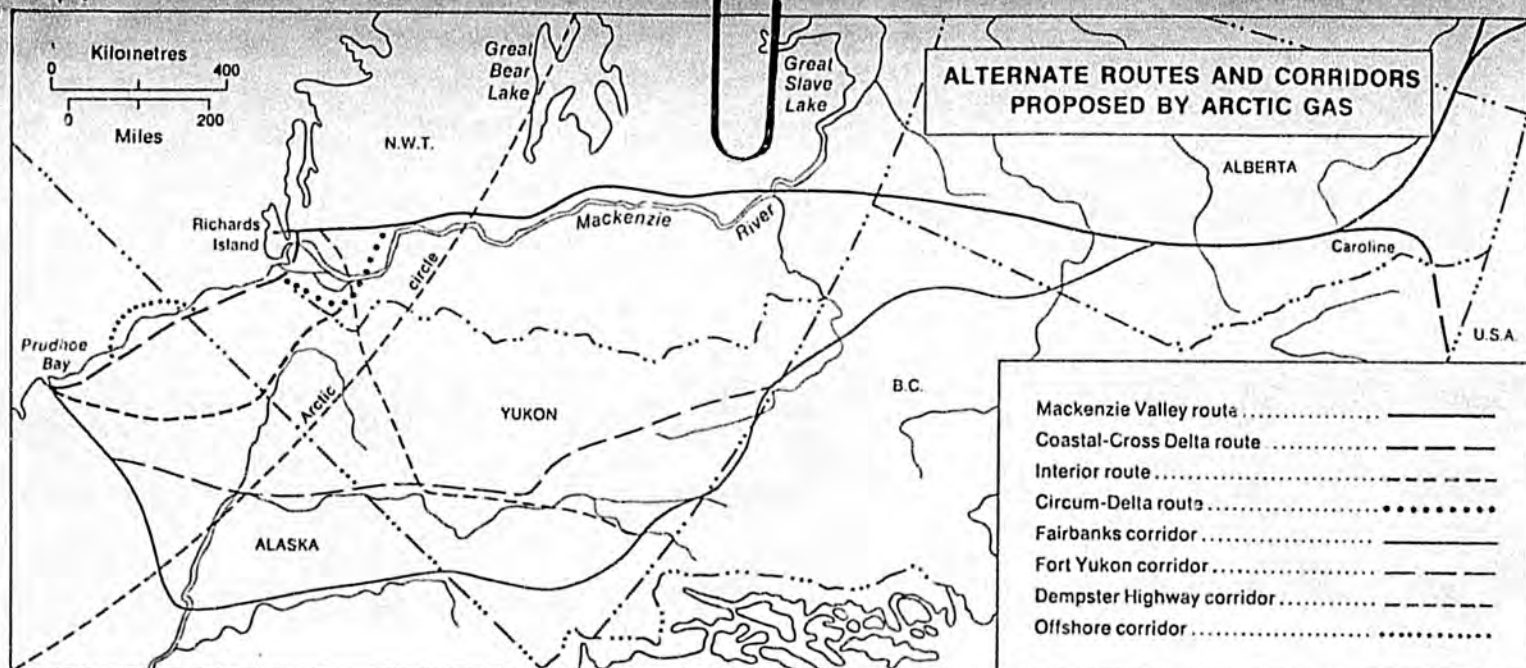
No major populations of any wildlife species appear to be threatened by the construction of a pipeline paralleling the

Alaska Highway, either in the Yukon or in Alaska. The route follows an existing corridor along the trans-Alaska pipeline north of Fairbanks and along the Alaska Highway south and east of Fairbanks. Like the trans-Alaska pipeline, this route would come into contact with only small numbers of caribou south of Prudhoe Bay. Elsewhere, although there are important wildlife populations in the area traversed by the proposed route, they apparently would not have major contact with the corridor.

The concerns that I have expressed about the scheduling and logistics of building a pipeline across the Northern Yukon would not apply (or would be much less important) if a pipeline were built along the Alaska Highway Route. The Arctic Gas pipeline would have to be built in the cold and darkness of winter north of the Arctic Circle, from a snow working surface. It would depend upon a limited shipping season, and a whole infrastructure would have to be established to bring in material, equipment and supplies. In contrast, a pipeline following the Alaska Highway Route in Canada could probably be built in either winter or summer, and it would cross an area with less extreme winter weather, and follow a main highway that has a short connection to the Pacific coast.

Within Canada, only short sections of the Alaska Highway Route would encounter permafrost, and the problems of pipeline construction and operation across permafrost and of controlling frost heave would be of little concern. Of course, permafrost does exist throughout most of the Alaska portion of this proposed route.

I have not examined the social and economic impact of a pipeline along the Alaska Highway Route. Neither have I considered the question of native claims in the Southern



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Yukon. The Council of Yukon Indians have advised that native claims must be settled in the Southern Yukon before any pipeline is built. These matters would be of fundamental importance in any decision to build a pipeline across the Southern Yukon and they must be assessed carefully before any recommendation is made for a pipeline along the Alaska Highway. Certainly, I am in no position to make such a recommendation.

If a decision should be made in favour of a pipeline along the Alaska Highway Route, or over any other southerly route across the Yukon Territory, I recommend that any agreement in this regard between Canada and the United States should include provisions to protect the Porcupine caribou herd and the wilderness of the Northern Yukon and Northeastern Alaska. By this agreement,

Canada should undertake to establish a wilderness park in the Northern Yukon and the United States should agree to accord wilderness status to its Arctic National Wildlife Range, thus creating a unique international wilderness park in the Arctic. It would be an important symbol of the dedication of our two countries to environmental as well as industrial goals.



the sense of medication. So at least in its initial stages, southern psychiatry is appropriate. However, many of the problems seen are so closely interwoven with the life-style of the native people in the North, which in turn is closely bound to such problems as economics, housing, self-esteem and cultural identity, that to label them as psychiatric disorders is frankly fraudulent and of no value whatsoever, as the treatment must eventually be the treatment of the whole community rather than [of] the individual. [F28437]

Social Impact and the Pipeline

Some advocates of the pipeline say that the wage employment it would provide, even though temporary, would ameliorate the social problems that underlie the psychological symptoms that Kehoe, Abbott and others have described. In the light of all of the evidence and our experience, this attitude must be regarded as wrong. We cannot ignore the truly frightening increases in crime, abuse of alcohol, diet-related illness, venereal disease rates and mental illness that have occurred during the past ten years in the North.

At the same time, we should acknowledge some encouraging trends: violent deaths of native people in the Northwest Territories fell from 28.4 percent of all deaths in 1974 to 22.5 percent in 1975. There was a reduction in the number of cases of venereal disease reported in 1976. I have described some local reactions against alcohol abuse that have led to measures of local prohibition. Why have these indicators of crime and social disease, which for years have gone from bad to worse, broken their upward trend? Perhaps it has been a result of heightened native consciousness, the determination of the native people to be true to themselves, that is responsible. But let us make no mistake: these improvements, although welcome, are

small, and they may prove to be merely an interruption of longer-term trends. In communities into which the industrial economy has only recently penetrated, the situation is deeply alarming.

The question we face is, will construction of the pipeline hamper social improvements? The answer must be yes. If pipeline construction goes ahead now, can we ensure that its effects will not halt these social improvements? The answer must be no. Although some ameliorative measures can be taken to lessen the social impact of pipeline construction and related activity on the northern people, no one should think that these measures will prevent the further and serious deterioration of social and personal well-being in the native communities.

The process of rebuilding a strong, self-confident society in the Mackenzie Valley has begun. Major industrial development now may well have a disastrous effect on that process. With the pipeline, I should expect the high rate of alcohol consumption to persist and worsen. I should expect further erosion of native culture, further demoralization of the native people, and degradation and violence beyond anything previously seen in the Mackenzie Valley and the Western Arctic.

The presence of a huge migrant labour force and the impact of construction over the years will mean that alcohol and drugs will become more serious problems. It is fanciful to think that greater opportunities for wage employment on a pipeline will stop or reverse the effects of past economic development.

Let me cite what Dr. Wheeler said of the Dene, because this statement applies to all the native peoples of the Mackenzie Valley

and the Western Arctic. His views exemplify those of every doctor and nurse spoke to the Inquiry.

The Dene have great strength as a people. Part of this strength lies in their extended families which they have been able to maintain in close-knit communities. We white people know the value of these kinds of ties, as we are now feeling the loss of them in terms of the depersonalization and dehumanization of southern urban living. How long will the Dene family survive the loss of its young men and the degradation of its women?

We want to hear what plans the territorial and federal governments have or are developing for these kinds of social problems. But perhaps the answer lies not with increasing government bureaucracy, with all its control. The solution to these problems, and with it the survival of the Dene, lies within the Dene. They must be allowed to develop these solutions within a time frame of their own choosing before we get stampeded into a social disaster from which the North may never recover. The people need time and freedom in order to survive. [C3402]

The Limits to Planning

I have been asked to predict the impact of the pipeline and energy corridor and to recommend terms and conditions that might mitigate their impact. Some impacts are easier to predict than others: there is a vast difference between the effects that are likely to occur in the first year and those that will be important in ten years. And there are difficulties in prediction that involve more than time or scale, for even short-term causal chains can be intricately connected. Moreover, some consequences of the pipeline will be controllable, but others will not. Just as there are limits to predicting, so also are there limits to planning.

Arctic Red River. (M. Jackson)

Café and bar in Fort Providence. (Native Press)

Elizabeth Mackenzie, activist against liquor abuse, being sworn in as a Justice of the Peace, Rae-Edzo. (Native Press)

People visiting outside the Bay, Fort Norman. (N. Cooper)



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I can recommend terms and conditions that will to some extent mitigate the social impact of the pipeline and energy corridor, but some of the consequences I have predicted will occur no matter what controls we impose. Other consequences can be predicted only in a vague and general way: we can anticipate their scale, but cannot adequately plan for them. There is a gulf, therefore, between the nature of the predictions and the nature of the terms and conditions I am asked to propose. The one is imprecise and often speculative; the other, if the terms and conditions are to be effective, must be very precise. We must never forget their limitations; it is all too easy to be overconfident of our ability to act as social engineers and to suppose — quite wrongly — that all problems can be foreseen and resolved. The nature of human affairs often defies the planners. In the case of a vast undertaking like the Mackenzie Valley pipeline, overconfidence in our ability to anticipate and to manage social problems would be foolish and dangerous.

I am prepared to accept that the oil and gas industry, the pipeline company, and the contractors will be able to exercise a measure

of control over the movement and behaviour of their personnel. I am prepared to accept that government will expand its services and infrastructure in major communities to serve the requirements of pipeline construction in the Mackenzie Valley and of gas plant development in the Delta. Where actual numbers of people can be predicted, planning is possible and orderly procedures and cost-sharing arrangements can be worked out. However, there are obvious limitations to planning of this sort. The cost of the project or the number of workers required may be so far in excess of the figures we have now that it will seem as though we had planned one project but had built another. There is the question of how many people will be involved in secondary employment: their number will be large, no matter what measures are taken to discourage them, and the costs associated with their presence in the North will be very high.

There are also political limits to planning. The impacts that lead to social costs vary in the degree to which they can be treated. There are matters over which government and industry can exercise some control; there are other matters over which control would

not be in keeping with the principles of a democratic society. And there are social impacts over which no control could be exercised even under the most authoritarian regime.

Finally, I am not prepared to accept that, in the case of an enormous project like the pipeline, there can be any real control over how much people will drink and over what the abuse of alcohol will do to their lives. There can be no control over how many families will break up, how many children will become delinquent and have criminal records, how many communities will see their young people drifting towards the larger urban centres, and how many people may be driven from a way of life they know to one they do not understand and in which they have no real place. Such problems are beyond anyone's power to control, but they will generate enormous social costs. Because these costs are, by and large, neither measurable nor assignable, we tend to forget them or to pretend they do not exist. But with construction of a pipeline, they would occur, and the native people of the North would then have to pay the price.

The Corridor Concept

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The Corridor Concept and Cumulative Impact

The concept of a pipeline corridor from the North was first enunciated by the Government of Canada in the 1970 Pipeline Guidelines. In 1972, these Guidelines were expanded. The Expanded Guidelines for Northern Pipelines (to which I shall refer as the "Pipeline Guidelines") were tabled in the House of Commons in June 1972, and they form the cornerstone of Canadian policy with regard to the construction of northern pipelines. The Inquiry is bound by Order-in-Council, P.C. 1974-641 March 21, 1974, under which it was established, to consider the proposals made by the pipeline companies to meet the specific environmental and social concerns set out in the Pipeline Guidelines.

The significance of the corridor concept to this Inquiry relates to the consideration of impact and cumulative impact. The Pipeline Guidelines assume that, if a gas pipeline is built, an oil pipeline will probably follow it, and they call for examination of the proposed gas pipeline from the point of view of cumulative impact. We must consider then, not only the impact of a gas pipeline, but also the impact of an oil pipeline — in sum, the impact of a transportation corridor for two energy systems.

The government's corridor policy is plainly spelled out in the Pipeline Guidelines:

In view of the influence of the first trunk pipeline in shaping the transportation corridor system and in moulding the environmental and social future of the region, any applicant to build a first trunk pipeline within any segment of the corridor system outlined in 1. above must provide with [its] application:

- i) assessment of the suitability of the applicant's route for nearby routing of the other pipeline, in terms of the environmental-social and terrain-engineering consequences of the other pipeline and the combined effect of the two pipelines;...
- ii) assessment of the environmental-social impact of both pipelines on nearby settlements or nearby existing or proposed transportation systems... [p. 10]

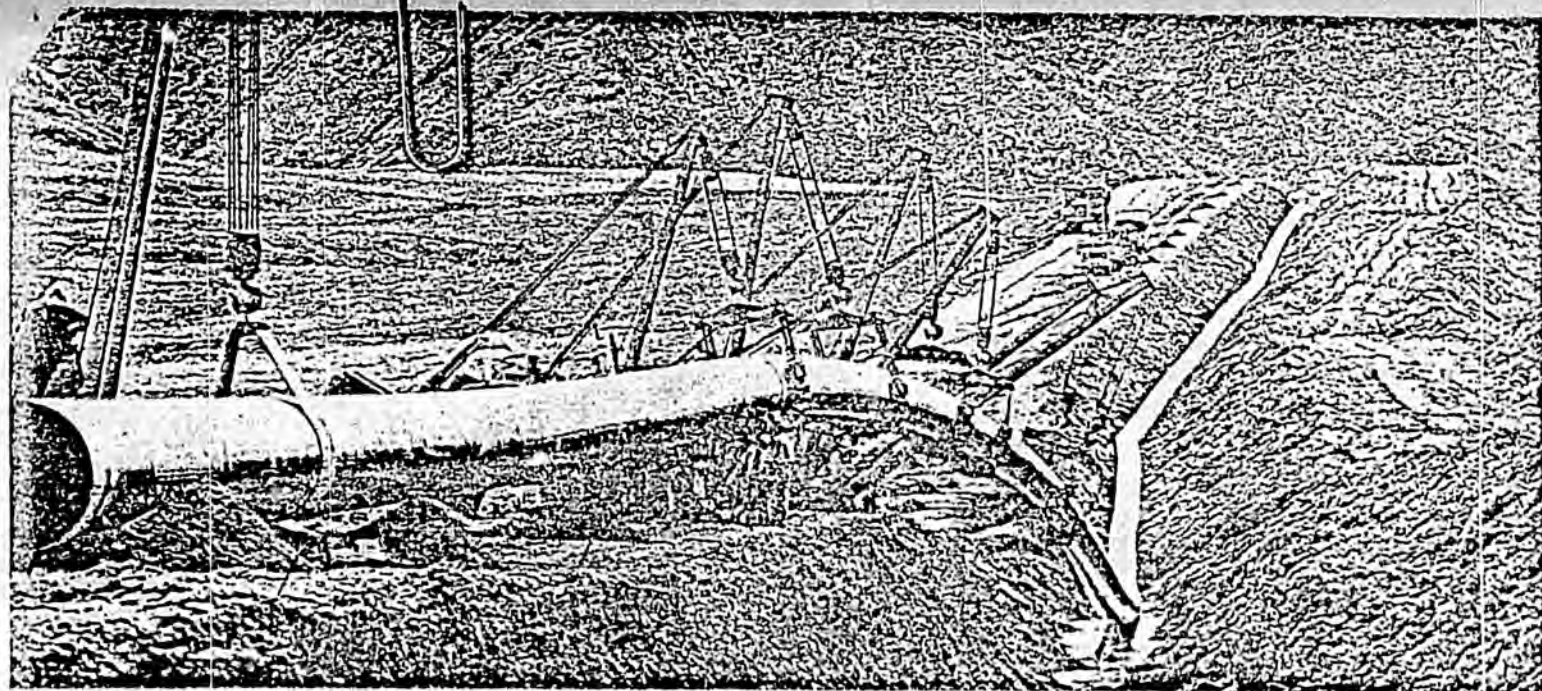
The assumption in 1970 was that an oil pipeline would be built first, and a gas pipeline would be likely to follow it; ever since the Pipeline Guidelines were issued in 1972, the assumption has been that a gas pipeline would come first and that an oil pipeline would be likely to follow it. Now we have before us proposals by Arctic Gas and Foothill to build a gas pipeline. The influence of a gas pipeline on the development of an energy corridor and in moulding the social, economic and environmental future of the North will be enormous. The Pipeline Guidelines call for a consideration of the environmental and social impact of a gas pipeline and an oil pipeline, as well as of the combined impact of the construction of both pipelines along the corridor. That policy ramifies throughout the Inquiry's consideration of the environmental and social issues that arise along the whole route. However, the corridor will not be simply a corridor for gas and oil pipelines. The Pipeline Guidelines envisage that the corridor may eventually include roads, a railroad, hydro-electric transmission lines and telecommunications facilities.

There are real limits to our capacity to forecast the impact of such a corridor. The Pipeline Guidelines are principally concerned with the impact that gas and oil pipelines will have in the North. The Inquiry has, therefore, largely limited itself to a consideration of the impact of these energy

transportation systems. But sometimes it has been necessary to consider the impact of pipelines in relation to other transportation systems. For instance, what if a haul road had to be built along the Arctic Coastal Plain of the Northern Yukon? Or to what extent will the capacity of the existing fleet of tugs and barges on the Mackenzie River have to be augmented? Or to what extent will hunting from the Dempster Highway have to be restricted to enable the recommendations of this Inquiry to be carried out? We cannot make an intelligent assessment of the impact of a gas pipeline unless we do so in the light of the cumulative impact of the corridor.

Of course, the gas pipeline itself will be a multi-stage project involving considerations of cumulative impact. The gas pipelines proposed by Arctic Gas and by Foothills can be expected to be looped. Looping is the process of progressively increasing the amount of gas that can be transported by the pipeline system; a second (or third) pipeline is built beside the first in sections or loops from one compressor station to the next. This means that construction along the gas pipeline right-of-way can be an ongoing or repetitive process and can involve cumulative impacts over and above those resulting from the project that was originally proposed.

The importance of considering the impact of a gas pipeline in the light of cumulative impact along the corridor is obvious. This importance can be illustrated by reference to gravel, which is in short supply in the North. Arctic Gas estimate that the gas pipeline will require 30 million cubic yards of gravel and other borrow materials within Canada and North of 60. Mackenzie Valley Pipeline Research Limited estimated the gravel requirements for an oil pipeline at 42 million



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cubic yards. It would be foolish to consider the impact of the borrow requirements of a gas pipeline without taking into account the gravel requirements of an oil pipeline, as well as those of other regional and local projects. Substantial amounts of borrow materials will be required for gas plants and gas-gathering systems in the Mackenzie Delta, for the completion of the Mackenzie Highway and the Dempster Highway, and for airports, not to mention the needs of communities along the route. Gravel provides a quite straightforward example of cumulative impact. There are many other examples, some of them by no means as straightforward, that I shall be dealing with in this report.

The Northern Yukon Corridor and the Mackenzie Valley Corridor

It should be borne in mind that there are two proposed corridors: one across the Northern Yukon and another along the Mackenzie Valley. The following passage from the Pipeline Guidelines makes this plain:

The Government of Canada is prepared to receive and review applications to construct one trunk oil pipeline and/or one trunk gas pipeline within the following broad "corridors":

- i) Along the Mackenzie Valley region (in a broad sense) from the Arctic coast to the provincial [Alberta] boundary;
- ii) Across the northern part of the Yukon Territory either adjacent to the Arctic coast or through the northern interior region from the boundary of Alaska to the general vicinity of Fort McPherson, and thus to join the Mackenzie "corridor"; ...

[p. 9]

Arctic Gas propose to build a pipeline from Alaska that would use the corridor across the Northern Yukon as well as the corridor along the Mackenzie Valley. Foothills propose to build a pipeline that would use only the corridor along the Mackenzie Valley.

Arctic Gas propose to transport only Alaskan gas in the corridor across the Northern Yukon, and to transport both Alaskan and Canadian gas in the Mackenzie Valley corridor. Under the Foothills proposal, the Mackenzie Valley corridor would be used to carry only Canadian gas.

Since 1972, as mentioned above, the Government of Canada has assumed that a gas pipeline along either of these corridors would probably be followed by an oil pipeline. That assumption is a sound one: once a gas pipeline is built across the Northern Yukon, there will be every reason for an oil pipeline carrying American oil to follow the same route. You may ask, is not the trans-Alaska pipeline to carry American oil to the Lower 48? The Alyeska pipeline was built to deliver oil to the western states, but the United States still has severe shortages of oil in the midwest and the east. And there are great petroleum reserves in northern Alaska, especially in Naval Petroleum Reserve No. 4 lying to the west of Prudhoe Bay. The urgency of bringing oil from northern Alaska to the markets in the Lower 48 that need it most is obvious. If a gas pipeline and energy corridor were already in place across the Northern Yukon and along the Mackenzie Valley, it is quite likely this corridor would be the route of choice.

Once a gas pipeline is built along the Mackenzie Valley, it is likely that in the future an oil pipeline will follow. Oil has in fact been found in the Mackenzie Delta region. It is said that the discovery of oil in

Mackenzie Delta and the Beaufort Sea do not justify an oil pipeline today. Nonetheless, while the proven reserves of oil in the Mackenzie Delta region have not yet reached threshold levels, they may do so in time. In any event, it is obvious that if present or future exploration programs reveal large reserves of oil under the Beaufort Sea, the call for an oil pipeline from the Delta to the mid-continent will be made once again.

I think all of this demonstrates the wisdom of the Pipeline Guidelines, which insist that there should be an examination of the impact of an oil pipeline along with the gas pipeline. Any attempt to dismember the policy and to assess the impacts piecemeal, along either the Northern Yukon corridor or the Mackenzie Valley corridor, should be resisted.

The United States' Interest in the Corridor

The Arctic Gas pipeline, if it is built, would provide a land bridge for the delivery of Alaskan gas across Canada to the Lower 48. The implications of this prospect, from the point of view of Canadian policy in the North, should be borne in mind.

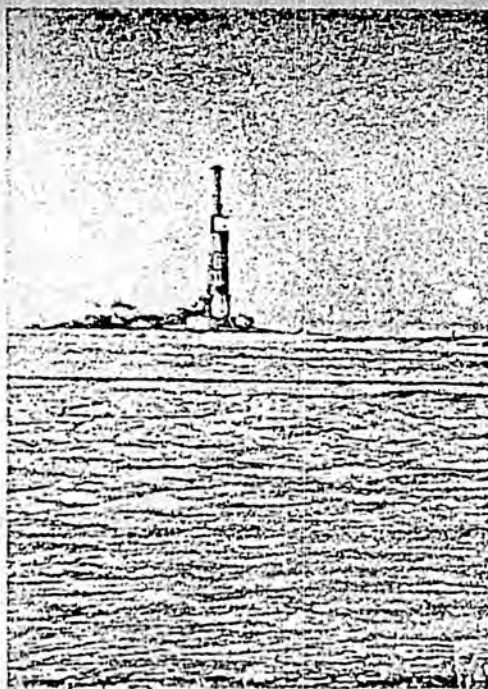
The corridor across the Northern Yukon will be an exclusively American energy corridor. The Mackenzie Valley corridor, under the Arctic Gas proposal, will be an American energy corridor as much as it is a Canadian energy corridor. The United States will have an interest in the scheduling of pipeline construction in Canada and, when the pipeline is built, in seeing that it remains safe and secure, because it will be carrying Alaskan gas in bond to the Lower 48. It will

ans-Alaska pipeline and gravel haul road.
sideboom tractors lower pipe into ditch. (Alyeska)

Stockpile of drill pipe. (NFB-McNeill)

Drill rig in the Delta. (Arctic Gas)

Mackenzie Highway right-of-way beside
Mackenzie River. (J. Inglis)



The Corridor Concept

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extending across the Northern Yukon, across the Mackenzie Delta, along the Mackenzie Valley, and then through Alberta, Saskatchewan and British Columbia to the Lower 48. It will supply gas to a complex of industries and urban centres in the United States. The Americans will be dependent on the continuous supply of gas, and the gas being transported from Alaska will be their own gas. Moreover, the United States wants the pipeline to begin to deliver that gas as soon as possible.

There are, of course, pipelines that cross United States territory and carry oil and gas to Canadian markets: the Interprovincial pipeline, which delivers western oil to Ontario; the Portland-Montreal pipeline, which delivers offshore oil to Quebec; and the Great Lakes Transmission Company pipeline, which delivers gas to Ontario. All of them pass through the United States. But these connections cannot be compared in magnitude or impact to the Arctic Gas proposal. They are not pipelines reaching some 2,000 miles from a distant frontier.

The consequences of such American interest in the pipeline are of special concern to the inquiry. The impact of the pipeline, so far as northern peoples and the northern environment is concerned, will be largely within Canada (the line from Prudhoe Bay to the Alaska-Yukon border is only 200 miles long, whereas the line from the Alaska-Yukon boundary to the Northwest

Territories-Alberta border is 1,000 miles long). The native people's concern over when a pipeline is built, the environmental concern over where it should be built, and the stipulations for protecting the people and the environment apply largely in Canada. The United States cannot be expected to be as concerned as Canada with the seriousness of the social and environmental impact of the pipeline along its route. This difference, coupled with the Americans' rather more urgent need of gas, might result in pressure to complete the pipeline without due regard to the social and environmental concerns in Canada. The risk is in Canada. The urgency is in the United States.

A pipeline 2,200 miles long (in Canada) is a highly vulnerable artery. What measures might have to be taken to forestall an interruption of delivery — an interruption that would affect vital Canadian interests, but even more tellingly, vital American interests? There may be real possibilities for misunderstanding and tension between our two countries, notwithstanding our long history of good relations. These considerations deserve the attention of the Government of the United States as well as of the Government of Canada. It may be that they are not at all daunting. But they should still not be overlooked.

A treaty between Canada and the United States will not cover all possibilities. It will, of course, define the rights of our two

governments with regard to the pipeline and to the gas being transported in that pipeline. And it will establish the ground rules for the transportation of Alaskan gas across Canada to the United States. It cannot do more. I say this because a treaty, although it will regulate the conduct of our two governments, will not necessarily regulate the conduct of the two countries' citizens.

The implications for our relations with the United States of the building and maintenance of the proposed gas transmission system deserve careful consideration by all Canadians. We are not simply considering a proposal to build a pipeline on an isolated frontier. We are considering, in the Arctic Gas proposal, the establishment of an international energy corridor that will cross some 2,200 miles of Canadian territory, opening up wilderness areas that are among the most important wildlife habitat in North America. It will cross lands that are claimed by Canada's native people, a region where the struggle for a new social and economic order and political responsibility is taking place.

It seems to me the question of whether or not there should be a corridor to carry vital energy supplies from Alaska through the heartland of Canada to the Lower 48, is at the threshold of the decision-making process. If Canadians decide that there is to be such a corridor, then we must also consider when it should be established and what route it should follow. These are questions Canadians must decide for themselves.