

Bound reports are to be returned to the Royal Oil & Gas Board on the completion of the hearings in HFC.

142  
1 of 10 ~~10~~  
rest of stuff are  
in official file.

NORTHWEST PIPELINE CORPORATION

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May 6, 1976

Representative Nels Anderson  
State of Alaska  
Pouch V  
Juneau, Alaska 99811

Dear Mr. Anderson:

Northwest Pipeline Corporation has undertaken the engineering and environmental studies necessary to make competent applications to the Federal Power Commission for the construction and operation of an alternative Arctic gas transmission system - the Fairbanks Corridor Pipeline System.

Briefly stated, the Fairbanks Corridor Pipeline System would be designed to transport Prudhoe Bay gas through a 42" pipeline parallel to the Alyeska pipeline system from Prudhoe Bay to Delta Junction. From Delta Junction to Fort Nelson, B. C., the pipeline route would be adjacent to the Alcan Highway. At Fort Nelson, a portion of the gas would be diverted into expanded Westcoast Transmission Company, Ltd. facilities for delivery to Sumas, Washington. The remainder of the gas would be transported via a 36" pipeline from Fort Nelson to Zama Lake, Alberta, for delivery to Empress through expanded facilities of Alberta Gas Trunk Line, Ltd.

The Mackenzie Delta gas, when available, would be transported by the proposed Foothills Pipe Lines, Ltd. 42" pipeline system from Mackenzie Delta to the 60th parallel, where it would deliver gas to a proposed Alberta Gas Trunk Line (Canada) system which would connect to the existing Alberta Gas Trunk Line system at Zama Lake. The connection at Zama Lake would supply Mackenzie Delta gas to the expanded Alberta Gas Trunk Line system and, through an exchange with Prudhoe Bay gas, the expanded Westcoast Transmission Company system.

Enclosed is a detailed report of the engineering and environmental aspects of this proposed pipeline system, an Arctic gas transmission system that, in our opinion, is greatly preferable to either the trans-Alaska project proposed by El Paso or the Gas Arctic project in terms of the environmental impact, construction feasibility, and ultimate cost of service. Further, from the viewpoint of Alaska, we believe that the Fairbanks Corridor Route has a far greater opportunity for approval than the El Paso project.

Page Two  
May 5, 1976

We urge that Alaska keep its options open and defer committing its Prudhoe Bay royalty gas irrevocably to the support of a trans-Alaska line until the benefits of the Fairbanks Corridor Route can be fully assessed. The potential availability of the royalty gas, or a portion thereof, is necessary to justify the substantial investment required to prosecute complete applications and is also necessary to retain the full support of the Pacific Northwest marketing area. It is also extremely important, in our view, that Alaska does not evidence disapproval of our project by the act of firmly committing its royalty gas to the trans-Alaskan route.

We shall appreciate your consideration of our proposal and shall be available at any time to discuss our project with you or to answer any questions you may have. Our decision on whether to proceed will be made immediately and we shall keep you apprised of our progress.

Very truly yours,

F. J. Becraft

FJB/ds

## FAIRBANKS CORRIDOR PIPELINE SYSTEM

### A VIABLE ALTERNATIVE

The following is a discussion of the two earlier proposals for transporting arctic gas to the lower U. S. and Northwest Pipeline Corporation's proposed Fairbanks Corridor Pipeline System which is being presented as a viable alternative which satisfies the major objectives with the least detrimental socio-economic and environmental impacts.

#### By Land or By Sea?

After many months, even years, of investigation and analysis, the facts seem to favor the selection of an Alaskan/Canadian pipeline from Prudhoe Bay to the lower 48 states rather than a trans-Alaska pipeline/LNG tanker system from Prudhoe Bay to southern California. More specifically, as it now stands, the Arctic Gas Pipeline system would most likely be selected over the El Paso LNG System.

- . The LNG System would result in considerably higher transportation cost than would the pipeline system.
- . The LNG System would be based on a relatively new technology scaled up to sizes not yet tried or proven, therefore, cost estimates cannot be as reliable as those for a more conventional pipeline.
- . According to El Paso's initial filing, the LNG System could not be ready to deliver gas as early as a Pipeline System.
- . The economics and design of the LNG System are such that phasing in gas production up to full design levels over several years, as may well be the case, would be prohibitive in view of the anticipated low return on investment at reduced load factor operation.

- . Future expansion of an LNG System consisting of such large components would be more difficult and more costly than it would be for the Pipeline System.
- . The LNG liquefaction plant site should be in the very active earthquake zone along the southern Alaskan coast.
- . In the event of catastrophe, a pipeline with its dispersion of facilities is more easily and quickly reinstated to service than is a liquefaction facility or LNG tanker, particularly where all of the facilities are concentrated in one plant and the tankers are often docked at the adjacent marine terminal.
- . The LNG System is dependent upon the displacement "theory" for transferring the gas from the Westcoast to the rest of the United States. Alaskan oil production and transportation is already experiencing difficulty with a similar concept.
- . The cost of service for the LNG System would be more sensitive to future inflation than it would be for the Pipeline System because of the higher percentage of labor in the LNG System operating costs.
- . The LNG System, under optimistic assumptions, would consume nearly twice as much gas as would a Pipeline System for delivering a comparable volume.
- . The LNG System has apparently failed to gain the political and industrial support needed to assure a timely implementation of an arctic gas delivery system.

In summary, it is improbable that the El Paso LNG System will be selected for arctic gas delivery to the lower U. S. because it fails to offer the same degree of reliability, security, expansibility, timely implementation, economic and geographic benefits as does a Pipeline System.

If By Land. Which Route?

Although the Pipeline System is and should be the preferred method of transporting arctic gas from Prudhoe Bay to the lower U. S., the proposed Arctic Gas Pipeline route from Prudhoe Bay and Mackenzie Delta to the U. S. is not necessarily the preferred route. The alternative, now being supported by Northwest Pipeline Corporation for a pipeline traversing the Fairbanks Corridor, has been given considerable attention and the facts brought to light suggest that it offers the most rational, economic and feasible method of coming near satisfying the majority of the interests in a manner that is beneficial to the consumers and the economy in Alaska as well as the lower U. S.

What the Federal Power Commission says:

The environmental staff of the Federal Power Commission, after an in depth review of the environmental data and analysis, arrived at the following conclusions in regard to the El Paso LNG and Arctic Gas Pipeline Systems as reported in the Final Environmental Impact Statement:

Although the Arctic Gas Pipeline proposal is more environmentally preferable to the El Paso LNG proposal, it was strongly recommended that neither proposal be approved, but rather that the Fairbanks Corridor route, exclusive of the Mackenzie Delta lateral, was the preferred route for delivery of Prudhoe Bay gas. In addition, if Mackenzie Delta gas becomes available, it was suggested that the Foothills Pipe Lines Ltd. project could be constructed for delivery of that gas to existing West-coast Transmission Company and Alberta Gas Trunk Line facilities.

What the Department of the Interior says:

The Department of the Interior has submitted their Final Environmental Impact Statement in which they have made direct comparison of the various

alternative routes proposed for the Arctic Gas System. Although not specifically recommending any particular route, this report reveals that a pipeline constructed along the Fairbanks Corridor route would pose the least detrimental environmental impact. In addition, it has also received favorable economic analysis from the Department of Interior.

What the Environmental Groups say:

In prepared testimony before the Senate Committees on Interior and Commerce, both the Environmental Policy Center and the Wilderness Society have come out with strong support for the Fairbanks Corridor route alternative.

The Fairbanks Corridor Route

All of the foregoing discussion relating to the Fairbanks Corridor alternative has been based upon that alternative as presented by the Alaskan/Canadian Arctic Gas Pipeline applications. A major economic and environmental improvement could be made to the Fairbanks Corridor Route, as presented, by utilizing existing Canadian pipelines in Alberta and British Columbia instead of constructing an entirely new system across Canada.

The Fairbanks Corridor Pipeline System proposed by Northwest, as illustrated in Figure 1, would be designed to transport Prudhoe Bay gas through a 42" pipeline parallel to the Alyeska pipeline system from Prudhoe Bay to Delta Junction. From Delta Junction to Fort Nelson, B. C., the pipeline route would be adjacent to the Alcan Highway. At Fort Nelson, a portion of the gas would be diverted into expanded Westcoast Transmission Company, Ltd. facilities for delivery to Sumas, Washington. The remainder of the gas would be transported via a 36" pipeline from Fort Nelson to Zama Lake, Alberta, for delivery to Empress through expanded facilities of Alberta Gas Trunk Line, Ltd.

The Mackenzie Delta gas, when available, would be transported by the proposed Foothills Pipe Lines, Ltd. 42" pipeline system from Mackenzie Delta to the 60th parallel, where it would deliver gas to the proposed Alberta Gas Trunk Line (Canada) system which would connect to the existing Alberta Gas Trunk Line system at Zama Lake. The connection at Zama Lake would supply Mackenzie Delta gas to the expanded Alberta Gas Trunk Line system and, through an exchange with Prudhoe Bay gas, the expanded Westcoast Transmission Company system.

The tremendous advantages of this proposed arctic gas delivery system arises from the large scale use of existing roadways, rights-of-way, utility corridors and Canadian pipeline facilities. It is to this pipeline system, as described above, that the following advantages are ascribed:

- Lowest investment for delivering Prudhoe Bay gas to the United States. (Figure 2)
- Lowest transportation cost for delivering Prudhoe Bay gas to the United States. (Figure 2)
- Supported by federal and private environmental groups.
- Year-round construction possible in some areas; up to 9 months most areas.
- Earliest completion and delivery date - three years from date of permit receipt.
- Provides economic growth base for Alaskan interior (Fairbanks).
- Can be designed for economic operation at the lower gas production rates realistically expected during the first few years of production.
- Permits economical phasing in as additional gas supplies develop along the north slope. (Mackenzie Delta gas via Foothills Pipe Lines)

- . Reduced cost and phased construction enhance financibility.
- . Proven 42" pipeline technology assures greater reliability.
- . More conventional pipeline construction lends itself to competitive bidding and more reliable cost estimate: resulting in fewer cost overruns.
- . Only approximately 65 miles of highly sensitive, non-stable, fragile soil to be traversed as compared to approximately 460 miles of similar conditions along the Arctic Gas Pipeline prime route.
- . Crosses several potential gas fields within the State of Alaska.
- . Follows existing all weather roads and utility corridors.
- . Year-round access to all areas in event of emergency.
- . Potential for sharing operating costs with Alyeska.
- . Avoids the uncertainties regarding the Canadian Native Claims Settlement issue.

In short, the Fairbanks Corridor Pipeline System, as proposed by Northwest, has many of the advantages of both the Arctic Gas System and Trans-Alaska LNG System with few of the disadvantages of either system.

It is timely, in light of the Department of Interior's and FPC's environmental Statements, to commence prosecution of a formal application for the Fairbanks Corridor Pipeline System. Planning and preparation of an application with the FPC to construct and operate a pipeline system along the Fairbanks Corridor route in Alaska has commenced and Northwest has received the cooperation of Westcoast Transmission Company, Ltd., and Alberta Gas Trunk Line Company, Ltd. in planning for the transportation of the gas through Canada. Northwest has also received the support of the major natural gas distribution companies serving the Pacific Northwest region for this project.

In the event that a satisfactory commitment of Alaskan royalty gas is made to Northwest, an application will be submitted within three months of the commitment date.

FIGURE 1

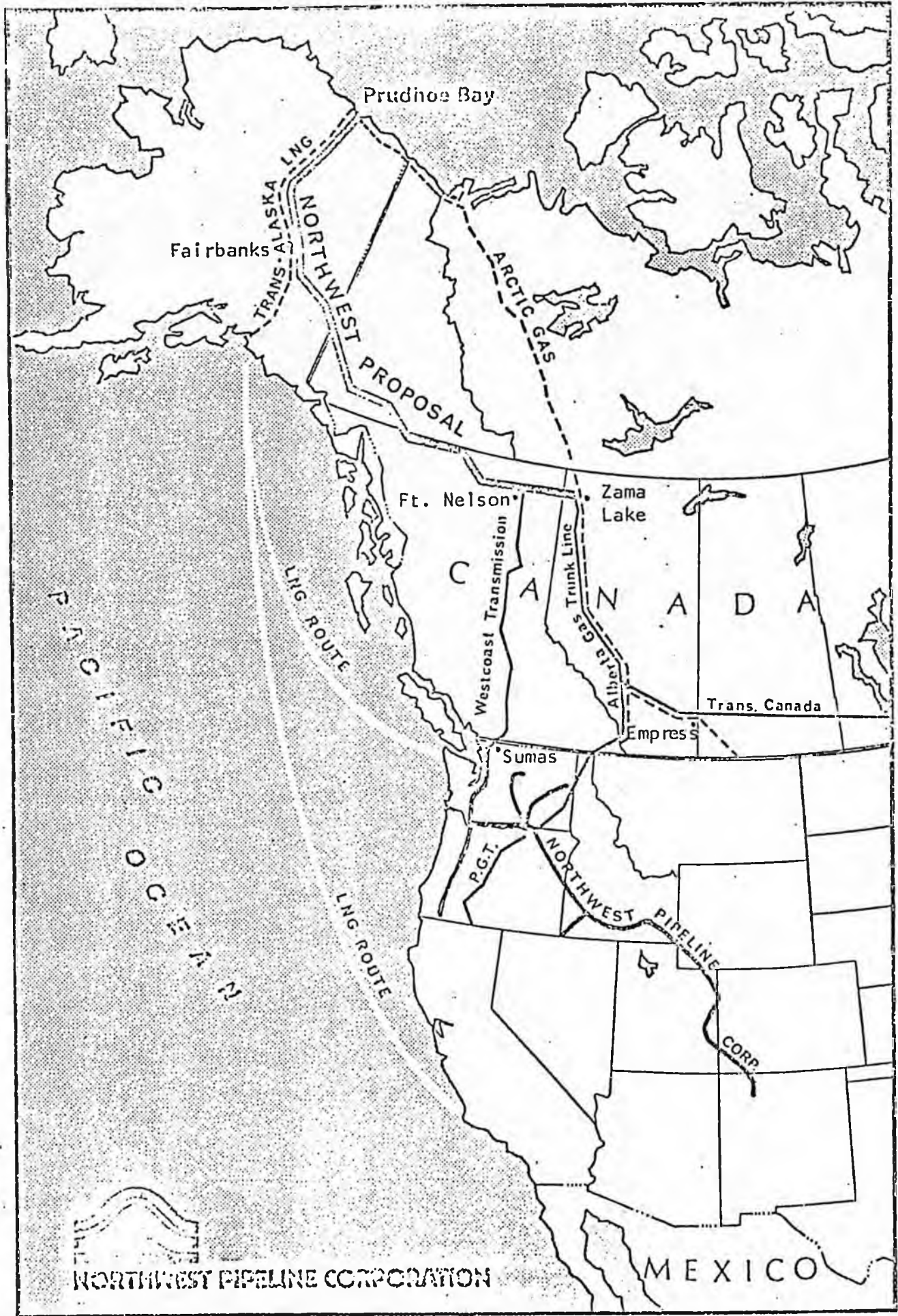


FIGURE 2

ARCTIC GAS DELIVERY SYSTEMS

COST COMPARISONS

	<u>El Paso LNG</u>	<u>Arctic Gas Project</u>	<u>Northwest Fairbanks Corridor Prudhoe Bay only</u>	<u>Prudhoe &amp; Delta</u>
Volumes (Billion Cubic Feet Per Day)				
Prudhoe Bay Supply	3.2	2.25	2.4	2.4
MacKenzie Delta Supply	-	2.25	-	1.6
Delivered to U. S. Border	2.8	2.1	2.2	2.2
Capital Investment (\$ Billion)				
1975 Constant Dollars	\$7.62	\$6.68	\$4.65	\$6.84
Unit Transportation Cost (\$ per MMBtu)	\$1.48	\$1.04	\$1.00	\$1.02

The volume, investment and unit cost data shown above for the Arctic Gas Project and the Northwest Fairbanks Corridor reflects the facilities for deliveries at Sumas, Washington or Kingsgate, British Columbia for gas destined for U. S. western regional markets, and at Empress, Alberta for deliveries through Saskatchewan to the U. S. mid-western and eastern regions. The facilities for delivery from Empress, Alberta to mid-western and eastern U. S. markets would be the same with either project. The figures shown for the El Paso LNG Project are for delivery of the gas to the first pipeline interconnection in California, after regasification. The facilities and costs required for displacement within the U. S. have not been included.

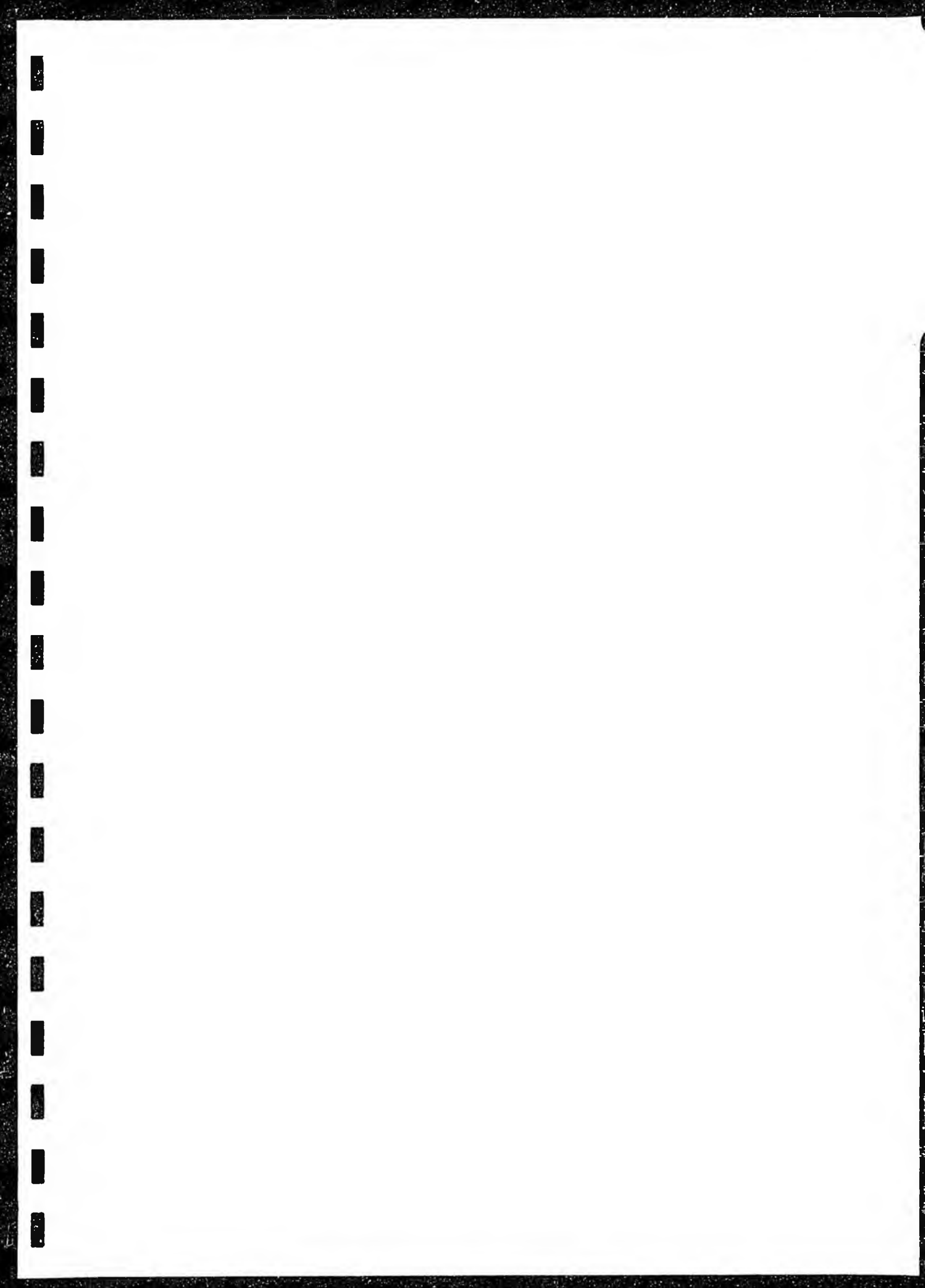
The unit transportation costs for the Arctic Gas Project and the Northwest Fairbanks Corridor are for delivery at Kingsgate, British Columbia and Sumas, Washington, respectively. These costs are for the third year of operation and do not include the cost of purchased gas or fuel.

ENGINEERING AND ENVIRONMENTAL  
OVERVIEW  
ARCTIC GAS PIPELINE SYSTEMS

Prepared for:  
NORTHWEST PIPELINE CORPORATION

Prepared by:  
GULF INTERSTATE ENGINEERING COMPANY

April 14, 1976



CONCLUSIONSI. Construction Feasibility and Cost Estimate

The conclusions that can be drawn from our review and analysis of the construction feasibility and overall cost of the proposed Fairbanks Corridor route for the transportation of Prudhoe Bay gas are as follows:

- a) The route is entirely feasible from a construction viewpoint. Construction over a large part of the route would be conventional summer construction. Because of the ease of construction along the proposed route, system costs and schedules can be developed with a high degree of confidence.
- b) Gas could commence to flow thru the system three years after receipt of the necessary governmental approvals.
- c) Energy Systems Engineering Ltd. (ESEL) estimated total cost, in 1975 dollars, at \$4,650,349,000 for Prudhoe Bay gas and \$5,836,063,000 for both Prudhoe Bay and Mackenzie Delta gas.
- d) ESEL estimated total capital system costs, escalated to the year of investment, at \$6,151,943,000 for Prudhoe Bay gas and \$9,308,986,000 for both Prudhoe Bay and Delta gas.
- e) Rule-of-thumb calculations indicate that 1975 cost of service (without fuel gas) is in the order of \$1.00 per MMBtu for Prudhoe Bay gas at ultimate flows at Sumas, Washington and Empress, B.C. At an assumed BTU content of 1145 Btu/ft.<sup>3</sup>, the cost of service would be approximately \$1.15 per MCF.

## II. Environmental

The conclusion that can be drawn from our review of the data tabulated under References, Part IV of this report, is that, from an environmental viewpoint, construction of a pipeline along the Fairbanks Corridor route will provide the most acceptable means of transporting Prudhoe Bay gas to the lower 48 states. Major points supporting this conclusion are as follows:

- a) By employing common pipeline corridors, experience and engineering, the Fairbanks Corridor is merely an addition to the environmental effects of the existing pipeline systems in Alaska and parts of Canada.
- b) The existing data and stipulations which define the Alyeska pipeline are directly applicable to the Fairbanks Corridor pipeline in Alaska.
- c) Previous work done on the Haines products pipeline and the Alcan Highway provides some environmental data pertinent to the proposed Fairbanks Corridor line.
- d) A reservoir of private and governmental personnel has developed the expertise to protect all segments of the environment in and around the Alyeska line. These people can readily apply their knowledge to the Fairbanks Corridor line.
- e) Environmentally acceptable construction could be performed year-round on approximately 80% of the Fairbanks Corridor line.
- f) Emergency/contingency plans exist for the Alyeska line. Comparable plans can be readily initiated for the Fairbanks Corridor line.

### III. Socio-Economic

The conclusion that can be drawn from our review of the data tabulated under References, Part IV of this report, is that, from a socio-economic viewpoint, construction of a pipeline along the Fairbanks Corridor route will provide the best means for transporting Prudhoe Bay gas to the lower 48 states. Major points supporting this conclusion are as follows:

- a) Construction of the proposed Fairbanks Corridor pipeline would provide continued employment for an established Alaskan work force.
- b) Construction of the Fairbanks Corridor line would extend present income levels and provide permanent economic benefits to Alaska.
- c) The towns and cities near the Alyeska pipeline are better able to handle the influx of construction activities. There are existing medical, housing, emergency and community facilities in Fairbanks and Whitehorse that are already developed.
- d) The Fairbanks Corridor pipeline will provide significant increases in the Alaska tax base.
- e) The Fairbanks Corridor pipeline will transport natural gas to Fairbanks and other interior communities, including either of the two areas presently proposed as the site of a new capital of Alaska.
- f) The proximity of the Fairbanks Corridor route to the Petroleum IV and other Western Alaskan reserves will provide a means of transporting gas from those reserves.
- g) The wages paid to operations and maintenance personnel will provide a continuing benefit to residents of Alaska.



INTRODUCTION

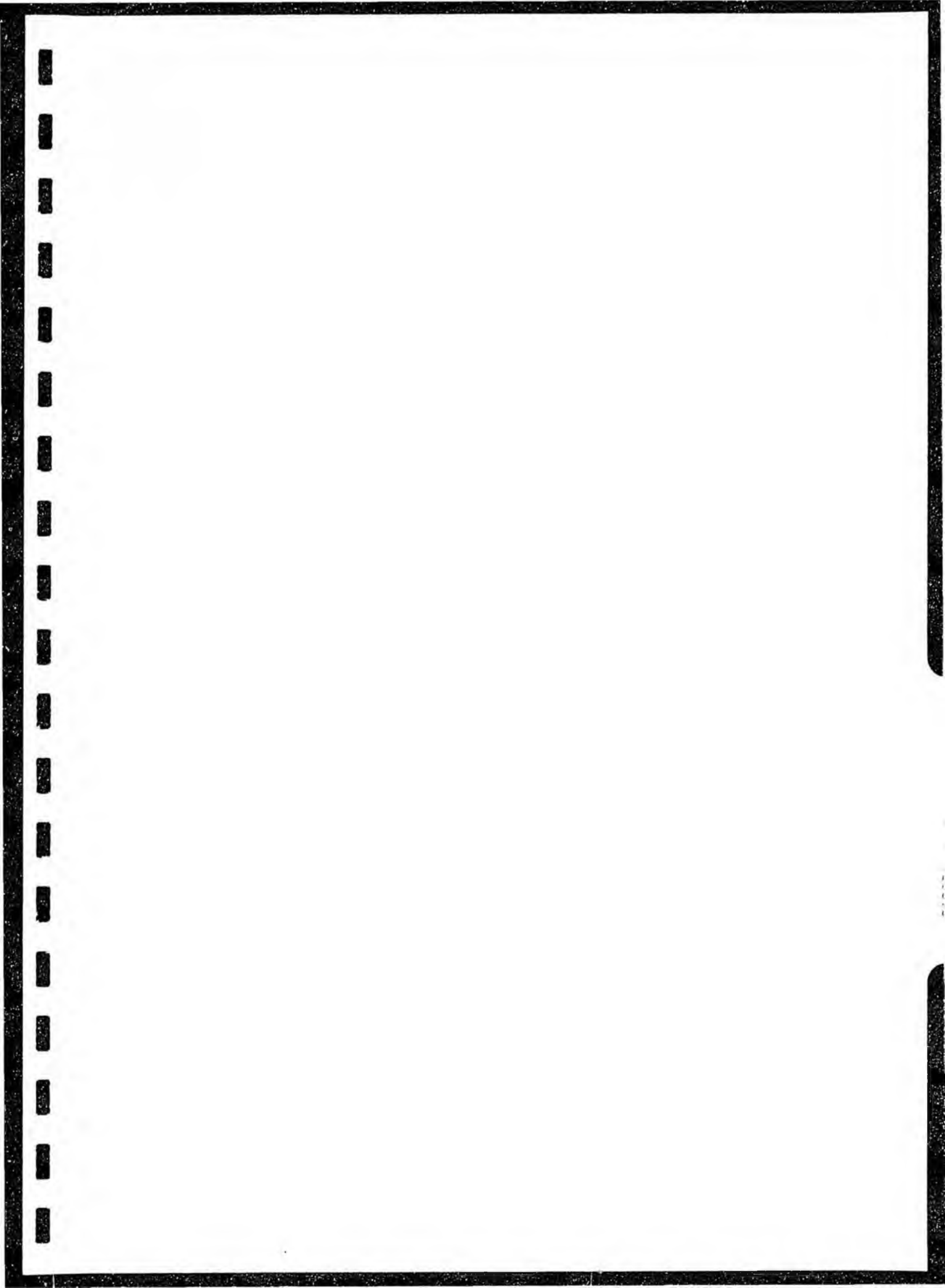
Northwest Pipeline Corporation retained Gulf Interstate Engineering Company to provide:

- a) A review and expert opinion of the construction feasibility and overall cost of transporting Prudhoe Bay and Mackenzie Delta gas via the Fairbanks Corridor pipeline system as was presented recently by Foothills Pipe Lines Ltd. in response to a request by a joint committee on Commerce and Interior and Insular Affairs of the U. S. Senate. In addition, comments on the construction feasibility of the prime Arctic Gas Pipeline route were requested.
- b) An overview of the environmental and socio-economic aspects of the "Fairbanks Corridor" pipeline system and the prime Arctic Gas Pipeline route for transporting Prudhoe Bay and Delta gas to the lower 48 states.

The construction feasibility and cost review were subcontracted to Energy Systems Engineering Ltd. and are contained herein as Part III.

The environmental and socio-economic overview was prepared by the Environmental and Regulatory Affairs Department of Gulf Interstate Engineering Company and is contained herein as Part IV.

GIEC  
April 14/76



CONSTRUCTION AND COST ANALYSIS  
FAIRBANKS CORRIDOR PIPELINE SYSTEM

Performed for:

GULF INTERSTATE ENGINEERING COMPANY

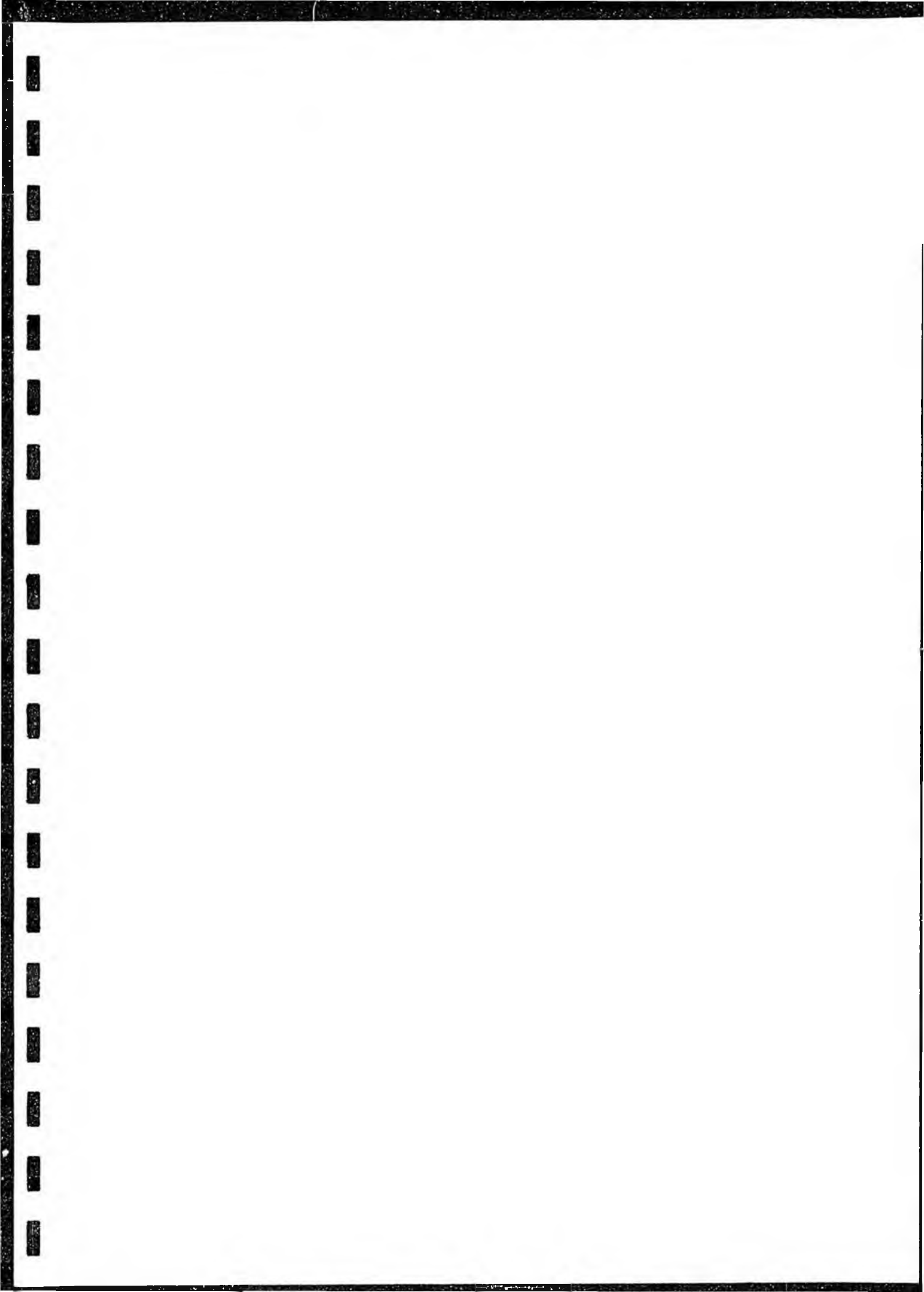
Prepared by:

Energy Systems Engineering Ltd.  
#101, 205-9th Avenue S. E.,  
Calgary, Alberta T2G 0R3

April 14, 1976

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## 1.0 INTRODUCTION

This report summarizes the results of a review and analysis of the construction feasibility and overall cost of a proposed "Fairbanks Corridor" pipeline system for the transmission of natural gas from Prudhoe Bay to the Canada/U.S. border at Sumas, Washington, and to Empress on the Alberta/Saskatchewan border. Northwest Pipeline Corporation requested that Gulf Interstate Engineering Company (GIEC) provide an independent evaluation of the construction feasibility, overall costs, environmental aspects and socio-economic impact of the concept that was presented recently by Foothills Pipe Lines Ltd. (FPL) in response to a request by a Joint Committee on Commerce and Interior and Insular Affairs of the U. S. Senate. Energy Systems Engineering Ltd. (ESEL) subcontracted those portions of the study related to construction feasibility and overall costs.

### 1.1 Terms of Reference

The study was to be conducted in accordance with the following terms of reference:

- a) ESEL was to gather and collate all construction and cost data available through information filed by Canadian Arctic Gas Pipeline Ltd. (CAGPL), El Paso Alaska Company, and Foothills Pipe Lines Ltd. (and associated systems). In addition, all the construction and cost details of the Fairbanks Corridor Concept were to be made available directly by Foothills and its member companies. All of the above material was to be used to provide the necessary cost backup for examining the proposed system.
- b) ESEL was to assess the proposed system from a construction feasibility and timing standpoint.

ESEL/GIEC  
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- c) ESEL was to assess the costs of the proposed system, and provide an estimate based on previous arctic pipeline cost estimates, as well as independent investigations of cost parameters. Costs were to be presented in terms of 1975 and escalated dollars, and a "rule-of-thumb" cost of service was to be provided.

### 1.2 Sources of Data

Due to a time constraint, no original cost data were generated during the study; costs were examined using existing in-house data, FPL working papers, and previous arctic pipeline submission costs. Current arctic pipeline practices and costs were examined, and the possible impact of the Alyeska project was assessed. Marine Pipeline Construction of Canada Limited provided assistance in the areas of construction timing, spread requirements, and construction costs. Material used in assessing the costs of the proposed system included the following:

- a) El Paso Submissions re: proposed Trans-Alaska pipeline.
- b) Foothills Pipe Lines Ltd. Application to the NEB.
- c) FPL working papers re: the Fairbanks Corridor Alternative.

These sources and other references are detailed in Appendix "A".

### 1.3 System Concept

The specific Fairbanks Corridor examined in the study was put forward by Foothills Pipe Lines Ltd., and all system natural gas flows, fuel requirements, deliveries and facility requirements presented by FPL were used as the basis for system analysis. The total system provides for the movement of Prudhoe Bay gas and Mackenzie Delta gas. The system required for Prudhoe Bay gas

would come on stream first (1981), followed by Delta gas two years later (1983). The system volume buildups are detailed in Table 1 - 1 (FPL Table). The volumes of the total system analyzed in the study are projected to 1985 with a total of 4 BCFD, consisting of 2.4 BCFD from Prudhoe Bay and 1.6 BCFD from the Delta. The system from the Delta to the 60th parallel would be capable of handling an ultimate feed of 2.4 BCFD when fully powered.

The system as presented by FPL, is detailed in Tables 1 - 2 and 1 - 3. Prudhoe Bay gas would be transported by a 42" pipeline parallel to the Alyeska pipeline system to Delta Junction. There it would leave the Alyeska route and parallel the Alcan highway, following the Haines Pipeline Corridor, to the U.S./Canada border. The 42" line would continue to parallel the highway from the border to Fort Nelson, B.C., where it would feed 31% of the gas into expanded Westcoast Transmission Company Limited (Westcoast) facilities for transport to Sumas. The remainder of the gas (69%) would be carried via a 36" line from Fort Nelson to Zama Lake, where it would feed expanded Alberta Gas Trunk Line Limited (AGTL) facilities for transport to Empress.

The Mackenzie Delta gas would be transported by the proposed FPL 42" system from the Delta to the 60th parallel, where it would feed the AGTL (Canada) system. AGTL (Canada) would transport the gas to the Zama Lake/AGTL connection, where it would feed the AGTL system, and an exchange would take place with the Prudhoe Bay system gas (see Table 1 - 1).

FAIRBANKS CORRIDOR  
GAS BALANCE  
(MMCFD AND BBTUD)

DESCRIPTION	IN-SERVICE JAN.1/81		IN-SERVICE JAN.1/82		IN-SERVICE JAN.1/83			IN-SERVICE JAN.1/84			IN-SERVICE JAN.1/85		
	Prud.Gas MMCFD @ 1145 BTU	BBTU/DAY	Prud.Gas MMCFD @ 1145 BTU	BBTU/DAY	Delta Gas MMCFD @ 1043 BTU	Prud.Gas MMCFD @ 1145 BTU	BBTU/DAY	Delta Gas MMCFD @ 1043 BTU	Prud.Gas MMCFD @ 1145 BTU	BBTU/DAY	Delta Gas MMCFD @ 1043 BTU	Prud.Gas MMCFD @ 1145 BTU	BBTU/DAY
<u>Prud.B.-Alaska/Yukon Brd.</u>													
Receipt	1,000.0	1,145,000	1,500.0	1,717,500		2,000.0	2,290,000		2,400.0	2,748,000		2,400.0	2,748,000
Fuel	11.3	12,938	23.0	26,335		44.5	50,952		79.6	91,142		79.6	91,142
Delivery	988.7	1,132,062	1,477.0	1,691,165		1,955.5	2,239,048		2,320.4	2,656,858		2,320.4	2,656,858
<u>Alaska/Yuk.Brd.-Ft.Nelson</u>													
Receipt	988.7	1,132,062	1,477.0	1,691,165			2,239,048		2,320.4	2,656,858		2,320.4	2,656,858
Fuel	8.1	9,275	19.4	22,213		45.6	52,212		80.2	91,829		80.2	91,829
Delivery	980.6	1,122,787	1,457.6	1,668,952		1,909.9	2,186,835		2,240.2	2,565,029		2,240.2	2,565,029
<u>Split @ Ft. Nelson</u>													
31% to WCT	304.0	348,080	451.9	517,426		592.1	677,955		694.5	795,202		694.5	795,202
69% to AGTL	676.6	774,707	1,005.7	1,151,526		1,317.8	1,508,881		1,545.7	1,769,827		1,545.7	1,769,827
<u>Ft.Nelson-Zama Lake</u>													
Receipt of Prud.Gas	676.6	774,707	1,005.7	1,151,526		1,317.8	1,508,881		1,545.7	1,769,827		1,545.7	1,769,827
Less Exchange to WCT						198.6	227,374		255.1	292,040		327.9	375,480
Fuel			4.8	5,496		4.7	5,381		8.0	9,160		6.6*	7,557
Delivery	676.6	774,707	1,000.9	1,146,031		1,114.5	1,276,126		1,282.6	1,468,627		1,211.2	1,386,790
<u>Rich. Is. -60th Parallel</u>													
Receipt					800.0		834,400	1,200.0		1,251,600	1,600.0		1,668,800
Gas to Communities								7.5		7,823	9.9		10,326
Fuel					4.7		4,902	10.8		11,264	26.8		27,952
Delivery					795.3		829,498	1,181.7		1,232,513	1,563.3		1,630,522
<u>60th Par.-Zama Lake</u>													
Receipt					795.3		829,498	1,181.7		1,232,513	1,563.3		1,630,522
Fuel					1.0*		1,043	3.0*		3,129	2.0*		2,086
Delivery					794.3		828,455	1,178.7		1,229,384	1,561.3		1,628,436
<u>Zama Lk.-Empress</u>													
Receipt	676.6	774,707	1,000.9	1,146,031	794.3	1,114.5	2,104,581	1,178.7	1,282.6	2,698,011	1,561.3	1,211.2	3,015,226
Less Exchange-WCT					218.0		227,374	280.0		292,040	50.0		375,480
+Exch.given to Prud.gas						198.6	227,374		255.1	292,040		327.9	375,480
Fuel	27.1*	31,029	40.0*	45,800	23.1*	52.5*	84,206	35.9*	61.5*	107,861	48.1*	61.6*	120,700
Delivery	649.5	743,678	960.9	1,100,231	553.2	1,260.6	2,020,375	862.8	1,476.2	2,590,150	1,153.2	1,477.5	2,894,526
<u>Ft.Nelson-Sumas (WCT)</u>													
Receipt	304.0	348,080	451.9	517,426	218.0	592.1	905,329	280.0	694.5	1,087,242	360.0	694.5	1,170,862
Fuel													
Delivery													

Mar 76 \* Estimated

TABLE 1 - 1 FPI

TABLE 1 - 2

FAIRBANKS CORRIDOR PIPELINE SYSTEM - FACILITIES SUMMARY

FOR PRUDHOE BAY NATURAL GAS

<u>Section</u>	<u>Ultimate Vol. MMCFD</u>	<u>In service Month/Yr.</u>	<u>Dist. Mi.</u>	<u>Dia. In.</u>	<u>Wall Thk. In.</u>	<u>No. of Sta.</u>	<u>Hp. for Compress.</u>	<u>Hp. for Chilling</u>
<u>Alaska: Prudhoe Bay to Alaska/Yukon border</u>	2,400	Jan./81	730	42	0.540	14	371,000	210,000
<u>Yukon &amp; B.C.: -Alaska/ Yukon border to Ft. Nelson</u>	2,320	Jan./81	792	42	0.540	17	461,3000	75,000
<u>B.C. &amp; Alta.: -Ft. Nelson to Zama</u>	1,545	Jan./81	144	36	0.450	2	53,000	-
<u>Westcoast - looping on an existing system through to Sumas, Wash.</u>	695	Jan./81	770 <sup>(1)</sup>	36	0.375	n/a <sup>(2)</sup>	-	n/a <sup>(2)</sup>
<u>AGTL - looping on an existing system through to Empress, Alta.</u>	1,545	Jan./81	780 <sup>(1)</sup>	42	0.375	n/a <sup>(2)</sup>	-	n/a <sup>(2)</sup>

NOTES:(1) Total distance of transportation, not miles of actual loop installed.

(2) n/a Not available - these numbers could not be abstracted from the information received by GIEC.

TABLE 1 - 3

FAIRBANKS CORRIDOR PIPELINE SYSTEM - FACILITIES SUMMARY

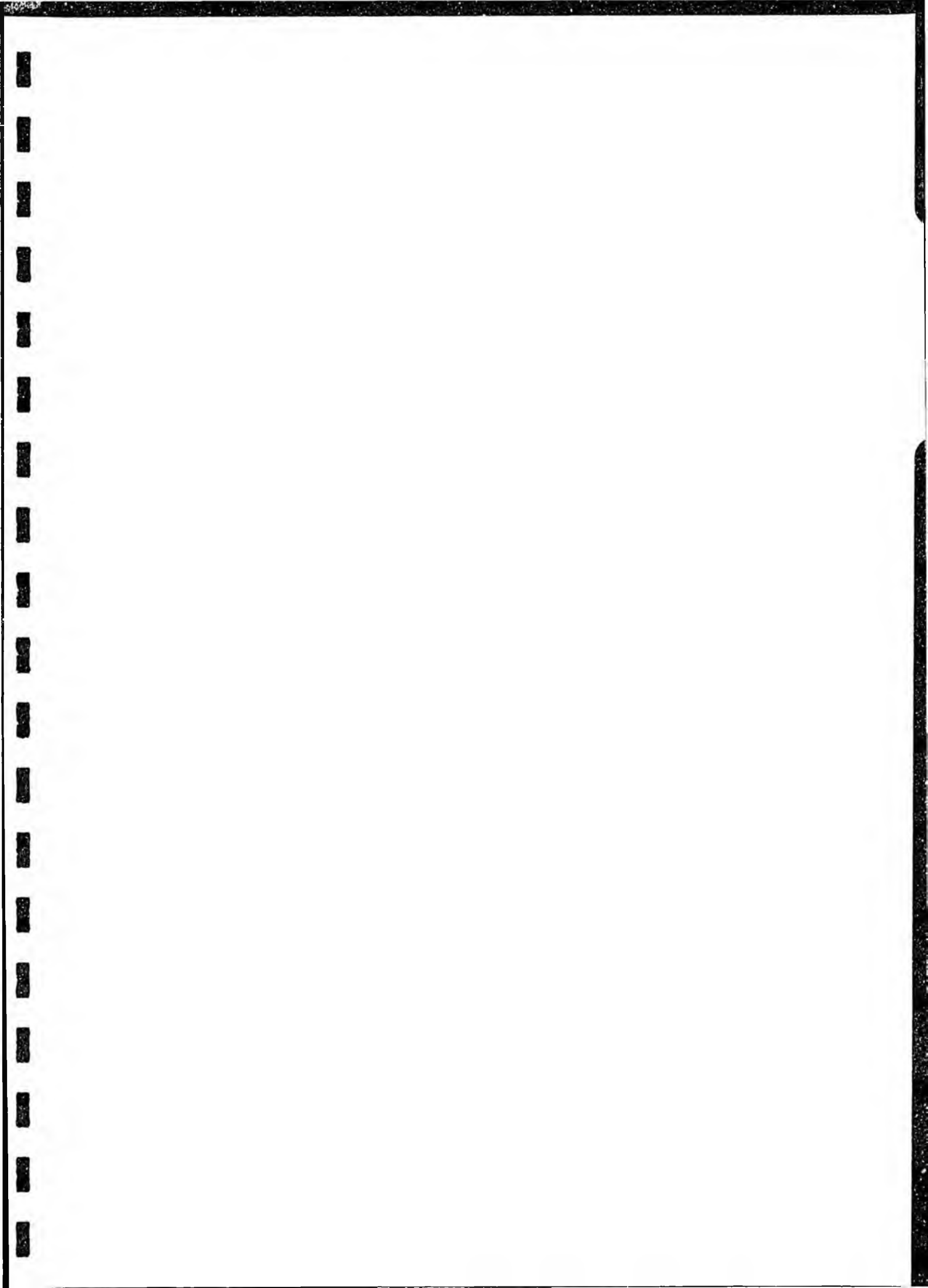
FOR MACKENZIE DELTA NATURAL GAS

<u>Section</u>	<u>Ultimate Vol.</u> <u>MMCFD</u>	<u>In Service</u> <u>Month/Yr.</u>	<u>Dist.</u> <u>Mi.</u>	<u>Dia.</u> <u>In.</u>	<u>Wall Thk.</u> <u>In.</u>	<u>No. of</u> <u>Sta.</u>	<u>Hp. for</u> <u>Compress.</u>	<u>Hp. for</u> <u>Chilling</u>
<u>Foothills - Mackenzie</u> <u>Delta area to 60°N</u>	1,600 <sup>(1)</sup>	Jan./83	817	42	0.540	8	212,000	120,000
<u>AGTL (Canada) - 60°N</u> <u>to Zama, Alta.</u>	1,560	Jan./83	81	42	0.469	1	30,000	-
<u>B.C. &amp; Alta. - Ft.</u> <u>Nelson to Zama</u>	360	Jan./83	144	36	0.450	2	53,000	-
<u>Westcoast - looping on an</u> <u>existing system through</u> <u>to Sumas, Wash.</u>	360	Jan./83	770 <sup>(2)</sup>	36	0.375	n/a	-	n/a
<u>AGTL - looping on an</u> <u>existing system through</u> <u>to Empress, Alta.</u>	1,200	Jan./83	780 <sup>(2)</sup>	42	0.375	n/a	-	n/a

NOTES: (1) Ultimate Volume as at Jan. 1/85. Facilities can be expanded to maximum of 2,400 MMCFD.

(2) Total distance of transportation, not miles of actual loop installed.

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## 2.0 SUMMARY

Examination of the Fairbanks Corridor Route concept as presented by Foothills Pipe Lines Ltd. indicates that the proposed system is entirely feasible from a construction standpoint. Some of the positive aspects relating to the proposed route include the following:

- a) The pipeline route parallels existing all-weather roads; i.e., the Alaskan highway from Delta Junction to Prudhoe Bay and the Alcan Highway from Fairbanks to Fort Nelson.
- b) A sophisticated communications system exists along the entire route.
- c) The existing Alyeska pipeline work pad could be utilized (subject to negotiations with the owner).
- d) An existing products pipeline right-of-way can be utilized from Haines Junction to the junction with the Alyeska pipeline near Delta Junction, a distance of approximately 400 miles.
- e) Existing construction facilities along the Alyeska pipeline (camps, air strips, etc.) can be utilized (subject to negotiations with the owner).
- f) Construction experience exists along the Fairbanks Corridor Route which could allow competitive bidding. This should have the effect of reducing and controlling construction costs.
- g) Alaskan and sub-arctic construction techniques along the proposed route have been developed and this information can be used in determining engineering design, realistic costs, and construction requirements along the proposed pipeline route.
- h) Construction equipment along the Alyeska pipeline is in place and available for use (subject to negotiations with the owner).

- i) Minimum amount of construction required on the coastal plain of the Beaufort Sea.
- j) Use of the Alyeska pad from Prudhoe Bay to Delta Junction would allow pipeline construction to be scheduled over a nine-month period from March 1 to December 1.
- k) Pipelining along most of the route from Delta Junction to Fort Nelson would be conventional summer construction, thus eliminating many of the uncertainties in arctic pipeline cost estimating.
- l) Use of excess capacity coupled with an incremental looping program in the existing Alberta Gas Trunk Line System and Westcoast Transmission System should yield the lowest delivered energy cost.

The overall effect of the above features of the subject route and system is that cost estimates and construction schedules can be developed with a high degree of confidence as compared to a system that follows a route that does not enjoy the same advantages.

The cost of the total system is given in Table 2 - 1, and totals are shown below:

	<u>1975 Cost</u>	<u>Escalated Cost</u>
Prudhoe Bay Gas		
System Costs	\$4,650,349,000	\$6,151,943,000
Delta Gas System Costs	<u>2,185,714,000</u>	<u>3,157,043,000</u>
Total	<u><u>\$6,836,063,000</u></u>	<u><u>\$9,308,986,000</u></u>

The above costs include an estimate of the impact of the cost escalations and problems encountered by the Alyeska project. In the opinion of ESEL/GIEC, submissions by CAGPL and El Paso have not fully recognized these problems. Our estimates, therefore, do not provide a good comparison with the estimates of other systems. To obtain a common-basis comparison of cost estimates, CAGPL and El Paso estimates should be

increased substantially. The Prudhoe Bay system estimates include the Fort Nelson - Zama Lake interconnection costs, but credit would probably be received in terms of tariff charges to FPL as part of a Zama Lake exchange agreement. Costs of the expanded AGTL and Westcoast systems have been allocated in terms of the volume throughputs of the two sources.

A cost of service calculation, in terms of 1975 dollars, has been developed for the Fairbanks Corridor concept.

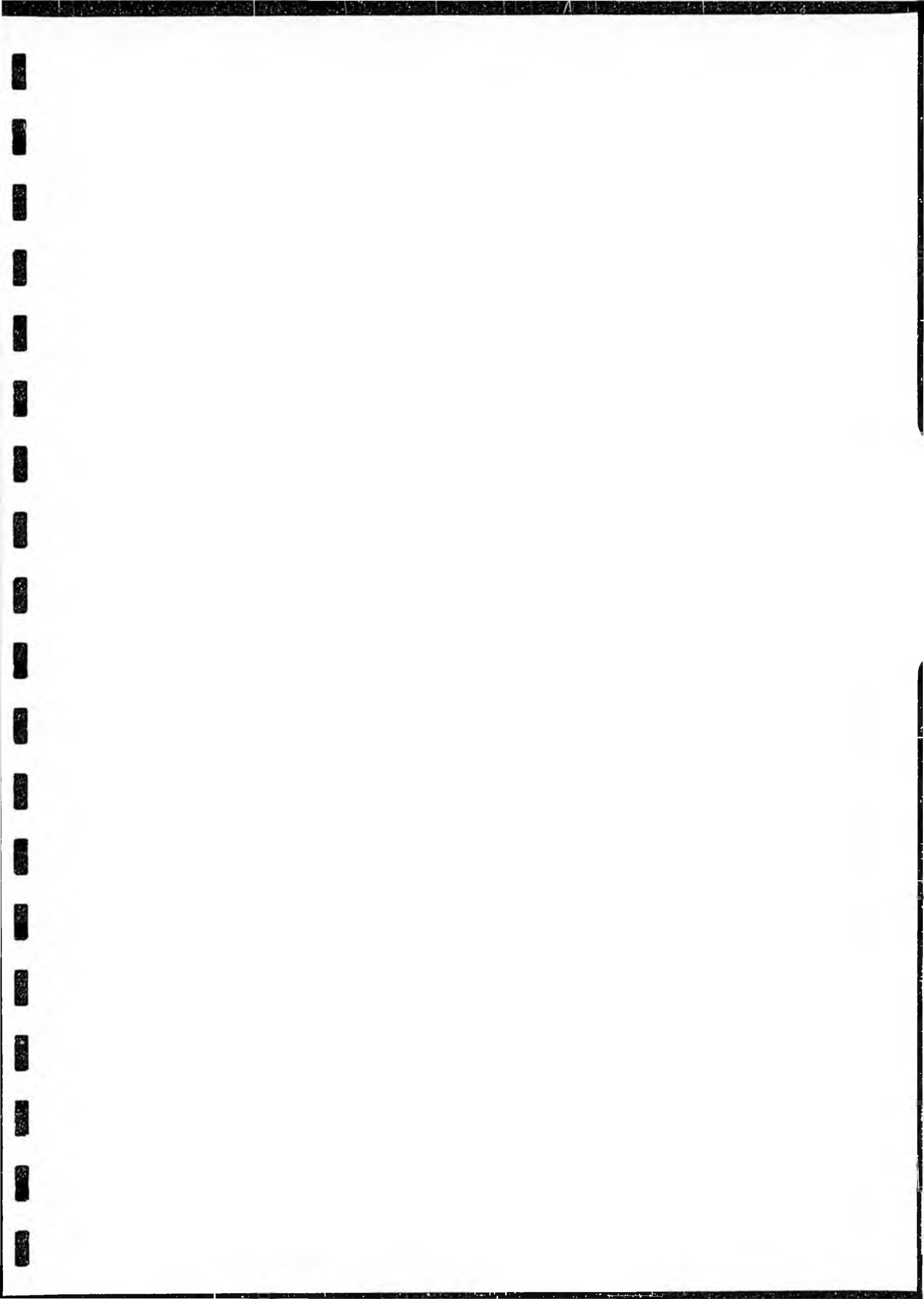
Transportation costs have been developed on the basis that the existing Westcoast Transmission system, Alberta Gas Trunk Line system, and the connecting link between Fort Nelson and Zama are "shared" facilities. It does not represent the rates which would be applicable if only the Prudhoe Bay gas were transported, or if only the Mackenzie Delta gas were transported. The transportation costs indicate roughly the pro-rated (by volume) costs and corresponding rates that can be attributed to either major gas source area. Calculations are included in Appendix "B", and the transportation costs are summarized below:

	<u>Transportation Cost - \$/MMBtu</u>
Prudhoe Bay Gas (1984 volume's)	
a) Delivered to Sumas	1.00
b) Delivered to Empress	1.05

TABLE 2 - 1

FAIRBANKS CORRIDOR PIPELINE SYSTEM - CAPITAL COST ESTIMATE

	1975	<u>SUMMARY</u>							<u>Total</u>
		<u>Escalated Costs (000's)</u>							
	<u>Costs</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	
Alaska Section - Prudhoe Bay Gas	\$ 2,265,698	635,085	1,209,398	784,998	224,785	76,612	-	-	2,930,878
Alaska/Yukon Border to Fort Nelson - Prudhoe Bay Gas	1,450,770	346,804	748,288	489,403	208,272	100,711	4,080	-	1,897,558
Existing Systems Expan- sion Prudhoe Bay Gas	933,881	-	112,370	542,153	223,915	206,333	194,073	44,663	1,323,507
Total Cost for Prudhoe Bay Gas	\$ 4,650,349	981,889	2,070,056	1,816,554	656,972	383,656	198,153	44,663	6,151,943
Total Cost for Mackenzie Delta Gas	<u>2,185,714</u>	<u>-</u>	<u>97,900</u>	<u>621,700</u>	<u>977,505</u>	<u>1,080,753</u>	<u>267,008</u>	<u>112,177</u>	<u>3,157,043</u>
TOTAL COST FOR FAIRBANKS CORRIDOR	\$ <u>6,836,063</u>	<u>981,889</u>	<u>2,167,956</u>	<u>2,438,254</u>	<u>1,634,477</u>	<u>1,464,409</u>	<u>465,161</u>	<u>156,840</u>	<u>9,308,986</u>



### 3.0 ALASKA SECTION

#### 3.1 System Facilities

The Alaska portion of the system would consist of 730 miles of pipeline crossing the State of Alaska from Prudhoe Bay to the Alaska/Yukon border. The route of the proposed pipeline parallels that of the Alyeska system as far as Delta Junction. From Delta Junction to the border, the pipeline parallels the Alcan highway and utilizes an existing pipeline right-of-way.

System inputs over the buildup years would be as follows:

	<u>Input MMCFD @ 1145 Btu</u>
January 1, 1981	1,000
January 1, 1982	1,500
January 1, 1983	2,000
January 1, 1984	2,400

The pipe considered was 42" OD x 0.540" wall, Grade 70, with a low-temperature specification. Maximum operating pressure would be 1250 psi, and the system at 2,400 MMCFD would require 14 compressor stations of 26,500 hp each, with additional refrigeration horsepower required at all stations.

#### 3.2 Construction Program

The construction of the pipeline system required for the initial gas flow will take three years from the date of permit receipt, the first year being devoted to equipment and material move-in. The construction of additional compressor stations will follow, as field deliverability increases to require additional capacity.

The successful and economic construction of a pipeline system in Alaska, as in any frontier region, is subject to a number of concerns. These include logistics and construction support problems, labor scarcity and cost, weather hazards, and, in the case of arctic pipeline construction, design and construction problems associated with a fragile environment and permafrost. The route for the Fairbanks Corridor System which parallels the Alyeska system to Delta Junction and then follows the Alcan Highway to the border, has a number of positive aspects relating to construction, including:

- a) The presence of existing all-weather roads adjacent to the proposed route provide year-round access.
- b) A sophisticated communication system exists along the route.
- c) Existing camps, air strips, etc., on that portion of the line between Prudhoe Bay and Delta Junction (subject to negotiations with owner).
- d) An existing pipeline right-of-way from Delta Junction to Haines Junction (Yukon) can be utilized.
- e) Construction equipment along the Alyeska right-of-way is available for use (subject to negotiations with owner).
- f) Geotechnical data and environmental data from Prudhoe Bay to Delta Junction is available.
- g) Archeological sites from Prudhoe Bay to Delta Junction have been located.
- h) The existing Yukon River Bridge was designed to support a second pipeline.

The presence of the facilities and equipment required for the Alyeska project must be a major determinant in the selection of a pipeline system for Prudhoe Bay gas. A major part of the

cost of the Alyeska project is in coordinating and providing civil works and logistics required for pipeline and station construction. In their examination of the Fairbanks Corridor concept, FPL have assumed that camps, equipment, and stockpile sites required for Alyeska could be utilized for the gas line. They have also formulated their construction concept on the use of the Alyeska pad for pipeline construction. The use of this pad offers many advantages in terms of construction costs. The chief advantage lies in the scheduling of pipeline construction; construction can be accomplished from March 1 to December 1, a period of nine months.

Previous construction programs proposed by El Paso and CAGPL assumed that the pipeline construction would take place during the winter months. These construction programs have a number of problems associated with them, including the following:

- a) Equipment - merely keeping equipment running during the winter months of an arctic construction project can be a major problem. At  $-50^{\circ}\text{F}$ , machines must be kept running 24 hours per day, fuel requirements are immense, oil no longer flows, batteries freeze up, metal becomes brittle, plastic cannot flex, and the results of these problems are reflected in decreased productivity and increased costs.
- b) Labor - productivity of labor during the winter months of northern Alaska or Canada is generally much lower than in the summer months.
- c) In northern latitudes there is no daylight in late December and early January. Construction in darkness during  $-50^{\circ}\text{F}$  weather could be unsafe and impractical. The right-of-way would have to be lighted, which would be impractical for a pipeline

construction spread. Pipeline construction is a sequential series of operations, and to maintain the required production rates for economical installation, crews must be properly spaced to allow for variations in crew productivity.

- d) Pipeline workers have traditionally taken several weeks off during the winter over the Christmas season. It would be very difficult to schedule effective construction during this period.
- e) Winter construction requires the use of snow roads for equipment movement and ditching operations. The capability of providing snow roads on the schedule required for pipeline construction is uncertain. Any failure to provide the required snow roads would be reflected by a decrease in spread productivity and an increase in construction cost.

Decrease in construction productivity can have far-reaching consequences apart from the obvious increase in costs. Failure to achieve the required production in a season could delay the pipeline project for a year or more.

Use of the existing facilities associated with the Alyeska project removes a number of uncertainties which have become a major consideration in arctic pipeline construction. Logistics are simplified, a large part of the civil works requirements for a frontier construction project are unnecessary, and costs become more predictable. The use of the existing pad and summer construction make the project more manageable, and scheduling more certain.

The construction of the Alaska portion of the Fairbanks Corridor System has been assessed on the following basis:

- a) Use of the existing Alyeska facilities (i.e., camps, construction pad, Yukon River Bridge, access roads) along the Alyeska corridor for 540 miles to Delta Junction.
- b) Use of the Alcan Highway for right-of-way access, and the abandoned Haines line right-of-way for construction from Delta Junction to the Alaska/Yukon border (190 miles). It has been assumed that there would be no requirement for a gravel pad on this portion of the system.

Construction of the Alaska portion of the Fairbanks Corridor System would require six construction spreads working 137 days through the summer seasons for two seasons. The production requirements have been allocated over an assumed 745 miles (730 miles + 2% terrain and wastage) as follows:

<u>Spread</u>	<u>M.P.*</u>	<u>Miles</u>	<u>Average Production</u>	<u>Season</u>
1	0 to 110	110	2,100 ft./day	May 15 to Sept. 30
2	110 to 225	110	2,200 ft./day	May 15 to Sept. 30
3	225 to 345	120	2,300 ft./day	May 15 to Sept. 30
4	345 to 467	122	2,350 ft./day	May 15 to Sept. 30
5	467 to 600	133	2,550 ft./day	June 1 to Oct. 15
6	600 to 745	145	2,800 ft./day	June 1 to Oct. 15

Average production 2,400 ft./day.

\* M.P. - 0.0 is at Prudhoe Bay

\* M.P. - 745 is at the Alaska/Yukon border

The daily spread production has been based upon visual inspection of the pipeline route, discussions with Gulf Interstate personnel familiar with the Alyeska project, and with Foothills Pipe Lines Ltd. construction people.

Pipeline construction has been scheduled for summer work. Clearing and grading operations would be scheduled for early spring through to late fall ahead of the mainline operations. Road and pad maintenance would be a year-round construction requirement.

The section from Delta Junction to the Alaska/Yukon border would be, for the most part, conventional summer construction. It was assumed that no pad would be required. Muskeg areas in this section would be scheduled for late winter installation.

The Atigun Pass and major river crossings along the route would be constructed with crews separate from the mainline pipeline operations.

### 3.3 Cost Estimates

Most of the costs developed for the Alaska portion of the Fairbanks Corridor system have been based upon 1975 costs submitted to the Federal Power Commission by El Paso Alaska Company during direct testimony, November 7, 1975. An independent analysis of pipeline construction costs has been performed by Marine Pipeline Construction of Canada Ltd., based upon previous estimates made in regard to arctic pipelining. Pipe prices used by El Paso were confirmed by suppliers.

Due to a time constraint, no significant original work could be attempted on the cost estimates. Costs were necessarily factored from filed information, or from existing in-house data related to other projects. The basic approach to the estimate for the Alaska portion of the system has been to modify the El Paso costs (with the exception of pipeline construction costs), using engineering judgment and factors based on differences between the two systems. The El Paso system would be a 42" pipeline operating

at 1680 psi, with a pipe wall thickness of 0.750 inches. The system includes 12 stations, 11 refrigerated, with two 23,400 hp compressor units at each station. Adjustments were made for refrigeration and compression horsepower, number of stations, tons of steel, line length, etc.

Total pipe tonnage for the El Paso system would be in the order of 730,000 tons, with a unit cost of approximately \$775 per ton landed at Anchorage. Pipe for the Alaska portion of the proposed Fairbanks Corridor system would total approximately 485,000 tons, due to the lighter wall thickness (0.540 wall) and the shorter length of the system.

Particular emphasis has been placed upon the cost of pipeline construction, due to the escalation of costs experienced by the Alyeska project. The methodology used to arrive at spread costs was to convert the cost components of a typical northern Canada summer construction spread (i.e. labor, materials, fuel, equipment costs) to a per foot basis, and then apply the appropriate factors for differences in production and wage rates, etc., to establish representative estimated basic costs. To this total were added unit costs to allow for problems peculiar to the Alaska terrain and environmental restrictions.

Estimates have been developed in terms of 1975 dollars, and escalated to the year of installation or equipment purchase. Escalation factors used have been taken from the Foothills NEB filing, and are summarized below:

<u>Composite Escalation Rates</u>	Percentage Change From Prior Year		
	<u>1976</u>	<u>1977</u>	<u>1978</u>
Pipeline Materials	6.5	5.9	5.0
Pipeline Installation	8.0	7.2	6.4
Land, Freight, Communications	7.5	5.2	4.8
Compressor & Meter Station Materials	6.5	5.6	4.9
Compressor & Meter Station Installation	9.2	8.2	7.2
Operations & Maintenance Facilities Materials	7.5	5.6	5.2
Operations & Maintenance Facilities Installation	9.2	8.2	7.2
O & M and Support Facilities Equipment	6.4	5.0	4.5
Support Facilities Construction	8.5	7.4	6.6
Project Average	7.2	6.1	5.4

The foregoing composite escalation rates have been derived from estimated escalation rates for particular categories, i.e. line pipe, construction wages and salaries, construction machinery and equipment, etc. It has been assumed that the high level of inflation has peaked and will approach historical rates in succeeding years to 1978, then will remain constant.

Estimates include a 5% contingency, and an allowance for the cost of funds required during construction (AFC), at an annual rate of 12½%.

A summary of the system capital costs is given in Table 3 - 1. Total system costs are given below:

<u>1975 Cost</u>	<u>Escalated Cost</u>
\$2,265,698,000	\$2,930,878,000

There are many uncertainties involved in predicting construction costs in Alaska at this time, due to the lack of detailed analyses of the Alyeska cost escalations, and an assessment of how these costs will impact future pipeline construction. The estimates

TABLE 3 - 1

## FAIRBANKS CORRIDOR PIPELINE SYSTEM - CAPITAL COST ESTIMATE - ALASKA SECTION

730 Miles - 42 Inch - 0.540" - Foothills Design Basis - 14 Stations, Format &amp; Categories Modified After El Paso Filing

	1975	Escalated Costs (000's)					Total
	Costs	1978	1979	1980	1981	1982	
Land & Land Rights	184	218	-	-	-	-	218
Rights-of-Way	4,249	5,035	-	-	-	-	5,035
Structures & Improvements	52,567	-	20,183	15,587	39,557	-	75,327
Pipeline - materials	489,655	289,876	304,320	-	-	-	594,196
- installation	786,720	193,848	515,695	329,242	-	-	1,038,785
Stations - materials	184,282	-	66,161	50,231	125,496	-	241,888
- installation	72,380	-	-	30,561	23,727	60,546	114,834
Measuring Stations	5,339	-	-	7,111	-	-	7,111
Communications	8,900	-	5,527	5,794	-	-	11,321
General Plant	11,996	1,007	8,643	5,752	-	-	15,402
Sales Tax	650	385	404	-	-	-	789
TOTAL DIRECT JOB COSTS	\$1,616,922	490,369	920,933	444,278	188,780	60,546	2,104,906
Engineering & Constr.	64,431	14,539	38,677	26,985	1,780	4,541	86,522
Temporary Facilities	23,200	27,817	-	-	-	-	27,817
Services & Supplies	-	-	-	-	-	-	-
Field Staff	8,560	2,636	4,937	2,388	1,017	406	11,384
Field Overhead	12,126	3,678	6,907	3,332	1,416	454	15,787
TOTAL INDIRECT JOB COSTS	\$ 108,317	48,670	50,521	32,705	4,213	5,401	141,510
Engineering Supervision							
Home Office Services							
Purchasing & Expediting	48,509	14,711	27,628	13,328	5,663	1,816	63,146
Overhead							
TOTAL OFFICE COSTS	\$ 48,509	14,711	27,628	13,328	5,663	1,816	63,146
Contract Project Mgmt. Fee	24,254	7,356	13,814	6,664	2,832	908	31,574
Intangible Plant	8,158	8,158	-	-	-	-	8,158
Subtotal-Direct+Indirect+							
Office	\$1,806,160	569,264	1,012,896	496,975	201,488	68,671	2,349,294
Contingency @ 5%	90,308	28,463	50,645	24,849	10,074	3,434	117,465
AFC	369,230	37,358	145,857	263,174	13,223	4,507	464,119
TOTAL	\$ 2,265,698	635,085	1,209,398	784,998	224,785	76,612	2,930,878

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developed during this study are based upon the knowledge of Gulf Interstate personnel with experience in Alaskan construction, and upon the assessment of Marine Pipeline Construction of Canada, of the cost of the special construction required to overcome these problem areas. The costs, in the opinion of ESEL/GIEC, reflect the best estimate available at this time, utilizing the construction concept of summer work on the existing pad, and including an allowance for a number of general concerns. These concerns include the following:

- a) A large amount of civil work is required for haul road repair and pad maintenance; i.e., for low water crossings, pad composition, 24-hour winter haul road maintenance in the Atigun Pass, and 18 to 24-hour washing down of the haul road during summer months for dust control (common also to the Alaskan highway through the Yukon and northern B.C.).
- b) A number of non-standard construction items encountered by Alyeska may carry over into future pipeline construction. These include deep ditches in the flood plains area, elaborate spur-dike construction, and a very expensive revegetation program.
- c) Extra construction costs which have not been allowed for in most arctic pipeline estimates include:
  - the failure of "arctic ditchers" to perform to expectations, necessitating blasting for excavation in permafrost areas.
  - much of the material being excavated has a tendency to pull like rock; as a result, instead of a standard ditch, a rock-type ditch is obtained.

- equipment repair costs are escalated considerably in frontier areas.
- most of the ditch excavated cannot be dewatered economically, and a large number of concrete weights are required.
- pipe coating over the ditch is very expensive in the winter due to the necessity of heating the inside and outside of the pipe to get a good bond.
- since ditch cannot be dug with conventional ditching machines, spoil is rough, and select fill material is being used to prevent damage to the pipe coating.
- final clean-up is a very costly operation, because the spoil is too wet to work in the summer, and in the winter it is frozen and cannot be moved.
- due to environmental restrictions, stream crossings can be made only at certain times of the year, thus interrupting the normal sequence of construction operations.

d) Numerous labor problems have been encountered on the Alyeska project which could be encountered by future pipeline projects. On the average, these problems have occurred more frequently than on past projects. They include:

- a climate which appears to have a marked effect on the productivity of men and equipment, and on the labor rates expected by the unions.

- the inability to get the ditch required for overall spread production has significantly increased the number of people per spread, and has resulted in a corresponding increase in support staff.
  - labor relations can have a considerable impact on productivity and labor rates. Because pipeline construction is a sequential operation, overall productivity is drastically affected by the failure of any one crew to obtain the required production.
- e) Unexpected environmental restrictions have caused problems for contractors. There is more than one environmental inspection team per spread, and each has a different area of responsibility. A system of checks and balances appears to be necessary to ensure that contractors are not totally subject to the interpretation of the guidelines by an individual inspector.
- f) On any large construction project, contractor cost control is very important. Contractors must be motivated on future arctic pipeline projects to assume cost responsibility, as it is unlikely any project management organization can keep costs down without definite economic incentive for the contractor groups.

The differences between previous trans-Alaska pipeline estimates and the ESEL/GIEC estimate are chiefly in the following areas:

- a) A contingency allowance has been included for modifying the existing Alyeska construction facilities

where necessary to provide for the installation of the additional line. These costs are difficult to define at this time, and may change considerably in future estimates. Substantial savings in construction costs will result if no modifications are required.

- b) River crossings and associated environmental restraints and construction requirements make this a major cost item. Costs included in the ESEL/GIEC estimate include 45 million dollars for river crossings.
- c) Costs have been included for the fabrication and installation of 100,000 concrete weights (30% of the line).
- d) Costs for select fill have been included in the estimates in permafrost and rock areas.
- e) An allowance has been included for pad maintenance and haul road maintenance.
- f) Costs have been included for drilling and blasting permafrost (30% permafrost assumed).
- g) An important cost difference is caused by a spread production of 2,400 feet per day, a result of the problems itemized previously.

Further examination of the costs of the Alyeska project may reveal that costs will be lowered through knowledge of arctic construction gained on the Alyeska project. The scale of operations of a 48" hot oil line requiring aboveground construction, and a 42" gas line are significantly different.

The 42" project would be much more manageable, and the learning-curve effect on costs could be considerable. The use of berm techniques, rather than attempting to make ditch, could increase production considerably.

It should be noted that the impact of the problems encountered in the Alyeska pipeline construction has not, in our opinion, been fully considered by Alaskan Arctic Gas or by El Paso submissions. To obtain a common-basis comparison with these systems would require a substantial increase in their cost estimate. There are many unknowns and many opinions generated in cost estimating in Alaska at this time, and these costs are worthy of a detailed examination in the near future.

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TO FORT NELSON

MP	533	26,500	aerial cooler
MP	572	26,500	aerial cooler
MP	617	29,200	aerial cooler
MP	667	29,200	aerial cooler
MP	715	29,200	aerial cooler
MP	767	29,200	aerial cooler

Note 1: 00 is at Alaska/Yukon border  
792 is at Fort Nelson, B.C.

As in the Alaska section, construction of the pipeline system required for the initial gas flows would take three years, the first year of which would be devoted to civil work construction and equipment and material move-in. The construction of additional compressor stations will follow as field deliverability increases to require additional capacity.

The pipeline route of this section of the system would be adjacent to the Alcan Highway, simplifying logistics and construction. Pipe would be moved into stockpile sites in the winter, and construction would, for the most part, be conventional summer construction. The route lies in the southern fringes of the discontinuous permafrost zone, and permafrost is not expected to be a major problem. Pipeline through muskeg areas (the major part on the Fort Nelson end) would be laid using conventional winter construction techniques.

Construction of the system would require three construction spreads working over a two year period. The proposed construction scheme would break the system into 9 sections. These are described as follows:

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Section 1 - MP 00 to MP 50 =	50 miles	winter construction
Section 2 - MP 50 to MP 168 =	118 miles	summer construction
Section 3 - MP 168 to MP 286 =	118 miles	summer construction
Section 4 - MP 286 to MP 404 =	118 miles	summer construction
Section 5 - MP 404 to MP 522 =	118 miles	summer construction
Section 6 - MP 522 to MP 642 =	120 miles	summer construction
Section 7 - MP 642 to MP 692 =	50 miles	summer construction (mountainous)
Section 8 - MP 692 to MP 742 =	50 miles	winter construction
Section 9 - MP 742 to MP 792 =	50 miles	winter construction

The spreads would be assigned to these segments as described below:

Spread "A" - 286 miles

Commences February 1, 1979 on Section 1; complete April 30, 1979.  
Continue to Section 2 June 1, 1979; complete October 15, 1979.  
Commence Section 3 June 1, 1980; complete October 15, 1980.

Spread "B" - 218 miles

Commence January 15, 1979 on Section 8; complete April 15, 1979.  
Continue to Section 7 June 1, 1979; complete October 15, 1979.  
Commence Section 6 June 1, 1980; complete October 15, 1980.

Spread "C" - 238 miles

Commence January 15, 1979 on Section 9; complete April 15, 1979.  
Continue to Section 5 June 1, 1979; complete October 15, 1979.  
Commence Section 4 June 1, 1980; complete October 15, 1980.

The following section describes the production rates and general assumptions behind these rates:

Production Rates & General BreakdownSpread "A"

Section 1 - Set up for an average production rate of 4200 feet per day or 65 (65' av.) jts/day. This is to be constructed during the winter of 1979 because of the amount of muskeg areas to be encountered.

Section 2 - Set up for an average production rate of 5000 feet per day or 77 (65' av.) jts/day. Clearing is to be done during the winter of 1979, and allowance has been made for extra supervision, camp, etc. Balance of construction operations are to be carried out during the summer of 1979.

Section 3 - Set up for an average production rate of 5000 feet per day or 77 (65' av.) jts/day. Clearing is to be done during the winter of 1980 and allowance has been made for extra supervision, camp, etc. Balance of construction operations are to be carried out during the summer of 1980.

Spread "B"

Section 8 - Same rates and scheduling as Section 1 of Spread "A".

Section 7 - Set up for an average production rate of 2720 feet per day or 42 (65' av.) jts/day. This section is approximately 25% rock ditch. Main reasons for low production are rock ditch, grade and limited access. Clearing on this section is to be done during the winter of 1979.

Section 6 - Same rates and scheduling as Section 3 of Spread "A".

### Spread "C"

Section 9 - Same rates and scheduling as Section 1 of Spread "A".

Section 5 - Same rates and scheduling as Section 2 of Spread "A".

Section 4 - Same rates and scheduling as Section 3 of Spread "A".

Production rates given above are those required as an average over the total work period. Crews were sized to achieve higher production rates to allow for 25% loss of production.

The pipeline construction rates are based upon visual inspection of the route, and on the construction experience of Marine Pipeline Construction of Canada Ltd. Pipeline construction in the Fort Nelson area has been successfully and economically completed in the past, and the Fort Nelson area is served by both rail and highway. Canadian experience in muskeg pipeline construction is considerable, and this would present no new problems. The construction of a 792 mile 42" line over a two year period is well within the capabilities of Canadian contractors, and it is anticipated that bidding for this project could be put on a competitive basis, and a high degree of contractor cost responsibility could be established.

### 4.3 Cost Estimate

Cost estimates have been based upon the filed costs for the Foothills Pipe Line Ltd. system, and upon FPL working papers for the Fairbanks Corridor system. The basic approach to the estimate of the Alaska portion of the system has been followed in the estimates of this portion of the system; i.e., FPL system costs have been adjusted for differences in the two systems, an independent analysis has been made of construction costs, and pipe prices have been checked through contact with suppliers.

There are many similarities between the proposed Foothills system and the Fairbanks Corridor system, since the same design approach has been used for both systems; i.e., same pipe diameter, wall thickness, similar lengths, same number of stations of similar size, etc. The chief differences in the cost of facilities are in the reduced requirements for support facilities; i.e., general civil works, and in pipeline construction costs.

Construction cost estimates have been obtained by adjusting the costs of a typical arctic pipeline summer spread for the construction concepts and production rates described previously. Direct construction cost estimates for the nine sections of the line were as follows:

			<u>1975 costs</u>
Section 1	50 miles - \$72.07/ft	=	\$ 19,027,000
2	118 miles - 50.36/ft	=	31,375,000
3	118 miles - 50.36/ft	=	31,375,000
4	118 miles - 50.36/ft	=	31,375,000
5	118 miles - 50.36/ft	=	31,375,000
6	120 miles - 50.36/ft	=	31,929,000
7	50 miles - 86.00/ft	=	22,704,000
8	50 miles - 74.07/ft	=	19,555,000
9	50 miles - 72.07/ft	=	<u>19,027,000</u>
	792 miles = 4,182,000 ft		\$237,742,000

The above costs include move-in and move-out, mobilize and demobilize, supervision and field office, service and equipment repair, all normal main line operations including testing, rip-rap allowance, camp and catering costs, clothing and incentive pay, an allowance for 10% permafrost blasting, and a 5% contingency.

The following costs not included in the spread breakdown were added to the above spread costs:

	<u>1975 costs</u>
supply and haul weights	\$33,600,000
water crossings	30,000,000
select backfill	7,650,000
mainline valves	800,000
compressor station tie-ins	3,240,000
cathodic protection	594,000
rock grade	6,390,000
rock ditch	<u>13,520,000</u>
	\$95,794,000

Overall Cost    \$333,536,000

Foothills pipe costs were used in the estimate, but direct system costs (1975 base) could be increased by as much as 70 million dollars by possible changes in the pipe specifications. It is possible, however, that relaxing the low-temperature specifications on the southern half of the system where gas chilling no longer takes place could significantly decrease the total system pipe costs.

Estimates have been developed in terms of 1975 dollars, and escalated to the year of installation or equipment purchase, using the previously recorded escalation factors. Contingency and AFC have been added. A summary of the system capital cost is given in Table 4 - 1. Total system costs are given below:

<u>1975 Cost</u>	<u>Escalated Cost</u>
\$1,450,770,000	\$1,897,000,000

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A general comment on the cost disparity between construction costs on the Alaska portion of the line and the costs of the system from the Alaska/Yukon border to Fort Nelson is in order. It is possible that the Alyeska project costs will have some impact on costs and construction practices in northern Canada. The wages in Alaska are twice as high as in the Yukon. In addition, production in Alaska has been slowed as a result of problems discussed previously. These differences result in a labor cost ratio from Alaska to the Yukon of approximately 4 to 1. It is possible that the wages on the Canadian side of a common pipeline project would be increased toward the Alaska costs. No allowance has been made for this possibility, as it is very difficult to assess at this time.

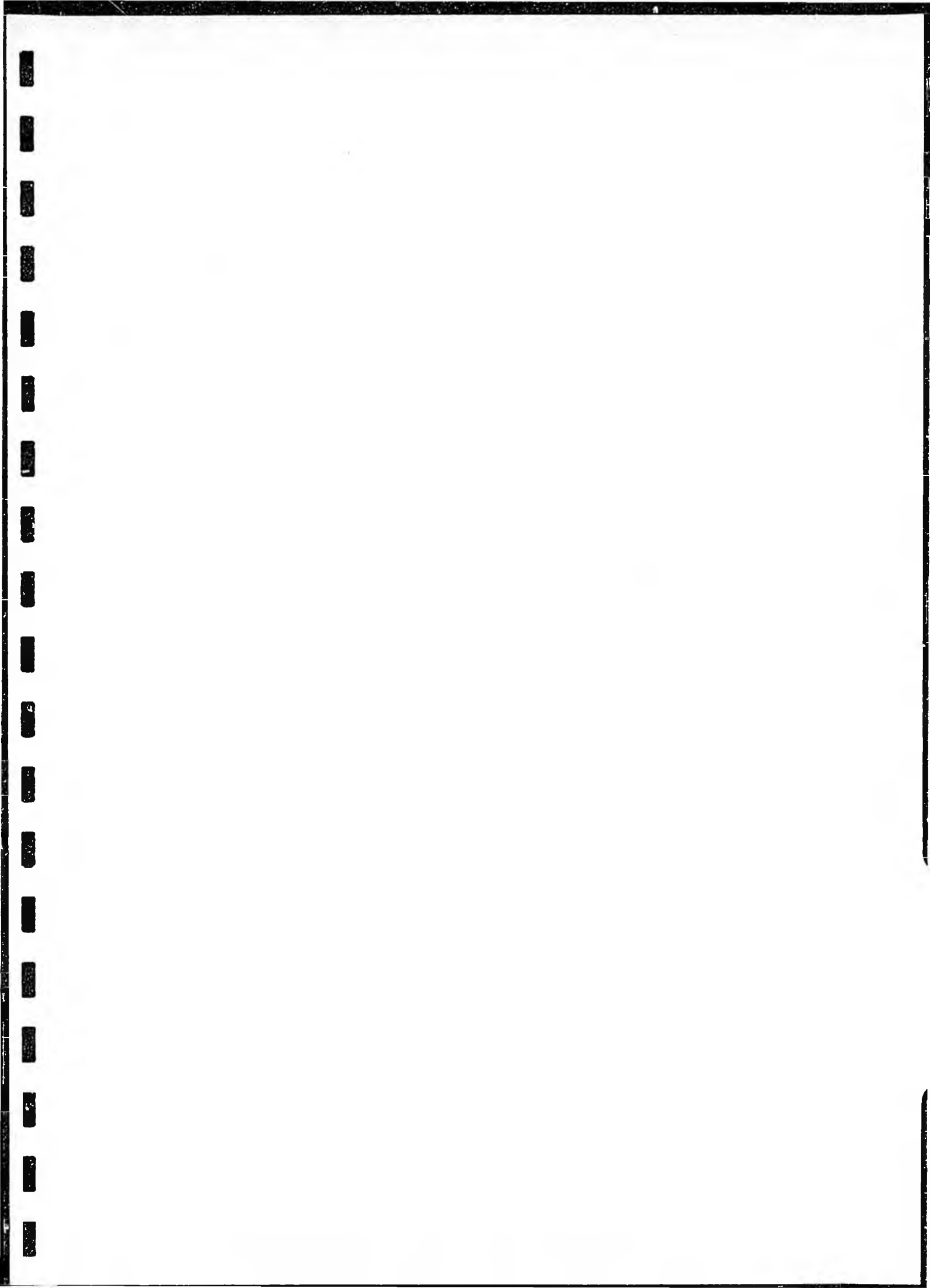
TABLE 4 - 1

## FAIRBANKS CORRIDOR PIPELINE SYSTEM - CAPITAL COST ESTIMATE - ALASKA/YUKON BORDER TO FORT NELSON

792 Miles-42 Inch-0.540"-Foothills Design Basis-17 Stations, Format &amp; Categories Modified After Foothills Pipe Lines Ltd. Filing

	1975 Costs	Escalated Costs (000's)						Total
		1978	1979	1980	1981	1982	1983	
Land	\$ 1,867	339	944	508	518			2,309
Land Rights	1,244	632	753	137	-	-	-	1,522
Pipeline Materials	321,772	209,536	179,985	-	-	-	-	389,521
Pipeline Installation	351,196	3,647	306,289	159,875	-	-	-	469,811
Compressor Station Materials	147,098	-	34,467	51,641	108,240	-	-	194,348
Compressor Station Instl.	81,174	-	-	22,224	34,682	73,097	-	130,003
Support Facilities	125,000	62,100	50,312	29,652	15,050	6,416	3,420	166,950
O&M Facilities - Material	16,566	6,518	6,857	2,869	4,832	-	-	21,076
- Installation	8,918	-	3,991	4,279	1,825	3,130	-	13,225
- Equipment	7,334	-	4,474	4,675	-	-	-	9,149
Meter Stations - Material	2,055	-	2,544	-	-	-	-	2,544
- Installation	4,100	-	-	5,970	-	-	-	5,970
Communications & Control	<u>13,000</u>	<u>2,370</u>	<u>8,073</u>	<u>5,859</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>16,302</u>
Subtotal	\$ 1,081,324	285,142	598,689	287,689	165,146	82,643	3,420	1,422,729
Pre-permit	10,000	12,000	-	-	-	-	-	12,000
Head Office & Pre-operations	30,000	3,600	10,900	18,200	6,600	-	-	39,300
Engineering @ 4%	43,250	11,405	23,948	11,508	6,606	3,306	137	56,910
Contingency @ 5%	54,060	14,257	29,934	14,384	8,257	4,132	171	71,135
AFC	<u>232,136</u>	<u>20,400</u>	<u>84,817</u>	<u>157,622</u>	<u>21,663</u>	<u>10,630</u>	<u>352</u>	<u>295,484</u>
TOTAL	\$ 1,450,770	346,804	748,288	489,403	208,272	100,711	4,080	1,897,558

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## 5.0 EXPANSION OF EXISTING SYSTEMS, AND SYSTEMS REQUIRED FOR MACKENZIE DELTA GAS

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### 5.1 Expansion of Westcoast Transmission Company, Ltd., and Fort Nelson to Zama Line

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The Westcoast Transmission system is the main natural gas transmission system in British Columbia. The system which will be transporting Prudhoe Bay and Delta gas (via exchange) currently transports approximately 1300 MMcfd. The major sources are all in B.C.; however, there is an existing inter-connection with the AGTL system.

The existing system has a receipt point at Fort Nelson (point of receipt for arctic gas) and an existing delivery point at Sumas (point of delivery for arctic gas). The facilities required to move arctic gas will consist of looping and installation of additional compression. The total distance from Fort Nelson to Sumas is approximately 770 miles.

The pipeline and compression design and construction is conventional 36" pipelining and will require only a small amount of winter construction in the northern sections.

Unlike the AGTL system, Westcoast has not forecast significant declines in their existing gas sources and as a result there is not a great cost saving associated with the utilization of spare capacity. However the utilization of existing facilities allows the installation of facilities to be incremented and spread over a longer period of time; capacity can be readily added as required.

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The additional facilities required for the Westcoast portion of the Prudhoe Bay volumes were determined incrementally by direct comparison of a base case which consisted of Westcoast estimated capital expenditures over the forecast period with no Prudhoe Bay volumes.

The receipt volumes and corresponding loop required for the arctic gas are listed below:

<u>Year</u>	<u>Prudhoe Bay</u> <u>MMcfd</u>	<u>MacKenzie Delta</u> <u>MMcfd</u>	<u>Total</u> <u>MMcfd</u>	<u>Pipeline Loop</u>
1981	304	0	304	163.8 mi - 36"
1982	452	0	452	143.0 mi - 36"
1983	592	218	810	247.9 mi - 36"
1984	695	280	975	78.1 mi - 36"
1985	695	360	1,055	<u>83.4 mi - 36"</u> 716.2 mi - 36"

The cost estimates for the additional facilities were based on 1975 cost of pipe, current vendor quotes for compression and 1973 bid costs (escalated to 1975) for installation.

The total Westcoast estimate was for the installation of 20 separate looping sections. Compression costs were estimated on the basis of three typical installations which cover the three different situations that Westcoast forecast for adding compression.

Escalation factors used by Westcoast in their comparison of costs were much higher (8% per year throughout) than those used by FPL and AGTL. As a result for the purposes of this evaluation, all of Westcoast's costs were converted back to 1975 values and and re-escalated by the factors used by FPL and AGTL.

The section of line from Fort Nelson to Zama has been considered as a separate pipeline for the purposes of this evaluation. This link is required for both Prudhoe Bay deliveries to AGTL, and for Mackenzie Delta deliveries to Westcoast; i.e., an exchange will take place at the Zama Lake connection. The line consists of 144 miles of 36" pipe, with two compressor stations totaling 53,000 hp.

In developing the cost of facilities required for the Prudhoe Bay natural gas, this link was considered as part of the Prudhoe Bay system because the line will be installed for the Prudhoe Bay gas prior to the Delta gas coming on-stream. A credit must therefore be given to the Prudhoe Bay system in the form of a transportation charge when the Delta gas comes on stream.

In actual fact, although this line must be installed in 1981 for the Prudhoe Bay gas, in 1983 when Delta gas comes on stream the flow in this loop will actually be lower than it would have been if the Delta gas did not come on stream. This situation results from the exchange of Delta gas at Zama originally dedicated to flow through the Westcoast system with Prudhoe Bay gas at Fort Nelson.

Westcoast Transmission Company Limited has a great deal of experience in actual design and construction of facilities. Current costs for materials and construction are also readily established by the Westcoast staff resulting from their experience in operation and construction. Therefore we feel that the cost estimates for the Westcoast portion of the Fairbanks Corridor Study as performed by Westcoast are realistic.

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## 5.2 Expansion of the Alberta Gas Trunk Line System

The Alberta Gas Trunk Line system is the main natural gas transmission system in Alberta. The sources of gas for this system are currently all within the Province of Alberta. The AGTL system currently moves an average of approximately 5,000 MMcfd from the Province.

The existing system has a pick-up point at Zama (point of receipt for arctic gas), and has a major delivery point at Empress (point of delivery for arctic gas). The additional facilities required for the Arctic gas will consist mainly of looping and addition of compression.

There will be cost savings resulting from utilizing the existing system as the existing sources deplete and excess capacity becomes available.

Pipeline design and construction of the 42" and 30" looping for the Alberta section will be conventional, with only a small amount of winter construction in the northern portion of the Province. The total distance from the Zama connection to Empress following the existing system is 778 miles.

<u>Year</u>	<u>Prudhoe Bay MMcfd</u>	<u>MacKenzie Delta MMcfd</u>	<u>Total MMcfd</u>
1980 - 81	677	0	677
1981 - 82	1,001	0	1,001
1982 - 83	1,313	576	1,889
1983 - 84	1,537	899	2,436
1984 - 85	1,539	1,201	2,740

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The costs of facilities for the AGTL portion of the proposed Fairbanks Corridor pipeline system were developed by FPL from comparison of cases 3, 4, and 5 from the response to the National Energy Board (NRB) Deficiency Letter No. 8 to Foothills Pipe Lines Ltd.

These three cases contained complete design, facilities, construction schedules, construction costs, etc. for different flowing conditions. The flows proposed for the Fairbanks case fall between either cases 3 & 4 or 3 & 5, depending on the year. The required facilities for the Fairbanks case were arrived at by interpolation between the appropriate cases which have already been developed for the NEB.

The initial on-stream dates and changes in flows are the same for the Fairbanks case as for the cases studied for the NEB.

The Alberta Gas Trunk Line Company Limited has a great deal of experience in actual design and construction of facilities and has current costs for materials and construction. AGTL has a large and competent staff continually developing forecasts, design and optimizing procedures. Therefore we feel that the cost estimates for the AGTL portion of the Fairbanks Corridor Study performed by AGTL are realistic.

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### 5.3 Pro-Rata of Expansion Costs

The cost of the AGTL and Westcoast systems have been allocated to Prudhoe Bay or Delta system costs in quantities proportioned to the volume throughputs as given in Table 1 - 1. As noted previously, the Fort Nelson to Zama line costs have been included in the costs of the Prudhoe Bay system, although some debit in the form of a transportation charge would undoubtedly be assessed against the Delta gas as part of a Zama Lake exchange agreement.

Total costs for expanding existing systems for Prudhoe Bay gas and Delta gas are shown in Table 5 - 1 and Table 5 - 2.

TABLE 5 - 1

FAIRBANKS CORRIDOR PIPELINE SYSTEM - CAPITAL COST ESTIMATE

EXISTING SYSTEMS EXPANSION - PRUDHOE BAY NATURAL GAS

	1975	Escalated Costs (000's)							
	<u>Costs</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>Total</u>
Fort Nelson to Sumas (Westcoast Expansion)	\$ 264,305	-	-	144,350	67,481	42,453	100,785	44,663	399,732
Fort Nelson to Zama	153,176	-	-	167,500	18,000	21,600	-	-	207,100
Zama to Empress (AGTL Expansion)	516,400	-	112,370	230,303	138,434	142,280	93,288	-	716,675
TOTAL 3	<u>\$ 933,881</u>	<u>-</u>	<u>112,370</u>	<u>542,153</u>	<u>223,915</u>	<u>206,333</u>	<u>194,073</u>	<u>44,663</u>	<u>1,323,507</u>

TABLE 5 - 2

FAIRBANKS CORRIDOR PIPELINE SYSTEM - CAPITAL COST ESTIMATE

EXISTING SYSTEMS EXPANSION - MACKENZIE DELTA NATURAL GAS

	1975	Escalated Costs (000's)						Total	
	<u>Costs</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>		<u>1984</u>
Fort Nelson to Sumas (Westcoast Expansion)	\$ 144,395	-	-	-	54,605	127,916	2,808	28,677	214,006
Fort Nelson to Zama	-	-	-	-	-	-	-	-	-
Zama to Empress	275,956	-	-	-	-	247,437	128,700	43,000	419,137
<b>TOTAL 4</b>	<u>\$ 420,351</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>54,605</u>	<u>375,353</u>	<u>131,508</u>	<u>71,677</u>	<u>633,143</u>

5.4 Foothills Pipe Lines Ltd. and AGTL (Canada)

The transmission lines required for the Fairbanks Corridor System for Mackenzie Delta gas are virtually identical to the proposed FPL and AGTL (Canada) systems at a flow of 1.6 BCFD. These systems are over-sized from a pipe diameter standpoint, as they would be capable of operations at an ultimate input of 2.4 BCFD when fully powered. Costs for these systems as estimated by FPL and AGTL are given in Table 5 - 3 along with the total costs of the expanded system for Delta gas.

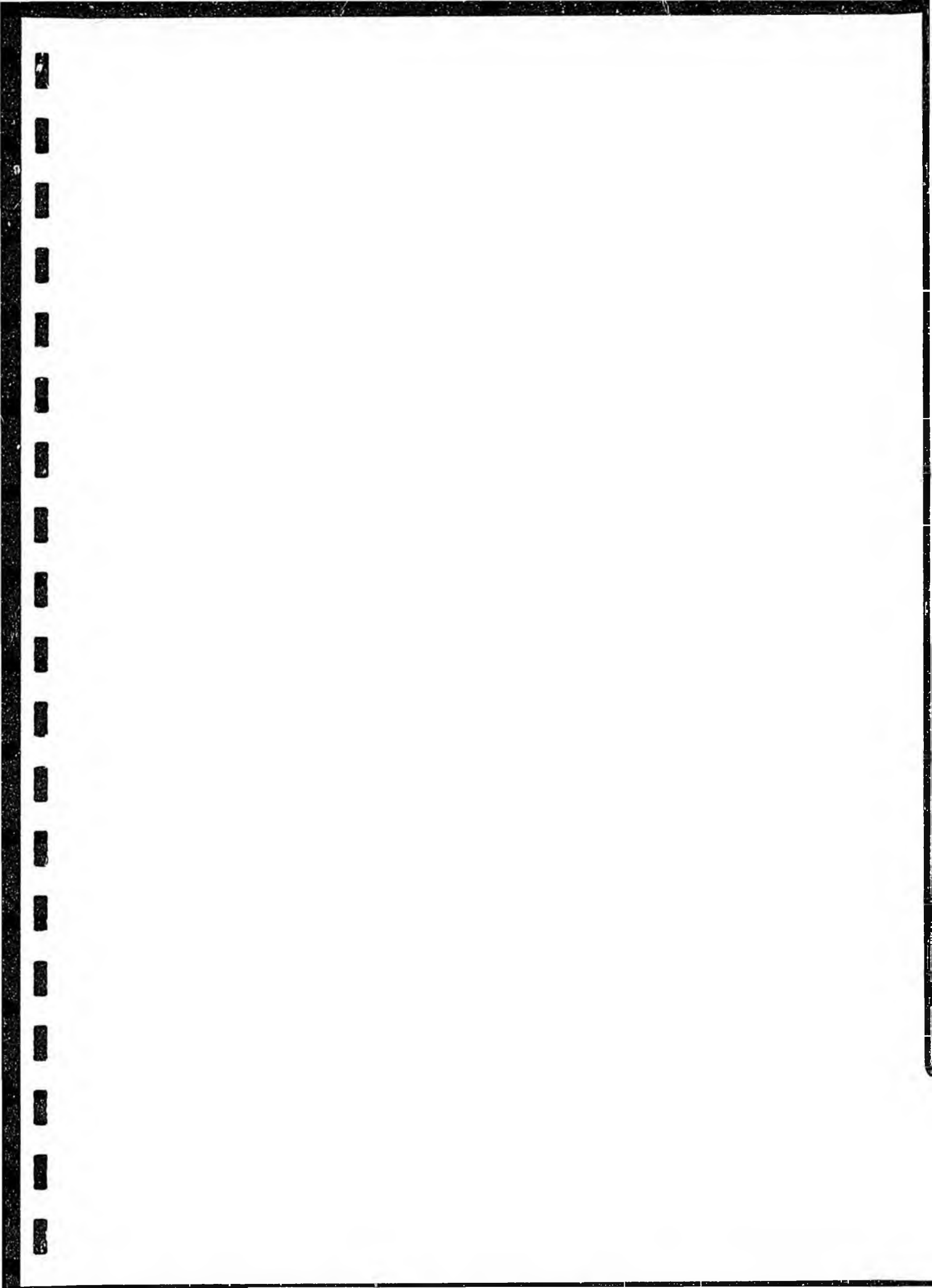
TABLE 5 - 3

FAIRBANKS CORRIDOR PIPELINE SYSTEM - CAPITAL COST ESTIMATE

MACKENZIE DELTA NATURAL GAS

	1975	Escalated Costs (000's)							Total
	<u>Costs</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	
Mackenzie Delta to AGTL (Canada)	\$ 1,680,800	-	97,900	617,400	836,900	675,700	135,500	40,500	2,403,900
AGTL (Canada) to Zama	84,563	-	-	4,300	86,000	29,700	-	-	120,000
Zama to Fort Nelson <sup>(1)</sup>	-	-	-	-	-	-	-	-	-
Fort Nelson to Sumas (WTCL)	144,395	-	-	-	54,605	127,916	2,808	28,677	214,006
Zama to Empress (AGTL Expansion)	275,956	-	-	-	-	247,437	128,700	43,000	419,137
TOTAL 5	<u>\$ 2,185,714</u>	<u>-</u>	<u>97,900</u>	<u>621,700</u>	<u>977,505</u>	<u>1,080,753</u>	<u>267,008</u>	<u>112,177</u>	<u>3,157,043</u>

(1) Cost of Zama to Fort Nelson section included in cost of Prudhoe Bay Natural Gas.



APPENDIX "A"REFERENCE MATERIAL & BASIC DATA SOURCES

<u>Company</u>	<u>Title</u>
Alaskan Arctic Gas Pipeline Co.	Second Supplement to Application of Alaskan Arctic Gas Pipeline Company at Docket No. CP74 - 239, Dec. 30, 1974.
	Fourth Supplement to Application of Alaskan Arctic Gas Pipeline Company at Docket No. CP 74 - 239, Mar. 3, 1975.
The Alberta Gas Trunk Line Co. Ltd.	Submission to the National Energy Board Part 1 Supply & Requirements Part 2 Gas Supply and Sales Contracts Part 3 Facilities Part 4 Financial Part 5 Public Interest All dated May, 1975.
	Responses to National Energy Board Deficiency Letter No. 8, Feb., 1976.
The Alberta Gas Trunk Line (Canada) Limited	Submission to the National Energy Board Part 1 Supply & Requirements Part 2 Gas Supply and Sales Contracts Part 3 Facilities Part 4 Financial Part 5 Public Interest All dated May, 1975.
Brackett, William W. Testimony	Hearings before the Committee on Commerce and the Committee on Interior and Insular Affairs; United States Senate, 94th Congress, Second Session; Mar. 24, 1976.
Canadian Arctic Gas Pipeline Ltd.	Submissions to the National Energy Board Section 14.e - Alternative Corridors and Systems of Transportation, Mar., 1974.
	Supplement to Applications and Exhibits relative to Alternative Routing for The Alaska Supply Lateral across the Mackenzie Delta; Aug. 15, 1975.

Company

Title

El Paso Alaska Company

Submissions to the Federal Power Commission, Volume II Tab Z - 1, Engineering and Cost Details, Sept. 24, 1974.

First Supplement to the Application, Volume 1, Mar. 3, 1975.

Direct Testimony and Proposed Hearing Exhibits, Docket Nos. CP 75 - 96 et al, Nov. 7, 1975.

Foothills Pipe Lines Ltd.

Submission to the National Energy Board  
Part 3 Facilities  
Part 4 Financial  
Part 5 Public Interest  
All dated April, 1975

Miscellaneous work sheets and notes on FPL's analysis of the Fairbanks Corridor Alternative.

APPENDIX "B"TRANSPORTATION COST CALCULATIONS

(1975 Dollars)

An engineering cost of service calculation has been performed for each transportation component on the basis of the following formula:

Cost of Service

$$\begin{aligned} \$/\text{MMBtu} = & \frac{\text{Capital factor} \times (\text{total undepreciated investment} \\ & \text{including AFC in 1975 dollars})}{\text{Net energy delivered in MMBtu per year}} \\ & + \frac{\text{Annual operating cost in 1975 dollars}}{\text{Net energy delivered in MMBtu per year}} \end{aligned}$$

A capital factor of 17.5 per cent has been employed for all components. This value was derived from an economic and financial review of the proposed Foothills Pipe Line. The "net energy delivered" in the above formula is the energy delivered to either the Sumas or Empress delivery points or a total of the two. The use of the ultimate systems delivery as the denominator in the above formula yields a correct overall systems transportation cost, but does not charge an explicit internal tariff for each component of the system. However, because the cost of fuel has been excluded from the operating costs of each system, the "constant volume" cost of service approach must be utilized for total consistency. To obtain a correct internal tariff for each component, it would be necessary to include a fuel cost for each system component which would reflect the cost of service of the upstream components.

The Prudhoe Bay gas transportation cost was based upon the total 1984 undepreciated investment (in 1975 dollars) as 1984 is the first year of ultimate flow from Prudhoe Bay. The Mackenzie Delta gas transportation cost was based upon the total 1985 undepreciated investment (in 1975 dollars) as 1985 is the last year for this evaluation. However, flows from the Mackenzie Delta are forecast to increase beyond 1985. The combined systems cost of service was based upon the total 1985 undepreciated investment (in 1975 dollars) as 1985 had the highest annual volume forecast in this evaluation.

The Operating and Maintenance costs (O & M) were based upon numbers supplied by Foothills Pipe Lines Ltd.

TRANSPORTATION COST CALCULATIONS  
(1975 Dollars)

1. PRUDHOE BAY GAS

1984 Total delivered Prudhoe Bay gas - Sumas - 281,541,000 MMBtu  
 - Empress - 616,941,000 MMBtu  
 Total 898,482,000 MMBtu

a) Prudhoe Bay to Ft. Nelson

1975 Capital Cost \$3,716,468,000 x .175 = \$ 650,381,900  
 1975 O & M = 65,399,300  
 Total Cost of Service = \$ 715,781,200

b) Ft. Nelson to Sumas

1975 Capital Cost \$ 264,305,000 x .175 = \$ 46,253,400  
 1975 O & M = 11,855,200  
 Total Cost of Service = \$ 58,108,600

c) Ft. Nelson to Empress

1975 Capital Cost \$ 669,576,000 x .175 = \$ 117,175,800  
 1975 O & M = 37,712,900  
 Total Cost of Service = \$ 154,888,700

<u>Section</u>	<u>COST(\$)</u>	<u>Volume (MMBtu)</u>	<u>Transportation Cost \$/MMBtu</u>
a) Prudhoe Bay to Ft. N.	715,781,200	898,482,000	0.80
b) Ft. Nelson to Sumas	58,108,600	281,541,000	0.20
c) Ft. Nelson to Empress	154,888,700	616,941,000	0.25
Total to Sumas			1.00
Total to Empress			1.05



ENVIRONMENTAL OVERVIEW  
PROPOSED  
ARCTIC GAS PIPELINE SYSTEMS

Prepared for:  
NORTHWEST PIPELINE CORPORATION

Prepared by:  
Gulf Interstate Engineering Company

April 14, 1976

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## INTRODUCTION

The selection of any pipeline route across Alaska and Canada, delivering natural gas to the northwestern United States, must address itself to a variety of criteria which both support and deprecate that selection. A "select route" can only be chosen when alternative routes are considered and the projected resultants of each construction plan have been carefully evaluated and compared. Proponents of any one of the several routes proposed for Trans-Alaska/Canada pipelines can usually select from the available data, those facts which support one proposal; similar data can be employed to denigrate the undesirable alternatives. Regardless of the route proposed, all relevant facts must be considered; those which support one particular route and those which mitigate against that route selection.

The major alternative pipeline routes, thoroughly researched and fully documented, can be easily identified as the Fairbanks Corridor route, much of which is in Alaska, and the Arctic Gas System route which is primarily a Canadian route. The proposed Fairbanks Corridor gas line affords some very unique advantages to the State of Alaska and to the U. S. economy as a whole, while the Arctic Gas System route favors Canada's economy. The committed delivery of gas to Fairbanks and other communities in proximity to the Fairbanks Corridor route has been advocated by the State of Alaska. The tax base and revenues accruing to Alaska from such an Alaskan route can be utilized for important developments now and in the future, as Alaska continues to expand and diversify its economy. The selection of the Fairbanks Corridor route is enhanced by the commitment to utilize American financial institutions, American labor and American capital goods in the development of the gas pipeline from Prudhoe Bay to the Canadian border. From the Canadian border to Ft. Nelson, the route would be essentially supplied by Canadian goods and services.

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The proposed Fairbanks Corridor gas pipeline would transport Alaskan gas from Prudhoe Bay, Alaska, to Zama, Alberta, Canada. Thus, from Prudhoe Bay to Delta Junction (AK.) the gas line would parallel and share the corridor of the existing Trans-Alaska Oil Pipeline (Alyeska Line). A second corridor, the Haines products pipeline, would be shared from Delta Junction (AK.) to Haines Junction (Y.T.) The Fairbanks Corridor proposed route then parallels the Alcan Highway from Haines Junction (Y.T.) to Ft. Nelson (B.C.). A new corridor would be established from Ft. Nelson to Zama (Alta), another 140 miles east. The Fairbanks Corridor line would be 1650 miles long, (pg. 12), 954 miles (58%) of which is on existing pipeline corridors. The entire line is served by existing all-weather roads. The proposed pipeline will connect with the Westcoast Transmission System and the Alberta trunkline system to transport the gas to the lower 48 states.

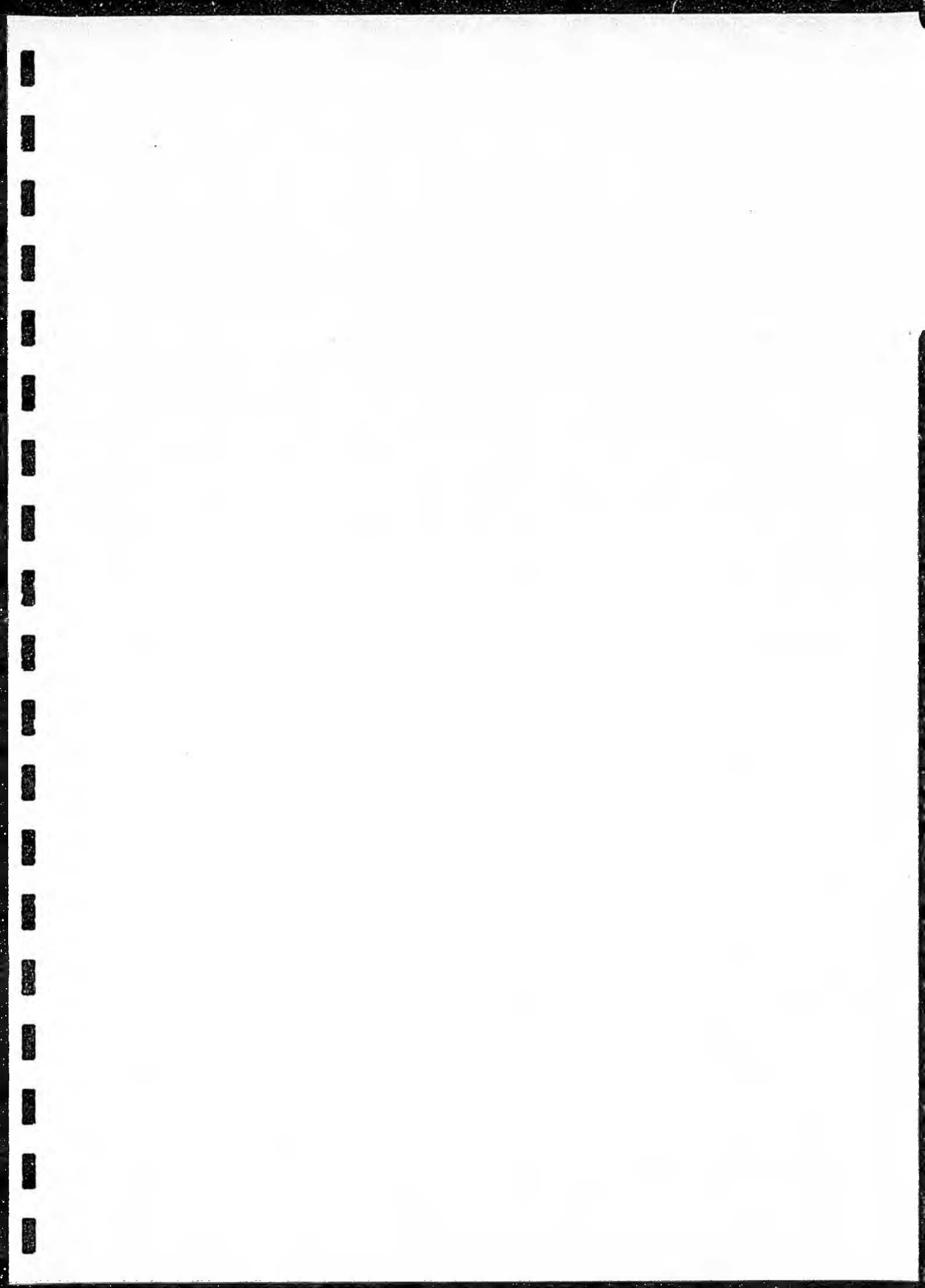
The Arctic Gas System proposed gas line would transport gas east from Prudhoe Bay (AK.) to Richards Island and Tununuk (N.W.T.). Collecting additional gas from the MacKenzie Delta area, the proposed pipeline would turn south and follow the broad, alluvial MacKenzie River valley to Ft. Simpson (N.W.T.). From Ft. Simpson to Zama (Alberta), the proposed line goes approximately south and east across the Great Slave (lake) plain. Proceeding south from Zama, the Arctic Gas route generally parallels the existing Alberta Trunkline system to the lower 48 border. This proposed Arctic Gas System line is 2676 miles long (pg. 12); no existing pipeline corridors can be utilized along the first 1251 miles and little of this portion is accessible by all-weather roads.

The Fairbanks Corridor proposal includes utilization of existing capacity with additional facilities south of Zama. Expansion of existing facilities is, comparatively, an environmental advantage to new construction; therefore, we have limited our review to those sections from Prudhoe Bay to Zama.

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ENVIRONMENTAL QUALITIES

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1A

ENVIRONMENTAL QUALITIES OF FAIRBANKS CORRIDOR LINE

The origin at Prudhoe Bay is an Arctic coastal plain; continuous perma-frost with frequent intrusions of ice (ice lenses). These soils are typically silty, moraines and when the summer heat melts the upper surface (active layer 1.5 - 4'), such soils will not support heavy equipment. Winter activities are expedited by the very hard, dense matrix formed when these silty soils are solidly frozen. Arctic tundra is fragile in both winter and summer. The surface soils support a marginal vegetative cover of plants which are unique in that they exist in very cold, very wet (in summer) and very acidic soils. These plants must grow, mature and reproduce in approximately eight to ten weeks.

The very sensitive tundra ecology, as a whole, is intimately connected to the short growing season, the fragility of the soils and the vegetative cover which furnishes forage to a variety of animals. The fauna of the tundra includes many transient birds and mammals who visit the area for mating and/or feeding. Many predators feast upon the smaller mammals whose population explodes every summer. The luxuriant, but short-lived, summer plant life thus establishes an important food chain; birds, fishes, mammals and even invertebrates thrive during the short summer.

In the winter, the migrants have moved south, only a relatively small population of birds and mammals move about under the snow. Some predatory birds and mammals exist on these snow dwellers, but biotic activity, though not really absent, is certainly quiescent in the winter season.

The destruction of tundra soils and vegetative cover during the winter or summer can have far reaching effects on the tundra ecology for years to come.

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The proposed route of the Fairbanks Corridor pipeline is directed south from Prudhoe Bay, and after traversing approximately 60 miles of coastal tundra, enters the foothills and eventually the mountains of the Brooks Range at Atigun Pass. The Brooks Range features moderately high rugged mountains of mainly paleozoic and precambrian rock. This area requires the proposed route to wend its way through the naturally occurring mountain passes, frequently following stream beds, glacial scours and valleys. Some of the existing Alyeska corridor in these areas would have to be extended and/or the proposed Fairbanks Corridor could be re-aligned.

The entire Brooks Range and its foothills are founded upon bed rock. The overlaying soils may vary from a few feet to a few inches. This area is one of continuous perma-frost but not of the same fragile soils and plant cover as the tundra/Arctic coastal plain. The bedrock foundation allows heavy equipment to operate in the Brooks Mountain Range and surrounding foothills in either the winter or summer. Only the heavy "spring melt" water runoff may preclude year-round access to this area.

The fauna of the Brooks Range is not particularly unique, but the Brooks Mountain Range is important to any consideration of the nearby tundra ecology. The caribou herds which summer on the tundra migrate through the Brooks Range and as herbivores, they are an important aspect of the Brooks Range ecosystem. The Brooks Range system features permanent populations of raptor birds, sheep, bears, wolves, foxes, smaller mammals and a variety of fishes, and lower vertebrates, all deserving of protection. Many of these animals may range into tundra areas for feeding, mating and nesting. Any interruption of the nearby tundra ecology can have vast implications on the Brooks Range ecosystem as well as the local tundra ecology. Impacts upon the Brooks Range ecology would, in turn, effect the nearby tundra. As an example, very late spring "break-up" provokes a rapid snow melt; water cascading down the mountain peaks and flooding the river plains can wash away or "drown out" many of the herbaceous plants. This loss

of plant material can cause mass starvation for the last remnants of the Caribou herd migrating through the mountain ranges. The weakened caribou attract more predators and enhance the fecundity of those resident in the area. The presence of the weakened caribou as readily available food takes some predator pressure off the anadromous fish and other species preyed upon. These animals thus can increase their populations. The following season, this ecological upset becomes even more widespread.

The treeline starts in the southern extremity of the Brooks Range, an upland spruce-hardwood forest. South of the Brooks Range the soils and vegetation (tree cover is complete but stunted) are probably not as fragile and sensitive to "impact" as those north of the range. Granted, continuous perma-frost exists south to Bettles Field, (approximately 100 miles north of the Yukon River). Frequent ice intrusions can complicate construction techniques, but the soils are more readily reclaimed and except for trees, vegetative cover can be reconstituted in a few growing seasons.

The area north of the Yukon River to the southern edge of the Brooks Range features many braided stream drainages and broad alluvial valleys. These broad alluvial valleys are frequently water logged and swampy in summer; "spring breakup" and the usual flooding temporarily exclude almost any form of activities in May or June, but fall and winter seasons are ideal times for work in these areas.

The ecology of this upland spruce-hardwood association area between the Yukon River and Bettles Field, is again highly susceptible to soil and floral changes, but here the herbaceous plant cover is denser and more sustaining of a variety of animal life, than that which occurs in the coastal tundra, or the mountains. The winter season supports larger numbers and greater varieties of herbivores and predators. Man has intruded permanently into these areas, but the population is extremely sparse.

The spruce-poplar forest, starting north of Fairbanks and south of the Yukon River still features discontinuous perma-frost, but the soils are even less fragile than those north of the Yukon River. Vegetative cover is quite varied, but the trees are still stunted and grow very slowly. The tree cover is mixed, deciduous and evergreen, and does afford a greater abundance and variety of wildlife. The moose is an important addition to the list of animals found in these northern forests. The upland northern forest is not continuous; isolated stands of bottom land trees become denser and more frequent until the northern reaches of the Tanana Valley near Fairbanks show a nearly solid block of mixed evergreen and deciduous forest except where urbanization or development have occurred.

Previous construction in this forest area has left a very obvious corridor cleared of trees, but the secondary impact of construction upon the surrounding vegetation and animal biota has not obviously depleted the wilderness qualities of this northern forest. Construction, of the existing Alyeska Corridor and facilities have left a secondary impact in urbanized areas around Fairbanks.

The proposed Fairbanks Corridor gas line from Delta Junction to the Canadian town of Haines Jct. (Y.T.) would traverse an existing pipeline corridor. The Haines products pipeline has been constructed along this route (1954) and some preliminary environmental analyses have been done. An obvious cleared corridor exists between Delta Junction and Haines Junction; it lies close to the Alcan Highway along 80+% of its route.

Along this proposed route, (to Haines Jct. (Y.T.)), the forest becomes denser with a greater variety of trees and taller canopy. The consequent increased brush and ground cover provide a greater carrying capacity for the animal biota. Reclamation of the disturbed forest lands is incomplete in the sense that trees are permanently removed from the Haines products pipeline corridor, but secondary floral reclamation, i.e., brush, grasses, edible plants, has been rapidly achieved in forested lands. In any such forested lands, selective tree plantings can aid in erosion control and soil conditioning. Fertilization and seeding with exotic, as well as indigenous, plants can provide a rapid recovery of any construction sites.

The proposed Fairbanks Corridor route from Haines Junction (Haines products pipeline veers south to the Port of Haines AK) to Ft. Nelson in the Yukon Territories will parallel the Alcan Highway. This area from Haines Junction to Ft. Nelson is one of primal wilderness; tall thick northern forests, rugged hills and peaks going to over 6,000 feet elevations. Canyon, Whitehorse, Watson Lake and Ft. Nelson are the major towns bordering this route and the wilderness attracts many tourists to all these towns. The forests here support a variety of game animals, moose, bear, caribou (both barren ground and woodland species) and even deer. The higher peaks are inhabited by sheep (Stone and Fannin) and prairie and waterfowl abound.

There is evidence of glaciation and erosion with many large meandering rivers. The Liard River is the primary drainage and braided streams have formed many elongated lakes in this area.

The soils, climate and rainfall support rapidly succeeding forest and marsh areas. Timber cut or burned areas are rapidly reinvaded by brushy plants. Lowlands are eroded away to lakes in some areas and filled in to become meadows in other areas. Everywhere there is evidence of rapid, natural succession, and the diverse physiography and plant life maintains a high carrying capacity for the varied animal populations.

The many lakes, streams, ponds and rivers that exist along this proposed Fairbanks Corridor route, require almost unique and individual description. Those rivers and streams north of the continuous perma-frost line (North of Bettles Field) are easily compromised by frost heave/slump, frost bulb formation, aufeis formation and extensive springtime erosion. Where Alyeska has crossed such rivers and streams, many of these natural phenomena have been "corrected". Erosion has been controlled with rock riprap and/or extensive dike construction

These arctic drainage waters are important aspects of the arctic ecology as a whole. Both anadromous and catadromous fish, as well as water fowl and shore birds, rely heavily on the integrity and natural succession of these arctic drainages.

The waters south of the continuous perma-frost line are not as sensitive to thermal/mechanical damage as those arctic drainage streams, but certainly physical and chemical changes can compromise the ecological integrity of the streams all the way to Zama. Not only fish and mating-nesting birds, but a variety of furbearers and other animals use the streams and riparian areas to drink, eat, mate and reproduce.

The Fairbanks Corridor route would cross 21 major rivers in Alaska and 9 major rivers in Canada. Approximately 450 water crossings would be required; each small stream or pond plays an essential part in the microclimate and ecology of the surrounding area.

In summary, the proposed route of the Fairbanks Corridor, 1650 miles, traverses the very unique Arctic coastal tundra, the rather special Brooks Mountain Range and then ranges southward through classic subarctic and northern forests. This includes areas of high rugged mountain peaks, broad alluvial river plains, lakes, rivers and hundreds of streams. It is an area that man has invaded before; where he will continue to encroach. This vast, northern and arctic wilderness can be used by man and with conscientious efforts, his use can proceed without any notable adverse impacts upon the land.

1B

ENVIRONMENTAL QUALITIES OF THE PROPOSED  
ARCTIC GAS SYSTEM LINE

The proposed Arctic Gas System line (the "Prime Route") originates in Prudhoe Bay and travels in a southeasterly direction parallel to the Beaufort Sea coastline to Richards Island (N.W.T.). This proposed route, after entering the Mackenzie Delta Area at Tununuk Jct. then heads in a more southerly direction through the Northwest Territories toward Zama Alta.

The coastal arctic tundra along this route, Prudhoe Bay to MacKenzie Delta, is highly susceptible to the unmitigated impact of man's intrusion; such a route traverses the Arctic National Wildlife Range. The Arctic National Wildlife Range was set aside because the area is so sensitive in all aspects of its ecology. (See pages 1 and 2, re Tundra Ecology, Section A). The few intrusions upon the Range, radar and communication sites, seismic crews, have all left their permanent impact upon the Wildlife Range. Further intrusions upon this Wildlife Range would result in additional degradation which would not be widely accepted by state or federal agencies, environmental groups, or the public in general.

The environmental qualities of the proposed Canadian Arctic Gas Pipeline project are best addressed in sections. The route, as specified, originating at Prudhoe Bay, would cross more than 400 miles of continuous permafrost to the Mackenzie Delta area and Richards Island. This is the area of fragile, unstable soils, plant cover that has only a marginal existence and animal life intimately connected to the soil and vegetative cover of the tundra. There are no roads in this tundra.

From the Mackenzie Delta area (Tununuk Jct.) the route moves south to Ft. McPherson.

The Arctic Gas route would move south from the Ft. McPherson area, cross the Peel Plain muskeg and finally enter the Franklin Mountain system; the tree line starts near Ft. McPherson. In the Franklin foothills and mountain

area, the proposed route proceeds in a southerly direction following the Mackenzie river flood plain. The route passes through the Great Bear Plain staying west of the Norman Range (an alluvial lowland lies east of the range). There is a "winter" road connecting Ft. Norman and Norman Wells paralleling approximately 60 miles of the proposed route, but this road is impassable in the summer.

The route continues in a southerly direction and crosses the Great Bear River near Ft. Norman, parallels the Mackenzie River and crosses the McConnel Range (still part of the Franklin Mountains) which poses high rolling hills. Another "winter" road parallels the route from Ft. Norman south to approximately 63<sup>0</sup> latitude.

Proceeding further south, the area near Ft. Simpson (approximately 62<sup>0</sup> latitude) is the confluence of the Liard and the Mackenzie Rivers; a large delta/lowlands (the Great Slave Plain) exists here. An unpaved highway (N.W.T. - Rt. 1) comes from the east; the pipeline route goes south and slightly east of Ft. Simpson, crossing the Mackenzie River. At 60<sup>0</sup> latitude (further south) a segment of Canadian National Railroad crosses the Mackenzie Highway. The Mackenzie Highway provides a means of transporting goods into northern Canada from Edmonton and other centers.

An "all weather" gravel road exists between Ft. Simpson and the Steen River. From there a paved road leads south to major centers of transport (Edmonton). Zama can be supplied from this paved road. North of Ft. Simpson to Ft. Norman and beyond, there are only "winter roads". For a few miles south of Ft. McPherson, there are paved roads. Therefore, approximately 700 miles of the proposed Arctic Gas line route is inaccessible by existing roads.

The Mackenzie River Transport system is used in the summer months to transport goods into the interior of Northern Canada. Access from the Beaufort Sea is for about 6 weeks in July and August. Few large port or dock areas exist along the Mackenzie or Liard Waterways.

Physiographically the lands traversed by this proposed Arctic Gas line range from Arctic coastal tundra, south to Northern Rocky Mountain Forest. The tundra area is critical (See page 1, Section 1A), clearly only winter-time access is feasible and even the most conscientious efforts cannot avoid some primary, secondary and very long term impacts upon these lands.

In just 8 or 10 weeks, all the tundra vegetative cover must mature and reproduce itself. The herbivorous animals which migrate onto the tundra areas, consume tons of forage and in turn, supply food for the carnivores that also live in the summer Arctic. Fish and birds rely upon the thousands of small streams and ponds which form each summer when the upper layers of permafrost soils melt (active layer 1.5 - 4 feet). Each summer, new stream channels develop, washing fresh organic and inorganic nutrients toward the Beaufort Sea. Some braided streams silt-up and become lush grassy meadows. Others may erode away their banks and bottoms to form new lakes or roaring torrents. The entire tundra is a pond-dotted swamp in summer.

Vehicular and even pedestrian traffic tears up the delicate roots of lichens and herbaceous plants growing in the summer tundra.

Winter time traffic is less destructive to the soil and plant cover, but plant and animal life under the snow can suffer from the movement of heavy equipment.

Leaving the Arctic tundra, one enters the muskeg areas around Ft. McPherson and the Mackenzie Delta. This is approximately the northern extremity of the tree line. Without the stabilizing mechanics of large root systems, the treeless muskeg forms large watery polygons. Soil is water logged or ice bound and peat bogs abound. Still in continuous permafrost zones, these muskeg areas display frequent ice intrusions.

The Mackenzie River Plain near its northern terminus is one of braided streams, transient lakes, fragile soils and delicate plant cover. Even the most judicious route selection cannot avoid many stream and river crossings in this Mackenzie river plain. Each stream channel and/or tributary to the Mackenzie poses nearly unique characteristics; soils, hydrology, flora and fauna each may require extensive work prior to route selection.

Leaving the Mackenzie River Plain and the Franklin Mountains area the proposed Arctic Gas system route exploits the relatively flat topography and silty, alluvial soils of another river flood plain, the Great Slave (lake) Plain. Stands of evergreen and deciduous trees occur in this area of discontinuous perma-frost and become dense northern forest at the border of Alberta. Any type of construction in densely forested areas does leave a semi-permanent swath across the landscape, but under-canopy can be restored and probably completed in 1 or 2 years. Even in this forested area which extends down into Alberta (Zama) access is difficult; construction could probably not be carried out until roads were constructed.

The entire route from Mackenzie Delta to Zama in Alberta traverses relatively flat, open country. Water crossings are frequent and problematic. The pipeline segments in northern tundra soils could be constructed only in winter, and service and access to the area would be difficult in any season.

Animal life along the proposed Arctic Gas System route is typical of the high arctic grading southward into sub-arctic forest biota. The woodland caribou and its domestic cousin, the reindeer, are special animals, scarce in Alaska, but common in British Columbia and Alberta. The woodland caribou rarely herds up like the more common barren ground caribou and hence does not pose extensive monitoring problems; reindeer, even feral reindeer, are herd animals.

Raptor birds, large mammals, smaller food chain animals and fur bearers are all part of the northern forest ecology which extends north beyond the area around Ft. Norman. North of 60<sup>0</sup> Lat., the complicated tundra/muskeg ecosystems prevail. Trapping and fishing are important to the scattered residents of interior northern Canada; the human population is, however, quite sparse north of Ft. Norman.

Along the proposed Arctic Gas System route there are few towns, cabins, hospitals, airfields, or other facilities. Certainly construction of the proposed line would provoke extensive urbanization/development of adjacent lands. Many residents of isolated subarctic communities resent the thought of nearby construction.

## ESTIMATED ROUTE MILEAGES

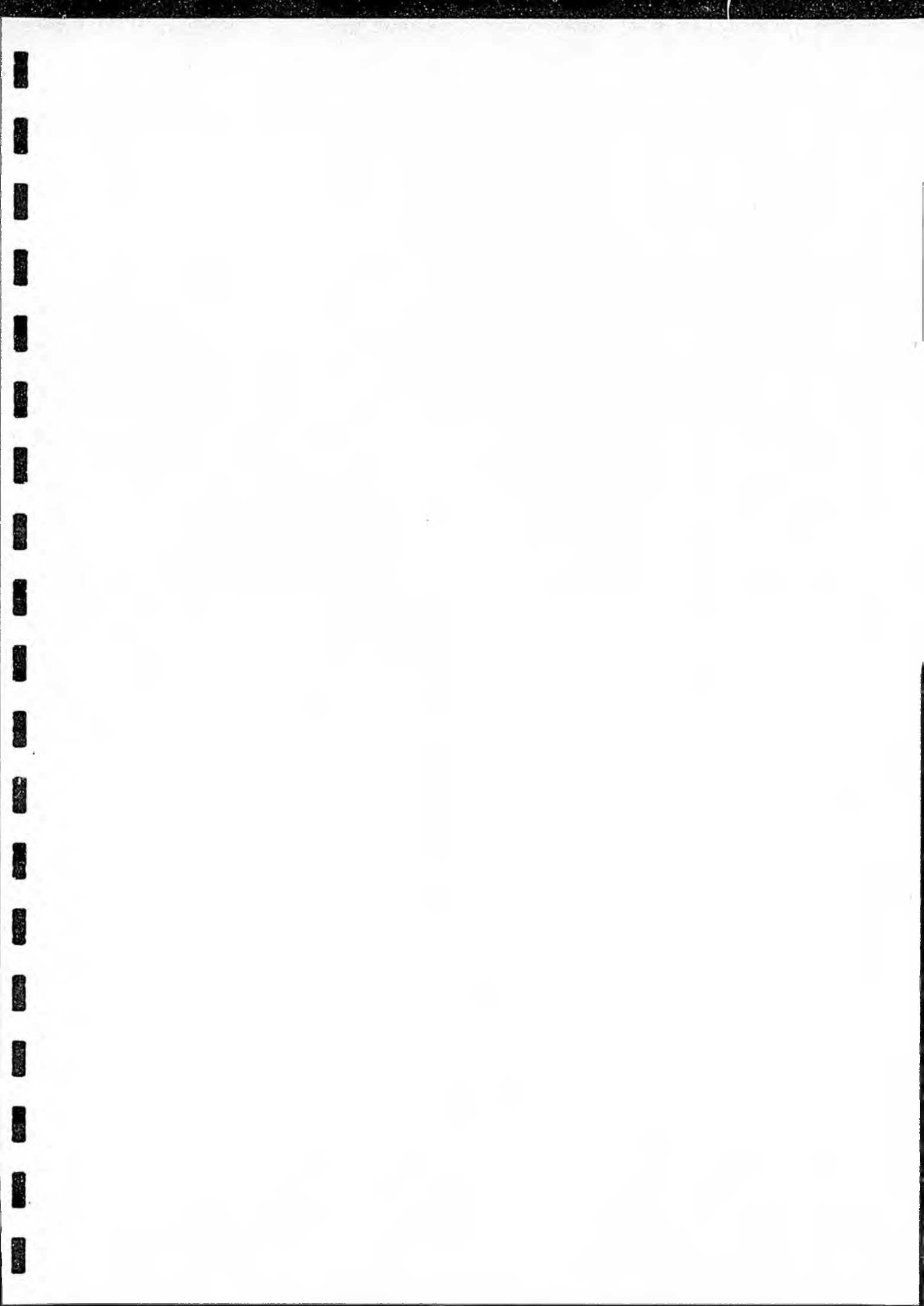
## FAIRBANKS CORRIDOR

	<u>Miles</u>
Prudhoe Bay	0
Atigun Pass	110
Yukon River	345
Fairbanks	450
Delta Junction	545
Scotties Creek	735
Haines Junction	954
Ft. Nelson	1510
Zama	1650

## ARCTIC GAS

Prudhoe Bay	0
Richards Island (Tununuk Junction)	350
Ft. Norman	775
Wrigley	904
Ft. Simpson	1050
Zama	1251
To Lower 48	2676

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2A

ENVIRONMENTAL IMPACTS OF CONSTRUCTION  
OF FAIRBANKS CORRIDOR LINE

One significant aspect of the proposed Fairbanks corridor is the proposed "common use" of the existing Alyeska Pipeline Corridor. The proposed Fairbanks Corridor line leaves the Alyeska Corridor at Delta Junction (A K.) and thereafter heads southeast to Scotties Creek where it crosses into Canada. This section of the route from Delta Junction to Scotties Creek and into Canada to Haines Jct. would traverse territory where another pipeline corridor exists, the Haines products pipeline. The route in this section also parallels the Alcan Highway up to and across the Yukon Territory to Ft. Nelson in British Columbia.

The vast experience and documentation of the Alyeska oil pipeline is elegantly applicable to the proposed Fairbanks Corridor line. Both the Alyeska and Haines products pipeline corridors are intact and suitable for this proposed Fairbanks Corridor pipeline. The proposed route from Delta Junction (A K.) to Fort Nelson (B.C.) generally parallel and adjacent to the Alcan Highway, would exploit this existing access road. The Alcan Highway, although built more than 20 years ago, still provides a great deal of preliminary information and experience both of which can be applied to this Fairbanks Corridor project.

In addition to the information and experience which can be applied to the entire Fairbanks Corridor, the entire route as proposed is served by a network of all weather roads, airfields, towns, camps, hospital facilities and military installations. Exploiting all the cleared right of way and service roads, the Fairbanks Corridor Pipeline has approximately 700 miles of right-of-way clear, and not more than 100 miles of access roads (spurs from existing roadways) to construct. The impact of the construction of this proposed Fairbanks Corridor is fairly well defined, taking advantage of previous data and experience gained on the adjacent

liquid pipelines. These impacts of construction are physical/chemical, biotic and socio-economic.

The physical/chemical impacts of construction are merely incremental along most of this proposed pipeline. Alyeska has already constructed the work pad and has developed and tested the proper construction techniques. The Alyeska corridor and work pad will require minimal maintenance. This means that only small amounts of additional land would be used in Alaska, land irrevocably committed to supporting or covering a chilled gas pipeline. To maintain the work pad width would require gravel from borrow pits already well established in Alaska.

Soils and rivers would be compromised as would the sensitive permafrost areas. Again the physical/chemical impacts of construction, using the existing pipeline corridors, is only a fraction of that impacted by the previous pipelines. Subsidence, slump and erosion problems have all been resolved by Alyeska; a mere extension of existing technology and techniques solves the majority of problems for the proposed gas line. The specialized construction methods or materials used by Alyeska will be copied where pertinent and altered where the chilled gas line problems are different than hot oil line problems.

Alyeska has established and had accepted (by various agencies) specific stipulations regarding construction and restoration. These stipulations are eminently suitable for the Fairbanks Corridor line. Certainly back-fill, erosion control, berming, diking, and ditching are all conventional techniques applied equally to both lines. Refrigerated coils, frost plugs, thaw control foundations and floatation techniques, state of the art technology for arctic construction, can all be applied to this proposed construction.

Revegetation, fertilization and even animal supportive stipulations are already established. Raptor nests, migration routes, nesting and hatching sites are defined and identified. Anadromous and catadromous fish streams are enumerated and their sensitivities defined for specific construction time "windows".

With the exception of the approximately 60 mile stretch of Arctic coastal tundra immediately south of Prudhoe Bay, all areas along this proposed pipeline route can be constructed with defined stipulations for wildlife protection. Plans for the Arctic coastal plain, limited to early winter construction in areas where there is no visible Alyeska Corridor cannot assure that "under snow" flora and fauna will not be impacted/destroyed. In other areas, the detection of the animals and their nests, etc., coupled with the animals' mobility and escape tactics, provides for maximum survival for 99+% of the animals involved. Underground animals, moles, shrews, etc. may be undetected and thus injured or destroyed by construction activities in any season. Surface, arboreal and airborne species are readily seen and thus protected. All construction on and along the preformed and existing Alyeska corridor will have negligible impact upon those animal species which can be seen from the right of way.

The young of all species are protected by current stipulations. Limiting construction activities to periods outside the "time window" of whelping or hatching would avoid compromising existing populations. Birds and migratory water fowl are protected by selecting construction seasons in late fall. Game animals are frightened by man's activities, but their sensitive migrations, calving and mating periods are protected by the selection of construction seasons. Small fur bearers are possibly threatened - certainly their habitat is compromised, but again the experience gained from Alyeska has identified individual beaver lodges and fox dens. These animals can be protected.

In summary, the proposed Fairbanks Corridor gas pipeline can have only an incremental impact upon the existing Alyeska and Haines pipeline corridors. There is little or no opportunity for synergistic impacts upon the terrestrial or aquatic environments because the construction periods can be varied over many months to protect the soils, animals, fish and waters.

Actual construction of this proposed gas line could (pending negotiations which seem favorable) employ much of the existing machinery and labor force which has built the Alyeska line. All the other facilities and appurtenances which serviced Alyeska could be utilized for this proposed line. Logistics costs would be drastically reduced and construction totally expedited.

The Alcan Highway from Haines Junction (Y.T.) to Ft. Nelson (B.C.) would serve this proposed Fairbanks Corridor pipeline. New right of way would have to be cut and established near the highway and east from Ft. Nelson to Zama (Alta). Preliminary survey work would align the exact route of the line and also identify historic and archeological sites as well as sensitive biotic areas. This entire route, 706 miles, from Haines Junction to Zama would clear and grade approximately 4,278 acres of permanent and an additional 4,278 acres of temporary right of way based upon 50 feet wide temporary plus 50 feet wide permanent. The loss of such acreage in the northern forest zone may actually increase the net energy flow into the plant biosystems. Removal of tree cover allows forbs and herbaceous species to succeed into the right of way; all herbivores then exploit this "pasture".

Restructuring and revegetation can actually enhance the right of way in alpine, lowland, plains and forest areas. As in the Alaskan portion of the line, streams and major rivers, can be crossed during "safe" seasons when fish, soils, water and stream beds are least sensitive. The terrestrial construction will be selected to protect migrations, nesting, mating and whelping of animals. Waterfowl, only transient summer visitors, are best avoided; construction in riparian zones will be in late fall and early winter.

Previously noted by preliminary surveys, raptor nests, dens, hunting ranges, forage sites, and specific species territories will be identified. Identification and subsequent stipulation provides maximum protection for the species concerned.

2B

ENVIRONMENTAL IMPACTS OF CONSTRUCTION OF PROPOSED  
ARCTIC GAS SYSTEM LINE

The U. S. Department of Interior and the U. S. Federal Power Commission have considered the Arctic Gas Pipeline system "in depth". Several aspects of the Arctic Gas Pipeline project indicate an exacerbated impact on both the Alaskan and the Canadian Arctic environments. The segment from Prudhoe Bay to the Mackenzie Delta proposed to cross the Alaskan Arctic Wildlife Range. This segment, nearly 400 miles, would not only cross a National Wildlife Range, but such a route would also traverse the Arctic coastal tundra which may not be fully restored/reclaimed for the life of the pipeline.

The construction of any pipeline between Prudhoe Bay and the Mackenzie Delta poses very special environmental problems. Such a line must either deviate south and then north again (adding approximately 260 miles) to circumvent the Arctic National Wildlife Range or route directly across the width of this preserve. This route would also traverse "Old Crow Flats", a Canadian Arctic game preserve lying west of the Mackenzie Delta. The route through these reserves would cross approximately 200 miles of Arctic Coastal tundra in Alaska and 150 miles of such tundra in Canada.

Tundra construction cannot occur in the summer time without elaborate pre-conditioning. The moist surface layer (active layer of perma-frost) is nearly swamp-like. Heavy vehicles cannot find support, water seeps into trenches - even footprints leave a water-filled track. These tundra soils are marginal in their qualities, and only the hardiest plants survive. Revegetation in such areas is difficult and may take several years of attentive work to complete. The summer growing seasons are only 8 to 10 weeks, but average 20 hours of sunlight per day; only rapidly maturing and flowering plants can be used in revegetation.

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Vast herds of caribou migrate east and west along this coastal tundra plain. Summertime construction would compromise the feeding, mating and calving of these caribou. These caribou are herbivores but they are an essential basis of the carnivorous food chain. Anything that compromises tundra ecology has secondary and even tertiary effects on the ecosystems of the nearby mountains and streams where raptors, predators and other herbivores live, but range into the tundra. Thus, damage to the tundra has far reaching effects on fish, fowl and animals, for several years to come.

Arctic coastal plain weather probably only allows December, February, and March for construction activities. January temperatures and winds preclude any real accomplishments by man. Construction along the Arctic coastal plain could require more time than estimated. Marine access is limited to approximately 5 weeks in July and August. All material and equipment would have to be delivered along the beaches in that short time. New snow roads would have to be built each year starting in November. Vast amounts of heat are needed to melt the water used in snow road construction. Ponds, streams and near surface aquifers cannot be drained since extensive lowering of water levels endangers both resident and migratory fish. Few, if any areas in the Arctic coastal tundra offer suitable building materials. Gravel, rock and select sands would have to be transported into the area. All these facts tend to slow down construction progress across the Arctic tundra. A chilled gas line is problematic in both winter and summer in such tundra areas. Frost bulbs form around the pipeline buried under streams and also those buried under slip-soils (muck). This can occur winter or summer.

Any chilled gas line can solidly freeze the streams which are normally flowing under the winter ice. Frost heave can occur winter or summer where the line temperature is different than the ground temperature. The variable drainage patterns which are naturally occurring in the tundra may provoke rapid erosion of the pipe cover in some areas and sedimentary burial of the pipe in other areas.

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The much higher (than gas) heat capacity of water, collecting incident radiation 20 hours a day in summer, can create large ponds of 80°F water. The chilled gas line traversing such ponds and streams could be warmed to above freezing and thus subside into the permafrost layer. A 42-inch chilled gas pipeline transporting 23°F gas may have to be laid at least five feet into the permafrost layer below the active surface layer. Thus, a 9 to 12 foot deep trench is required, with stream crossings possibly a depth of 18 feet. All these probable problems require preliminary study and even experimentation, before construction can proceed. The Arctic Gas System line, heading east out of Prudhoe Bay, would cross 20 major rivers and several tributary streams in the Arctic Coastal Region. Literally, the entire Arctic coastal drainage system between Prudhoe Bay and Mackenzie Delta must be traversed by this Arctic Gas System line.

Winter construction may rely heavily on blasting. The so-called Arctic Ditch Digger as used by Alyeska (Alyeska's 10" fuel gas line) cannot trench in frozen alluvial silt. A unique population of animals and a few plant species, thrive under the tundra snow in winter. Escape and evasion for these biota is limited; many would be killed during wintertime construction.

The spring flowering season on the tundra is short-lived and very sensitive to soil and water changes as well as the movement of heavy equipment. Animals start their migrations into the tundra. Mating and nesting is initiated. Fowl migrate into the area. Construction must cease in early May in such sensitive areas. The early fall (September) season is the peak time of southward animal migrations. This is during or shortly after many animals have calved, hatched, or whelped. Intense human activities during the fall season provokes the abandonment of many offspring plus the interference with migrations. Even after the summer heat has dried out some of the tundra, the soil is still moist and easily compressed. Construction should not start until the active soil layer is again frozen.

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The route south from Mackenzie Delta as proposed by Arctic Gas System crossed approximately 750 miles of broad alluvial river plains which feature many braided streams, unstable stream banks and moist, acidic, fragile soils. (Approximately 200 miles of the proposed route from Mackenzie Delta to Zama is in the area of continuous perma-frost). Of the remaining route, approximately 700 miles, lies in areas of discontinuous perma-frost. Both zones are problematic; even forested discontinuous perma-frost features ice intrusions. There are a few established sources of rock, select gravel or sand near the proposed route. Such proposed borrow pits in river plains may compromise flood control in the river drainage systems.

There are approximately 50 river crossings classed as navigable between the Mackenzie Delta and the Hay River in Alberta (Zama); about 1150 streams must be crossed. Each water crossing is costly in time and money. Construction across the essentially treeless, muskeg, plains areas would require "double ditching" (top soil is removed first and set aside, ditch is completed, topsoil is then replaced on top of backfill) techniques in an effort to expedite restoration of the area. Approximately 200 more miles of treed muskeg can pose similar construction problems.

Service and access roads would have to be built before the pipeline construction could commence. Approximately 700 miles of roadway must be constructed. Some of the southern roads could be built in the summer months, but several hundred miles of snow roads are required. Winter construction periods, at best only 4 months per year, are demanded along some 500 miles of this proposed route. Both roads and the pipeline, per se, would be restricted to this limited construction scheduled. Because of the very intense chill factors, the Anderson Plain and Arctic Slope areas would probably not permit work in January and early February, therefore three months or less work could be scheduled.

In addition to the primary and long term impacts of construction and the limited construction schedule, there would be secondary construction projects. Approximately 18 docks and pier facilities would have to be constructed to service this pipeline route, all in environmentally sensitive or restricted areas. Piers built on the Beaufort Sea coast would probably be removed after construction terminated. The Skagway to Whitehorse road and rail facilities would probably have to be expanded to aid delivery of material to Fort Nelson. Air strips and helipads necessary for any large construction project, would have to be built or expanded and in the sensitive tundra and other areas, these air strips would require frequent repair and rebuilding. Construction and maintenance of these air strips is a constant environmental threat, especially where building materials must be transported into the area.

In summary, the access to the proposed Arctic Gas System route is not complete. The impact of road, sea, and air facilities which must be constructed on or near the right of way serves only to increment the impact of the pipeline construction.

Approximately 1/2 of the anadromous fish and their escapements which occur in the Mackenzie Delta/Beaufort Basin could be jeopardized even by wintertime construction of the Arctic Gas System line between Prudhoe Bay and Fort McPherson. The winter construction season does protect most of the tundra migrators, but fur bearers which provide an income vitally essential to many northern Canadian trappers, would be disturbed and threatened by winter time construction activities, especially south of the Great Bear Plain. The many stream crossings may have a long term effect on beaver, as well as marine mammals.

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Waterfowl are not jeopardized by winter time construction, but extended construction periods (late April through September) could endanger segments of the vast nesting areas in the river plains of the Yukon Territory. Game animals, moose, bear, caribou, sheep, deer and goats could be protected and preserved during winter construction periods. Spring mating and migrations could be protected, but again extended construction would pose a threat to some species.

Sport fishing in each and every stream or lake crossed in the winter time could be drastically compromised both directly that winter and secondarily the following spring. Winter construction, trenching and ice breaking, could allow streams and ponds to freeze solid. The exclusion of oxygenated water coupled with "total freeze" would kill many larger fish species. The area trenched and restructured would be unstable the following spring. The concomitant changes in turbidity, conductivity, pH and oxygenation, etc. which occur during rapid water run-off over newly constructed stream burials would have drastic effects on spring season nesting and hatching as well as migrations of both catadromous and anadromous fish. The effects on fish could thus be long term and widespread. Smaller fish species and bottom dwellers are not drastically threatened by wintertime construction activities, but they are compromised by the springtime after-effects of construction. Again spring break-up, occurring simultaneously in many streams which were crossed, has a synergistic effect.

Raptor birds (significant populations exist in the Richardson and Franklin Mountains) can be protected, winter and summer, but only with very conscientious efforts. Raptor nests and a variety of historic and archeological sites would have to be identified before any construction activities could be initiated. This survey work could require more than one full year.

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2C

SUMMARY COMPARISON OF ENVIRONMENTAL IMPACTS OF CONSTRUCTION

The single most unique difference between the Fairbanks and the Arctic Gas System proposed trans-Alcan gas line is the existence of the Alyeska oil line along 545 miles of the proposed Fairbanks Corridor. Another pipeline, the Haines products Pipeline, from Fairbanks A K. to Haines A K., provides an existing corridor for the Fairbanks Corridor from Fairbanks or Delta Junction south into Haines Junction Y.T. From there to Ft. Nelson (556 miles) the Fairbanks Corridor proposes to parallel the Alcan Highway. From Ft. Nelson to Zama, 143 miles, access would be along the right-of-way.

Common corridor usage has been advocated and approved by regulatory agencies as well as the industry for many years. Federal Power Commission guidelines published at 18 CFR Section 2.69 provide that in locating proposed facilities, consideration should be given to the utilization, enlargement or extension of existing rights-of-way belonging to either Applicant or others such as pipelines, electric power lines, highways and railroads. The use of such corridors is economic and expedient.

The six years experience and data collection which defines the Alyeska line can be elegantly applicable to the proposed Fairbanks Corridor. The Alyeska route was constructed only after several years study and negotiations. Besides the experience, there can be a common use of camps, airfields, work spaces and facilities which served the Alyeska line. There need be few environmental impacts from secondary construction. The Fairbanks Corridor route can use established, environmentally acceptable all-weather roads which serve the entire line. Prudhoe Bay to Ft. Nelson. There exists experienced logistics, transport loading and docking facilities, etc.

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Besides the existing labor and personnel to construct the pipeline, there is a reservoir of expertise, both private and governmental, to monitor the engineering and environmental stipulations which define the pipeline. These people, with construction and accessory skills, can work year-round on at least 80% of the proposed Fairbanks line.

In addition to these points, the Fairbanks Corridor line does not cross the Arctic National Wildlife Refuge. It crosses only 60 miles of sensitive Arctic coastal tundra and that will be on the existing Alyeska line work pad.

Construction of the Fairbanks Corridor line is further expedited by the availability and proximity to ideal construction materials, soils, gravel, select sands, etc. Borrow pits are already established and in use.

The Fairbanks Corridor route, as selected, features proximity to established oil and gas fields in the Petroleum 4 reserves and the far western boundaries of potential Alaskan oil/gas fields. (Bering Sea). Proximity to potential gas fields at Copper River, Middle Tanana and Kandik Basins, where small gas "finds" are established, is another feature. "Manned and ready" military installations, available in the event of any emergency, lie all along the Alaskan portion of the Fairbanks Corridor as proposed.

In addition to the experience, equipment, skills and techniques provided by Alyeska, existence of Alyeska's line means that all impacts of construction can be incremental. The proper selection of stipulations (which are now well founded) cite the ideal time, area, temperature, water level, barometric pressure or equipment necessary to provide maximum protection to the environment at hand.

The Fairbanks Corridor Route passes near the Denali Fault, a high seismic risk area. Fairbanks township has sustained seismic shocks of 7 to 8 Richter. The proposed gas line, utilizing established technology, will be built to withstand 8.5 Richter (8.5 Richter is Seismic Resistance of the Alyeska line).

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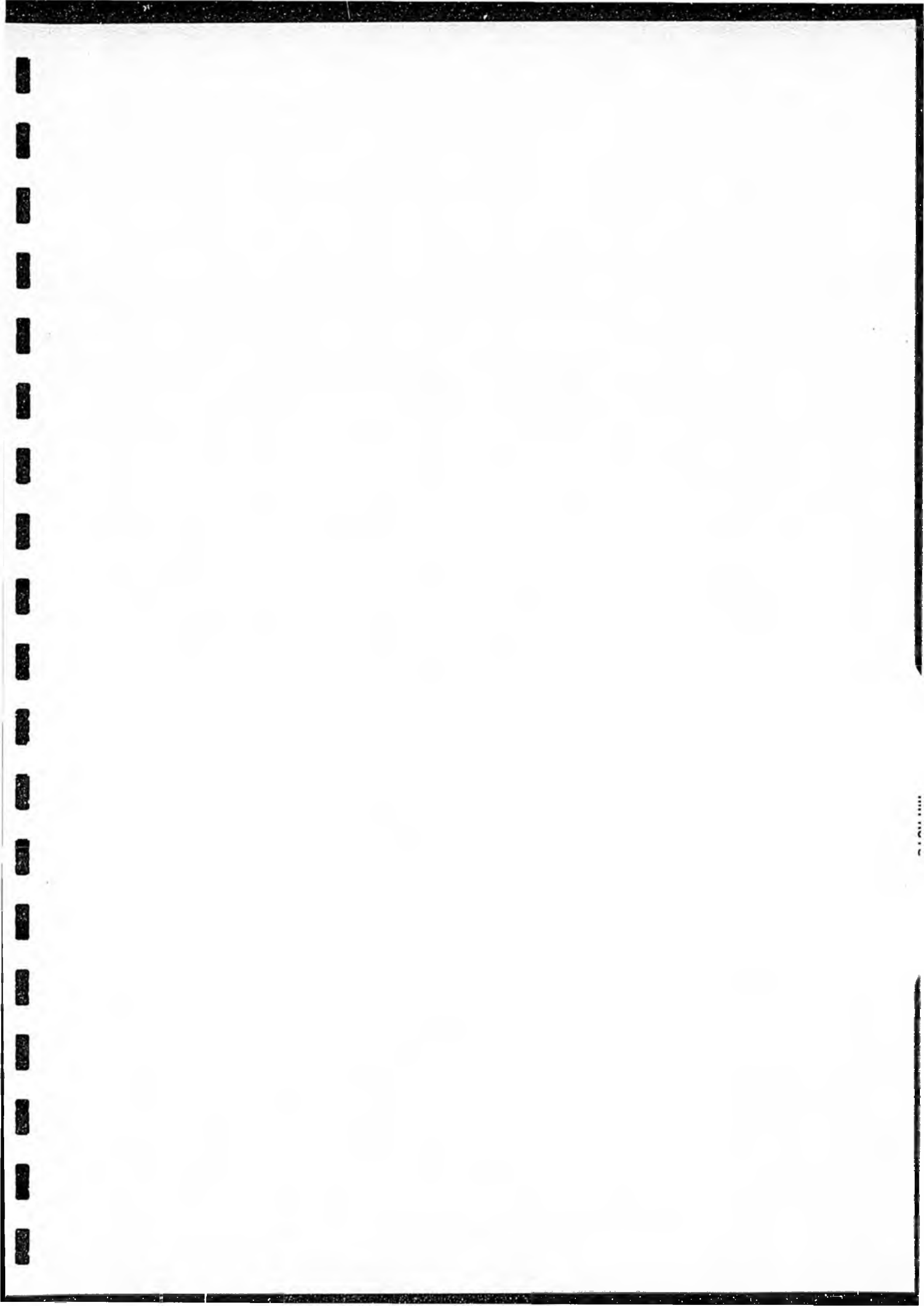
Experience has shown that only a case by case investigation can determine which engineering and construction techniques (burial, surface lay or suspension/elevation) will provide the utmost in safety, reliability and environmental protection for any pipeline. Aesthetics may be compromised where the proposed pipeline is exposed; valve sites, etc. would be exposed. These exposed segments of pipe would be less than that of the Alyeska line, which is already accepted. Therefore, only incremental aesthetic impacts would be expected.

The proposed Arctic Gas System line from Prudhoe Bay to Zama is about 400 miles shorter than the Fairbanks Corridor route. The Arctic Gas System line does not pass near an established fault line or high seismic risk zone. Taking advantage of the flat topography and alluvial soils of the Mackenzie and other river plains, the Arctic Gas route will be reportedly totally buried.

In all other respects, the Fairbanks Corridor gas line, as proposed, affords countless construction advantages which represent important savings in time, effort, and money. The Fairbanks Corridor gas line employs established right of way along most of its route. The in-depth environmental analyses for a large portion of the proposed route is completed, established and stipulated. Supportive systems, camps, airfields, access roads, even men and equipment, are in place and can be used. Environmental impacts for the Fairbanks Corridor line will be incremental to those impacts already established by the Alyeska line.

Environmental impacts of the Arctic Gas System line would be multiple; one for the access and service facilities and one for the pipeline itself.

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3A

ENVIRONMENTAL IMPACTS OF OPERATION AND MAINTENANCE OF  
THE PROPOSED FAIRBANKS CORRIDOR LINE

The entire Fairbanks Corridor route, Prudhoe Bay to Ft. Nelson, is accessible by all weather, heavy duty roadways. In the Canadian segment from Haines Jct. (Y.T.) to Ft. Nelson B.C. (556 miles) the selected route of the pipeline may not be directly alongside the Alcan Highway and accessory roads would be built, but the main roadway (Alcan) has existed for 20 years and is in constant use. Marine access to this roadway system can be established at Haines, Skagway, Prudhoe Bay and even Anchorage or Valdez; Prudhoe Bay is used only in summer. Along the eastern leg from Ft. Nelson to Zama (Alta) access would be along the right of way.

Two large cities, Fairbanks and Whitehorse, lie on the proposed Fairbanks Corridor line and these cities could absorb the influx of supplemental/service businesses which would support the gas pipeline. Fairbanks provides frequent flights to the Anchorage International Airport and two railroads, the Alaska RR and the White Pass and Yukon RR (a narrow guage road) serve the separate cities of Fairbanks (from Anchorage) and Whitehorse (from Skagway).

Those features of operations and maintenance for the proposed Fairbanks Corridor gas line which differ markedly from those of the Arctic Gas System pipeline, all take advantage of the excellent access to the Fairbanks Corridor route. The presence of the Alyeska hot oil line also provides some distinct operational and maintenance advantages to the Fairbanks Corridor gas line; pending future negotiations, many supportive systems and facilities can be shared with Alyeska.

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The unique advantages provided to a chilled gas line which follows the proposed Fairbanks Corridor are enumerated below:

1. Some shared costs and services with Alyeska Pipeline.
2. Availability of industrial groups which can provide assistance in the event of an emergency.
3. Maintenance protocols already established and accepted by all monitoring agencies concerned.
4. Established work force of agency experts who can monitor and help with maintenance problems.
5. Established telecommunications systems.
6. Accepted and tested emergency and safety systems which could protect operations of both lines, i.e., seismic episode shut-down.
7. Established roads, airports, etc. which support maintenance procedures.
8. Established and trained security nearby; many military bases are proximal to the line.
9. Established or under construction, port areas which can provide maintenance equipment.
10. Year-round, ready access to almost the entire line. In an emergency, there is no segment of the line that could not be reached by maintenance equipment.
11. Established fish and wildlife jurisdiction and control over sensitive areas "opened" to sportsmen by access and maintenance roads.
12. The "chilled gas" temperature, 23<sup>0</sup>F, is maintained to protect sensitive perma-frost areas. The Fairbanks Corridor crosses only about 230 miles of continuous perma-frost zone; the Brooks Mountain Range and foothills lie within perma-frost zones, but being founded on bedrock, this is not a fragile frost sensitive area. The maintenance of the selected 23<sup>0</sup>F temperature and supporting insulation and engineering therefore poses a

problem only directly proportional to the amount of perma-frost, non-stable soils traversed. (Arctic Gas System route would cross approximately 550 miles of continuous perma-frost and 700 more miles in discontinuous perma-frost, very fragile sensitive soils).

13. Preventive maintenance, site and road restoration, erosion control, revegetation, restocking and supplementary seeding can all be performed during the entire year, but special emphasis will be on summer time activities, along the Fairbanks Corridor. The summer time efforts permit immediate control of "spring break-up" erosion and slump problems. Summer activities also allow access to water (not ice) for hydrostatic retesting of the pipe segments.

14. The close and parallel route of the two lines, Alyeska and Fairbanks Corridor, could allow a common seismic safety network to be installed and maintained. Though both lines pass through high seismic risk zones and both lines are/can be constructed to resist 8.5 Richter magnitude earthquakes, the installation of vibrosensometers and the "quake warning" radio net (out of Palmer A K.) can afford "state of the art" technological protection to both lines.

3B

ENVIRONMENTAL IMPACTS OF OPERATION AND MAINTENANCE OF THE  
PROPOSED ARCTIC GAS SYSTEM LINE

A thorough description of the marine and highway access to the proposed Arctic Gas System line can be found in section 2B. This section points out that snow roads are the proposed means of access to that segment of the route which crosses the Arctic tundra. Snow roads cannot be used in the months April through October; emergency access to the line would have to be via plane or helicopter for at least six or seven months per year.

Those segments of the Arctic Gas system pipeline which would be constructed south of the tundra, would presumably be serviced by the roads built during the construction phase of the Arctic Gas System line, approximately 300 miles. These roads could be easily maintained and used year-round, but this implies that only 1/4 of the line is readily accessible year-round on all weather roads.

Summertime access to a pipeline routed thru the tundra or muskeg not only compromises the soils and vegetation of the area but also the animals living in their summertime haunts. Aircraft can easily spook a herd of musk ox or caribou into a stampede which tramples the young and injures adults as well. All terrain vehicles are equally damaging to both the physical and biological environment.

The proposed Arctic Gas System line relies heavily on snow roads, with no system proposed for summertime access. The lack of year-round access is the basic important difference between the Arctic Gas and Fairbanks Corridor lines. A summary of the unique environmental aspects of operation and maintenance of the Arctic Gas System line is listed on the following pages.

1. Only in the winter season (December - April) can all parts of this proposed line be serviced. Access in spring, summer and early fall must be by helicopter or airplane. All terrain vehicles and even pedestrian traffic can be harmful to the tundra and barren muskeg north of the tree line. Summer ranging animals are mating, calving or nesting; they are susceptible to impacts from aircraft and vehicles.

If the applicant or the Canadian government builds an all-weather road from Steen River to Ft. McPherson, then much of the potential damage done by maintenance crews/operations is obviated (The road itself will have a negative impact on the environment). The points below assume no all weather road is constructed.

2. Winter or any season, access to the pipeline will be difficult; the movement of supplies and equipment for emergency work will be problematic and invariably damaging to the environment. Snow roads would have to be rebuilt/restructured each winter. Summer access would probably occur only in the event of a dire emergency, except in those northern forest areas where all weather roads can be built.

3. If the Arctic Gas System pipeline were constructed as proposed, the segment from Prudhoe Bay to Mackenzie Delta would pose nearly insurmountable maintenance and access problems. Access would be in the winter season only, but in the winter season Prudhoe Bay is iced in, limited to helicopter loads only. Material deliveries for emergency repairs would be severely curtailed.

4. The many small streams and rivers traversed by a buried chilled (23<sup>0</sup>F) pipeline will require constant attention. Frost heave and frost bulbs, as well as slippage in active perma-frost layers, all will demand restructuring and reclamation. Ideally, such work should be after the spring break-up, in early summer. Again, limited summer time access precludes extensive, environmentally acceptable, maintenance activities.

5. Even if a complete gas line access road were built, service sites and facilities, airfields, storage yards, housing and fuel depots would all have to be built and maintained all year long; such secondary construction imposes additional impacts upon the fragile tundra/muskeg lands.

6. Access and maintenance roads which are built may be an impetus to tourism into the Yukon and Northwest Territory. New methods of access to previously isolated areas could attract sportsmen and tourists in general. Such an influx of tourists and hunters especially may be of doubtful value.

7. The areas around Ft. Nelson and Zama have established and accepted plans for compressor stations, monitoring facilities and etc.

8. Arctic Gas Systems has not specifically defined its telecommunication and electrical power facilities. Telecommunications systems are essentially complete throughout northern Canada. Without the availability of a widespread power grid system, electrical power supplies are frequently generated on a local basis.

SUMMARY COMPARISON OF ENVIRONMENTAL IMPACTS OF OPERATION  
AND MAINTENANCE OF A PROPOSED GAS LINE

The Fairbanks Corridor pipeline will occupy 545 miles of existing Alyeska corridor. In this location, the Fairbanks Corridor can share a large amount of its operation and maintenance systems with Alyeska (some by negotiation, some by governmental directive). Most of the ancillary systems, telecommunication, power, storage and service yards, housing and even skilled labor are presently available to the Alyeska operation and could be shared or transferred to the Fairbanks lines.

The Fairbanks Corridor line does not pass through a National Game Refuge and traverses only about 60 miles of fragile tundra type soils. Even these tundra areas have seasonal road access; thus, excluding the springtime floods, virtually all of the Fairbanks line is accessible by vehicle the year round.

The proposed Arctic Gas System line, in contrast, does not have complete road access. In fact, snow roads are the proposed method of access during construction of most of the Arctic Gas line and presumably, snow roads would furnish access for maintenance and operations.

The Arctic Gas System line, from Prudhoe Bay to Tununuk, crosses more than 400 miles of fragile, frozen, tundra soil, part of which lies within the National (U.S.) Arctic Wildlife Range. No ancillary facilities or systems exist for the operation and maintenance of the proposed line and even wintertime (snow road) access to much of the line is environmentally damaging. Summertime access to the line in the tundra area would be limited to helicopter. The secondary supportive construction which would serve the operations and maintenance of the proposed Arctic Gas System line would definitely compromise the tundra areas and incrementally impact the remaining muskeg and forest areas traversed by this system.



SOCIO-ECONOMIC ASPECTS OF CONSTRUCTION OF A PROPOSED GAS PIPELINE

## 4A. Socio-economic features of construction of the proposed Fairbanks Corridor line.

The social and economic impacts would fall primarily on areas already impacted, directly or indirectly, by the Alyeska oil pipeline. With fewer construction workers employed over a shorter period of time than on the oil pipeline, the impacts probably would not be as significant. The impact on Fairbanks and on the remainder of Alaska would not be of the magnitude of the Alyeska impacts since the number of workers would be less than for Alyeska and since services have expanded in the last few years under the pressures generated by Alyeska. Fairbanks would probably continue to be the center of construction activity. Compared with the Arctic Gas system, the longer pipeline needed within Alaska for the Fairbanks Corridor line will require a larger workforce over a longer period of time and will pass through less isolated areas. Thus, property taxes would be greater and worker income would be greater. The Fairbanks Corridor pipeline will be constructed by many of the workers who have been employed in constructing the oil pipeline. There will be some impact on private services, especially in the areas of housing, private health care, utilities, communications, transportation, financial, retail, and leisure services, but the impact should not be significant since these services have been developed in response to the activity on the oil pipeline.

The Fairbanks Corridor route could have more serious effects on those areas outside the oil pipeline corridor, that is, from Delta Junction southeast to the Canadian border. While the towns along the Alcan Highway escaped the direct impacts of Alyeska - such as happened in Valdez or Fairbanks - they did experience increased demands on services due to those people moving into Alaska along the highway. As a result, towns such as Tetlin Junction experienced some economic expansion that would tend to absorb to some degree the impacts generated by the proposed Fairbanks Corridor route. The major revenue impacts of the gas pipeline on the State of Alaska

would result from personal income taxes, certain excise taxes, gas production tax revenues, royalty payments to the state, and state property taxation of the pipeline. Construction of this gas transmission system would have a multi-faceted impact on the socio-economic environment of the State of Alaska. It would produce jobs for existing workers completing the Alyeska line, maintain state and local revenues, and further stimulate the Alaskan economy. This in turn would extend the current demand for social services, schools, housing, health care, and public safety. The proposed pipeline will pass approximately 200 miles from Talkeetna, which is one of the suggested sites for a proposed new capital of Alaska. (The other proposed sites are Fairbanks and Anchorage). Thus, with the addition of a smaller diameter spur-line, the proposed pipeline could furnish a natural gas supply to the new capital.

Gas pipeline construction might have a minimal direct adverse impact on the sport fishing industry and minimal impact on the forest industry. Mining could be expected to grow somewhat because of the improved access to mineral rich areas. Agriculture would continue to diminish in importance in relation to the entire economy, but tourism could be expected to grow. Construction of a gas pipeline would extend the demand for transportation services associated with Alyeska and thus provide additional revenues on existing capital investment in Alaska. The construction effort would utilize the barging, trucking, and aircraft resources of the state. The construction of this pipeline system could have a significant influence on Alaskan Natives. The growing demand for material goods has had obvious impacts. This is a major feature that has resulted from the exposure of the Natives to a non-Native culture. Since these goods must be bought, the Natives have become increasingly dependent upon a cash economy. This in turn, has resulted in a decline in the harvesting of subsistence resources and alterations in the nature and significance of the social institutions derived from that activity. The potential pipeline-related causes of interference with the subsistence resources utilized by the Natives consist of disruptions to the habitat of fish and game as the result of construction or operational activities, and increased competition from the non-Native population for the limited available resources.

4B. Socio-economic features of construction of the Arctic Gas System line.

It is estimated that a lesser number of workers will be employed in Alaska on the Arctic Gas pipeline. Approximately 2,400 workers will be required during the peak winter construction period. The gas pipeline would provide approximately 20% of the number of jobs created by the oil pipeline. Therefore, the total impact on employment and personal income will be small, but beneficial. Since there is virtually no housing available, mobile construction camps will be required.

During construction, state and local governments along the pipeline will benefit from motor fuel taxes, and personal and corporate income taxes. However, production would be destroyed in agricultural and forest lands throughout much of the route. Some of the land would be out of production for only a short time, but other lands would be out of production for the life of the project. There would be some adverse impacts because of short-term surges of demand for housing, demand for federal, state and community services; and increased competition for recreation, education, transportation, and entertainment. Subsistence trapping would be interrupted during construction of the system.

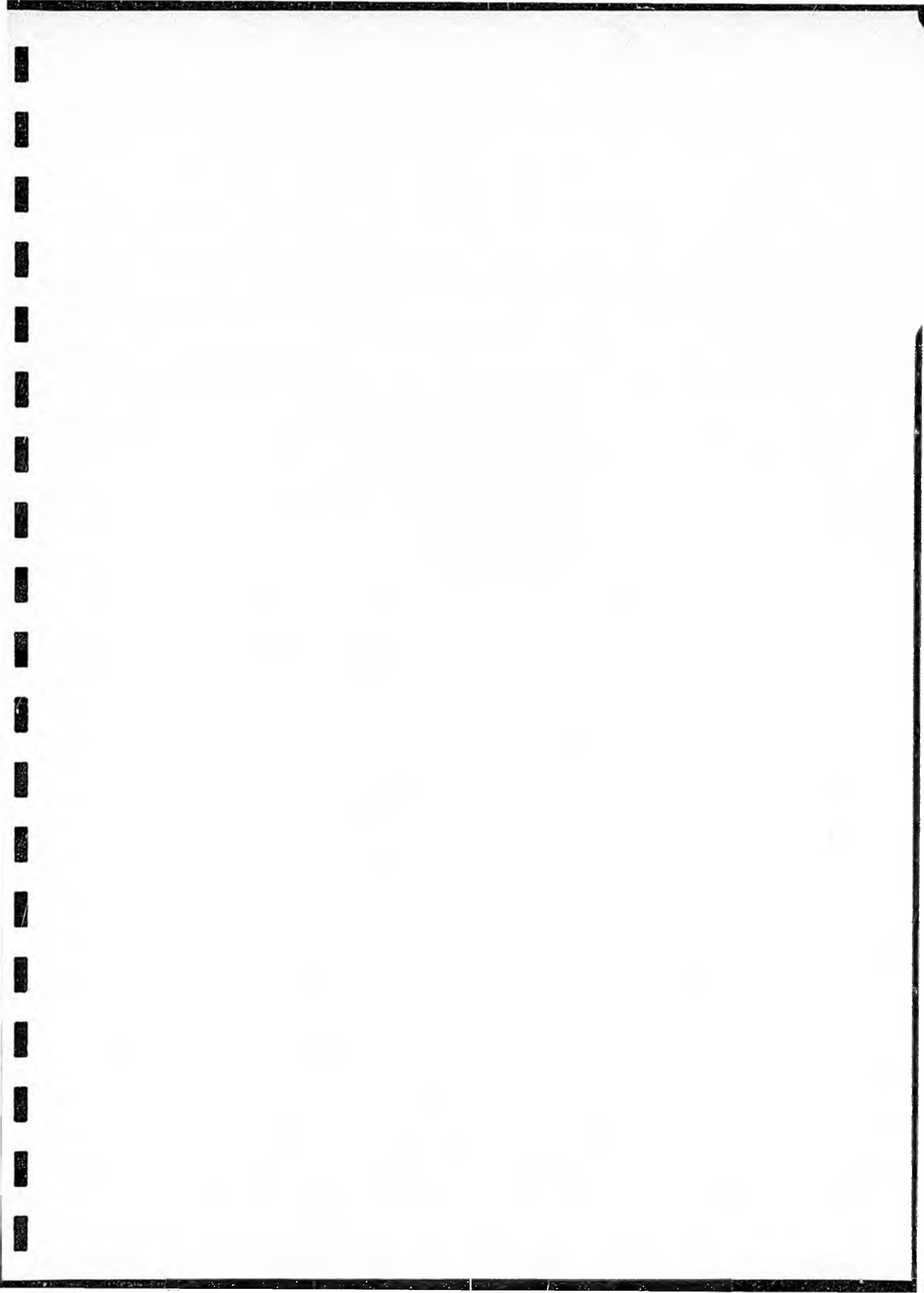
4C. Summary comparison of socio-economic features of construction.

Construction of the proposed Fairbanks Corridor line through Alaska is scheduled to begin in 1979. The rate of growth in employment is expected to slow down in 1977 after construction of the oil pipeline is completed. Construction on the Alyeska project will begin to taper off in 1977 when the system is scheduled to begin operations. Thus, construction of the proposed gas line could provide continued employment for some workers engaged in constructing the oil pipeline. The gas pipeline will provide continued benefits to the business economy of Alaska from the requirements for supplies, materials and equipment. The existing work camps currently being used in constructing the oil pipeline can be used in constructing the

gas line; thus, there will be no impact from construction of a large number of work camps. Existing highway and utility systems will provide required services. No large expenditure of capital funds will be required for providing these services and there will be no requirements for large scale use of scarce resources.

Construction and support workers, choosing to stay in the areas along the Alyeska line will be able to find jobs. Additional tax dollars will not be required to support these people.

Contrasting with the utilization of existing housing, transportation facilities, medical facilities, recreational facilities, etc., producing additional profits on existing capital investments, the Gas Arctic route would require all new facilities. New capital investments based on short-term payout will result in additional inflation in the areas affected.



SOCIO-ECONOMIC ASPECTS OF THE OPERATION AND MAINTENANCE  
OF A PROPOSED GAS PIPELINE

- 5A. Socio-economic aspects of the operation and maintenance of the proposed Fairbanks Corridor line.

Since the Fairbanks Corridor routing is 1650 miles in length and passes near areas of potential development, it would make possible the future use of considerably more natural gas in Alaska than would the Arctic Gas route. These potential users would be fuel users such as utilities and residential and commercial users in the Fairbanks area, and an iron ore processing facility. In addition, revenues from the state property tax would be larger because of the greater length of pipeline in Alaska and the consequent increase in property subject to tax.

Permanent revenues derived from the completed pipeline and pipeline operations would soften the impact of lost construction revenues on completion of the Alyeska line. Construction of the gas pipeline would maintain some of the available jobs for those workers choosing to stay in the area, thus keeping them off welfare rolls.

One of the purposes of this route is to provide natural gas to the Fairbanks area. The availability of an assured gas supply in Fairbanks will increase the potential for development. In addition, this routing will pass closer to the proposed sites for the new capital of Alaska. Regardless of the site which is finally chosen, this pipeline will be available to furnish gas to the proposed capital site. Both the Fairbanks Corridor line and the Arctic Gas line will require a compressor station and/or operation and maintenance facility at Prudhoe Bay. It is estimated that approximately 40 workers will be employed to operate the station.

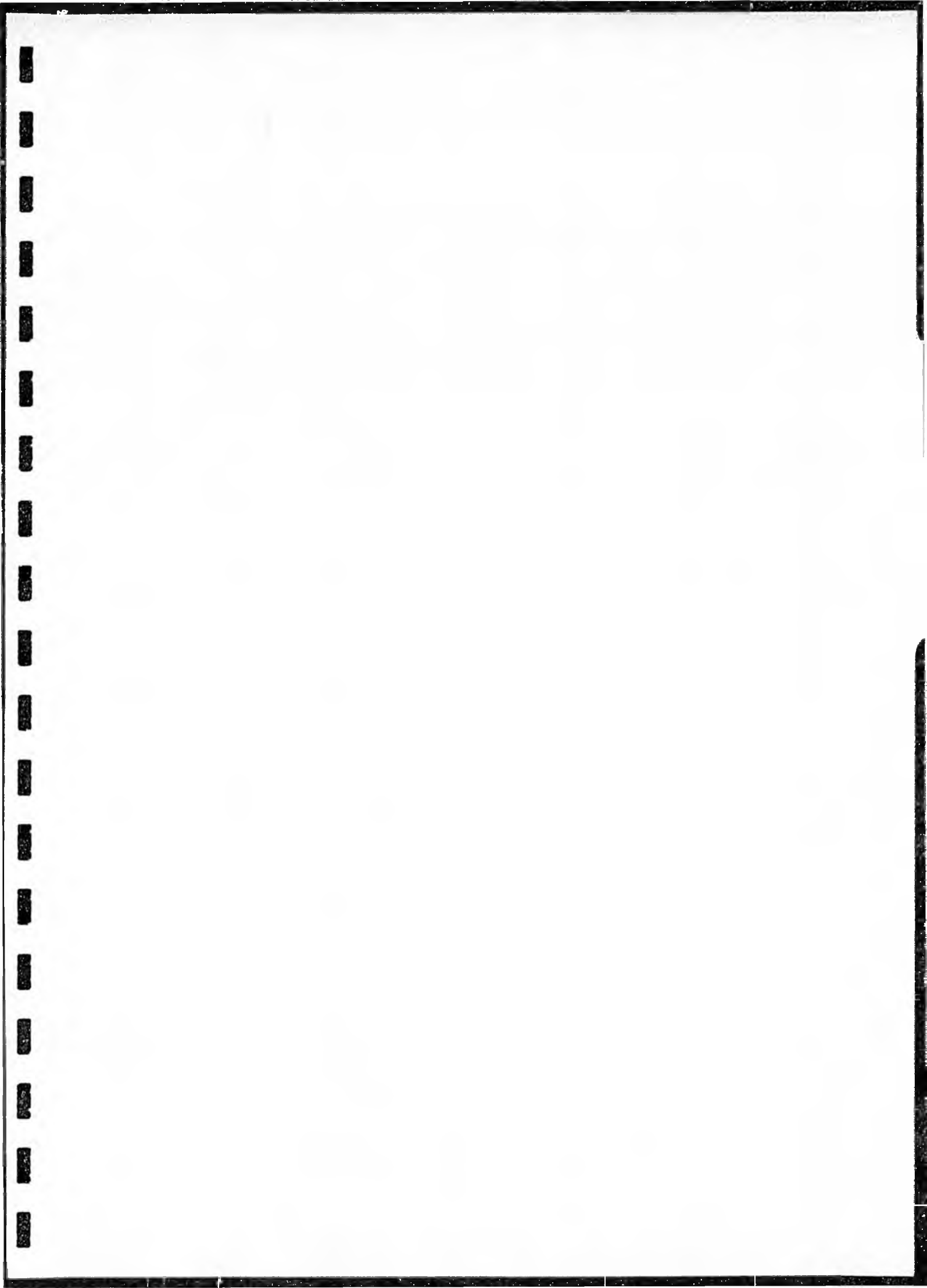
- 5B. Socio-economic aspects of the operation and maintenance of the Arctic Gas System line.

The Arctic Gas System will be approximately 195 miles in length in Alaska. This system will transport gas through a relatively under-developed portion of the state of Alaska. This pipeline would not furnish gas to any of the larger cities in Alaska.

The airstrips and helicopter landing sites required for operation of the system would create a continuing impact on the fragile Arctic tundra. Because of the unstable soil conditions, periodic reconstruction may be required. It is estimated that 18 docks and piers will be required to facilitate marine delivery of materials to Skagway, Prudhoe Bay, and Mackenzie Delta. The increased traffic at the Mackenzie port may result in interference and delay in delivery of supplies to the Arctic islands. In addition, the existing railroad from Skagway to Whitehorse would probably require expansion and additional maintenance.

5C. Summary comparison of socio-economic aspects of the operation and maintenance of the proposed Fairbanks Corridor line.

The proposed Fairbanks Corridor line will provide permanent benefits to the Prudhoe Bay area, to Fairbanks and to Alaska. The Prudhoe Bay area will benefit from the additional workers required to maintain and operate the compressor station. The Fairbanks area will benefit from the availability of an assured supply of natural gas. The State of Alaska will benefit from the increased tax revenue derived from the greater length of gas pipeline in the State, and also benefit from the reduced number of potential welfare claimants.



SELECTED ENVIRONMENTAL IMPACTS

Some of the impacts on the environment of the proposed Fairbanks Corridor line and the Arctic Gas line, based on the Final Environmental Impact Statement issued by the Department of the Interior, may be summarized as follows:

## (a) Climate

## Fairbanks Corridor - Alaska

The construction, operation or repair of the pipeline will have little, if any, impact on climate. It will not affect regional temperatures, winds or precipitation. Available information indicated that micrometeorological changes will result from compressor station emissions. Ice fog conditions may occur in the villages or camps along the route.

## Fairbanks Corridor - Canada

The short-term effects of construction and operation of the proposed pipeline on climate will be minimal. Local and transitory ice fog, the only impact, will not be deleterious to the climate. If airstrips are not sited at elevations higher than equipment such as compressors, ice fog could interfere with aircraft movement for a few hours before wind disperses it.

## Arctic Gas

There will be no significant impact on regional climate; however, climate will have a major impact on the construction and operation of the pipeline in the arctic and the subarctic. The cold air temperature, combined with winds and the long winter darkness, will cause extreme stresses on personnel, materials, equipment, and machines.

(b) Topography, Geology and Soils

Fairbanks Corridor - Alaska

Some landscape changes in topography will be caused by borrow areas, ditch mounds, and buildings. A major portion of this route is located in forested, rolling topography and is associated with a major existing transportation system (the Alcan Highway). Therefore, it is believed that the overall impact on topography will be slight.

This route will serve the Prudhoe Bay oil and gas fields, the Kandik Basin, the Middle Tanana Basin and the Copper River Basin.

Construction and operation of a gas pipeline will have little, if any, impact on the development of hardrock minerals and energy producing minerals except for oil, gas, sand and gravel. The 735 mile segment of the Fairbanks Corridor in Alaska will not affect the overall distribution or abundance of perma-frost in Alaska. Perma-frost will affect the pipeline. The route crosses approximately 230 miles of continuous perma-frost and approximately 505 miles of discontinuous perma-frost. In perma-frost terrain, disturbance or removal of the plant cover and peat layer causes thawing of the perma-frost and deepening of the active thaw layer. The impact on soil along the route can be minimized by avoiding disturbance to the vegetation protecting those soils.

Fairbanks Corridor - Canada

Topographic impacts of the proposed pipeline constructed along 915 miles of right of way in Canada are considered to be minor. Most of these impacts would be secondary manifestations of more serious geologic impacts such as thermokarst development, gullying and stream siltation, and accelerated mass wasting.

Construction of a pipeline and ancilliary structures will require great quantities of sand and gravel or crushed rock for such purposes as pad foundations, backfill in trenches, and roadways. Suitable materials sources are generally abundant along the corridor, but are relatively scarce in some segments. Other than the consumptive use

of construction materials, the construction and operation of a gas pipeline will have no impact on metallic or non-metallic resources and their extraction. Trenching and other pipeline construction activities would impact topsoils to a variable degree ranging from complete destruction to partial burial. This routing will not cross major areas of agricultural lands; thus, there is little potential for major impact on agricultural uses of soils.

#### Arctic Gas

The major unavoidable effect on topography would be the excavation of at least 108 borrow pits averaging about 14 acres each. In addition, plans call for a nearly continuous berm of soil (several feet high and about 5 feet wide) directly over the pipe. (DOI Final EIS, Canada, March, 1976, p.321).

A buried chilled pipeline poses special geologic problems such as heaving of the pipe and disruption of shallow ground-water movement. It has not been demonstrated that the integrity of the pipeline can be maintained everywhere in the perma-frost area. Thawing of ice-rich, fine-grained permafrost materials could locally result in serious impacts such as soil liquefaction, slope instability, differential settlement of the ground surface, disruption of drainage, and accelerated erosion along as much as 800 miles of the route north of Ft. Norman on the Main Line and on the supply line laterals. Approximately 30 million cubic yards of construction material from borrow pits and quarries will be required for construction of the pipeline system.

Adverse effects on agricultural soils would be minor except on the right-of-way of the proposed pipeline, permanent roads, temporary access roads, and other graded or filled areas. These effects would be significant only in areas of agricultural development, mostly south of Ft. Simpson on the Main Line and on the delivery lines in southern Canada.

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(c) Water Resources

Fairbanks Corridor - Alaska

Construction of the pipeline will affect surface drainage patterns. Impacts associated with the pipeline, ditch, frost bulb, and mound will be long term and will result in wet conditions on up-slope sides and dry conditions on downslope sides. Airfield, future compressor station and communication sites are considered to have no significant impact on surface drainage patterns. None of the streams along the route are utilized as municipal supply sources either through reservoirs or through other bodies of water connected to the streams.

Fairbanks Corridor - Canada

The degree of potential impact at stream crossings would depend upon the design and the measures taken during construction to minimize the impact. Four areas of concern are: (1) channel erosion, (2) icings, (3) depletion of streamflow during construction, and (4) drainage disruption.

The primary impact on ground water by the pipeline would be the disturbance of the shallow active layer overlying perma-frost during pipeline construction and operation. Disturbance of the thermal regime in the active layer would create new ground-water flow patterns, possibly resulting in auffs, accelerated thermal degradation, accelerated erosion, frost heaving, and potentially explosive icing mounds. Another potential for impact on ground water would be the discharge of liquid wastes and leaching of sanitary landfills.

Arctic Gas

Excavation of materials and the placement of fill during construction of the proposed pipeline will alter numerous natural drainage channels. Erosion could be accelerated because of the potential for increased velocities and concentrated flows, steepened terrain slopes, soil disturbances and vegetation modification. Changes in the subsurface drainage caused by pipeline construction, soil compaction, or the frozen

annulus around a chilled pipe could result in conversion of subsurface flow to surface flow and thus increase erosion. Changes in the form of drainage could alter the freeze-thaw, wet-dry, liquefaction, or other characteristics of soils leading to new or accelerated mass movement. A principal potential impact of such soil movements would be the disfiguration of the landscape and a decrease in the quality of water.

The proposed pipeline alignment would cross numerous streams and flood plains. Where the pipeline is buried at stream crossings, scour might expose the pipe and cause damage. Along the northern (Prudhoe Bay to Tununuk) one-third of the route, the formation of river icings (aufeis) could affect the integrity of aboveground structures as well as cause unpredictable effects on depths of riverbed scour.

The natural quality of water in streams or lakes would be impaired where construction-related activities, including the removal of vegetation, sand and gravel mining, and grading and filling for roads or camp buildings would add particulate matter. Adverse effects of sedimentation could largely be controlled during the life of the project, but would be unavoidable during construction.

Contamination of streams and lakes by deliberate or accidental discharge of toxic chemicals would be a long-term, continuing threat to water quality and plant and animal populations both in freshwater and marine environments. The effects could be critical along major waterways but cannot be quantified as they would depend for the most part on the incidence of accidental spillage and leakage of fuel oil and other toxic materials.

(d) Vegetation

Fairbanks Corridor - Alaska

Some existing underbrush and forest will be destroyed by the construction of permanent access roads, compressor station sites, borrow pits and other structures. A few temporary work pads will be required along the Alyeska portion of the route and an additional number will be

required in the portion along the Alcan Highway. Any merchantable timber stands that are cut will occur at scattered locations so that their loss would not be economically significant. Local stands would have value to nearby users and could be salvaged for local use. The right-of-way clearing will leave a rather straight line across the landscape. The percentage of land that will be affected is quite small when compared when the total width of right-of-way. No known plant species are threatened with total extinction on this route.

#### Fairbanks Corridor - Canada

In the portion of the route following the Alcan Highway, discontinuous perma-frost is present, although not widespread southeast of Whitehorse. The principal impact on vegetation would result from clearing of the right-of-way in the open, parkland forests of spruce and mixed woods and the permanent occupancy of land for compressor stations and other facilities.

#### Arctic Gas

Unavoidable effects of the proposed pipeline on vegetation would be relatively insignificant in terms of the total resource of plant communities. Losses of vegetation would occur on all land areas occupied by permanent roads, airstrips, compressor stations, wharves, stockpiles, borrow pits and other facilities. On the pipeline right-of-way, clearing of trees would cause a loss of forest productivity. In the long term, following abandonment of the proposed project, all vegetation should recover, although scars would be visible for many decades.

Throughout the lifetime of the proposed project, an apparently intratable problem in perma-frost zones would be unscheduled maintenance operations requiring movement of heavy machinery over land. Such operations could cause more damage to vegetation and terrain than would the initial construction of a pipeline. The adverse effects would be especially severe in the Arctic Coastal tundra where soils are ice-rich, recovery of stable terrain and vegetation is slow, and scars on the landscape are highly visible and long enduring.

## (e) Wildlife

## Fairbanks Corridor - Alaska

The construction of this pipeline system will affect wildlife populations in the following ways: (1) direct and indirect harassment or project-caused disturbance during critical periods of an animal's life cycle; (2) increased harassment and/or destruction of wildlife because of better access to area; (3) the introduction of pollutants to the ecosystem; (4) the inability of certain species of wildlife to adapt to man's presence; and (5) the direct or indirect destruction of wildlife habitats. Because most of this alternative route closely parallels the trans-Alaska oil pipeline system, many of the impacts, e.g., noise and pollutants from gas compressor sites added to noise and pollutants from oil pump stations, will be cumulative. However, because there is no precedent for this combination of pipeline transportation systems, the additive effects, while based on best judgment, are mainly tentative.

## Fairbanks Corridor - Canada

There is insufficient background material available to permit evaluation of impact of the use of this routing on fish and fish habitats. Since a large portion of the route has already been affected by highways, there would be less affect on wilderness areas when compared to other possible routings. The segment paralleling the Alcan Highway would be disturbed, but most of the area would eventually be revegetated. Construction of the pipeline would represent a temporary loss of habitat for small mammals in contrast to the permanent habitat loss that accompanied construction of the highway. Thus, the impact to animals along the highway would be less than the impact to animals in previously undisturbed areas.

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### Arctic Gas

The pipeline along the proposed route should have only a few unavoidable adverse effects on fish populations, if known and planned mitigating measures are successfully employed.

Most mammal species should be little affected along the proposed route if planned mitigative measures are employed. Winter construction would avoid contact with the Porcupine caribou herd if construction were halted in advance of the spring migration and no barriers to movement were left. Control of firearms and prohibition of hunting would remove a principal threat to game animals in the Arctic and Subarctic. Planned right-of-way alignments avoiding denning sites of wolves, foxes and grizzly bears along northern parts of the route will remove some of the principal threats to these species.

Adverse effects would be expected on such vulnerable species as wolverine, grizzly bear, and polar bear and to tundra populations of wolf in the Yukon and Northwest Territories. Although most potential adverse effects would be avoidable, noise disturbance by aircraft, harassment, and increased hunting pressure by hunters who benefited by increased accessibility of the area would be continuing threats to game animals and to the subsistence of Native peoples.

Use of the proposed route would adversely affect bird habitats on the right-of-way and in areas occupied by permanent facilities but the areas would be small relative to the total habitat resource.

Disturbances to migrating, nesting, feeding, molting and staging waterfowl and shorebirds and disruptions to the habitats used for these functions would be potential adverse effects at one time or another over essentially the full length of the proposed route. Especially critical habitat occurs along the MacKenzie River, in its delta, and along the shores, estuaries, lagoons and barrier beaches of the Yukon coast. Local summer construction of facilities, summer marine, river and air transportation, and noise of all kinds present throughout the operational period of pipeline, would be disruptive to waterfowl and shorebirds.

## (f) Economic Factors

## Fairbanks Corridor - Alaska

The economic impacts of the Fairbanks-Alaska alternative route as developed by the University of Alaska econometric model (Scott, 1975) include: a property tax of \$44 million, construction employment of 6,845, a capital value (pipe and compressors) of \$2.2 billion, an increase in gross state product of \$249.7 million, a total state employment effect of 23,900, an increase in real wages and salaries of \$199.6 million, population growth of 33,400, an addition to personal income statewide of \$572.7 million with an increase in per capita income of \$463, and a total addition to state revenues of \$156.5 million. All figures are projected to 1980. The concentration of pipeline construction supervisory and logistical functions in Fairbanks should result in an increase in the average income level. The incomes of local natives will be bolstered by continued pipeline construction.

## Fairbanks Corridor - Canada

Construction of a pipeline would generate a relatively small overall net increase in population. Tourism, sport fishing and hunting and mining would probably have a greater impact on population than the proposed pipeline. Construction and operation of the pipeline will contribute significantly to the established communities directly along the corridor. The infrastructure already existing along the Alcan Highway would be, in varying degrees, already able to support additional activities, and it is probable that upgrading and expansion of existing facilities could be accomplished easily. Increased economic activity should work to the advantage of any existing businesses that currently might be marginal. Without this proposed pipeline, further growth would be dependent on the level of activity in the government, tourism, and mining and mineral exploration.

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### Arctic Gas

The proposed project would in some degree have an adverse effect on the desire and/or ability of the Native local residents to follow their traditional hunting-trapping-fishing land-based economy. A trend away from the land-related pursuits toward a wage economy, however, has already been established in many parts of the proposed route region. Therefore, in general, the proposed project could not be regarded as an initial cause, but it might be a potent factor in augmenting and accelerating this trend.

Some adverse effect, due to unemployment, might result in the post-construction phase of the proposed pipeline project when the labor force required would be only a small fraction of that needed during the peak years of construction. Other secondary activities in gas and oil exploration and development in the MacKenzie region might materialize and provide continuing employment for those displaced from jobs following the projected peak construction period.

#### (g) Sociological Factors

##### Fairbanks Corridor - Alaska

Sociological impacts will range from beneficial impacts such as cultural opportunities because of greater demand, to such adverse impacts as increase in crime, lower standards of housing, greater traffic problems, and an accelerated rate of decline of Native culture. Sociological impacts along the Fairbanks Corridor may be considered less disruptive than other alternative pipeline routes, because few communities not already affected by the Alyeska pipeline will be involved. Fairbanks currently serves as a major regional center for health care.

##### Fairbanks Corridor - Canada

The approximately 12,500 population along the Fairbanks Corridor in Canada was distributed in 1972-1973 as follows: Whitehorse 11,100, Watson Lake 555, Teslin 340, Haines Jct. 190, Carcross 190, Beaver Creek 120, Burwash Landing 65, Destruction Bay 80. It is reasonable to assume that, if the proposed pipeline were built in this corridor, there would be a moderate population increase, at least temporarily, in addition

to that which could be projected in the absence of any major new project. This would be generated by increased demands for services and recreation. The continuing need for an operational staff for the proposed pipeline could result in increased employment for the local residents or a migration of people from other areas seeking jobs, or both.

The impact of the project on housing and secondary service facilities is difficult to assess in the absence of a survey of existing facilities. The quantity and quality of existing housing in this region is probably no more than adequate for present needs, and more housing would be needed to accommodate even a small population increase. The need for more or better service facilities would vary depending on the communities and particular business. Expansion of at least some facilities would be needed in many of the communities.

#### Arctic Gas

To some degree the various activities directly and indirectly associated with the proposed pipeline project would be likely to result in significant relocation and concentration changes in the population of the northern regions, as well as in the net total increase. Depending upon how these situations were handled, what the attitudes of the local residents would be at that time, and what one's opinion is of such a change, these changes might or might not have an adverse impact.

#### (h) Land Use

##### Fairbanks Corridor - Alaska

There is no comprehensive land use plan for lands traversed by the Fairbanks Corridor route. Since it is located within an area already dedicated to transportation, it can be assumed that construction, operation and repair of the Fairbanks Corridor pipeline system will not change land use in the immediate area. The entire length of the route from Prudhoe Bay to the United States-Canada border is accessible by road. No existing national park, forest, wildlife refuge, or wild and scenic river areas are involved. Approximately 10 miles of the route near the Canadian Border is within the proposed Wrangell Mountains National Forest; the route would also traverse a proposed waterfowl refuge near Tetlin. No

other proposed forest, national parks, refuges, or wild and scenic rivers are known at this time. No areas of potential wilderness are involved.

The approximate land ownership on the route is shown on the following table:

Ownership	Miles	Percent
Federal Utility Corridor*	360	49
Proposed Wrangell Mountains National Forest	10	1
Military and other Federal	89	12
State	252**	35
Native	<u>24</u>	<u>3</u>
	735	100

\*Occupied by Trans-Alaska Oil Pipeline System.

\*\*Much of area has been transferred to private ownership.

Throughout the state, substantial portions of land are being transferred to the State of Alaska under the provisions of the Alaska Statehood Act. Similarly the Alaska Native Claims Settlement Act provides for transfer of land and minerals to Alaska Native Regional and Village Corporations. Both land transfer programs are still in their infancy. Any additional right-of-way required for the proposed pipeline will be acquired in accordance with these statutes, or as provided by the established procedures of the Bureau of Land Management.

#### Fairbanks Corridor - Canada

General land-use patterns would be little changed if a gas pipeline were to be constructed in the Fairbanks Corridor. The major impact during the life of the project would be the dedication of sites for compressor stations, some borrow pits, and communications facilities to pipeline-related uses for the duration of the project. Impacts during construction would include withdrawal of the right-of-way from other uses as well as the use of borrow pits and quarries that would not be needed for maintenance. Additional possible impacts during construction would be crowding of existing highways by additional traffic and changes in breeding and foraging habits of game animals, both of which might affect tourism.

#### Arctic Gas

Most of the 43,060 acres that would be used during the construction and operation of a gas pipeline is not under extensive development. Should the proposed project be adopted, the right-of-way (120 feet wide), the land occupied by borrow pits and quarries and by road that served only the project, and the land occupied by compressor stations, communications sites, material marshalling areas, wharves, and the like, would be committed during the construction phase of the project. After construction has been completed, much of the right-of-way and all temporary facilities, including borrow pits not needed for maintenance, would be available for nonpipeline-related use.

Prior to the construction and operation of any pipeline in Canada, it will be necessary to submit an application for "grants of interests in territorial lands" to the Department of Indian and Northern Development of the Government of Canada.

#### (i) Archeological and Historical Factors

##### Fairbanks Corridor - Alaska

Remnants of Alaska's early history are scattered along the route. The locations of many of these sites are well known and protected.

Some of the sites in the Fairbanks vicinity have been entered in the National Register of Historic Places. The adverse impacts of the proposed pipeline on these sites could be negligible if minor route alignment changes are made. Several, still visible, old trails would be crossed. Although only short segments of such trails would be disturbed, the visual and aesthetic impact to people using the trails could be adverse. The exact locations of some former trading posts and old villages are unknown. If studies presently being made fail to find these, the areas would need close monitoring during clearing and construction for the pipeline. As workers and others move north of the Yukon, vandalism and artifact hunting probably will increase in old mining areas such as Wiseman. This could cause a significant impact if old buildings or artifacts were destroyed or removed.

Some archeological sites have been identified near the route. In general, however, the extent of impact on the archeological and paleontological resources along the route is not known and cannot be assessed until a right-of-way survey is completed.

Surface surveys along the trans-Alaska oil pipeline already show that many sites exist and that the country is quite rich in both archeological and paleontological sites. For example, in the section between Livengood and Prudhoe Bay, 189 sites are listed.

Potential impacts of the system on prospectively valuable archeological areas include: destruction of sites without scientific investigation; destruction with partially completed scientific investigation; vandalism of unexcavated, partially excavated, or accidentally opened sites, and removal of artifacts (surface finds are often of great significance in the Arctic).

Archeological values may have an adverse impact on the completion of the system. Provisions of the National Historic Preservation Act of 1966, Executive Order 11593, and the Archeological and Historic Preservation Act (P.L. 93-291) require archeological values to be identified and protected. Thus, it is possible that the pipeline may be rerouted within the approved corridors to comply with this Act.

#### Fairbanks Corridor - Canada

Because so little information on archeological aspects of the Fairbanks Corridor is available, it is difficult to predict the impact of pipeline construction on the archeological resources of the region. Of course, all phases of construction involving land use could cause loss of, or damage to, archeological and historical resources. Construction of ancillary features such as compressor stations, borrow pits, stockpile sites, and wharves, as well as the excavation of a pipeline trench itself, could destroy potential archeological and historic sites.

Construction of a pipeline along this corridor would not appreciably increase the accessibility of archeological and historic sites because the proposed corridor roughly parallels for most of its length, existing roadways such as the Alaska Highway.

While construction of a pipeline could destroy potential archeological sites, it may also uncover some sites, which could be salvaged by professionals. Any new information thus obtained would probably contribute greatly to knowledge of the prehistoric inhabitants of the region.

#### Arctic Gas

The proposed pipeline would traverse the area through which early man is believed to have traveled after crossing the Bering land bridge into North America. Adverse effects on archeological resources along the proposed route would be inversely proportional to the extent and effectiveness of the archeological survey and salvage program. Some unidentified sites would very likely be damaged or destroyed, but their number and value cannot be estimated. Because of the limited knowledge of archeological sites in the Arctic and Subarctic, the potential loss of sites is especially critical.

(j) Recreation and Aesthetic Factors  
Fairbanks Corridor - Alaska

During construction, there would be moderate recreational use of areas along the pipeline by workers. The proposed route will parallel either existing roads or other utilities. It parallels the trans-Alaska oil pipeline from Prudhoe Bay to Delta Junction. Thus, the aesthetic impacts should be considered in terms of adding another pipeline (or utility) to an area already partly disturbed by man (i.e., it is not comparable, to building a pipeline across any area currently undisturbed by man). Because of the existing development along most of this route, the addition of another pipeline will have only minor impacts on the aesthetic values. The Alyeska pipeline already provides private access to the vast area between the Yukon River and Prudhoe Bay. Public access is considered of doubtful benefit. The area north of the Yukon River is so vast that the impact of another pipeline on the total landscape will be small.

Fairbanks Corridor - Canada

Since the routing is roughly parallel to existing or planned roads for nearly all of its length, pipeline construction in it would have a visual impact on highway travelers. Proper restoration after construction could minimize the impact on tourism, in such areas as Kluane National Park.

Arctic Gas

In the regions traversed by the proposed pipeline north of 60° N latitude, the main adverse effect on recreation resources would be in the form of landscape scarring from construction of the pipeline and related roads, borrow pits, airstrips, compressor stations, communication sites, wharves, etc. Other landscape scars would result if underlying perma-frost were to be thawed, causing settling and erosion.

The proposed project by itself would have adverse effects on some wilderness areas, notably the arctic coastal region. Of greater importance would be the major invasion of wilderness areas set off by the proposed project. By its roads and rights-of-way it would make the land more accessible to those who would come later. It would also stimulate related development in transportation, recreation and industry, as does any large project.

(k) Air Quality

Fairbanks Corridor - Alaska

With three categorical exceptions air quality along the Fairbanks Corridor route from Prudhoe to the United States - Canada border via the Alaska highway is considered to be very high. Exceptions are as follows:

- 1) Prudhoe Bay oil and gas field
- 2) Small towns and population enclaves along the highway between Fairbanks and the border.
- 3) Fairbanks with its particular combination of air related circumstances.

Fairbanks Corridor - Canada

There are highways in practically the whole length of the Fairbanks Corridor. Because of exhaust emissions from mobile and stationary internal combustion engines, air quality is probably lower than in more remote areas in the region traversed and in areas in similar latitudes along the proposed route.

Arctic Gas

Air quality along the pipeline route will be impacted during construction and subsequently at compressor station locations during operation of the pipeline. Factors which will have an impact are: exhaust emissions from construction equipment engines, dust produced by construction activities and release or escape of gas from the pipeline.

(1) Environmental Noise  
Fairbanks Corridor - Alaska

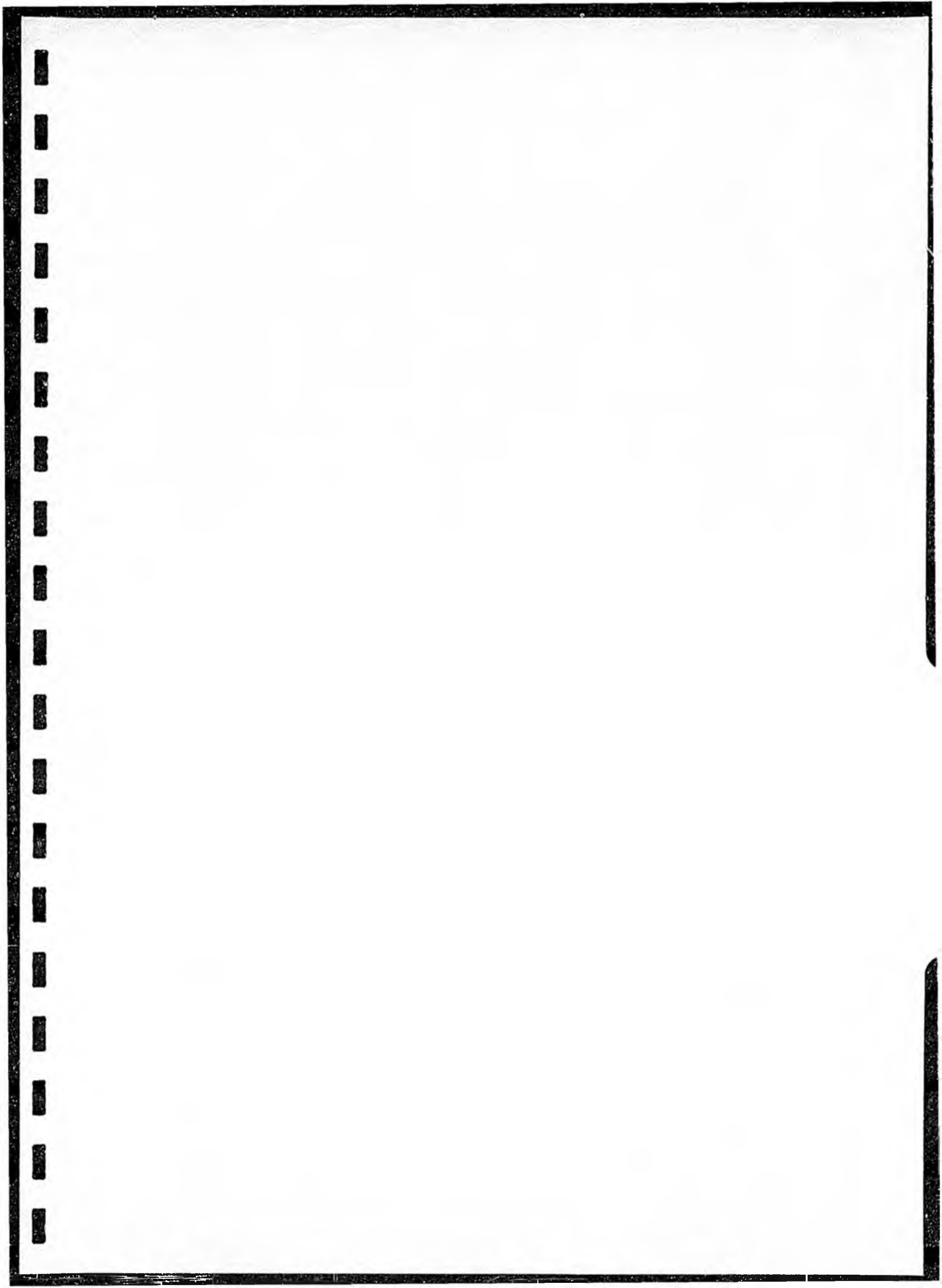
Data on environmental noise associated with the Fairbanks alternative route are not available. North of the Yukon River the route is closely associated with a transportation corridor for the trans-Alaska oil pipeline and an access road. Adjacent areas, however, are undeveloped and are expected to have little environmental noise other than that produced by nature. South of the Yukon River the route is near an established highway. In Fairbanks noise levels are expected to be typical of a community of comparable size except that Fairbanks has a very high proportion of aircraft use because of its location as a major air center. From Fairbanks southeast to the Canadian border, the route is closely associated with an established highway. Noise associated with construction will be transitory.

Fairbanks Corridor - Canada

Ambient sound levels are slightly higher than along the Arctic Gas route. Since this routing follows existing highways almost all of its length, existing noise levels are higher along a greater proportion of this corridor than for any of the other corridors and routes. The addition of construction noise to existing highway noise constitute less of an impact than on alternative routes.

Arctic Gas

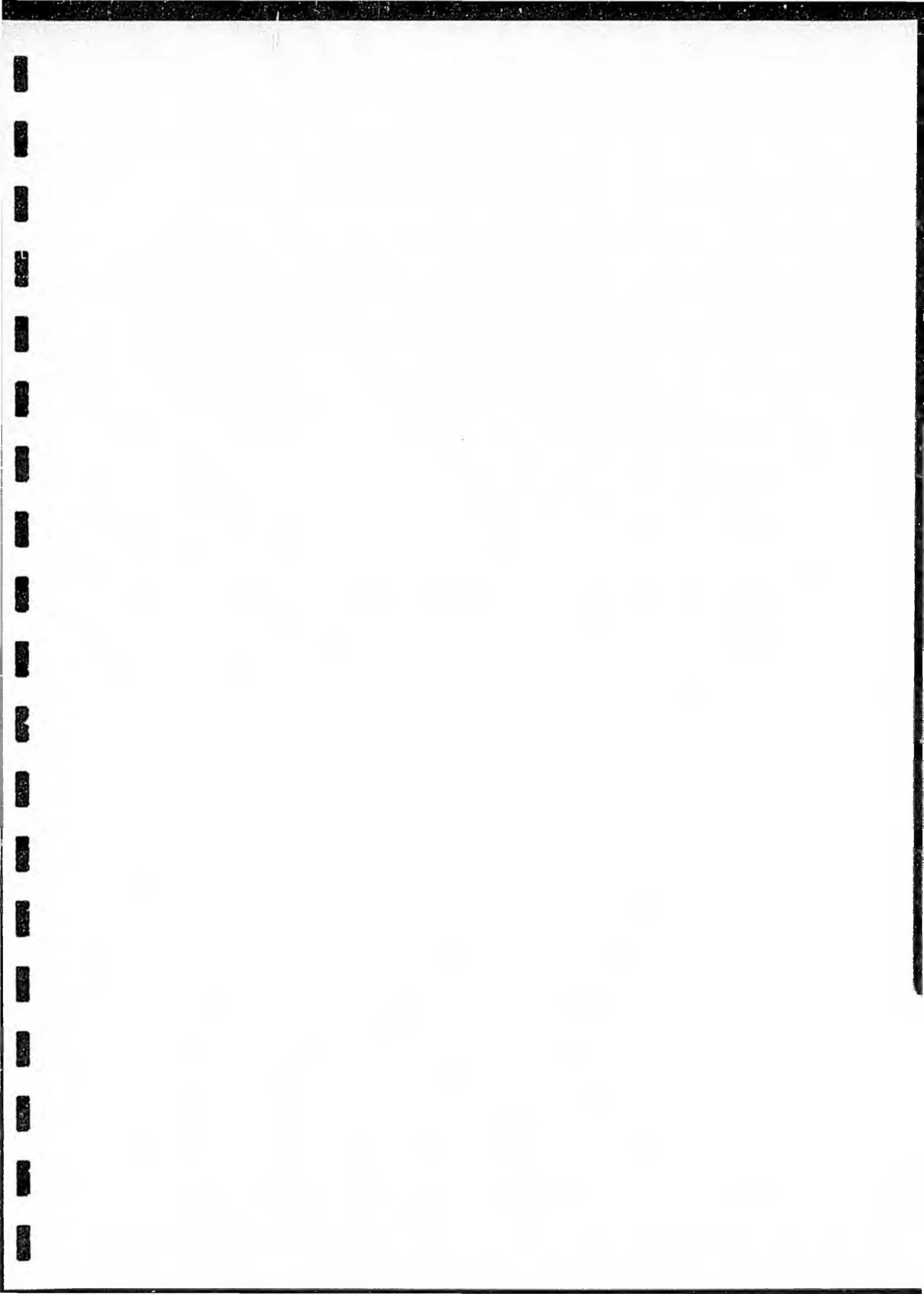
The construction noise will be short-term and widespread and will produce both indirect and direct noise. The indirect noise impact will be due to the road traffic generated by the project and the direct will be the construction site noise. During operation of the system, the compressor stations will produce continuous and fixed noises which will be long-term and more localized.



## 7.

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## FAIRBANKS CORRIDOR PIPELINE SYSTEM

### A VIABLE ALTERNATIVE

The following is a discussion of the two earlier proposals for transporting arctic gas to the lower U. S. and Northwest Pipeline Corporation's proposed Fairbanks Corridor Pipeline System which is being presented as a viable alternative which satisfies the major objectives with the least detrimental socio-economic and environmental impacts.

#### By Land or By Sea?

After many months, even years, of investigation and analysis, the facts seem to favor the selection of an Alaskan/Canadian pipeline from Prudhoe Bay to the lower 48 states rather than a trans-Alaska pipeline/LNG tanker system from Prudhoe Bay to southern California. More specifically, as it now stands, the Arctic Gas Pipeline system would most likely be selected over the El Paso LNG System.

- . The LNG System would result in considerably higher transportation cost than would the pipeline system.
- . The LNG System would be based on a relatively new technology scaled up to sizes not yet tried or proven, therefore, cost estimates cannot be as reliable as those for a more conventional pipeline.
- . According to El Paso's initial filing, the LNG System could not be ready to deliver gas as early as a Pipeline System.
- . The economics and design of the LNG System are such that phasing in gas production up to full design levels over several years, as may well be the case, would be prohibitive in view of the anticipated low return on investment at reduced load factor operation.

- . Future expansion of an LNG System consisting of such large components would be more difficult and more costly than it would be for the Pipeline System.
- . The LNG liquefaction plant site would be in the very active earthquake zone along the southern Alaskan coast.
- . In the event of catastrophe, a pipeline with its dispersion of facilities is more easily and quickly reinstated to service than is a liquefaction facility or LNG tanker, particularly where all of the facilities are concentrated in one plant and the tankers are often docked at the adjacent marine terminal.
- . The LNG System is dependent upon the displacement "theory" for transferring the gas from the Westcoast to the rest of the United States. Alaskan oil production and transportation is already experiencing difficulty with a similar concept.
- . The cost of service for the LNG System would be more sensitive to future inflation than it would be for the Pipeline System because of the higher percentage of labor in the LNG System operating costs.
- . The LNG System, under optimistic assumptions, would consume nearly twice as much gas as would a Pipeline System for delivering a comparable volume.
- . The LNG System has apparently failed to gain the political and industrial support needed to assure a timely implementation of an arctic gas delivery system.

In summary, it is improbable that the El Paso LNG System will be selected for arctic gas delivery to the lower U. S. because it fails to offer the same degree of reliability, security, expansibility, timely implementation, economic and geographic benefits as does a Pipeline System.

If By Land. Which Route?

Although the Pipeline System is and should be the preferred method of transporting arctic gas from Prudhoe Bay to the lower U. S., the proposed Arctic Gas Pipeline route from Prudhoe Bay and Mackenzie Delta to the U. S. is not necessarily the preferred route. The alternative, now being supported by Northwest Pipeline Corporation for a pipeline traversing the Fairbanks Corridor, has been given considerable attention and the facts brought to light suggest that it offers the most rational, economic and feasible method of coming near satisfying the majority of the interests in a manner that is beneficial to the consumers and the economy in Alaska as well as the lower U. S.

What the Federal Power Commission says:

The environmental staff of the Federal Power Commission, after an in depth review of the environmental data and analysis, arrived at the following conclusions in regard to the El Paso LNG and Arctic Gas Pipeline Systems as reported in the Final Environmental Impact Statement:

Although the Arctic Gas Pipeline proposal is more environmentally preferable to the El Paso LNG proposal, it was strongly recommended that neither proposal be approved, but rather that the Fairbanks Corridor route, exclusive of the Mackenzie Delta lateral, was the preferred route for delivery of Prudhoe Bay gas. In addition, if Mackenzie Delta gas becomes available, it was suggested that the Foothills Pipe Lines Ltd. project could be constructed for delivery of that gas to existing West-coast Transmission Company and Alberta Gas Trunk Line facilities.

What the Department of the Interior says:

The Department of the Interior has submitted their Final Environmental Impact Statement in which they have made direct comparison of the various

alternative routes proposed for the Arctic Gas System. Although not specifically recommending any particular route, this report reveals that a pipeline constructed along the Fairbanks Corridor route would pose the least detrimental environmental impact. In addition, it has also received favorable economic analysis from the Department of Interior.

What the Environmental Groups say:

In prepared testimony before the Senate Committees on Interior and Commerce, both the Environmental Policy Center and the Wilderness Society have come out with strong support for the Fairbanks Corridor route alternative.

The Fairbanks Corridor Route

All of the foregoing discussion relating to the Fairbanks Corridor alternative has been based upon that alternative as presented by the Alaskan/Canadian Arctic Gas Pipeline applications. A major economic and environmental improvement could be made to the Fairbanks Corridor Route, as presented, by utilizing existing Canadian pipelines in Alberta and British Columbia instead of constructing an entirely new system across Canada.

The Fairbanks Corridor Pipeline System proposed by Northwest, as illustrated in Figure 1, would be designed to transport Prudhoe Bay gas through a 42" pipeline parallel to the Alyeska pipeline system from Prudhoe Bay to Delta Junction. From Delta Junction to Fort Nelson, B. C., the pipeline route would be adjacent to the Alcan Highway. At Fort Nelson, a portion of the gas would be diverted into expanded Westcoast Transmission Company, Ltd. facilities for delivery to Sumas, Washington. The remainder of the gas would be transported via a 36" pipeline from Fort Nelson to Zama Lake, Alberta, for delivery to Empress through expanded facilities of Alberta Gas Trunk Line, Ltd.

The Mackenzie Delta gas, when available, would be transported by the proposed Foothills Pipe Lines, Ltd. 42" pipeline system from Mackenzie Delta to the 60th parallel, where it would deliver gas to the proposed Alberta Gas Trunk Line (Canada) system which would connect to the existing Alberta Gas Trunk Line system at Zama Lake. The connection at Zama Lake would supply Mackenzie Delta gas to the expanded Alberta Gas Trunk Line system and, through an exchange with Prudhoe Bay gas, the expanded Westcoast Transmission Company system.

The tremendous advantages of this proposed arctic gas delivery system arises from the large scale use of existing roadways, rights-of-way, utility corridors and Canadian pipeline facilities. It is to this pipeline system, as described above, that the following advantages are ascribed:

- . Lowest investment for delivering Prudhoe Bay gas to the United States. (Figure 2)
- . Lowest transportation cost for delivering Prudhoe Bay gas to the United States. (Figure 2)
- . Supported by federal and private environmental groups.
- . Year-round construction possible in some areas; up to 9 months most areas.
- . Earliest completion and delivery date - three years from date of permit receipt.
- . Provides economic growth base for Alaskan interior (Fairbanks).
- . Can be designed for economic operation at the lower gas production rates realistically expected during the first few years of production.
- . Permits economical phasing in as additional gas supplies develop along the north slope. (Mackenzie Delta gas via Foothills Pipe Lines)

- . Reduced cost and phased construction enhance financibility.
- . Proven 42" pipeline technology assures greater reliability.
- . More conventional pipeline construction lends itself to competitive bidding and more reliable cost estimates resulting in fewer cost overruns.
- . Only approximately 65 miles of highly sensitive, non-stable, fragile soil to be traversed as compared to approximately 460 miles of similar conditions along the Arctic Gas Pipeline prime route.
- . Crosses several potential gas fields within the State of Alaska.
- . Follows existing all weather roads and utility corridors.
- . Year-round access to all areas in event of emergency.
- . Potential for sharing operating costs with Alyeska.
- . Avoids the uncertainties regarding the Canadian Native Claims Settlement issue.

In short, the Fairbanks Corridor Pipeline System, as proposed by Northwest, has many of the advantages of both the Arctic Gas System and Trans-Alaska LNG System with few of the disadvantages of either system.

It is timely, in light of the Department of Interior's and FPC's environmental Statements, to commence prosecution of a formal application for the Fairbanks Corridor Pipeline System. Planning and preparation of an application with the FPC to construct and operate a pipeline system along the Fairbanks Corridor route in Alaska has commenced and Northwest has received the cooperation of Westcoast Transmission Company, Ltd., and Alberta Gas Trunk Line Company, Ltd. in planning for the transportation of the gas through Canada. Northwest has also received the support of the major natural gas distribution companies serving the Pacific Northwest region for this project.

In the event that a satisfactory commitment of Alaskan royalty gas is made to Northwest, an application will be submitted within three months of the commitment date.

FIGURE 1

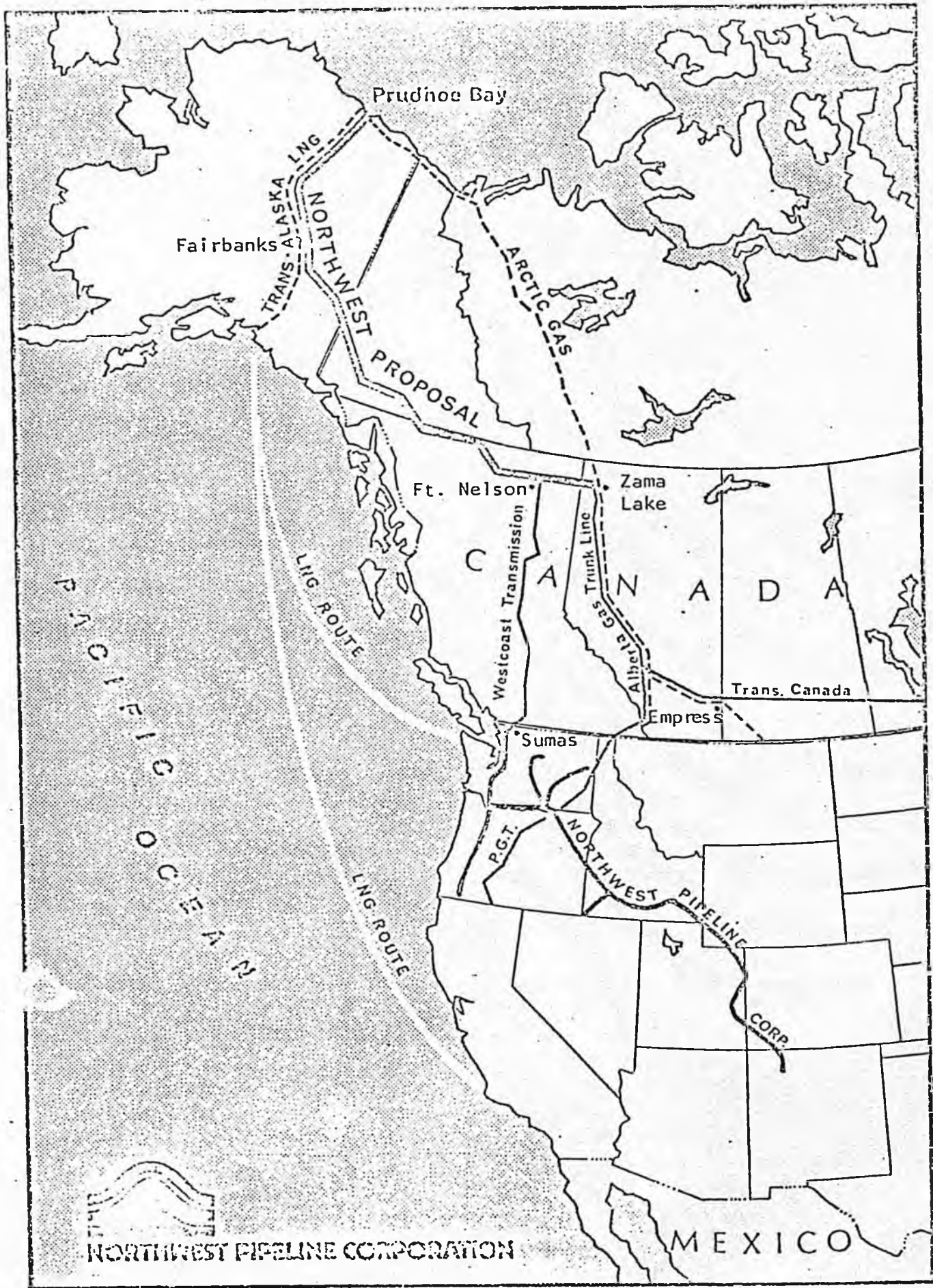


FIGURE 2

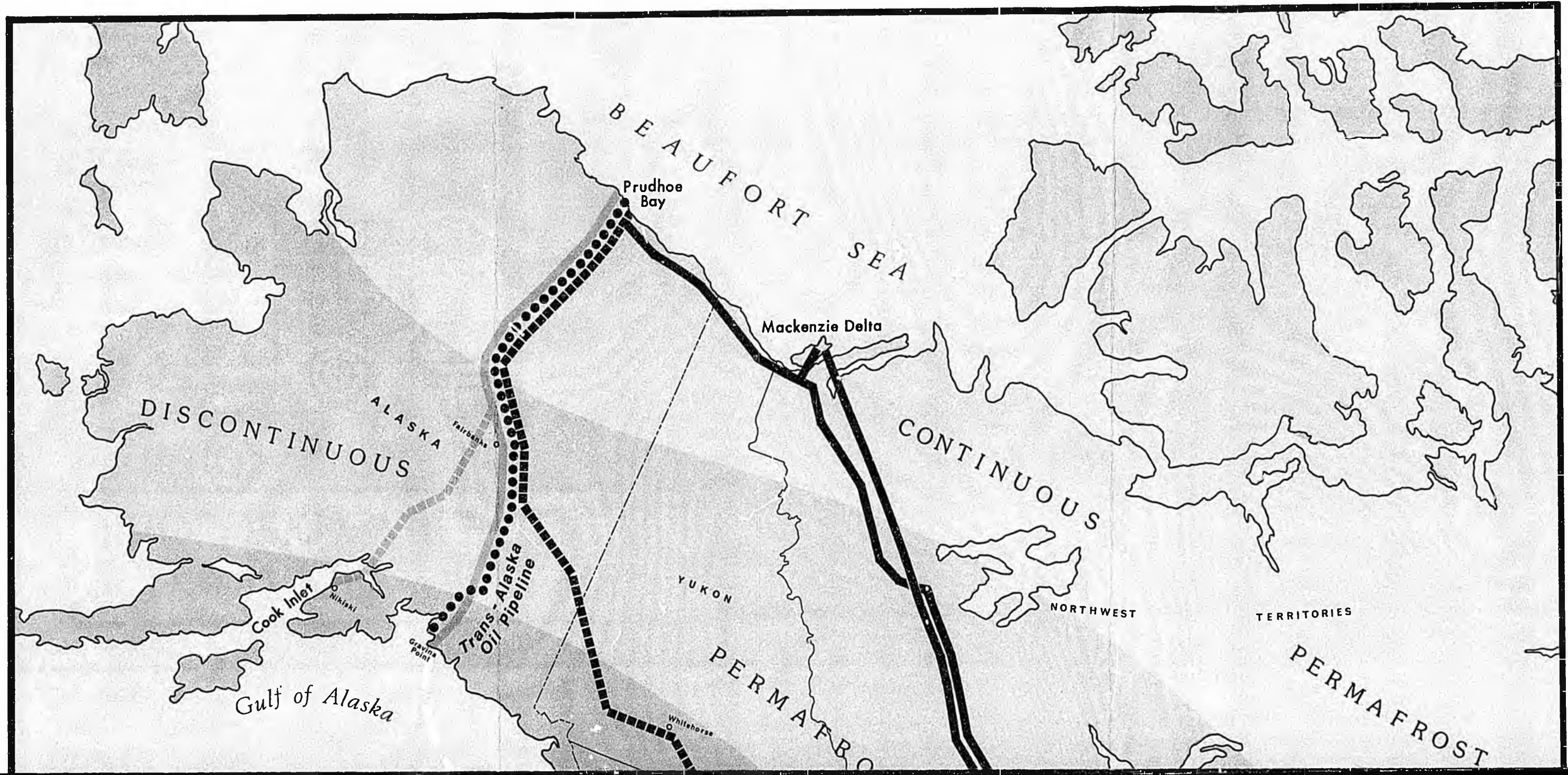
ARCTIC GAS DELIVERY SYSTEMS

COST COMPARISONS

	<u>El Paso LNG</u>	<u>Arctic Gas Project</u>	<u>Northwest Fairbanks Corridor Prudhoe Bay only</u>	<u>Prudhoe &amp; Delta</u>
Volumes (Billion Cubic Feet Per Day)				
Prudhoe Bay Supply	3.2	2.25	2.4	2.4
MacKenzie Delta Supply	-	2.25	-	1.6
Delivered to U. S. Border	2.8	2.1	2.2	2.2
Capital Investment (\$ Billion)				
1975 Constant Dollars	\$7.62	\$6.68	\$4.65	\$6.84
Unit Transportation Cost (\$ per MMBtu)	\$1.48	\$1.04	\$1.00	\$1.02

The volume, investment and unit cost data shown above for the Arctic Gas Project and the Northwest Fairbanks Corridor reflects the facilities for deliveries at Sumas, Washington or Kingsgate, British Columbia for gas destined for U. S. western regional markets, and at Empress, Alberta for deliveries through Saskatchewan to the U. S. mid-western and eastern regions. The facilities for delivery from Empress, Alberta to mid-western and eastern U. S. markets would be the same with either project. The figures shown for the El Paso LNG Project are for delivery of the gas to the first pipeline interconnection in California, after regasification. The facilities and costs required for displacement within the U. S. have not been included.

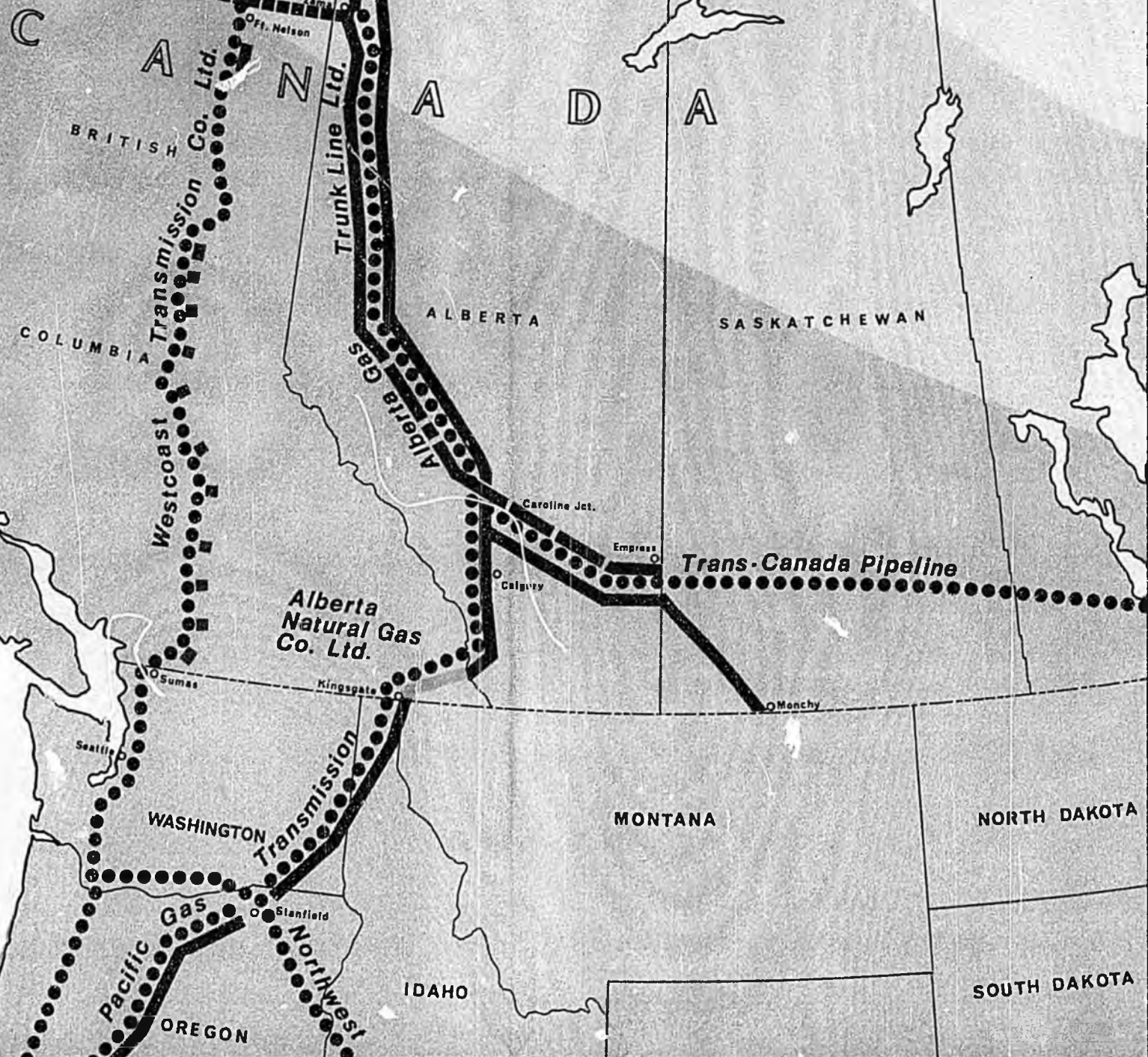
The unit transportation costs for the Arctic Gas Project and the Northwest Fairbanks Corridor are for delivery at Kingsgate, British Columbia and Sumas, Washington, respectively. These costs are for the third year of operation and do not include the cost of purchased gas or fuel.



PACIFIC

OCEAN

LNG Tanker Route  
1160 Nautical Miles



LEGEND

PIPELINE NAME	DISTANCE (miles)	DIA (inches)	PRESSURE		EXPLANATORY COMMENTS
			High	Low	

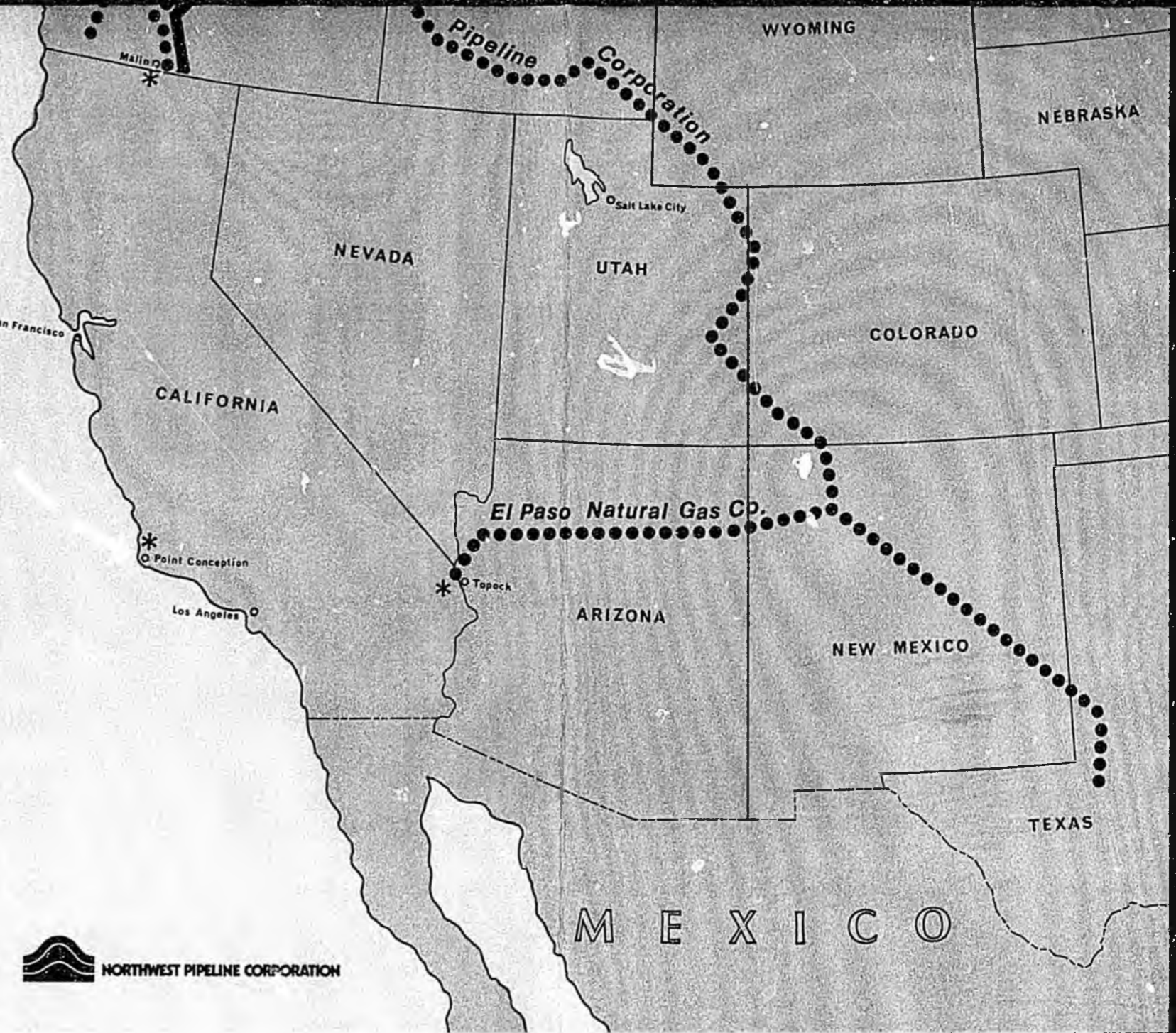
█	Canadian Arctic Gas Pipeline (prime cross delta route)	2001	48	X	Prudhoe Bay to Caroline Jct. Caroline Jct. to Kingsgate Caroline Jct. to Empress Empress to Monchy
		281	30	X	
		236	42	X	
		158	36	X	
	Tot.	2676			
█	Fairbanks Corridor Pipeline (FPC Staff alternate)	1510	42	X	Prudhoe Bay to Ft. Nelson Ft. Nelson to Zama
		140	36	X	
	Tot.	1650			
█	Alberta Gas Trunk Line	N/A	N/A	X	loop existing AGTL
█	Westcoast Transmission Co.	N/A	N/A	X	loop existing WTC
█	Trans-Alaska Gas Pipeline (present proposal)	809	42	X	LNG Terminal at Grina Pt.
█	Trans-Alaska Gas Pipeline (FPC Staff alternate)	759	42	X	LNG Terminal at Nikiski
█	Foothills Pipe Lines	817	42	X	Zama to Foothills loop existing AGTL loop existing AGTL
█	Alberta Gas Trunk Line	81	42	X	
		695	42	X	
		29	36	X	
	Tot.	805			
█	Alberta Natural Gas Co.	102	30	X	loop existing ANG
█	West coast Transmission Co.	141	30	X	Ft. Nelson to Foothills close loop on existing WTC
		175	36	X	
	Tot.	316			
█	Pacific Gas Transmission	283	30	X	Kingsgate to Stanfield Stanfield to California border
		330	36	X	
	Tot.	613			
●●●●●	Existing Pipelines (as shown on map)	N/A	N/A	X	does not denote number of multiple or looped lines

\*Arrangements for distribution have not been finalized.

March, 1976

# PROPOSED ARCTIC GAS DELIVERY SYSTEMS

1900 Nautical Miles  
LNG Tanker Route



 NORTHWEST PIPELINE CORPORATION



PACIFIC OCEAN

PACIFIC OCEAN

NORTH



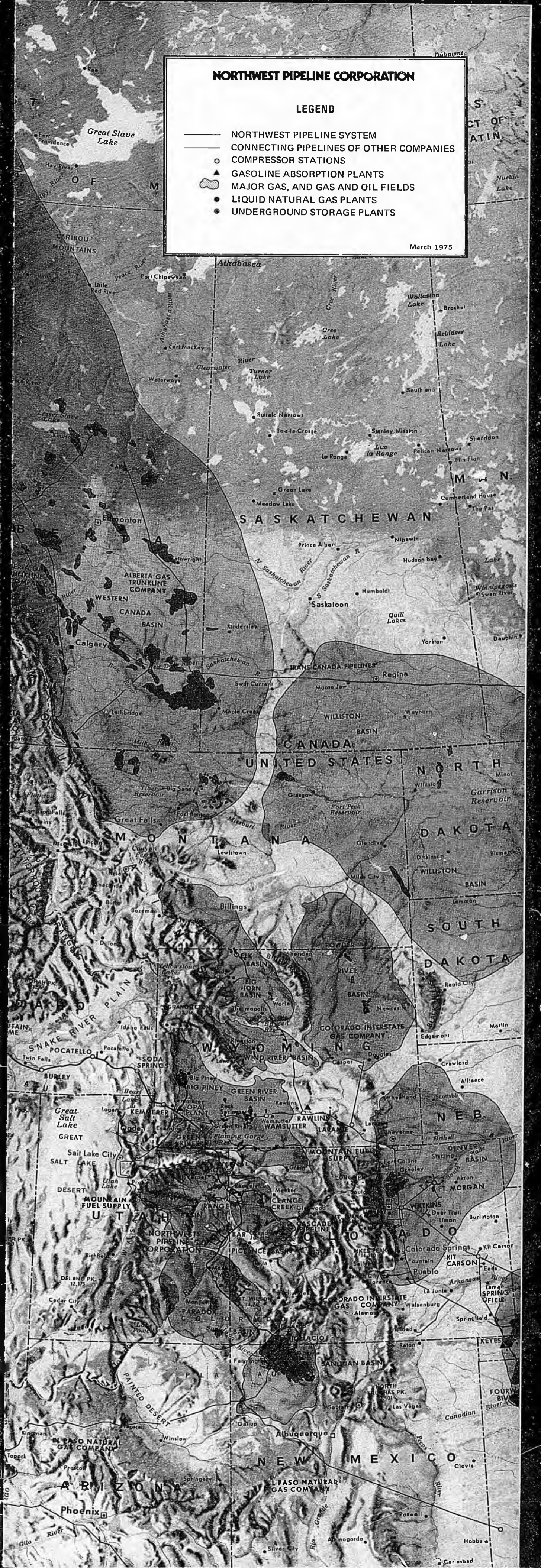
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# NORTHWEST PIPELINE CORPORATION

## LEGEND

- NORTHWEST PIPELINE SYSTEM
- CONNECTING PIPELINES OF OTHER COMPANIES
- COMPRESSOR STATIONS
- ▲ GASOLINE ABSORPTION PLANTS
- MAJOR GAS, AND GAS AND OIL FIELDS
- LIQUID NATURAL GAS PLANTS
- UNDERGROUND STORAGE PLANTS

March 1975



The Case for Committing <sup>5</sup>  
Alaska State Royalty Gas  
from the North Cook Inlet  
gas field to Alaska Pipeline  
Company ("Anchorage Natural  
Gas")

Presented to the Royalty Board  
on November 10, 1975

TAB  
NUMBER

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| V   | Copies of Prior Correspondence   |
| VI  | General and Miscellaneous Comments   |

## Introduction

Alaska Pipeline Company and its distribution affiliate Alaska Gas and Service Company, Division of Alaska Interstate Company, collectively known as "Anchorage Natural Gas" have requested to purchase the State's 1/8 royalty share of the North Cook Inlet gas field, which is operated by Phillips Petroleum Company. In response, Anchorage Natural Gas has been requested to appear on November 10, 1975 to discuss this matter with the Royalty Board. This memorandum is submitted as advance information to the Royalty Board and for their convenience in considering the matter.

## Summary

Anchorage Natural Gas (ANG) is the most logical choice of any potential purchaser of North Cook Inlet royalty gas, because:

1. ANG is prepared to accept delivery of this gas immediately, on an "if and as available" basis, and at the same price the State now receives for this gas while it is being liquefied and shipped to Japan.

Assuming that delivery to ANG can be made by "exchange," there would be no necessity for capital expenditure for new pipelines or other facilities at present.

2. ANG would utilize this gas as part of its gas supply for its entire service area, from Kalifonsky to Eklutna, and thereby be able to provide improved assurance of the availability of natural gas to all its customers, and at lower cost to ratepayers than is possible through any other alternative known to ANG.
3. Without this gas, ANG may not be able to continue serving the Bernice Lake power plant of Chugach Electric Association, or, if an alternate source is found, then the cost to ANG's customers is likely to be very substantially more than would apply to purchase of State royalty gas. Thus, ANG's purchase of State royalty gas will be of material benefit to ANG's residential and commercial gas customers, and of even greater benefit to Chugach Electric Association and all its customers from Homer to Talkeetna. More than 50% of Alaska's population would be affected, either as gas consumers or as power customers, and thus nearly all of  $\geq 50\%$  Alaska's taxpayers would be benefited.

For the reasons given, ANG requests the Royalty Board to give ANG highest priority as a prospective purchaser of State royalty gas from the North Cook Inlet gas field, and to recommend such an arrangement for priority action in the next legislative session. Export of this gas, whether to Japan or elsewhere, is not in the best interest of Alaska's citizens.

11

## I. ANG's Need for Additional Gas Reserves

ANG has two gas supply contracts at present. First, the "Anchorage" contract has committed a total of 550 BCF (billion cubic feet) from January 1, 1972 through December 31, 1992, delivered at a master meter in the Kenai gas field. This contract provides 160 million cubic feet per day of deliverability through 1985, and thereafter a deliverability of 1-1/3 times the "average daily" reserves remaining. The price for this gas is:

22¢ per MCF through December 31, 1975

24¢ per MCF 1/1/76 through 12/31/80

27¢ per MCF 1/1/81 through 12/31/85

\* "Area Price" 1/1/86 through end of contract

\* Area Price is related to sales to third parties in the vicinity of Cook Inlet, as defined by the contract.

In addition to the foregoing contractual price schedules, ANG pays 19.5¢ per MCF for deliverability of 160 million cubic feet per day, escalated each January 1 by the ratio of the Wholesale Price Index (WPI) for November 1975 divided by the WPI of November 1974. Thus, effective January 1, 1976 ANG will pay 24¢ plus 19.5¢ plus the (estimated 1¢) WPI escalation or 44.5¢ per MCF, for a deliverability of 160 million cfd and take-or-pay of 72 million per day (annual average).

ANG's second gas contract (both are with Union and Marathon as equal partners) is called the "Nikiski" contract. It provided 10 million cfd of deliverability, 10 BCF of reserves, and was for 10 years ending May 1, 1977. Delivery is at ANG's choice of three pipeline taps on Union-Marathon's 20" pipeline between the Kenai gas field and the industrial area on the North Kenai Road. At the current level of sales, the 10 BCF of reserves will be exhausted in 1976, prior to the end of the contract term. ANG has several hundred residential and commercial customers on the North Kenai Road, but by far the greater share (90% or more) of this gas is sold to the Bernice Lake power plant of Chugach Electric Association.

Because of the impending early exhaustion of the "Nikiski" contract reserves, and because of the need to obtain additional reserves for the "Anchorage" area, ANG wrote to Union, Marathon, Phillips, and Shell to inquire for a total of 75 BCF over a 15 year period. The only written response was from Shell, who said they had no uncommitted gas available for sale to ANG. Phillips responded in a telephone conversation that since the North Cook Inlet gas was in part potentially committed to

Northwest Natural (Portland) and since both Portland and Pacific Lighting (Los Angeles) were "negotiating" for the State royalty from this field, Phillips could not offer any to us. No response has been received from Union or Marathon other than an informal reaction that 75 BCF is an unreasonably large amount of reserves for us to request in the circumstances.

The information that the gas companies in Portland and Los Angeles are attempting to obtain the State royalty gas from the North Cook Inlet gas field accentuated ANG's interest in the royalty gas and its approaches to the Alaska Department of Natural Resources which has led to this presentation.

ANG's information is that a wellhead value of 45¢ per MCF applies to Phillips' purchase of State royalty gas for its LNG export to Japan. This price is net of 5.45¢ per MCF transportation cost from the platform to the LNG plant, so that a price of 50.45¢ per MCF is in effect for gas delivered at the LNG plant. This is the price ANG contemplates paying for royalty gas from the North Cook Inlet gas field.

ANG has made several other efforts to obtain additional gas reserves. First, it has tried to purchase surplus gas which is now committed to the gas company at the City of Kenai, with no indication of interest in response. Second, ANG inquired to purchase gas now being flared at the Swanson River oil field as a safety measure. This was declined as being "temporary." Third, ANG is negotiating to purchase gas from a well which is controlled by Mike Halbouty ("West Fork"). The deliverability and reserves from this well are probably negligible in relation to ANG's requirements, however.

ANG is aware of the "going price" for intrastate gas sales in areas such as Texas, and has hoped that it could avoid such pricing and make the best possible purchase by applying for the North Cook Inlet royalty gas, as it has done.

Quite apart from the urgent need for gas to replace the "Nikiski" contract, ANG must maintain a supply of reserves related to the term outstanding on its long term financing. When the reserve life falls below the financing term remaining, ANG will have to pre-pay installments on this long term debt, as it had to do in 1970-71 prior to obtaining the current reserve commitment.

The tables and graphs attached present the historical trends and the range of future gas sales. It is clear that if present trends continue, ANG will face pre-payment in 1980 and thereafter unless additional supplies can be secured. It is with that fact in mind that ANG has formed a subsidiary corporation, Gas Supply Corporation of Alaska ("GASCOA"), to explore for natural gas in the vicinity of Anchorage. ANG has invested more than \$500,000 to date in this activity, and has drilled (with others) an exploratory well on acreage at the mouth of the Big Susitna River. Although this well was plugged and abandoned, it did not condemn the area, and further exploration is contemplated as time and financing permit.

ANG cannot be complacent about its future need for gas, even without considering the exhaustion of its "Nikiski" contract reserve commitment. But that urgent problem requires early and positive action, because the gas supply there will last less than a year. The North Cook Inlet royalty gas is seen to be the ideal and only realistic solution to that immediate problem, and helpful to ANG's long term reserves needs as well.

II

## II. Reasons for Requesting North Cook Inlet Royalty Gas

North Cook Inlet royalty gas is interchangeable with Kenai gas field gas, as may be seen by the fact that the two streams are blended (in a 70/30 ratio) as feedstock to the Phillips-Marathon LNG plant on the North Kenai Road. Both fields are essentially pure methane. All the necessary pipeline systems exist to allow an "exchange" to be made so that ANG could "receive" the royalty gas at the Kenai gas field. Such exchanges already are being made by the operators (Phillips, Marathon, Union). ANG can easily agree to "take" whatever royalty gas may be produced at the North Cook Inlet gas field, day by day, without requiring any investment by either of these operators. At the times such deliveries from the North Cook Inlet gas field might be limited temporarily by production facilities or by pipeline facilities, ANG could "work within" (exchange correspondingly less) that limitation, day by day. Alternatively, ANG could readily agree to take the full 1/8th royalty share each and every day if that were preferred by the operators (Phillips, Marathon, Union). When pipeline facilities from the North Cook Inlet may permanently limit its capacity to deliver the royalty gas, ANG could participate in the cost of compressors or additional pipeline necessary to maintain the delivery.

While the "exchange" described above is the only rational and reasonable method of implementing ANG's purchase of royalty gas, ANG could, if necessary, construct a pipeline to deliver the royalty gas into its pipeline to Anchorage. Obviously it would appear to be unnecessary and ludicrous for ANG to be hauling royalty gas south along the North Kenai Road while Union-Marathon is hauling identical gas north along the same road. Thus the "exchange" would be in the public interest, and in the mutual best concern of all the operators.

No other royalty gas is so readily available or really available at all, to ANG. Royalty at the Kenai gas field cannot be taken by ANG to advantage, since this was considered and such limitations are contained in ANG's contract at the Kenai gas field. If ANG does not take North Cook Inlet royalty gas it will be exported to Japan or to Portland or to Los Angeles. ANG's use of this gas to serve its Alaskan gas customers cannot be regarded as being less appropriate than these export arrangements, provided ANG pays no less than exporting the gas would have paid.

III

3

III. Proposed Price, Escalations, Total Volume,  
Annual Volume, Contract Term, Deliverability, and  
Transportation

(a) Price and Escalations

ANG proposes to pay to the State the same price which the State otherwise would have received from (Phillips') export of the North Cook Inlet royalty gas to Japan, for the duration of that export and thereafter not less than

- (1) the average price in effect during the last full year prior to termination of the export contract, and not less than
- (2) the price in effect, from year to year, for gas purchased by ANG at the Kenai gas field (from Union-Marathon)

(b) Total Volume, Annual Volume, Contract Term, Deliverability

ANG proposes to purchase 1/8th of the production of the North Cook Inlet gas field, day by day and year by year. ANG understands that at current production rates, approximately 15,000 MCF per day, or 5.5 BCF/year, would be available. AGAS would not, however, require any particular amount by day or by month or by year or in total. ANG contemplates that its commitment to purchase North Cook Inlet royalty gas would be for the life of production and probably at least 15 years, so that about 75 BCF would be available. ANG also understands that at present the maximum daily royalty production is about 20,000 MCF, related to a condition in which North Cook Inlet gas is supplying the entire input to the LNG plant, which would be unusual and temporary, since the contractual arrangement is for 70% North Cook Inlet gas and 30% Kenai gas to the plant.

ANG has adequate deliverability under contract at the Kenai gas field, and contractual ability to interrupt, so that it does not require a deliverability feature to be part of an agreement to purchase royalty gas -- ANG can take royalty gas on an "if and as available" basis. If, for the convenience of the operators (Phillips or Marathon or Union), a specified daily quantity should be desired, such as 15,000 to 20,000 MCF per day, ANG could so agree.

(c) Transportation

ANG proposes that transportation of the royalty gas would be by Phillips, to the LNG plant site, at the present amount which is understood to be 5.45¢ per MCF. ANG understands that as field pressure will decline during the life of the field, compression will become necessary and will cause additional cost for transportation. ANG further recognizes that compression may also become necessary as a result of increased throughput at the LNG plant whether as a result of increased plant loading or as a result of expansion of the LNG plant. ANG would expect to contribute its proportionate share of such additional transportation cost either by participating in the necessary investment or by compensating Phillips appropriately if Phillips makes the entire investment. ANG proposes that it should have the option of making the capital contribution or paying a higher transportation charge, to assure that Phillips is fairly compensated, without controversy.

III

27

IV

IV Question of (hypothetical) "possible subsidization of Anchorage gas consumers at state taxpayers' expense" (Raised in Mr. Fackler's letter of October 15, 1975)

---

ANG believes that its offer, to pay the same price the State would otherwise receive from Phillips on the sale of the royalty gas for export to Japan, precludes any suggestion of "subsidization," particularly in view of ANG's further proposal to pay not less than the "area price" in the event the export to Japan is terminated. ANG further believes that it would not be in the public interest for Anchorage gas consumers to sustain a higher price for this royalty gas than would be payable on its export to Japan, although ANG understands that competitive bidding might result in a higher price than the price for export to Japan.

ANG contemplates that if the State were to deny ANG's offer to purchase the North Cook Inlet royalty gas on the terms described above, and to invite competitive bidding for this gas in the hope of realizing a higher price, severe complications might arise which would delay or prevent the consummation of such a sale. As an example, Phillips-Marathon have been attempting to sell their gas from this field to the gas company in Portland, Oregon for several years, but have not resolved the matter of jurisdiction by the Federal Power Commission (FPC) since the sale involves interstate commerce.

A sale of royalty gas in interstate commerce would have the same regulatory character, and involve the same jurisdiction by the FPC. A sale to ANG, however, does not involve the FPC in any way, being intrastate.

Aside from the regulatory problem, there easily could be other problems with an interstate sale, such as the need for additional drilling to "prove" the reserves or deliverability; additional pipeline facilities to assure delivery to the LNG plant; and possibly additional LNG storage facilities. All of these problems could require negotiation by the several parties (Phillips, Marathon, State, and the high bidder). Investment for new facilities would require time for engineering and design - which would not be required for ANG's purchase of the gas for pipelining to Anchorage and use by the Bernice Lake power plant and ANG's other customers on the North Kenai Road.

ANG believes that the possible benefits of a higher price through competitive bidding would be more than outweighed by the timeliness and appropriateness of ANG's purchasing this gas for use in Alaska, by the avoidance of regulatory problems (FPC), and by the relatively simple negotiation which ANG's proposal would entail. ANG believes that the suggestion of "subsidization" is illusory and that in fact ANG's proposal will be beneficial to all Alaskan taxpayers as well as Anchorage gas consumers, in that ANG's proposal can be implemented immediately upon approval by the Royalty Board and the legislature, if the parties can agree as described. This would result in increased production of natural gas and thus more income to the State, at the earliest possible date.

V

LIST OF COPIES OF CORRESPONDENCE

1. August 1, 1975 Letter to Chugach
2. August 1 Letters to Union, Marathon, Phillips, Shell
3. August 20 Letter to O.K. Gilbreth
4. August 25 Letter and Memo of August 22 to Alaska Public Utilities Commission
5. September 4 Letter from Shell Oil Company
6. September 24 Memorandum to Commissioner Martin
7. September 29 Letter to Standard Oil of California
8. September 30 Letter to Commissioner Martin
9. October 10 Letter from Standard Oil of California
10. October 15 Letter from W.C. Fackler (Invitation to Royalty Board Meeting, Nov. 10)



# Alaska Gas and Service Company

GENERAL OFFICES LOCATED AT 3000 SPENARD ROAD  
P. O. BOX 6288 ANCHORAGE, ALASKA 99502 / PHONE (907) 277-5551  
TELEX 25-187

August 1, 1975

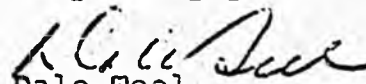
Chugach Electric Association, Inc.  
8th and Gambell  
Anchorage, Alaska 99501

Gentlemen:

It has just come to my attention this week that our supply of gas which we deliver to you at the Bernice Lake power plant is diminishing at a rate which is cause for serious concern and requires the earliest and best possible attention. Although our contract for the supply runs to May 1, 1977, your continuing heavy use of this plant this year may exhaust the remaining reserves during this coming winter. Based on your purchases to June 30 this year, we have well less than a one year supply remaining under contract. We assume that when you activate the new land line to Wasilla and complete your cable repairs, your requirement to operate Bernice Lake will be substantially reduced, but in the event this does not occur we could have a critical situation (as to a contractual supply only--not physical) this winter. At any rate there is an early requirement for us to make new arrangements for this supply and we wanted you to be so advised so that you could consider the availability of oil which you used during the years of operating this plant prior to its use of gas.

We have notified our suppliers regarding this matter and hopefully they may be able to expedite their consideration at least for a short term solution. As you know, however, at the moment we are operating without "flow through" provisions and in fact without a definite rate structure. It may be that we will be unable to consummate agreement for additional gas, even for a short term, until these matters are resolved. We have appealed to the APUC for reinstatement of the "flow through" provisions, and informally for a permanent rate structure, hoping for a favorable decision. We would then proceed immediately on the matter of reserves to supply Bernice Lake. But we may have to consider other action, even interruptions, due to regulatory or legal developments. We will, of course, keep you advised on this matter, and we regret that we have not had time in recent months to review such important matters with our staff continually.

Very truly yours,

  
Dale Teel  
President

DT:lkd

cc: Alaska Public Utilities Commission

DIVISION OF ALASKA INTERSTATE COMPANY



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

August 1, 1975

Union Oil Company of California  
P.O. Box 7600, Union Oil Center  
Los Angeles, California

Attention: Mr. Larry Bradford

Gentlemen:

Our contract for gas on the "Kenai North Road" will expire May 1, 1977 and it appears that the remaining reserves may have been purchased prior to that date, possibly early in the year, 1976.

We would ask for your proposal to commit additional reserves, considering our requirement to be up to 15 million cubic feet per day, and 75 BCF over a 15 year period to commence upon usage of our remaining reserves or not later than May 1, 1977.

Because of the limited time available, we would ask for a response at your earliest opportunity.

Very truly yours,

Original Signed by  
DALE TEEL

Dale Teel  
President

DT:lkd

cc: Mr. Bart Emery, Marathon, Findlay, Ohio



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

August 1, 1975

Marathon Oil Company  
539 South Main Street  
Findlay, Ohio

Attention: Mr. Bart Emery

Gentlemen:

Our contract for gas on the "Kenai North Road" will expire May 1, 1977, and it appears that the remaining reserves may have been purchased prior to that date, possibly early in the year 1976.

We would ask for your proposal to commit additional reserves, considering our requirement to be up to 15 million cubic feet per day, and 75 BCF over a 15 year period to commence upon usage of our remaining reserves or not later than May 1, 1977.

Because of the limited time available, we would ask for a response at your earliest opportunity.

Very truly yours,

Original Signed by  
DALE TEEL

Dale Teel  
President

DT:lkd

cc: Mr. Larry Bradford, Union Oil, Los Angeles



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 98502

3000 SPENARD ROAD  
PHONE (907) 277-5551

August 1, 1975

Phillips Petroleum Company  
Phillips Building  
Bartlesville, Oklahoma 66600

Attention: Mr. John Horn

Gentlemen:

Our contract for gas on the "Kenai North Road" will expire May 1, 1977, and it appears that the remaining reserves may have been purchased prior to that date, possibly early in the year 1976.

We would ask for your proposal to commit additional reserves, considering out requirement to be up to 15 million cubic feet per day, and 75 BCF over a 15 year period to commence upon usage of our remaining reserves or not later than May 1, 1977.

Because of the limited time available, we would ask for a response at your earliest opportunity.

Very truly yours,

Original Signed by  
DALE TEEL

Dale Teel  
President

DT:lkd



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

August 1, 1975

Shell Oil Company  
Alaska Mutual Savings Bank Building  
Anchorage, Alaska

Attention: Mr. Tom Cates

Gentlemen:

Our contract for gas on the "Kenai North Road" will expire May 1, 1977, and it appears that the remaining reserves may have been purchased prior to that date, possibly early in the year 1976.

We would ask for your proposal to commit additional reserves, considering our requirement to be up to 15 million cubic feet per day, and 75 BCF over a 15 year period to commence upon usage of our remaining reserves or not later than May 1, 1977.

Because of the limited time available, we would ask for a response at your earliest opportunity.

Very truly yours,

Original Signed by  
DALE TEEL

Dale Teel  
President

DT:lkd



Feel (Union)

# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

August 20, 1975

Mr. O. K. Gilbreth, Director  
Division of Oil and Gas  
State of Alaska  
Department of Natural Resources  
3001 Porcupine Street  
Anchorage, Alaska 99504

Dear Easy:

We have a gas supply contract with Union-Marathon for 10 BCF on the Kenai North Road which expires May 1, 1977. Due to accelerated sales to Chugach Electric's Bernice Lake power plant this year, it appears the entire reserve quantity could be used up within less than one year from now, and we are soliciting a replacement supply of gas to serve Chugach and our other customers on the Kenai North Road.

We are in a position to commit to take more than our North Road requirements, however, and would like to offer to purchase the State's royalty share of Phillips' production from North Cook Inlet, delivered to a metering point near the Phillips-Marathon LNG plant on the Kenai North Road. The excess above our Kenai North Road sales would be used to displace deliveries by Union-Marathon to us at the Kenai gas field, and thus serve to prolong the adequacy of our reserve commitment at the Kenai gas field. We are not certain as to whether or not the displacement can be made "on paper," or whether we would be required to lay a pipeline to connect into our Anchorage pipeline either at or near the Kenai gas field or at or near our compressor station east of the Kenai River.

Please consider this letter to be an application to purchase royalty gas as described, pursuant to AS 38.06.010. Since limited time is available to do any necessary construction, we hope all procedural requirements can be determined readily. We would anticipate paying the State the same price it would have received from Phillips, which we believe to be 45¢ per MCF plus 5.45¢ transportation fee, as compared to the current 41.5¢ cost of gas (and deliverability) at the Kenai gas field.

**ALASKA PIPELINE COMPANY**

**ANCHORAGE, ALASKA**

Mr. O. K. Gilbreth  
August 20, 1975  
Page Two

We are relying on approval by the Alaska Public Utilities Commission for us to "flow through" the increased cost of gas to Chugach's Bernice Lake power plant and to "meld" the (higher) cost royalty gas with the (lower) cost Kenai field gas, on a day-to-day basis, since the amount of royalty gas we would receive would depend on the rate of production of the Phillips-Marathon LNG plant and be outside our control. When this plant is down for any reason, we would be utilizing Kenai field gas as replacement.

Please advise regarding any questions or further procedure we should follow in presenting a formal offer to the State.

Very truly yours,



Dale Teel  
President

DT:lkd

cc: Alaska Public Utilities Commission



# Alaska Gas and Service Company

GENERAL OFFICES LOCATED AT 3000 SPENARD ROAD  
P.O. BOX 6288 ANCHORAGE, ALASKA 99502 / PHONE (907) 277-8881  
TELEX 25-187

August 25, 1975

Alaska Public Utilities Commission  
1100 MacKey Building  
338 Denali Street  
Anchorage, Alaska 99501

Gentlemen:

The enclosed "Memo to File" (August 22, 1975) was prepared for discussion with the APUC or staff, in connection with our filing for reinstatement of our tariff section "708," (purchased gas cost adjustment). It illustrates the effect this section would have on various gas rates in the event we were successful in obtaining the state royalty gas which we have proposed to buy.

Also enclosed are a map of the Upper Cook Inlet and copies of our letters of August 1 and August 13 to Phillips. It is intended that the enclosures are for the information of the APUC and staff, but would not become "public" information at present.

Very truly yours,

Dale Teel  
President

DT:lv  
Enclosures

*Teel*

**August 22, 1975**

**Memo To:** File

**Subject:** Intended Applicability and Operation  
of  
AGAS Tariff Section 708  
Purchased Gas Cost Adjustment

AGAS now has a filing at the APUC for reinstatement of its Section 708, modified to the apparent (verbal) satisfaction of the APUC staff (Dwight MacCurdy and Bob Lindblom). AGAS is relying on approval of this filing at the earliest possible date because of its imperative need to be contracting for additional gas reserves, both for continued service to customers on the North Kenai Road (especially Chugach's Bernice Lake power plant) and to avoid (postpone) future problems with the provisions of AGAS' long term financing. AGAS' reserves to serve North Kenai Road customers could be exhausted during the winter of 1975-1976 if Chugach continues its current rate of consumption. Unless an alternate solution is developed, AGAS must require Chugach to interrupt the use of gas beginning in October 1975, through March 1976, to the maximum allowable by tariff (Schedule P1), which is 10 days per calendar month during those months.

AGAS' preferred solution is to apply for and obtain state royalty gas from Phillips' North Cook Inlet gas field, rather than to face the (unknown) price of new reserves from its present supplier (Union-Marathon) and rather than to consume, on the North Kenai Road, the reserves dedicated for the Anchorage area. Accordingly AGAS has offered the State the price of 45.0¢ plus 5.45¢ or 50.45¢ per MCF for royalty gas which the State in effect is now selling to Phillips and Phillips in turn is exporting to Japan. To do so, AGAS would expect to build about 35 miles of 8" pipeline at the earliest opportunity, along the Homer Electric power-line right-of-way, from the Phillips LNG plant to the AGAS (APC) Gudenrath compressor station. This pipeline initially could flow in reverse, supplying gas to North Kenai Road customers out of AGAS' (APC's) pipeline to Anchorage, but as soon as royalty gas becomes available, gas would flow from the North Kenai Road to the AGAS Anchorage pipeline. The amount of royalty gas is assumed to be  $1/8 \times 70\% \times 140$  million cfd or 12.25 million cfd. Normally it is expected to run at a fairly steady rate, somewhat higher than 12.25, but it could go as high as 17 million, or as low as zero when the LNG plant is shut down. Thus the taking of royalty gas would introduce new dynamics into AGAS' transmission system. Similarly, as a result of these dynamics, AGAS' cost of purchased gas will be constantly varying and thus its rates to customers also will be constantly varying, depending on the mix of Kenai field gas and State royalty gas obtaining for a given month.

AGAS' tariff Section 708-Purchased Gas Cost Adjustment-was designed with the intent of application to such changing costs of gas: each month AGAS would determine its cost of gas for the prior month and would adjust its effective rates upward or downward to reflect the variation from the base price, which will be 43.5¢ after January 1, 1976.

Applying Section 708 in this way, the following examples are given:

1. Assume a summer load condition as follows:

Anchorage/Soldotna Market:	50,000,000 cf/day
North Kenai Road Market:	8,000,000 cf/day
State Royalty gas:	15,000,000 cf/day

Thus the cost of gas for this condition would be

15,000 MCF x 50.45¢ or	\$ 7,567.50
plus (58 - 15 = 43) 43,000 MCF x 43.5¢ or	<u>18,705.00</u>

Total \$26,272.50

Average cost of 58,000 MCF is 45.297¢/MCF

After 1/1/76, all rates are based on gas cost of 43.5¢ (includes 2¢ escalation of 1/1/76, per paragraph 9, page 17 of Order No. 4, U-75-30). The average cost of gas above (45.30¢) less this base price of 43.5¢, is 1.8¢ effective increase which would "flow through" to all AGAS customers per tariffs and contracts. Thus, using the illustrated average rates given on page 19 of APUC Order No. 4, and adding the 2.0¢ escalation of 1/1/76, the "flow through" effect of applying Section 708 as described would be:

Schedule A:	157.08 plus 2.0 is 159.08; plus 1.8 is 160.88; 1.1%
B:	142.48 plus 2.0 is 144.48; plus 1.8 is 146.28; 1.2%
C:	102.58 plus 2.0 is 104.58; plus 1.8 is 106.38; 1.7%
*Chugach I-5:	73.78 plus 2.0 is 75.78; plus 1.8 is 77.58; 2.4%
**Chugach PI :	51.78 plus 2.0 is 53.78; plus 1.8 is 55.58; 3.3%
City Contract:	53.48 plus 2.0 is 55.48; plus 1.8 is 57.28; 3.2%
Military:	60.20 plus 2.0 is 62.20; plus 1.8 is 64.00; 2.9%

## 2. Assume an average winter load condition as follows:

Anchorage/Soldotna Market:	90,000,000 cf/day
<u>1/</u> North Kenai Road Market:	10,000,000 cf/day
<u>2/</u> State Royalty gas:	10,000,000 cf/day

Thus the cost of gas for this condition would be

10,000 MCF x 50.45¢ or	\$ 5,045.00
plus (100 - 10 = 90) 90,000 MCF x 43.5¢ or	<u>39,150.00</u>
. Total	\$44,195.00

Average cost of 100,000 MCF would be 44.195¢/MCF (say 44.20¢)  
and rates would be 0.7¢/MCF increase over the base of 43.5¢/MCF.

As for Condition "1" described above, the effect of 0.7¢ per MCF increase would be as follows:

Schedule A:	159.08 plus 0.7 is 159.78; 0.44%
B:	144.48 plus 0.7 is 145.18; 0.48%
C:	104.58 plus 0.7 is 105.28; 0.67%
I-5:	75.78 plus 0.7 is 76.48; 0.92%
PI:	53.78 plus 0.7 is 54.48; 1.30%
City:	55.48 plus 0.7 is 56.18; 1.25%
Military:	62.20 plus 0.7 is 62.90; 1.13%

- 1/ The North Road Market is mostly Chugach's Bernice Lake power plant, thus there will not be much increase for winter over summer.
- 2/ The LNG plant operation is typically less in winter than summer due to slower passage of the LNG ships to/from Japan.

## 3. Assume a peak winter condition as follows:

Anchorage/Soldotna Market:	150,000,000 cf/day
North Kenai Road Market:	12,000,000 cf/day
State Royalty gas:	15,000,000 cf/day

Thus the cost of gas for this condition would be

15,000 MCF x 50.45¢ or	\$ 7,567.50
plus (162 - 15 = 147) 147,000 MCF x 43.5¢ or	<u>63,945.00</u>
Total	\$71,512.50

Average cost of 162,000 MCF is 44.144¢, and rates would be increased 0.644¢ over the base of 43.5¢ per MCF. Effect on rates almost same as Condition "2" above.

## 4. Assume a summer condition such that LNG plant is at maximum operation, but Chugach Bernice Lake plant is shut down for repairs or other reason, and thus essentially all the State royalty gas would be entering the Anchorage system:

Anchorage/Soldotna Market:	40,000,000 cf/day
North Kenai Road Market:	2,000,000 cf/day
State Royalty gas:	17,000,000 cf/day

Thus the cost of gas for this condition would be

17,000 MCF x 50.45¢ or	\$ 8,576.50
plus (42 - 17 = 25) 25,000 MCF x 43.5¢ or	<u>10,875.00</u>
Total	\$19,451.50

Average cost of 42,000 MCF is 46.313¢, and rates would be 2.813¢ (say 2.80¢) over the base of 43.5¢ per MCF.

The effect on AGAS rates for this condition would be:

Schedule A:	159.08 plus 2.80¢ is 161.88; 1.76%
B:	144.48 plus 2.80¢ is 147.28; 1.94%
C:	104.58 plus 2.80¢ is 107.38; 2.68%
I-5:	75.78 plus 2.80¢ is 78.58; 3.69%
PI:	53.78 plus 2.80¢ is 56.58; 5.21%
City:	55.48 plus 2.80¢ is 58.28; 5.05%
Military:	62.20 plus 2.80¢ is 65.00; 4.50%

Condition "4" above is about the worst probable effect of royalty gas on AGAS' rates. Clearly the effect of such "worst conditions" is not such as to raise doubts as to the acceptability of applying AGAS' Section 708 to melding of State royalty gas with Kenai field gas. Only with Section 708 in effect can this melding be accomplished, and thus this Section is essential to AGAS' utilizing royalty gas (or any other new gas supply).

While the foregoing discussion indicates that APC would expect to construct a pipeline from the LNG plant site to the site of APC's Gudenrath compressor station, the more logical step would be to accomplish the "delivery" of the royalty gas by "paper exchanges" rather than physical transportation of the gas. Both North Cook Inlet gas and Kenai field gas are essentially pure (99% plus) methane and no adjustment for heating value or other quality aspect is necessary as a result of such "paper exchanges." The term "paper exchange" here means that with the consent and cooperation of all the parties involved, AGAS (APC) could pay to the State as if it were actually accepting royalty gas from the State, but in fact would continue to receive gas only as at present, at its Kalifonsky metering point, and on the North Kenai Road, produced at the Kenai gas field. The effect would be that AGAS would deduct from actual deliveries at the Kenai field meter an amount of gas equal to the royalty production for a month and would pay the Kenai gas field producers for the remainder. AGAS (APC) would continue to receive gas from these producers at the Kenai North Road at presently existing taps on their pipeline, and would add these deliveries to the "net" deliveries at the Kenai gas field for purposes of computing APC's "purchases" each month from the Kenai gas field. Then Marathon and Union Phillips could resolve the balancing of their records as follows:

- The amount of Phillips' royalty production (12.5% of Phillips' total) for a given period, probably on monthly scheduling, would displace Marathon's actual delivery to the LNG plant, and Phillips would increase its otherwise "share" (70% of plant input) to compensate, during the following month, or later in the year if preferred by the parties for their convenience.

Obviously, there would be a requirement for additional production (wells in operation) and transmission by Phillips, unless for economic reasons the additional productive capacity were to be installed at the Kenai gas field with appropriate cost reimbursement being made by Phillips to Union-Marathon.

Because of the anticipated complexities of having all the parties--Marathon, Union, Phillips, State of Alaska, and AGAS (APC) affirmatively cooperate in the above "paper exchange," this memo has presumed that a new pipeline and physical movement of the gas would be necessary. Hopefully there can be a negotiation to eliminate the need for such a pipeline, however.

From the total actual "takes," at the Kenai field meter plus the taps on Union-Marathon's pipeline on the Kenai North Road, would be deducted each year, the Phillips' royalty in order to determine the net usage of Kenai field gas against the contractual total of 550 million MCF. Guaranteed deliverability, now contracted at 160,000 MCF per day, would not be improved by the "paper exchange" alternative to a pipeline, while such a pipeline could improve deliverability, but only to the extent of royalty gas being available when needed, which would be coincidental and not within our control. However, this indefinite and debated improvement on deliverability resulting from the new pipeline would not alone justify the cost of the pipeline.

9-9-75



# SHELL OIL COMPANY

601 W. 5TH AVENUE, SUITE 810  
ANCHORAGE, ALASKA 99501

September 4, 1975

Alaska Pipeline Company  
P. O. Box 6288  
Anchorage, Alaska 99502

Subject Middle Ground Shoal Field  
Associated Gas Reserves

Attention Mr. Dale Teel

Gentlemen:

Thank you for your letter of August 1, 1975, inquiring into the possibility of the purchase of gas at our North Kenai Road onshore facility. Unfortunately, our gas is committed on a long term basis to another buyer in the area and, therefore, we are not in a position to consider your proposal.

Should we be so fortunate as to develop new reserves in the Anchorage Basin, we would gladly entertain your proposition.

Very truly yours,

A handwritten signature in cursive script that reads "T. S. Cate".

T. S. Cate  
Land Representative

**ALASKA PIPELINE COMPANY**

**ANCHORAGE, ALASKA**

**MEMORANDUM**

**TO: Mr. Guy Martin  
Commissioner of Natural Resources**

**FROM: Dale Teel**

**DATE: September 24, 1975**

**SUBJECT: Alaska Pipeline Company's Request to Purchase State Royalty Gas from the North Cook Inlet Gas Field ("Phillips")**

Alaska Pipeline Company (APC) and its affiliate Alaska Gas and Service Company ("Anchorage Natural Gas") supply natural gas to 285 customers on the North Kenai Road and to the Bernice Lake power plant of Chugach Electric Association. The gas is obtained from the industrial pipeline which supplies the LNG plant, the Ammonia/Urea plant, and gas for reinjection into the Swanson River Oil field, and comes from the Kenai gas field (Union-Marathon), under a contract which runs to May 1, 1977. Due to unexpectedly heavy usage by the Bernice Lake power plant, the reserve quantity, 10 billion cubic feet (BCF), will be used prior to May 1, 1977, and at that point the contract will terminate. A contract extension and additional commitment of reserves has been requested of Union-Marathon, or the right to receive gas on the North Kenai Road which is committed for the Anchorage area under a separate contract. There has been little if any progress made on these requests thus far.

Alaska Pipeline Company's contract with Union-Marathon has a provision that if APC were to obtain royalty gas from the Kenai gas field, then the commitment of gas reserves by Union-Marathon (originally 550 BCF) would be reduced an equal amount, and thus in effect APC is barred from negotiating for royalty gas from the Kenai gas field.

APC has inquired for a commitment of gas from Phillips, with the (telephone) response that since Phillips' obligations to the gas company of Portland, Oregon are in suspense due to hearings at the Federal Power Commission and since the gas company at Los Angeles is attempting to purchase royalty gas from the North Cook Inlet gas field, Phillips is not clear to negotiate a commitment of reserves to APC. It is known also that the Portland gas company is requesting to purchase North Cook Inlet royalty gas (discussions with Governor Hammond).

**ALASKA PIPELINE COMPANY**

**ANCHORAGE, ALASKA**

- 2 -

APC has written to the State (letter to O.K. Gilbreth, August 20, 1975, attached) requesting to purchase the North Cook Inlet royalty gas at the price of 50.45¢ per MCF, which is the price which now applies to the royalty gas which Phillips utilizes for its LNG manufacture, which is known to be 45¢ wellhead plus 5.45¢ transportation. If this gas were to be offered to APC, APC could build a pipeline from the LNG plant to deliver the gas into its pipeline to Anchorage as well as to supply its North Kenai Road customers. Such a pipeline (approximately 35 miles of 8") could be built in the right of way now occupied by Homer Electric Association's power line from the Bernice Lake power plant to "Quartz Creek." However, construction of such a pipeline should not be necessary, because existing pipeline systems could be utilized to "exchange," or "displace," gas and the transaction could be made entirely on paper, continuing actual movement as at present, without change. North Cook Inlet gas is identical to Kenai field gas (the streams are interchangeable at the LNG plant), so adjustments can be made by volume only.

APC would appear to be the ideal customer for State royalty gas because it would "blend" (by price/rate adjustments) the higher priced royalty gas into its present supply, with relatively small impact on its rates to Alaskan gas users. APC has negotiated "deliverability" with Union-Marathon so that it is in a position to take none or the full royalty share of North Cook Inlet gas without placing its suppliers (Union-Marathon) in any hardship and without having to rely on constant or steady rate production from the North Cook Inlet field. In other words, APC could take the State royalty gas from North Cook Inlet if and as it is produced, without requiring "deliverability."

The foregoing description assumes that the producers (Union, Marathon, Phillips) and the State can readily agree to the "exchange" or "displacement" as indicated. If APC were to build the new pipeline so that the royalty gas actually were to be moved from the LNG plant to APC's pipeline to Anchorage, the same general situation would obtain as for displacement, but operation would be relatively complex since gas would have to move to or from the LNG plant in the new pipeline depending on whether or not the LNG plant were running and at what rate. It is anticipated that normally there would be adequate notice available so that flow rate and directional changes would be practical - in fact displacement could be utilized even with such a pipeline, to foster best scheduling by all the parties. Such displacement actually occurs already, from time to time, although it involves only the producers (Union, Marathon, Phillips) and, of course, does not affect APC or the State at present. The proposed displacement, either with or without a new pipeline being added, should be just as practical if the parties would so agree.

DT/js

enclosure

DALE TEEL  
PRESIDENT

ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

September 29, 1975

Mr. John Rowland  
Standard Oil Company of California  
3001 C Street  
Anchorage, Alaska

Dear John:

I want to thank you for the courtesies extended to me Saturday, September 27, by Walt Larman at your Swanson River compressor plant. I met Ed Saltz there also, and renewed an acquaintance of 10 years or more ago, when he was assisting us in restoring gas service after the 1964 earthquake.

Naturally, I can't avoid thinking about possible uses for the gas now being flared as a safety measure at the plant. I can visualize various possibilities such as piping it into our pipeline to Anchorage, or to Soldotna, or to the North Kenai Road. We have a centrifugal compression unit at Mile 25 on our pipeline which might be adapted to handle this gas especially during the summer season, when it is not needed for capacity, and we have available an electric motor-driven reciprocating unit which could be installed at your plant. We need the gas and might be able to justify the 20 miles of pipeline if the gas were available "free," or nearly so, even without a commitment of deliverability or a reserves quantity -- in other words, "if and as available." I would like to continue discussion of this possibility with you at your convenience.

Cordially,



DT/js

T Chron



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

September 30, 1975

Mr. Guy Martin  
Commissioner of Natural Resources  
State of Alaska  
Juneau, Alaska

Dear Mr. Martin:

Confirming our discussion at the Anchorage airport on September 30, and my letter to Mr. Gilbreth of August 20, and memorandum to you of September 24, Alaska Pipeline Company is requesting to purchase the royalty share of North Cook Inlet gas field at or near the Phillips-Marathon LNG plant on the North Kenai Road, at the price used by Phillips to acquire this gas from the State for the manufacture of LNG for export to Japan or elsewhere. We believe the most reasonable method for handling the delivery and sale would be by "exchange," or "displacement," so that construction of new pipeline(s) and compression would be minimized. Since our supply at the Kenai gas field is interconnected to the North Cook Inlet gas supply at the LNG plant, for the time being it should be practical that we would take whatever amount of the North Cook Inlet royalty gas may be available day by day by displacement into our system at the Kenai gas field. Later, when additional investment would be required for transporting this royalty gas to shore, we could negotiate our participation in investment, or install our own facilities if necessary, in order to accomplish the purchase on the most reasonable basis for all concerned.

The essential aspect of our request is that we have an immediate need for additional gas on the North Kenai Road and we have a long term requirement for additional gas reserves to serve Alaskan customers in our present service area. We believe that it is in the public interest that we should be allowed to purchase this State royalty gas for local consumption rather than for this gas to be exported to Japan or elsewhere. We will begin preparing a formal

**ALASKA PIPELINE COMPANY**

**ANCHORAGE, ALASKA**

**Mr. Guy Martin  
September 30, 1975  
Page 2**


application to purchase this gas and will appreciate having your guidance as to what supporting data or format may be desired, if any, for presentation to the Royalty Board or to the legislature to satisfy statutes or regulations which apply.

Very truly yours,



Dale Teel

DT/js

cc: O. K. Gilbreth, Director   
Division of Oil and Gas

Alaska Public Utilities Commission



**Standard Oil Company of California,  
Western Operations, Inc.**  
P.O. Box 7-839, Anchorage, AK 99510 • Phone (907) 279-9666

J. L. Rowland  
Area Supervisor  
Producing Department

October 10, 1975

Mr. Dale Teel, President  
Alaska Pipeline Company  
P. O. Box 6288  
Anchorage, Alaska 99502

Dear Dale:

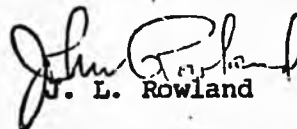
Thanks for your letter of September 29, and for your interest in our flared gas at Swanson River.

Since speaking with you, I have reviewed our gas handling capacity with our Engineering group and have determined the gas phase is still considered temporary. As you know, we have made several adjustments in the past year, including the installation of <sup>two</sup> ten field compressors, and we are actively pursuing other remedies which will relieve our flaring problem.

It is my opinion that the laying of a 20 mile pipeline, based on the limited volumes which we foresee, would be a very high risk venture.

We do appreciate your asking about the possibilities and we'll certainly be alert to those opportunities which may become available.

Very truly yours,

  
J. L. Rowland

JLR:ald

# STATE OF ALASKA

## DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

JAY S. HAMMOND, Governor

POUCH M — JUNEAU 99801

October 15, 1975

Mr. Dale Teel  
Alaska Pipeline Company  
P. O. Box 6288  
Anchorage, Alaska 99502

Dear Mr. Teel:

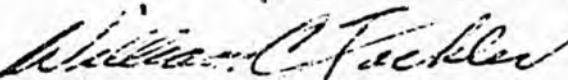
Your letter and memorandum regarding the proposal of Alaska Pipeline Company to purchase state royalty gas from the North Cook Inlet Gas Field was read into the minutes of the October 12 meeting of the Royalty Board.

The Royalty Board invites you to attend the next meeting which will be November 10, 1975, in the Alaska Division of Lands Conference Room in Anchorage beginning at 8:30 a.m. to discuss your proposal.

Items to be addressed in your presentation should be the need for additional gas reserves, reasons for requesting North Cook Inlet source of gas, price and schedule of escalation, total volume, annual volume, deliverability, term of proposal, transportation and so forth. A question has been raised as to the possibility that this proposal would be a subsidization of Anchorage gas consumers at state taxpayer's expense. You might wish to anticipate this point also in your discussion.

Please advise me if I can be of further assistance.

Very truly yours,



William C. Fackler  
Deputy Commissioner

cc: Mr. Robert H. Reynolds  
921 East Sixth Avenue  
Anchorage, Alaska 99501

IV

## LIST OF TABLES AND GRAPHS

1. Table of gas consumption  
Actual, 1971-1975 (estimated)  
Projected, 1976-1985 (growth at 1, or 2, BCFY)
2. Graph of data per Table (1)
3. Table of remaining reserves  
Actual, 1971-1975 (estimated)  
Projected, 1976-1985 (growth at 1, or 2, BCFY)
4. Graph of data per Table (3)
5. Table of life of remaining reserves  
Actual, 1971-1975 (estimated)  
Projected, 1976-1985 (growth at 1, or 2, BCFY)

Note: This is the quotient of reserves data in  
Table (3) divided by consumption during  
the prior year per Table (1)

6. Graph of data per Table (5)
7. Graph of North Cook Inlet gas production since 1969

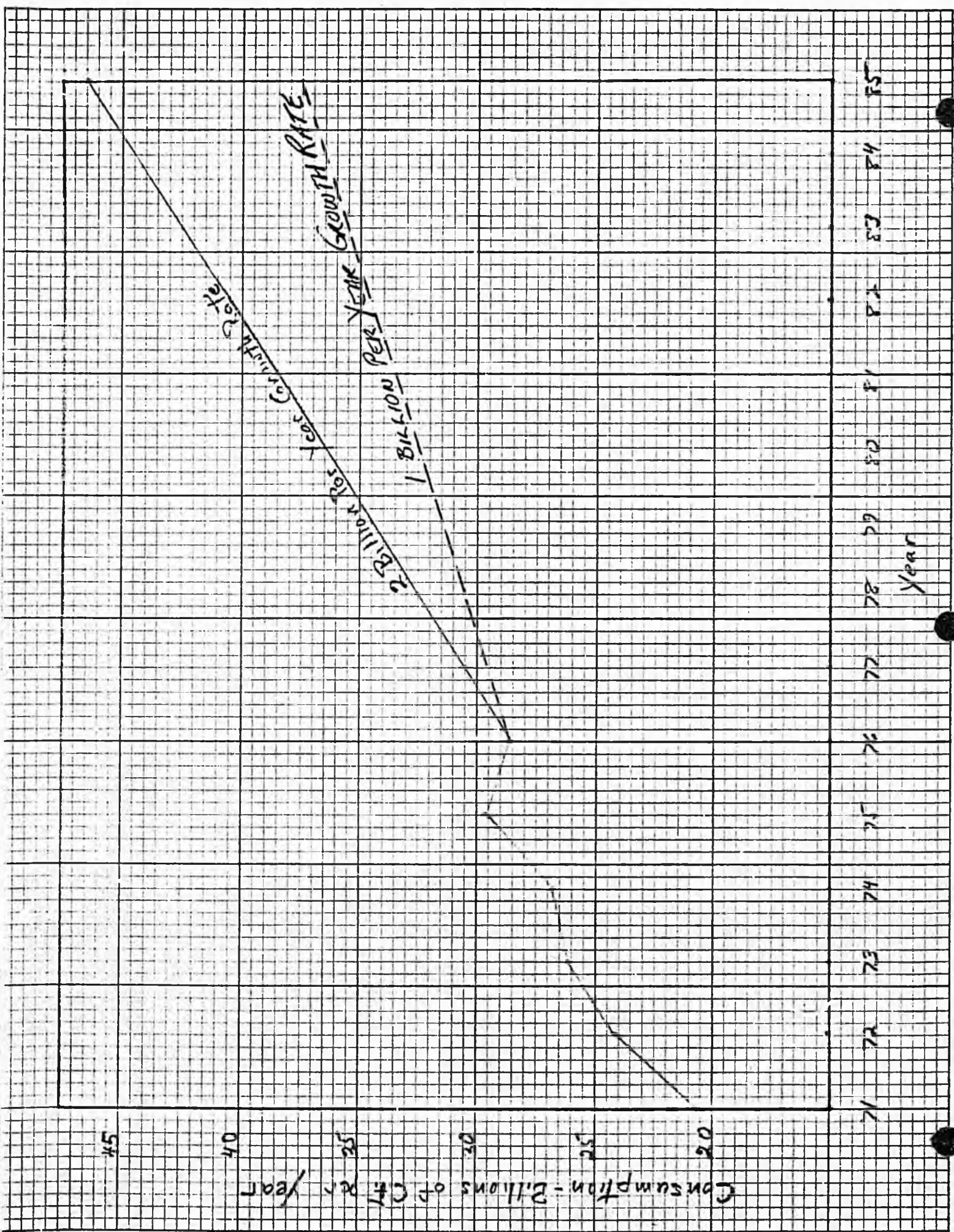
ALASKA GAS AND SERVICE - ALASKA PIPELINE COMPANY

Table of Gas Consumption BCF

Year	Consumption (One Billion/yr Growth Rate)	Consumption (Two Billion/yr Growth Rate)
1971	20.6	20.6
1972	24.1	24.1
1973	26.1	26.1
1974	26.7	26.7
1975	29.7	29.7
* 1976	28.5	28.5
1977	29.5	30.5
1978	30.5	32.5
1979	31.5	34.5
1980	32.5	36.5
1981	33.5	38.5
1982	34.5	40.5
1983	35.5	42.5
1984	36.5	44.5
1985	37.5	46.5

\*Reflects loss of deliveries to Chugach Electric

11/4/75



2 Billion per Year  
Growth Rate

GROWTH RATE

Year

Consumption - Billions of CFI per Year

45

40

35

30

25

20

71

72

73

74

75

76

77

78

79

80

81

82

83

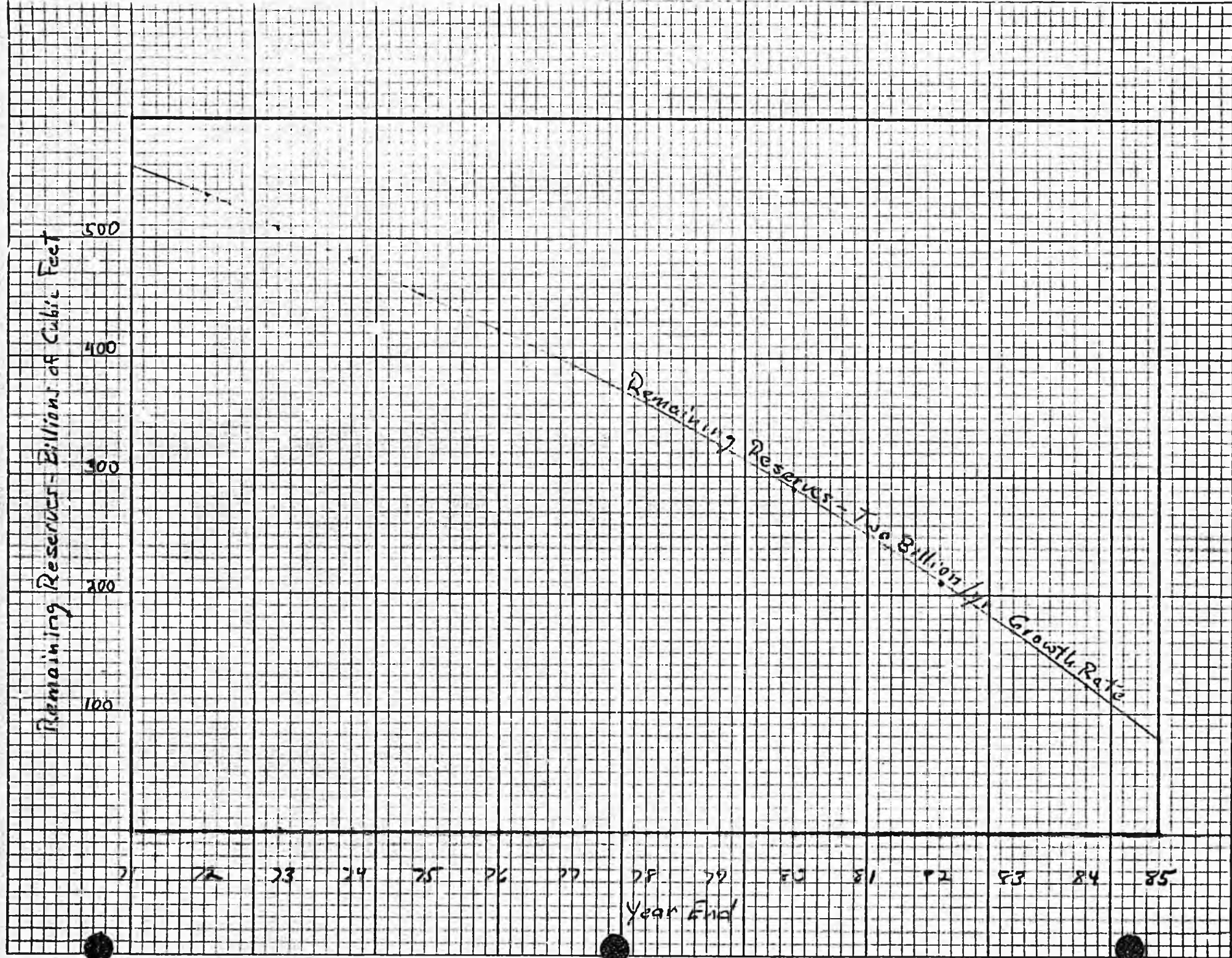
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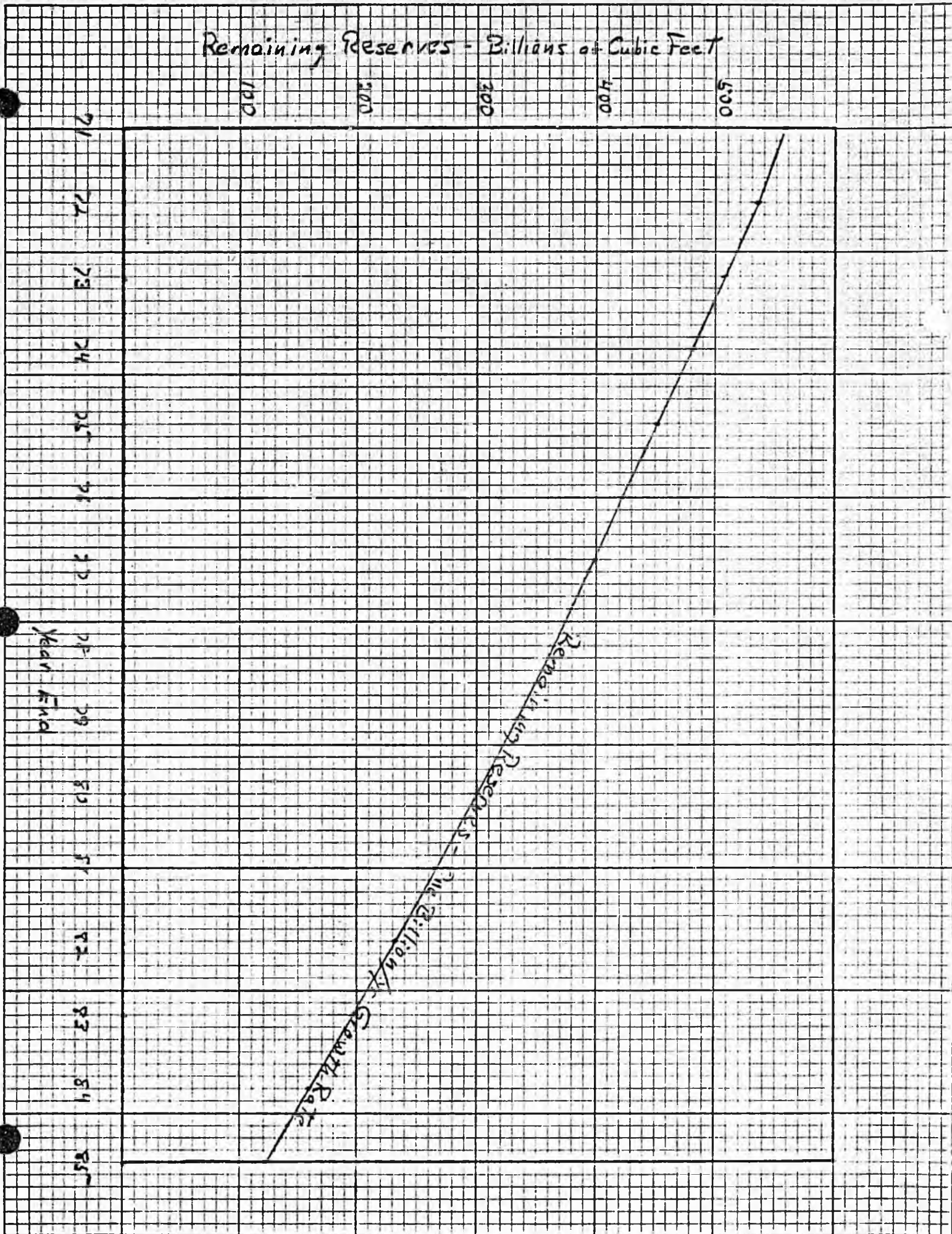
ALASKA GAS AND SERVICE - ALASKA PIPELINE COMPANY

Table of Remaining Reserves

Year End	Reserves-BCF (One Billion CF/yr Growth Rate)	Reserves-BCF (Two Billion cf/yr Growth Rate)
1971	559	559
1972	535 <sup>24</sup>	535
1973	509 <sup>26</sup>	509
1974	482 <sup>27</sup>	482
1975	452 <sup>30</sup>	452
1976	424 <sup>28</sup>	424
1977	394 <sup>30</sup>	393 <sup>31</sup>
1978	363 <sup>31</sup>	361 <sup>32</sup>
1979	332 <sup>31</sup>	326 <sup>35</sup>
1980	300 <sup>32</sup>	290 <sup>36</sup>
1981	266 <sup>34</sup>	251 <sup>39</sup>
1982	232 <sup>34</sup>	211 <sup>40</sup>
1983	196 <sup>36</sup>	168 <sup>43</sup>
1984	160 <sup>36</sup>	124 <sup>44</sup>
1985	122 <sup>38</sup>	77 <sup>47</sup>



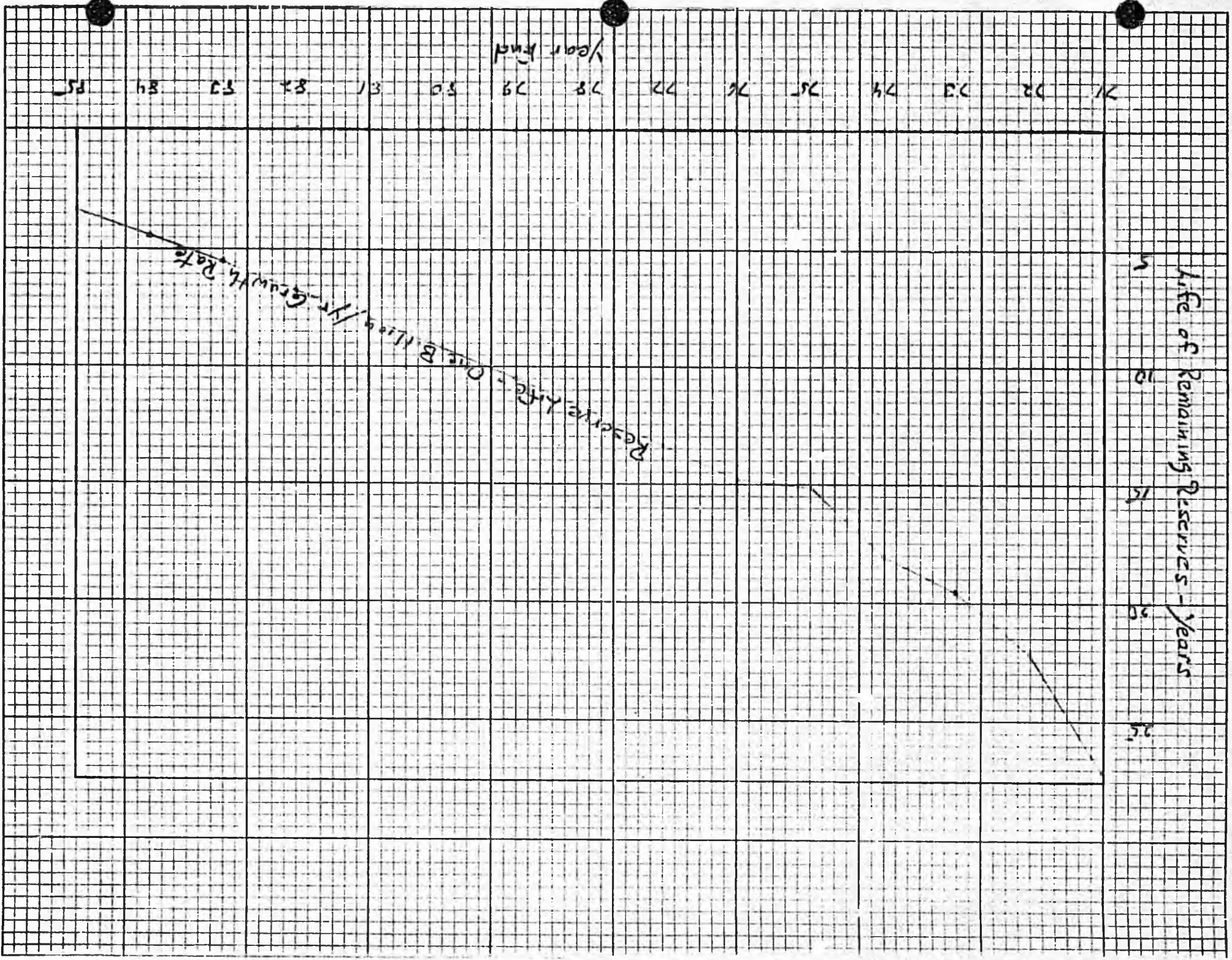
# Remaining Reserves - Billions of Cubic Feet



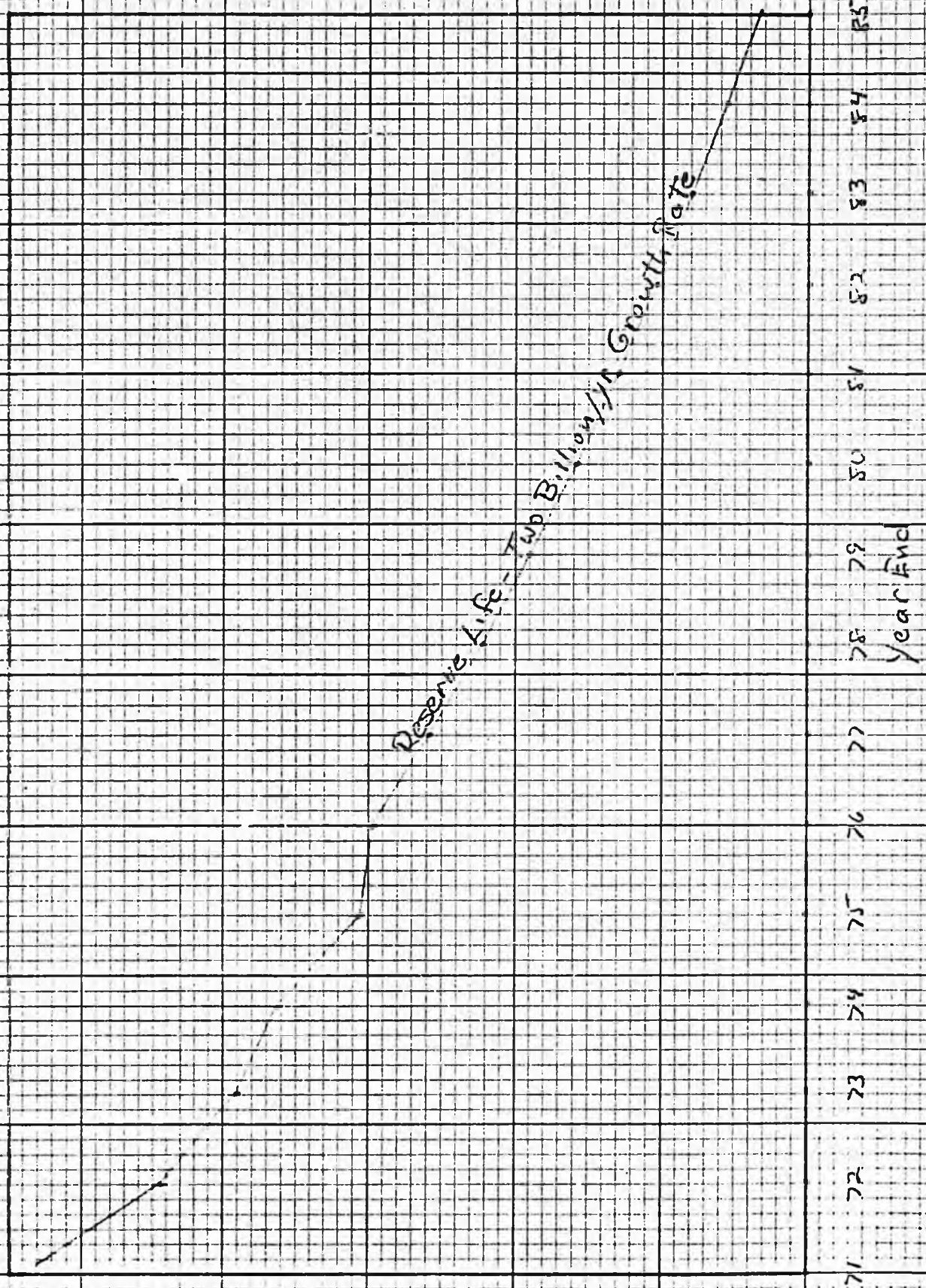
ALASKA GAS AND SERVICE - ALASKA PIPELINE COMPANY

Table of Life of Remaining Reserves

Year End	Life-Years (One Billion CF/yr Growth Rate)	Life-Years (Two Billion CF/yr Growth Rate)
1971	27.1	27.1
1972	22.2	22.2
1973	19.5	19.5
1974	18.1	18.1
1975	15.2	15.2
1976	14.9	14.9
1977	13.4	12.9
1978	11.9	11.1
1979	10.5	9.5
1980	9.2	7.9
1981	7.9	6.5
1982	6.7	5.2
1983	5.5	4.0
1984	4.4	2.8
1985	3.3	1.7



Life of Remaining Reserves - Years



Reserve Life - Two Billion / Growth Rate



Relating to the taking of state-owned royalty oil or gas in-kind and its disposal by sale.

# COMMITTEE REPORT

## HOUSE

5/10/76

Mr. Speaker:

Date \_\_\_\_\_

The Committee on FINANCE has had HCR 142

under consideration. A Majority of the members of the Committee

recommends it DO PASS

recommends it DO NOT PASS

recommends it DO PASS WITH ATTACHED AMENDMENT(S)

recommends it BE REPLACED WITH CS FOR \_\_\_\_\_ AND THAT

CS FOR \_\_\_\_\_ DO PASS

"and" recommends it BE REFERRED TO THE \_\_\_\_\_

COMMITTEE

reports it back WITHOUT RECOMMENDATION

"other"

Members signing the Majority report:

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Members NOT concurring in the Majority report:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ Chairman

relating to the taking of state-owned royalty oil or gas in-kind and its disposal by sale.

# COMMITTEE REPORT

HOUSE

FINANCE

5/4/76

Mr. Speaker:

Date 5-10-76

The Committee on RESOURCES has had HCR 142

under consideration. A Majority of the members of the Committee

( ) recommends it DO PASS

( ) recommends it DO NOT PASS

( ) recommends it DO PASS WITH ATTACHED AMENDMENT(S) *(same title)*

recommends it BE REPLACED WITH CS FOR HCR 142 AND THAT

CS FOR HCR 142 DO PASS

( ) "and" recommends it BE REFERRED TO THE \_\_\_\_\_  
COMMITTEE

( ) reports it back WITHOUT RECOMMENDATION

( ) "other"

Members signing the Majority report:

<u><i>Nels G. Anderson</i></u>	<u><i>William O. Steinhilber</i></u>	_____
<u><i>John B. Smith</i></u>	<u><i>William J. Huntington</i></u>	_____
<u><i>Robert R. Rode</i></u>	<u><i>Robert J. Brown</i></u>	_____
<u>MINE HENSBERGER</u>	<u><i>Louis J. Morrison</i></u>	_____

Members NOT concurring in the Majority report:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

\_\_\_\_\_ recommends:

*Nels G. Anderson* Chairman  
w/ Chairman's report

Original Spncsor: Rules Committee by  
request of the Governor

Offered: 5/10/76  
Referred: Finance

1 IN THE HOUSE

BY THE RESOURCES COMMITTEE

2 CS FOR HOUSE CONCURRENT RESOLUTION NO. 142

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 NINTH LEGISLATURE - SECOND SESSION

5 Relating to the taking of state-owned  
6 royalty oil or gas in-kind and its disposal  
7 by sale.

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

9 WHEREAS the legislature by enactment of the Alaska Royalty Oil and Gas  
10 Development Board statute, AS 38.06, et seq., has established a clear policy  
11 of favoring the taking of state-owned royalty oil or gas in-kind and making  
12 that royalty available for in-state uses; and

13 WHEREAS the State of Alaska presently receives a one-eighth royalty on  
14 gas produced from the North Cook Inlet Gas Field in value, but has the  
15 right to receive this royalty in-kind; and

16 WHEREAS the commissioner of natural resources has entered into a con-  
17 tract for the sale and purchase of state-owned royalty gas from the North  
18 Cook Inlet Gas Field with Alaska Pipeline Company, an Alaskan corporation  
19 which sells natural gas in the Anchorage and North Kenai Road areas; and

20 WHEREAS the contract between the State of Alaska and Alaska Pipeline  
21 Company requires as a condition precedent to its becoming effective approval  
22 by a majority of each house of the Legislature;

23 BE IT RESOLVED by the Alaska State Legislature that Alaska royalty gas  
24 sale No. 76-1 and the contract providing for the sale of royalty gas from  
25 the North Cook Inlet gas field pertaining to it, between the state and the  
26 Alaska Pipeline Company, is hereby approved.  
27  
28  
29

# COMMITTEE COPY

for

Introduced: 5/4/76  
Referred: Resources and  
Finance

1 IN THE HOUSE

BY THE RULES COMMITTEE BY  
REQUEST OF THE GOVERNOR

2 HOUSE CONCURRENT RESOLUTION NO. 142

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 NINTH LEGISLATURE - SECOND SESSION

5 Relating to the taking of  
6 state-owned royalty oil or gas  
7 in-kind and its disposal by sale.

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

9 WHEREAS the legislature by enactment of the Alaska Royalty Oil and Gas  
10 Development Board statute, AS 38.06. et seq., has established a clear policy  
11 of favoring the taking of state-owned royalty oil or gas in-kind and making  
12 that royalty available for in-state uses; and

13 WHEREAS the State of Alaska presently receives a one-eighth royalty on  
14 gas produced from the North Cook Inlet Gas Field in value, but has the  
15 right to receive this royalty in-kind; and

16 WHEREAS the commissioner of natural resources has entered into a  
17 contract for the sale and purchase of state-owned royalty gas from the  
18 North Cook Inlet Gas Field with Alaska Pipeline Company, an Alaskan corpora-  
19 tion which sells natural gas in the Anchorage and North Kenai Road areas; and

20 WHEREAS the contract between the State of Alaska and Alaska Pipeline  
21 Company requires as a condition precedent to its becoming effective appro-  
22 val by a majority of each house of the Legislature;

23 BE IT RESOLVED by the Alaska State Legislature that approval of  
24 Alaska Royalty Gas Sale No. 76-1, the contract for the sale of state  
25 royalty gas from the North Cook Inlet Gas Field to Alaska Pipeline Company,  
26 is hereby approved.

27  
28  
29  
COMMITTEE COPY

HCR  
142

HOUSE RESOURCES COMMITTEE REPORT

It is the desire of the House Resources Committee to include the contract for the sale and purchase of state-owned royalty gas from the North Cook Inlet Gas Field with Alaska Pipeline Company, in the Committee Report and have the contract printed in the Journal.

*Nels A. Anderson, Jr.*

Nels A. Anderson, Jr., Chairman

COMMITTEE COPY

ALASKA STATE LEGISLATURE

.NINTH Legislature SECOND Session

HOUSE CONCURRENT RESNO. ...142

By RELES. COMMITTEE. BY REQUEST OF THE GOVERNOR

Relating to the taking of state-owned royalty oil or gas in-kind and its disposal by sale.

State-owned royalty oil or gas.

Introduced in the House ... 5/4..., 19.76.

HISTORY IN THE HOUSE

19 76

May 4

Read first time and referred to Committee on Resources and Finance

Reported back with recommendation that

Read second time and

Read third time and

PASS	Effective Date
Yeas	Yeas
Nays	Nays
Absent	Absent
Excused	Excused

Reconsideration

PASS	Effective Date
Yeas	Yeas
Nays	Nays
Absent	Absent
Excused	Excused

Reported correctly engrossed  
Signed by Speaker  
Sent to Senate

CHIEF CLERK OF THE HOUSE

HISTORY IN THE SENATE

19

Read first time and referred to Committee on

Reported back with recommendation that

Read second time and

Read third time and

PASS	Effective Date
Yeas	Yeas
Nays	Nays
Absent	Absent
Excused	Excused

Reconsideration

PASS	Effective Date
Yeas	Yeas
Nays	Nays
Absent	Absent
Excused	Excused

Reported correctly engrossed  
Signed by President  
Returned to House

SECRETARY OF THE SENATE

HISTORY IN THE HOUSE

19

Received from Senate

Reported correctly enrolled

Sent to Governor

..... By Governor

Filed with Lt. Governor

Chapter No. ....

STATE OF ALASKA  
THE LEGISLATURE

LEGISLATIVE AFFAIRS AGENCY

POUCH Y - STATE CAPITOL  
JUNEAU, ALASKA 99811  
907-465-3800

MEMORANDUM

May 8, 1976

SUBJECT: Contract for Sale of State Royalty Gas from the North Cook  
Inlet Field to Alaska Pipeline Company

TO: The Honorable Fred Brown

FROM: Gregg Erickson  
Director of Research Services

Summary

As you requested on Friday, May 7, we have reviewed the unexecuted gas purchase contract identified as #76-1, between the State of Alaska (seller) and Alaska Pipeline Company (buyer) with particular reference to several specific questions you raised. Our analysis raises questions concerning the contract's pricing provisions and suggests that more extensive review by the Department of Natural Resources of Cook Inlet gas prices is called for. We also suggest that a requirement for in-state use of this gas be considered or, alternatively, that the contract be made unilaterally terminable by the state. In general, however, we find no obvious conditions or terms in the contract that appear contrary to the state's interests. Finally, we suggest revised wording for the resolution approving the contract.

Analysis

In general, the contract calls for the state to deliver to the buyer--currently the sole supplier of natural gas to Anchorage--an unspecified quantity of royalty gas received from its lessee in the North Cook Inlet field. It provides that the state shall direct its lessee (which in this case is Phillips Petroleum Company) to make these deliveries directly to the buyer who will then be responsible for its transportation to wherever it is to be consumed. Overall, a review of this contract reveals no glaring inequities or conditions which are

obviously not in the state's best interest. We do note, however, a number of minor policy issues and technical considerations which the legislature may wish to call to the attention of Commissioner Martin and the Alaska Royalty Oil and Gas Development Advisory Board.

The first question you raised concerned the point at which the royalty gas will be delivered to the buyer. The gas purchase contract itself does not specify this point. Under the terms of the lease between the State of Alaska and Phillips, the state has the right to take its royalty gas in kind but must do so on or adjacent to the lease from which it is produced. In the case of an offshore platform such as that from which the North Cook Inlet field is produced, this means that, absent other mutually acceptable arrangements, the state must take delivery of its in-kind royalty gas at the platform and arrange for its own transportation ashore. Thus, unless the state wishes to assume this responsibility, the contract provision as currently framed regarding point of delivery would seem to be the only appropriate alternative, i.e., that the state make its delivery to the buyer at the point where it receives delivery from the lessee.

As a practical matter, pipeline capacity sufficient to transport both the royalty and producer's gas to shore already exists, and Alaska Pipeline Company should be willing to pay Phillips a reasonable fee for the use of that capacity. Normally, both Phillips and Alaska Pipeline would be expected to have plenty of incentive to reach an agreement on these transportation charges. They represent additional income to Phillips without any additional expense (since the pipeline capacity is already in being) and, in the case of the Alaska Pipeline Company,

should be substantially lower than the cost of building and operating its own platform-to-shore pipeline.

The only situation where we could envision difficulties arising would be in the case where the lessee was willing to make significant immediate financial sacrifices in order to sabotage the royalty gas sale and thus regain for itself control over the entire production stream. If the cost of constructing a separate pipeline for the royalty share were economically prohibitive, denial of access of the existing facility might be sufficient to torpedo the entire deal. We do not see this as a likely eventuality, and if it were it is probable that the state could bring countervailing pressure to bear on the lessee. In any event, the possibility of such a confrontation would not seem to require any change in the contract here presented to the legislature.

You also asked us to review the provisions concerning the pricing of royalty gas delivered to the buyer. In general, this provision calls for the buyer to pay the state the higher of either the price the state would have received from Phillips Petroleum Company had it not taken its gas in kind, the highest price paid for gas elsewhere within 100 kilometers (62 miles) of the North Cook Inlet field, or a minimum price (which is 60.36¢ per Mcf as of July, 1977, escalating thereafter at the rate of 2¢ per Mcf annually).

We find these provisions unexceptionable, but we would call your attention to what appears to be unnecessary vagueness with respect to the provisions (on page 4 and repeated on page 5 of the contract) concerning how prices received for gas elsewhere in the Upper Cook Inlet Basin are to be related to the price of gas sold under this contract. The problem

arises from the fact that natural gas may be sold elsewhere within the 100 kilometer radius at a price higher than that which would be due under either of the other two pricing provisions, but that the conditions of delivery of that higher priced gas or its quality may be different enough to raise the question of whether the price is properly comparable to that received for gas purchased by the buyer. The contract states that these comparisons shall be made "with due regard to appropriate factors including, but not limited to, difference of BTU content, delivery pressure, term of contract and connection charges." We would suggest that the semicolons preceding this phrase on pages 4 and 5 be deleted so that it will be clear the phrase applies only to the part of the sentence following the "(iii)", applying only to the comparison of prices within the basin and not to the minimum price or the price that the state would have received from Phillips.

In addition, you might consider it appropriate to work with the commissioner to develop substitute wording defining exactly how the BTU content and delivery pressure differences will influence the comparison prices, eliminating the reference to contract term and connection charges, and adding words indicating how the quantity of gas delivered is to affect the comparison. As it stands now, almost any difference in terms of delivery or quality could be used to justify an effective exemption from the "highest price received elsewhere" requirement.

It should be noted that the price currently received by the state for royalty gas produced from the North Cook Inlet field is an "imputed price". This means that it is not determined on the basis of actual

sales but rather on the basis of a "netback calculation" whereby one takes the price received for this gas in Japan and subtracts therefrom the costs of transportation and liquifaction incurred between the production platform and the delivery point in Tokyo. In the past the state has devoted little or no attention to actual verification of the validity of this imputed price, since it happens to be the highest price received for any gas in the basin. We have no reason to believe there is anything phony about the current price but would suggest that it would be appropriate in the future for the department to pay closer attention to this and other similarly determined prices in the basin since changes in one may influence others as well.

We would also call your attention to the fact that as the contract is currently written the state has no right of termination other than by mutual agreement. The buyer, on the other hand, may unilaterally terminate the contract prior to January 31, 1978. We would also point out in this context that although the "Whereas" paragraphs prior to the body of the contract indicate that the "buyer ...[delivers] natural gas for ultimate consumption within the State of Alaska", nowhere in the contract does the buyer agree to use or sell the gas purchased here only for consumption within the state. Conceivably the buyer could either export the gas from the state himself or sell it to some other party who would do the same thing. If the point of sale is greater than 100 kilometers from the North Cook Inlet field, the price of the sale would not result in any readjustment of the price paid by the buyer to the state. Since the purpose of this contract is to insure adequate supplies of natural gas for domestic consumption within the state, it would seem

logical that the contract include guarantees with respect to this matter or, alternatively, provisions allowing the state to unilaterally terminate the arrangement.

Finally, we would note that the "Resolved" clause of the resolution offered by the governor when he requested approval of this contract (HCR 142) would appear to be incorrectly worded. We would suggest that the following language be substituted:

"BE IT RESOLVED by the Alaska State Legislature that Alaska royalty gas sale No. 76-1 and the contract providing for the sale of royalty gas from the North Cook Inlet gas field pertaining to it, between the State and the Alaska Pipeline Company, is hereby approved."\*

We would also suggest that the contract itself be made a part of the legislature's official record by its inclusion in the House Committee Report, and thus the Supplement.

\* If the legislature or a committee thereof believes that the above comments or other considerations require some revision of the contract, the most expeditious way of bringing them about might be to instruct the Department of Natural Resources or Mr. Fackler (executive director of the Royalty Board) to work with the proposed buyer to develop the necessary language. The resolved clause could then read:

"BE IT RESOLVED by the Alaska State Legislature that Alaska Royalty Gas Sale No. 76-1 and the amended contract (submitted to the legislature on \_\_\_ May 1976 and appearing in the House Journal Supplement for \_\_\_ May 1976) providing for ..."

# STATE OF ALASKA

## DEPARTMENT OF NATURAL RESOURCES

ROYALTY OIL AND GAS DEVELOPMENT ADVISORY BOARD

JAY S. HAMMOND, GOVERNOR

11TH FLOOR, STATE OFFICE BLDG.  
POUCH M - JUNEAU 99811

May 7, 1976

The Honorable Nels Anderson  
Chairman, House Resources  
Committee  
Pouch V  
Juneau, Alaska 99811

Dear Mr. Anderson:

In accordance with the requests of you and your committee the items listed below pertaining to HCR 142 are attached.

1. Letter from Alaska Pipeline Company dated September 30, 1975 requesting State royalty gas from North Cook Inlet Field.
2. Minutes of Board meeting October 10, 1975.
3. Roster from October 10, 1975 meeting.
4. Minutes of Board meeting November 10, 1975.
5. Alaska Pipeline Brochure prepared for November 10, 1975 meeting.
6. Letter from Phillips Petroleum Company, dated October 21, 1975.
7. Letter from Phillips Petroleum Company, dated December 5, 1975.
8. Letter from Homer Electric Association requesting royalty gas, dated January 22, 1976.
9. Letter from Homer Electric Association withdrawing request, dated March 30, 1976.
10. Sale terms approved by Board.

The Honorable Nels Anderson

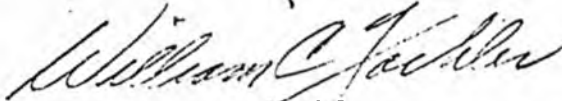
-2-

May 7, 1976

11. Telegram from Pacific Alaska LNG disclaiming interest.
12. Letter from Alaska Pipeline Company agreeing to terms dated April 2, 1976.
13. Minutes of Board meeting April 26, 1976 approving sale.

If you desire additional information regarding the North Cook Inlet Field royalty gas sale, please advise me.

Yours truly,



William C. Faekler  
Executive Director

Attachments

①



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

September 30, 1975

Mr. Guy Martin  
Commissioner of Natural Resources  
State of Alaska  
Juneau, Alaska

Dear Mr. Martin:

Confirming our discussion at the Anchorage airport on September 30, and my letter to Mr. Gilbreth of August 20, and memorandum to you of September 24, Alaska Pipeline Company is requesting to purchase the royalty share of North Cook Inlet gas field at or near the Phillips-Marathon LNG plant on the North Kenai Road, at the price used by Phillips to acquire this gas from the State for the manufacture of LNG for export to Japan or elsewhere. We believe the most reasonable method for handling the delivery and sale would be by "exchange," or "displacement," so that construction of new pipeline(s) and compression would be minimized. Since our supply at the Kenai gas field is interconnected to the North Cook Inlet gas supply at the LNG plant, for the time being it should be practical that we would take whatever amount of the North Cook Inlet royalty gas may be available day by day by displacement into our system at the Kenai gas field. Later, when additional investment would be required for transporting this royalty gas to shore, we could negotiate our participation in investment, or install our own facilities if necessary, in order to accomplish the purchase on the most reasonable basis for all concerned.

The essential aspect of our request is that we have an immediate need for additional gas on the North Kenai Road and we have a long term requirement for additional gas reserves to serve Alaskan customers in our present service area. We believe that it is in the public interest that we should be allowed to purchase this State royalty gas for local consumption rather than for this gas to be exported to Japan or elsewhere. We will begin preparing a formal

**RECEIVED**  
OCT 6 1975

ALASKA ROYALTY  
OIL & GAS BOARD

DEPARTMENT OF  
NATURAL RESOURCES

OCT 6 1975

RECEIVED  
JUNEAU, ALASKA

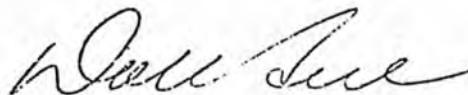
ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

Mr. Guy Martin  
September 30, 1975  
Page 2

application to purchase this gas and will appreciate having your guidance as to what supporting data or format may be desired, if any, for presentation to the Royalty Board or to the legislature to satisfy statutes or regulations which apply.

Very truly yours,



Dale Teel

DT/js

cc: O. K. Gilbreth, Director  
Division of Oil and Gas

Alaska Public Utilities Commission

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

MEMORANDUM

TO: Mr. Guy Martin  
Commissioner of Natural Resources

FROM: Dale Teel

DATE: September 24, 1975

SUBJECT: Alaska Pipeline Company's Request to Purchase State Royalty Gas from the North Cook Inlet Gas Field ("Phillips")

DEPARTMENT OF  
NATURAL RESOURCES

SEP 29 1975

RECEIVED  
JUNEAU, ALASKA

Alaska Pipeline Company (APC) and its affiliate Alaska Gas and Service Company ("Anchorage Natural Gas") supply natural gas to 285 customers on the North Kenai Road and to the Bernice Lake power plant of Chugach Electric Association. The gas is obtained from the industrial pipeline which supplies the LNG plant, the Ammonia/Urea plant, and gas for reinjection into the Swanson River Oil field, and comes from the Kenai gas field (Union-Marathon), under a contract which runs to May 1, 1977. Due to unexpectedly heavy usage by the Bernice Lake power plant, the reserve quantity, 10 billion cubic feet (BCF), will be used prior to May 1, 1977, and at that point the contract will terminate. A contract extension and additional commitment of reserves has been requested of Union-Marathon, or the right to receive gas on the North Kenai Road which is committed for the Anchorage area under a separate contract. There has been little if any progress made on these requests thus far.

Alaska Pipeline Company's contract with Union-Marathon has a provision that if APC were to obtain royalty gas from the Kenai gas field, then the commitment of gas reserves by Union-Marathon (originally 550 BCF) would be reduced an equal amount, and thus in effect APC is barred from negotiating for royalty gas from the Kenai gas field.

APC has inquired for a commitment of gas from Phillips, with the (telephone) response that since Phillips' obligations to the gas company of Portland, Oregon are in suspense due to hearings at the Federal Power Commission and since the gas company at Los Angeles is attempting to purchase royalty gas from the North Cook Inlet gas field, Phillips is not clear to negotiate a commitment of reserves to APC. It is known also that the Portland gas company is requesting to purchase North Cook Inlet royalty gas (discussions with Governor Hammond).

RECEIVED  
SEP 29 1975

ALASKA ROYALTY  
OIL & GAS BOARD

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

- 2 -


APC has written to the State (letter to O.K. Gilbreth, August 20, 1975, attached) requesting to purchase the North Cook Inlet royalty gas at the price of 50.45¢ per MCF, which is the price which now applies to the royalty gas which Phillips utilizes for its LNG manufacture, which is known to be 45¢ wellhead plus 5.45¢ transportation. If this gas were to be offered to APC, APC could build a pipeline from the LNG plant to deliver the gas into its pipeline to Anchorage as well as to supply its North Kenai Road customers. Such a pipeline (approximately 35 miles of 8") could be built in the right of way now occupied by Homer Electric Association's power line from the Bernice Lake power plant to "Quartz Creek." However, construction of such a pipeline should not be necessary, because existing pipeline systems could be utilized to "exchange," or "displace," gas and the transaction could be made entirely on paper, continuing actual movement as at present, without change. North Cook Inlet gas is identical to Kenai field gas (the streams are interchangeable at the LNG plant), so adjustments can be made by volume only.

APC would appear to be the ideal customer for State royalty gas because it would "blend" (by price/rate adjustments) the higher priced royalty gas into its present supply, with relatively small impact on its rates to Alaskan gas users. APC has negotiated "deliverability" with Union-Marathon so that it is in a position to take none or the full royalty share of North Cook Inlet gas without placing its suppliers (Union-Marathon) in any hardship and without having to rely on constant or steady rate production from the North Cook Inlet field. In other words, APC could take the State royalty gas from North Cook Inlet if and as it is produced, without requiring "deliverability."

The foregoing description assumes that the producers (Union, Marathon, Phillips) and the State can readily agree to the "exchange" or "displacement" as indicated. If APC were to build the new pipeline so that the royalty gas actually were to be moved from the LNG plant to APC's pipeline to Anchorage, the same general situation would obtain as for displacement, but operation would be relatively complex since gas would have to move to or from the LNG plant in the new pipeline depending on whether or not the LNG plant were running and at what rate. It is anticipated that normally there would be adequate notice available so that flow rate and directional changes would be practical - in fact displacement could be utilized even with such a pipeline, to foster best scheduling by all the parties. Such displacement actually occurs already, from time to time, although it involves only the producers (Union, Marathon, Phillips) and, of course, does not affect APC or the State at present. The proposed displacement, either with or without a new pipeline being added, should be just as practical if the parties would so agree.

DT/js  
enclosure

cc: Alaska Public Utilities Commission



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

August 20, 1975

COPIES SENT TO:

Paul Robison  
Sebe Eastland  
Harold Schmidt  
O. C. Honig

Mr. O. K. Gilbreth, Director  
Division of Oil and Gas  
State of Alaska  
Department of Natural Resources  
3001 Porcupine Street  
Anchorage, Alaska 99504

Dear Easy:

We have a gas supply contract with Union-Marathon for 10 BCF on the Kenai North Road which expires May 1, 1977. Due to accelerated sales to Chugach Electric's Bernice Lake power plant this year, it appears the entire reserve quantity could be used up within less than one year from now, and we are soliciting a replacement supply of gas to serve Chugach and our other customers on the Kenai North Road.

We are in a position to commit to take more than our North Road requirements, however, and would like to offer to purchase the State's royalty share of Phillips' production from North Cook Inlet, delivered to a metering point near the Phillips-Marathon LNG plant on the Kenai North Road. The excess above our Kenai North Road sales would be used to displace deliveries by Union-Marathon to us at the Kenai gas field, and thus serve to prolong the adequacy of our reserve commitment at the Kenai gas field. We are not certain as to whether or not the displacement can be made "on paper," or whether we would be required to lay a pipeline to connect into our Anchorage pipeline either at or near the Kenai gas field or at or near our compressor station east of the Kenai River.

Please consider this letter to be an application to purchase royalty gas as described, pursuant to AS 38.06.010. Since limited time is available to do any necessary construction, we hope all procedural requirements can be determined readily. We would anticipate paying the State the same price it would have received from Phillips, which we believe to be 45¢ per MCF plus 5.45¢ transportation fee, as compared to the current 41.5¢ cost of gas (and deliverability) at the Kenai gas field.

**RECEIVED**  
SEP 29 1975

ALASKA ROYALTY  
OIL & GAS BOARD

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

Mr. O. K. Gilbreth

August 20, 1975

Page Two

We are relying on approval by the Alaska Public Utilities Commission for us to "flow through" the increased cost of gas to Chugach's Bernice Lake power plant and to "meld" the (higher) cost royalty gas with the (lower) cost Kenai field gas, on a day-to-day basis, since the amount of royalty gas we would receive would depend on the rate of production of the Phillips-Marathon LNG plant and be outside our control. When this plant is down for any reason, we would be utilizing Kenai field gas as replacement.

Please advise regarding any questions or further procedure we should follow in presenting a formal offer to the State.

Very truly yours,



Dale Teel  
President

DT:lkd

cc: Alaska Public Utilities Commission

2

ALASKA ROYALTY OIL & GAS DEVELOPMENT ADVISORY BOARD

Minutes From October 10, 1975, Meeting in Juneau

1. The meeting was called to order by Chairman Martin at 9:00 a.m. in the Fifth Floor Conference Room of the State Office Building. All of the Board members were in attendance. Chairman Martin had no special remarks in opening the meeting and the meeting proceeded according to the agenda (Appendix A). Several members of the public were present.

2. The minutes of the August 4, 1975, meeting were approved as circulated to the Board.

3. Reports

A. Board's Administrative Report.

1. Richard Lyon moved that the Royalty Board go into executive session to discuss the appointment of an Executive Director for the Royalty Board. The motion was seconded by Donald Triplehorn. The motion passed unanimously at 9:10 a.m. The meeting was called back to order at 9:30 a.m. Chairman Martin advised those present that the Board has made a decision on the appointment of an Executive Director. Arlon Tussing moved that William C. Fackler be appointed as Executive Director of the Alaska Royalty Oil and Gas Development Advisory Board to be effective November 15, 1975, at an advanced step of the salary range. Donald Triplehorn seconded the motion and the motion passed unanimously.

2. Chairman Martin advised that the Department of Law's report was not yet complete, therefore, it will be presented at a later date.

3. Chairman Martin informed the Board that it needed to decide about the distribution of proposals to interested parties. The motion was made that the Board establish open reading files in Anchorage in the Division of Lands' office and in Juneau in the Commissioner's office. The proposals received should be placed in the reading files and mailed to the Board members and after five working days be made available to the public upon request. The motion was seconded by Richard Lyon. Motion passed unanimously.

B. Studies

1. Projected Natural Gas Demand - A report was presented by Mr. Pat Dobey of the Division of Geological and Geophysical Surveys of the Department of Natural Resources on the projected natural gas demand. (Appendix B.)

2. Mr. O. K. Gilbreth, Director of the Division of Oil and Gas for the Department of Natural Resources, presented a report on the projected natural gas availability in Cook Inlet to the Royalty Board. (Appendix C.)

C. Current Federal Legislation - Arlon Tussing gave a brief report on current federal legislation (Appendix D). Mr. Tussing informed the Board that in summary it is still in stalemate both on oil and gas legislation, and that the Congress had passed legislation continuing price controls and allocations on oil and gas and did not accept the Administration's proposed schedule for phasing out price controls. The President vetoed it, the veto was sustained and Congress did not override the veto and beginning the first of September there were no price controls or allocation authority for oil and gas. The President did agree to another retroactive extension of price control while there was an attempt to come up with a new compromise. The House and Senate are now in conference on the legislation and both the House and Senate bills that went into this conference have price control provisions which are unacceptable to the Administration. It looks as if in November we will again be faced with a situation where Congress will pass an extension of oil and gas price control which will include a rollback in the price of new oil.

Chairman Martin asked for concurrence of the Board in altering the agenda to take up the definition of surplus question following the presentation of proposals received since the last meeting of the Board. There was no objection by the Board.

5. Correspondence - Mr. Fackler read several letters that had been received from companies that refer to earlier proposals submitted by the various companies to the Board. (Northern Natural Gas, Southern Natural Gas Company and Alaska Petroleum Company.)

6. Proposals since the last meeting.

A. Prudhoe Bay

Mr. Fackler informed the Board that a letter from Murphy Oil Corporation had been received. He advised that Murphy Oil was interested in supplying a portion of their Superior, Wisconsin, refinery's needs with Alaskan crude oil starting in 1977. The vehicle for the crude oil would be the Trans Mountain Pipeline from Puget Sound to Interprovincial Pipeline and then to Superior, Wisconsin. They estimated requirements to be 20,000 to 40,000 barrels per day. They advised that at the present time it

would be impossible with the uncertain conditions in regard to price, government controls, pipeline reversal, et cetera to submit a firm bid for production to be purchased several years in the future. They would be willing to pay competitive world market prices for similar types of crude at the time of purchase.

Mr. Robert C. Thomas of Tennessee Gas Transmission Company was present and was requested to present their proposal. Mr. Thomas advised that their proposal would allow the following benefits:

1. Company acquiring the right to contract the royalty reserves should be capable of giving maximum support to the obtaining of a trans-Alaska pipeline route. He pointed out that in their approach they had covered this point by stating that to date Tennessee Gas Transmission Company has not supported either route designed to transport North Slope gas to market.
2. That the State would receive substantial front-end money. In their approach they indicated that they would make available to the State in excess of 100 million dollars for the right to contract all of the royalty oil and gas reserves in the Prudhoe Bay Field. The exact amount contributed would be subject to further negotiations between the parties and would reflect the needs of the State, the drawdown schedule, and several other factors. The funds would be made available to the State over a three-year period according to the State's needs. There would be no recovery of the advanced funds for a period of three years following the date of the advance. The contribution would be hopefully recovered out of the portion of revenue from the royalty natural gas or oil. The recovery period would be five years, giving a total of eight years. The funds that would be made available would be interest free.
3. They felt that some of the gas must be available for use within the State. In their outline they indicated that they would consider reservation of the State of up to 10 percent of the royalty gas. They did not intend to imply that this represented the maximum anticipated future growth of the State natural gas lease. What it did indicate is that they feel the primary goal at this time should be to secure a trans-Alaska route and that the major source of gas for the future needs of the State would come from future reserves found and transported through this system.

4. The maximum possible wellhead price should be paid for the reserves when produced. They feel that the gas produced in Prudhoe Bay would go into interstate commerce and under current regulations would be subject to control by the Federal Power Commission. Since they are regulated by the Federal Power Commission, they are unable to guarantee a specific wellhead price.

Since the purchaser is subject to unknown timing factors and substantial risks associated with purchasing the right to contract Prudhoe Bay gas, the purchaser must be compensated by certain benefits. They see those benefits to the purchaser as being:

1. the front-end payment must be financeable,
2. the front-end payment must be recoverable at a particular point in time, and
3. the right to contract all of the State's royalty gas in Prudhoe Bay subject to a 10 percent reservation of the gas by the State.

They feel the most important consideration by the State at this time is the securing of the trans-Alaska routing for the Prudhoe Bay gas. This is the biggest single factor that would have an impact on the State throughout its future. To insure that there is no question about their intent in promoting a trans-Alaskan route, Tenneco would add a provision to the memorandum they submitted that they would be willing to give the State the option of terminating their right to contract should the trans-Alaska route not be considered. This termination provision would further provide that Tenneco would receive their capital contribution back plus any interest and that they would not be prejudiced in any further attempts to contract royalty gas.

Chairman Martin asked Mr. Thomas if Tenneco had done any analysis of the El Paso proposal on a comparative basis with their proposal and had they taken a look at the question of the 10 percent set aside and the jurisdictional question in regard to commingling? Mr. Thomas advised that he would get a response to these questions in writing to the Board.

Arlon Tussing asked if Tenneco could provide the Board with the backup on their market analysis and cost analysis. Mr. Thomas stated that he would be happy to get the information together for the Board.

Chairman Martin called a lunch recess until 1:30 p.m. The meeting was called to order at 1:30 p.m. and Mr. Fackler read a letter received from Northern Liquid Fuels Companies dated August 11, 1975, to the Board. Northern Liquid Fuels Companies wished to acquire the right to process the State of Alaska's royalty share of the gas to be produced from the Prudhoe Bay Field for the removal of propane, butane, natural gasoline and ethane (NGL) and to purchase any NGL attributable to the State of Alaska's royalty share of the oil

produced from such field. For the right to process the State of Alaska's royalty share of such gas, the Companies would propose a prepayment plus a payment for each barrel of NGL extracted and marketed over the life of the field, the amounts of such payments to be determined upon conclusion of the study hereinafter referred to. The Companies propose to undertake a comprehensive study to determine which of the following programs is more economical: 1) process the gas stream in the field for removal to the NGL and build a liquids pipeline to transport the NGL to Southern Alaska, or 2) leave the NGL in the gas stream and process the stream: a) in Southern Alaska, if a trans-Alaska gas pipeline is built, or b) in Canada or the United States if an Alaska-Canadian pipeline system is built. The studies will take into account the needs of the State, particularly the establishment of a liquid fuels distribution system in the State of Alaska in its principal cities of Anchorage, Fairbanks, Juneau, as well as others to which reasonable transportation can be made available to transport safely liquid fuel. The Companies would be interested in establishing such a system if the studies indicated that the NGL should be removed either in the Prudhoe Bay Field or at the coast or some intermediate point along the trans-Alaska pipeline. The portion of NGL which exceeds the needs of the State of Alaska would be exported to the continental United States. The Companies, together with two other parties, are currently engaged in designing an LPG import terminal facility on the Houston Gulf Coast capable of receiving 100,000 barrels of LPG per day. Mr. Baca was present to answer any questions the Board had. Mr. Baca advised the Board that he would prepare a more detailed proposal concerning purchase of State royalty natural gas liquids.

#### B. Cook Inlet

Mr. Fackler advised the Board that two proposals had been received with regard to Cook Inlet gas. The first one was from Alaska Pipeline Company who were requesting purchase of the royalty share of North Cook Inlet gas field at or near the Phillips/Marathon LNG Plant on the North Kenai Road, at the price paid by Phillips to acquire this gas from the State for the manufacture of LNG for export to Japan or elsewhere. They believe the most reasonable method for handling the delivery and sale would be by "exchange," or "displacement," so that construction of new pipeline and compression would be minimized. Since their supply at the Kenai gas field is interconnected to the North Cook Inlet gas supply at the LNG plant, for the time being, it would be practical that Alaska Pipeline would take whatever amount of the North Cook Inlet royalty gas that may be available day by day by displacement into their system at the Kenai gas field. Later, if additional investment would be required for transporting this royalty gas to shore, they would negotiate their participation in investment, or install their own facilities if necessary, in order to accomplish the purchase on the most reasonable basis for all concerned. The essential aspect of their request is that they have an immediate

need for additional gas on the North Kenai Road and have a long-term requirement for additional gas reserves to serve Alaskan customers in their present service area. They believe that it is in the public interest that they should be allowed to purchase this State royalty gas for local consumption rather than for this gas to be exported to Japan or elsewhere. They would begin preparing a formal application to purchase this gas and would appreciate having the Board's guidance as to what supporting data or format may be desired.

Mr. Fackler gave the Board some background on this request. He advised that Alaska Pipeline Company has renegotiated with Union Marathon and have increased their deliverability but have not increased their reserves. Mr. Teel is seeking increases in reserves now. Chairman Martin advised the Board that what Mr. Teel indicates would require Board action and submission to the upcoming Legislature. Mr. Teel feels that from the consumer's standpoint this would be very attractive legislatively. It would be based totally on the attractiveness applying to the Anchorage area as opposed to other areas in the State. Mr. Gallagher informed the Board that a clause in regard to most favored nations should be included in the new contract. Mr. Gallagher informed the Board that the most favored nations concept is that the price will meet the highest price in the field. Chairman Martin requested that Mr. Fackler direct a letter to Mr. Teel inviting him to make a presentation at the Board's next meeting.

The second letter was from Northwest Natural Gas Company in which they advised that their project for delivering LNG from Alaska to the State of Oregon had hit a snag due to the jurisdictional restrictions which would be imposed on the producers (Phillips Petroleum Company and Marathon Oil Company) by the Federal Power Commission.

4. Definition of Surplus - Chairman Martin read the statute regarding surplus (AS 38.05.13(d)). Chairman Martin advised the Board that some basic standard in regard to surplus is going to have to be established as a part of the regulations. The Board discussed how they should go about putting that regulation together. After much discussion about surplus, three items emerged that should be included in the definition of surplus and they are: 1) time period, 2) demand, and 3) supply. Chairman Martin informed the Board that he would attempt to bring back to the Board at their next meeting a finished product with regard to the definition of surplus.

7. Other Business - Dick Lyon moved that the Board authorize the Board members who wished to take a briefing from Tennessee Gas Transmission Company on their economic analysis and go through their calculations of costs and that either the Board member or Tennessee Gas Transmission Company would send to the Board a written summary of the briefing for the Board's records. Don Triplehorn seconded the motion and the motion passed unanimously.

Chairman Martin advised that the next item on the agenda was the scheduling of the next Board meeting. The next Board meeting will be held in Anchorage, Alaska on November 10, beginning at 8:30 a.m. He advised that there should be another meeting in December. The meeting is tentatively scheduled some time during the week of December 8. The meeting will be held in Juneau and will begin at 8:30 a.m.

8. Public Participation - Mr. Swetnam of Phillips Petroleum Company requested that Phillips have an opportunity to make a presentation to the Board regarding North Cook Inlet royalty gas. Chairman Martin requested that Phillips make a written presentation to at least the Commissioner's Office, which the Commissioner would make available to the Board and based on this proposal talk with his office in the interim so they could decide whether an appearance would be necessary and desirable.

Mr. A. Baca of Northern Liquid Fuels Companies wanted to add to their presentation that if an LPG system is feasible to be constructed that the State's royalty liquids would be available to serve any market within Alaska that might exist.

There being no further business the meeting adjourned at 3:15 p.m.

# Roster

(3)

10/10

Brunckhousen

Rep  
Birch, Jermuin, Horton Pittman  
Almy

M. C. HOLMAD

EL PASO ALASKA CO

LARRY EPPENBACH

TREASURY DIV.

SAICHA EPPENBACH

ALASKA CONSTRUCTION & OIL WAG.

Apolonio Baca

NORTHERN LIQUID FUELS  
CO

ROBERT C. THOMAS

TENNESSEE GAS TRANSMISSION

Bob Sweetnam

Phillips Petroleum

O. K. GIBRETH

Div Oil & Gas - Anch.

PATRICK

~~Pat~~ Pobey

Div of Geol & Geoph Survey

## ALASKA ROYALTY OIL &amp; GAS DEVELOPMENT ADVISORY BOARD

Minutes From November 10, 1975, Meeting in Anchorage

1. The Meeting was called to order by Chairman Martin at 8:30 a.m. in the Division of Lands Conference Room in Anchorage. All Board members were in attendance, together with members of our legislative liaison group, distinguished Commissioners of Public Utilities and other dignataries.

2. The Minutes of the October 10, 1975, meeting were discussed. Arlon Tussing raised a question on the wording of Section 4 on page 6 on Definitions of Surplus, and whether or not Mr. Tussing had made a motion defining parameters needed in the definitions. Mr. Fackler was instructed to determine if the recorded tapes of that meeting were still available and transcribe that portion if possible.

### 3. Reports

A. Chairman Martin was informed that the reports on Natural Gas Future Demand and Existing Gas Contracts scheduled at this time would be delayed several hours pending last minute work. The Board decided to amend the schedule and advance to Part V - Proposals.

### 5. Proposals

#### A. Prudhoe Bay

1. Mr. John Bennett, El Paso Alaska Company, reviewed the El Paso trans-Alaska gas pipeline project efforts to date emphasizing El Paso's need for a contract to purchase or transport State royalty gas from Prudhoe Bay which is surplus to State's needs. A transcript of the testimony is attached.

#### B. Cook Inlet

1. Mr Dale Teel, Alaska Pipeline Company, presented a request that the State royalty gas from North Cook Inlet gas field be taken in-kind and sold to Alaska Pipeline Company. His testimony was followed by ~~Mr. John Horn, Phillips Petroleum Company, who opposed~~ Mr. Teel's request. A transcript of the testimony of Mr. Teel and Mr. Horn is attached to the minutes.

Mr. Thomas Stahr, Anchorage Municipal Light and Power, read a letter to the Board supporting the Alaska Pipeline Company request. A copy of the letter is attached.

Mr. John Miller, Division of Oil and Gas, presented a table summarizing the existing gas contracts in the Cook Inlet area. Items include quantity of gas dedicated, length of contract, price, remaining reserves to contract and uncommitted reserves.

Mr. Patrick Dobey, Division of Geological and Geophysical Surveys, reviewed current progress on the computer model study of probable future demand for gas in Alaska. A copy of his presentation is attached.

Mr. Robert C. Thomas, Tennessee Gas Transmission, presented additional information on the effect of Federal Power Commission regulations on Alaska's use of its royalty gas. This information was requested by the Board at the October 10 meeting in Juneau.

Their legal counsel is of the opinion that the State as a political subdivision is not subject to direct FPC control. However, any State gas transmitted by a transfer would require a certificate thereby allowing at least a measure of indirect control.

Tenneco suggests that FPC control could be minimized by either of two ways. One is to secure an immunity or exemption by the FPC in the original certificate. Second is an exemption through legislative action by Congress approved by the President. A copy of this memorandum is attached.

Following this discussion the Board instructed the Chairman and staff to proceed in drafting proposed regulations on determining surplus definitions of supply and demand. The proposed regulations are to be published in several newspapers. Final language and approval will depend on comments on the public notice.

Chairman Martin requested approval by the Board to extend the term of acting directorship for Mr. Fackler until the appointment of a new Deputy Commissioner. There being no objection by the Board, approval was granted.

Authority was also requested to expend up to \$20,000 of Board contractual funds for consulting purposes. After a short discussion on possible types of consultant activities, the Board approved the request.

The next meeting date of the Board was set as December 9 and 10, 1975, in Juneau. There being no further business before the Board, the meeting was adjourned.

Nov 10, 1975 Mlg Anchorage

Name:

Representative of:  
PHILLIPS PETROLEUM COMPANY

JOHN L. WILLIFORD

JOHN HORN

LEN McLEAN

PACIFIC ALASKA LNG CO.

Don Triplehorn

Univ. of Alaska - Board Mbr.

Arden Tussing

Eric Eckholm

Gas Pipeline Legislative Comm.

Dale Taylor

Anchorage Natural Gas

Paul F. Robinson

Atty

Ricardo A. Lyon

BOODS MEMBER

M. C. Holland

EL PASO ALASKA CO

J. C. Bennett

EL PASO ALASKA CO,

Jack Kokenich

self

Thomas Stahr

Anchorage Municipal Light & Power

CHAROYN GUESS

ALASKA PUBLIC UTILITIES COMMISSION

Paul F. Robinson

above

Gordon Schadt

Bivch, Teruagin, Howton & Bittner

Fred Boness

Dept. of Law

Julius J. Brecht

" "

GORDON ZERBETZ

ALASKA PUBLIC UTILITIES COMMISSION

Noel Burke

MARATHON

Chancy Croft

Alaska Senate

C. J. DIVER

MARATHON

Harold Schmitt

Alaska Gas & Service

Pete C. Ginder

Ely, Guss & Rudd (PAC AK LNG CO)

Ken Sheppard

Consulting Engineer

EL PASO ALASKA

Jared G. Carter  
 Kay M. Linton  
 Robert C. Thomas  
 Bill McGuire  
 Rosemary Shirohan  
 Mike Brodner  
 Flip Todd  
 Lawrence Eppendorf  
 W.C. Fackler  
 John C. Miller  
 Tom Marshall  
 Patrick L. Dobey

Tennessee  
 O.M.A.R.  
 TENN. GAS TRANSMISSION  
 Legislative Affairs  
 Daily News  
 Alaska House of Representatives  
 Anchorage Times  
 Dept. of Revenue  
 Natural Resources  
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DEPARTMENT OF  
NATURAL RESOURCES

OCT 23 1975

RECEIVED  
JUNEAU, ALASKA



PHILLIPS PETROLEUM COMPANY  
BARTLESVILLE, OKLAHOMA 74004 918 661-6800

NATURAL RESOURCES GROUP  
Gas and Gas Liquids Division

October 21, 1975

North Cook Inlet Royalty Gas

File: 1-No-381-75-G&GL

Commissioner Guy Martin, Chairman  
Alaska Royalty Oil and Gas Development  
Advisory Board  
c/o Department of Natural Resources  
Juneau, AK 99801

Dear Commissioner Martin:

We are advised that certain interests have made application or may make application to purchase royalty gas owned by the State of Alaska and produced from the North Cook Inlet Field. Phillips is the Owner and Operator of this field.

Phillips has at considerable risk and expense, developed the North Cook Inlet Field and has provided a market for the natural gas when no markets existed. Phillips constructed a pipeline, liquefaction plant, and LNG tankers which were designed to utilize all of the natural gas produced from the North Cook Inlet Field. Through our efforts, we have negotiated several substantial price increases with our customers and have shared these price increases with the State of Alaska. This, we believe, gives strong evidence of Phillips' willingness to establish a fair and reasonable wellhead price as a basis of royalty payment. We know of no other natural gas royalty settlement in Alaska at a price as high as Phillips is paying.

For the State of Alaska to take the royalty gas in kind and separately dispose of it will impose severe economic hardships on Phillips. Such disposal to a third party will cause a premature abandonment of the pipeline, liquefaction and transportation facilities due to the early depletion of our natural gas reserves. All of these facilities were specifically built to create and provide a market for all of the natural gas from the North Cook Inlet Field. Additionally, it would require the drilling of more wells and the installation of additional compression equipment as well as the installation of certain compression equipment at an earlier date.

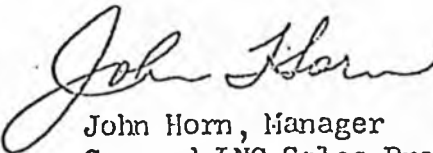
Commissioner Guy Martin  
File: 1-Ho-381-75-G&GL

October 21, 1975  
Page 2

We strongly oppose the sale of royalty gas from the North Cook Inlet Field by the State of Alaska to any third party because of the undue economic hardships that it will impose on us. Further, Phillips is settling with the State of Alaska on a fair and reasonable value for the State's royalty gas.

Please take a look at our performance record. We believe that the State of Alaska will receive the greatest overall benefit by allowing Phillips to continue to market Alaska's royalty gas from the North Cook Inlet Field.

Very truly yours,



John Horn, Manager  
Gas and LNG Sales Branch

JH:bla

cc: Mr. R. I. Swetnam  
Phillips Petroleum Company  
Hoblit Building  
515 "D" Street  
Anchorage, AK 99501



PHILLIPS PETROLEUM COMPANY

BARTLESVILLE, OKLAHOMA 74004

918 661-6600

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NATURAL RESOURCES GROUP  
Gas and Gas Liquids Division

December 5, 1975

State Royalty Gas  
North Cook Inlet Field  
Alaska Gas & Service  
Company Proposal

File: 1-Ho-438-75-G&GL

Commissioner Guy Martin, Chairman  
Alaska Royalty Oil and Gas Development  
Advisory Board  
c/o Department of Natural Resources  
Pouch M  
Juneau, AK 99801

Dear Mr. Martin:

During the hearing before the Alaska Royalty Advisory Board on November 10, 1975, in Anchorage, a brochure entitled "The Case for Committing Alaska State Royalty Gas from the North Cook Inlet Gas Field to Alaska Pipeline Company (Anchorage Natural Gas)" was presented to the Board. We offer the following comments to the Board on this proposal in addition to the oral presentation made in behalf of Phillips at the November 10 hearing.

1. Phillips recognizes that the State has the right to take its royalty share of the gas in kind at the wellhead. But we believe that such action will not in the long run be to the best advantage to the citizens of the State.
2. Phillips has invested over \$125,000,000 to develop a market for the North Cook Inlet Field gas when no market existed. Our investment was made with the expectation that we would market all of the gas from the field — it was our obligation to market the State's royalty gas along with our working interest gas.
3. Deliveries commenced six years ago and we had visualized at least a 20-year project.
4. Phillips has actively worked with various groups and individuals in Alaska, including Alaska Gas & Service Company, to try to make LNG available to the more remote areas; however, thus far the high cost of transportation has thwarted these efforts.

Comments by John Horn  
Phillips Petroleum Company  
to  
Alaska Oil and Gas Development Advisory Board  
Juneau, Alaska, December 9, 1975

Mr. Chairman, Members of the Board,

Phillips Petroleum Company appreciates the opportunity once again to appear before you. Let me state again that we share with you the concern that the citizens of Alaska derive a fair and reasonable benefit from the State's natural resources — including its natural gas. We recognize that the State has the right to take its royalty share of gas in kind at the wellhead.

We have handed to you a folder which contains (1) our written response to the Board on the brochure entitled "The Case for Committing Alaska State Royalty Gas from the North Cook Inlet Gas Field to Alaska Pipeline Company (Anchorage Natural Gas)" which was presented to the Board at the November 10, 1975 hearing in Anchorage, and (2) reproduced copies of some letters from governmental officials written at the time our LNG project was in its formative stages so that you may have the benefit of their feelings toward the Phillips-Marathon LNG Project at that time.

Although we have reprinted the entire texts for your review, I would like to quote from two of these latter mentioned letters.

The first is from a letter dated March 21, 1967, from Senators E. L. Bartlett and Ernest Gruening, addressed to Honorable Lee C. White, then Chairman of the Federal Power Commission, with respect to the Phillips-Marathon LNG Project.

"It is our hope that favorable action on the two applications and the subsequent development of Japanese markets will encourage the exploration and utilization of new Alaska gas fields. The present proposal and those we hope will follow will have a very measurable, favorable and tremendous effect on Alaska's economy.

"We support the applications in the strongest way possible."

The second is dated April 7, 1967, from Mr. Anthony M. Solomon, Assistant Secretary, Bureau of Economic Affairs, Department of State, and also addressed to Honorable Lee C. White.

"The Department of State raises no objections to the substance of the Phillips-Marathon proposal and in view of trade expansion policy supports the prompt action of the Federal Power Commission toward favorable response to the application."

During this time, we worked with Mr. Frank H. Murkowski, then Commissioner of the Department of Economic Development, who was most anxious to further the economic development of Alaska and to develop and utilize its natural gas resources.

We were advised at that time that 1967 marked the 100th year since Alaska was purchased from Russia and that our proposed LNG plant would be one of the top four industrial installations in Alaska during those first 100 years.

We believe that the State would receive the greatest benefit if it continued to receive the royalty payments made from the North Cook Inlet Field by Phillips, which is substantially higher than the prices presently being paid for natural gas by Alaska Gas & Service Company for other gas in the area. We submit that if Alaska Gas & Service Company would offer producers in the Cook Inlet Area the same amount that it would pay for the royalty gas from North Cook Inlet Field, this should be a very attractive market for natural gas and would encourage the development of additional natural gas reserves in the Kenai-Cook Inlet Area for Alaska Gas & Service Company even beyond the 15 million cubic feet per day which they propose to receive from North Cook Inlet Field.

The State is in the enviable position of not having to decide on an "either/or" basis but has the opportunity to continue to receive income from the present market while encouraging the creation of new markets and development of the undeveloped natural gas resources in the area — thus winning on both bases.

It might be interesting to the Board to know that Phillips Petroleum Company in 1975 will pay <sup>from this project</sup> to the State of Alaska revenues in excess of \$60,000 for each of its employees in the State.

We would hope that the State of Alaska would encourage the judicious development of its natural gas resources. We believe that the State should take that action which will result in a long term supply available for the development of Alaska's economy. Certainly, we would hope that the State would avoid the mistakes made in the Lower 48 States in the past which depressed exploration and development. The result has been an inadequate supply of natural gas and the Federal and State regulatory agencies in the Lower 48 now find themselves simply trying to allocate the shortage. We believe that the course we suggest you take is one of the types of State action which will be conducive to expand development of Alaska's natural gas resources and will help assure the citizens of Alaska an adequate supply of gas for the long term.

We would be happy to answer any questions.



Homer Electric Association, Inc.

P. O. BOX 255 • HOMER, ALASKA 99603 • PHONE (907) 235-8551

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January 22, 1976

Mr. William C. Fackler, Exec. Secy.  
Alaska Royalty Oil & Gas Advisory Board  
Pouch M  
Juneau, Alaska 99811

RECEIVED  
JAN 26 1976

Department of  
Natural Resources

Dear Mr. Fackler:

The purpose of this letter is to inform you and your Commission that our Association is entering into negotiations with Chugach Electric Association to acquire their gas fired electric generation facilities at Nikiski.

These facilities are presently consuming approximately 9 million cu. ft. per day of natural gas, which is purchased from the Alaska Pipeline Company. In addition to the present gas consumption, we intend to construct prior to the end of calendar year 1978 an additional generating facility at that location requiring an additional 5 to 6 million cu. ft. per day.

We are familiar with the on-going negotiations between your office and the Alaska Pipeline Company concerning State royalty gas for resale to Chugach and the Anchorage area.

Please consider this letter as an inquiry to determine whether or not we will be able to purchase Royalty Gas in the amounts described above pursuant to Alaska Statutes AS 38.06.010. We would anticipate purchasing all of the royalty gas available at the Phillips Petroleum LNG Plant with the assumption that the amount in excess of our needs available on a day to day basis could be resold to Phillips for their processing plant.

We assume that we would be required to pay the current market price for the gas which we believe to be 45¢ per MCF plus a negotiated transportation fee. Our negotiations to acquire the electric generating facilities in the area and build additional generation facilities is dependent upon our ability to acquire the State Royalty Gas or a like quantity of other gas in that area.

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JAN 22 1976

ALASKA ROYALTY  
OIL & GAS BOARD

Our association is a non-profit cooperative. The membership includes all of the residents and business organizations of the Western Kenai Peninsula. We will greatly appreciate any cooperation that your office can lend us in bringing these negotiations to a mutually beneficial conclusion.

Sincerely yours,

HOMER ELECTRIC ASSOCIATION, INC.



W. C. Rhodes  
General Manager

WCR:em

cc: O. K. Gilbreth  
W. I. Palmer  
Sen. Clem Tillion  
Rep. Hugh Malone  
Rep. Leo Rhode  
Guy Martin



**Homer Electric Association, Inc.**

P. O. BOX 255 • HOMER, ALASKA 99603 • PHONE (907) 235-8551

*cc  
All Bu.  
memo 4-5*

9

March 30, 1976

RECEIVED  
APR - 2 1976

Mr. Guy Martin, Commissioner  
Royalty Oil and Gas Development Advisory Board  
Department of Natural Resources  
Pouch M.  
Juneau, Alaska 99811

Department of  
Natural Resources

Dear Sir:

In our letter to Mr. Fackler dated January 22, 1976, and at a hearing before your Advisory Board, we applied for the State Royalty Gas that you plan to make available from presently producing fields in the North Kenai area.

The purpose of this letter is to inform you that we have been able to obtain commitments to purchase fuel for the proposed new electric generating facility at North Kenai from what we believe to be a reliable source; and, further, Mr. Dale Teel of the Alaska Pipeline Company has agreed to supply our Association with natural gas for fuel for the existing electric generating plants in the North Kenai area if we are successful in acquiring these from Chugach Electric Association.

In view of the foregoing, we feel that it is in the best interest of all concerned that we withdraw our application as outlined in our letter of January 22.

As the Kenai Peninsula continues to attract industry, we do not wish to imply that we will not, at some future time, be interested in dealing with the State for royalty gas that may become available in other, yet to be developed, fields on the Kenai Peninsula area. If, at any time, additional royalty gas does become available we would appreciate it very much if your office would advise us so that we can ascertain whether or not it would be needed in our ever-expanding operation.

We note with interest the development of the Advisory Board's intention to adopt a regulation in Title 11 of the Alaska Administrative Code to interpret and make specific Alaska Statute 38.06, including the determination of surplus.

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ALASKA ROYALTY  
OIL & GAS BOARD

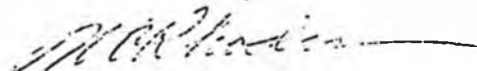
March 30, 1976

We sincerely hope that the proposed regulation 11AAC26.900(a) (5) will define the term "industrial use" as referred to in existing regulations, and that the State's royalty gas will be made available first to industrial use and then to all other uses, according to priorities established by your office.

We sincerely appreciate the courtesies extended to our Association by the Advisory Board and your office, and we are looking forward to further negotiations should the need arise.

Sincerely yours,

HOMER ELECTRIC ASSOCIATION, INC.



W. C. Rhodes  
General Manager

WCR:em

cc: Rep. Leo Rhode

cc: Mr. Dale Teel

North Cook Inlet Field Royalty Gas  
Commissioner's Proposal in Concept

The Commissioner of Natural Resources has recognized that the increasing growth of the Cook Inlet area of Alaska with its resultant increase in the use of natural gas requires that additional natural gas reserves be allocated for that purpose from State of Alaska royalty gas. From the standpoint of size of uncommitted gas reserves, geographical location and possible pipeline access, the North Cook Inlet field royalty gas appears the best available supply at this time. Pursuant to AS 38.05.182 the Commissioner proposes that it is in the best interest of the State to take in kind the State's royalty share of the gas production from the North Cook Inlet gas field and requests the consent of the Alaska Royalty Oil and Gas Development Advisory Board for this change.

The Commissioner further proposes to dispose of the North Cook Inlet field royalty gas to Alaska Pipeline Company and its subsidiaries through a negotiated contract. The proposed contract will contain the following provisions:

1. Purchaser agrees to take 1/8 of daily production from the North Cook Inlet gas field on an if and as deliverable basis for the contract period. The State will report to the Purchaser each month the amount of royalty gas produced by Phillips during the prior months.

The approximate average daily royalty gas share of the production from Phillips' North Cook Inlet field platform is 17,000 MCF. Gas production from the platform varies as LNG plant needs dictate therefore no daily amount can be specified.

2. Point of delivery will be the wellhead.
3. Purchaser is responsible for measurement costs, and any compression or dehydration costs if or when necessary.
4. The contract expires on June 1, 1984, unless extended by mutual agreement for a period not to exceed one year.
5. The price of the gas will be equal to the price the State otherwise would have received from Phillips for its royalty gas for export as LNG to Japan; but not less than the highest price paid by any purchaser in the Cook Inlet area for a similar sale of gas of similar quality. The price will be adjusted yearly on the anniversary date of the contract.

6. The contract shall not be effective until

-all necessary permits and authorizations by governing bodies are obtained

-all transportation or exchange arrangements have been completed to the satisfaction of the parties involved.

-six month's notice required under lease

The Commissioner request approval of the above proposed conceptual plan by the Alaska Royalty Oil and Gas Development Advisory Board.

Bill

# TELEGRAM

ALASKA ALASKA COMMUNICATIONS, INC.  
PHONE: 583-6440  
JUNEAU, ALASKA 99901

11

MAR 29 PM 5 03

IPNAFUE AHG

1-0349800389 23/29/76

TWX PAC LGHT LSA

215 LOS ANGELES, CA MARCH 29, 1976

PMS MR. GUY MARTIN, CHAIRMAN

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

7580

POUCH M

JUNEAU, ALASKA 99821

WITH REFERENCE TO THE LETTER FROM PACIFIC ALASKA LNG COMPANY TO MR. GUY R. MARTIN, COMMISSIONER OF NATURAL RESOURCES, DATED MARCH 5, 1976. OUR OFFER TO BID ON THE PURCHASE OF THE STATES ROYALTY SHARE OF GAS IN THE NORTH COOK INLET AREA WAS LIMITED ONLY TO THOSE FIELDS IN THAT GENERAL AREA IN WHICH WE CURRENTLY HAVE THE RIGHT TO PURCHASE GAS OR MAY IN THE FUTURE HAVE THE RIGHT TO PURCHASE GAS. WE HAVE NO INTEREST IN BIDDING ON THE PURCHASE OF ANY STATE ROYALTY GAS PRODUCED FROM THE "NORTH COOK INLET FIELD"

PACIFIC ALASKA LNG COMPANY

BY P. VER PLANCK

1956 EST

IPNAFUE AHG



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

12

April 2, 1976

RECEIVED  
APR 7 1976  
Department of  
Natural Resources

Mr. Guy T. Martin  
Commissioner of Natural Resources  
11th Floor, State Office Building  
Pouch M  
Juneau, Alaska 99811

Dear Commissioner Martin:

The purpose of this letter is to confirm our oral proposal made to the Alaska Royalty Oil and Gas Development Advisory Board during its March 30/31 meeting in Juneau.

The proposal can be outlined as follows:

1. The State take North Cook Inlet royalty gas in kind and sell such gas to AGAS.
2. AGAS will take delivery of the gas at the platform. This presumes that--
  - (a) an arrangement can be made whereby, for suitable compensation, Phillips will transport the gas via their existing system to a point adjacent to the LNG plant.
  - (b) the APUC waives jurisdiction over the Phillips facilities to the extent that they may otherwise come under regulation due to the transport of the "royalty" gas.
3. The price will be equal to the Phillips price for royalty gas exported to Japan or equal to the highest price paid in the Cook Inlet area for similar quality gas.
4. The proposal is to cover the "life of the contract" and will terminate on or about June 1, 1984.
5. AGAS will take or pay

This presumes that--

- (a) it may be agreed with the State that royalty will be taken in kind for resale to AGAS on a selective lease by lease basis so that the volume in question will approximate AGAS' North Road requirements or

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APR 06 1975

ALASKA ROYALTY  
OIL & GAS BOARD

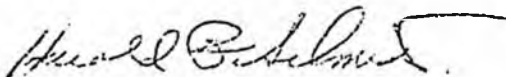
ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

Commissioner Guy T. Martin  
Continuation Sheet #2  
April 2, 1976

- (b) if suitable exchange arrangements can be made with others or if AGAS chooses to build the pipeline connection to its Anchorage line--it may be agreed with the State that all of the royalty be taken in kind for resale to AGAS:
  - (c) The notice date regarding the State taking royalty in kind be so arranged as to permit AGAS a reasonable length of time to make exchange arrangement with others or to build the required pipeline facilities on a reasoned schedule.
6. The volume of gas expected to be taken in kind for resale to AGAS over the life of the contract is approximately 40 BCF with the actual amount being dependent upon the date of commencement, the arrangement agreed to under #5 above and the actual rate at which the field is produced.
7. It is understood that a deliverability feature is not required in this agreement.

Very truly yours,



Harold F. Schmidt  
Senior Vice President

dh

Alaska Royalty Oil and Gas Development Advisory Board  
Minutes of the April 26, 1976, Meeting  
Juneau, Alaska

13

The meeting was called to order by Chairman Martin at 10:00 a.m. April 26, 1976. All members present except Mr. Gallagher who was late.

The minutes of the previous meeting, March 30 and 31, 1976, had been mailed to Board members prior to the meeting. Mr. Lyon moved for approval and Dr. Triplehorn seconded the motion. Mr. Martin noted that Paul Robison's name was misspelled. The correction was made by the secretary. The minutes were approved unanimously by the four members present.

Chairman Martin advised the Board of an agenda change. No proposed sale of North Slope royalty gas would be introduced to the Board at this meeting. He wished to brief the Board on the status of negotiations during the meeting but in an executive session. Also he wanted to determine a satisfactory date for the next meeting within the next ten days to two weeks.

After discussion, the dates of May 7 and 8 and May 11 and 12 were selected with the decision made by the Chairman depending on progress.

Next item for consideration was the proposed sale of North Cook Inlet Field royalty gas to Alaska Pipeline Company. The contract draft was reviewed in detail by the Board, item by item. All corrections were noted and a corrected draft prepared for the afternoon session.

Mr. Martin gave a brief status report on the North Slope royalty oil solicitation including a recent conversation with Mr. Downey of Tesoro Alaska Oil Company. Tesoro maintains their interest in expanding the Kenai refinery using North Slope royalty oil.

Mr. Gallagher moved that the Board reconvene in executive session at 1:30 p.m. and public session at 2:30 p.m. Motion seconded by Mr. Lyon. Motion passed unanimously.

The Board reconvened in public session resuming consideration of the North Cook Inlet Field royalty gas sale. Documents before the Board were: a corrected draft of the contract, request for approval to waive the competitive bidding requirement and approval for the rejection of bids or applications.

Several changes in wording in contract provisions were worked out and noted for retyping.

There was no response to a call for public participation

Mr. Boness reported on the legal research by Mr. Allen, Covington and Burling, on a set of questions relating to State taking of royalty-in-kind. He had received a preliminary draft by telecopy which was not suitable for copying for the Board. The legal research essentially confirmed the opinions of the Department of Law and industry counsel who have responded to State questions on the matter. Mr. Allen's work has bolstered these opinions by case citations and also pointed out the areas where case law has not developed, particularly in reference to a State taking royalty gas in-kind. The authority of the Federal Power Commission to control gas arising from its jurisdiction over pipeline transport is of special interest to the State. Mr. Allen recommends procedures to follow to reduce FPC control as much as possible. The State should make its desires known to the producers in time to be included in the producer's contracts with gas purchasers and to the FPC. The report also was not optimistic about the FPC granting the State authority to abandon gas sales at the time of initial sale or preabandonment authority as some refer to it.

Mr. Gallagher returned from his telephone call to Mr. Harold Schmidt, Alaska Pipeline Company, about certain wording in the price provision of the contract. The wording added to the provision was explanatory.

The requests for prior written approval to reject bids and to waive competitive sales were circulated. Mr. Gallagher moved that the Alaska Royalty Oil and Gas Development Board approve the waiver of competitive sales, Dr. Triplehorn made the second. On a roll call vote each member voted yes and signed the waiver.

Mr. Lyon moved that AROGDAB approve rejection of all bids or applications for the royalty gas in the North Cook Inlet Gas Field except that of Alaska Pipeline Company as provided for in AS.38.06.050(b). Dr. Triplehorn made the second. The motion was approved by unanimous vote on a call of the roll and each member signed the approval.

Mr. Gallagher moved that AROGDAB approve the gas purchase and sale contract, as amended, for the sale of the North Cook Inlet Gas Field royalty gas to the Alaska Pipeline Company as provided for in AS.38.05.183 and AS.38.06.050. Mr. Lyon was the second. On a roll call vote all members voted affirmatively.

The Chairman announced that the Board had concluded its first sale. He also said that he would initiate an inquiry regarding possible exchange of gas between the State, producers and gas purchasers.

The meeting was adjourned.

STATE OF ALASKA  
THE LEGISLATURE

POUCH Y - STATE CAPITOL  
JUNEAU, ALASKA 99811  
907-465-3800

LEGISLATIVE AFFAIRS AGENCY

MEMORANDUM

May 8, 1976

SUBJECT: Contract for Sale of State Royalty Gas from the North Cook  
Inlet Field to Alaska Pipeline Company

TO: The Honorable Fred Brown

FROM: Gregg Erickson  
Director of Research Services

Summary

As you requested on Friday, May 7, we have reviewed the unexecuted gas purchase contract identified as #76-1, between the State of Alaska (seller) and Alaska Pipeline Company (buyer) with particular reference to several specific questions you raised. Our analysis raises questions concerning the contract's pricing provisions and suggests that more extensive review by the Department of Natural Resources of Cook Inlet gas prices is called for. We also suggest that a requirement for in-state use of this gas be considered or, alternatively, that the contract be made unilaterally terminable by the state. In general, however, we find no obvious conditions or terms in the contract that appear contrary to the state's interests. Finally, we suggest revised wording for the resolution approving the contract.

Analysis

In general, the contract calls for the state to deliver to the buyer--currently the sole supplier of natural gas to Anchorage--an unspecified quantity of royalty gas received from its lessee in the North Cook Inlet field. It provides that the state shall direct its lessee (which in this case is Phillips Petroleum Company) to make these deliveries directly to the buyer who will then be responsible for its transportation to wherever it is to be consumed. Overall, a review of this contract reveals no glaring inequities or conditions which are

obviously not in the state's best interest. We do note, however, a number of minor policy issues and technical considerations which the legislature may wish to call to the attention of Commissioner Martin and the Alaska Royalty Oil and Gas Development Advisory Board.

The first question you raised concerned the point at which the royalty gas will be delivered to the buyer. The gas purchase contract itself does not specify this point. Under the terms of the lease between the State of Alaska and Phillips, the state has the right to take its royalty gas in kind but must do so on or adjacent to the lease from which it is produced. In the case of an offshore platform such as that from which the North Cook Inlet field is produced, this means that, absent other mutually acceptable arrangements, the state must take delivery of its in-kind royalty gas at the platform and arrange for its own transportation ashore. Thus, unless the state wishes to assume this responsibility, the contract provision as currently framed regarding point of delivery would seem to be the only appropriate alternative, i.e., that the state make its delivery to the buyer at the point where it receives delivery from the lessee.

As a practical matter, pipeline capacity sufficient to transport both the royalty and producer's gas to shore already exists, and Alaska Pipeline Company should be willing to pay Phillips a reasonable fee for the use of that capacity. Normally, both Phillips and Alaska Pipeline would be expected to have plenty of incentive to reach an agreement on these transportation charges. They represent additional income to Phillips without any additional expense (since the pipeline capacity is already in being) and, in the case of the Alaska Pipeline Company,

should be substantially lower than the cost of building and operating its own platform-to-shore pipeline.

The only situation where we could envision difficulties arising would be in the case where the lessee was willing to make significant immediate financial sacrifices in order to sabotage the royalty gas sale and thus regain for itself control over the entire production stream. If the cost of constructing a separate pipeline for the royalty share were economically prohibitive, denial of access of the existing facility might be sufficient to torpedo the entire deal. We do not see this as a likely eventuality, and if it were it is probable that the state could bring countervailing pressure to bear on the lessee. In any event, the possibility of such a confrontation would not seem to require any change in the contract here presented to the legislature.

You also asked us to review the provisions concerning the pricing of royalty gas delivered to the buyer. In general, this provision calls for the buyer to pay the state the higher of either the price the state would have received from Phillips Petroleum Company had it not taken its gas in kind, the highest price paid for gas elsewhere within 100 kilometers (62 miles) of the North Cook Inlet field, or a minimum price (which is 60.36¢ per Mcf as of July, 1977, escalating thereafter at the rate of 2¢ per Mcf annually).

We find these provisions unexceptionable, but we would call your attention to what appears to be unnecessary vagueness with respect to the provisions (on page 4 and repeated on page 5 of the contract) concerning how prices received for gas elsewhere in the Upper Cook Inlet Basin are to be related to the price of gas sold under this contract. The problem

arises from the fact that natural gas may be sold elsewhere within the 100 kilometer radius at a price higher than that which would be due under either of the other two pricing provisions, but that the conditions of delivery of that higher priced gas or its quality may be different enough to raise the question of whether the price is properly comparable to that received for gas purchased by the buyer. The contract states that these comparisons shall be made "with due regard to appropriate factors including, but not limited to, difference of BTU content, delivery pressure, term of contract and connection charges." We would suggest that the semicolons preceding this phrase on pages 4 and 5 be deleted so that it will be clear the phrase applies only to the part of the sentence following the "(iii)", applying only to the comparison of prices within the basin and not to the minimum price or the price that the state would have received from Phillips.

In addition, you might consider it appropriate to work with the commissioner to develop substitute wording defining exactly how the BTU content and delivery pressure differences will influence the comparison prices, eliminating the reference to contract term and connection charges, and adding words indicating how the quantity of gas delivered is to affect the comparison. As it stands now, almost any difference in terms of delivery or quality could be used to justify an effective exemption from the "highest price received elsewhere" requirement.

It should be noted that the price currently received by the state for royalty gas produced from the North Cook Inlet field is an "imputed price". This means that it is not determined on the basis of actual

sales but rather on the basis of a "netback calculation" whereby one takes the price received for this gas in Japan and subtracts therefrom the costs of transportation and liquifaction incurred between the production platform and the delivery point in Tokyo. In the past the state has devoted little or no attention to actual verification of the validity of this imputed price, since it happens to be the highest price received for any gas in the basin. We have no reason to believe there is anything phony about the current price but would suggest that it would be appropriate in the future for the department to pay closer attention to this and other similarly determined prices in the basin since changes in one may influence others as well.

We would also call your attention to the fact that as the contract is currently written the state has no right of termination other than by mutual agreement. The buyer, on the other hand, may unilaterally terminate the contract prior to January 31, 1978. We would also point out in this context that although the "Whereas" paragraphs prior to the body of the contract indicate that the "buyer ...[delivers] natural gas for ultimate consumption within the State of Alaska", nowhere in the contract does the buyer agree to use or sell the gas purchased here only for consumption within the state. Conceivably the buyer could either export the gas from the state himself or sell it to some other party who would do the same thing. If the point of sale is greater than 100 kilometers from the North Cook Inlet field, the price of the sale would not result in any readjustment of the price paid by the buyer to the state. Since the purpose of this contract is to insure adequate supplies of natural gas for domestic consumption within the state, it would seem

logical that the contract include guarantees with respect to this matter or, alternatively, provisions allowing the state to unilaterally terminate the arrangement.

Finally, we would note that the "Resolved" clause of the resolution offered by the governor when he requested approval of this contract (HCR 142) would appear to be incorrectly worded. We would suggest that the following language be substituted:

"BE IT RESOLVED by the Alaska State Legislature that Alaska royalty gas sale No. 76-1 and the contract providing for the sale of royalty gas from the North Cook Inlet gas field pertaining to it, between the State and the Alaska Pipeline Company, is hereby approved."\*

We would also suggest that the contract itself be made a part of the legislature's official record by its inclusion in the House Committee Report, and thus the Supplement.

\* If the legislature or a committee thereof believes that the above comments or other considerations require some revision of the contract, the most expeditious way of bringing them about might be to instruct the Department of Natural Resources or Mr. Fackler (executive director of the Royalty Board) to work with the proposed buyer to develop the necessary language. The resolved clause could then read:

"BE IT RESOLVED by the Alaska State Legislature that Alaska Royalty Gas Sale No. 76-1 and the amended contract (submitted to the legislature on \_\_\_ May 1976 and appearing in the House Journal Supplement for \_\_\_ May 1976) providing for ..."

# STATE OF ALASKA

## DEPARTMENT OF NATURAL RESOURCES

ROYALTY OIL AND GAS DEVELOPMENT ADVISORY BOARD

JAY S. HAMMOND, GOVERNOR

11TH FLOOR, STATE OFFICE BLDG.  
POUCH M - JUNEAU 99811

May 7, 1976

The Honorable Nels Anderson  
Chairman, House Resources  
Committee  
Pouch V  
Juneau, Alaska 99811

Dear Mr. Anderson:

In accordance with the requests of you and your committee the items listed below pertaining to HCR 142 are attached.

1. Letter from Alaska Pipeline Company dated September 30, 1975 requesting State royalty gas from North Cook Inlet Field.
2. Minutes of Board meeting October 10, 1975.
3. Roster from October 10, 1975 meeting.
4. Minutes of Board meeting November 10, 1975.
5. Alaska Pipeline Brochure prepared for November 10, 1975 meeting.
6. Letter from Phillips Petroleum Company, dated October 21, 1975.
7. Letter from Phillips Petroleum Company, dated December 5, 1975.
8. Letter from Homer Electric Association requesting royalty gas, dated January 22, 1976.
9. Letter from Homer Electric Association withdrawing request, dated March 30, 1976.
10. Sale terms approved by Board.

The Honorable Nels Anderson

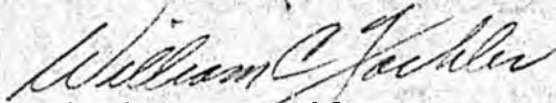
-2-

May 7, 1976

11. Telegram from Pacific Alaska LNG disclaiming interest.
12. Letter from Alaska Pipeline Company agreeing to terms dated April 2, 1976.
13. Minutes of Board meeting April 26, 1976 approving sale.

If you desire additional information regarding the North Cook Inlet Field royalty gas sale, please advise me.

Yours truly,



William C. Faekler  
Executive Director

Attachments

①

# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551



September 30, 1975

Mr. Guy Martin  
Commissioner of Natural Resources  
State of Alaska  
Juneau, Alaska

Dear Mr. Martin:

Confirming our discussion at the Anchorage airport on September 30, and my letter to Mr. Gilbreth of August 20, and memorandum to you of September 24, Alaska Pipeline Company is requesting to purchase the royalty share of North Cook Inlet gas field at or near the Phillips-Marathon LNG plant on the North Kenai Road, at the price used by Phillips to acquire this gas from the State for the manufacture of LNG for export to Japan or elsewhere. We believe the most reasonable method for handling the delivery and sale would be by "exchange," or "displacement," so that construction of new pipeline(s) and compression would be minimized. Since our supply at the Kenai gas field is interconnected to the North Cook Inlet gas supply at the LNG plant, for the time being it should be practical that we would take whatever amount of the North Cook Inlet royalty gas may be available day by day by displacement into our system at the Kenai gas field. Later, when additional investment would be required for transporting this royalty gas to shore, we could negotiate our participation in investment, or install our own facilities if necessary, in order to accomplish the purchase on the most reasonable basis for all concerned.

The essential aspect of our request is that we have an immediate need for additional gas on the North Kenai Road and we have a long term requirement for additional gas reserves to serve Alaskan customers in our present service area. We believe that it is in the public interest that we should be allowed to purchase this State royalty gas for local consumption rather than for this gas to be exported to Japan or elsewhere. We will begin preparing a formal

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OCT 6 1975

ALASKA ROYALTY  
OIL & GAS BOARD

DEPARTMENT OF  
NATURAL RESOURCES

OCT 6 1975

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JUNEAU, ALASKA

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

Mr. Guy Martin  
September 30, 1975  
Page 2

application to purchase this gas and will appreciate having your guidance as to what supporting data or format may be desired, if any, for presentation to the Royalty Board or to the legislature to satisfy statutes or regulations which apply.

Very truly yours,



Dale Teel

DT/js

cc: O. K. Gilbreth, Director  
Division of Oil and Gas

Alaska Public Utilities Commission

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

MEMORANDUM

DEPARTMENT OF  
NATURAL RESOURCES

SEP 29 1975

RECEIVED  
BUREAU, ALASKA

TO: Mr. Guy Martin  
Commissioner of Natural Resources

FROM: Dale Teele

DATE: September 24, 1975

SUBJECT: Alaska Pipeline Company's Request to Purchase State Royalty Gas from the North Cook Inlet Gas Field ("Phillips")

Alaska Pipeline Company (APC) and its affiliate Alaska Gas and Service Company ("Anchorage Natural Gas") supply natural gas to 285 customers on the North Kenai Road and to the Bernice Lake power plant of Chugach Electric Association. The gas is obtained from the industrial pipeline which supplies the LNG plant, the Ammonia/Urea plant, and gas for reinjection into the Swanson River Oil field, and comes from the Kenai gas field (Union-Marathon), under a contract which runs to May 1, 1977. Due to unexpectedly heavy usage by the Bernice Lake power plant, the reserve quantity, 10 billion cubic feet (BCF), will be used prior to May 1, 1977, and at that point the contract will terminate. A contract extension and additional commitment of reserves has been requested of Union-Marathon, or the right to receive gas on the North Kenai Road which is committed for the Anchorage area under a separate contract. There has been little if any progress made on these requests thus far.

Alaska Pipeline Company's contract with Union-Marathon has a provision that if APC were to obtain royalty gas from the Kenai gas field, then the commitment of gas reserves by Union-Marathon (originally 550 BCF) would be reduced an equal amount, and thus in effect APC is barred from negotiating for royalty gas from the Kenai gas field.

APC has inquired for a commitment of gas from Phillips, with the (telephone) response that since Phillips' obligations to the gas company of Portland, Oregon are in suspense due to hearings at the Federal Power Commission and since the gas company at Los Angeles is attempting to purchase royalty gas from the North Cook Inlet gas field, Phillips is not clear to negotiate a commitment of reserves to APC. It is known also that the Portland gas company is requesting to purchase North Cook Inlet royalty gas (discussions with Governor Hammond).

RECEIVED  
SEP 29 1975

ALASKA ROYALTY  
OIL & GAS BOARD

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

- 2 -

APC has written to the State (letter to O.K. Gilbreth, August 20, 1975, attached) requesting to purchase the North Cook Inlet royalty gas at the price of 50.45¢ per MCF, which is the price which now applies to the royalty gas which Phillips utilizes for its LNG manufacture, which is known to be 45¢ wellhead plus 5.45¢ transportation. If this gas were to be offered to APC, APC could build a pipeline from the LNG plant to deliver the gas into its pipeline to Anchorage as well as to supply its North Kenai Road customers. Such a pipeline (approximately 35 miles of 8") could be built in the right of way now occupied by Homer Electric Association's power line from the Bernice Lake power plant to "Quartz Creek." However, construction of such a pipeline should not be necessary, because existing pipeline systems could be utilized to "exchange," or "displace," gas and the transaction could be made entirely on paper, continuing actual movement as at present, without change. North Cook Inlet gas is identical to Kenai field gas (the streams are interchangeable at the LNG plant), so adjustments can be made by volume only.

APC would appear to be the ideal customer for State royalty gas because it would "blend" (by price/rate adjustments) the higher priced royalty gas into its present supply, with relatively small impact on its rates to Alaskan gas users. APC has negotiated "deliverability" with Union-Marathon so that it is in a position to take none or the full royalty share of North Cook Inlet gas without placing its suppliers (Union-Marathon) in any hardship and without having to rely on constant or steady rate production from the North Cook Inlet field. In other words, APC could take the State royalty gas from North Cook Inlet if and as it is produced, without requiring "deliverability."

The foregoing description assumes that the producers (Union, Marathon, Phillips) and the State can readily agree to the "exchange" or "displacement" as indicated. If APC were to build the new pipeline so that the royalty gas actually were to be moved from the LNG plant to APC's pipeline to Anchorage, the same general situation would obtain as for displacement, but operation would be relatively complex since gas would have to move to or from the LNG plant in the new pipeline depending on whether or not the LNG plant were running and at what rate. It is anticipated that normally there would be adequate notice available so that flow rate and directional changes would be practical - in fact displacement could be utilized even with such a pipeline, to foster best scheduling by all the parties. Such displacement actually occurs already, from time to time, although it involves only the producers (Union, Marathon, Phillips) and, of course, does not affect APC or the State at present. The proposed displacement, either with or without a new pipeline being added, should be just as practical if the parties would so agree.

DT/js  
enclosure

cc: Alaska Public Utilities Commission



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

August 20, 1975

COPIES SENT TO:

Paul Robison  
Sebe Eastland  
Harold Schmidt  
O. C. Honig

Mr. O. K. Gilbreth, Director  
Division of Oil and Gas  
State of Alaska  
Department of Natural Resources  
3001 Porcupine Street  
Anchorage, Alaska 99504

Dear Easy:

We have a gas supply contract with Union-Marathon for 10 BCF on the Kenai North Road which expires May 1, 1977. Due to accelerated sales to Chugach Electric's Bernice Lake power plant this year, it appears the entire reserve quantity could be used up within less than one year from now, and we are soliciting a replacement supply of gas to serve Chugach and our other customers on the Kenai North Road.

We are in a position to commit to take more than our North Road requirements, however, and would like to offer to purchase the State's royalty share of Phillips' production from North Cook Inlet, delivered to a metering point near the Phillips-Marathon LNG plant on the Kenai North Road. The excess above our Kenai North Road sales would be used to displace deliveries by Union-Marathon to us at the Kenai gas field, and thus serve to prolong the adequacy of our reserve commitment at the Kenai gas field. We are not certain as to whether or not the displacement can be made "on paper," or whether we would be required to lay a pipeline to connect into our Anchorage pipeline either at or near the Kenai gas field or at or near our compressor station east of the Kenai River.

Please consider this letter to be an application to purchase royalty gas as described, pursuant to AS 38.06.010. Since limited time is available to do any necessary construction, we hope all procedural requirements can be determined readily. We would anticipate paying the State the same price it would have received from Phillips, which we believe to be 45¢ per MCF plus 5.45¢ transportation fee, as compared to the current 41.5¢ cost of gas (and deliverability) at the Kenai gas field.

**RECEIVED**  
SEP 29 1975

ALASKA ROYALTY  
OIL & GAS BOARD

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

Mr. O. K. Gilbreth

August 20, 1975

Page Two

We are relying on approval by the Alaska Public Utilities Commission for us to "flow through" the increased cost of gas to Chugach's Bernice Lake power plant and to "meld" the (higher) cost royalty gas with the (lower) cost Kenai field gas, on a day-to-day basis, since the amount of royalty gas we would receive would depend on the rate of production of the Phillips-Marathon LNG plant and be outside our control. When this plant is down for any reason, we would be utilizing Kenai field gas as replacement.

Please advise regarding any questions or further procedure we should follow in presenting a formal offer to the State.

Very truly yours,



Dale Teel  
President

DT:lkd

cc: Alaska Public Utilities Commission

2

ALASKA ROYALTY OIL & GAS DEVELOPMENT ADVISORY BOARD

Minutes From October 10, 1975, Meeting in Juneau

1. The meeting was called to order by Chairman Martin at 9:00 a.m. in the Fifth Floor Conference Room of the State Office Building. All of the Board members were in attendance. Chairman Martin had no special remarks in opening the meeting and the meeting proceeded according to the agenda (Appendix A). Several members of the public were present.

2. The minutes of the August 4, 1975, meeting were approved as circulated to the Board.

3. Reports

A. Board's Administrative Report.

1. Richard Lyon moved that the Royalty Board go into executive session to discuss the appointment of an Executive Director for the Royalty Board. The motion was seconded by Donald Triplehorn. The motion passed unanimously at 9:10 a.m. The meeting was called back to order at 9:30 a.m. Chairman Martin advised those present that the Board has made a decision on the appointment of an Executive Director. Arlon Tussing moved that William C. Fackler be appointed as Executive Director of the Alaska Royalty Oil and Gas Development Advisory Board to be effective November 15, 1975, at an advanced step of the salary range. Donald Triplehorn seconded the motion and the motion passed unanimously.

2. Chairman Martin advised that the Department of Law's report was not yet complete, therefore, it will be presented at a later date.

3. Chairman Martin informed the Board that it needed to decide about the distribution of proposals to interested parties. The motion was made that the Board establish open reading files in Anchorage in the Division of Lands' office and in Juneau in the Commissioner's office. The proposals received should be placed in the reading files and mailed to the Board members and after five working days be made available to the public upon request. The motion was seconded by Richard Lyon. Motion passed unanimously.

E. Studies

1. Projected Natural Gas Demand - A report was presented by Mr. Pat Dobey of the Division of Geological and Geophysical Surveys of the Department of Natural Resources on the projected natural gas demand. (Appendix B.)

2. Mr. O. K. Gilbreth, Director of the Division of Oil and Gas for the Department of Natural Resources, presented a report on the projected natural gas availability in Cook Inlet to the Royalty Board. (Appendix C.)

C. Current Federal Legislation - Arlon Tussing gave a brief report on current federal legislation (Appendix D). Mr. Tussing informed the Board that in summary it is still in stalemate both on oil and gas legislation, and that the Congress had passed legislation continuing price controls and allocations on oil and gas and did not accept the Administration's proposed schedule for phasing out price controls. The President vetoed it, the veto was sustained and Congress did not override the veto and beginning the first of September there were no price controls or allocation authority for oil and gas. The President did agree to another retroactive extension of price control while there was an attempt to come up with a new compromise. The House and Senate are now in conference on the legislation and both the House and Senate bills that went into this conference have price control provisions which are unacceptable to the Administration. It looks as if in November we will again be faced with a situation where Congress will pass an extension of oil and gas price control which will include a rollback in the price of new oil.

Chairman Martin asked for concurrence of the Board in altering the agenda to take up the definition of surplus question following the presentation of proposals received since the last meeting of the Board. There was no objection by the Board.

5. Correspondence - Mr. Fackler read several letters that had been received from companies that refer to earlier proposals submitted by the various companies to the Board. (Northern Natural Gas, Southern Natural Gas Company and Alaska Petroleum Company.)

6. Proposals since the last meeting.

A. Prudhoe Bay

Mr. Fackler informed the Board that a letter from Murphy Oil Corporation had been received. He advised that Murphy Oil was interested in supplying a portion of their Superior, Wisconsin, refinery's needs with Alaskan crude oil starting in 1977. The vehicle for the crude oil would be the Trans Mountain Pipeline from Puget Sound to Interprovincial Pipeline and then to Superior, Wisconsin. They estimated requirements to be 20,000 to 40,000 barrels per day. They advised that at the present time it

would be impossible with the uncertain conditions in regard to price, government controls, pipeline reversal, et cetera to submit a firm bid for production to be purchased several years in the future. They would be willing to pay competitive world market prices for similar types of crude at the time of purchase.

Mr. Robert C. Thomas of Tennessee Gas Transmission Company was present and was requested to present their proposal. Mr. Thomas advised that their proposal would allow the following benefits:

1. Company acquiring the right to contract the royalty reserves should be capable of giving maximum support to the obtaining of a trans-Alaska pipeline route. He pointed out that in their approach they had covered this point by stating that to date Tennessee Gas Transmission Company has not supported either route designed to transport North Slope gas to market.
2. That the State would receive substantial front-end money. In their approach they indicated that they would make available to the State in excess of 100 million dollars for the right to contract all of the royalty oil and gas reserves in the Prudhoe Bay Field. The exact amount contributed would be subject to further negotiations between the parties and would reflect the needs of the State, the drawdown schedule, and several other factors. The funds would be made available to the State over a three-year period according to the State's needs. There would be no recovery of the advanced funds for a period of three years following the date of the advance. The contribution would be hopefully recovered out of the portion of revenue from the royalty natural gas or oil. The recovery period would be five years, giving a total of eight years. The funds that would be made available would be interest free.
3. They felt that some of the gas must be available for use within the State. In their outline they indicated that they would consider reservation of the State of up to 10 percent of the royalty gas. They did not intend to imply that this represented the maximum anticipated future growth of the State natural gas lease. What it did indicate is that they feel the primary goal at this time should be to secure a trans-Alaska route and that the major source of gas for the future needs of the State would come from future reserves found and transported through this system.

4. The maximum possible wellhead price should be paid for the reserves when produced. They feel that the gas produced in Prudhoe Bay would go into interstate commerce and under current regulations would be subject to control by the Federal Power Commission. Since they are regulated by the Federal Power Commission, they are unable to guarantee a specific wellhead price.

Since the purchaser is subject to unknown timing factors and substantial risks associated with purchasing the right to contract Prudhoe Bay gas, the purchaser must be compensated by certain benefits. They see those benefits to the purchaser as being:

1. the front-end payment must be financeable,
2. the front-end payment must be recoverable at a particular point in time, and
3. the right to contract all of the State's royalty gas in Prudhoe Bay subject to a 10 percent reservation of the gas by the State.

They feel the most important consideration by the State at this time is the securing of the trans-Alaska routing for the Prudhoe Bay gas. This is the biggest single factor that would have an impact on the State throughout its future. To insure that there is no question about their intent in promoting a trans-Alaskan route, Tenneco would add a provision to the memorandum they submitted that they would be willing to give the State the option of terminating their right to contract should the trans-Alaska route not be considered. This termination provision would further provide that Tenneco would receive their capital contribution back plus any interest and that they would not be prejudiced in any further attempts to contract royalty gas.

Chairman Martin asked Mr. Thomas if Tenneco had done any analysis of the El Paso proposal on a comparative basis with their proposal and had they taken a look at the question of the 10 percent set aside and the jurisdictional question in regard to commingling? Mr. Thomas advised that he would get a response to these questions in writing to the Board.

Arlon Tussing asked if Tenneco could provide the Board with the backup on their market analysis and cost analysis. Mr. Thomas stated that he would be happy to get the information together for the Board.

Chairman Martin called a lunch recess until 1:30 p.m. The meeting was called to order at 1:30 p.m. and Mr. Fackler read a letter received from Northern Liquid Fuels Companies dated August 11, 1975, to the Board. Northern Liquid Fuels Companies wished to acquire the right to process the State of Alaska's royalty share of the gas to be produced from the Prudhoe Bay Field for the removal of propane, butane, natural gasoline and ethane (NGL) and to purchase any NGL attributable to the State of Alaska's royalty share of the oil

produced from such field. For the right to process the State of Alaska's royalty share of such gas, the Companies would propose a prepayment plus a payment for each barrel of NGL extracted and marketed over the life of the field, the amounts of such payments to be determined upon conclusion of the study hereinafter referred to. The Companies propose to undertake a comprehensive study to determine which of the following programs is more economical: 1) process the gas stream in the field for removal to the NGL and build a liquids pipeline to transport the NGL to Southern Alaska, or 2) leave the NGL in the gas stream and process the stream: a) in Southern Alaska, if a trans-Alaska gas pipeline is built, or b) in Canada or the United States if an Alaska-Canadian pipeline system is built. The studies will take into account the needs of the State, particularly the establishment of a liquid fuels distribution system in the State of Alaska in its principal cities of Anchorage, Fairbanks, Juneau, as well as others to which reasonable transportation can be made available to transport safely liquid fuel. The Companies would be interested in establishing such a system if the studies indicated that the NGL should be removed either in the Prudhoe Bay Field or at the coast or some intermediate point along the trans-Alaska pipeline. The portion of NGL which exceeds the needs of the State of Alaska would be exported to the continental United States. The Companies, together with two other parties, are currently engaged in designing an LPG import terminal facility on the Houston Gulf Coast capable of receiving 100,000 barrels of LPG per day. Mr. Baca was present to answer any questions the Board had. Mr. Baca advised the Board that he would prepare a more detailed proposal concerning purchase of State royalty natural gas liquids.

#### B. Cook Inlet

Mr. Fackler advised the Board that two proposals had been received with regard to Cook Inlet gas. The first one was from Alaska Pipeline Company who were requesting purchase of the royalty share of North Cook Inlet gas field at or near the Phillips/Marathon LNG Plant on the North Kenai Road, at the price paid by Phillips to acquire this gas from the State for the manufacture of LNG for export to Japan or elsewhere. They believe the most reasonable method for handling the delivery and sale would be by "exchange," or "displacement," so that construction of new pipeline and compression would be minimized. Since their supply at the Kenai gas field is interconnected to the North Cook Inlet gas supply at the LNG plant, for the time being, it would be practical that Alaska Pipeline would take whatever amount of the North Cook Inlet royalty gas that may be available day by day by displacement into their system at the Kenai gas field. Later, if additional investment would be required for transporting this royalty gas to shore, they would negotiate their participation in investment, or install their own facilities if necessary, in order to accomplish the purchase on the most reasonable basis for all concerned. The essential aspect of their request is that they have an immediate

need for additional gas on the North Kenai Road and have a long-term requirement for additional gas reserves to serve Alaskan customers in their present service area. They believe that it is in the public interest that they should be allowed to purchase this State royalty gas for local consumption rather than for this gas to be exported to Japan or elsewhere. They would begin preparing a formal application to purchase this gas and would appreciate having the Board's guidance as to what supporting data or format may be desired.

Mr. Fackler gave the Board some background on this request. He advised that Alaska Pipeline Company has renegotiated with Union Marathon and have increased their deliverability but have not increased their reserves. Mr. Teel is seeking increases in reserves now. Chairman Martin advised the Board that what Mr. Teel indicates would require Board action and submission to the upcoming Legislature. Mr. Teel feels that from the consumer's standpoint this would be very attractive legislatively. It would be based totally on the attractiveness applying to the Anchorage area as opposed to other areas in the State. Mr. Gallagher informed the Board that a clause in regard to most favored nations should be included in the new contract. Mr. Gallagher informed the Board that the most favored nations concept is that the price will meet the highest price in the field. Chairman Martin requested that Mr. Fackler direct a letter to Mr. Teel inviting him to make a presentation at the Board's next meeting.

The second letter was from Northwest Natural Gas Company in which they advised that their project for delivering LNG from Alaska to the State of Oregon had hit a snag due to the jurisdictional restrictions which would be imposed on the producers (Phillips Petroleum Company and Marathon Oil Company) by the Federal Power Commission.

4. Definition of Surplus - Chairman Martin read the statute regarding surplus (AS 38.05.13(d)). Chairman Martin advised the Board that some basic standard in regard to surplus is going to have to be established as a part of the regulations. The Board discussed how they should go about putting that regulation together. After much discussion about surplus, three items emerged that should be included in the definition of surplus and they are: 1) time period, 2) demand, and 3) supply. Chairman Martin informed the Board that he would attempt to bring back to the Board at their next meeting a finished product with regard to the definition of surplus.

7. Other Business - Dick Lyon moved that the Board authorize the Board members who wished to take a briefing from Tennessee Gas Transmission Company on their economic analysis and go through their calculations of costs and that either the Board member or Tennessee Gas Transmission Company would send to the Board a written summary of the briefing for the Board's records. Don Triplehorn seconded the motion and the motion passed unanimously.

Chairman Martin advised that the next item on the agenda was the scheduling of the next Board meeting. The next Board meeting will be held in Anchorage, Alaska on November 10, beginning at 8:30 a.m. He advised that there should be another meeting in December. The meeting is tentatively scheduled some time during the week of December 8. The meeting will be held in Juneau and will begin at 8:30 a.m.

8. Public Participation - Mr. Swetnam of Phillips Petroleum Company requested that Phillips have an opportunity to make a presentation to the Board regarding North Cook Inlet royalty gas. Chairman Martin requested that Phillips make a written presentation to at least the Commissioner's Office, which the Commissioner would make available to the Board and based on this proposal talk with his office in the interim so they could decide whether an appearance would be necessary and desirable.

Mr. A. Baca of Northern Liquid Fuels Companies wanted to add to their presentation that if an LPG system is feasible to be constructed that the State's royalty liquids would be available to serve any market within Alaska that might exist.

There being no further business the meeting adjourned at 3:15 p.m.

# Roster

(3)

10/10

Bruno Mondre

Rep  
Birch, Jernigan, Horton, Patton  
Stamps

M. C. Hollenbo

EL PASO ALASKA CO

LARRY EPPENBACH

TREASURY DIV.

SARAH EPPENBACH

ALASKA CONSTRUCTION & OIL WARE.

Apolonio Baca

NORTHERN LIQUIDS FUELS  
CO

ROBERT C. THOMAS

TENNESSEE GAS TRANSMISSION

Bob Sweetnam

Phillips Petroleum

O. K. Gibbroth

Div Oil & Gas - Anch.

PATRICK

Pat. Pobey

Div of Geol & Geoph Survey

ALASKA ROYALTY OIL & GAS DEVELOPMENT ADVISORY BOARD

Minutes From November 10, 1975, Meeting in Anchorage

1. The Meeting was called to order by Chairman Martin at 8:30 a.m. in the Division of Lands Conference Room in Anchorage. All Board members were in attendance, together with members of our legislative liaison group, distinguished Commissioners of Public Utilities and other dignataries.

2. The Minutes of the October 10, 1975, meeting were discussed. Arlon Tussing raised a question on the wording of Section 4 on page 6 on Definitions of Surplus, and whether or not Mr. Tussing had made a motion defining parameters needed in the definitions. Mr. Fackler was instructed to determine if the recorded tapes of that meeting were still available and transcribe that portion if possible.

3. Reports

A. Chairman Martin was informed that the reports on Natural Gas Future Demand and Existing Gas Contracts scheduled at this time would be delayed several hours pending last minute work. The Board decided to amend the schedule and advance to Part V - Proposals.

5. Proposals

A. Prudhoe Bay

1. Mr. John Bennett, El Paso Alaska Company, reviewed the El Paso trans-Alaska gas pipeline project efforts to date emphasizing El Paso's need for a contract to purchase or transport State royalty gas from Prudhoe Bay which is surplus to State's needs. A transcript of the testimony is attached.

B. Cook Inlet

1. Mr Dale Teel, Alaska Pipeline Company, presented a request that the State royalty gas from North Cook Inlet gas field be taken in-kind and sold to Alaska Pipeline Company. His testimony was followed by Mr. John Horn, Phillips Petroleum Company, who opposed Mr. Teel's request. A transcript of the testimony of Mr. Teel and Mr. Horn is attached to the minutes.

Mr. Thomas Stahr, Anchorage Municipal Light and Power, read a letter to the Board supporting the Alaska Pipeline Company request. A copy of the letter is attached.

Mr. John Miller Division of Oil and Gas, presented a table summarizing the existing gas contracts in the Cook Inlet area. Items include quantity of gas dedicated, length of contract, price, remaining reserves to contract and uncommitted reserves.

Mr. Patrick Dobey, Division of Geological and Geophysical Surveys, reviewed current progress on the computer model study of probable future demand for gas in Alaska. A copy of his presentation is attached.

Mr. Robert C. Thomas, Tennessee Gas Transmission, presented additional information on the effect of Federal Power Commission regulations on Alaska's use of its royalty gas. This information was requested by the Board at the October 10 meeting in Juneau.

Their legal counsel is of the opinion that the State as a political subdivision is not subject to direct FPC control. However, any State gas transmitted by a transfer would require a certificate thereby allowing at least a measure of indirect control.

Tenneco suggests that FPC control could be minimized by either of two ways. One is to secure an immunity or exemption by the FPC in the original certificate. Second is an exemption through legislative action by Congress approved by the President. A copy of this memorandum is attached.

Following this discussion the Board instructed the Chairman and staff to proceed in drafting proposed regulations on determining surplus definitions of supply and demand. The proposed regulations are to be published in several newspapers. Final language and approval will depend on comments on the public notice.

Chairman Martin requested approval by the Board to extend the term of acting directorship for Mr. Fackler until the appointment of a new Deputy Commissioner. There being no objection by the Board, approval was granted.

Authority was also requested to expend up to \$20,000 of Board contractual funds for consulting purposes. After a short discussion on possible types of consultant activities, the Board approved the request.

The next meeting date of the Board was set as December 9 and 10, 1975, in Juneau. There being no further business before the Board, the meeting was adjourned.

Nov 10, 1975 My Anchorage

Name	Representative of:
JOHN L. WILLIFORD	PHILLIPS PETROLEUM COMPANY
JOHN HORN	✓     ✓     ✓
LEN McLEAN	PACIFIC ALASKA LNG Co.
Don Triplehorn	Univ. of Alaska - Board Mb.
Arden Tussing	"     "     "
Eric Eckholm	Gas Pipeline Legislative Comm.
Dale Tapp	Anchorage Natural Gas
Paul F. Robeson	Atty.     "     "     "
Richard A. Lyon	GOODS MEMBER
M. C. Holland	EL PASO ALASKA Co
J. C. Bennett	EL PASO ALASKA Co.
Jack Robinson	self
Thomas Stahr	Anchorage Municipal Light & Power
CAROLYN GUESS	ALASKA PUBLIC UTILITIES COMMISSION
Paul F. Robeson	above
Gordon Schadt	Bivch, Teruquin, Howton & Bittner
Fred Boness	Dept. of Law
Julius J. Bracht	"     "
<b>GORDON ZERBETZ</b>	<b>ALASKA PUBLIC UTILITIES COM.</b>
NOEL BUJKE	MARATHON
Chancy Croft	Alaska Senate
C. J. DIVER	MARATHON
Harold Schmitt	Alaska Gas & Service
Pete C. Ginder	Ely, Guss & Rudd (PAC AK LNG Co)
Ken Sheppard	Consulting Engineer
	EL PASO ALASKA

Jared G. Carter  
Kay M. Linton  
ROBERT C. THOMAS  
BILL NIAGUIRE  
Rosemary Hinshaw  
Mike Brodner  
Elyse Todd  
Lawrence Eppendorf  
W.C. Fackler  
John C. Miller  
Tom Marshall  
Patrick L. Dobe

Tennessee  
O.M.A.R.  
TENN. GAS TRANSMISSION  
Legislative Affairs  
Daily News  
Alaska House of Representatives  
Anchorage Times  
Dept. of Revenue  
Natural Resources

✓	✓
✓	✓
✓	✓

OCT 23 1975

RECEIVED  
JUNEAU, ALASKA



PHILLIPS PETROLEUM COMPANY

BARTLESVILLE, OKLAHOMA 74004

513 561-6800

NATURAL RESOURCES GROUP  
Gas and Gas Liquids Division

October 21, 1975

North Cook Inlet Royalty Gas

File: 1-Ho-381-75-G&GL

Commissioner Guy Martin, Chairman  
Alaska Royalty Oil and Gas Development  
Advisory Board  
c/c Department of Natural Resources  
Juneau, AK 99801

Dear Commissioner Martin:

We are advised that certain interests have made application or may make application to purchase royalty gas owned by the State of Alaska and produced from the North Cook Inlet Field. Phillips is the Owner and Operator of this field.

Phillips has at considerable risk and expense, developed the North Cook Inlet Field and has provided a market for the natural gas when no markets existed. Phillips constructed a pipeline, liquefaction plant, and LNG tankers which were designed to utilize all of the natural gas produced from the North Cook Inlet Field. Through our efforts, we have negotiated several substantial price increases with our customers and have shared these price increases with the State of Alaska. This, we believe, gives strong evidence of Phillips' willingness to establish a fair and reasonable wellhead price as a basis of royalty payment. We know of no other natural gas royalty settlement in Alaska at a price as high as Phillips is paying.

For the State of Alaska to take the royalty gas in kind and separately dispose of it will impose severe economic hardships on Phillips. Such disposal to a third party will cause a premature abandonment of the pipeline, liquefaction and transportation facilities due to the early depletion of our natural gas reserves. All of these facilities were specifically built to create and provide a market for all of the natural gas from the North Cook Inlet Field. Additionally, it would require the drilling of more wells and the installation of additional compression equipment as well as the installation of certain compression equipment at an earlier date.

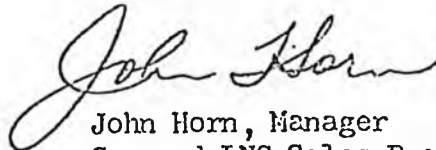
Commissioner Guy Martin  
File: 1-Ho-381-75-G&GL

October 21, 1975  
Page 2

We strongly oppose the sale of royalty gas from the North Cook Inlet Field by the State of Alaska to any third party because of the undue economic hardships that it will impose on us. Further, Phillips is settling with the State of Alaska on a fair and reasonable value for the State's royalty gas.

Please take a look at our performance record. We believe that the State of Alaska will receive the greatest overall benefit by allowing Phillips to continue to market Alaska's royalty gas from the North Cook Inlet Field.

Very truly yours,



John Horn, Manager  
Gas and LNG Sales Branch

JH:bla

cc: Mr. R. I. Swetnam  
Phillips Petroleum Company  
Hoblit Building  
515 "D" Street  
Anchorage, AK 99501



PHILLIPS PETROLEUM COMPANY  
BARTLESVILLE, OKLAHOMA 74004 918 661-6600

1

NATURAL RESOURCES GROUP  
Gas and Gas Liquids Division

December 5, 1975

State Royalty Gas  
North Cook Inlet Field  
Alaska Gas & Service  
Company Proposal

File: 1-Ho-438-75-G&GL

Commissioner Guy Martin, Chairman  
Alaska Royalty Oil and Gas Development  
Advisory Board  
c/o Department of Natural Resources  
Pouch M  
Juneau, AK 99801

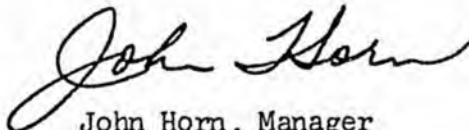
Dear Mr. Martin:

During the hearing before the Alaska Royalty Advisory Board on November 10, 1975, in Anchorage, a brochure entitled "The Case for Committing Alaska State Royalty Gas from the North Cook Inlet Gas Field to Alaska Pipeline Company (Anchorage Natural Gas)" was presented to the Board. We offer the following comments to the Board on this proposal in addition to the oral presentation made in behalf of Phillips at the November 10 hearing.

1. Phillips recognizes that the State has the right to take its royalty share of the gas in kind at the wellhead. But we believe that such action will not in the long run be to the best advantage to the citizens of the State.
2. Phillips has invested over \$125,000,000 to develop a market for the North Cook Inlet Field gas when no market existed. Our investment was made with the expectation that we would market all of the gas from the field — it was our obligation to market the State's royalty gas along with our working interest gas.
3. Deliveries commenced six years ago and we had visualized at least a 20-year project.
4. Phillips has actively worked with various groups and individuals in Alaska, including Alaska Gas & Service Company, to try to make LNG available to the more remote areas; however, thus far the high cost of transportation has thwarted these efforts.

5. Phillips has persistently sought to improve the market for the North Cook Inlet Field gas and as this has improved, the benefits have flowed to the State in the form of higher royalty settlements.
6. We believe that the State would receive the greatest benefit if it continued to receive the royalty payments made from the North Cook Inlet Field by Phillips, which is substantially higher than the prices presently being paid for natural gas by Alaska Gas & Service Company for other gas in the area. We submit that if Alaska Gas & Service Company would offer producers in the Cook Inlet Area the same amount that it would pay for the royalty gas from North Cook Inlet Field, this should be a very attractive market for natural gas and would encourage the development of additional natural gas reserves in the Kenai-Cook Inlet Area for Alaska Gas & Service Company even beyond the 15 million cubic feet per day which they propose to receive from North Cook Inlet Field.
7. The State is in the enviable position of not having to decide on an "either/or" basis but has the opportunity to continue to receive income from the present market while encouraging the creation of new markets and new development of the undeveloped natural gas resources in the area — thus winning on both bases.
8. We submit that in the best interest of the State of Alaska, the State should continue to allow Phillips to utilize the royalty gas in its LNG facilities and thereby open up new markets for the undeveloped natural gas resources in the area.

Very truly yours,



John Horn, Manager  
Gas and LNG Sales Branch

JH:bla

cc: Mr. R. I. Swetnam  
Phillips Petroleum Company  
Hoblit Building  
515 "D" Street  
Anchorage, AK 99501

Comments by John Horn  
Phillips Petroleum Company  
to  
Alaska Oil and Gas Development Advisory Board  
Juneau, Alaska, December 9, 1975

Mr. Chairman, Members of the Board,

Phillips Petroleum Company appreciates the opportunity once again to appear before you. Let me state again that we share with you the concern that the citizens of Alaska derive a fair and reasonable benefit from the State's natural resources — including its natural gas. We recognize that the State has the right to take its royalty share of gas in kind at the wellhead.

We have handed to you a folder which contains (1) our written response to the Board on the brochure entitled "The Case for Committing Alaska State Royalty Gas from the North Cook Inlet Gas Field to Alaska Pipeline Company (Anchorage Natural Gas)" which was presented to the Board at the November 10, 1975 hearing in Anchorage, and (2) reproduced copies of some letters from governmental officials written at the time our LNG project was in its formative stages so that you may have the benefit of their feelings toward the Phillips-Marathon LNG Project at that time.

Although we have reprinted the entire texts for your review, I would like to quote from two of these latter mentioned letters.

The first is from a letter dated March 21, 1967, from Senators E. L. Bartlett and Ernest Gruening, addressed to Honorable Lee C. White, then Chairman of the Federal Power Commission, with respect to the Phillips-Marathon LNG Project.

"It is our hope that favorable action on the two applications and the subsequent development of Japanese markets will encourage the exploration and utilization of new Alaska gas fields. The present proposal and those we hope will follow will have a very measurable, favorable and tremendous effect on Alaska's economy.

"We support the applications in the strongest way possible."

The second is dated April 7, 1967, from Mr. Anthony M. Solomon, Assistant Secretary, Bureau of Economic Affairs, Department of State, and also addressed to Honorable Lee C. White.

"The Department of State raises no objections to the substance of the Phillips-Marathon proposal and in view of trade expansion policy supports the prompt action of the Federal Power Commission toward favorable response to the application."

During this time, we worked with Mr. Frank H. Murkowski, then Commissioner of the Department of Economic Development, who was most anxious to further the economic development of Alaska and to develop and utilize its natural gas resources.

We were advised at that time that 1967 marked the 100th year since Alaska was purchased from Russia and that our proposed LNG plant would be one of the top four industrial installations in Alaska during those first 100 years.

We believe that the State would receive the greatest benefit if it continued to receive the royalty payments made from the North Cook Inlet Field by Phillips, which is substantially higher than the prices presently being paid for natural gas by Alaska Gas & Service Company for other gas in the area. We submit that if Alaska Gas & Service Company would offer producers in the Cook Inlet Area the same amount that it would pay for the royalty gas from North Cook Inlet Field, this should be a very attractive market for natural gas and would encourage the development of additional natural gas reserves in the Kenai-Cook Inlet Area for Alaska Gas & Service Company even beyond the 15 million cubic feet per day which they propose to receive from North Cook Inlet Field.

The State is in the enviable position of not having to decide on an "either/or" basis but has the opportunity to continue to receive income from the present market while encouraging the creation of new markets and development of the undeveloped natural gas resources in the area — thus winning on both bases.

It might be interesting to the Board to know that Phillips Petroleum Company in 1975 will pay <sup>from this project</sup> to the State of Alaska revenues in excess of \$60,000 for each of its employees in the State.

We would hope that the State of Alaska would encourage the judicious development of its natural gas resources. We believe that the State should take that action which will result in a long term supply available for the development of Alaska's economy. Certainly, we would hope that the State would avoid the mistakes made in the Lower 48 States in the past which depressed exploration and development. The result has been an inadequate supply of natural gas and the Federal and State regulatory agencies in the Lower 48 now find themselves simply trying to allocate the shortage. We believe that the course we suggest you take is one of the types of State action which will be conducive to expand development of Alaska's natural gas resources and will help assure the citizens of Alaska an adequate supply of gas for the long term.

We would be happy to answer any questions.



**Homer Electric Association, Inc.**

P. O. BOX 255 • HOMER, ALASKA 99603 • PHONE (907) 235-8551

9

January 22, 1976

Mr. William C. Fackler, Exec. Secy.  
Alaska Royalty Oil & Gas Advisory Board  
Pouch M  
Juneau, Alaska 99811

RECEIVED  
JAN 26 1976

Department of  
Natural Resources

Dear Mr. Fackler:

The purpose of this letter is to inform you and your Commission that our Association is entering into negotiations with Chugach Electric Association to acquire their gas fired electric generation facilities at Nikiski.

These facilities are presently consuming approximately 9 million cu. ft. per day of natural gas, which is purchased from the Alaska Pipeline Company. In addition to the present gas consumption, we intend to construct prior to the end of calendar year 1978 an additional generating facility at that location requiring an additional 5 to 6 million cu. ft. per day.

We are familiar with the on-going negotiations between your office and the Alaska Pipeline Company concerning State Royalty gas for resale to Chugach and the Anchorage area.

Please consider this letter as an inquiry to determine whether or not we will be able to purchase Royalty Gas in the amounts described above pursuant to Alaska Statutes AS 38.06.010. We would anticipate purchasing all of the royalty gas available at the Phillips Petroleum LNG Plant with the assumption that the amount in excess of our needs available on a day to day basis could be resold to Phillips for their processing plant.

We assume that we would be required to pay the current market price for the gas which we believe to be 45¢ per MCF plus a negotiated transportation fee. Our negotiations to acquire the electric generating facilities in the area and build additional generation facilities is dependent upon our ability to acquire the State Royalty Gas or a like quantity of other gas in that area.

RECEIVED  
JAN 22 1976

ALASKA ROYALTY  
OIL & GAS BOARD

Our association is a non-profit cooperative. The membership includes all of the residents and business organizations of the Western Kenai Peninsula. We will greatly appreciate any cooperation that your office can lend us in bringing these negotiations to a mutually beneficial conclusion.

Sincerely yours,

HOMER ELECTRIC ASSOCIATION, INC.



W. C. Rhodes  
General Manager

WCR:em

cc: O. K. Gilbreth  
W. I. Palmer  
Sen. Clem Tillion  
Rep. Hugh Malone  
Rep. Leo Rhode  
Guy Martin



**Homer Electric Association, Inc.**

P. O. BOX 255      HOMER, ALASKA 99603      PHONE (907) 235-8551

*cc  
All Board  
memo  
4-5-76*

9

March 30, 1976

RECEIVED  
APR - 2 1976

Mr. Guy Martin, Commissioner  
Royalty Oil and Gas Development Advisory Board  
Department of Natural Resources  
Pouch M  
Juneau, Alaska 99811

Department of  
Natural Resources

Dear Sir:

In our letter to Mr. Fackler dated January 22, 1976, and at a hearing before your Advisory Board, we applied for the State Royalty Gas that you plan to make available from presently producing fields in the North Kenai area.

The purpose of this letter is to inform you that we have been able to obtain commitments to purchase fuel for the proposed new electric generating facility at North Kenai from what we believe to be a reliable source; and, further, Mr. Dale Teel of the Alaska Pipeline Company has agreed to supply our Association with natural gas for fuel for the existing electric generating plants in the North Kenai area if we are successful in acquiring these from Chugach Electric Association.

In view of the foregoing, we feel that it is in the best interest of all concerned that we withdraw our application as outlined in our letter of January 22.

As the Kenai Peninsula continues to attract industry, we do not wish to imply that we will not, at some future time, be interested in dealing with the State for royalty gas that may become available in other, yet to be developed, fields on the Kenai Peninsula area. If, at any time, additional royalty gas does become available we would appreciate it very much if your office would advise us so that we can ascertain whether or not it would be needed in our ever-expanding operation.

We note with interest the development of the Advisory Board's intention to adopt a regulation in Title 11 of the Alaska Administrative Code to interpret and make specific Alaska Statute 38.06, including the determination of surplus.

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APR 05 1976

ALASKA ROYALTY  
OIL & GAS BOARD

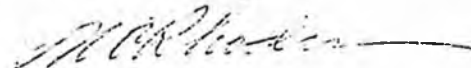
March 30, 1976

We sincerely hope that the proposed regulation 11AAC26.900(a) (5) will define the term "industrial use" as referred to in existing regulations, and that the State's royalty gas will be made available first to industrial use and then to all other uses, according to priorities established by your office.

We sincerely appreciate the courtesies extended to our Association by the Advisory Board and your office, and we are looking forward to further negotiations should the need arise.

Sincerely yours,

HOMER ELECTRIC ASSOCIATION, INC.



W. C. Rhodes  
General Manager

WCR:em

cc: Rep. Leo Rhode  
cc: Mr. Dale Teel

North Cook Inlet Field Royalty Gas  
Commissioner's Proposal in Concept

The Commissioner of Natural Resources has recognized that the increasing growth of the Cook Inlet area of Alaska with its resultant increase in the use of natural gas requires that additional natural gas reserves be allocated for that purpose from State of Alaska royalty gas. From the standpoint of size of uncommitted gas reserves, geographical location and possible pipeline access, the North Cook Inlet field royalty gas appears the best available supply at this time. Pursuant to AS 38.05.182 the Commissioner proposes that it is in the best interest of the State to take in kind the State's royalty share of the gas production from the North Cook Inlet gas field and requests the consent of the Alaska Royalty Oil and Gas Development Advisory Board for this change.

The Commissioner further proposes to dispose of the North Cook Inlet field royalty gas to Alaska Pipeline Company and its subsidiaries through a negotiated contract. The proposed contract will contain the following provisions:

1. Purchaser agrees to take 1/8 of daily production from the North Cook Inlet gas field on an if and as deliverable basis for the contract period. The State will report to the Purchaser each month the amount of royalty gas produced by Phillips during the prior months.

The approximate average daily royalty gas share of the production from Phillips' North Cook Inlet field platform is 17,000 MCF. Gas production from the platform varies as LNG plant needs dictate therefore no daily amount can be specified.

2. Point of delivery will be the wellhead.
3. Purchaser is responsible for measurement costs, and any compression or dehydration costs if or when necessary.
4. The contract expires on June 1, 1984, unless extended by mutual agreement for a period not to exceed one year.
5. The price of the gas will be equal to the price the State otherwise would have received from Phillips for its royalty gas for export as LNG to Japan; but not less than the highest price paid by any purchaser in the Cook Inlet area for a similar sale of gas of similar quality. The price will be adjusted yearly on the anniversary date of the contract.

6. The contract shall not be effective until

-all necessary permits and authorizations by governing bodies are obtained

-all transportation or exchange arrangements have been completed to the satisfaction of the parties involved.

-six month's notice required under lease

The Commissioner request approval of the above proposed conceptual plan by the Alaska Royalty Oil and Gas Development Advisory Board.

Bill

# TELEGRAM

PACIFIC ALASKA COMMUNICATIONS, INC.  
PHONE: 586-6440  
JUNEAU, ALASKA 99801

11

MAR 29 PM 5 03

#  
IPMAFUE AHC

1-0349800339 03/29/76

TWX PAC LGHT LSA

2 15 LOS ANGELES, CA MARCH 29, 1976

PMS MR. GUY MARTIN, CHAIRMAN

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

7580

POUCH M

JUNEAU, ALASKA 99801

WITH REFERENCE TO THE LETTER FROM PACIFIC ALASKA LNG COMPANY TO MR. GUY R. MARTIN, COMMISSIONER OF NATURAL RESOURCES, DATED MARCH 5, 1976. OUR OFFER TO BID ON THE PURCHASE OF THE STATES ROYALTY SHARE OF GAS IN THE NORTH COOK INLET AREA WAS LIMITED ONLY TO THOSE FIELDS IN THAT GENERAL AREA IN WHICH WE CURRENTLY HAVE THE RIGHT TO PURCHASE GAS OR MAY IN THE FUTURE HAVE THE RIGHT TO PURCHASE GAS. WE HAVE NO INTEREST IN BIDDING ON THE PURCHASE OF ANY STATE ROYALTY GAS PRODUCED FROM THE "NORTH COOK INLET FIELD"

PACIFIC ALASKA LNG COMPANY

BY P. VER PLANCK

1956 EST

IPMAFUE AHC



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

12

April 2, 1976

RECEIVED  
DEPARTMENT OF  
NATURAL RESOURCES

Mr. Guy T. Martin  
Commissioner of Natural Resources  
11th Floor, State Office Building  
Pouch M  
Juneau, Alaska 99811

Dear Commissioner Martin:

The purpose of this letter is to confirm our oral proposal made to the Alaska Royalty Oil and Gas Development Advisory Board during its March 30/31 meeting in Juneau.

The proposal can be outlined as follows:

1. The State take North Cook Inlet royalty gas in kind and sell such gas to AGAS.
2. AGAS will take delivery of the gas at the platform. This presumes that--
  - (a) an arrangement can be made whereby, for suitable compensation, Phillips will transport the gas via their existing system to a point adjacent to the LNG plant.
  - (b) the APUC waives jurisdiction over the Phillips facilities to the extent that they may otherwise come under regulation due to the transport of the "royalty" gas.
3. The price will be equal to the Phillips price for royalty gas exported to Japan or equal to the highest price paid in the Cook Inlet area for similar quality gas.
4. The proposal is to cover the "life of the contract" and will terminate on or about June 1, 1984.
5. AGAS will take or pay

This presumes that--

- (a) it may be agreed with the State that royalty will be taken in kind for resale to AGAS on a selective lease by lease basis so that the volume in question will approximate AGAS' North Road requirements or

RECEIVED  
APR 06 1975

ALASKA ROYALTY  
OIL & GAS BOARD

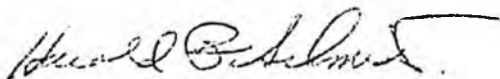
**ALASKA PIPELINE COMPANY**

ANCHORAGE, ALASKA

Commissioner Guy T. Martin  
Continuation Sheet #2  
April 2, 1976

- (b) if suitable exchange arrangements can be made with others or if AGAS chooses to build the pipeline connection to its Anchorage line--it may be agreed with the State that all of the royalty be taken in kind for resale to AGAS.
  - (c) The notice date regarding the State taking royalty in kind be so arranged as to permit AGAS a reasonable length of time to make exchange arrangement with others or to build the required pipeline facilities on a reasoned schedule.
6. The volume of gas expected to be taken in kind for resale to AGAS over the life of the contract is approximately 40 BCF with the actual amount being dependent upon the date of commencement, the arrangement agreed to under #5 above and the actual rate at which the field is produced.
7. It is understood that a deliverability feature is not required in this agreement.

Very truly yours,



Harold F. Schmidt  
Senior Vice President

dh

Alaska Royalty Oil and Gas Development Advisory Board  
Minutes of the April 26, 1976, Meeting  
Juneau, Alaska

13

The meeting was called to order by Chairman Martin at 10:00 a.m. April 26, 1976. All members present except Mr. Gallagher who was late.

The minutes of the previous meeting, March 30 and 31, 1976, had been mailed to Board members prior to the meeting. Mr. Lyon moved for approval and Dr. Triplehorn seconded the motion. Mr. Martin noted that Paul Robison's name was misspelled. The correction was made by the secretary. The minutes were approved unanimously by the four members present.

Chairman Martin advised the Board of an agenda change. No proposed sale of North Slope royalty gas would be introduced to the Board at this meeting. He wished to brief the Board on the status of negotiations during the meeting but in an executive session. Also he wanted to determine a satisfactory date for the next meeting within the next ten days to two weeks.

After discussion, the dates of May 7 and 8 and May 11 and 12 were selected with the decision made by the Chairman depending on progress.

Next item for consideration was the proposed sale of North Cook Inlet Field royalty gas to Alaska Pipeline Company. The contract draft was reviewed in detail by the Board, item by item. All corrections were noted and a corrected draft prepared for the afternoon session.

Mr. Martin gave a brief status report on the North Slope royalty oil solicitation including a recent conversation with Mr. Downey of Tesoro Alaska Oil Company. Tesoro maintains their interest in expanding the Kenai refinery using North Slope royalty oil.

Mr. Gallagher moved that the Board reconvene in executive session at 1:30 p.m. and public session at 2:30 p.m. Motion seconded by Mr. Lyon. Motion passed unanimously.

The Board reconvened in public session resuming consideration of the North Cook Inlet Field royalty gas sale. Documents before the Board were: a corrected draft of the contract, request for approval to waive the competitive bidding requirement and approval for the rejection of bids or applications.

Several changes in wording in contract provisions were worked out and noted for retyping.

There was no response to a call for public participation

Mr. Boness reported on the legal research by Mr. Allen, Covington and Burling, on a set of questions relating to State taking of royalty-in-kind. He had received a preliminary draft by telecopy which was not suitable for copying for the Board. The legal research essentially confirmed the opinions of the Department of Law and industry counsel who have responded to State questions on the matter. Mr. Allen's work has bolstered these opinions by case citations and also pointed out the areas where case law has not developed, particularly in reference to a State taking royalty gas in-kind. The authority of the Federal Power Commission to control gas arising from its jurisdiction over pipeline transport is of special interest to the State. Mr. Allen recommends procedures to follow to reduce FPC control as much as possible. The State should make its desires known to the producers in time to be included in the producer's contracts with gas purchasers and to the FPC. The report also was not optimistic about the FPC granting the State authority to abandon gas sales at the time of initial sale or preabandonment authority as some refer to it.

Mr. Gallagher returned from his telephone call to Mr. Harold Schmidt, Alaska Pipeline Company, about certain wording in the price provision of the contract. The wording added to the provision was explanatory.

The requests for prior written approval to reject bids and to waive competitive sales were circulated. Mr. Gallagher moved that the Alaska Royalty Oil and Gas Development Board approve the waiver of competitive sales, Dr. Triplehorn made the second. On a roll call vote each member voted yes and signed the waiver.

Mr. Lyon moved that AROGDAB approve rejection of all bids or applications for the royalty gas in the North Cook Inlet Gas Field except that of Alaska Pipeline Company as provided for in AS.38.06.050(b). Dr. Triplehorn made the second. The motion was approved by unanimous vote on a call of the roll and each member signed the approval.

Mr. Gallagher moved that AROGDAB approve the gas purchase and sale contract, as amended, for the sale of the North Cook Inlet Gas Field royalty gas to the Alaska Pipeline Company as provided for in AS.38.05.183 and AS.38.06.050. Mr. Lyon was the second. On a roll call vote all members voted affirmatively.

The Chairman announced that the Board had concluded its first sale. He also said that he would initiate an inquiry regarding possible exchange of gas between the State, producers and gas purchasers.

The meeting was adjourned.

STATE OF ALASKA  
THE LEGISLATURE  
LEGISLATIVE AFFAIRS AGENCY

POUCH Y - STATE CAPITOL  
JUNEAU, ALASKA 99811  
907-465-3800

MEMORANDUM

May 8, 1976

SUBJECT: Contract for Sale of State Royalty Gas from the North Cook  
Inlet Field to Alaska Pipeline Company

TO: The Honorable Fred Brown

FROM: Gregg Erickson  
Director of Research Services

Summary

As you requested on Friday, May 7, we have reviewed the unexecuted gas purchase contract identified as #76-1, between the State of Alaska (seller) and Alaska Pipeline Company (buyer) with particular reference to several specific questions you raised. Our analysis raises questions concerning the contract's pricing provisions and suggests that more extensive review by the Department of Natural Resources of Cook Inlet gas prices is called for. We also suggest that a requirement for in-state use of this gas be considered or, alternatively, that the contract be made unilaterally terminable by the state. In general, however, we find no obvious conditions or terms in the contract that appear contrary to the state's interests. Finally, we suggest revised wording for the resolution approving the contract.

Analysis

In general, the contract calls for the state to deliver to the buyer--currently the sole supplier of natural gas to Anchorage--an unspecified quantity of royalty gas received from its lessee in the North Cook Inlet field. It provides that the state shall direct its lessee (which in this case is Phillips Petroleum Company) to make these deliveries directly to the buyer who will then be responsible for its transportation to wherever it is to be consumed. Overall, a review of this contract reveals no glaring inequities or conditions which are

obviously not in the state's best interest. We do note, however, a number of minor policy issues and technical considerations which the legislature may wish to call to the attention of Commissioner Martin and the Alaska Royalty Oil and Gas Development Advisory Board.

The first question you raised concerned the point at which the royalty gas will be delivered to the buyer. The gas purchase contract itself does not specify this point. Under the terms of the lease between the State of Alaska and Phillips, the state has the right to take its royalty gas in kind but must do so on or adjacent to the lease from which it is produced. In the case of an offshore platform such as that from which the North Cook Inlet field is produced, this means that, absent other mutually acceptable arrangements, the state must take delivery of its in-kind royalty gas at the platform and arrange for its own transportation ashore. Thus, unless the state wishes to assume this responsibility, the contract provision as currently framed regarding point of delivery would seem to be the only appropriate alternative, i.e., that the state make its delivery to the buyer at the point where it receives delivery from the lessee.

As a practical matter, pipeline capacity sufficient to transport both the royalty and producer's gas to shore already exists, and Alaska Pipeline Company should be willing to pay Phillips a reasonable fee for the use of that capacity. Normally, both Phillips and Alaska Pipeline would be expected to have plenty of incentive to reach an agreement on these transportation charges. They represent additional income to Phillips without any additional expense (since the pipeline capacity is already in being) and, in the case of the Alaska Pipeline Company,

should be substantially lower than the cost of building and operating its own platform-to-shore pipeline.

The only situation where we could envision difficulties arising would be in the case where the lessee was willing to make significant immediate financial sacrifices in order to sabotage the royalty gas sale and thus regain for itself control over the entire production stream. If the cost of constructing a separate pipeline for the royalty share were economically prohibitive, denial of access of the existing facility might be sufficient to torpedo the entire deal. We do not see this as a likely eventuality, and if it were it is probable that the state could bring countervailing pressure to bear on the lessee. In any event, the possibility of such a confrontation would not seem to require any change in the contract here presented to the legislature.

You also asked us to review the provisions concerning the pricing of royalty gas delivered to the buyer. In general, this provision calls for the buyer to pay the state the higher of either the price the state would have received from Phillips Petroleum Company had it not taken its gas in kind, the highest price paid for gas elsewhere within 100 kilometers (62 miles) of the North Cook Inlet field, or a minimum price (which is 60.36¢ per Mcf as of July, 1977, escalating thereafter at the rate of 2¢ per Mcf annually).

We find these provisions unexceptionable, but we would call your attention to what appears to be unnecessary vagueness with respect to the provisions (on page 4 and repeated on page 5 of the contract) concerning how prices received for gas elsewhere in the Upper Cook Inlet Basin are to be related to the price of gas sold under this contract. The problem

arises from the fact that natural gas may be sold elsewhere within the 100 kilometer radius at a price higher than that which would be due under either of the other two pricing provisions, but that the conditions of delivery of that higher priced gas or its quality may be different enough to raise the question of whether the price is properly comparable to that received for gas purchased by the buyer. The contract states that these comparisons shall be made "with due regard to appropriate factors including, but not limited to, difference of BTU content, delivery pressure, term of contract and connection charges." We would suggest that the semicolons preceding this phrase on pages 4 and 5 be deleted so that it will be clear the phrase applies only to the part of the sentence following the "(iii)", applying only to the comparison of prices within the basin and not to the minimum price or the price that the state would have received from Phillips.

In addition, you might consider it appropriate to work with the commissioner to develop substitute wording defining exactly how the BTU content and delivery pressure differences will influence the comparison prices, eliminating the reference to contract term and connection charges, and adding words indicating how the quantity of gas delivered is to affect the comparison. As it stands now, almost any difference in terms of delivery or quality could be used to justify an effective exemption from the "highest price received elsewhere" requirement.

It should be noted that the price currently received by the state for royalty gas produced from the North Cook Inlet field is an "imputed price". This means that it is not determined on the basis of actual

sales but rather on the basis of a "netback calculation" whereby one takes the price received for this gas in Japan and subtracts therefrom the costs of transportation and liquifaction incurred between the production platform and the delivery point in Tokyo. In the past the state has devoted little or no attention to actual verification of the validity of this imputed price, since it happens to be the highest price received for any gas in the basin. We have no reason to believe there is anything phony about the current price but would suggest that it would be appropriate in the future for the department to pay closer attention to this and other similarly determined prices in the basin since changes in one may influence others as well.

We would also call your attention to the fact that as the contract is currently written the state has no right of termination other than by mutual agreement. The buyer, on the other hand, may unilaterally terminate the contract prior to January 31, 1978. We would also point out in this context that although the "Whereas" paragraphs prior to the body of the contract indicate that the "buyer ...[delivers] natural gas for ultimate consumption within the State of Alaska", nowhere in the contract does the buyer agree to use or sell the gas purchased here only for consumption within the state. Conceivably the buyer could either export the gas from the state himself or sell it to some other party who would do the same thing. If the point of sale is greater than 100 kilometers from the North Cook Inlet field, the price of the sale would not result in any readjustment of the price paid by the buyer to the state. Since the purpose of this contract is to insure adequate supplies of natural gas for domestic consumption within the state, it would seem

logical that the contract include guarantees with respect to this matter or, alternatively, provisions allowing the state to unilaterally terminate the arrangement.

Finally, we would note that the "Resolved" clause of the resolution offered by the governor when he requested approval of this contract (HCR 142) would appear to be incorrectly worded. We would suggest that the following language be substituted:

"BE IT RESOLVED by the Alaska State Legislature that Alaska royalty gas sale No. 76-1 and the contract providing for the sale of royalty gas from the North Cook Inlet gas field pertaining to it, between the State and the Alaska Pipeline Company, is hereby approved."\*

We would also suggest that the contract itself be made part of the legislature's official record by its inclusion in the House Committee Report, and thus the Supplement.

\* If the legislature or a committee thereof believes that the above comments or other considerations require some revision of the contract, the most expeditious way of bringing them about might be to instruct the Department of Natural Resources or Mr. Fackler (executive director of the Royalty Board) to work with the proposed buyer to develop the necessary language. The resolved clause could then read:

"BE IT RESOLVED by the Alaska State Legislature that Alaska Royalty Gas Sale No. 76-1 and the amended contract (submitted to the legislature on \_\_\_ May 1976 and appearing in the House Journal Supplement for \_\_\_ May 1976) providing for ..."

# STATE OF ALASKA

## DEPARTMENT OF NATURAL RESOURCES

ROYALTY OIL AND GAS DEVELOPMENT ADVISORY BOARD

JAY S. HAMMOND, GOVERNOR

11TH FLOOR, STATE OFFICE BLDG.  
POUCH M - JUNEAU 99811

May 7, 1976

The Honorable Nels Anderson  
Chairman, House Resources  
Committee  
Pouch V  
Juneau, Alaska 99811

Dear Mr. Anderson:

In accordance with the requests of you and your committee the items listed below pertaining to HCR 142 are attached.

1. Letter from Alaska Pipeline Company dated September 30, 1975 requesting State royalty gas from North Cook Inlet Field.
2. Minutes of Board meeting October 10, 1975.
3. Roster from October 10, 1975 meeting.
4. Minutes of Board meeting November 10, 1975.
5. Alaska Pipeline Brochure prepared for November 10, 1975 meeting.
6. Letter from Phillips Petroleum Company, dated October 21, 1975.
7. Letter from Phillips Petroleum Company, dated December 5, 1975.
8. Letter from Homer Electric Association requesting royalty gas, dated January 22, 1976.
9. Letter from Homer Electric Association withdrawing request, dated March 30, 1976.
10. Sale terms approved by Board.

The Honorable Nels Anderson

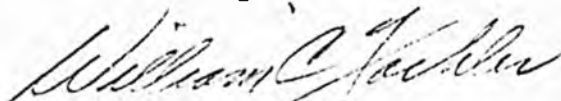
-2-

May 7, 1976

11. Telegram from Pacific Alaska LNG disclaiming interest.
12. Letter from Alaska Pipeline Company agreeing to terms dated April 2, 1976.
13. Minutes of Board meeting April 26, 1976 approving sale.

If you desire additional information regarding the North Cook Inlet Field royalty gas sale, please advise me.

Yours truly,



William C. Fackler  
Executive Director

Attachments

①

# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551



September 30, 1975

Mr. Guy Martin  
Commissioner of Natural Resources  
State of Alaska  
Juneau, Alaska

Dear Mr. Martin:

Confirming our discussion at the Anchorage airport on September 30, and my letter to Mr. Gilbreth of August 20, and memorandum to you of September 24, Alaska Pipeline Company is requesting to purchase the royalty share of North Cook Inlet gas field at or near the Phillips-Marathon LNG plant on the North Kenai Road, at the price used by Phillips to acquire this gas from the State for the manufacture of LNG for export to Japan or elsewhere. We believe the most reasonable method for handling the delivery and sale would be by "exchange," or "displacement," so that construction of new pipeline(s) and compression would be minimized. Since our supply at the Kenai gas field is interconnected to the North Cook Inlet gas supply at the LNG plant, for the time being it should be practical that we would take whatever amount of the North Cook Inlet royalty gas may be available day by day by displacement into our system at the Kenai gas field. Later, when additional investment would be required for transporting this royalty gas to shore, we could negotiate our participation in investment, or install our own facilities if necessary, in order to accomplish the purchase on the most reasonable basis for all concerned.

The essential aspect of our request is that we have an immediate need for additional gas on the North Kenai Road and we have a long term requirement for additional gas reserves to serve Alaskan customers in our present service area. We believe that it is in the public interest that we should be allowed to purchase this State royalty gas for local consumption rather than for this gas to be exported to Japan or elsewhere. We will begin preparing a formal

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OCT 6 1975

ALASKA ROYALTY  
OIL & GAS BOARD

DEPARTMENT OF  
NATURAL RESOURCES

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JUNEAU, ALASKA

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

Mr. Guy Martin  
September 30, 1975  
Page 2

application to purchase this gas and will appreciate having your guidance as to what supporting data or format may be desired, if any, for presentation to the Royalty Board or to the legislature to satisfy statutes or regulations which apply.

Very truly yours,



Dale Teel

DT/js

cc: O. K. Gilbreth, Director  
Division of Oil and Gas

Alaska Public Utilities Commission

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

MEMORANDUM

DEPARTMENT OF  
NATURAL RESOURCES

SEP 29 1975

RECEIVED  
JUNEAU, ALASKA

TO: Mr. Guy Martin  
Commissioner of Natural Resources

FROM: Dale Teel

DATE: September 24, 1975

SUBJECT: Alaska Pipeline Company's Request to Purchase State Royalty Gas from the North Cook Inlet Gas Field ("Phillips")

Alaska Pipeline Company (APC) and its affiliate Alaska Gas and Service Company ("Anchorage Natural Gas") supply natural gas to 285 customers on the North Kenai Road and to the Bernice Lake power plant of Chugach Electric Association. The gas is obtained from the industrial pipeline which supplies the LNG plant, the Ammonia/Urea plant, and gas for reinjection into the Swanson River Oil field, and comes from the Kenai gas field (Union-Marathon), under a contract which runs to May 1, 1977. Due to unexpectedly heavy usage by the Bernice Lake power plant, the reserve quantity, 10 billion cubic feet (BCF), will be used prior to May 1, 1977, and at that point the contract will terminate. A contract extension and additional commitment of reserves has been requested of Union-Marathon, or the right to receive gas on the North Kenai Road which is committed for the Anchorage area under a separate contract. There has been little if any progress made on these requests thus far.

Alaska Pipeline Company's contract with Union-Marathon has a provision that if APC were to obtain royalty gas from the Kenai gas field, then the commitment of gas reserves by Union-Marathon (originally 550 BCF) would be reduced an equal amount, and thus in effect APC is barred from negotiating for royalty gas from the Kenai gas field.

APC has inquired for a commitment of gas from Phillips, with the (telephone) response that since Phillips' obligations to the gas company of Portland, Oregon are in suspense due to hearings at the Federal Power Commission and since the gas company at Los Angeles is attempting to purchase royalty gas from the North Cook Inlet gas field, Phillips is not clear to negotiate a commitment of reserves to APC. It is known also that the Portland gas company is requesting to purchase North Cook Inlet royalty gas (discussions with Governor Hammond).

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ALASKA ROYALTY  
OIL & GAS BOARD

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

- 2 -

APC has written to the State (letter to O.K. Gilbreth, August 20, 1975, attached) requesting to purchase the North Cook Inlet royalty gas at the price of 50.45¢ per MCF, which is the price which now applies to the royalty gas which Phillips utilizes for its LNG manufacture, which is known to be 45¢ wellhead plus 5.45¢ transportation. If this gas were to be offered to APC, APC could build a pipeline from the LNG plant to deliver the gas into its pipeline to Anchorage as well as to supply its North Kenai Road customers. Such a pipeline (approximately 35 miles of 8") could be built in the right of way now occupied by Homer Electric Association's power line from the Bernice Lake power plant to "Quartz Creek." However, construction of such a pipeline should not be necessary, because existing pipeline systems could be utilized to "exchange," or "displace," gas and the transaction could be made entirely on paper, continuing actual movement as at present, without change. North Cook Inlet gas is identical to Kenai field gas (the streams are interchangeable at the LNG plant), so adjustments can be made by volume only.

APC would appear to be the ideal customer for State royalty gas because it would "blend" (by price/rate adjustments) the higher priced royalty gas into its present supply, with relatively small impact on its rates to Alaskan gas users. APC has negotiated "deliverability" with Union-Marathon so that it is in a position to take none or the full royalty share of North Cook Inlet gas without placing its suppliers (Union-Marathon) in any hardship and without having to rely on constant or steady rate production from the North Cook Inlet field. In other words, APC could take the State royalty gas from North Cook Inlet if and as it is produced, without requiring "deliverability."

The foregoing description assumes that the producers (Union, Marathon, Phillips) and the State can readily agree to the "exchange" or "displacement" as indicated. If APC were to build the new pipeline so that the royalty gas actually were to be moved from the LNG plant to APC's pipeline to Anchorage, the same general situation would obtain as for displacement, but operation would be relatively complex since gas would have to move to or from the LNG plant in the new pipeline depending on whether or not the LNG plant were running and at what rate. It is anticipated that normally there would be adequate notice available so that flow rate and directional changes would be practical - in fact displacement could be utilized even with such a pipeline, to foster best scheduling by all the parties. Such displacement actually occurs already, from time to time, although it involves only the producers (Union, Marathon, Phillips) and, of course, does not affect APC or the State at present. The proposed displacement, either with or without a new pipeline being added, should be just as practical if the parties would so agree.

DT/js  
enclosure

cc: Alaska Public Utilities Commission



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

August 20, 1975

COPIES SENT TO:

Paul Robison  
Sebe Eastlard  
Harold Schmidt  
O. C. Honig

Mr. O. K. Gilbreth, Director  
Division of Oil and Gas  
State of Alaska  
Department of Natural Resources  
3001 Porcupine Street  
Anchorage, Alaska 99504

Dear Easy:

We have a gas supply contract with Union-Marathon for 10 BCF on the Kenai North Road which expires May 1, 1977. Due to accelerated sales to Chugach Electric's Bernice Lake power plant this year, it appears the entire reserve quantity could be used up within less than one year from now, and we are soliciting a replacement supply of gas to serve Chugach and our other customers on the Kenai North Road.

We are in a position to commit to take more than our North Road requirements, however, and would like to offer to purchase the State's royalty share of Phillips' production from North Cook Inlet, delivered to a metering point near the Phillips-Marathon LNG plant on the Kenai North Road. The excess above our Kenai North Road sales would be used to displace deliveries by Union-Marathon to us at the Kenai gas field, and thus serve to prolong the adequacy of our reserve commitment at the Kenai gas field. We are not certain as to whether or not the displacement can be made "on paper," or whether we would be required to lay a pipeline to connect into our Anchorage pipeline either at or near the Kenai gas field or at or near our compressor station east of the Kenai River.

Please consider this letter to be an application to purchase royalty gas as described, pursuant to AS 38.06.010. Since limited time is available to do any necessary construction, we hope all procedural requirements can be determined readily. We would anticipate paying the State the same price it would have received from Phillips, which we believe to be 45¢ per MCF plus 5.45¢ transportation fee, as compared to the current 41.5¢ cost of gas (and deliverability) at the Kenai gas field.

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SEP 29 1975

ALASKA ROYALTY  
& GAS BOARD

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

Mr. O. K. Gilbreth

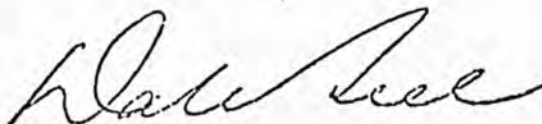
August 20, 1975

Page Two

We are relying on approval by the Alaska Public Utilities Commission for us to "flow through" the increased cost of gas to Chugach's Bernice Lake power plant and to "meld" the (higher) cost royalty gas with the (lower) cost Kenai field gas, on a day-to-day basis, since the amount of royalty gas we would receive would depend on the rate of production of the Phillips-Marathon LNG plant and be outside our control. When this plant is down for any reason, we would be utilizing Kenai field gas as replacement.

Please advise regarding any questions or further procedure we should follow in presenting a formal offer to the State.

Very truly yours,



Dale Teel  
President

DT:lkd

cc: Alaska Public Utilities Commission

2

ALASKA ROYALTY OIL & GAS DEVELOPMENT ADVISORY BOARD

Minutes From October 10, 1975, Meeting in Juneau

1. The meeting was called to order by Chairman Martin at 9:00 a.m. in the Fifth Floor Conference Room of the State Office Building. All of the Board members were in attendance. Chairman Martin had no special remarks in opening the meeting and the meeting proceeded according to the agenda (Appendix A). Several members of the public were present.

2. The minutes of the August 4, 1975, meeting were approved as circulated to the Board.

3. Reports

A. Board's Administrative Report.

1. Richard Lyon moved that the Royalty Board go into executive session to discuss the appointment of an Executive Director for the Royalty Board. The motion was seconded by Donald Triplehorn. The motion passed unanimously at 9:10 a.m. The meeting was called back to order at 9:30 a.m. Chairman Martin advised those present that the Board has made a decision on the appointment of an Executive Director. Arlon Tussing moved that William C. Fackler be appointed as Executive Director of the Alaska Royalty Oil and Gas Development Advisory Board to be effective November 15, 1975, at an advanced step of the salary range. Donald Triplehorn seconded the motion and the motion passed unanimously.

2. Chairman Martin advised that the Department of Law's report was not yet complete, therefore, it will be presented at a later date.

3. Chairman Martin informed the Board that it needed to decide about the distribution of proposals to interested parties. The motion was made that the Board establish open reading files in Anchorage in the Division of Lands' office and in Juneau in the Commissioner's office. The proposals received should be placed in the reading files and mailed to the Board members and after five working days be made available to the public upon request. The motion was seconded by Richard Lyon. Motion passed unanimously.

## B. Studies

1. Projected Natural Gas Demand - A report was presented by Mr. Pat Dobey of the Division of Geological and Geophysical Surveys of the Department of Natural Resources on the projected natural gas demand. (Appendix B.)

2. Mr. O. K. Gilbreth, Director of the Division of Oil and Gas for the Department of Natural Resources, presented a report on the projected natural gas availability in Cook Inlet to the Royalty Board. (Appendix C.)

C. Current Federal Legislation - Arlon Tussing gave a brief report on current federal legislation (Appendix D). Mr. Tussing informed the Board that in summary it is still in stalemate both on oil and gas legislation, and that the Congress had passed legislation continuing price controls and allocations on oil and gas and did not accept the Administration's proposed schedule for phasing out price controls. The President vetoed it, the veto was sustained and Congress did not override the veto and beginning the first of September there were no price controls or allocation authority for oil and gas. The President did agree to another retroactive extension of price control while there was an attempt to come up with a new compromise. The House and Senate are now in conference on the legislation and both the House and Senate bills that went into this conference have price control provisions which are unacceptable to the Administration. It looks as if in November we will again be faced with a situation where Congress will pass an extension of oil and gas price control which will include a rollback in the price of new oil.

Chairman Martin asked for concurrence of the Board in altering the agenda to take up the definition of surplus question following the presentation of proposals received since the last meeting of the Board. There was no objection by the Board.

5. Correspondence - Mr. Fackler read several letters that had been received from companies that refer to earlier proposals submitted by the various companies to the Board. (Northern Natural Gas, Southern Natural Gas Company and Alaska Petroleum Company.)

## 6. Proposals since the last meeting.

### A. Prudhoe Bay

Mr. Fackler informed the Board that a letter from Murphy Oil Corporation had been received. He advised that Murphy Oil was interested in supplying a portion of their Superior, Wisconsin, refinery's needs with Alaskan crude oil starting in 1977. The vehicle for the crude oil would be the Trans Mountain Pipeline from Puget Sound to Interprovincial Pipeline and then to Superior, Wisconsin. They estimated requirements to be 20,000 to 40,000 barrels per day. They advised that at the present time it

would be impossible with the uncertain conditions in regard to price, government controls, pipeline reversal, et cetera to submit a firm bid for production to be purchased several years in the future. They would be willing to pay competitive world market prices for similar types of crude at the time of purchase.

Mr. Robert C. Thomas of Tennessee Gas Transmission Company was present and was requested to present their proposal. Mr. Thomas advised that their proposal would allow the following benefits:

1. Company acquiring the right to contract the royalty reserves should be capable of giving maximum support to the obtaining of a trans-Alaska pipeline route. He pointed out that in their approach they had covered this point by stating that to date Tennessee Gas Transmission Company has not supported either route designed to transport North Slope gas to market.
2. That the State would receive substantial front-end money. In their approach they indicated that they would make available to the State in excess of 100 million dollars for the right to contract all of the royalty oil and gas reserves in the Prudhoe Bay Field. The exact amount contributed would be subject to further negotiations between the parties and would reflect the needs of the State, the drawdown schedule, and several other factors. The funds would be made available to the State over a three-year period according to the State's needs. There would be no recovery of the advanced funds for a period of three years following the date of the advance. The contribution would be hopefully recovered out of the portion of revenue from the royalty natural gas or oil. The recovery period would be five years, giving a total of eight years. The funds that would be made available would be interest free.
3. They felt that some of the gas must be available for use within the State. In their outline they indicated that they would consider reservation of the State of up to 10 percent of the royalty gas. They did not intend to imply that this represented the maximum anticipated future growth of the State natural gas lease. What it did indicate is that they feel the primary goal at this time should be to secure a trans-Alaska route and that the major source of gas for the future needs of the State would come from future reserves found and transported through this system.

4. The maximum possible wellhead price should be paid for the reserves when produced. They feel that the gas produced in Prudhoe Bay would go into interstate commerce and under current regulations would be subject to control by the Federal Power Commission. Since they are regulated by the Federal Power Commission, they are unable to guarantee a specific wellhead price.

Since the purchaser is subject to unknown timing factors and substantial risks associated with purchasing the right to contract Prudhoe Bay gas, the purchaser must be compensated by certain benefits. They see those benefits to the purchaser as being:

1. the front-end payment must be financeable,
2. the front-end payment must be recoverable at a particular point in time, and
3. the right to contract all of the State's royalty gas in Prudhoe Bay subject to a 10 percent reservation of the gas by the State.

They feel the most important consideration by the State at this time is the securing of the trans-Alaska routing for the Prudhoe Bay gas. This is the biggest single factor that would have an impact on the State throughout its future. To insure that there is no question about their intent in promoting a trans-Alaskan route, Tenneco would add a provision to the memorandum they submitted that they would be willing to give the State the option of terminating their right to contract should the trans-Alaska route not be considered. This termination provision would further provide that Tenneco would receive their capital contribution back plus any interest and that they would not be prejudiced in any further attempts to contract royalty gas.

Chairman Martin asked Mr. Thomas if Tenneco had done any analysis of the El Paso proposal on a comparative basis with their proposal and had they taken a look at the question of the 10 percent set aside and the jurisdictional question in regard to commingling? Mr. Thomas advised that he would get a response to these questions in writing to the Board.

Arlon Tussing asked if Tenneco could provide the Board with the backup on their market analysis and cost analysis. Mr. Thomas stated that he would be happy to get the information together for the Board.

Chairman Martin called a lunch recess until 1:30 p.m. The meeting was called to order at 1:30 p.m. and Mr. Fackler read a letter received from Northern Liquid Fuels Companies dated August 11, 1975, to the Board. Northern Liquid Fuels Companies wished to acquire the right to process the State of Alaska's royalty share of the gas to be produced from the Prudhoe Bay Field for the removal of propane, butane, natural gasoline and ethane (NGL) and to purchase any NGL attributable to the State of Alaska's royalty share of the oil

produced from such field. For the right to process the State of Alaska's royalty share of such gas, the Companies would propose a prepayment plus a payment for each barrel of NGL extracted and marketed over the life of the field, the amounts of such payments to be determined upon conclusion of the study hereinafter referred to. The Companies propose to undertake a comprehensive study to determine which of the following programs is more economical: 1) process the gas stream in the field for removal to the NGL and build a liquids pipeline to transport the NGL to Southern Alaska, or 2) leave the NGL in the gas stream and process the stream: a) in Southern Alaska, if a trans-Alaska gas pipeline is built, or b) in Canada or the United States if an Alaska-Canadian pipeline system is built. The studies will take into account the needs of the State, particularly the establishment of a liquid fuels distribution system in the State of Alaska in its principal cities of Anchorage, Fairbanks, Juneau, as well as others to which reasonable transportation can be made available to transport safely liquid fuel. The Companies would be interested in establishing such a system if the studies indicated that the NGL should be removed either in the Prudhoe Bay Field or at the coast or some intermediate point along the trans-Alaska pipeline. The portion of NGL which exceeds the needs of the State of Alaska would be exported to the continental United States. The Companies, together with two other parties, are currently engaged in designing an LPG import terminal facility on the Houston Gulf Coast capable of receiving 100,000 barrels of LPG per day. Mr. Baca was present to answer any questions the Board had. Mr. Baca advised the Board that he would prepare a more detailed proposal concerning purchase of State royalty natural gas liquids.

#### B. Cook Inlet

Mr. Fackler advised the Board that two proposals had been received with regard to Cook Inlet gas. The first one was from Alaska Pipeline Company who were requesting purchase of the royalty share of North Cook Inlet gas field at or near the Phillips/Marathon LNG Plant on the North Kenai Road, at the price paid by Phillips to acquire this gas from the State for the manufacture of LNG for export to Japan or elsewhere. They believe the most reasonable method for handling the delivery and sale would be by "exchange," or "displacement," so that construction of new pipeline and compression would be minimized. Since their supply at the Kenai gas field is interconnected to the North Cook Inlet gas supply at the LNG plant, for the time being, it would be practical that Alaska Pipeline would take whatever amount of the North Cook Inlet royalty gas that may be available day by day by displacement into their system at the Kenai gas field. Later, if additional investment would be required for transporting this royalty gas to shore, they would negotiate their participation in investment, or install their own facilities if necessary, in order to accomplish the purchase on the most reasonable basis for all concerned. The essential aspect of their request is that they have an immediate

need for additional gas on the North Kenai Road and have a long-term requirement for additional gas reserves to serve Alaskan customers in their present service area. They believe that it is in the public interest that they should be allowed to purchase this State royalty as for local consumption rather than for this gas to be exported to Japan or elsewhere. They would begin preparing a formal application to purchase this gas and would appreciate having the Board's guidance as to what supporting data or format may be desired.

Mr. Fackler gave the Board some background on this request. He advised that Alaska Pipeline Company has renegotiated with Union Marathon and have increased their deliverability but have not increased their reserves. Mr. Teel is seeking increases in reserves now. Chairman Martin advised the Board that what Mr. Teel indicates would require Board action and submission to the upcoming Legislature. Mr. Teel feels that from the consumer's standpoint this would be very attractive legislatively. It would be based totally on the attractiveness applying to the Anchorage area as opposed to other areas in the State. Mr. Gallagher informed the Board that a clause in regard to most favored nations should be included in the new contract. Mr. Gallagher informed the Board that the most favored nations concept is that the price will meet the highest price in the field. Chairman Martin requested that Mr. Fackler direct a letter to Mr. Teel inviting him to make a presentation at the Board's next meeting.

The second letter was from Northwest Natural Gas Company in which they advised that their project for delivering LNG from Alaska to the State of Oregon had hit a snag due to the jurisdictional restrictions which would be imposed on the producers (Phillips Petroleum Company and Marathon Oil Company) by the Federal Power Commission.

4. Definition of Surplus - Chairman Martin read the statute regarding surplus (AS 38.05.13(d)). Chairman Martin advised the Board that some basic standard in regard to surplus is going to have to be established as a part of the regulations. The Board discussed how they should go about putting that regulation together. After much discussion about surplus, three items emerged that should be included in the definition of surplus and they are: 1) time period, 2) demand, and 3) supply. Chairman Martin informed the Board that he would attempt to bring back to the Board at their next meeting a finished product with regard to the definition of surplus.

7. Other Business - Dick Lyon moved that the Board authorize the Board members who wished to take a briefing from Tennessee Gas Transmission Company on their economic analysis and go through their calculations of costs and that either the Board member or Tennessee Gas Transmission Company would send to the Board a written summary of the briefing for the Board's records. Don Triplehorn seconded the motion and the motion passed unanimously.

Chairman Martin advised that the next item on the agenda was the scheduling of the next Board meeting. The next Board meeting will be held in Anchorage, Alaska on November 10, beginning at 8:30 a.m. He advised that there should be another meeting in December. The meeting is tentatively scheduled some time during the week of December 8. The meeting will be held in Juneau and will begin at 8:30 a.m.

8. Public Participation - Mr. Swetnam of Phillips Petroleum Company requested that Phillips have an opportunity to make a presentation to the Board regarding North Cook Inlet royalty gas. Chairman Martin requested that Phillips make a written presentation to at least the Commissioner's Office, which the Commissioner would make available to the Board and based on this proposal talk with his office in the interim so they could decide whether an appearance would be necessary and desirable.

Mr. A. Baca of Northern Liquid Fuels Companies wanted to add to their presentation that if an LPG system is feasible to be constructed that the State's royalty liquids would be available to serve any market within Alaska that might exist.

There being no further business the meeting adjourned at 3:15 p.m.

# Roster

(3) 10/10

Bruce Knudsen

Rep  
Buck, Jensen, Horton, Pittman  
Illinois

M. C. Holladay

EL PASO ALASKA CO

LARRY EPPENBACH

TREASURY DIV.

SARAH EPPENBACH

ALASKA CONSTRUCTION + OIL WAG.

Apolonio Baca

NORTHERN LIQUID FUELS  
CO

ROBERT C. THOMAS

TENNESSEE GAS TRANSMISSION

Bob Sweetnam

Phillips Petroleum

O. K. Gimbrell

Div Oil & Gas - Anch.

Patrick

~~Pat~~ Pobeey

Div of Geol & Geoph Survey

ALASKA ROYALTY OIL & GAS DEVELOPMENT ADVISORY BOARD

Minutes From November 10, 1975, Meeting in Anchorage

1. The Meeting was called to order by Chairman Martin at 8:30 a.m. in the Division of Lands Conference Room in Anchorage. All Board members were in attendance, together with members of our legislative liaison group, distinguished Commissioners of Public Utilities and other dignataries.

2. The Minutes of the October 10, 1975, meeting were discussed. Arlon Tussing raised a question on the wording of Section 4 on page 6 on Definitions of Surplus, and whether or not Mr. Tussing had made a motion defining parameters needed in the definitions. Mr. Fackler was instructed to determine if the recorded tapes of that meeting were still available and transcribe that portion if possible.

3. Reports

A. Chairman Martin was informed that the reports on Natural Gas Future Demand and Existing Gas Contracts scheduled at this time would be delayed several hours pending last minute work. The Board decided to amend the schedule and advance to Part V - Proposals.

5. Proposals

A. Prudhoe Bay

1. Mr. John Bennett, El Paso Alaska Company, reviewed the El Paso trans-Alaska gas pipeline project efforts to date emphasizing El Paso's need for a contract to purchase or transport State royalty gas from Prudhoe Bay which is surplus to State's needs. A transcript of the testimony is attached.

B. Cook Inlet

1. Mr Dale Teel, Alaska Pipeline Company, presented a request that the State royalty gas from North Cook Inlet gas field be taken in-kind and sold to Alaska Pipeline Company. His testimony was followed by Mr. John Horn, Phillips Petroleum Company, who opposed Mr. Teel's request. A transcript of the testimony of Mr. Teel and Mr. Horn is attached to the minutes.

Mr. Thomas Stahr, Anchorage Municipal Light and Power, read a letter to the Board supporting the Alaska Pipeline Company request. A copy of the letter is attached.

Mr. John Miller, Division of Oil and Gas, presented a table summarizing the existing gas contracts in the Cook Inlet area. Items include quantity of gas dedicated, length of contract, price, remaining reserves to contract and uncommitted reserves.

Mr. Patrick Dobey, Division of Geological and Geophysical Surveys, reviewed current progress on the computer model study of probable future demand for gas in Alaska. A copy of his presentation is attached.

Mr. Robert C. Thomas, Tennessee Gas Transmission, presented additional information on the effect of Federal Power Commission regulations on Alaska's use of its royalty gas. This information was requested by the Board at the October 10 meeting in Juneau.

Their legal counsel is of the opinion that the State as a political subdivision is not subject to direct FPC control. However, any State gas transmitted by a transfer would require a certificate thereby allowing at least a measure of indirect control.

Tenneco suggests that FPC control could be minimized by either of two ways. One is to secure an immunity or exemption by the FPC in the original certificate. Second is an exemption through legislative action by Congress approved by the President. A copy of this memorandum is attached.

Following this discussion the Board instructed the Chairman and staff to proceed in drafting proposed regulations on determining surplus definitions of supply and demand. The proposed regulations are to be published in several newspapers. Final language and approval will depend on comments on the public notice.

Chairman Martin requested approval by the Board to extend the term of acting directorship for Mr. Fackler until the appointment of a new Deputy Commissioner. There being no objection by the Board, approval was granted.

Authority was also requested to expend up to \$20,000 of Board contractual funds for consulting purposes. After a short discussion on possible types of consultant activities, the Board approved the request.

The next meeting date of the Board was set as December 9 and 10, 1975, in Juneau. There being no further business before the Board, the meeting was adjourned.

Nov 10, 1975 My Anchorage

Name:

Representative of:

JOHN L. WILLIFORD

PHILLIPS PETROLEUM COMPANY

JOHN HORN

LEN McLEAN

PACIFIC ALASKA LNG Co.

Don Triplehorn

Univ. of Alaska - Board Member

Arden Tussing

Eric Eckholm

Gas Pipeline Legislative Comm.

Dale Taylor

Anchorage Natural Gas

Paul F. Robeson

Atty

RICHARD A. LYON

GOODS MEMBER

M. C. HOLLAND

EL PASO ALASKA CO

J. C. BENNETT

EL PASO ALASKA CO

Jack Robinson

self

Thomas Stahr

Anchorage Municipal Light & Power

CAROLYN GUESS

ALASKA PUBLIC UTILITIES COMMISSION

Paul F. Robeson

above

Gordon Schadt

Birch, Terminus, Houston & Bittner

Fred Boness

Dept. of Law

Julius J. Brecht

" "

GORDON ZERBETZ

ALASKA PUBLIC UTILITIES COMMISSION

Noel Bugre

MARATHON

Chancy Croft

Alaska Senate

C. J. DIVER

MARATHON

Harold Schmitt

Alaska Coast Service

Pete C. Ginder

Ely, Guss & Redd (PAC AK LIC CO)

Ken Sheppard

Consulting Engineer

EL PASO ALASKA

Jared G. Carter  
 Kay M. Linton  
 Robert C. Thomas  
 Bill McGuire  
 Rosemary Shindham  
 Mike Brodner  
 Skip Todd  
 Lawrence Eppelbach  
 W.C. Fackler  
 John C. Miller  
 Tom Marshall  
 Patrick L. Dobej

Tennessee  
 O.M.A.R.  
 TENN. GAS TRANSMISSION  
 Legislative Affairs  
 Daily News  
 Alaska House of Representatives  
 Anchorage Times  
 Dept. of Revenue  
 Natural Resources  
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DEPARTMENT OF  
NATURAL RESOURCES

OCT 23 1975

RECEIVED  
JUNEAU, ALASKA



6  
PHILLIPS PETROLEUM COMPANY  
BARTLESVILLE, OKLAHOMA 74004 918 561-6600

NATURAL RESOURCES GROUP  
Gas and Gas Products Division

October 21, 1975

North Cook Inlet Royalty Gas

File: 1-Ho-381-75-GSGL

Commissioner Guy Martin, Chairman  
Alaska Royalty Oil and Gas Development  
Advisory Board  
c/o Department of Natural Resources  
Juneau, AK 99801

Dear Commissioner Martin:

We are advised that certain interests have made application or may make application to purchase royalty gas owned by the State of Alaska and produced from the North Cook Inlet Field. Phillips is the Owner and Operator of this field.

Phillips has at considerable risk and expense, developed the North Cook Inlet Field and has provided a market for the natural gas when no markets existed. Phillips constructed a pipeline, liquefaction plant, and LNG tankers which were designed to utilize all of the natural gas produced from the North Cook Inlet Field. Through our efforts, we have negotiated several substantial price increases with our customers and have shared these price increases with the State of Alaska. This, we believe, gives strong evidence of Phillips' willingness to establish a fair and reasonable wellhead price as a basis of royalty payment. We know of no other natural gas royalty settlement in Alaska at a price as high as Phillips is paying.

For the State of Alaska to take the royalty gas in kind and separately dispose of it will impose severe economic hardships on Phillips. Such disposal to a third party will cause a premature abandonment of the pipeline, liquefaction and transportation facilities due to the early depletion of our natural gas reserves. All of these facilities were specifically built to create and provide a market for all of the natural gas from the North Cook Inlet Field. Additionally, it would require the drilling of more wells and the installation of additional compression equipment as well as the installation of certain compression equipment at an earlier date.

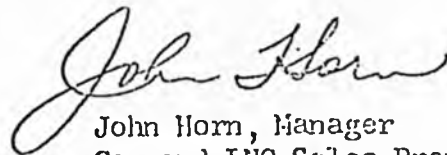
Commissioner Guy Martin  
File: 1-Ho-381-75-G&GL

October 21, 1975  
Page 2

We strongly oppose the sale of royalty gas from the North Cook Inlet Field by the State of Alaska to any third party because of the undue economic hardships that it will impose on us. Further, Phillips is settling with the State of Alaska on a fair and reasonable value for the State's royalty gas.

Please take a look at our performance record. We believe that the State of Alaska will receive the greatest overall benefit by allowing Phillips to continue to market Alaska's royalty gas from the North Cook Inlet Field.

Very truly yours,



John Horn, Manager  
Gas and LNG Sales Branch

JH:bla

cc: Mr. R. I. Swetnam  
Phillips Petroleum Company  
Hoblitt Building  
515 "D" Street  
Anchorage, AK 99501



PHILLIPS PETROLEUM COMPANY  
BARTLESVILLE, OKLAHOMA 74004 918 661-6600

1

NATURAL RESOURCES GROUP  
Gas and Gas Liquids Division

December 5, 1975

State Royalty Gas  
North Cook Inlet Field  
Alaska Gas & Service  
Company Proposal

File: 1-Ho-438-75-G&GL

Commissioner Guy Martin, Chairman  
Alaska Royalty Oil and Gas Development  
Advisory Board  
c/o Department of Natural Resources  
Pouch M  
Juneau, AK 99801

Dear Mr. Martin:

During the hearing before the Alaska Royalty Advisory Board on November 10, 1975, in Anchorage, a brochure entitled "The Case for Committing Alaska State Royalty Gas from the North Cook Inlet Gas Field to Alaska Pipeline Company (Anchorage Natural Gas)" was presented to the Board. We offer the following comments to the Board on this proposal in addition to the oral presentation made in behalf of Phillips at the November 10 hearing.

1. Phillips recognizes that the State has the right to take its royalty share of the gas in kind at the wellhead. But we believe that such action will not in the long run be to the best advantage to the citizens of the State.
2. Phillips has invested over \$125,000,000 to develop a market for the North Cook Inlet Field gas when no market existed. Our investment was made with the expectation that we would market all of the gas from the field — it was our obligation to market the State's royalty gas along with our working interest gas.
3. Deliveries commenced six years ago and we had visualized at least a 20-year project.
4. Phillips has actively worked with various groups and individuals in Alaska, including Alaska Gas & Service Company, to try to make LNG available to the more remote areas; however, thus far the high cost of transportation has thwarted these efforts.

Comments by John Horn  
Phillips Petroleum Company  
to  
Alaska Oil and Gas Development Advisory Board  
Juneau, Alaska, December 9, 1975

Mr. Chairman, Members of the Board,

Phillips Petroleum Company appreciates the opportunity once again to appear before you. Let me state again that we share with you the concern that the citizens of Alaska derive a fair and reasonable benefit from the State's natural resources — including its natural gas. We recognize that the State has the right to take its royalty share of gas in kind at the wellhead.

We have handed to you a folder which contains (1) our written response to the Board on the brochure entitled "The Case for Committing Alaska State Royalty Gas from the North Cook Inlet Gas Field to Alaska Pipeline Company (Anchorage Natural Gas)" which was presented to the Board at the November 10, 1975 hearing in Anchorage, and (2) reproduced copies of some letters from governmental officials written at the time our LNG project was in its formative stages so that you may have the benefit of their feelings toward the Phillips-Marathon LNG Project at that time.

Although we have reprinted the entire texts for your review, I would like to quote from two of these latter mentioned letters.

The first is from a letter dated March 21, 1967, from Senators E. L. Bartlett and Ernest Gruening, addressed to Honorable Lee C. White, then Chairman of the Federal Power Commission, with respect to the Phillips-Marathon LNG Project.

"It is our hope that favorable action on the two applications and the subsequent development of Japanese markets will encourage the exploration and utilization of new Alaska gas fields. The present proposal and those we hope will follow will have a very measurable, favorable and tremendous effect on Alaska's economy.

"We support the applications in the strongest way possible."

The second is dated April 7, 1967, from Mr. Anthony M. Solomon, Assistant Secretary, Bureau of Economic Affairs, Department of State, and also addressed to Honorable Lee C. White.

"The Department of State raises no objections to the substance of the Phillips-Marathon proposal and in view of trade expansion policy supports the prompt action of the Federal Power Commission toward favorable response to the application."

During this time, we worked with Mr. Frank H. Murkowski, then Commissioner of the Department of Economic Development, who was most anxious to further the economic development of Alaska and to develop and utilize its natural gas resources.

We were advised at that time that 1967 marked the 100th year since Alaska was purchased from Russia and that our proposed LNG plant would be one of the top four industrial installations in Alaska during those first 100 years.

We believe that the State would receive the greatest benefit if it continued to receive the royalty payments made from the North Cook Inlet Field by Phillips, which is substantially higher than the prices presently being paid for natural gas by Alaska Gas & Service Company for other gas in the area. We submit that if Alaska Gas & Service Company would offer producers in the Cook Inlet Area the same amount that it would pay for the royalty gas from North Cook Inlet Field, this should be a very attractive market for natural gas and would encourage the development of additional natural gas reserves in the Kenai-Cook Inlet Area for Alaska Gas & Service Company even beyond the 15 million cubic feet per day which they propose to receive from North Cook Inlet Field.

The State is in the enviable position of not having to decide on an "either/or" basis but has the opportunity to continue to receive income from the present market while encouraging the creation of new markets and development of the undeveloped natural gas resources in the area — thus winning on both bases.

It might be interesting to the Board to know that Phillips Petroleum Company in 1975 will pay <sup>from this project</sup> to the State of Alaska revenues in excess of \$60,000 for each of its employees in the State.

We would hope that the State of Alaska would encourage the judicious development of its natural gas resources. We believe that the State should take that action which will result in a long term supply available for the development of Alaska's economy. Certainly, we would hope that the State would avoid the mistakes made in the Lower 48 States in the past which depressed exploration and development. The result has been an inadequate supply of natural gas and the Federal and State regulatory agencies in the Lower 48 now find themselves simply trying to allocate the shortage. We believe that the course we suggest you take is one of the types of State action which will be conducive to expand development of Alaska's natural gas resources and will help assure the citizens of Alaska an adequate supply of gas for the long term.

We would be happy to answer any questions.



Homer Electric Association, Inc.

P. O. BOX 255

HOMER, ALASKA 99603

PHONE (907) 235-8551

9

January 22, 1976

Mr. William C. Fackler, Exec. Secy.  
Alaska Royalty Oil & Gas Advisory Board  
Pouch M  
Juneau, Alaska 99811

RECEIVED  
JAN 26 1976

Department of  
Natural Resources

Dear Mr. Fackler:

The purpose of this letter is to inform you and your Commission that our Association is entering into negotiations with Chugach Electric Association to acquire their gas fired electric generation facilities at Nikiski.

These facilities are presently consuming approximately 9 million cu. ft. per day of natural gas, which is purchased from the Alaska Pipeline Company. In addition to the present gas consumption, we intend to construct prior to the end of calendar year 1978 an additional generating facility at that location requiring an additional 5 to 6 million cu. ft. per day.

We are familiar with the on-going negotiations between your office and the Alaska Pipeline Company concerning State Royalty gas for resale to Chugach and the Anchorage area.

Please consider this letter as an inquiry to determine whether or not we will be able to purchase Royalty Gas in the amounts described above pursuant to Alaska Statutes AS 38.06.010. We would anticipate purchasing all of the royalty gas available at the Phillips Petroleum LNG Plant with the assumption that the amount in excess of our needs available on a day to day basis could be resold to Phillips for their processing plant.

We assume that we would be required to pay the current market price for the gas which we believe to be 45¢ per MCF plus a negotiated transportation fee. Our negotiations to acquire the electric generating facilities in the area and build additional generation facilities is dependent upon our ability to acquire the State Royalty Gas or a like quantity of other gas in that area.

RECEIVED  
JAN 22 1976

ALASKA ROYALTY  
OIL & GAS BOARD

Our association is a non-profit cooperative. The membership includes all of the residents and business organizations of the Western Kenai Peninsula. We will greatly appreciate any cooperation that your office can lend us in bringing these negotiations to a mutually beneficial conclusion.

Sincerely yours,

HOMER ELECTRIC ASSOCIATION, INC.



W. C. Rhodes  
General Manager

WCR:em

cc: O. K. Gilbreth  
W. I. Palmer  
Sen. Clem Tillion  
Rep. Hugh Malone  
Rep. Leo Rhode  
Guy Martin



**Homer Electric Association, Inc.**

P. O. BOX 255 • HOMER, ALASKA 99603 • PHONE (907) 235-8551

*cc  
All Bu  
memo 4-5*

9

March 30, 1976

RECEIVED  
APR - 2 1976

Mr. Guy Martin, Commissioner  
Royalty Oil and Gas Development Advisory Board  
Department of Natural Resources  
Pouch M  
Juneau, Alaska 99811

Department of  
Natural Resources

Dear Sir:

In our letter to Mr. Fackler dated January 22, 1976, and at a hearing before your Advisory Board, we applied for the State Royalty Gas that you plan to make available from presently producing fields in the North Kenai area.

The purpose of this letter is to inform you that we have been able to obtain commitments to purchase fuel for the proposed new electric generating facility at North Kenai from what we believe to be a reliable source; and, further, Mr. Dale Teel of the Alaska Pipeline Company has agreed to supply our Association with natural gas for fuel for the existing electric generating plants in the North Kenai area if we are successful in acquiring these from Chugach Electric Association.

In view of the foregoing, we feel that it is in the best interest of all concerned that we withdraw our application as outlined in our letter of January 22.

As the Kenai Peninsula continues to attract industry, we do not wish to imply that we will not, at some future time, be interested in dealing with the State for royalty gas that may become available in other, yet to be developed, fields on the Kenai Peninsula area. If, at any time, additional royalty gas does become available we would appreciate it very much if your office would advise us so that we can ascertain whether or not it would be needed in our ever-expanding operation.

We note with interest the development of the Advisory Board's intention to adopt a regulation in Title 11 of the Alaska Administrative Code to interpret and make specific Alaska Statute 38.06, including the determination of surplus.

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ALASKA ROYALTY  
OIL & GAS BOARD

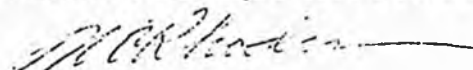
March 30, 1976

We sincerely hope that the proposed regulation 11AAC26.900(a) (5) will define the term "industrial use" as referred to in existing regulations, and that the State's royalty gas will be made available first to industrial use and then to all other uses, according to priorities established by your office.

We sincerely appreciate the courtesies extended to our Association by the Advisory Board and your office, and we are looking forward to further negotiations should the need arise.

Sincerely yours,

HOMER ELECTRIC ASSOCIATION, INC.



W. C. Rhodes  
General Manager

WCR:em

cc: Rep. Leo Rhode

cc: Mr. Dale Teel

North Cook Inlet Field Royalty Gas  
Commissioner's Proposal in Concept

The Commissioner of Natural Resources has recognized that the increasing growth of the Cook Inlet area of Alaska with its resultant increase in the use of natural gas requires that additional natural gas reserves be allocated for that purpose from State of Alaska royalty gas. From the standpoint of size of uncommitted gas reserves, geographical location and possible pipeline access, the North Cook Inlet field royalty gas appears the best available supply at this time. Pursuant to AS 38.05.182 the Commissioner proposes that it is in the best interest of the State to take in kind the State's royalty share of the gas production from the North Cook Inlet gas field and requests the consent of the Alaska Royalty Oil and Gas Development Advisory Board for this change.

The Commissioner further proposes to dispose of the North Cook Inlet field royalty gas to Alaska Pipeline Company and its subsidiaries through a negotiated contract. The proposed contract will contain the following provisions:

1. Purchaser agrees to take 1/8 of daily production from the North Cook Inlet gas field on an if and as deliverable basis for the contract period. The State will report to the Purchaser each month the amount of royalty gas produced by Phillips during the prior months.

The approximate average daily royalty gas share of the production from Phillips' North Cook Inlet field platform is 17,000 MCF. Gas production from the platform varies as LNG plant needs dictate therefore no daily amount can be specified.

2. Point of delivery will be the wellhead.
3. Purchaser is responsible for measurement costs, and any compression or dehydration costs if or when necessary.
4. The contract expires on June 1, 1984, unless extended by mutual agreement for a period not to exceed one year.
5. The price of the gas will be equal to the price the State otherwise would have received from Phillips for its royalty gas for export as LNG to Japan; but not less than the highest price paid by any purchaser in the Cook Inlet area for a similar sale of gas of similar quality. The price will be adjusted yearly on the anniversary date of the contract.

6. The contract shall not be effective until

-all necessary permits and authorizations by governing bodies are obtained

-all transportation or exchange arrangements have been completed to the satisfaction of the parties involved.

-six month's notice required under lease

The Commissioner request approval of the above proposed conceptual plan by the Alaska Royalty Oil and Gas Development Advisory Board.

Bill

# TELEGRAM

ALASKA ALASKA COMMUNICATIONS, INC.  
PHONE: 583-6440  
JUNEAU, ALASKA 99801

11

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1-034980C389 23/29/76

TWX PAC LGHT LSA

2 15 LOS ANGELES, CA MARCH 29, 1976

PMS MR. GUY MARTIN, CHAIRMAN

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

7580

POUCH M

JUNEAU, ALASKA 99821

WITH REFERENCE TO THE LETTER FROM PACIFIC ALASKA LNG COMPANY TO MR. GUY R. MARTIN, COMMISSIONER OF NATURAL RESOURCES, DATED MARCH 5, 1976. OUR OFFER TO BID ON THE PURCHASE OF THE STATES ROYALTY SHARE OF GAS IN THE NORTH COOK INLET AREA WAS LIMITED ONLY TO THOSE FIELDS IN THAT GENERAL AREA IN WHICH WE CURRENTLY HAVE THE RIGHT TO PURCHASE GAS OR MAY IN THE FUTURE HAVE THE RIGHT TO PURCHASE GAS. WE HAVE NO INTEREST IN BIDDING ON THE PURCHASE OF ANY STATE ROYALTY GAS PRODUCED FROM THE "NORTH COOK INLET FIELD"

PACIFIC ALASKA LNG COMPANY

BY P. VER PLANCK

1956 EST

IPMAFUE AFG



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

12

April 2, 1976

RECEIVED  
APR 06 1976  
ALASKA PIPELINE COMPANY  
ANCHORAGE, ALASKA

Mr. Guy T. Martin  
Commissioner of Natural Resources  
11th Floor, State Office Building  
Pouch M  
Juneau, Alaska 99811

Dear Commissioner Martin:

The purpose of this letter is to confirm our oral proposal made to the Alaska Royalty Oil and Gas Development Advisory Board during its March 30/31 meeting in Juneau.

The proposal can be outlined as follows:

1. The State take North Cook Inlet royalty gas in kind and sell such gas to AGAS.
2. AGAS will take delivery of the gas at the platform. This presumes that--
  - (a) an arrangement can be made whereby, for suitable compensation, Phillips will transport the gas via their existing system to a point adjacent to the LNG plant.
  - (b) the APUC waives jurisdiction over the Phillips facilities to the extent that they may otherwise come under regulation due to the transport of the "royalty" gas.
3. The price will be equal to the Phillips price for royalty gas exported to Japan or equal to the highest price paid in the Cook Inlet area for similar quality gas.
4. The proposal is to cover the "life of the contract" and will terminate on or about June 1, 1984.
5. AGAS will take or pay

This presumes that--

- (a) it may be agreed with the State that royalty will be taken in kind for resale to AGAS on a selective lease by lease basis so that the volume in question will approximate AGAS' North Road requirements or

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ALASKA ROYALTY  
OIL & GAS BOARD

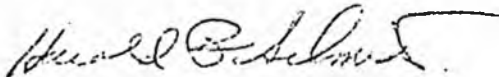
**ALASKA PIPELINE COMPANY**

ANCHORAGE, ALASKA

Commissioner Guy T. Martin  
Continuation Sheet #2  
April 2, 1976

- (b) if suitable exchange arrangements can be made with others or if AGAS chooses to build the pipeline connection to its Anchorage line--it may be agreed with the State that all of the royalty be taken in kind for resale to AGAS.
  - (c) The notice date regarding the State taking royalty in kind be so arranged as to permit AGAS a reasonable length of time to make exchange arrangement with others or to build the required pipeline facilities on a reasoned schedule.
6. The volume of gas expected to be taken in kind for resale to ACAS over the life of the contract is approximately 40 BCF with the actual amount being dependent upon the date of commencement, the arrangement agreed to under #5 above and the actual rate at which the field is produced.
7. It is understood that a deliverability feature is not required in this agreement.

Very truly yours,



Harold F. Schmidt  
Senior Vice President

dh

Alaska Royalty Oil and Gas Development Advisory Board  
Minutes of the April 26, 1976, Meeting  
Juneau, Alaska

13

The meeting was called to order by Chairman Martin at 10:00 a.m. April 26, 1976. All members present except Mr. Gallagher who was late.

The minutes of the previous meeting, March 30 and 31, 1976, had been mailed to Board members prior to the meeting. Mr. Lyon moved for approval and Dr. Triplehorn seconded the motion. Mr. Martin noted that Paul Robison's name was misspelled. The correction was made by the secretary. The minutes were approved unanimously by the four members present.

Chairman Martin advised the Board of an agenda change. No proposed sale of North Slope royalty gas would be introduced to the Board at this meeting. He wished to brief the Board on the status of negotiations during the meeting but in an executive session. Also he wanted to determine a satisfactory date for the next meeting within the next ten days to two weeks.

After discussion, the dates of May 7 and 8 and May 11 and 12 were selected with the decision made by the Chairman depending on progress.

Next item for consideration was the proposed sale of North Cook Inlet Field royalty gas to Alaska Pipeline Company. The contract draft was reviewed in detail by the Board, item by item. All corrections were noted and a corrected draft prepared for the afternoon session.

Mr. Martin gave a brief status report on the North Slope royalty oil solicitation including a recent conversation with Mr. Downey of Tesoro Alaska Oil Company. Tesoro maintains their interest in expanding the Kenai refinery using North Slope royalty oil.

Mr. Gallagher moved that the Board reconvene in executive session at 1:30 p.m. and public session at 2:30 p.m. Motion seconded by Mr. Lyon. Motion passed unanimously.

The Board reconvened in public session resuming consideration of the North Cook Inlet Field royalty gas sale. Documents before the Board were: a corrected draft of the contract, request for approval to waive the competitive bidding requirement and approval for the rejection of bids or applications.

Several changes in wording in contract provisions were worked out and noted for retyping.

There was no response to a call for public participation

Mr. Boness reported on the legal research by Mr. Allen, Covington and Burling, on a set of questions relating to State taking of royalty-in-kind. He had received a preliminary draft by telecopy which was not suitable for copying for the Board. The legal research essentially confirmed the opinions of the Department of Law and industry counsel who have responded to State questions on the matter. Mr. Allen's work has bolstered these opinions by case citations and also pointed out the areas where case law has not developed, particularly in reference to a State taking royalty gas in-kind. The authority of the Federal Power Commission to control gas arising from its jurisdiction over pipeline transport is of special interest to the State. Mr. Allen recommends procedures to follow to reduce FPC control as much as possible. The State should make its desires known to the producers in time to be included in the producer's contracts with gas purchasers and to the FPC. The report also was not optimistic about the FPC granting the State authority to abandon gas sales at the time of initial sale or preabandonment authority as some refer to it.

Mr. Gallagher returned from his telephone call to Mr. Harold Schmidt, Alaska Pipeline Company, about certain wording in the price provision of the contract. The wording added to the provision was explanatory.

The requests for prior written approval to reject bids and to waive competitive sales were circulated. Mr. Gallagher moved that the Alaska Royalty Oil and Gas Development Board approve the waiver of competitive sales, Dr. Triplehorn made the second. On a roll call vote each member voted yes and signed the waiver.

Mr. Lyon moved that AROGDAB approve rejection of all bids or applications for the royalty gas in the North Cook Inlet Gas Field except that of Alaska Pipeline Company as provided for in AS.38.06.050(b). Dr. Triplehorn made the second. The motion was approved by unanimous vote on a call of the roll and each member signed the approval.

Mr. Gallagher moved that AROGDAB approve the gas purchase and sale contract, as amended, for the sale of the North Cook Inlet Gas Field royalty gas to the Alaska Pipeline Company as provided for in AS.38.05.183 and AS.38.06.050. Mr. Lyon was the second. On a roll call vote all members voted affirmatively.

The Chairman announced that the Board had concluded its first sale. He also said that he would initiate an inquiry regarding possible exchange of gas between the State, producers and gas purchasers.

The meeting was adjourned.

STATE OF ALASKA  
THE LEGISLATURE

LEGISLATIVE AFFAIRS AGENCY

POUCH Y - STATE CAPITOL  
JUNEAU, ALASKA 99811  
907-465-3800

MEMORANDUM

May 8, 1976

SUBJECT: Contract for Sale of State Royalty Gas from the North Cook  
Inlet Field to Alaska Pipeline Company

TO: The Honorable Fred Brown

FROM: Gregg Erickson  
Director of Research Services

Summary

As you requested on Friday, May 7, we have reviewed the unexecuted gas purchase contract identified as #76-1, between the State of Alaska (seller) and Alaska Pipeline Company (buyer) with particular reference to several specific questions you raised. Our analysis raises questions concerning the contract's pricing provisions and suggests that more extensive review by the Department of Natural Resources of Cook Inlet gas prices is called for. We also suggest that a requirement for in-state use of this gas be considered or, alternatively, that the contract be made unilaterally terminable by the state. In general, however, we find no obvious conditions or terms in the contract that appear contrary to the state's interests. Finally, we suggest revised wording for the resolution approving the contract.

Analysis

In general, the contract calls for the state to deliver to the buyer--currently the sole supplier of natural gas to Anchorage--an unspecified quantity of royalty gas received from its lessee in the North Cook Inlet field. It provides that the state shall direct its lessee (which in this case is Phillips Petroleum Company) to make these deliveries directly to the buyer who will then be responsible for its transportation to wherever it is to be consumed. Overall, a review of this contract reveals no glaring inequities or conditions which are

obviously not in the state's best interest. We do note, however, a number of minor policy issues and technical considerations which the legislature may wish to call to the attention of Commissioner Martin and the Alaska Royalty Oil and Gas Development Advisory Board.

The first question you raised concerned the point at which the royalty gas will be delivered to the buyer. The gas purchase contract itself does not specify this point. Under the terms of the lease between the State of Alaska and Phillips, the state has the right to take its royalty gas in kind but must do so on or adjacent to the lease from which it is produced. In the case of an offshore platform such as that from which the North Cook Inlet field is produced, this means that, absent other mutually acceptable arrangements, the state must take delivery of its in-kind royalty gas at the platform and arrange for its own transportation ashore. Thus, unless the state wishes to assume this responsibility, the contract provision as currently framed regarding point of delivery would seem to be the only appropriate alternative, i.e., that the state make its delivery to the buyer at the point where it receives delivery from the lessee.

As a practical matter, pipeline capacity sufficient to transport both the royalty and producer's gas to shore already exists, and Alaska Pipeline Company should be willing to pay Phillips a reasonable fee for the use of that capacity. Normally, both Phillips and Alaska Pipeline would be expected to have plenty of incentive to reach an agreement on these transportation charges. They represent additional income to Phillips without any additional expense (since the pipeline capacity is already in being) and, in the case of the Alaska Pipeline Company,

should be substantially lower than the cost of building and operating its own platform-to-shore pipeline.

The only situation where we could envision difficulties arising would be in the case where the lessee was willing to make significant immediate financial sacrifices in order to sabotage the royalty gas sale and thus regain for itself control over the entire production stream. If the cost of constructing a separate pipeline for the royalty share were economically prohibitive, denial of access of the existing facility might be sufficient to torpedo the entire deal. We do not see this as a likely eventuality, and if it were it is probable that the state could bring countervailing pressure to bear on the lessee. In any event, the possibility of such a confrontation would not seem to require any change in the contract here presented to the legislature.

You also asked us to review the provisions concerning the pricing of royalty gas delivered to the buyer. In general, this provision calls for the buyer to pay the state the higher of either the price the state would have received from Phillips Petroleum Company had it not taken its gas in kind, the highest price paid for gas elsewhere within 100 kilometers (62 miles) of the North Cook Inlet field, or a minimum price (which is 60.36¢ per Mcf as of July, 1977, escalating thereafter at the rate of 2¢ per Mcf annually).

We find these provisions unexceptionable, but we would call your attention to what appears to be unnecessary vagueness with respect to the provisions (on page 4 and repeated on page 5 of the contract) concerning how prices received for gas elsewhere in the Upper Cook Inlet Basin are to be related to the price of gas sold under this contract. The problem

arises from the fact that natural gas may be sold elsewhere within the 100 kilometer radius at a price higher than that which would be due under either of the other two pricing provisions, but that the conditions of delivery of that higher priced gas or its quality may be different enough to raise the question of whether the price is properly comparable to that received for gas purchased by the buyer. The contract states that these comparisons shall be made "with due regard to appropriate factors including, but not limited to, difference of BTU content, delivery pressure, term of contract and connection charges." We would suggest that the semicolons preceding this phrase on pages 4 and 5 be deleted so that it will be clear the phrase applies only to the part of the sentence following the "(iii)", applying only to the comparison of prices within the basin and not to the minimum price or the price that the state would have received from Phillips.

In addition, you might consider it appropriate to work with the commissioner to develop substitute wording defining exactly how the BTU content and delivery pressure differences will influence the comparison prices, eliminating the reference to contract term and connection charges, and adding words indicating how the quantity of gas delivered is to affect the comparison. As it stands now, almost any difference in terms of delivery or quality could be used to justify an effective exemption from the "highest price received elsewhere" requirement.

It should be noted that the price currently received by the state for royalty gas produced from the North Cook Inlet field is an "imputed price". This means that it is not determined on the basis of actual

sales but rather on the basis of a "netback calculation" whereby one takes the price received for this gas in Japan and subtracts therefrom the costs of transportation and liquifaction incurred between the production platform and the delivery point in Tokyo. In the past the state has devoted little or no attention to actual verification of the validity of this imputed price, since it happens to be the highest price received for any gas in the basin. We have no reason to believe there is anything phony about the current price but would suggest that it would be appropriate in the future for the department to pay closer attention to this and other similarly determined prices in the basin since changes in one may influence others as well.

We would also call your attention to the fact that as the contract is currently written the state has no right of termination other than by mutual agreement. The buyer, on the other hand, may unilaterally terminate the contract prior to January 31, 1978. We would also point out in this context that although the "Whereas" paragraphs prior to the body of the contract indicate that the "buyer ...[delivers] natural gas for ultimate consumption within the State of Alaska", nowhere in the contract does the buyer agree to use or sell the gas purchased here only for consumption within the state. Conceivably the buyer could either export the gas from the state himself or sell it to some other party who would do the same thing. If the point of sale is greater than 100 kilometers from the North Cook Inlet field, the price of the sale would not result in any readjustment of the price paid by the buyer to the state. Since the purpose of this contract is to insure adequate supplies of natural gas for domestic consumption within the state, it would seem

logical that the contract include guarantees with respect to this matter or, alternatively, provisions allowing the state to unilaterally terminate the arrangement.

Finally, we would note that the "Resolved" clause of the resolution offered by the governor when he requested approval of this contract (HCR 142) would appear to be incorrectly worded. We would suggest that the following language be substituted:

"BE IT RESOLVED by the Alaska State Legislature that Alaska royalty gas sale No. 76-1 and the contract providing for the sale of royalty gas from the North Cook Inlet gas field pertaining to it, between the State and the Alaska Pipeline Company, is hereby approved."\*

We would also suggest that the contract itself be made a part of the legislature's official record by its inclusion in the House Committee Report, and thus the Supplement.

\* If the legislature or a committee thereof believes that the above comments or other considerations require some revision of the contract, the most expeditious way of bringing them about might be to instruct the Department of Natural Resources or Mr. Fackler (executive director of the Royalty Board) to work with the proposed buyer to develop the necessary language. The resolved clause could then read:

"BE IT RESOLVED by the Alaska State Legislature that Alaska Royalty Gas Sale No. 76-1 and the amended contract (submitted to the legislature on \_\_\_ May 1976 and appearing in the House Journal Supplement for \_\_\_ May 1976) providing for ..."

# STATE OF ALASKA

## DEPARTMENT OF NATURAL RESOURCES

ROYALTY OIL AND GAS DEVELOPMENT ADVISORY BOARD

JAY S. HAMMOND, GOVERNOR

11TH FLOOR, STATE OFFICE BLDG.  
POUCH M - JUNEAU 99811

May 7, 1976

The Honorable Nels Anderson  
Chairman, House Resources  
Committee  
Pouch V  
Juneau, Alaska 99811

Dear Mr. Anderson:

In accordance with the requests of you and your committee the items listed below pertaining to HCR 142 are attached.

1. Letter from Alaska Pipeline Company dated September 30, 1975 requesting State royalty gas from North Cook Inlet Field.
2. Minutes of Board meeting October 10, 1975.
3. Roster from October 10, 1975 meeting.
4. Minutes of Board meeting November 10, 1975.
5. Alaska Pipeline Brochure prepared for November 10, 1975 meeting.
6. Letter from Phillips Petroleum Company, dated October 21, 1975.
7. Letter from Phillips Petroleum Company, dated December 5, 1975.
8. Letter from Homer Electric Association requesting royalty gas, dated January 22, 1976.
9. Letter from Homer Electric Association withdrawing request, dated March 30, 1976.
10. Sale terms approved by Board.

The Honorable Nels Anderson

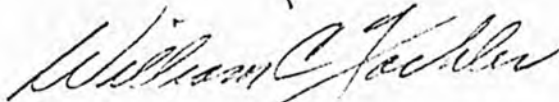
-2-

May 7, 1976

11. Telegram from Pacific Alaska LNG disclaiming interest.
12. Letter from Alaska Pipeline Company agreeing to terms dated April 2, 1976.
13. Minutes of Board meeting April 26, 1976 approving sale.

If you desire additional information regarding the North Cook Inlet Field royalty gas sale, please advise me.

Yours truly,



William C. Fackler  
Executive Director

Attachments

①

# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551



September 30, 1975

Mr. Guy Martin  
Commissioner of Natural Resources  
State of Alaska  
Juneau, Alaska

Dear Mr. Martin:

Confirming our discussion at the Anchorage airport on September 30, and my letter to Mr. Gilbreth of August 20, and memorandum to you of September 24, Alaska Pipeline Company is requesting to purchase the royalty share of North Cook Inlet gas field at or near the Phillips-Marathon LNG plant on the North Kenai Road, at the price used by Phillips to acquire this gas from the State for the manufacture of LNG for export to Japan or elsewhere. We believe the most reasonable method for handling the delivery and sale would be by "exchange," or "displacement," so that construction of new pipeline(s) and compression would be minimized. Since our supply at the Kenai gas field is interconnected to the North Cook Inlet gas supply at the LNG plant, for the time being it should be practical that we would take whatever amount of the North Cook Inlet royalty gas may be available day by day by displacement into our system at the Kenai gas field. Later, when additional investment would be required for transporting this royalty gas to shore, we could negotiate our participation in investment, or install our own facilities if necessary, in order to accomplish the purchase on the most reasonable basis for all concerned.

The essential aspect of our request is that we have an immediate need for additional gas on the North Kenai Road and we have a long term requirement for additional gas reserves to serve Alaskan customers in our present service area. We believe that it is in the public interest that we should be allowed to purchase this State royalty gas for local consumption rather than for this gas to be exported to Japan or elsewhere. We will begin preparing a formal

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OCT 6 1975

ALASKA ROYALTY  
OIL & GAS BOARD

DEPARTMENT OF  
NATURAL RESOURCES

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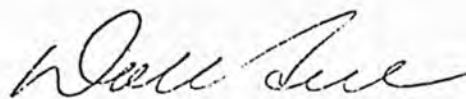
ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

Mr. Guy Martin  
September 30, 1975  
Page 2

application to purchase this gas and will appreciate having your guidance as to what supporting data or format may be desired, if any, for presentation to the Royalty Board or to the legislature to satisfy statutes or regulations which apply.

Very truly yours,



Dale Teel

DT/js

cc: O. K. Gilbreth, Director  
Division of Oil and Gas

Alaska Public Utilities Commission

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

MEMORANDUM

TO: Mr. Guy Martin  
Commissioner of Natural Resources

FROM: Dale Teel

DATE: September 24, 1975

SUBJECT: Alaska Pipeline Company's Request to Purchase State Royalty Gas from the North Cook Inlet Gas Field ("Phillips")

DEPARTMENT OF  
NATURAL RESOURCES

SEP 29 1975

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Alaska Pipeline Company (APC) and its affiliate Alaska Gas and Service Company ("Anchorage Natural Gas") supply natural gas to 285 customers on the North Kenai Road and to the Bernice Lake power plant of Chugach Electric Association. The gas is obtained from the industrial pipeline which supplies the LNG plant, the Ammonia/Urea plant, and gas for reinjection into the Swanson River Oil field, and comes from the Kenai gas field (Union-Marathon), under a contract which runs to May 1, 1977. Due to unexpectedly heavy usage by the Bernice Lake power plant, the reserve quantity, 10 billion cubic feet (BCF), will be used prior to May 1, 1977, and at that point the contract will terminate. A contract extension and additional commitment of reserves has been requested of Union-Marathon, or the right to receive gas on the North Kenai Road which is committed for the Anchorage area under a separate contract. There has been little if any progress made on these requests thus far.

Alaska Pipeline Company's contract with Union-Marathon has a provision that if APC were to obtain royalty gas from the Kenai gas field, then the commitment of gas reserves by Union-Marathon (originally 550 ECF) would be reduced an equal amount, and thus in effect APC is barred from negotiating for royalty gas from the Kenai gas field.

APC has inquired for a commitment of gas from Phillips, with the (telephone) response that since Phillips' obligations to the gas company of Portland, Oregon are in suspense due to hearings at the Federal Power Commission and since the gas company at Los Angeles is attempting to purchase royalty gas from the North Cook Inlet gas field, Phillips is not clear to negotiate a commitment of reserves to APC. It is known also that the Portland gas company is requesting to purchase North Cook Inlet royalty gas (discussions with Governor Hammond).

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SEP 29 1975

ALASKA ROYALTY  
OIL & GAS BOARD

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

- 2 -

APC has written to the State (letter to O.K. Gilbreth, August 20, 1975, attached) requesting to purchase the North Cook Inlet royalty gas at the price of 50.45¢ per MCF, which is the price which now applies to the royalty gas which Phillips utilizes for its LNG manufacture, which is known to be 45¢ wellhead plus 5.45¢ transportation. If this gas were to be offered to APC, APC could build a pipeline from the LNG plant to deliver the gas into its pipeline to Anchorage as well as to supply its North Kenai Road customers. Such a pipeline (approximately 35 miles of 8") could be built in the right of way now occupied by Homer Electric Association's power line from the Bernice Lake power plant to "Quartz Creek." However, construction of such a pipeline should not be necessary, because existing pipeline systems could be utilized to "exchange," or "displace," gas and the transaction could be made entirely on paper, continuing actual movement as at present, without change. North Cook Inlet gas is identical to Kenai field gas (the streams are interchangeable at the L' G plant), so adjustments can be made by volume only.

APC would appear to be the ideal customer for State royalty gas because it would "blend" (by price/rate adjustments) the higher priced royalty gas into its present supply, with relatively small impact on its rates to Alaskan gas users. APC has negotiated "deliverability" with Union-Marathon so that it is in a position to take none or the full royalty share of North Cook Inlet gas without placing its suppliers (Union-Marathon) in any hardship and without having to rely on constant or steady rate production from the North Cook Inlet field. In other words, APC could take the State royalty gas from North Cook Inlet if and as it is produced, without requiring "deliverability."

The foregoing description assumes that the producers (Union, Marathon, Phillips) and the State can readily agree to the "exchange" or "displacement" as indicated. If APC were to build the new pipeline so that the royalty gas actually were to be moved from the LNG plant to APC's pipeline to Anchorage, the same general situation would obtain as for displacement, but operation would be relatively complex since gas would have to move to or from the LNG plant in the new pipeline depending on whether or not the LNG plant were running and at what rate. It is anticipated that normally there would be adequate notice available so that flow rate and directional changes would be practical - in fact displacement could be utilized even with such a pipeline, to foster best scheduling by all the parties. Such displacement actually occurs already, from time to time, although it involves only the producers (Union, Marathon, Phillips) and, of course, does not affect APC or the State at present. The proposed displacement, either with or without a new pipeline being added, should be just as practical if the parties would so agree.

DT/js  
enclosure

cc: Alaska Public Utilities Commission



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

August 20, 1975

COPIES SENT TO:

Paul Robison  
Sebe Eastland  
Harold Schmidt  
O. C. Honig

Mr. O. K. Gilbreth, Director  
Division of Oil and Gas  
State of Alaska  
Department of Natural Resources  
3001 Porcupine Street  
Anchorage, Alaska 99504

Dear Easy:

We have a gas supply contract with Union-Marathon for 10 BCF on the Kenai North Road which expires May 1, 1977. Due to accelerated sales to Chugach Electric's Bernice Lake power plant this year, it appears the entire reserve quantity could be used up within less than one year from now, and we are soliciting a replacement supply of gas to serve Chugach and our other customers on the Kenai North Road.

We are in a position to commit to take more than our North Road requirements, however, and would like to offer to purchase the State's royalty share of Phillips' production from North Cook Inlet, delivered to a metering point near the Phillips-Marathon LNG plant on the Kenai North Road. The excess above our Kenai North Road sales would be used to displace deliveries by Union-Marathon to us at the Kenai gas field, and thus serve to prolong the adequacy of our reserve commitment at the Kenai gas field. We are not certain as to whether or not the displacement can be made "on paper," or whether we would be required to lay a pipeline to connect into our Anchorage pipeline either at or near the Kenai gas field or at or near our compressor station east of the Kenai River.

Please consider this letter to be an application to purchase royalty gas as described, pursuant to AS 38.06.010. Since limited time is available to do any necessary construction, we hope all procedural requirements can be determined readily. We would anticipate paying the State the same price it would have received from Phillips, which we believe to be 45¢ per MCF plus 5.45¢ transportation fee, as compared to the current 41.5¢ cost of gas (and deliverability) at the Kenai gas field.

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SEP 29 1975

ALASKA ROYALTY  
& GAS BOARD

ALASKA PIPELINE COMPANY

ANCHORAGE, ALASKA

Mr. O. K. Gilbreth

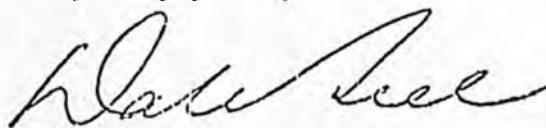
August 20, 1975

Page Two

We are relying on approval by the Alaska Public Utilities Commission for us to "flow through" the increased cost of gas to Chugach's Bernice Lake power plant and to "meld" the (higher) cost royalty gas with the (lower) cost Kenai field gas, on a day-to-day basis, since the amount of royalty gas we would receive would depend on the rate of production of the Phillips-Marathon LNG plant and be outside our control. When this plant is down for any reason, we would be utilizing Kenai field gas as replacement.

Please advise regarding any questions or further procedure we should follow in presenting a formal offer to the State.

Very truly yours,



Dale Teel  
President

DT:lkd

cc: Alaska Public Utilities Commission

2

ALASKA ROYALTY OIL & GAS DEVELOPMENT ADVISORY BOARD

Minutes From October 10, 1975, Meeting in Juneau

1. The meeting was called to order by Chairman Martin at 9:00 a.m. in the Fifth Floor Conference Room of the State Office Building. All of the Board members were in attendance. Chairman Martin had no special remarks in opening the meeting and the meeting proceeded according to the agenda (Appendix A). Several members of the public were present.

2. The minutes of the August 4, 1975, meeting were approved as circulated to the Board.

3. Reports

A. Board's Administrative Report.

1. Richard Lyon moved that the Royalty Board go into executive session to discuss the appointment of an Executive Director for the Royalty Board. The motion was seconded by Donald Triplehorn. The motion passed unanimously at 9:10 a.m. The meeting was called back to order at 9:30 a.m. Chairman Martin advised those present that the Board has made a decision on the appointment of an Executive Director. Arion Tussing moved that William C. Fackler be appointed as Executive Director of the Alaska Royalty Oil and Gas Development Advisory Board to be effective November 15, 1975, at an advanced step of the salary range. Donald Triplehorn seconded the motion and the motion passed unanimously.

2. Chairman Martin advised that the Department of Law's report was not yet complete, therefore, it will be presented at a later date.

3. Chairman Martin informed the Board that it needed to decide about the distribution of proposals to interested parties. The motion was made that the Board establish open reading files in Anchorage in the Division of Lands' office and in Juneau in the Commissioner's office. The proposals received should be placed in the reading files and mailed to the Board members and after five working days be made available to the public upon request. The motion was seconded by Richard Lyon. Motion passed unanimously.

B. Studies

1. Projected Natural Gas Demand - A report was presented by Mr. Pat Dobey of the Division of Geological and Geophysical Surveys of the Department of Natural Resources on the projected natural gas demand. (Appendix B.)

2. Mr. O. K. Gilbreth, Director of the Division of Oil and Gas for the Department of Natural Resources, presented a report on the projected natural gas availability in Cook Inlet to the Royalty Board. (Appendix C.)

C. Current Federal Legislation - Arlon Tussing gave a brief report on current federal legislation (Appendix D). Mr. Tussing informed the Board that in summary it is still in stalemate both on oil and gas legislation, and that the Congress had passed legislation continuing price controls and allocations on oil and gas and did not accept the Administration's proposed schedule for phasing out price controls. The President vetoed it, the veto was sustained and Congress did not override the veto and beginning the first of September there were no price controls or allocation authority for oil and gas. The President did agree to another retroactive extension of price control while there was an attempt to come up with a new compromise. The House and Senate are now in conference on the legislation and both the House and Senate bills that went into this conference have price control provisions which are unacceptable to the Administration. It looks as if in November we will again be faced with a situation where Congress will pass an extension of oil and gas price control which will include a rollback in the price of new oil.

Chairman Martin asked for concurrence of the Board in altering the agenda to take up the definition of surplus question following the presentation of proposals received since the last meeting of the Board. There was no objection by the Board.

5. Correspondence - Mr. Fackler read several letters that had been received from companies that refer to earlier proposals submitted by the various companies to the Board. (Northern Natural Gas, Southern Natural Gas Company and Alaska Petroleum Company.)

6. Proposals since the last meeting.

A. Prudhoe Bay

Mr. Fackler informed the Board that a letter from Murphy Oil Corporation had been received. He advised that Murphy Oil was interested in supplying a portion of their Superior, Wisconsin, refinery's needs with Alaskan crude oil starting in 1977. The vehicle for the crude oil would be the Trans Mountain Pipeline from Puget Sound to Interprovincial Pipeline and then to Superior, Wisconsin. They estimated requirements to be 20,000 to 40,000 barrels per day. They advised that at the present time it

would be impossible with the uncertain conditions in regard to price, government controls, pipeline reversal, et cetera to submit a firm bid for production to be purchased several years in the future. They would be willing to pay competitive world market prices for similar types of crude at the time of purchase.

Mr. Robert C. Thomas of Tennessee Gas Transmission Company was present and was requested to present their proposal. Mr. Thomas advised that their proposal would allow the following benefits:

1. Company acquiring the right to contract the royalty reserves should be capable of giving maximum support to the obtaining of a trans-Alaska pipeline route. He pointed out that in their approach they had covered this point by stating that to date Tennessee Gas Transmission Company has not supported either route designed to transport North Slope gas to market.
2. That the State would receive substantial front-end money. In their approach they indicated that they would make available to the State in excess of 100 million dollars for the right to contract all of the royalty oil and gas reserves in the Prudhoe Bay Field. The exact amount contributed would be subject to further negotiations between the parties and would reflect the needs of the State, the drawdown schedule, and several other factors. The funds would be made available to the State over a three-year period according to the State's needs. There would be no recovery of the advanced funds for a period of three years following the date of the advance. The contribution would be hopefully recovered out of the portion of revenue from the royalty natural gas or oil. The recovery period would be five years, giving a total of eight years. The funds that would be made available would be interest free.
3. They felt that some of the gas must be available for use within the State. In their outline they indicated that they would consider reservation of the State of up to 10 percent of the royalty gas. They did not intend to imply that this represented the maximum anticipated future growth of the State natural gas lease. What it did indicate is that they feel the primary goal at this time should be to secure a trans-Alaska route and that the major source of gas for the future needs of the State would come from future reserves found and transported through this system.

4. The maximum possible wellhead price should be paid for the reserves when produced. They feel that the gas produced in Prudhoe Bay would go into interstate commerce and under current regulations would be subject to control by the Federal Power Commission. Since they are regulated by the Federal Power Commission, they are unable to guarantee a specific wellhead price.

Since the purchaser is subject to unknown timing factors and substantial risks associated with purchasing the right to contract Prudhoe Bay gas, the purchaser must be compensated by certain benefits. They see those benefits to the purchaser as being:

1. the front-end payment must be financeable,
2. the front-end payment must be recoverable at a particular point in time, and
3. the right to contract all of the State's royalty gas in Prudhoe Bay subject to a 10 percent reservation of the gas by the State.

They feel the most important consideration by the State at this time is the securing of the trans-Alaska routing for the Prudhoe Bay gas. This is the biggest single factor that would have an impact on the State throughout its future. To insure that there is no question about their intent in promoting a trans-Alaskan route, Tenneco would add a provision to the memorandum they submitted that they would be willing to give the State the option of terminating their right to contract should the trans-Alaska route not be considered. This termination provision would further provide that Tenneco would receive their capital contribution back plus any interest and that they would not be prejudiced in any further attempts to contract royalty gas.

Chairman Martin asked Mr. Thomas if Tenneco had done any analysis of the El Paso proposal on a comparative basis with their proposal and had they taken a look at the question of the 10 percent set aside and the jurisdictional question in regard to commingling? Mr. Thomas advised that he would get a response to these questions in writing to the Board.

Arlon Tussing asked if Tenneco could provide the Board with the backup on their market analysis and cost analysis. Mr. Thomas stated that he would be happy to get the information together for the Board.

Chairman Martin called a lunch recess until 1:30 p.m. The meeting was called to order at 1:30 p.m. and Mr. Fackler read a letter received from Northern Liquid Fuels Companies dated August 11, 1975, to the Board. Northern Liquid Fuels Companies wished to acquire the right to process the State of Alaska's royalty share of the gas to be produced from the Prudhoe Bay Field for the removal of propane, butane, natural gasoline and ethane (NGL) and to purchase any NGL attributable to the State of Alaska's royalty share of the oil

produced from such field. For the right to process the State of Alaska's royalty share of such gas, the Companies would propose a prepayment plus a payment for each barrel of NGL extracted and marketed over the life of the field, the amounts of such payments to be determined upon conclusion of the study hereinafter referred to. The Companies propose to undertake a comprehensive study to determine which of the following programs is more economical: 1) process the gas stream in the field for removal to the NGL and build a liquids pipeline to transport the NGL to Southern Alaska, or 2) leave the NGL in the gas stream and process the stream: a) in Southern Alaska, if a trans-Alaska gas pipeline is built, or b) in Canada or the United States if an Alaska-Canadian pipeline system is built. The studies will take into account the needs of the State, particularly the establishment of a liquid fuels distribution system in the State of Alaska in its principal cities of Anchorage, Fairbanks, Juneau, as well as others to which reasonable transportation can be made available to transport safely liquid fuel. The Companies would be interested in establishing such a system if the studies indicated that the NGL should be removed either in the Prudhoe Bay Field or at the coast or some intermediate point along the trans-Alaska pipeline. The portion of NGL which exceeds the needs of the State of Alaska would be exported to the continental United States. The Companies, together with two other parties, are currently engaged in designing an LPG import terminal facility on the Houston Gulf Coast capable of receiving 100,000 barrels of LPG per day. Mr. Baca was present to answer any questions the Board had. Mr. Baca advised the Board that he would prepare a more detailed proposal concerning purchase of State royalty natural gas liquids.

#### B. Cook Inlet

Mr. Fackler advised the Board that two proposals had been received with regard to Cook Inlet gas. The first one was from Alaska Pipeline Company who were requesting purchase of the royalty share of North Cook Inlet gas field at or near the Phillips/ Marathon LNG Plant on the North Kenai Road, at the price paid by Phillips to acquire this gas from the State for the manufacture of LNG for export to Japan or elsewhere. They believe the most reasonable method for handling the delivery and sale would be by "exchange," or "displacement," so that construction of new pipeline and compression would be minimized. Since their supply at the Kenai gas field is interconnected to the North Cook Inlet gas supply at the LNG plant, for the time being, it would be practical that Alaska Pipeline would take whatever amount of the North Cook Inlet royalty gas that may be available day by day by displacement into their system at the Kenai gas field. Later, if additional investment would be required for transporting this royalty gas to shore, they would negotiate their participation in investment, or install their own facilities if necessary, in order to accomplish the purchase on the most reasonable basis for all concerned. The essential aspect of their request is that they have an immediate

need for additional gas on the North Kenai Road and have a long-term requirement for additional gas reserves to serve Alaskan customers in their present service area. They believe that it is in the public interest that they should be allowed to purchase this State royalty gas for local consumption rather than for this gas to be exported to Japan or elsewhere. They would begin preparing a formal application to purchase this gas and would appreciate having the Board's guidance as to what supporting data or format may be desired.

Mr. Fackler gave the Board some background on this request. He advised that Alaska Pipeline Company has renegotiated with Union Marathon and have increased their deliverability but have not increased their reserves. Mr. Teel is seeking increases in reserves now. Chairman Martin advised the Board that what Mr. Teel indicates would require Board action and submission to the upcoming Legislature. Mr. Teel feels that from the consumer's standpoint this would be very attractive legislatively. It would be based totally on the attractiveness applying to the Anchorage area as opposed to other areas in the State. Mr. Gallagher informed the Board that a clause in regard to most favored nations should be included in the new contract. Mr. Gallagher informed the Board that the most favored nations concept is that the price will meet the highest price in the field. Chairman Martin requested that Mr. Fackler direct a letter to Mr. Teel inviting him to make a presentation at the Board's next meeting.

The second letter was from Northwest Natural Gas Company in which they advised that their project for delivering LNG from Alaska to the State of Oregon had hit a snag due to the jurisdictional restrictions which would be imposed on the producers (Phillips Petroleum Company and Marathon Oil Company) by the Federal Power Commission.

4. Definition of Surplus - Chairman Martin read the statute regarding surplus (AS 38.05.13(d)). Chairman Martin advised the Board that some basic standard in regard to surplus is going to have to be established as a part of the regulations. The Board discussed how they should go about putting that regulation together. After much discussion about surplus, three items emerged that should be included in the definition of surplus and they are: 1) time period, 2) demand, and 3) supply. Chairman Martin informed the Board that he would attempt to bring back to the Board at their next meeting a finished product with regard to the definition of surplus.

7. Other Business - Dick Lyon moved that the Board authorize the Board members who wished to take a briefing from Tennessee Gas Transmission Company on their economic analysis and go through their calculations of costs and that either the Board member or Tennessee Gas Transmission Company would send to the Board a written summary of the briefing for the Board's records. Don Triplehorn seconded the motion and the motion passed unanimously.

Chairman Martin advised that the next item on the agenda was the scheduling of the next Board meeting. The next Board meeting will be held in Anchorage, Alaska on November 10, beginning at 8:30 a.m. He advised that there should be another meeting in December. The meeting is tentatively scheduled some time during the week of December 8. The meeting will be held in Juneau and will begin at 8:30 a.m.

8. Public Participation - Mr. Swetnam of Phillips Petroleum Company requested that Phillips have an opportunity to make a presentation to the Board regarding North Cook Inlet royalty gas. Chairman Martin requested that Phillips make a written presentation to at least the Commissioner's Office, which the Commissioner would make available to the Board and based on this proposal talk with his office in the interim so they could decide whether an appearance would be necessary and desirable.

Mr. A. Baca of Northern Liquid Fuels Companies wanted to add to their presentation that if an LPG system is feasible to be constructed that the State's royalty liquids would be available to serve any market within Alaska that might exist.

There being no further business the meeting adjourned at 3:15 p.m.

Mr. Patrick Dobey, Division of Geological and Geophysical Surveys, reviewed current progress on the computer model study of probable future demand for gas in Alaska. A copy of his presentation is attached.

Mr. Robert C. Thomas, Tennessee Gas Transmission, presented additional information on the effect of Federal Power Commission regulations on Alaska's use of its royalty gas. This information was requested by the Board at the October 10 meeting in Juneau.

Their legal counsel is of the opinion that the State as a political subdivision is not subject to direct FPC control. However, any State gas transmitted by a transfer would require a certificate thereby allowing at least a measure of indirect control.

Tenneco suggests that FPC control could be minimized by either of two ways. One is to secure an immunity or exemption by the FPC in the original certificate. Second is an exemption through legislative action by Congress approved by the President. A copy of this memorandum is attached.

Following this discussion the Board instructed the Chairman and staff to proceed in drafting proposed regulations on determining surplus definitions of supply and demand. The proposed regulations are to be published in several newspapers. Final language and approval will depend on comments on the public notice.

Chairman Martin requested approval by the Board to extend the term of acting directorship for Mr. Fackler until the appointment of a new Deputy Commissioner. There being no objection by the Board, approval was granted.

Authority was also requested to expend up to \$20,000 of Board contractual funds for consulting purposes. After a short discussion on possible types of consultant activities, the Board approved the request.

The next meeting date of the Board was set as December 9 and 10, 1975, in Juneau. There being no further business before the Board, the meeting was adjourned.

# Roster

(3)

10/10

Bruce Monroe

Rep  
Birch, Jernigan, Horton Pittman  
Always

M. C. HOLCAND

EC PASO ALASKA CO

LARRY EPPENBACH

TREASURY DIV.

SARAH EPPENBACH

ALASKA CONSTRUCTION + OIL MFG.

Apolonio Baca

NORTHERN LIQUID FUELS  
CO

ROBERT C. THOMAS

TENNESSEE GAS TRANSMISSION

Bob Sweetnam

Phillips Petroleum

O. K. GIBRETH

Div Oil & Gas - Anch.

PATRICK

Pat. Robey

Div of Geol & Geoph Survey

ALASKA ROYALTY OIL & GAS DEVELOPMENT ADVISORY BOARD

Minutes From November 10, 1975, Meeting in Anchorage

1. The Meeting was called to order by Chairman Martin at 8:30 a.m. in the Division of Lands Conference Room in Anchorage. All Board members were in attendance, together with members of our legislative liaison group, distinguished Commissioners of Public Utilities and other dignataries.

2. The Minutes of the October 10, 1975, meeting were discussed. Arlon Tussing raised a question on the wording of Section 4 on page 6 on Definitions of Surplus, and whether or not Mr. Tussing had made a motion defining parameters needed in the definitions. Mr. Fackler was instructed to determine if the recorded tapes of that meeting were still available and transcribe that portion if possible.

3. Reports

A. Chairman Martin was informed that the reports on Natural Gas Future Demand and Existing Gas Contracts scheduled at this time would be delayed several hours pending last minute work. The Board decided to amend the schedule and advance to Part V - Proposals.

5. Proposals

A. Prudhoe Bay

1. Mr. John Bennett, El Paso Alaska Company, reviewed the El Paso trans-Alaska gas pipeline project efforts to date emphasizing El Paso's need for a contract to purchase or transport State royalty gas from Prudhoe Bay which is surplus to State's needs. A transcript of the testimony is attached.

B. Cook Inlet

1. Mr Dale Teel, Alaska Pipeline Company, presented a request that the State royalty gas from North Cook Inlet gas field be taken in-kind and sold to Alaska Pipeline Company. His testimony was followed by Mr. John Horn, ~~Phillips Petroleum Company, who opposed~~ Mr. Teel's request. A transcript of the testimony of Mr. Teel and Mr. Horn is attached to the minutes.

Mr. Thomas Stahr, Anchorage Municipal Light and Power, read a letter to the Board supporting the Alaska Pipeline Company request. A copy of the letter is attached.

Mr. John Miller, Division of Oil and Gas, presented a table summarizing the existing gas contracts in the Cook Inlet area. Items include quantity of gas dedicated, length of contract, price, remaining reserves to contract and uncommitted reserves.

Nov 10, 1975 My Anchorage

Name	Representative of:
JOHN L. WILLIFORD	PHILLIPS PETROLEUM COMPANY
JOHN HORN	✓ ✓ ✓
LEN McLEAN	PACIFIC ALASKA LNG Co.
Don Triplehorn	Univ. of Alaska - Board Mbr.
Arden Tussing	" " "
Eric Eckholm	Gas Pipeline Legislative Comm.
Dale Taylor	Anchorage Natural Gas
Paul F. Robeson	Atty
Richard A. Lyon	GOODS MEMBER
M. C. Holland	EL PASO ALASKA Co
J. C. Bennett	EL PASO ALASKA Co,
Jack Rodeich	self
Thomas Stahr	Anchorage Municipal Light & Power
CAROLYN GUESS	ALASKA PUBLIC UTILITIES COMMISSION
Paul F. Robeson	above
Gordon Schadt	Birch, Terminus, Houston & Bittner
Fred Boness	Dept. of Law
Julius J. Brecht	" "
GORDON ZERBETZ	ALASKA PUBLIC UTILITIES COM. #1
NOEL BUZKE	MARATHON
Chancy Golt	Alaska Senate
C. J. DIVER	MARATHON
Harold Schmitt	Alaska Gas & Service
Pete C. Ginder	Ely, Guss & Rudd (PAC AK LNG Co.)
Ken Sheppard	Consulting Engineer
D. ...	EL PASO ALASKA

Jared G. Carter  
Kay M. Linton  
ROBERT C. THOMAS  
BILL MCGUIRE  
Rosemary Shinkham  
Mike Broder  
Elyse Todd  
Lawrence Eppelbach  
W.C. Fackler  
John C. Miller  
Tom Marshall  
Patrick L. Dobey

Tennessee  
O.M.A.R.  
TENN. GAS TRANSMISSION  
legislative Affairs  
Daily News  
Alaska House of Representatives  
Anchorage Times  
Dept. of Revenue  
Natural Resources  
✓ ✓  
✓ ✓  
✓ ✓

DEPARTMENT OF  
NATURAL RESOURCES

OCT 23 1975

RECEIVED  
JUNEAU, ALASKA



PHILLIPS PETROLEUM COMPANY  
BARTLESVILLE, OKLAHOMA 74004 918 661-6800

NATURAL RESOURCES GROUP  
Gas and Gas Liquids Division

October 21, 1975

North Cook Inlet Royalty Gas

File: 1-Ho-381-75-G3GL

Commissioner Guy Martin, Chairman  
Alaska Royalty Oil and Gas Development  
Advisory Board  
c/o Department of Natural Resources  
Juneau, AK 99801

Dear Commissioner Martin:

We are advised that certain interests have made application or may make application to purchase royalty gas owned by the State of Alaska and produced from the North Cook Inlet Field. Phillips is the Owner and Operator of this field.

Phillips has at considerable risk and expense, developed the North Cook Inlet Field and has provided a market for the natural gas when no markets existed. Phillips constructed a pipeline, liquefaction plant, and LNG tankers which were designed to utilize all of the natural gas produced from the North Cook Inlet Field. Through our efforts, we have negotiated several substantial price increases with our customers and have shared these price increases with the State of Alaska. This, we believe, gives strong evidence of Phillips' willingness to establish a fair and reasonable wellhead price as a basis of royalty payment. We know of no other natural gas royalty settlement in Alaska at a price as high as Phillips is paying.

For the State of Alaska to take the royalty gas in kind and separately dispose of it will impose severe economic hardships on Phillips. Such disposal to a third party will cause a premature abandonment of the pipeline, liquefaction and transportation facilities due to the early depletion of our natural gas reserves. All of these facilities were specifically built to create and provide a market for all of the natural gas from the North Cook Inlet Field. Additionally, it would require the drilling of more wells and the installation of additional compression equipment as well as the installation of certain compression equipment at an earlier date.

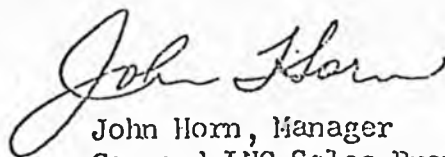
Commissioner Guy Martin  
File: 1-Ho-381-75-G&GL

October 21, 1975  
Page 2

We strongly oppose the sale of royalty gas from the North Cook Inlet Field by the State of Alaska to any third party because of the undue economic hardships that it will impose on us. Further, Phillips is settling with the State of Alaska on a fair and reasonable value for the State's royalty gas.

Please take a look at our performance record. We believe that the State of Alaska will receive the greatest overall benefit by allowing Phillips to continue to market Alaska's royalty gas from the North Cook Inlet Field.

Very truly yours,



John Horn, Manager  
Gas and LNG Sales Branch

JH:bla

cc: Mr. R. I. Swetnam  
Phillips Petroleum Company  
Hoblit Building  
515 "D" Street  
Anchorage, AK 99501



PHILLIPS PETROLEUM COMPANY  
BARTLESVILLE, OKLAHOMA 74004 918 661-6600

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NATURAL RESOURCES GROUP  
Gas and Gas Liquids Division

December 5, 1975

State Royalty Gas  
North Cook Inlet Field  
Alaska Gas & Service  
Company Proposal

File: 1-Ho-438-75-G&GL

Commissioner Guy Martin, Chairman  
Alaska Royalty Oil and Gas Development  
Advisory Board  
c/o Department of Natural Resources  
Pouch M  
Juneau, AK 99801

Dear Mr. Martin:

During the hearing before the Alaska Royalty Advisory Board on November 10, 1975, in Anchorage, a brochure entitled "The Case for Committing Alaska State Royalty Gas from the North Cook Inlet Gas Field to Alaska Pipeline Company (Anchorage Natural Gas)" was presented to the Board. We offer the following comments to the Board on this proposal in addition to the oral presentation made in behalf of Phillips at the November 10 hearing.

1. Phillips recognizes that the State has the right to take its royalty share of the gas in kind at the wellhead. But we believe that such action will not in the long run be to the best advantage to the citizens of the State.
2. Phillips has invested over \$125,000,000 to develop a market for the North Cook Inlet Field gas when no market existed. Our investment was made with the expectation that we would market all of the gas from the field — it was our obligation to market the State's royalty gas along with our working interest gas.
3. Deliveries commenced six years ago and we had visualized at least a 20-year project.
4. Phillips has actively worked with various groups and individuals in Alaska, including Alaska Gas & Service Company, to try to make LNG available to the more remote areas; however, thus far the high cost of transportation has thwarted these efforts.

Comments by John Horn  
Phillips Petroleum Company  
to  
Alaska Oil and Gas Development Advisory Board  
Juneau, Alaska, December 9, 1975

Mr. Chairman, Members of the Board,

Phillips Petroleum Company appreciates the opportunity once again to appear before you. Let me state again that we share with you the concern that the citizens of Alaska derive a fair and reasonable benefit from the State's natural resources — including its natural gas. We recognize that the State has the right to take its royalty share of gas in kind at the wellhead.

We have handed to you a folder which contains (1) our written response to the Board on the brochure entitled "The Case for Committing Alaska State Royalty Gas from the North Cook Inlet Gas Field to Alaska Pipeline Company (Anchorage Natural Gas)" which was presented to the Board at the November 10, 1975 hearing in Anchorage, and (2) reproduced copies of some letters from governmental officials written at the time our LNG project was in its formative stages so that you may have the benefit of their feelings toward the Phillips-Marathon LNG Project at that time.

Although we have reprinted the entire texts for your review, I would like to quote from two of these latter mentioned letters.

The first is from a letter dated March 21, 1967, from Senators E. L. Bartlett and Ernest Gruening, addressed to Honorable Lee C. White, then Chairman of the Federal Power Commission, with respect to the Phillips-Marathon LNG Project.

"It is our hope that favorable action on the two applications and the subsequent development of Japanese markets will encourage the exploration and utilization of new Alaska gas fields. The present proposal and those we hope will follow will have a very measurable, favorable and tremendous effect on Alaska's economy.

"We support the applications in the strongest way possible."

The second is dated April 7, 1967, from Mr. Anthony M. Solomon, Assistant Secretary, Bureau of Economic Affairs, Department of State, and also addressed to Honorable Lee C. White.

"The Department of State raises no objections to the substance of the Phillips-Marathon proposal and in view of trade expansion policy supports the prompt action of the Federal Power Commission toward favorable response to the application."

During this time, we worked with Mr. Frank H. Murkowski, then Commissioner of the Department of Economic Development, who was most anxious to further the economic development of Alaska and to develop and utilize its natural gas resources.

We were advised at that time that 1967 marked the 100th year since Alaska was purchased from Russia and that our proposed LNG plant would be one of the top four industrial installations in Alaska during those first 100 years.

We believe that the State would receive the greatest benefit if it continued to receive the royalty payments made from the North Cook Inlet Field by Phillips, which is substantially higher than the prices presently being paid for natural gas by Alaska Gas & Service Company for other gas in the area. We submit that if Alaska Gas & Service Company would offer producers in the Cook Inlet Area the same amount that it would pay for the royalty gas from North Cook Inlet Field, this should be a very attractive market for natural gas and would encourage the development of additional natural gas reserves in the Kenai-Cook Inlet Area for Alaska Gas & Service Company even beyond the 15 million cubic feet per day which they propose to receive from North Cook Inlet Field.

The State is in the enviable position of not having to decide on an "either/or" basis but has the opportunity to continue to receive income from the present market while encouraging the creation of new markets and development of the undeveloped natural gas resources in the area — thus winning on both bases.

It might be interesting to the Board to know that Phillips Petroleum Company in 1975 will pay <sup>from this project</sup> to the State of Alaska revenues in excess of \$60,000 for each of its employees in the State.

We would hope that the State of Alaska would encourage the judicious development of its natural gas resources. We believe that the State should take that action which will result in a long term supply available for the development of Alaska's economy. Certainly, we would hope that the State would avoid the mistakes made in the Lower 48 States in the past which depressed exploration and development. The result has been an inadequate supply of natural gas and the Federal and State regulatory agencies in the Lower 48 now find themselves simply trying to allocate the shortage. We believe that the course we suggest you take is one of the types of State action which will be conducive to expand development of Alaska's natural gas resources and will help assure the citizens of Alaska an adequate supply of gas for the long term.

We would be happy to answer any questions.



Homer Electric Association, Inc.

P. O. BOX 255

HOMER, ALASKA 99603

PHONE (907) 235-8551

9

January 22, 1976

Mr. William C. Fackler, Exec. Secy.  
Alaska Royalty Oil & Gas Advisory Board  
Pouch M  
Juneau, Alaska 99811

RECEIVED  
JAN 26 1976

Department of  
Natural Resources

Dear Mr. Fackler:

The purpose of this letter is to inform you and your Commission that our Association is entering into negotiations with Chugach Electric Association to acquire their gas fired electric generation facilities at Nikiski.

These facilities are presently consuming approximately 9 million cu. ft. per day of natural gas, which is purchased from the Alaska Pipeline Company. In addition to the present gas consumption, we intend to construct prior to the end of calendar year 1978 an additional generating facility at that location requiring an additional 5 to 6 million cu. ft. per day.

We are familiar with the on-going negotiations between your office and the Alaska Pipeline Company concerning State Royalty gas for resale to Chugach and the Anchorage area.

Please consider this letter as an inquiry to determine whether or not we will be able to purchase Royalty Gas in the amounts described above pursuant to Alaska Statutes AS 38.06.010. We would anticipate purchasing all of the royalty gas available at the Phillips Petroleum LNG Plant with the assumption that the amount in excess of our needs available on a day to day basis could be resold to Phillips for their processing plant.

We assume that we would be required to pay the current market price for the gas which we believe to be 45¢ per MCF plus a negotiated transportation fee. Our negotiations to acquire the electric generating facilities in the area and build additional generation facilities is dependent upon our ability to acquire the State Royalty Gas or a like quantity of other gas in that area.

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JAN 22 1976

ALASKA ROYALTY  
OIL & GAS BOARD

Our association is a non-profit cooperative. The membership includes all of the residents and business organizations of the Western Kenai Peninsula. We will greatly appreciate any cooperation that your office can lend us in bringing these negotiations to a mutually beneficial conclusion.

Sincerely yours,

HOMER ELECTRIC ASSOCIATION, INC.



W. C. Rhodes  
General Manager

WCR:em

cc: O. K. Gilbreth  
W. I. Palmer  
Sen. Clem Tillion  
Rep. Hugh Malone  
Rep. Leo Rhode  
Guy Martin



**Homer Electric Association, Inc.**

P. O. BOX 255 • HOMER, ALASKA 99603 • PHONE (907) 235-8551

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memo 4-5*

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March 30, 1976

RECEIVED  
APR - 2 1976

Mr. Guy Martin, Commissioner  
Royalty Oil and Gas Development Advisory Board  
Department of Natural Resources  
Pouch M  
Juneau, Alaska 99811

Department of  
Natural Resources

Dear Sir:

In our letter to Mr. Fackler dated January 22, 1976, and at a hearing before your Advisory Board, we applied for the State Royalty Gas that you plan to make available from presently producing fields in the North Kenai area.

The purpose of this letter is to inform you that we have been able to obtain commitments to purchase fuel for the proposed new electric generating facility at North Kenai from what we believe to be a reliable source; and, further, Mr. Dale Teel of the Alaska Pipeline Company has agreed to supply our Association with natural gas for fuel for the existing electric generating plants in the North Kenai area if we are successful in acquiring these from Chugach Electric Association.

In view of the foregoing, we feel that it is in the best interest of all concerned that we withdraw our application as outlined in our letter of January 22.

As the Kenai Peninsula continues to attract industry, we do not wish to imply that we will not, at some future time, be interested in dealing with the State for royalty gas that may become available in other, yet to be developed, fields on the Kenai Peninsula area. If, at any time, additional royalty gas does become available we would appreciate it very much if your office would advise us so that we can ascertain whether or not it would be needed in our ever-expanding operation.

We note with interest the development of the Advisory Board's intention to adopt a regulation in Title 11 of the Alaska Administrative Code to interpret and make specific Alaska Statute 38.06, including the determination of surplus.

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ALASKA ROYALTY  
OIL & GAS BOARD

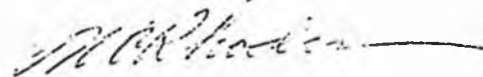
March 30, 1976

We sincerely hope that the proposed regulation 11AAC26.000(a) (5) will define the term "industrial use" as referred to in existing regulations, and that the State's royalty gas will be made available first to industrial use and then to all other uses, according to priorities established by your office.

We sincerely appreciate the courtesies extended to our Association by the Advisory Board and your office, and we are looking forward to further negotiations should the need arise.

Sincerely yours,

HOMER ELECTRIC ASSOCIATION, INC.



W. C. Rhodes  
General Manager

WCR:em

cc: Rep. Leo Rhode

cc: Mr. Dale Teel

North Cook Inlet Field Royalty Gas  
Commissioner's Proposal in Concept

The Commissioner of Natural Resources has recognized that the increasing growth of the Cook Inlet area of Alaska with its resultant increase in the use of natural gas requires that additional natural gas reserves be allocated for that purpose from State of Alaska royalty gas. From the standpoint of size of uncommitted gas reserves, geographical location and possible pipeline access, the North Cook Inlet field royalty gas appears the best available supply at this time. Pursuant to AS 38.05.182 the Commissioner proposes that it is in the best interest of the State to take in kind the State's royalty share of the gas production from the North Cook Inlet gas field and requests the consent of the Alaska Royalty Oil and Gas Development Advisory Board for this change.

The Commissioner further proposes to dispose of the North Cook Inlet field royalty gas to Alaska Pipeline Company and its subsidiaries through a negotiated contract. The proposed contract will contain the following provisions:

1. Purchaser agrees to take 1/8 of daily production from the North Cook Inlet gas field on an if and as deliverable basis for the contract period. The State will report to the Purchaser each month the amount of royalty gas produced by Phillips during the prior months.

The approximate average daily royalty gas share of the production from Phillips' North Cook Inlet field platform is 17,000 MCF. Gas production from the platform varies as LNG plant needs dictate therefore no daily amount can be specified.

2. Point of delivery will be the wellhead.
3. Purchaser is responsible for measurement costs, and any compression or dehydration costs if or when necessary.
4. The contract expires on June 1, 1984, unless extended by mutual agreement for a period not to exceed one year.
5. The price of the gas will be equal to the price the State otherwise would have received from Phillips for its royalty gas for export as LNG to Japan; but not less than the highest price paid by any purchaser in the Cook Inlet area for a similar sale of gas of similar quality. The price will be adjusted yearly on the anniversary date of the contract.

6. The contract shall not be effective until

-all necessary permits and authorizations by governing bodies are obtained

-all transportation or exchange arrangements have been completed to the satisfaction of the parties involved.

-six month's notice required under lease

The Commissioner request approval of the above proposed conceptual plan by the Alaska Royalty Oil and Gas Development Advisory Board.

Bill

# TELEGRAM

PACIFIC ALASKA COMMUNICATIONS, INC.  
PHONE: 583-6440  
JUNEAU, ALASKA 99901

11

MAR 29 PM 5 03

IPMAFUE AEG

1-0349800399 03/29/76

TWX PAC LGHT LSA

215 LOS ANGELES, CA MARCH 29, 1976

PMS MR. GUY MARTIN, CHAIRMAN

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

7580

POUCH #

JUNEAU, ALASKA 99821

WITH REFERENCE TO THE LETTER FROM PACIFIC ALASKA LNG COMPANY TO MR. GUY R. MARTIN, COMMISSIONER OF NATURAL RESOURCES, DATED MARCH 5, 1976. OUR OFFER TO BID ON THE PURCHASE OF THE STATES ROYALTY SHARE OF GAS IN THE NORTH COOK INLET AREA WAS LIMITED ONLY TO THOSE FIELDS IN THAT GENERAL AREA IN WHICH WE CURRENTLY HAVE THE RIGHT TO PURCHASE GAS OR MAY IN THE FUTURE HAVE THE RIGHT TO PURCHASE GAS. WE HAVE NO INTEREST IN BIDDING ON THE PURCHASE OF ANY STATE ROYALTY GAS PRODUCED FROM THE "NORTH COOK INLET FIELD"

PACIFIC ALASKA LNG COMPANY

BY P. VER PLANCK

1956 EST

IPMAFUE AEG



# ALASKA PIPELINE COMPANY

P. O. BOX 6288  
ANCHORAGE, ALASKA 99502

3000 SPENARD ROAD  
PHONE (907) 277-5551

12

April 2, 1976

RECEIVED  
APR 27 5 13 PM '76  
Department of  
Natural Resources

Mr. Guy T. Martin  
Commissioner of Natural Resources  
11th Floor, State Office Building  
Pouch M  
Juneau, Alaska 99811

Dear Commissioner Martin:

The purpose of this letter is to confirm our oral proposal made to the Alaska Royalty Oil and Gas Development Advisory Board during its March 30/31 meeting in Juneau.

The proposal can be outlined as follows:

1. The State take North Cook Inlet royalty gas in kind and sell such gas to AGAS.
2. AGAS will take delivery of the gas at the platform. This presumes that--
  - (a) an arrangement can be made whereby, for suitable compensation, Phillips will transport the gas via their existing system to a point adjacent to the LNG plant.
  - (b) the APUC waives jurisdiction over the Phillips facilities to the extent that they may otherwise come under regulation due to the transport of the "royalty" gas.
3. The price will be equal to the Phillips price for royalty gas exported to Japan or equal to the highest price paid in the Cook Inlet area for similar quality gas.
4. The proposal is to cover the "life of the contract" and will terminate on or about June 1, 1984.
5. AGAS will take or pay

This presumes that--

- (a) it may be agreed with the State that royalty will be taken in kind for resale to AGAS on a selective lease by lease basis so that the volume in question will approximate AGAS' North Road requirements or

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ALASKA ROYALTY  
OIL & GAS BOARD

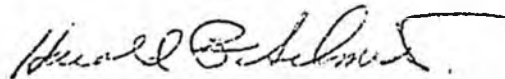
**ALASKA PIPELINE COMPANY**

ANCHORAGE, ALASKA

Commissioner Guy T. Martin  
Continuation Sheet #2  
April 2, 1976

- (b) if suitable exchange arrangements can be made with others or if AGAS chooses to build the pipeline connection to its Anchorage line--it may be agreed with the State that all of the royalty be taken in kind for resale to AGAS.
  - (c) The notice date regarding the State taking royalty in kind be so arranged as to permit AGAS a reasonable length of time to make exchange arrangement with others or to build the required pipeline facilities on a reasoned schedule.
6. The volume of gas expected to be taken in kind for resale to AGAS over the life of the contract is approximately 40 BCF with the actual amount being dependent upon the date of commencement, the arrangement agreed to under #5 above and the actual rate at which the field is produced.
7. It is understood that a deliverability feature is not required in this agreement.

Very truly yours,



Harold F. Schmidt  
Senior Vice President

dh

Alaska Royalty Oil and Gas Development Advisory Board  
Minutes of the April 26, 1976, Meeting  
Juneau, Alaska

13

The meeting was called to order by Chairman Martin at 10:00 a.m. April 26, 1976. All members present except Mr. Gallagher who was late.

The minutes of the previous meeting, March 30 and 31, 1976, had been mailed to Board members prior to the meeting. Mr. Lyon moved for approval and Dr. Triplehorn seconded the motion. Mr. Martin noted that Paul Robison's name was misspelled. The correction was made by the secretary. The minutes were approved unanimously by the four members present.

Chairman Martin advised the Board of an agenda change. No proposed sale of North Slope royalty gas would be introduced to the Board at this meeting. He wished to brief the Board on the status of negotiations during the meeting but in an executive session. Also he wanted to determine a satisfactory date for the next meeting within the next ten days to two weeks.

After discussion, the dates of May 7 and 8 and May 11 and 12 were selected with the decision made by the Chairman depending on progress.

Next item for consideration was the proposed sale of North Cook Inlet Field royalty gas to Alaska Pipeline Company. The contract draft was reviewed in detail by the Board, item by item. All corrections were noted and a corrected draft prepared for the afternoon session.

Mr. Martin gave a brief status report on the North Slope royalty oil solicitation including a recent conversation with Mr. Downey of Tesoro Alaska Oil Company. Tesoro maintains their interest in expanding the Kenai refinery using North Slope royalty oil.

Mr. Gallagher moved that the Board reconvene in executive session at 1:30 p.m. and public session at 2:30 p.m. Motion seconded by Mr. Lyon. Motion passed unanimously.

The Board reconvened in public session resuming consideration of the North Cook Inlet Field royalty gas sale. Documents before the Board were: a corrected draft of the contract, request for approval to waive the competitive bidding requirement and approval for the rejection of bids or applications.

Several changes in wording in contract provisions were worked out and noted for retyping.

There was no response to a call for public participation

Mr. Boness reported on the legal research by Mr. Allen, Covington and Burling, on a set of questions relating to State taking of royalty-in-kind. He had received a preliminary draft by telecopy which was not suitable for copying for the Board. The legal research essentially confirmed the opinions of the Department of Law and industry counsel who have responded to State questions on the matter. Mr. Allen's work has bolstered these opinions by case citations and also pointed out the areas where case law has not developed, particularly in reference to a State taking royalty gas in-kind. The authority of the Federal Power Commission to control gas arising from its jurisdiction over pipeline transport is of special interest to the State. Mr. Allen recommends procedures to follow to reduce FPC control as much as possible. The State should make its desires known to the producers in time to be included in the producer's contracts with gas purchasers and to the FPC. The report also was not optimistic about the FPC granting the State authority to abandon gas sales at the time of initial sale or preabandonment authority as some refer to it.

Mr. Gallagher returned from his telephone call to Mr. Harold Schmidt, Alaska Pipeline Company, about certain wording in the price provision of the contract. The wording added to the provision was explanatory.

The requests for prior written approval to reject bids and to waive competitive sales were circulated. Mr. Gallagher moved that the Alaska Royalty Oil and Gas Development Board approve the waiver of competitive sales, Dr. Triplehorn made the second. On a roll call vote each member voted yes and signed the waiver.

Mr. Lyon moved that AROGDAB approve rejection of all bids or applications for the royalty gas in the North Cook Inlet Gas Field except that of Alaska Pipeline Company as provided for in AS.38.06.050(b). Dr. Triplehorn made the second. The motion was approved by unanimous vote on a call of the roll and each member signed the approval.

Mr. Gallagher moved that AROGDAB approve the gas purchase and sale contract, as amended, for the sale of the North Cook Inlet Gas Field royalty gas to the Alaska Pipeline Company as provided for in AS.38.05.183 and AS.38.06.050. Mr. Lyon was the second. On a roll call vote all members voted affirmatively.

The Chairman announced that the Board had concluded its first sale. He also said that he would initiate an inquiry regarding possible exchange of gas between the State, producers and gas purchasers.

The meeting was adjourned.

CSHC R 142

Gas Purchase Contract 76-1

This Contract, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_ 1976, by and between the Alaska Pipeline Company ("APC") herein referred to as "Buyer" and the State of Alaska, hereinafter referred to as "Seller" :

WITNESSED

WHEREAS, Buyer owns and operates a natural gas pipeline system in areas of Alaska for the delivery of natural gas for ultimate consumption within the State of Alaska, and

WHEREAS, Seller has the right under each of the leases identified at Exhibit "A" attached hereto to be paid by the lessee thereunder a royalty of twelve and one-half percent (12½%) in kind or in value of the natural gas produced and saved and used off of the lands covered by each such lease, and

WHEREAS, Seller is authorized by AS 38.05.183 to sell royalty gas; and

WHEREAS, Buyer represents to Seller that all gas purchased under this contract will be used to meet the requirements of its customers within the State of Alaska;

NOW, THEREFORE, in consideration of the representations, covenants, and conditions herein contained, Buyer and Seller hereby agree as follows:

## ARTICLE 1

### Seller's Royalty Gas

1.1 Seller hereby agrees that within 30 days after the execution and approval of this agreement as required by the laws of the State of Alaska, Seller shall notify the lessee under the leases set forth at Exhibit "A" of this agreement of Seller's election to take its royalty gas in kind. Said notice will provide that the lessee shall commence the delivery of said royalty gas to Seller (or to Seller's designee) upon a receipt of notice from Seller that all facilities necessary to enable Buyer to receive and market said gas are ready; provided, however, in no event shall lessee be required to commence the delivery of royalty gas to Seller (or its designee) prior to six (6) months following lessee's receipt of notice of Seller's election to take its royalty gas in kind.

1.2 In order that Seller can give its lessee as much advance notice as possible of the date it will start receiving its royalty gas in kind, Buyer shall notify Seller, and Seller shall notify its lessee, at least 60 days prior to the date Buyer will receive gas from Seller pursuant to this contract.

## ARTICLE II

### Quantity

2.1 It is understood and agreed by the parties that the volume of gas available to Seller from the leases covered by this contract depends upon the production from the leases over which Seller has no control. Buyer hereby agrees to purchase on each day commencing with the date of first delivery

hereunder and continuing during the term of this contract all of Seller's royalty gas available at the point of delivery described in Article III hereof.

#### ARTICLE III

##### Delivery Point and Delivery Pressure

3.1 The point of delivery of all gas delivered hereunder shall be at the same point of delivery that Seller receives delivery of its royalty gas from its lessee in the North Cook Inlet Field.

3.2 Buyer, at its own expense, shall arrange to accept Seller's gas at the point of delivery.

3.3 Seller will deliver gas received by Seller from lessee at the pressure at which the gas is received by Seller from its lessee.

#### ARTICLE IV

##### Quality

4.1 The gas to be delivered by Seller to Buyer at the delivery point shall be gas of the same quality as is delivered to Seller by the lessee at the point of delivery.

ARTICLE V

Price and Billing

5.1 The price to be paid by Buyer to Seller for gas delivered shall be as follows:

- a. Commencing on the date of first deliveries hereunder, assuming that this date occurs prior to July 1, 1977 and continuing until the first day of July 1977, the price shall be 55.5 cents per MCF.
- b. Commencing on the first day of July 1977 and continuing until the first day of July 1978 the price shall be the higher of (i) 60.36 cents per MCF, (ii) the price Seller would have received from Phillips Petroleum Company had it not elected to receive its royalty gas in kind, (iii) the highest price paid by any purchaser in the upper Cook Inlet area for gas of similar quality and similar conditions of delivery: with due regard to appropriate factors including, but not limited to, difference of BTU content, delivery pressure, term of the contract and connection charges.
- c. For each succeeding 12 month period commencing July 1, 1978 the price shall be increased to the higher of (i) the previous year's price plus 2 cents per MCF, (ii) the price Seller would have received had it not elected to take its

royalty in kind, (iii) the highest price paid by any purchaser in the upper Cook Inlet area for gas of similar quality and conditions of delivery; with due regard to appropriate factors including, but not limited to, difference of BTU content, delivery pressure, term of the contract and connection charges.

5.2 Thirty days prior to the date of each annual price change, Seller, at its option, may determine the price which it would have received from its lessee had it not elected to take its royalty gas in kind and the highest price being paid for gas of similar quality and similar conditions of delivery; with due regard to appropriate factors including, but not limited to, difference of BTU content, delivery pressure, term of the contract and connection charges in the upper Cook Inlet area and submit the same to Buyer along with suitable supporting evidence as to such prices. Buyer shall have the right to submit other evidence within the 30 day period.

5.3 After the delivery of gas has commenced Buyer shall, on or before the 20th day following the end of each month, render to Seller a statement showing the quantity of gas delivered during that month and shall therewith pay Seller the amount due for all such gas.

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6.1 This contract shall become effective upon the execution hereof and the approval of the Alaska Royalty Oil and Gas Development Advisory Board and the State Legislature and shall continue and remain in effect until July 1, 1984, unless terminated prior to such date by mutual agreement of the parties, or pursuant to Article VII.

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##### Conditions Precedent

7.1 Buyer shall have the right to terminate this contract upon 30 days written notice to Seller if Buyer is unable to make satisfactory arrangements to take delivery of the gas. Buyer shall exercise this right to terminate on or before January 31, 1978, thereafter Buyer may not exercise this right to terminate.

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"BUYER"

STATE OF ALASKA

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CSHC R 142

Gas Purchase Contract 76-1

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WHEREAS, Buyer owns and operates a natural gas pipeline system in areas of Alaska for the delivery of natural gas for ultimate consumption within the State of Alaska, and

WHEREAS, Seller has the right under each of the leases identified at Exhibit "A" attached hereto to be paid by the lessee thereunder a royalty of twelve and one-half percent (12 1/2%) in kind or in value of the natural gas produced and saved and used off of the lands covered by each such lease, and

WHEREAS, Seller is authorized by AS 38.05.183 to sell royalty gas; and

WHEREAS, Buyer represents to Seller that all gas purchased under this contract will be used to meet the requirements of its customers within the State of Alaska;

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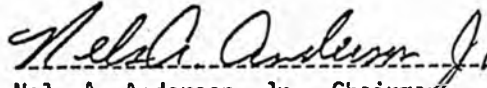
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HCR  
142

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Nels A. Anderson, Jr., Chairman

COMMITTEE COPY

CS/C R 142

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HCR  
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CS/HC R 142

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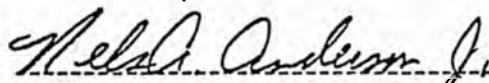
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6.1 This contract shall become effective upon the execution hereof and the approval of the Alaska Royalty Oil and Gas Development Advisory Board and the State Legislature and shall continue and remain in effect until July 1, 1984, unless terminated prior to such date by mutual agreement of the parties, or pursuant to Article VII.

#### ARTICLE VII

##### Conditions Precedent

7.1 Buyer shall have the right to terminate this contract upon 30 days written notice to Seller if Buyer is unable to make satisfactory arrangements to take delivery of the gas. Buyer shall exercise this right to terminate on or before January 31, 1978, thereafter Buyer may not exercise this right to terminate.

#### ARTICLE VIII

##### Notices

8.1 Notices required to be given under this contract shall be deemed sufficiently given and served when and if

deposited in the United States mail postage prepaid and certified  
or registered addressed to Seller at:

Commissioner  
Department of Natural Resources  
Pouch M, Juneau, Alaska 99811

or to Buyer at:

Alaska Pipeline Company  
P. O. Box 6288  
Anchorage, Alaska 99502

IN WITNESS WHEREOF, the parties hereto have caused  
this Agreement to be executed in four (4) original counterparts  
on this day and year first above written.

"BUYER"

STATE OF ALASKA

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ATTEST:

ATTEST:

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Introduced: 5/4/76  
Referred: Resources and  
Finance

1 IN THE HOUSE

BY THE RULES COMMITTEE BY  
REQUEST OF THE GOVERNOR

2 HOUSE CONCURRENT RESOLUTION NO. 142

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 NINTH LEGISLATURE - SECOND SESSION

5 Relating to the taking of  
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7 in-kind and its disposal by sale.

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Offered: 5/10/76  
Referred: Finance

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