

Foot -

hills

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Line

3/8/00



PRESENTATION TO THE ALASKA SENATE RESOURCES  
COMMITTEE  
BY ROBERT L. PIERCE, CHAIRMAN & C.E.O.  
JUNEAU, ALASKA  
MARCH 8, 2000

THANK YOU FOR THE INVITATION TO APPEAR BEFORE YOUR COMMITTEE AND THE OPPORTUNITY TO PRESENT THE FOOTHILLS CASE.

WE HAVE A PACKAGE OF MATERIALS ABOUT OUR COMPANY THAT MIGHT BE OF INTEREST TO THE COMMITTEE. I UNDERSTAND THAT YOUR RULES AND PROCEDURES ALLOW THE DOCUMENTS TO BE TENDERED AS PART OF THE RECORD.

I WILL USE MY TIME BEFORE THE COMMITTEE TO EXPLAIN WHY WE BELIEVE THAT THE TIME IS RIGHT TO COMPLETE THE ALASKA NATURAL GAS TRANSPORTATION SYSTEM, ALSO KNOWN AS THE ALASKA HIGHWAY PIPELINE.

FOOTHILLS BELIEVES THAT THE ALASKA HIGHWAY PIPELINE IS COST EFFECTIVE... ENVIRONMENTALLY SOUND...AND POLITICALLY PALATABLE.

AS YOU KNOW, THERE IS A GREAT DEAL OF HISTORY AROUND THIS ISSUE. ORIGINALLY, THREE PROPOSALS TO MOVE ALASKA NORTH SLOPE NATURAL GAS VIED FOR APPROVAL. (1) THE EL PASO PROJECT THAT WOULD PIPELINE THE GAS TO A LNG FACILITY AT VALDEZ AND THEN SHIP THE PRODUCT TO CALIFORNIA. (2) THE ARCTIC GAS PROPOSAL WHICH WOULD PIPELINE GAS ACROSS THE NORTH SLOPE TO THE MACKENZIE VALLEY AND ON THROUGH CANADA TO THE U.S. MARKET. (3) THE ALASKA HIGHWAY PROJECT...AN OVERLAND PIPELINE ALONG THE DALTON AND ALASKA HIGHWAY THROUGH ALASKA AND CANADA TO THE LOWER 48 MARKETS.

THE REST IS HISTORY AND AS THEY SAY, "THOSE WHO FORGET HISTORY ARE BOUND TO REPEAT IT."  
THE HISTORY IS THAT BOTH THE UNITED STATES AND CANADA AGREED ...THAT WHEN ALL THINGS WERE CONSIDERED ...THE ALASKA HIGHWAY ROUTE WAS THE BEST OPTION.

ACCORDINGLY, CERTIFICATES WERE ISSUED ...INTERNATIONAL AGREEMENTS WERE SIGNED BY THE PRESIDENT AND THE PRIME MINISTER ...AND THE AGREEMENTS WERE RATIFIED BY CONGRESS IN THE U.S. AND BY PARLIAMENT IN CANADA. THE DECISION...THE AGREEMENT...AND THE LEGISLATION SELECTING THE ALASKA HIGHWAY ROUTE HAVE THE FORCE AND EFFECT OF A TREATY BETWEEN OUR TWO COUNTRIES.

FOR ONE WHO ACTIVELY PARTICIPATED IN THOSE PIPELINE WARS BACK IN THE 70'S...THERE IS A SENSE OF "DÉJÀ VU".

THERE IS NOW A PROPOSAL BEING FLOATED...WHOSE CENTRAL PREMISE IS TO MOVE ALASKA GAS EAST TO THE MACKENZIE DELTA AND THEN DOWN THE VALLEY TO JOIN THE CANADIAN PIPELINE GRID. THIS DIFFERS FROM THE EARLIER ARCTIC GAS PROJECT IN THAT THIS NEW PIPELINE IS TO BE LAID UNDER THE OCEAN ICE RATHER THAN THROUGH THE ANWR.

I SAY DÉJÀ VU BECAUSE THIS IS NOT A NEW CONCEPT ...WE (AND OTHERS) LOOKED AT SIMILAR OPTIONS BEFORE. I PREDICT THAT THIS PROPOSAL WILL FAIL FOR THE SAME REASONS AS BEFORE... NAMELY, ECONOMICS, ENVIRONMENT AND POLITICS. WE CAN RETURN TO THIS ISSUE LATER.

CLEARLY THERE IS A RENEWED INTEREST IN BUILDING A PIPELINE FROM ALASKA TO THE LOWER 48 STATES.

WHY?

THE U.S. DEMAND AND PRICE FOR NATURAL GAS CONTINUES TO ESCALATE, DRIVEN PRIMARILY BY THE DEMAND FOR NEW GAS FIRED ELECTRICAL GENERATION. MOST ANALYSTS PREDICT A 30 TCF U.S. MARKET AND UP TO A \$3.00/MCF PRICE BY THE SECOND HALF OF THIS DECADE.

THERE IS A NEED TO CONNECT NEW SOURCES OF SUPPLY. MANY BELIEVE THAT THIS U.S. DEMAND WILL BE MET WITH INCREASED EXPORTS OF CANADIAN NATURAL GAS. THIS ASSUMPTION MIGHT BE TOO OPTIMISTIC. RECENTLY, THE CHAIRMAN OF THE NEB WARNED ABOUT THE POTENTIAL OF A 2 BCF/D SHORTFALL IN DELIVERABILITY FROM CANADA BY 2001. THIS WINTER, WE ARE SEEING SURPLUS PIPELINE CAPACITY AND THE 1.5 BCF/D ALLIANCE PIPELINE WILL BE PUT IN-SERVICE LATER THIS FALL.

AND THIRDLY, THE NORTH SLOPE IS THE LARGEST UNCONNECTED GAS RESERVE IN NORTH AMERICA.

I HAVE BEEN IN THE GAS BUSINESS FOR SOME TIME. LET ME GIVE YOU AN ALBERTA'S PERSPECTIVE ON THIS ISSUE. AT ONE TIME, MUCH OF ALBERTA'S NATURAL GAS RESERVES WERE STRANDED ...NOT UNLIKE THE CURRENT SITUATION IN ALASKA.

WORKING TOGETHER, INDUSTRY AND GOVERNMENT TOOK UP THAT CHALLENGE. THE STRATEGY WAS NOT DIFFERENT FROM WHAT I UNDERSTAND TO BE A LONG-STANDING ALASKAN POLICY AND ONE THAT YOUR COMMITTEE IS CURRENTLY INVESTIGATING, NAMELY: (1) LOOK FOR INCREASED MARKET OPPORTUNITIES IN THE LOWER 48. (2) LOOK FOR WAYS TO USE OR FURTHER PROCESS THE GAS WITHIN THE STATE.

THERE WAS ENOUGH GAS IN ALBERTA FOR BOTH PURPOSES JUST AS I UNDERSTAND THERE IS IN ALASKA. THE ALBERTA STRATEGY TO PROCESS SOME OF ITS GAS WITHIN ALBERTA AND FIND NEW MARKETS FOR THE REST SUCCEEDED, IN PART BECAUSE OF THE POLICIES OF GOVERNMENT AND

DEVELOPMENT PLANS OF INDUSTRY ...BUT ALSO BECAUSE ALBERTA WAS IN THE RIGHT PLACE AT THE RIGHT TIME.

ALBERTA'S STRATEGY WAS TO DEVELOP A PETROCHEMICAL INDUSTRY IN THE PROVINCE AND AGGRESSIVELY PURSUE INCREASED EXPORTS TO THE U.S. INCLUDING NEW MARKETS IN THE U.S. NE. IT WAS VERY SUCCESSFUL.

CAPITAL INVESTMENTS IN THE PETROCHEMICAL INDUSTRY IS APPROACHING \$7 BILLION, OVER 400 CONSTRUCTION JOBS ARE CREATED FOR EACH \$1BILLION INVESTMENT AND A SINGLE \$200 MILLION PETROCHEMICAL DERIVATIVE PLANT IN ALBERTA PAYS CUMULATIVE TAXES OF \$300 MILLION OVER A 20 YEAR PERIOD.

NATURAL GAS EXPORTS TO THE U.S. HAVE INCREASED DRAMATICALLY IN THE PAST TWO DECADES.

IT WAS ALBERTA'S TURN TWO DECADES AGO. I THINK IT WILL BE ALASKA'S TURN VERY SOON.

CAN THE "DISTANCE FACTOR" BE OVERCOME?

WILL THE CHICAGO GAS PRICE ALLOW FOR THE PROFITABLE MOVEMENT OF ALASKA GAS SOUTH?

I BELIEVE THAT THE ANSWER IS YES AND I BELIEVE THAT THE BEST WAY TO TRANSPORT YOUR GAS TO MARKET IS ALONG THE ALASKA HIGHWAY PIPELINE.

LET ME BRIEFLY DESCRIBE THE DETAILS OF OUR PIPELINE PROPOSAL.

THE CURRENT PROJECTED CAPITAL COST FOR THE PIPELINE IS AROUND U.S. \$6 BILLION.

WE NOW BELIEVE THAT AN APPROPRIATE DESIGN WOULD INVOLVE USING A HIGH-PRESSURE PIPE THAT WOULD HAVE THE CAPABILITY OF MOVING GAS LIQUIDS THAT MIGHT OTHERWISE BE LEFT STRANDED ON THE NORTH SLOPE.

WE ANTICIPATE THROUGHPUT VOLUMES IN THE RANGE OF 2.5 – 3 BCF/D.

THE DISTANCE WOULD BE ABOUT 1700 MILES COMMENCING AT THE NORTH SLOPE WITH ROUGHLY ONE-HALF OF THE NEW PIPELINE BEING BUILT IN ALASKA AND THE OTHER HALF IN CANADA.

BECAUSE WE HAVE MANY OF THE KEY APPROVALS IN HAND, WE BELIEVE THAT OUR PIPELINE COULD BE IN-SERVICE BY AS EARLY AS 2006.

THIS IS AN AMBITIOUS PLAN BUT A REALISTIC ONE. SOME MIGHT ASK ...HOW IS IT THAT THIS PIPELINE IS SO MUCH CHEAPER THAN PREVIOUS ESTIMATES? THERE ARE SEVERAL REASONS FOR THIS. A SIZABLE SECTION OF THE ORIGINAL PIPELINE HAS ALREADY BEEN BUILT...THE "PREBUILD".

HIGHER STRENGTH STEEL AND HIGHER OPERATING PRESSURES ENABLE US TO USE SMALLER DIAMETER PIPE TO MOVE THE SAME VOLUME OF GAS. NEW WELDING TECHNIQUES ALSO ENABLE US TO ACHIEVE HIGHER PRODUCTIVITY IN PIPELINE CONSTRUCTION.

THERE ARE KEY SENSITIVITIES TO A PROJECT SUCH AS THIS...TWO OF THE MORE IMPORTANT BEING THE COST OF GAS IN THE MARKET...AND THE PIPELINE THROUGHPUT VOLUMES. LET ME DEAL WITH THOSE IN ORDER.

ULTIMATELY FOR ANY PROJECT TO SUCCEED THERE MUST BE SOMETHING IN IT FOR EVERYONE...THE PRODUCERS...THE PIPELINES ...MAJOR SUPPLIER AND UNIONS...IN-STATE GAS USERS AND GOVERNMENTS. THE HIGHER THE PRICE OF GAS IN THE LOWER 48 STATES ...THE MORE MONEY THERE WILL BE TO GO AROUND.

WE BELIEVE THAT A CHICAGO GAS PRICE IN THE RANGE OF \$3.00/MCF COULD PROVIDE A SUFFICIENT PROFIT MARGIN FOR EVERYONE TO SIGN ON.

TURNING TO THE QUESTION OF THROUGHPUT VOLUMES. AS A RULE OF THUMB...LARGER PIPELINE CAPACITIES EQUAL LOWER PER MILE TRANSPORTATION TOLLS. HOWEVER, PIPELINE DESIGNS MUST ALWAYS BE COGNIZANT OF THE LOWER 48 MARKET PLACE. OVERBUILDING THE PIPELINE COULD DEFEAT THE PURPOSE OF THE EXERCISE.

THERE ARE OBVIOUS SYNERGIES IF WE CAN HARMONIZE PIPELINE DESIGNS SO AS TO SERVE BOTH THE LOWER 48 AND THE IN-STATE GROWTH IN GAS DEMAND. THIS SHOULD BE A WIN-WIN FOR ALASKA ECONOMIC DEVELOPMENT AND THE ALASKA HIGHWAY PIPELINE, NOT TO MENTION THE CONSUMER ADVANTAGE FOR ALASKANS THAT WILL RESULT FROM THE OPPORTUNITY TO USE NATURAL GAS FOR HOME HEATING.

AS YOU KNOW, FOOTHILLS IS A PARTNER IN THE ANS LNG PROJECT. WE HAVE BEEN ACTIVELY INVESTIGATING THESE SYNERGIES AND BELIEVE THAT WE COULD SAVE SEVERAL HUNDRED MILLION DOLLARS IF THE TWO PROJECTS COULD BE BROUGHT TOGETHER. THIS MIGHT VERY WELL BE ENOUGH TO ENSURE THE PROJECT CAN MEET THAT ALL-IMPORTANT CHICAGO PRICE.

LET ME NOW RETURN TO THOSE THREE FUNDAMENTAL FACTORS OF ANY PIPELINE PROPOSAL THAT I SPOKE OF EARLIER. (1) ECONOMICS (2) ENVIRONMENT (3) POLITICS.

CAN AN ALTERNATIVE PROPOSAL MOVE THE GAS CHEAPER?

THE ONE ALTERNATIVE CURRENTLY BEING INVESTIGATED IN SOME CIRCLES IS THE PROPOSAL TO BUILD A PIPELINE UNDER THE ICE OF THE BEAUFORT SEA.

THE PROMOTERS OF SUCH A PROJECT CLAIM THAT THEIR PIPELINE IS SHORTER... WILL ENCOUNTER FEWER CONSTRUCTION OBSTACLES AND THEREFORE CAN DELIVER ALASKAN GAS INTO THE CANADIAN GRID CHEAPER THAN THE ALASKA HIGHWAY PIPELINE.

WE WILL CONCEDE THAT A PIPELINE THROUGH THE OCEAN IS SHORTER BY APPROXIMATELY 125 MILES...OR ABOUT 7 % OF THE TOTAL PROJECT.

HOWEVER, DISTANCE ALONE WILL NOT MAKE THE PROPOSAL MORE COST EFFICIENT.

WHY?

THE ALASKA HIGHWAY PIPELINE WILL BE BUILT ALONG AN EXISTING TRANSPORTATION CORRIDOR...THE DALTON AND ALASKA HIGHWAYS.

EASY ACCESS TO THE RIGHT-OF-WAY IS EXTREMELY IMPORTANT TO LOW-COST, EFFICIENT PIPELINE CONSTRUCTION. WITHOUT IT, THE MOVEMENT OF PERSONNEL, MATERIALS AND EQUIPMENT WOULD BE A MAJOR UNDERTAKING IN ITS OWN RIGHT.

TO BUILD A PIPELINE WHERE NO ROAD CURRENTLY EXISTS OFTEN MEANS THAT THE COST OF A NEW ROAD IS INCLUDED IN THE CAPITAL COSTS OF A PIPELINE. NORTHERN ROADS COST MONEY TO BUILD AND MAINTAIN.

THE TERRAIN ALONG THE ALASKA HIGHWAY ROUTE PROVIDES NO GREATER CONSTRUCTION CHALLENGES THAN THOSE FACED NOW IN NORTHERN CANADA AND ALASKA. MOST OF THE GEOTECHNICAL WORK HAS BEEN COMPLETED ALONG THE RIGHT-OF-WAY. THE MOUNTAIN PASS IN THE BROOKS RANGE IS DIFFICULT CONSTRUCTION BUT NOT EXTRAORDINARY BY ANY MEANS.

WE HAVE MANY OF THE NECESSARY PERMITS IN HAND AND MOST RIGHTS-OF-WAY HAVE BEEN SECURED. AN ALTERNATIVE PROJECT MUST BEGIN FROM SCRATCH. THAT EFFORT REQUIRES TIME AND MONEY ...AND PLENTY OF BOTH AS WE CAN ATTEST TO.

WE BELIEVE THAT A PIPELINE UNDER THE OCEAN WILL COST MORE THAN OUR PROJECT.

THE SECOND FUNDAMENTAL FACTOR RELATES TO ENVIRONMENTAL ISSUES.

IS AN OFFSHORE NORTH SLOPE PIPELINE MORE ENVIRONMENTALLY BENIGN? I DOUBT IT.

IN FACT, ENVIRONMENTAL FACTORS PLAYED A KEY ROLE IN THE ORIGINAL DECISION WHEN THE ALASKA HIGHWAY PIPELINE ROUTE WAS CHOSEN AS THE BEST ALTERNATIVE.

AGAIN THE FACT THAT THE PIPELINE FOLLOWS AN EXISTING, WELL-USED TRANSPORTATION CORRIDOR MEANS THAT IT WILL BE LESS ENVIRONMENTALLY DISRUPTIVE, PARTICULARLY WHEN COMPARED TO A PIPELINE THROUGH A PRISTINE UNDEVELOPED AREA.

THERE WILL BE THOSE WHO SCOFF AT SUCH SUGGESTIONS. THEY MIGHT BE WELL ADVISED TO STUDY SOME RECENT SAMPLING OF NORTH AMERICAN ATTITUDES REGARDING ENERGY ISSUES. THE MOST IMPORTANT ENERGY/ENERGY INDUSTRY ISSUE WAS NOT COST BUT THE EFFECTS ON THE ENVIRONMENT. THAT IS A MARKED CHANGE IN PUBLIC SENTIMENT AND PERHAPS A FUNDAMENTAL CHANGE.

FINALLY, LET ME SAY A FEW WORDS ABOUT THE POLITICAL FACTOR. I DO THIS WITH SOME TREPIDATION WHEN SPEAKING TO SUCH A FORUM AS THIS.

POLITICS OFTEN BOIL DOWN TO A DEBATE ABOUT WHAT BENEFITS WILL FLOW FROM ANY GIVEN PUBLIC POLICY. THIS DEBATE WILL BE ABOUT TWO VERY DIFFERENT PIPELINE PROPOSALS ...THE ONE THAT WE PRESENT WILL RUN THROUGH THE LENGTH OF YOUR STATE ...CAN BECOME A CATALYST FOR FURTHER DEVELOPMENT...WILL PROVIDE JOBS FOR YOUR CITIZENS...AND IN THE LONG-RUN WILL GENERATE MAXIMUM TAX REVENUES.

I BEGAN BY SPEAKING ABOUT ALBERTA...THE JOBS THAT HAVE BEEN CREATED ...THE BUSINESS INVESTMENT THAT HAS RESULTED...THE TAXES THAT HAVE BEEN GENERATED.

IF MAXIMIZING BENEFITS FOR ALASKA IS THE GOAL OF ENERGY DEVELOPMENT ...THEN OUR PIPELINE PROPOSAL SHOULD WIN THE DAY.

PIPELINES ARE ABOUT MORE THAN RIBBONS OF STEEL PIPE CONNECTING GAS WELLS TO THE MARKET PLACE. THEY CANNOT BE REDUCED TO ONE-DIMENSIONAL ECONOMIC THINKING.

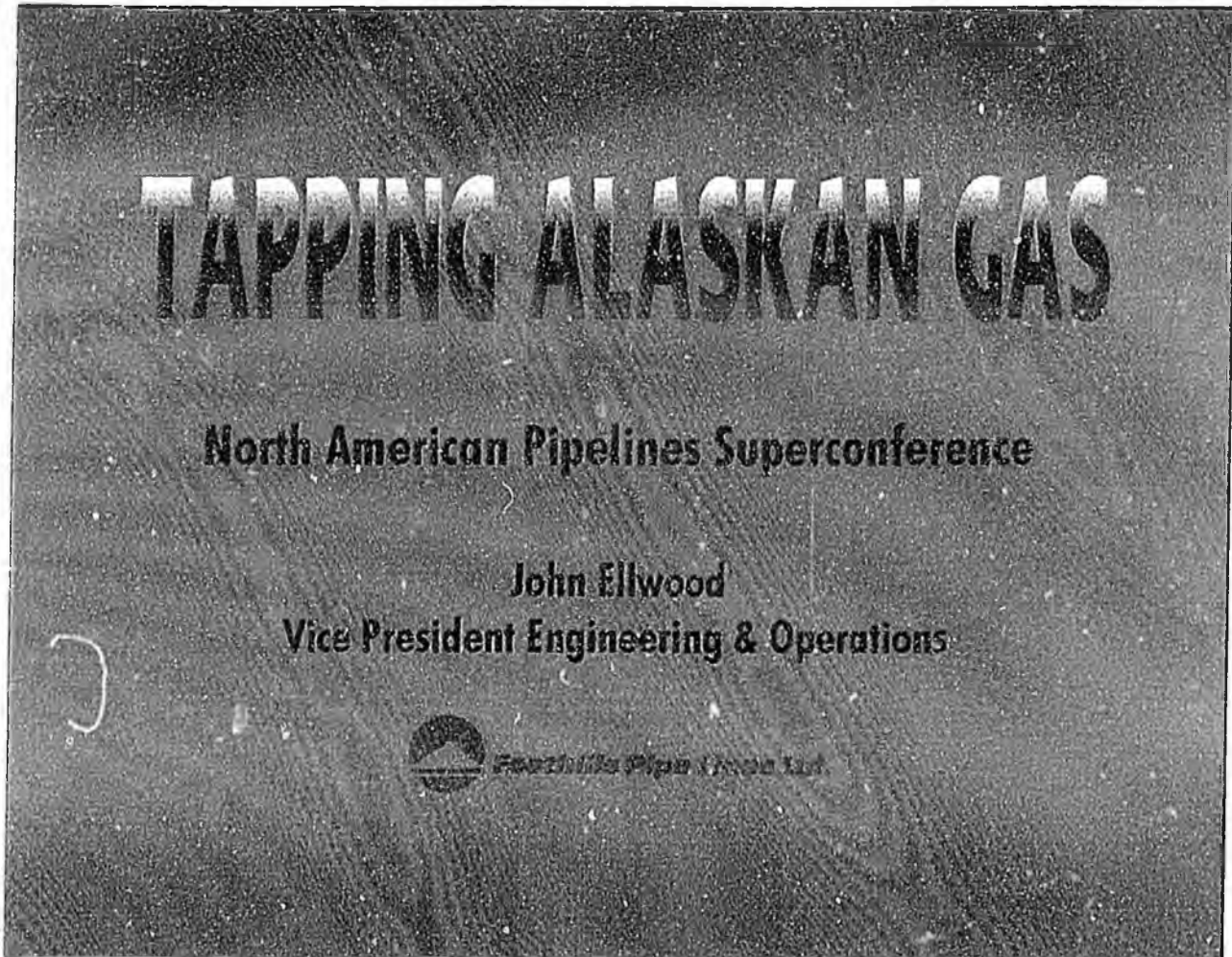
THEY ARE INSTRUMENTS OF NATIONAL, REGIONAL AND STATE ECONOMIC AND SOCIAL POLICY ...THEY OFTEN PRESENT DIFFICULT CHOICES ABOUT COMPLEX ECONOMIC AND LONG-TERM ENVIRONMENTAL PRIORITIES...AND ULTIMATELY THEY ARE ABOUT POLITICS.

OUR PROJECT IS ECONOMICALLY COMPETITIVE WITH ANY ALTERNATIVE. ENVIRONMENTALLY, IT IS FAR SUPERIOR. I WILL LEAVE TO OTHERS THE DEBATE AND DECISION ABOUT THE BEST PUBLIC POLICY AND THE BEST POLITICS. OUR PROJECT WON THE DAY...THE LAST TIME THIS ISSUE WAS HEARD.

IF THERE MUST BE A REMATCH ...WE BELIEVE THAT THE ANGTS WILL WIN AGAIN.

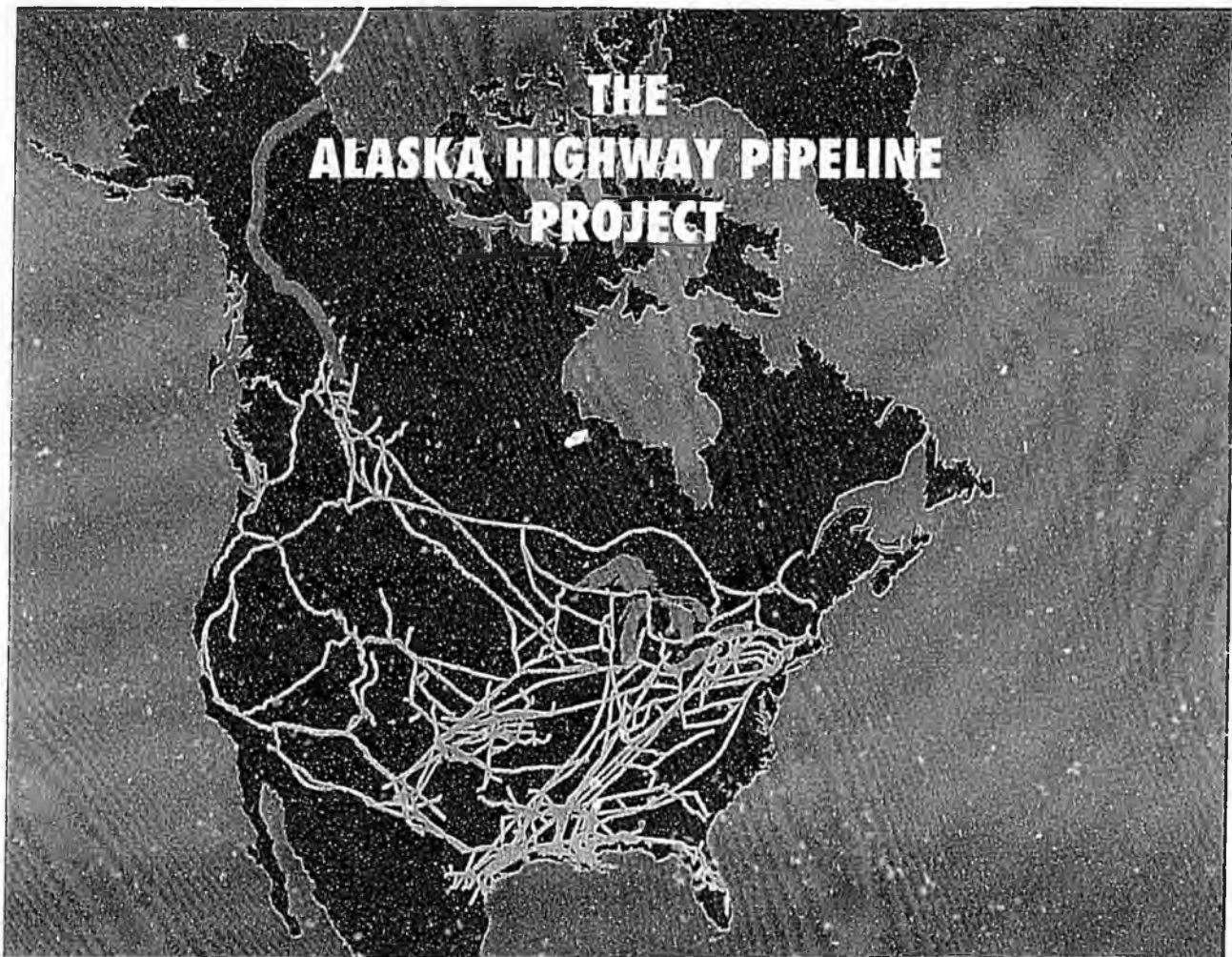
THANK YOU. WE WELCOME YOUR QUESTIONS.

**THE FOLLOWING PAGES MAY  
NOT FILM LEGIBLY BECAUSE OF  
THE POOR QUALITY OF THE ORIGINAL**



**Good Morning Everyone.**

- We've heard this morning and we will hear more this afternoon about gas supply and demand in North America. At Foothills we believe the supply / demand picture indicates the time is right to complete the Alaska Highway Pipeline Project.

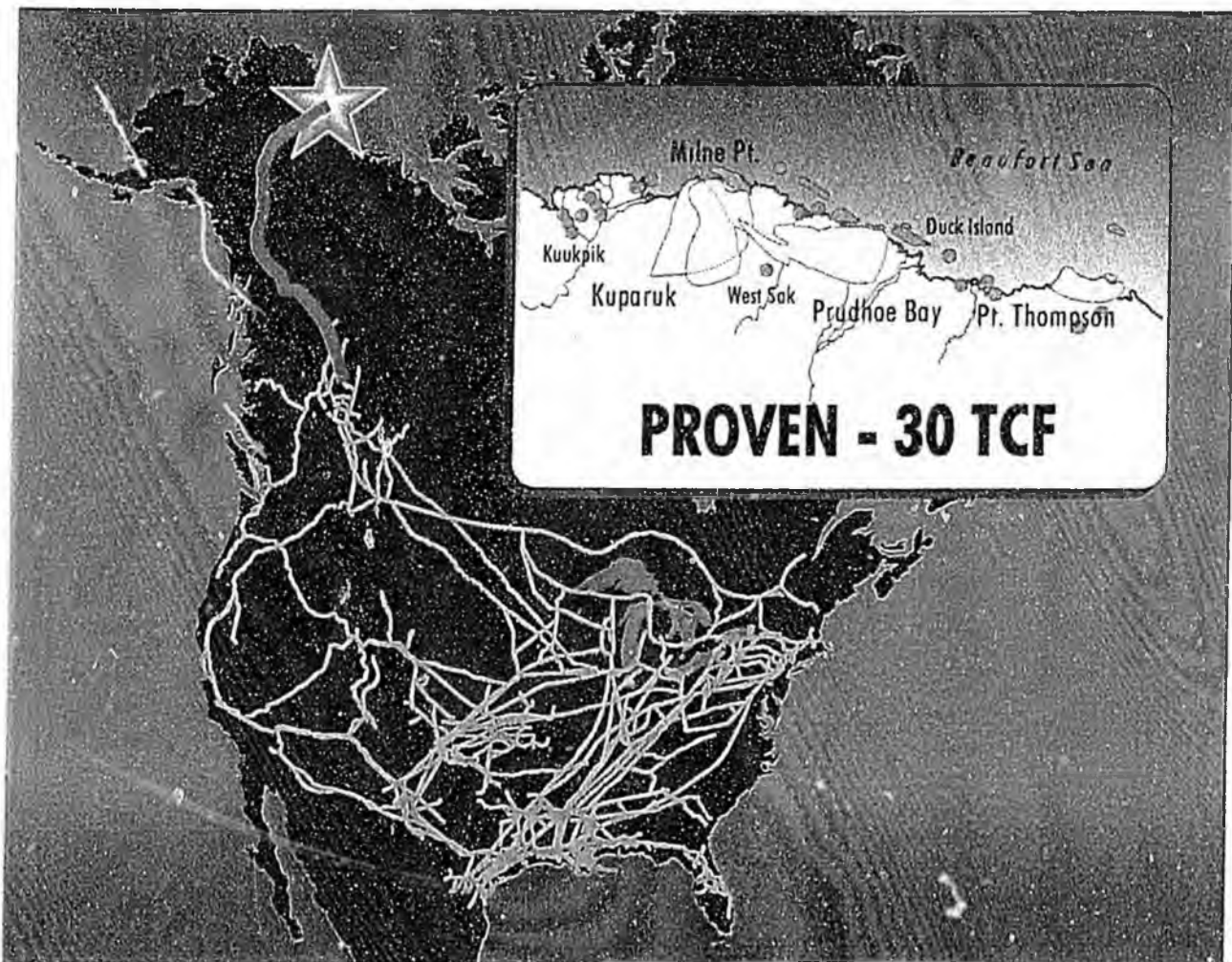


- This project will be an important element in meeting the growing demand for natural gas. As many of you know, we've been discussing the Alaska pipeline for a long time. I know there are skeptics who think it will never be built.
- I want to use my time today to tell you why I believe they're wrong. I'll spend a little time discussing the size and deliverability of the Alaska gas reserves. I also want to put into perspective the challenge of moving Alaska gas to market.
- And lastly I'll explain the advantages of the Alaska Highway Project and, why it is the option with the best chance of success.



## THE ACCESSIBLE ARCTIC - TAPPING ALASKA GAS

- But before I begin, let me deal with one issue that we are frequently asked about. That is the validity of the Certificates that were granted to the Alaska Highway Project by the Canadian Parliament and the US Federal Energy Regulatory Commission. Some people take the view that because we've not completed the entire project in the timeframe originally envisioned, we should be required to go back through the approval process again.
- Well, the Certificates in both Canada and Alaska are just as valid today as the day they were issued. The regulatory and legislative underpinning for this project is not outmoded nor is it burdensome. Rather, it is one of the major advantages this project enjoys.
- That said, let me begin by discussing the North Slope gas reserves. It's no secret there are very large reserves on the North Slope of Alaska.

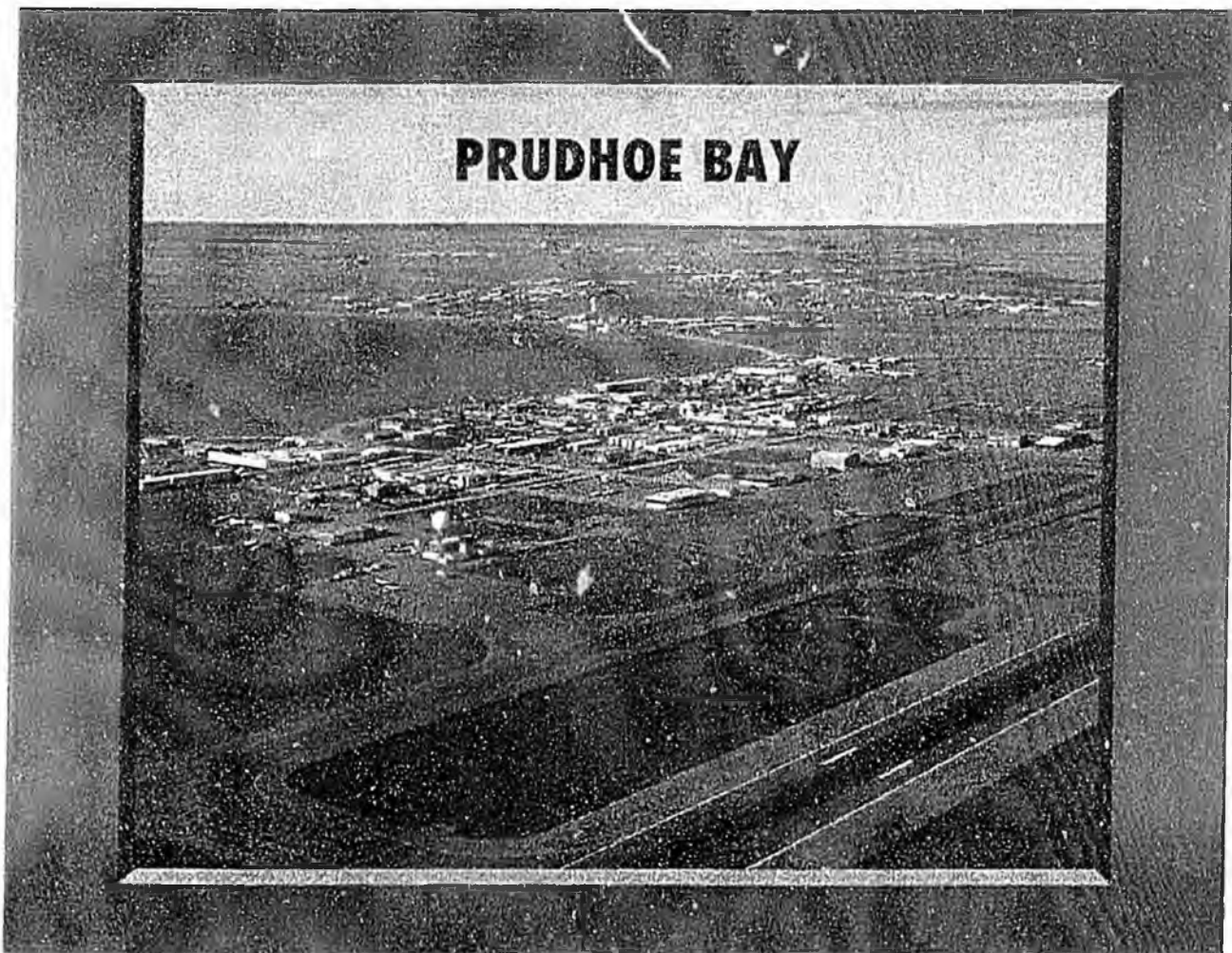




## THE ACCESSIBLE ARCTIC - TAPPING ALASKA GAS

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- The Prudhoe Bay field alone contains some 26 trillion cubic feet. This area around Prudhoe Bay contains over 30 trillion cubic feet of proven reserves. The North Slope Province as a whole is estimated to have a potential of 100 trillion cubic feet.
- Some of my colleagues in the upstream oil and gas business suggest this is just the beginning. They describe the 30 tcf as an 'accident' that happened while they were looking for oil! They feel that once attention turns to finding gas - the proven reserves will pale in comparison.
- I have a photo here that I hope will give you a sense of the scale of development on the North Slope.
- The view is north with the airport at Prudhoe Bay in the foreground and the Arctic Ocean in the background. As you can see, there is a very large investment in infrastructure. Currently gas is produced in association with the oil. It is separated out and for the most part re-injected into the reservoir to enhance further oil recovery.

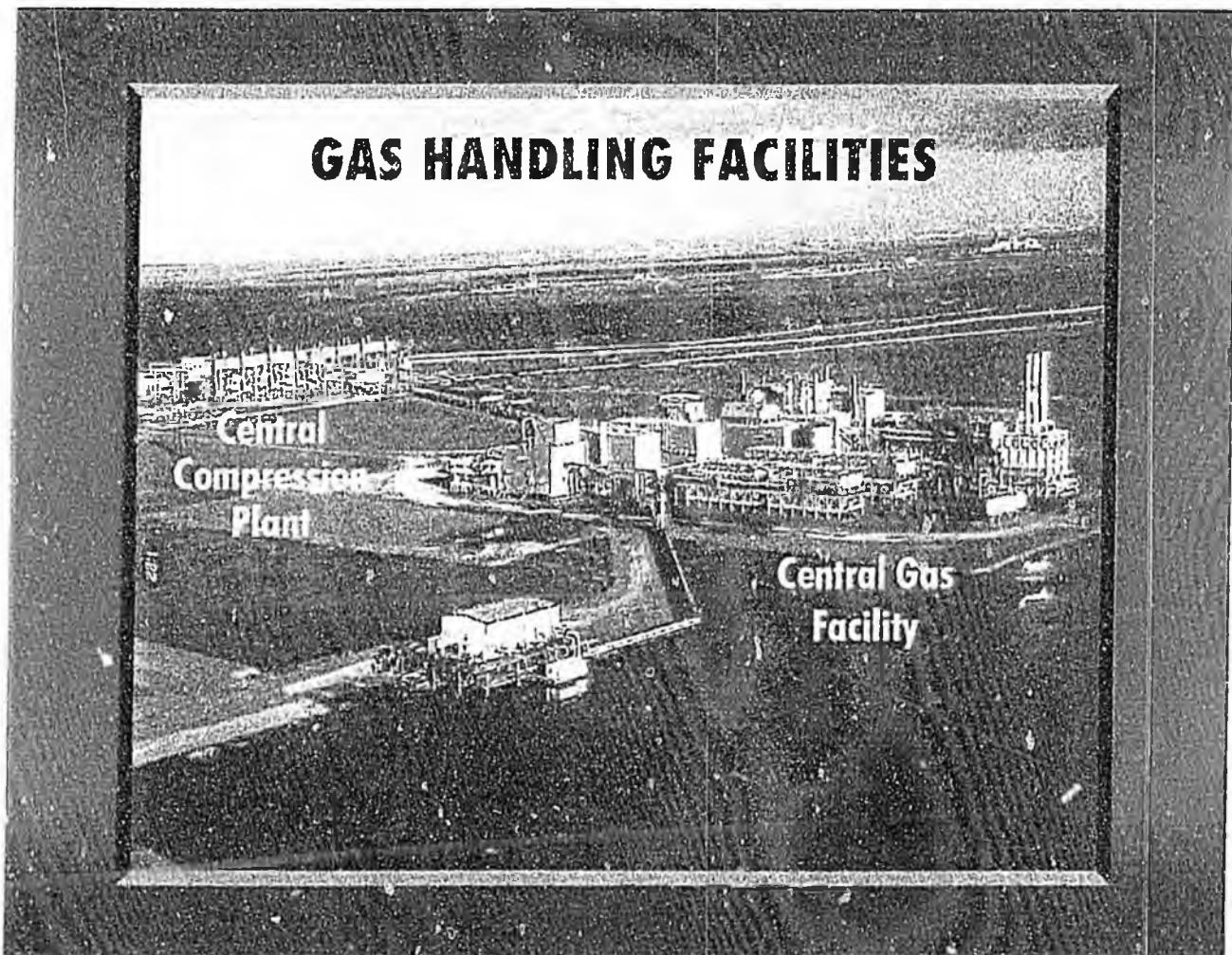


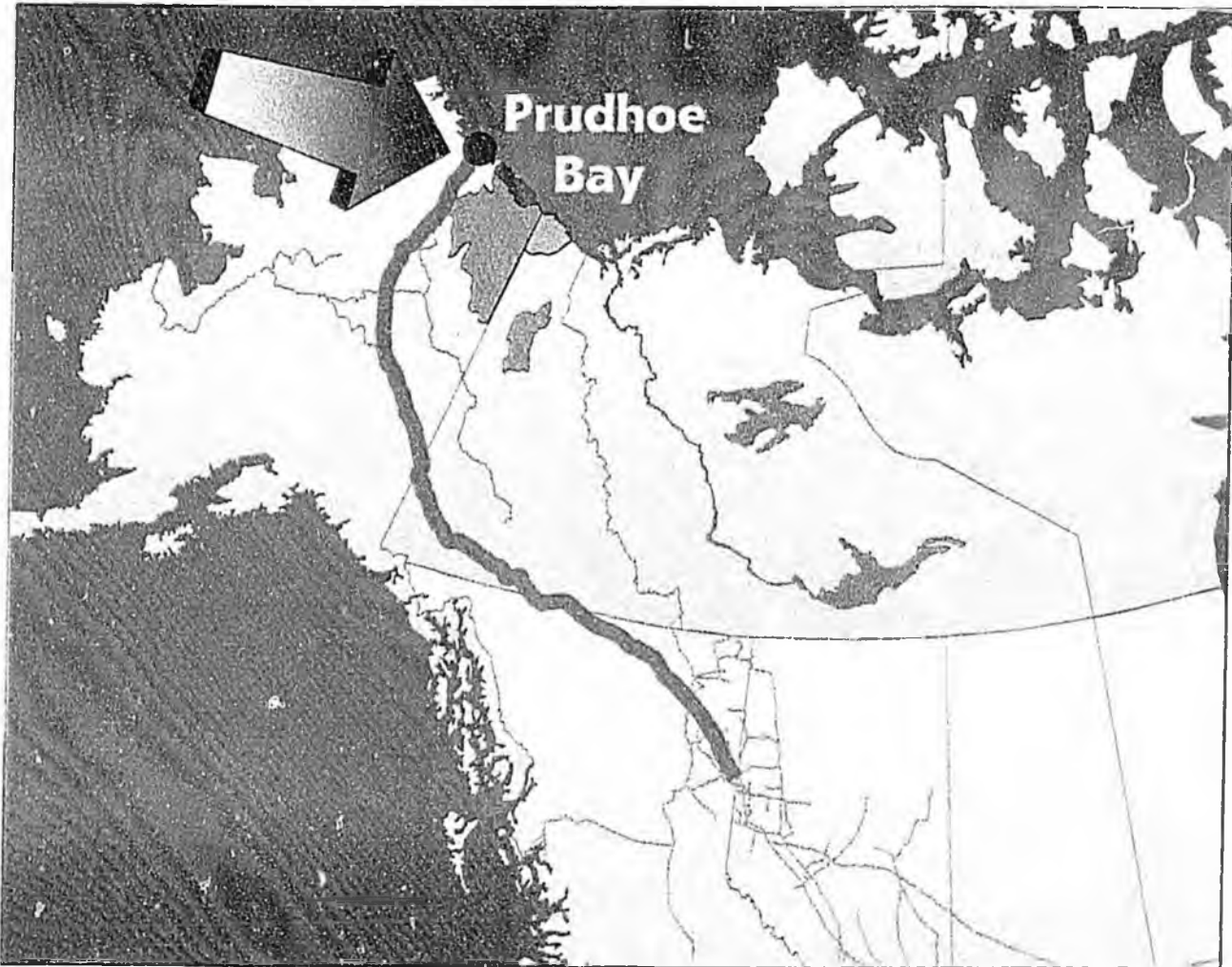


## THE ACCESSIBLE ARCTIC - TAPPING ALASKA GAS

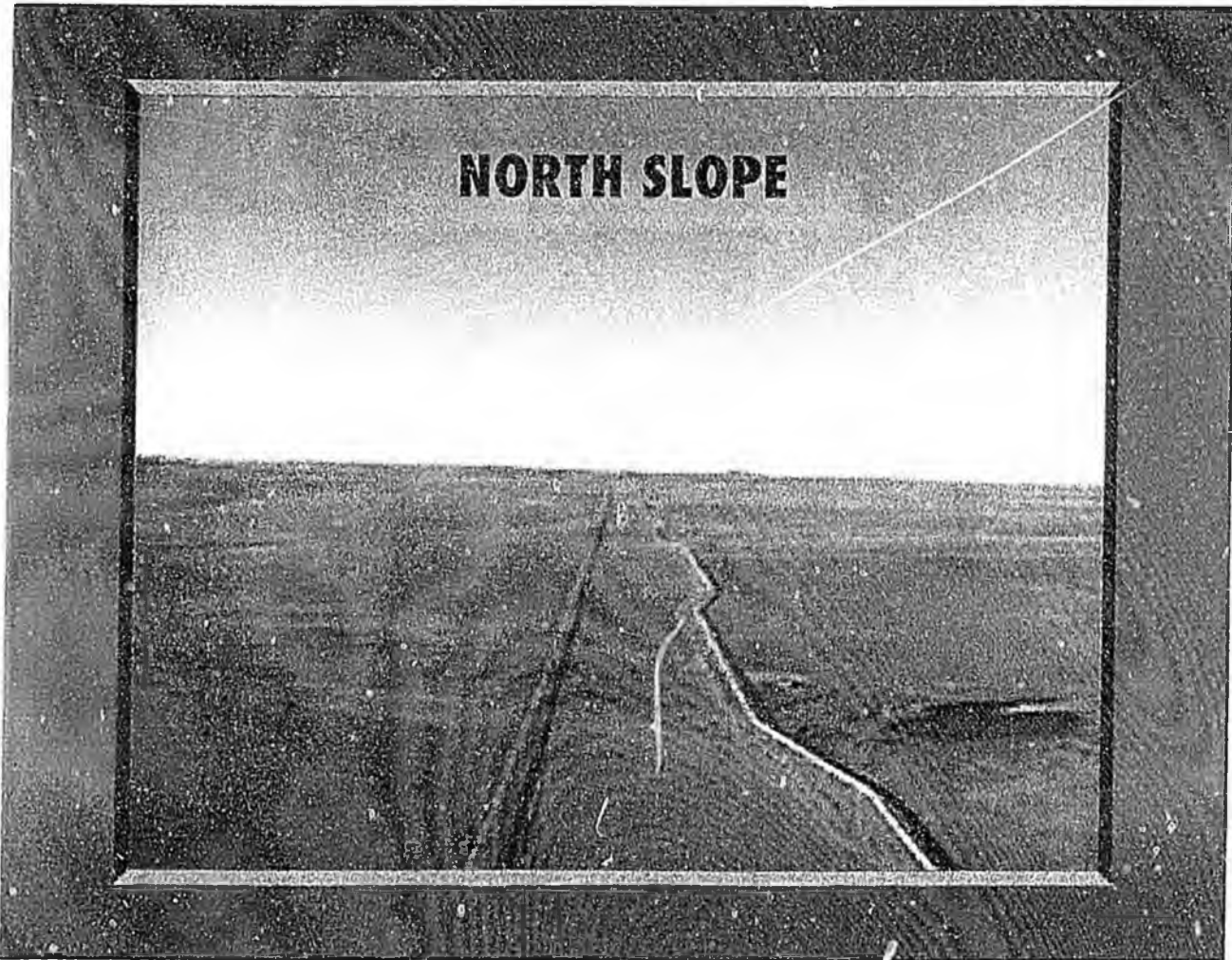
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- The gas is processed here in the Central Gas Facility, one of the largest gas processing plants in the world. It currently handles about 8 billion cubic feet per day. That volume equals the take away capacity of TransCanada's pipeline east of Empress.
- To make the Alaska gas reserve "pipeline quality" is easily done. The bulk of the field development costs have already been incurred.
- There's no question the gas reserve is there.

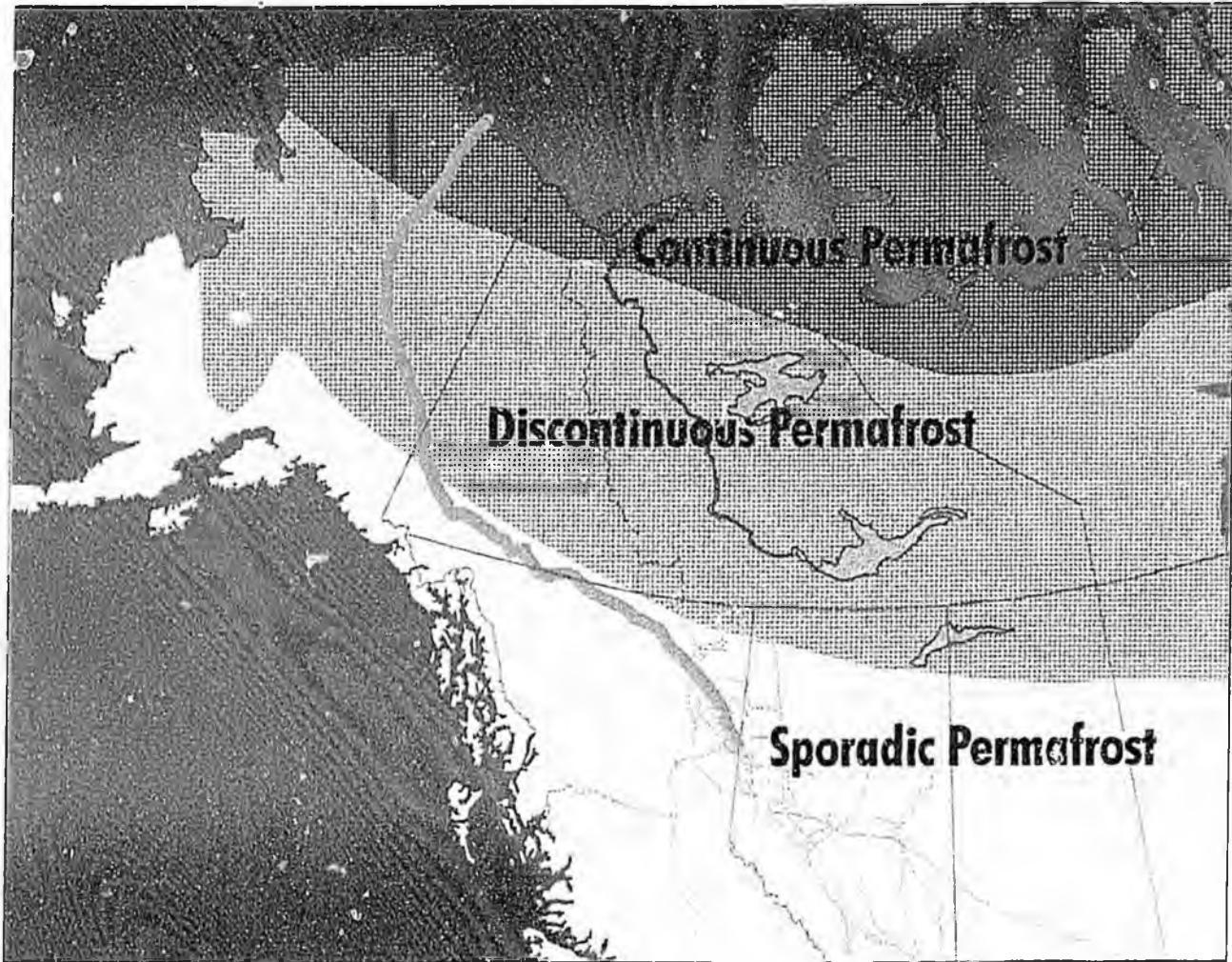




- Now lets look at the pipeline route again.
- I'd like to address some of the challenges of moving the North Slope gas to market along this route. I'll do this by taking you on a helicopter flight along the pipeline route. We'll be able to stop along the way while I describe some of the challenges and the methods by which they can be overcome.
- We'll start here.



- Two points of interest as we begin. First - notice the all weather State highway on the left hand side of the picture. Easy access to the right of way is extremely important to low-cost, efficient pipeline construction. And there is no better access than a highway along 100% of the route. Without it the movement of personnel, material and equipment would be a major undertaking in it's own right. This is one of our major advantages.
- Second - As you can see, there is an existing pipeline here. The TAPS oil pipeline, its about 800 miles long, and moves oil from Prudhoe Bay to Valdez on the south coast of Alaska. Throughout the video, you'll see this pipeline is elevated at times as it is here. This usually means the pipeline is traversing an area of permafrost. Let's stop for a moment and talk about permafrost.



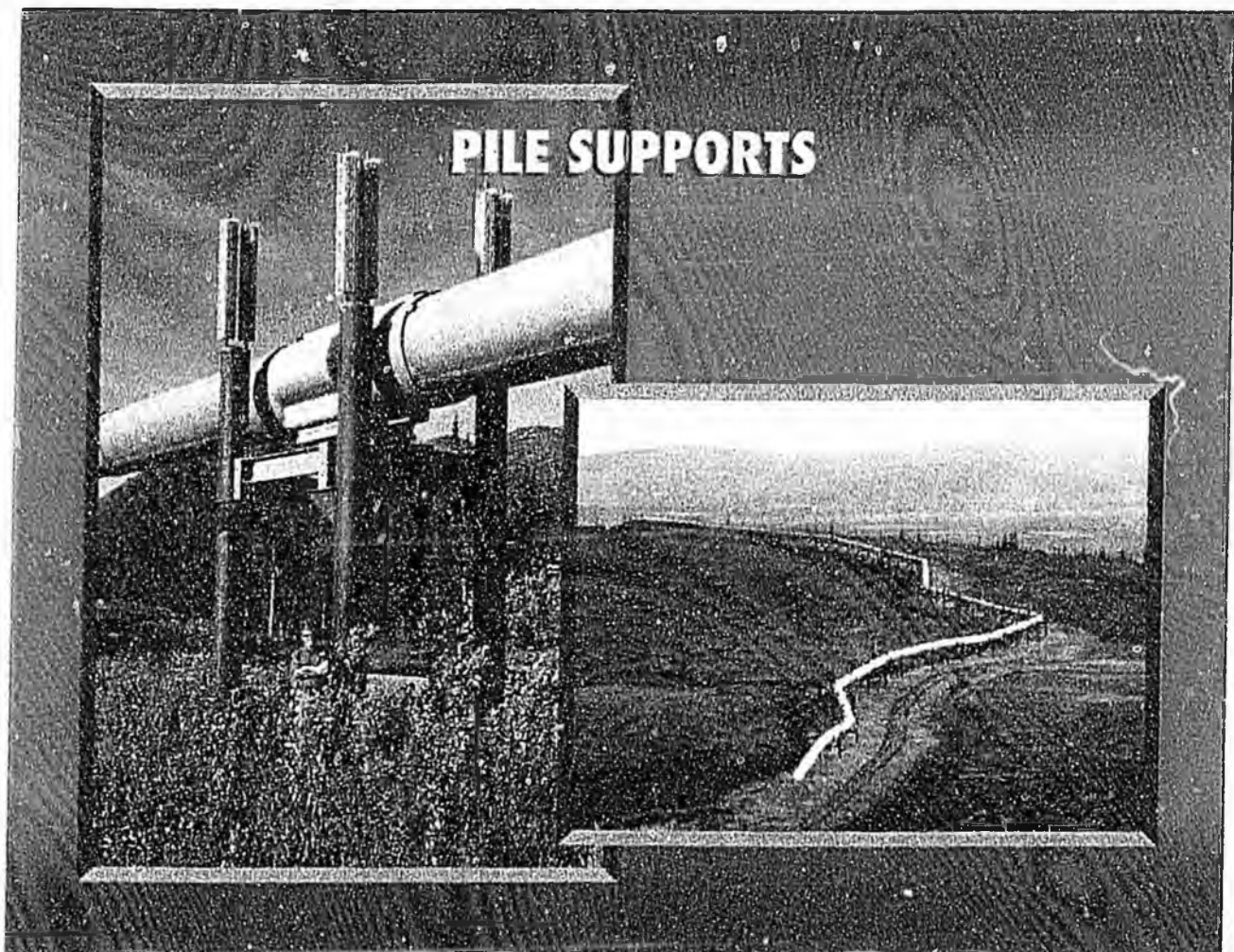
- It's the biggest technical challenge to pipeline construction in the Arctic.
  - In the far north the ground is permanently frozen except under the largest rivers and lakes.
  - In the discontinuous permafrost zone the majority of the ground is frozen with some unfrozen sections.
  - In the sporadic permafrost zone the majority of the ground is thawed with some frozen sections.
- Frozen soil is actually a pretty good material to build on as long as we can keep it frozen. The difficulties start when the ground begins to thaw.



## THE ACCESSIBLE ARCTIC - TAPPING ALASKA GAS

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- As you can see the designers of the oil pipeline chose to put it above ground on pile supports. This was necessary because of the requirement to keep the oil warm so it would flow easily.
- With a gas pipeline we have another option. We can cool the gas to just below 0°C and bury the pipe in the frozen ground.
- This has two important consequences:
  - First - the cold gas is slightly denser therefore more energy can be transported when compared to the same pipeline operating at higher temperatures. An arctic pipeline is more efficient!
  - Second - burying the pipe allows us to use the same very efficient pipeline construction techniques that have been developed and used in Canada for many years.
- This photo clearly shows the difference in complexity and cost between above ground and buried construction.

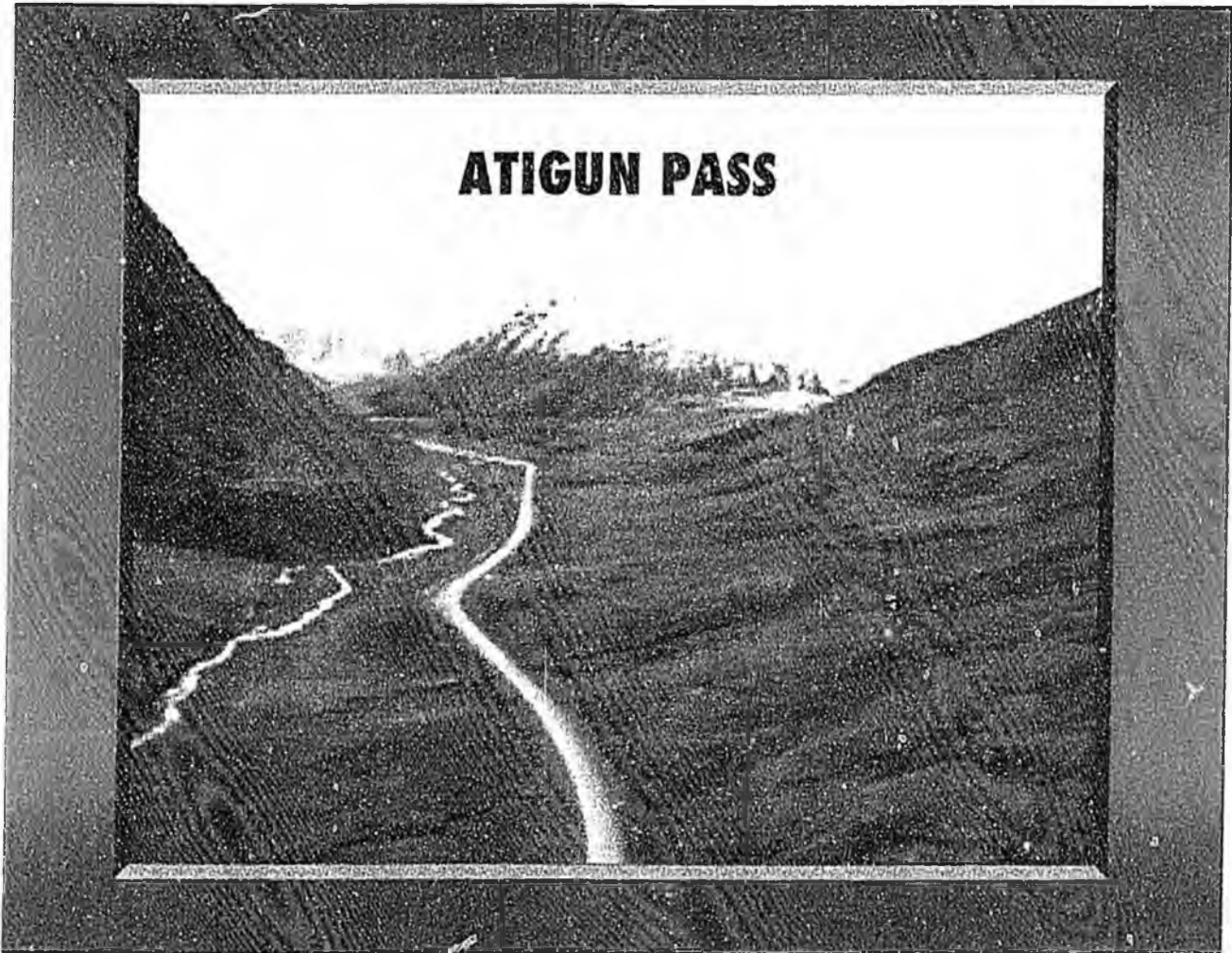




## THE ACCESSIBLE ARCTIC - TAPPING ALASKA GAS

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- Now lets get back on the helicopter and continue our journey.
- But - before we start let me set up the next leg. We're going to be moving towards what some feel is the greatest construction challenge along our route. The Atigun Pass in the Brooks Mountains.



- As you can see the valley narrows down as we approach the summit of the pass. The oil pipeline is buried in the bed of the river along this stretch. As we come up onto the summit you can see the highway make a big loop and climb along the side of the mountain while the oil pipeline route goes straight up the slope in the lower right corner of the picture.



## THE ACCESSIBLE ARCTIC - TAPPING ALASKA GAS

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- Now we're right up on top, this video was taken in September and as you can see the weather is not always cooperative. We expect construction of this small segment of the route will cost several times as much per mile as the average cost across Alaska. However the constricted section is only 2 miles long.
- Now the valley is starting to widen out and the terrain becomes much easier again. This is a good time to stop and talk about the second point I want to make.
- Putting into perspective the challenge of moving Alaska gas to market.
- Several new technologies make construction of the pipeline much easier and less expensive than it would have been when it was first proposed.
- For example higher strength steels and higher operating pressures enable us to use smaller diameter pipe to move the same volume of gas. The smaller diameter pipe is much easier and cheaper for our contractors to install. Another challenge: working positively with the environment.
- I'm sure we all agree that the environment needs careful consideration when selecting the best way to bring Alaska gas to the south.



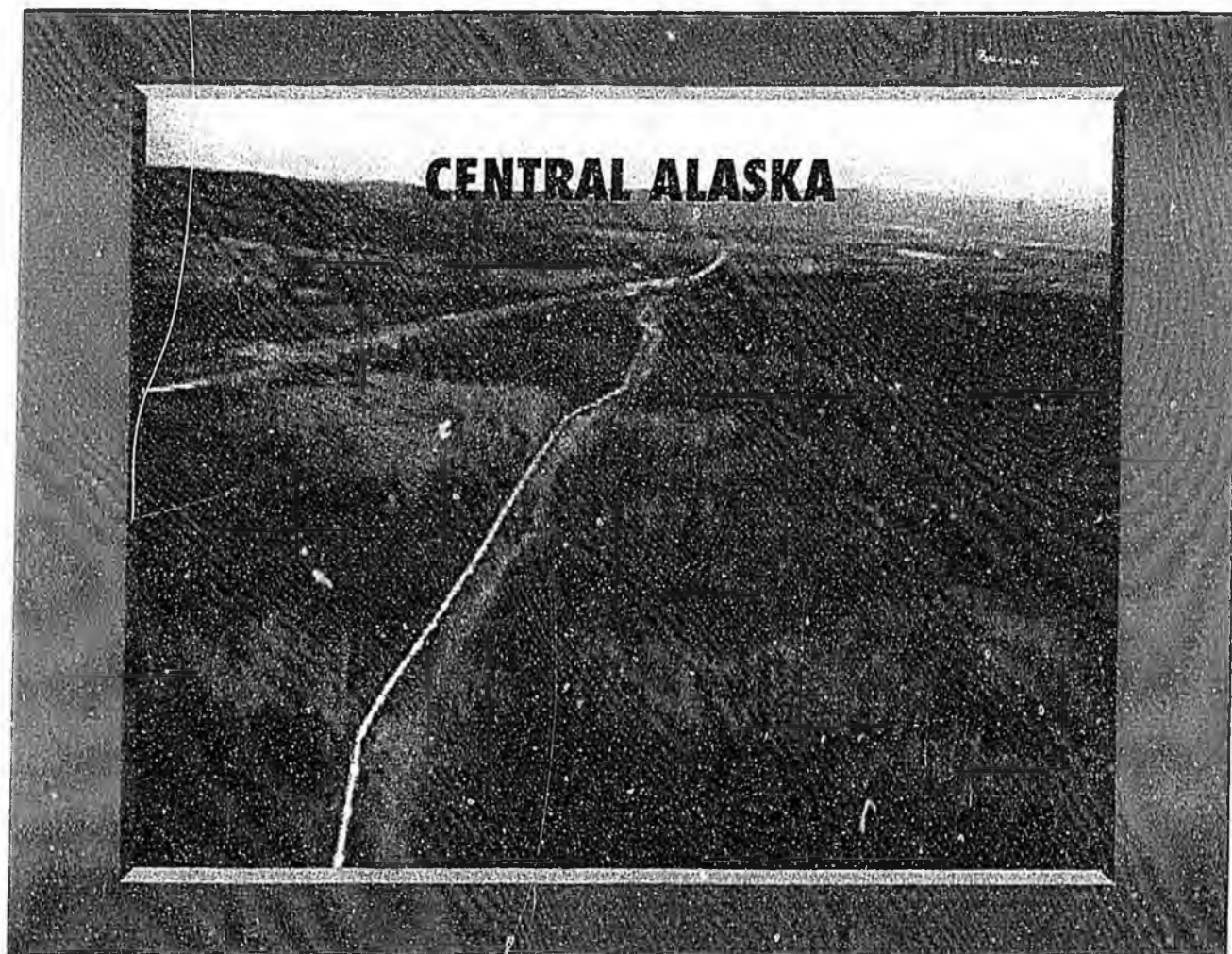
- The Alaska Highway Project was subjected to an extraordinary level of environmental scrutiny and assessment. In fact many of the environmental standards that are applied to pipelines today were developed during that assessment and were adopted and supported by Foothills. At the end of that assessment, the Highway Project was chosen as the best alternative from an environmental standpoint.
- Why was it chosen? In part, because of the commitments made by Foothills to environmental protection but I believe it was primarily due to the environmental advantages that come with a route that follows an established transportation corridor.
- The advantages have not changed.
- As we continue our journey, I'll show you more of the route while I continue to discuss some environmental issues.



## THE ACCESSIBLE ARCTIC - TAPPING ALASKA GAS

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- I'm just going to let the video run and you will see the terrain poses no unusual environmental or construction challenges.
- I mentioned Foothills' commitments to environmental protection and I want to focus on that for a moment. Every pipeline constructor has an obligation to protect the environment through which its pipeline passes. Foothills has always recognized those obligations and has made a full commitment to meet them.
- The route we've chosen along an established transportation corridor meets the environmental challenge. Protecting environmental values will be much easier in this corridor than in remote wilderness areas. That relative ease in meeting requirements for environmental protection is another major advantage of the Alaska Highway Project. In addition, we now have available much improved techniques for environmental protection. Nowhere is this more true than for river and stream crossings.
- Let's stop here for a moment.

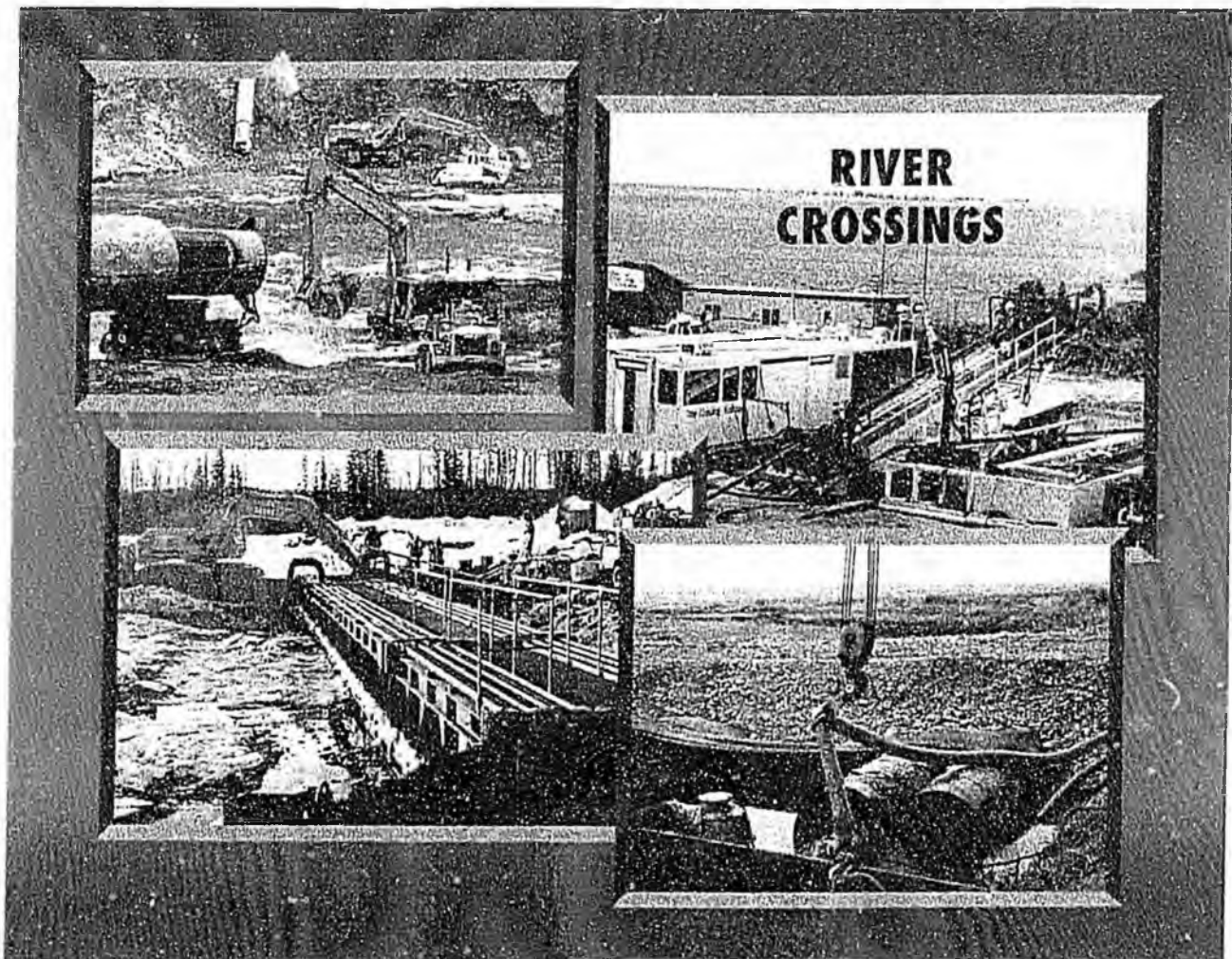


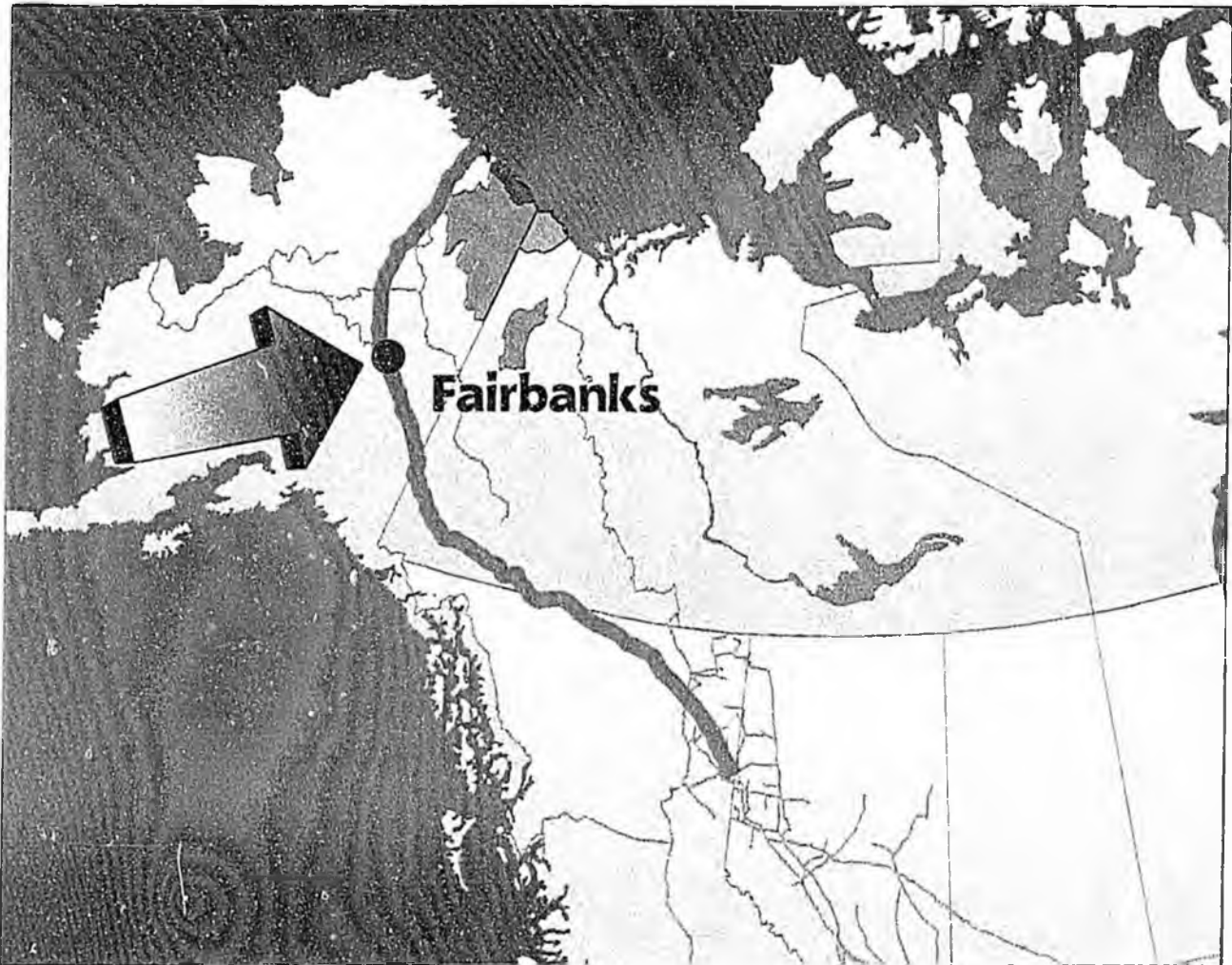


## THE ACCESSIBLE ARCTIC - TAPPING ALASKA GAS

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- In addition to the standard "open cut" and "aerial" methods of crossing streams that were employed two decades ago.
- All contractors now employ a suite of techniques that include "dam and pump", "fluming" and "directional drilled" crossings. The appropriate stream crossing technique can now be selected to maximize environmental protection while minimizing costs.
- Foothills is absolutely committed to utilizing the best environmental practices, 21st century practices!





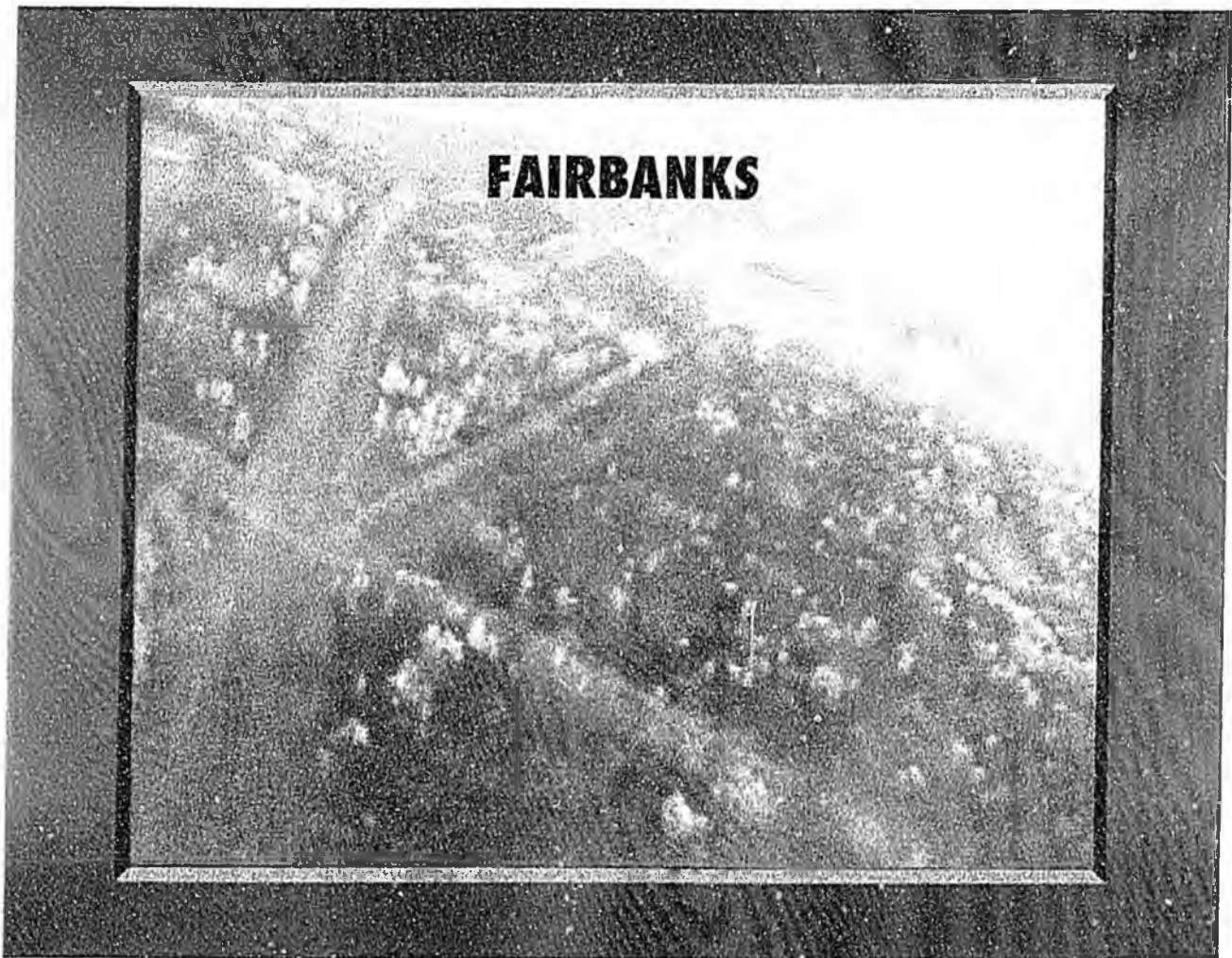
- The Alaska Highway route was selected as the most environmentally acceptable option and it remains the most acceptable today.
- There's one more point I'd like to make as we take a last look at the Alaska portion of the proposed pipeline. That deals with future economic development in the region.



## THE ACCESSIBLE ARCTIC - TAPPING ALASKA GAS

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- We are now in central Alaska, approaching the city of Fairbanks. You can see the highway and the oil pipeline right of way. In a few seconds you will see a major airfield on the left-hand side. As you can see from the extent of the existing development there are no serious impediments to pipeline construction in this area.
- Construction can proceed here just as it does near Grande Prairie or Fort St. John.

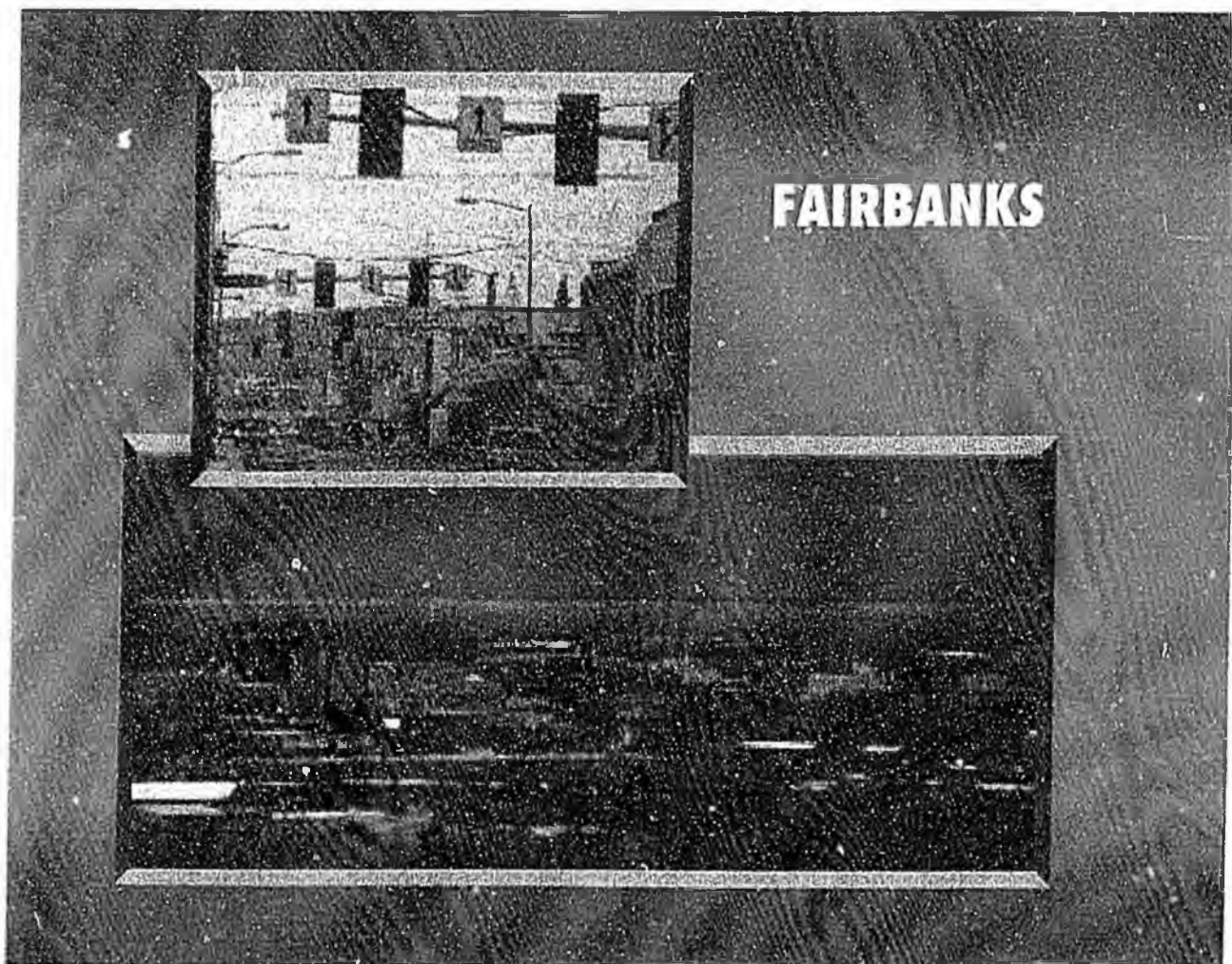




## THE ACCESSIBLE ARCTIC - TAPPING ALASKA GAS

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- Now I'd like to say a few words about what this project will mean to the people and communities along the corridor. You have only to look in our province of Alberta to see how oil and gas exploration and development has grown the communities along the way.
- The people of Alaska, and remember we are talking about Alaska gas, are not unlike people from any other part of the world. When natural resources are found in their state, they demand, with considerable justification, benefits from any exploitation plan. Benefits not only in the form of royalties, but also in the form of jobs. Benefits like an alternative source of energy to heat their homes and generate electricity and opportunities for further economic development.





- Any of you who were here last year will remember Terry Cameron discussing the Alaska North Slope LNG Project.
- Just a word or two to bring you up-to-date on that project.
- Foothills, along with our partners BP Amoco, ARCC, Phillips, and Marubeni are continuing to develop the LNG option. We are actively investigating the synergies that could be achieved through sharing the Alaska Highway pipeline corridor from Prudhoe Bay to Fairbanks.



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- If we can bring these two projects together it would shave the equivalent of several hundred million dollars off the cost of the stand-alone projects significantly improving the competitiveness of both.
- That about does it for the Alaska part of our trip down the Alaska Highway pipeline route.
- I've concentrated on the Alaskan challenges because fewer people have had an opportunity to see that part of world. As you've seen, it isn't as difficult as many have imagined. The other half of the pipeline will be built through the Yukon and British Columbia.

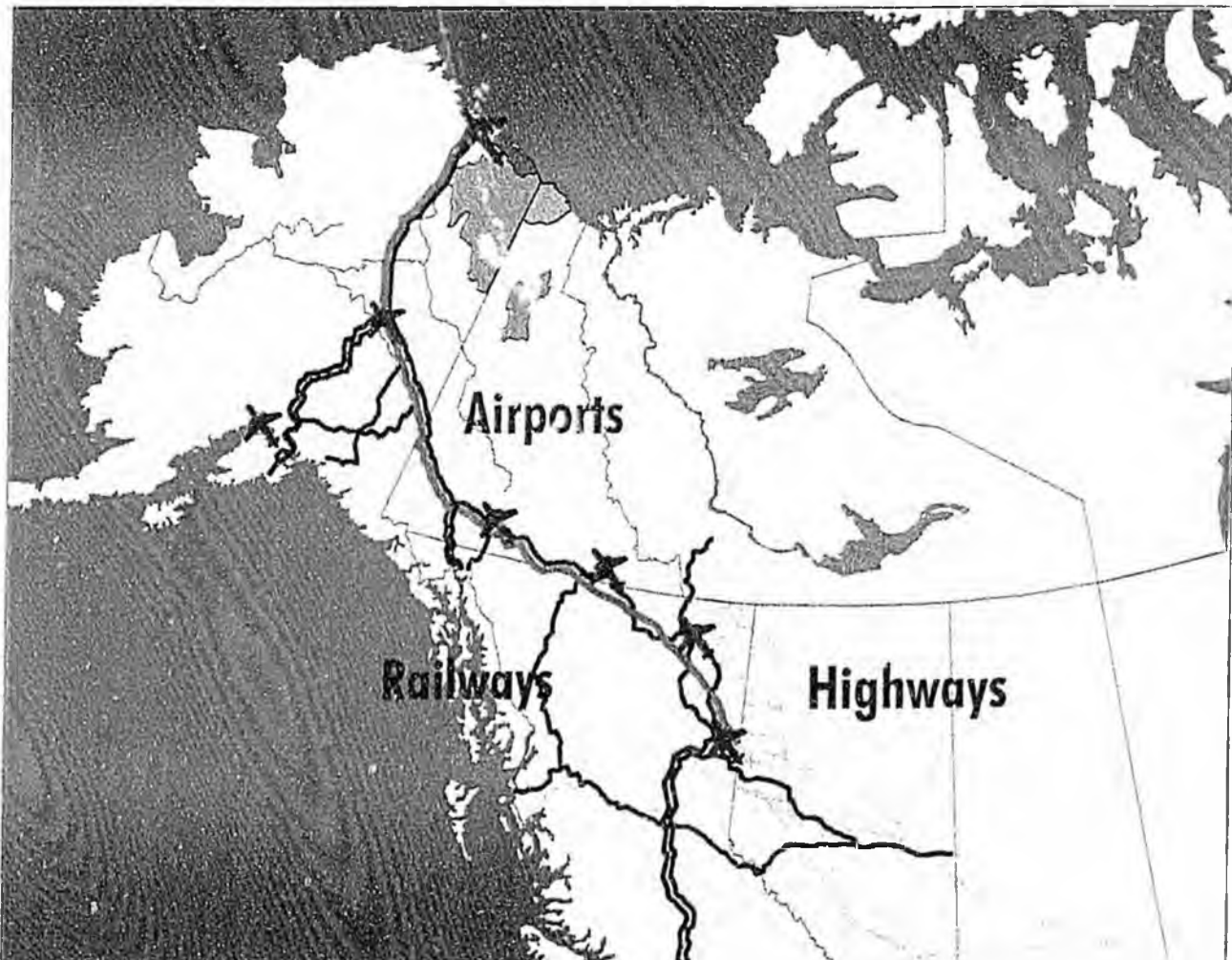




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- This region has its own challenges. But they are familiar challenges. The industry faces them every day in northern Alberta, north eastern B.C., Yukon and the Northwest Territories.
- I'd like to turn now to the third item that I indicated I would address today and that is why is the Alaska Highway Pipeline the most competitive option?
- First, Alaska gas is ready for market. As we have seen there is a massive and proven reserve on the North Slope. The majority of the field development costs have already been incurred. Other projects face as much as \$1.00 per thousand cubic feet in field development costs.
- Secondly, this project follows an existing and well-developed transportation corridor.





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- As you've seen, there is a major highway along 100% of the length of the pipeline. Not to mention the numerous other highways that will give us access from various seaports.
- There is railway access into central Alaska as well as to Fort St. John and Fort Nelson at the southern end of the route.
- There are numerous major airports along the route.
- All of this means the Alaska Highway Project will be significantly less costly and more environmentally acceptable than a project in undeveloped wilderness
- Also the Alaska Highway Project has a significant head start. Certificates of Public Convenience and Necessity have been issued in both Canada and the United States. Wetlands permits for both the pipeline and the gas conditioning facility have been issued in Alaska. Final environmental impact assessments have been completed. Most of the field data needed for design has been collected and approximately half the right of way has been acquired.
- Clearly this project is well down the path and can be completed at least three years ahead of any greenfield project.
- Lastly, this project enjoys significant support from the people and governments along its route. It will provide the major northern population centres with employment, access to an alternative energy source and the potential for further industrial development.
- Some twenty years ago the National Energy Board, the Federal Energy Regulatory Commission, the Government of Canada, the President and Congress of the United States all selected the Alaska Highway route as the best one to move Alaska gas to the lower 48 states.



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- It was the right decision then. It is the right decision now.
- We can move Alaska Gas to market at a competitive price.
- We can move it in a more timely manner.
- We can move it with the least environmental disturbance.
- We can do this with the greatest benefit to those living in the area.

