

HB

804

THE LEGISLATURE OF THE STATE OF ALASKA
TWELFTH LEGISLATURE

FEB 27 1982

FISCAL NOTE

I. REQUEST

Bill/Resolution No. HB 804
Title Bering River Coal Field Port & Transportation Feasibility Study
Requested by Representative Cato Date February 24, 1982

II. FISCAL DETAIL

Agency Affected Department of Commerce and Economic Development
Program Category Affected Development
BRU, Program, Or Subprogram(s) Affected Office of Mineral Development or O.S.I.P.
(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 82	FY 83	FY 84	FY 85	FY 86	FY 87
100 PERSONAL SERVICES	0	0	0			
200 TRAVEL	0	0	0			
300 CONTRACTUAL	0	465.5	0			
400 COMMODITIES	0	0	0			
500 EQUIPMENT	0	0	0			
600 LAND & STRUCTURES	0	0	0			
700 GRANTS, CLAIMS, ETC.	0	0	0			
TOTAL	0	465.5	0			

FUNDING (Thousands of Dollars)

	FY 82	FY 83	FY 84	FY 85	FY 86	FY 87
GENERAL FUND	0	465.5	0			
FEDERAL FUNDS	0	0	0			
OTHER (Specify Source)	0	0	0			

POSITIONS

	FY 82	FY 83	FY 84	FY 85	FY 86	FY 87
FULL TIME	0	0	0			
PART TIME	0	0	0			
TEMPORARY	0	0	0			

III. ANALYSIS (See Fiscal Note Preparation Instruction, Section III)

The study(ies) will determine the feasibility of a potential coal development at Bering River (near Cordova) and the transportation system required.

The funding, up to \$465,500 will be entirely contractual and be administered in joint agreement with the City of Cordova and the Nonprofit Native Association for the Region involved, the North Pacific Rim Regional Native Association.

IV. DATE February 24, 1982 PREPARED BY J. R. Deagen
AGENCY Office of Mineral Development
Original: Legislative Finance PHONE 465-2022
cc: Budget and Management
Prime Sponsor (First Legislator Named)
33-001 (Rev. 12/81)



Box 1210 602 Railroad Avenue
Cordova, Alaska 99574
Phone: (907) 424-3237
or 424-3238

FEB 12 1982

"The Friendly City"

February 9, 1982

James A. Poor
Mayor

Perry D. Lovett,
Manager

Donna M. Sherby,
Clerk / Treasurer

Council Members
Don Narrance
Jay Bynum
Richard Groff
R.J. Kopchak
Garry Purvis
Joe Gunderson

Mr. Lionel L. Drage, President
Chguach Natives, Inc.
903 W. Northern Lights Blvd., Suite 201
Anchorage, AK 99503

Dear Mr. Drage:

The City of Cordova has been informed of your corporation's proposal to the Legislature to fund a Preliminary Feasibility Study of the necessary coal port and related transportation system for the Bering River Coal Field.

Cordova will be the community most directly affected by the development of the Bering River field. We have much to gain by the sound and prudent development of the fields including the diversification of our economic base, increased employment, and the possibility of an alternate source of electric power.

I believe that the proposal which you have submitted to the Legislature for the Prefeasibility Study is appropriate at this time and a legitimate means of State involvement in this project. We look forward to working with your corporation in the development of the project.

Very truly yours,

Perry D. Lovett
City Manager

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

Chugach National Forest
2221 E. Northern Lights Blvd. Suite 238
Anchorage, Alaska 99508

FEB 12 1982

1920
February 8, 1982



Carl A. Propes, Jr., Director
Lands and Natural Resources
Chugach Natives, Inc.
903 W. Northern Lights Blvd., Suite 201
Anchorage, Alaska 99503

Dear Carl:

In response to your February 8 letter to Walt Sheridan the Forest Service would be pleased to participate with the State, the City of Cordova, Chugach Natives, Inc., and others in the proposed study of Bering River coal fields transportation options should such a study be undertaken. We would not be able to provide any funds for the study, but would make available appropriate personnel. As you know, the Copper River Delta contains extremely high wildlife and fisheries values. The Alaska Lands Act at Section 501(b) recognized the importance of these resources and provided that the Copper River/Bering River/Rude River area be managed for the primary purpose of conserving fish and wildlife and their habitats.

A study such as you propose is an excellent way to begin examining options for development of the Bering River coal deposits in an environmentally sound manner--with specific emphasis on the fish and wildlife resources. We would welcome the opportunity to be a part of this effort.

Sincerely,

CLAY G. BEAL
Forest Supervisor

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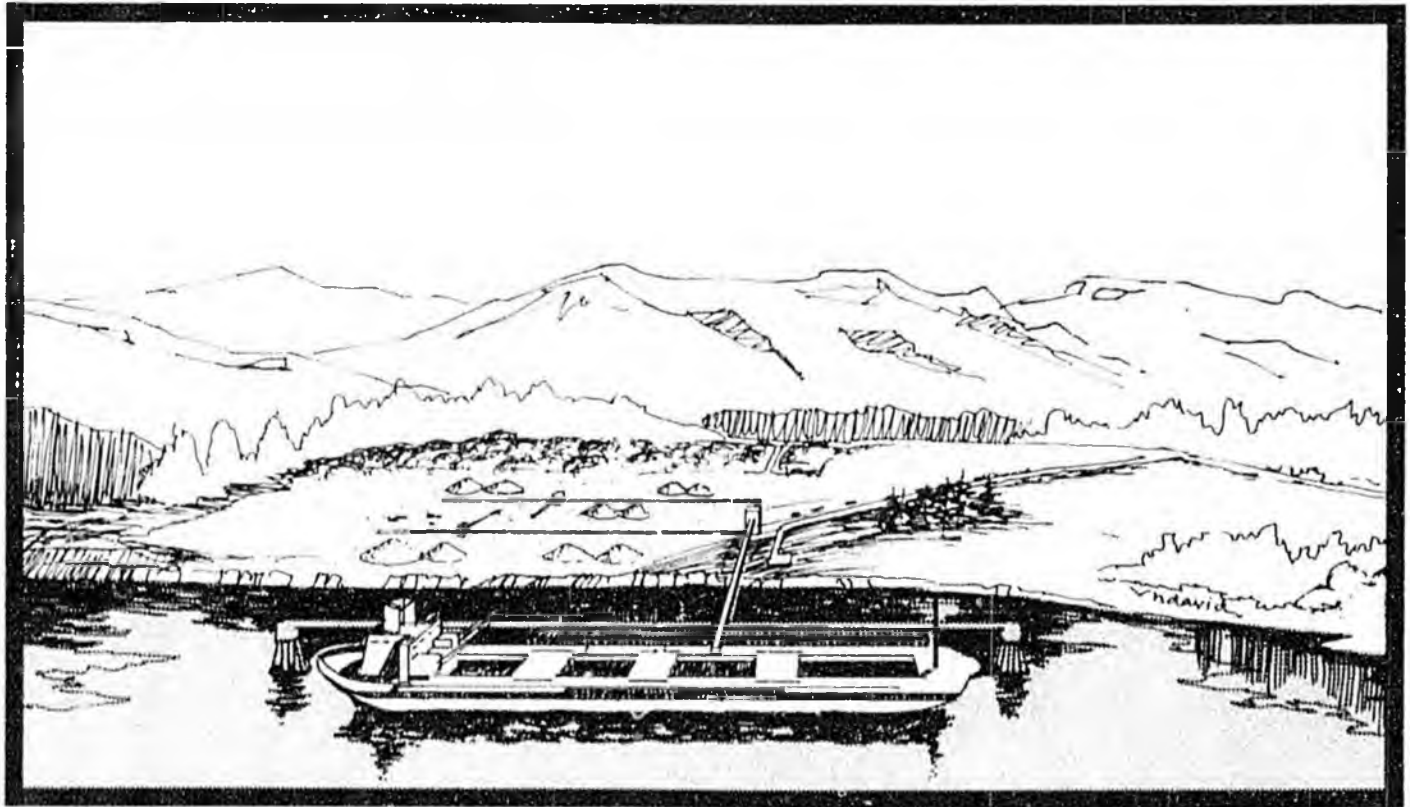
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FEB 12 1982

Proposal

To the Twelfth Alaska Legislature

BERING RIVER COAL FIELD PORT AND TRANSPORTATION STUDY



Prepared by
Chugach Natives, Inc./KADCO

February 1982



CHUGACH NATIVES, INC.
903 WEST NORTHERN LIGHTS, SUITE 201 • ANCHORAGE, ALASKA 99503
(907) 276-1080 TELEX 26-497

February 10, 1982

Jalmar M. Kerttula, President
Alaska Senate
Pouch V
Juneau, Alaska 99811

Joe L. Hayes, Speaker
Alaska House of Representatives
Pouch V
Juneau, Alaska 99811

Dear Gentlemen:

The attached proposal requests an appropriation of \$456,500 from the Alaska Legislature for a Prefeasibility Study of the Bering River Coal Field Port and Transportation System.

Chugach Natives, Inc., expended over \$1 million in exploration and drilling work in the Bering River Field in 1981, and a similar investment is scheduled for this year. The attached proposal details how the requested State funds fit into the overall development plan for this Coal Field.

Chugach believes that it is appropriate for the State to fund this portion of the project because it will serve to promote the development of Alaskan natural resources other than oil and natural gas. Moreover, benefits from the production of Bering River coal will accrue not only to Chugach's 2,100 shareholders, but also to Cordova through the diversification of that community's economic base and through the possibility of an alternative source of electric power. The revenue sharing requirements of the Alaska Native Claims Settlement Act will further guarantee that the profits from this mine will be distributed all over the State of Alaska.

This appropriation request was not included in the Governor's proposed capital budget because at the time that that was compiled we had not yet received the positive results of last summer's drilling program.

We should make clear that Chugach is not asking for this appropriation for itself to perform the requisite work. We do not even intend to bid on any of the work authorized by this appropriation, if it is authorized. We would prefer to see the funds channeled to the City of Cordova as the contract administrator, assuming that municipalities are awarded extraterritorial jurisdiction for port projects in pending legislation.

Our second preference for a funding entity would be the Department of Commerce and Economic Development, which has agreed to administer the project if the legislature so decides.

Your favorable consideration of this proposal would be most appreciated. Please call us if you have any questions concerning it.

Sincerely,

CHUGACH NATIVES, INC.

Edgar Blatchford
Chairman of the Board

Lionel L. Drage
President

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EXECUTIVE SUMMARY

The high quality of Bering River coal has been known for 75 years. Drilling tests in 1981 reconfirmed this remarkably high quality and refuted the stereotype of Alaska coal as having high moisture content and low heating value. Probable recoverable reserves in the Bering River Coal Field have been identified in excess of 62 million tons; "possible" reserves are millions more. The precise extent of economically recoverable reserves, however, is currently undetermined. This uncertainty about the costs of Bering River Coal Field development is the reason for this proposal.

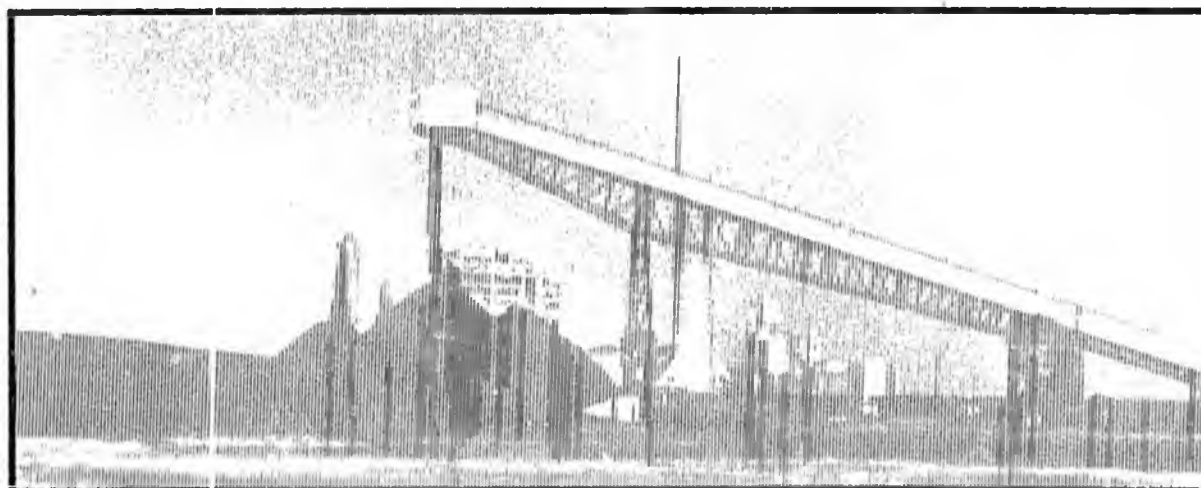
If the coal can be marketed profitably to Pacific Rim countries, the benefits to all Alaskans will be immense. Chugach Natives, Inc., has worked very hard for over a year to find compatible partners and to carry out preliminary studies and test drillings. All results have been positive, but a number of questions remain.

Our proposed Coal Port and Transportation Study will answer many, but not all, of these questions. It will provide information on whether more detailed engi-

neering and environmental analyses are potentially worthwhile, or whether mining and transporting the coal will simply be too costly.

This proposal requests funding for \$456,500 for this essential study. Chugach Natives, Inc., and KADCO, its joint venture partner, have already spend \$1 million and are committed to spending another million dollars in the coming year. This request represents a relatively small, although vital, part (15 percent) of the initial planning and conceptual phase budget of roughly \$3 million for 1981 through 1984.

For this investment, the state of Alaska will receive a straight answer to a question with potentially great significance to the state as a whole: Are the port and transportation concepts for the development of the Bering River Coal Field technically and economically viable, and are the requirements compatible with the high environmental standards of the state and Chugach Natives, Inc.?



INTRODUCTION

The Chugach region is located along 450 miles of the Alaska coast from lower Cook Inlet on the west to Icy Bay on the east. As the map below shows, the region includes the cities of Cordova, Seward, Valdez, and Whittier.

There are approximately 2,100 shareholders of Chugach Natives, Incorporated (CNI), one of the 12 Alaska Native regional corporations created under the Alaska Native Claims Settlement Act (ANCSA). Five village corporations, also created by this act, are located within this region. They are the Chenega, English Bay, Eyak, Port Graham, and Tatitlek village corporations.

The Chugach Region is a "melting pot" of Alaska Native cultures. The ancestry of the shareholders includes Aleut, Chugach Eskimo, and Eyak Indians. The Chugach people have occupied the Prince William Sound area for thousands of years.

The continued existence and livelihood of the Chugach people depends on a diversified economy as well as a clean environment. Many shareholders of CNI and other Chugach region residents are fishermen who depend on the continuing prosperity of the commercial salmon harvest. CNI's largest investment to date, the Orca seafood processing plant in Cordova, supports the region's involvement with this important industry.

CNI promotes development that will broaden and stabilize the economic base while not jeopardizing the seafood industry.

The Bering River Coal Field Port and Transportation Study will be a major step toward diversifying and strengthening the economic base of the Chugach region. Development of the Bering River Coal Field will benefit:

- The 2,100 shareholders of Chugach Natives, Inc., through investment of their capital in a profitable venture
- The Cordova area economy, through the creation of hundreds of job opportunities and the diversification of the economic base
- The residents of Cordova, through the possible availability of electrical power from a mine-mouth power plant
- All Alaska Natives, through the revenue-sharing provision of the ANCSA
- The state of Alaska, through industrial growth and reduced regional dependence on state aid

Objective

The development of the Bering River Coal Field, like any other major project, will be expensive. For development to occur, many very difficult technical and economic questions must be answered and environmental concerns must be addressed. The proposed



Site Map

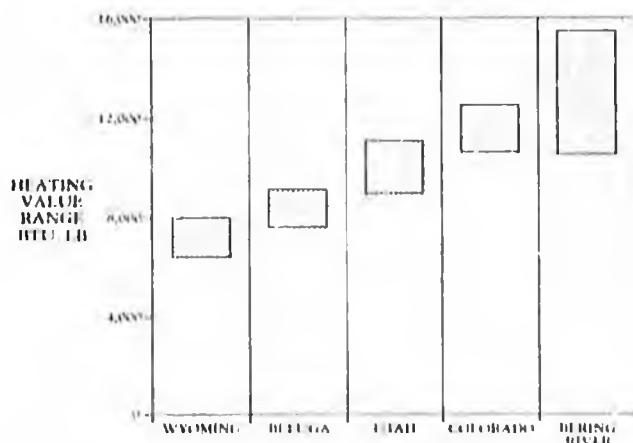
study will provide many, although admittedly not all, of the needed answers. It will attempt to answer enough questions about the potential port sites and transportation routing alternatives so that reasoned decisions can be made on whether or not to proceed with the next phase of preliminary engineering and permitting.

History

The commercial success of the Bering River Coal Field development seems probable based on the history of the field, the quality of the coal resource, and the interest already shown by potential buyers. The Katalla-Bering River area possessed the most valuable known fuel resources in Alaska until the development of the Cook Inlet oil and gas fields in the late 1950's and the North Slope discoveries in the late 1960's. The Bering River Coal Field was the first coal field discovered in Alaska, and 4 out of every 5 of the mining claims in the 1905 "coal rush" were made in this field. Regional development ceased in about 1916, however, for political reasons.

Coal Quality

The coal found in the Bering River field has long been recognized for its high quality. Alaska coal is, unfortunately, widely thought to be of lower quality than most other coals. This is a definite misconception in the case of Bering River coal, as the figure below demonstrates. Bering River coal compares very favorably with coal from Colorado, Utah, and Wyoming, as well as with coal from the Beluga fields. This fact is very encouraging because the Pacific Rim buyers of these other coals would compare Bering River coal against them.



Comparison of
Typical Coal Heating Values

Coal Reserves

Alaska may actually have more coal resources than the rest of the western United States, although actual mineral reserves are still anybody's guess due to limited drilling information. Over 62 million tons of recoverable reserves were identified in the Bering River Coal Field following a drilling program conducted in the summer of 1981. Another 28 million tons are estimated as possibly recoverable reserves. Additional coal reserves will be better defined in 1982 and thereafter. Estimates of "recoverable" and "potential" reserves have invariably proven low throughout the country.

The size of CNI's land selection in the Bering field, the amount of land under coal exploration license, is slightly under 70,000 acres.

Markets

Far East countries are developing into good markets for Alaska coal. These countries are expected to use nearly 200 million tons of thermal coal by the year 2000. The United States is forecast to export over 50 million tons of steam coal annually to Asian countries by the year 2000.

Chugach Natives, Inc. and KADCO Agreement

The proposed Coal Port and Transportation Study follows more than a year of planning activity by CNI. In April of 1981, CNI executed an agreement for exploration and development in the Bering River Coal Field with a consortium of four major Korean companies (KADCO). The consortium includes the two largest Korean trading companies, Hyundai Corporation and Samsung Company, Ltd.; and the two largest Korean coal mining companies, Daesung Consolidated Coal Mining Company, Ltd., and Samchok Consolidated Coal Mining Company, Ltd.

In May of 1981, this joint venture began an aggressive core drilling program under the first Federal coal exploration license ever issued in Alaska. CNI and KADCO are pleased with the results of the 1981 program, and in January of 1982 the partners signed an agreement to continue with a similar drilling program during 1982.

CNI has valid land selection rights to the eastern third of the Bering River Coal Field, in the Carbon Mountain area, under the ANCSA. CNI was offered title to the two thirds of the field now in the Chugach National Forest by the Federal government as part of its land settlement in the Chugach Region Study (Section 1430 of the Alaska National Interest Lands Conservation Act of December 2, 1980.)

BERING RIVER COAL FIELD DEVELOPMENT PLAN

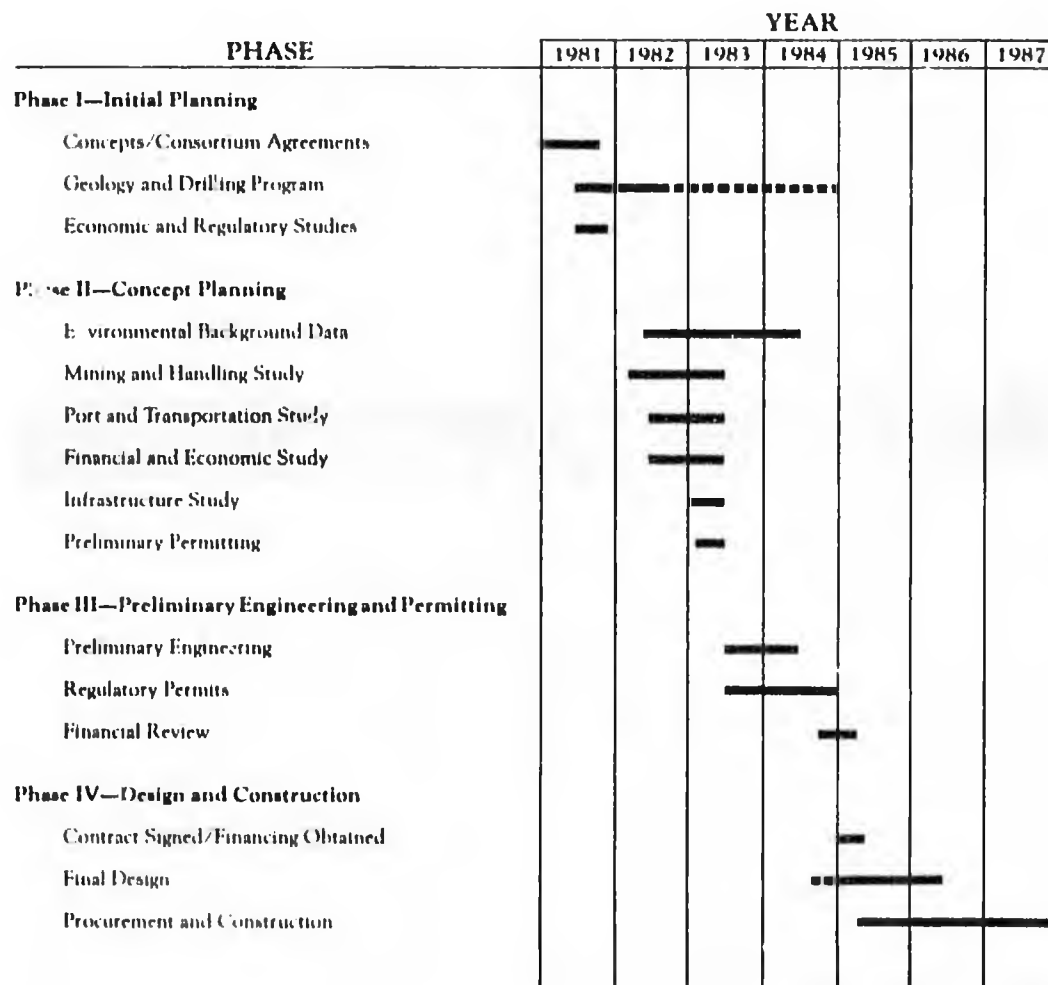
An Overview

The proposed Coal Port and Transportation Study follows more than a year of preliminary studies, test drilling, and consortium negotiations. A preliminary economic analysis, completed by KADCO in September 1981, concluded that economically recoverable coal resources are located in the Bering River field.

On the basis of these preliminary studies, Chugach Natives, Inc., and KADCO will continue development planning during 1982. A detailed market study is underway that will provide necessary baseline information for the Coal Port and Transportation Study. A number of technical, economic, and environmental issues were identified in the previous studies. The proposed study will provide many of the needed answers.

By following the development plan shown below, CNI can bring the Bering River Coal Field into production in a cost-effective manner. The development plan allows for periodic reappraisals of viability and a fast answer to the question of whether development of the coal field can or cannot be accomplished in a technically, environmentally, and economically sound manner.

As shown below, the Coal Port and Transportation Study follows initial studies that clearly indicated that further analysis of port and transportation alternatives is now warranted. This study will determine the advisability of proceeding with the remaining, more expensive, development phases. Although shown below as a separate analysis, the financial and economic analysis is considered in this proposal to be part of the Coal Port and Transportation Study.



Bering River Coal Field Development Plan

PORT AND TRANSPORTATION SYSTEM STUDY

The Coal Port and Transportation Study will provide many of the answers to key questions such as: Are port sites adequate? Can transportation corridors be created and maintained? What is the most cost-effective handling and transport system from mine to port?

The study has three main elements: a marine terminal investigation, a transportation systems investigation, and a financial and economic analysis. The terminal investigation includes three parts:

- A preliminary identification and assessment of terminal sites
- A marine geophysical and limited landside survey
- A detailed evaluation of conceptual layouts at the most promising sites

The transportation systems investigation will include:

- A preliminary mode and route evaluation
- A selection and detailed evaluation of a route plan
- A storage handling and loading evaluation

The financial and economic analysis of the overall development concept will be performed concurrent with the study. It will include:

- A market study to identify coal quantities, qualities, and likely vessel size
- A financial study to identify the ability of Bering River coal to compete with other world coal sources (such as Utah and Colorado) in the Asian markets, in terms of delivered cost per million Btu
- An economic study to identify the economic benefits and costs of coal field development

Transportation System Investigation

Objective

The transportation system investigation will address the technical, economic, and environmental aspects of transporting coal from the Bering River Coal Field to terminal sites in Katalla and Cordova.

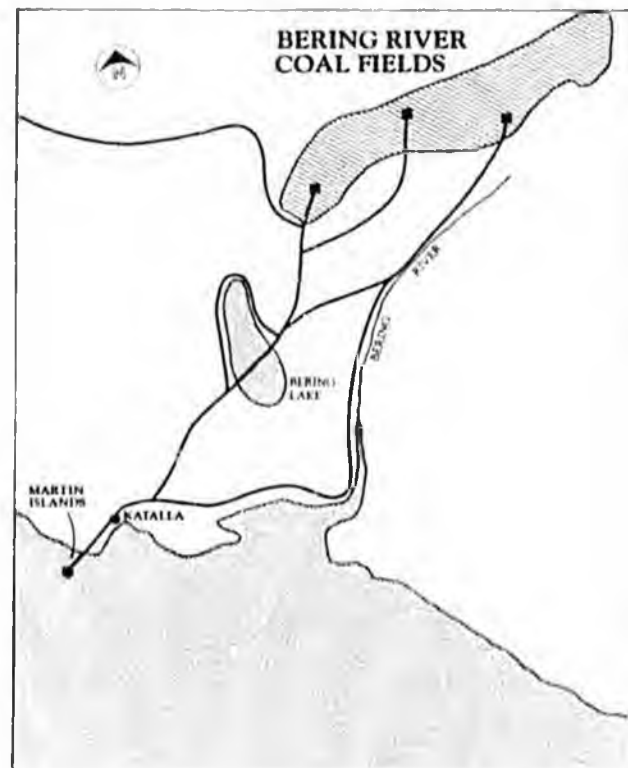
Scope

Design criteria for transporting coal via the modes of rail, truck, conveyor, and slurry will be defined first. These criteria will then be applied to those routes identified in preliminary studies conducted in 1981, shown on the figure at right. The selection of route and mode will require: (1) a reconnaissance survey of soil, drainage, relief, and geology; (2) a comparison

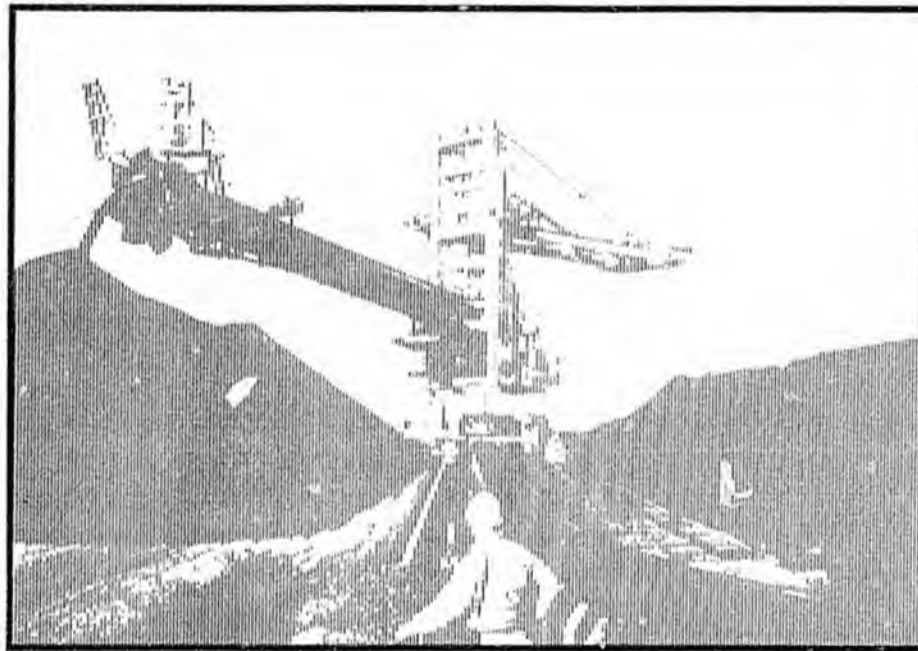
of construction, operation, and maintenance costs for each mode and route; and (3) a comparison of environmental impacts. This element of the study will evaluate: whether grades identified in the design criteria for each mode can be created and maintained; adequacy of soil conditions along the identified routes; effects on flora and fauna; energy requirements and sources; borrow material quantities and sources; effects of weather; and drainage characteristics for each mode and route alternative.

The location and layout of the coal terminal, including a storage and reclamation system, will also be analyzed. Topography, soil conditions, geologic hazards, waste material disposal requirements, storage requirements, power access, site rehabilitation requirements, cost, and environmental effects will be considered.

The optimal mode and route will be selected on the basis of technical, economic, and environmental criteria and conceptual plans and cost estimates will be prepared for them.



Transportation Routes



Marine Terminal Investigation

Objective

The marine terminal investigation will evaluate the location and developmental requirements of ship moorage and loading sites in the Katalla-Cordova region.

Scope

A preliminary analysis of available terminal sites in the Katalla-Cordova region will identify the most likely sites for detailed evaluation. Criteria will be identified for: receiving coal via rail, road, conveyor, and slurry; storing and preparing coal upland from the terminal; and loading barges and deep draft vessels. These criteria will be used to evaluate the available sites regarding their size and topography, drainage, flora and fauna, soils, geology, bathymetry, currents, waves, tides, sedimentation, and navigation.

More detailed evaluations and site plans will be prepared for the most likely sites. The decision criteria will be further refined for the transportation, storage, and preparation systems identified as most cost-effective in the transportation study. A marine geophysical survey will be conducted to provide necessary data on subsurface contours and depth to bedrock. This survey will show whether the sites will support piling and other port structures, and whether dredging will be required. Site-specific climatological and current data will be acquired using an automatic weather station and current meters.

Conceptual layouts, cost estimates, and maps of topography, soil conditions, geologic hazards, and envi-

ronmentally sensitive locations will be prepared for selected terminal sites. A final terminal site recommendation will be made on the basis of these considerations.

Financial and Economic Analysis

Objective

The financial and economic analysis will provide basic data, such as the required annual throughput, that are needed to optimize the port and transportation system design.

Scope

The analysis will be based on available published data verified through interviews with exporters, trading companies and shipping companies. It will provide an answer to the key question of whether Bering River coal reserves are **economically** recoverable.

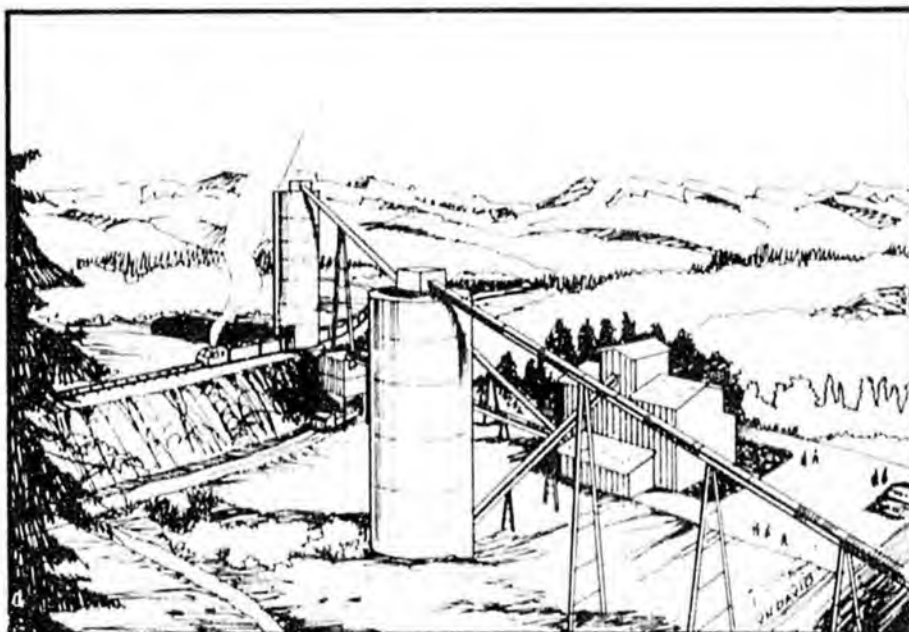
The financial and economic analysis will project the cost of Bering River coal in dollars per million Btu. Ocean transport and receiving facility handling costs will be provided by KADCO. The delivered cost of Bering River coal will then be compared with the projected costs of coal delivered from other West Coast states and Australia.

The economic evaluation of the development will include a comparison of net benefits and costs to the state of Alaska, all Alaska Natives, the residents of the Chugach region, and the shareholders of Chugach Natives, Inc. A discounted cash flow analysis will be used to compare benefits and costs.

SUMMARY OF FUNDS REQUESTED

Funding of \$456,500 is requested for this study. Actual funding for administrative support may change depending upon the requirements of the sponsoring agency. Chugach Natives, Inc., and KADCO have already spent \$1 million, and are committed to spending another million dollars in the coming year.

Study Element	Cost
Port and Transportation Study	
Transportation Systems Investigation	
Preliminary Mode and Route Investigation	\$ 25,000
Detailed Evaluation and Route Concepts	65,000
Handling, Storage, and Loading	
Evaluation	<u>55,000</u>
Subtotal	145,000
Marine Terminal Investigation	
Preliminary Terminal Site Evaluation	30,000
Marine Geophysical Survey	65,000
Detailed Evaluation and Site Concepts	<u>110,000</u>
Subtotal	205,000
Financial and Economic Analysis	
Market Identification	25,000
Economic Evaluations	20,000
Financial Projections	<u>20,000</u>
Subtotal	65,000
Total Port and Transportation Study	415,000
Administration (10 Percent)	41,500
TOTAL FUNDS REQUESTED	\$456,500



**This document was prepared in consultation with
CH2M HILL Northwest, Inc.
Anchorage, Alaska**

