

ALASKA LEGISLATURE

2194

HOUSE and SENATE FINANCE COMMITTEE FILES,

2001 - 2002

ALASKA STATE LEGISLATURE

House of Representatives

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Representative Norman Rokeberg

e-mail: Representative_Norman_Rokeberg@legis.state.ak.us

Sponsor Statement for CSHB 8 (TRA) PIONEER ROAD DEVELOPMENT TASK FORCE

Title: An Act establishing the Legislative Pioneer Road Development Task Force; and providing for an effective date

CSHB 8 (TRA) establishes a Legislative Pioneer Road Development Task Force whose duties would include: research existing plans for road development in the state, identify roads that are important to Alaska's future economic development, study feasibility of developing or upgrading roads in order to promote future economic development, determine availability and source of funds to develop or upgrade those roads, review alternative funding sources for ongoing maintenance, and establish a priority ranking for projects to develop or upgrade those roads identified by the Task Force. The Task Force would include various members as described in the legislation.

Without a better transportation infrastructure, many areas in Alaska cannot be developed to their full potential. The legislation sets forth many roads the Task Force may consider. Many of these roads have been discussed by previous legislatures and these discussions have impressed on me the need for some forward thinking when it comes to road projects. We need to get roads up and going to benefit all areas of the state. Besides natural resource projects, tourism could benefit from roads to all points of the state, thus offering smaller areas more economic opportunities. While new roads could be viewed as interrupting the way of life in rural areas, it is important to remember that if those rural areas want to become viable, they need transportation access for business, industry, local communication, and commerce.

The Task Force would complete its work and make recommendations in January 2002.

ED2:01/31/2001

ALASKA STATE LEGISLATURE

House of Representatives

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Representative Norman Rokeberg

e-mail: Representative_Norman_Rokeberg@legis.state.ak.us

SECTIONAL ANALYSIS CSHB 8 (TRA)

**An Act establishing the Legislative Pioneer Road Development Task Force; and
providing for an effective date**

Prepared by: Rep. Norman Rokeberg

tion 1: Creates the Legislative Road Development Task Force. Sets forth membership and objectives of the Task Force. Lists some roads that may be considered with particular emphasis. Task Force is to meet as frequently as it desires and may meet and vote by teleconference. Compensation not to be paid to Task Force members but per diem and travel may be paid for all except legislative and commissioner members. A written report is to be presented to the Legislature and the Governor before the Second Session of the 22nd Alaska State Legislature, which convenes in January 2002.

Section 2: Act is repealed on first day of 2002 legislative session.

Section 3: Immediate effective date.

ED 2:01/31/2001



General Teamsters Local 959 State of Alaska

Affiliated with International Brotherhood of Teamsters
 ANCHORAGE, ALASKA 99503, 520 E. 34TH AVE. (907) 565-8122 FAX (907) 565-8285 GERALD L. HOOD, Secretary-Treasurer

FAIRBANKS, ALASKA 99707, P.O. Box 70809 (907) 452-2858 FAX (207) 452-6051
 JUNEAU, ALASKA 99801, 306 W. Houghtby (907) 586-3225 FAX (907) 586-1227
 KENAI, ALASKA 99811, P.O. BOX 3150 (907) 283-4488 FAX (907) 283-8030

January 12, 2001

Representative Vic Kohring
 Chair
 Transportation Committee
 State Capitol
 Juneau, AK 99801

JAN 16 2001

Re: HB 8 Legislative Road Development Task Force

Dear Representative Kohring:

On behalf of the thousand of Teamsters that we represent throughout the State and many of whom transport goods on our road system, I would like to go on record in support of HB 8. The long-term viability of our State, as you and your committee members are aware, is dependent on a strong road system structure. We support the intent of this bill to identify those systems important to future economic growth and development throughout the State.

We also strongly believe that the intermodal transportation system needs to be considered as the task force looks at future development of our road systems. Due to the vast area of our State, the effective interlinking of our various transportation systems is the key to our successful ability to transport goods and provide an effective road system for the motoring public as well.

It is further imperative that the financial support of such development needs to be included in any and all considerations. Like any other infrastructure, the financial support to build must include a commitment to maintain such road structures in the future.

We appreciate your time and consideration in hearing this bill and your support in assuring that our road systems meet the needs and concerns of all Alaskans, not only in furthering economic development, but for the general motoring public as well.

Sincerely,

TEAMSTERS LOCAL 959


 Gerald L. Hood
 Secretary-Treasurer

cc: Transportation Committee Members

Tony Knowles, Governor

Alaska Department of Community and Economic Development

Office of the Commissioner

P.O. Box 110800, Juneau, AK 99811-0800

Telephone: (907) 465-2500 • Fax: (907) 465-5442 • TDD: (907) 465-5437

Email: questions@dced.state.ak.us • Website: www.dced.state.ak.us/

January 17, 2001

JAN 23 2001

The Honorable Norman Rokeberg
Alaska House of Representatives
State Capitol, Room 118
Juneau, AK 99801-1182

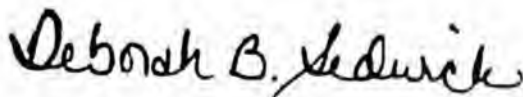
Dear Representative Rokeberg:

Thank you for the opportunity to comment on HB8, "an Act establishing the Legislative Road Development Task Force." This bill provides an opportunity for me to serve along with Commissioner Perkins with the Department of Transportation and Public Facilities as nonvoting members of the task force.

As I understand the bill, the task force will rank road development projects. Road development projects have implications for many of the functions of my department ranging from promoting community and economic development to enhancing tourism. I assume the task force would be open to considering alternative transportation modes where appropriate.

Many of the road projects are currently part of regional plans being studied by DOT and in many cases road development may be the most efficient and effective approach to accomplish the goals of increased development. In those cases I will be pleased to offer the assistance of the department to expedite road development. The Alaska Industrial Development and Export Authority stands by to provide its assistance in financing roads associated with the development of large projects.

Sincerely,



Deborah B. Sedwick
Commissioner

Cc: Robert Poe, Executive Director, AIDEA



JAN 19 2001

ASSOCIATED GENERAL CONTRACTORS of ALASKA

4041 B STREET • ANCHORAGE, ALASKA 99503
P.O. BOX 240609 • ANCHORAGE, ALASKA 99524-0609
TELEPHONE (907) 561-5354 • FAX (907) 562-6118

January 15, 2001

Representative Norman Rokeberg
Alaska State Legislature
State Capitol (MS 3100)
Juneau, Alaska 99801-1182

Re: House Bill 8 - "An Act establishing the Legislative
Road Development Task Force; and providing for an effective
date"

Dear Representative Rokeberg:

The Associated General contractors of Alaska support this bill and initiative. For Alaska to grow and develop its natural resources we need additional roads that will connect remote parts of the state with communities on the road system. It has been many years since Alaska built a new road and action in that direction is long overdue. This taskforce can address the priorities of the State and the report will be a useful tool to implement a program of development.

We look forward to working with you on this bill.

Sincerely,

Richard Cattanach
Executive Director

Jan 24 01 01:30a

Richards & Associates

(907) 463-4660

P. 1

JAN 24 '01 13:54 F
JAN-24-01 12:13 PM

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P.02/02

ALASKA MINERS ASSN.

907 563 9225

P.02



ALASKA MINERS ASSOCIATION, INC.

3305 Arctic #202, Anchorage, Alaska 99503 • (907) 563-9225 • FAX (907) 463-9225 • www.alaskaminers.org

January 16, 2001

Honorable Norman Rukeberg
Alaska State House
State Capitol
Juneau, AK 99801

JAN 24 2001

RE: House Bill 8, Legislative Road Development Task Force

Dear Representative Rukeberg,

Thank you for the opportunity to comment on House Bill 8 which would establish a Legislative Road Development Task Force. This bill will provide a needed venue for discussing alternatives for new roads that are needed. The State planning process has typically focused on repair and maintenance of existing roads but has not effectively addressed the need for new roads.

We would recommend one change to HB-8 and this is to add one additional route into Section 1 that would be considered. This is as follows:

(2) a road from the Dalton Highway west to the Ambler copper district;

This road was contemplated in ANILCA where specific language was included to ensure a right of way would be allowed to follow this route. It would be appropriate for the Task Force to evaluate whether the time has come to develop this road.

We appreciate that the Alaska Federation of Natives is represented on the Task Force and observe that support from local Native groups will be essential for new roads that involve their lands and regions. These Native Corporations and their villages have much to gain if roads are developed and they also have concerns and views that should be considered by the Task Force.

Thank you for the opportunity to comment on this bill. We look forward to working with you as it move forward.

Sincerely,

Steven C. Burrell, P.E.
Executive Director

JAN 24 2001 12:15

907 563 9225

PAGE.02

*** TOTAL PAGE.02 ***



Article last updated:
Friday, November 03, 2000 6:24 AM MST

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State must improve transportation, mining session told

By DIANA CAMPBELL
Staff Writer

ANCHORAGE--Alaska has enormous economic potential for mining despite a poor transportation infrastructure and rigid environmental rules, said Cominco President David Thompson.

The state has a pro-mining Legislature, administration and congressional delegation and an enviable record of tax stability, he said. Cominco runs the Red Dog zinc mine near Kotzebue.

"Our leading choice is Alaska," Thompson told the lunchtime crowd of about 250 people attending the Alaska Miners Association annual convention.

Thompson urged the mining industry to work three areas that would encourage mineral development in Alaska. Improve transportation, bring environmental regulations back to a state level and learn to better explain how mining works, he said.

For instance, zinc is used to galvanize steel and increases its life three times, Thompson said. Zinc is used to galvanize steel in the automotive industry and in household appliances. That cuts down on the need for smelting plants that are responsible for 23 million tons of greenhouse gases annually, he said. Cominco's zinc would help reduce that, he said.

"We are the essential ingredient to stop environmental pollution," he said.

Thompson's assertion had some people thinking. "I've never heard that before," said Art Roth, industrial products specialist for Svedala Industries.

Most in the audience agreed with Thompson. The industry needs to promote how mined minerals are used in everyday life, said Bill Jeffress, Fairbanks Gold Mining Inc.'s manager of environmental services.

"It's like how people think milk comes from a milk carton in the store," he said.

Jeffress agreed with Thompson about the need to have more state involvement in environmental regulation.

"A lot of federal laws are broad based, and they are written to cover a lot of situations in the Lower 48," he said. "Any time you have your regulations at a state level, you have an opportunity to write reasonable regulations."



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More state money needs to go into the state Department of Natural Resources and the state Department of Environmental Conservation, many in the mining industry say.

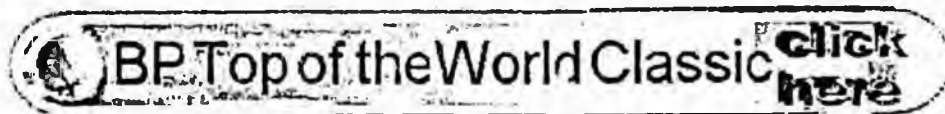
Recent cutbacks have resulted in short staffs, translating into a longer permit process time, said Steve Borrell, AMA executive director. That, he said, gives the federal government more muscle. There needs to be a strong voice on a state level to understand Alaska's peculiarities, he said.

"Local people understand environmental concerns," Borrell said.

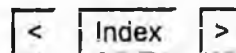
Thompson's evaluation of the state's transportation system is right, Borrell said. Cominco's Red Dog Mine is a success because its high-grade ore makes transporting it to market affordable, he said.

The mine is the largest zinc producer in the world. In 1999 Red Dog produced 521,000 tons of zinc and announced \$123 million in operating profit.

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Gold mining companies announce promising finds

By DIANA CAMPBELL
Staff Writer

ANCHORAGE--North Star Exploration Inc. has announced promising results of recent assays from test holes near Northway.

The tests showed the presence of gold in significant quantities, said Tom Bundtzen, the company's manager of Alaska field operations.

"With one drill hole, we ran into something pretty sweet," Bundtzen said.

North Star, a privately funded exploration company based in New York, has an exclusive exploration and development agreement with Doyon Ltd. to evaluate and develop mineral resources on 7 million acres.

The company was one of two that announced significant gold findings on Wednesday. Copper Ridge Explorations announced a significant gold find on its Ogopogo project in the Goodpaster area near the Pogo mine site.

North Star collected samples mid-September through mid-October near Northway Junction northeast of the Alaska Highway. The claim is called Road Metal.

One ore sample showed gold at 2.865 ounces per ton or \$757.85 per ton. The least amount in the same drilling was 0.535 ounces of gold per ton or \$141.43. In comparison, Fort Knox Gold Mine mills ore at 0.0245 ounces per ton.

North Star is focusing its Alaska exploration program on five areas within the Doyon region, Bundtzen said. The company is looking at claims near Hughes, called the Indian River trend; the Tofty prospect near Manley Hot Springs; Elephant Mountain project near Rampart; and Kaiyah project near Kaltag, in addition to the Northway work.

Bundtzen said the company is looking for a major mining firm interested in developing the Northway project.

Owners of the Ogopogo project are hoping the same rich geology that produced the Pogo mine's 5.6 million ounces of gold for Teck Resources and Sumitomo will do the same for them.

"Structurally, we may actually be connected to Pogo," said Mark Fields, Copper Ridges vice president and



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director.

Recent drillings from Ogopogo indicated a high of 123 parts per billion of gold. That's enough to conduct an intensive drilling program, Fields said. The work was done in August.

"We need to trench and do diamond drilling," he said. A company press release said it is in discussion with several major gold companies.

The Ogopogo project covers 114 state claims and 8,040 acres on the northern boundary of Pogo.

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EUREKA TO RAMPART ROAD LOCATION STUDY

I. PURPOSE AND NEED

The citizens of Rampart desire year-round surface access to improve their social and economic conditions. There is no reliable road access linking Rampart to the State highway system. Community activism placed the project on the State's 20-year transportation plan. The community lies on the south bank of the Yukon River, approximately 161 kilometers (km) (100 miles [mi]) northwest of Fairbanks (Fig. 1).

The road would extend 40 km (25 mi) northward from Eureka on the Elliott Highway to Rampart. It would follow the approximate route of the wagon trail constructed in 1906 by the Alaska Road Commission to transport mail and supplies to gold miners at Rampart. In 1963, the Alaska Department of Highways converted 12 km (7 mi) of trail into a gravel road from the Elliott Highway to Joseph Creek. Further work was suspended when construction funds were diverted to repair roads in southern Alaska damaged by the 1964 "Good Friday" earthquake. A portion of the 1963 road and an additional 3 km (2 mi) up to Lost Creek were rebuilt by ADOT&PF in 1983, and another 3 km (2 mi) at the north end has been improved over the years by Rampart residents. Beginning at Eureka, ADOT&PF maintains the first 3 km (2 mi) of the existing road. The remaining 22 km (14 mi) of trail has not been upgraded. Local residents provide minimal maintenance on the rest of the roadway and the trail.

When the ground is frozen and road conditions permit, snow machines, four-wheel-drive trucks, or heavy equipment can travel on the trail from Lost Creek to Rampart. All-terrain vehicles use the trail during the summer, but severe rutting and sinkholes force operators to use adjacent lands that are classified as wetlands. Destruction of wildlife and anadromous fish habitat is occurring.

Barges and aircraft are the only commercial transportation to and from Rampart. Barges deliver freight, except fuel, three or four times each summer. (Fuel is not shipped by barge due to exorbitant costs but is delivered by airplane). Air service is the only year-round means for transporting people and perishable goods. Air transport is expensive and unreliable due to frequent fog and wind conditions along the Yukon River.

A reliable, year-round road will provide Rampart residents with a lower cost of living and increase employment opportunities, and protect wetlands, wildlife, and fisheries resources.

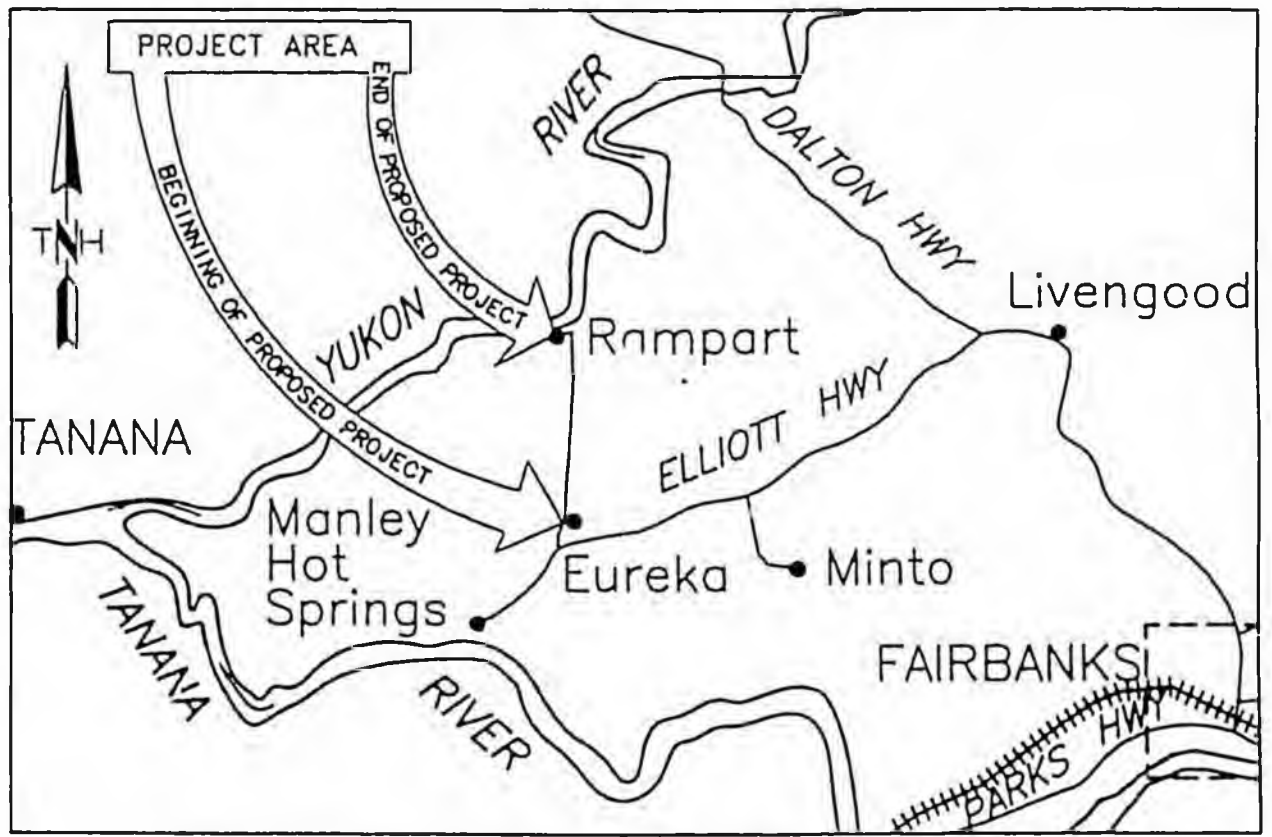
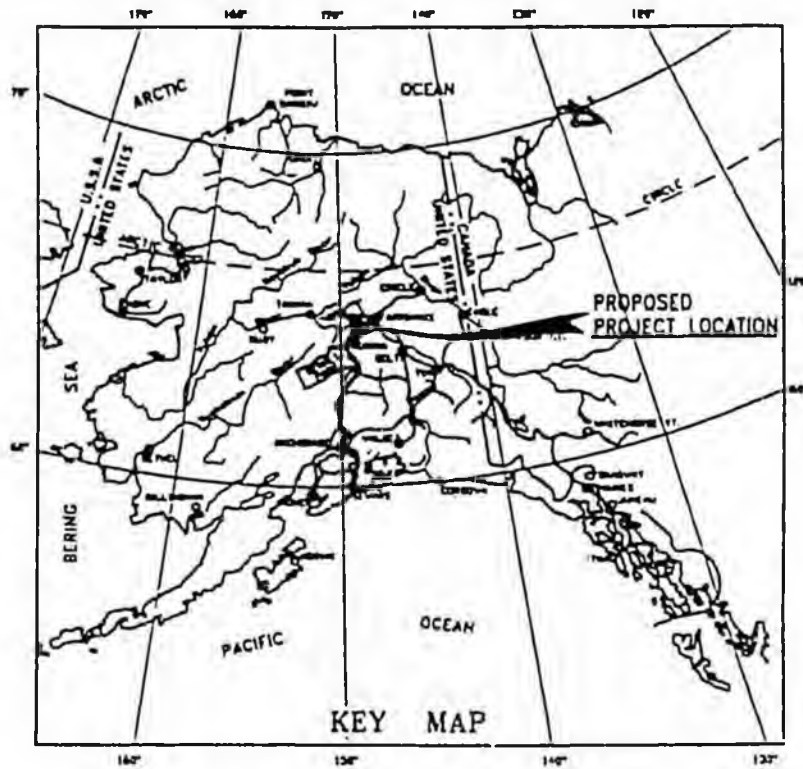


FIGURE 1
 STATE OF ALASKA
 DEPARTMENT OF PUBLIC TRANSPORTATION
 AND
 PUBLIC FACILITIES
 EUREKA TO RAMPART ROAD
 VICINITY AND KEY MAPS



TANANA CHIEFS CONFERENCE, INC.

Yukon Tanana Subregion
1302 21st Avenue
Fairbanks, Alaska 99701
(907)459-3900

9-23-96 13 21:02

November 11, 1996

State of Alaska Department of Transportation & Public Facilities
Division of Design & Construction
2301 Peger Road
Fairbanks, Alaska 99709-5399

Dear Mr. John Rezek, P.E.

Enclosed is a copy of Tanana Chiefs Conference/Yukon Tanana Subregional Advisory Board resolution 96-07. Resolution 96-07-*Continued Support of the Rampart-Eureka Road* was passed and approved by the Advisory Board on Oct. 23, 1996.

The Subregional Board consists of the villages of Alatna, Allakaket, Evansville, Fairbanks, Hughes, Lake Minchumina, Manley, Minto, Nenana, Rampart and Tanana. The road has been supported by the villages of the subregion for almost ten years.

The proposed Eureka-Rampart Road has been a community goal of Rampart since the early 80's; and was submitted to the State Transportation Improvement Plan (STIP) for several years for consideration as a road project .

Our Subregional Office looks forward to the proceeding of the location study and environmental analysis. We want to be involved and will attend the Scoping meeting scheduled for Fairbanks.

Thank you.

Sincerely,

TANANA CHIEFS CONFERENCE, INC.

Oscar Frank, Jr.
Community Resource Coordinator

cc: Rampart Village Council .

UNORGANIZED BOROUGH

RAMPART

Project Name	Description	Cost	Need ID	GIP	Priority	Score
Airport Improvements	Reconstruct the runway and safety area		5134	AV		
Eureka to Rampart Road	Construct approx. 14 miles of two lane, gravel road to complete connection between Eureka, on the Elliott Highway, and Rampart, on the Yukon River. The entire route is approx. 26 miles long. The project entails construction of the center section and localized improvements on previously improved sections.	12,600,000	3705	CTP	2	76

RED DEVIL

Project Name	Description	Cost	Need ID	GIP	Priority	Score
Airport Improvements	Reconstruct the airport to meet current standards. Construct a new apron and taxiway, snow removal equipment building, and purchase a new grader.	1,500,000	5657	AV	1	80

RUBY

Project Name	Description	Cost	Need ID	GIP	Priority	Score
Ruby to McGrath Road	New road construction to connect Ruby and McGrath		3696	CTP	3	

RUSSIAN MISSION

Project Name	Description	Cost	Need ID	GIP	Priority	Score
Landfill Road	Construct 3-4 mile long road to the new tank	450,000	9918	CTP	1	124
Local Streets	Repair/rehabilitate approximately 2 miles of local streets. Improvements include application of dust palliative	330,000	3697	CTP	3	
New Housing Roads	New roads for upcoming housing	200,000	3698	CTP	3	
Runway Rehabilitation	Realign and extend the runway, reconstruct apron, taxiway and access road, raise grade to mitigate flooding problems	2,700,000	5136	AV		112

FROM: REP. HORNER

Tanana Tribal Council
P.O. Box 130
Tanana, Alaska 99777
Ph: (907) 366-7160
Fax: (907) 366-7195

JAN 28 2000

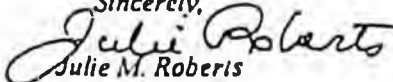
January 7, 2000

*Rampart Village Council
Rampart Alaska*

Dear Council Members,

The Tanana Tribal Council discussed the Rampart – Eureka Road and has decided to support your efforts in having the road built to Rampart. When the initial request for support came in, we did not realize or understand how important it was for the village of Rampart to have this road in place. Now, based on facts that your village has provided to us, we realize the very existence of your community is at stake here and we cannot stand by and allow your community to become exunct. Without reliable transportation into a small community, such as Rampart, services only become fewer and fewer. The State of Alaska has an obligation to protect and promote the viability of our village residents, regardless of their size. Without access into the rural areas of Alaska, our State will never live up to its potential.

A resolution of support is enclosed and if you need us to testify on your behalf, please give us a call and we will provide support for your village. Our very best in your endeavor.

Sincerely,

Julie M. Roberts
Executive Director

Cc: Department of Transportation

Tanana Tribal Council
P.O. Box 130
Tanana, Alaska 99777
Ph: (907) 366-7160
Fax: (907) 366-7195

Resolution 01-00
Titles: Resolution of Support for the Village of Rampart

Whereas: the Tanana Tribal Council is the duly constituted and legal governing body of the federally recognized Indian Tribe organized as the Native Village of Tanana; and

Whereas: the Rampart Village Council has requested our support in having the proposed Rampart - Eureka Road built; and

Whereas: tribal members of the Tanana Tribal Council currently resides in the village of Rampart and strong family ties have existed for many years; and

Whereas: the safety and general welfare of the people of Rampart is of the utmost importance to the Tanana Tribal Council; and

Now Therefore Be it Resolved that the Tanana Tribal Council hereby requested the State of Alaska; the Bureau of Indian Affairs and Congress to fully support funding to build the Rampart - Eureka Road for the General well being and existence of the village of Rampart Alaska.

Passed and Approved this 20 day of January, 2000, by the Tanana Tribal Council seated in Quorum.

Signed: Faith M. Peter
Chairwoman

Date: 1/20/2000

Attest: Maria S. Roder
Secretary

The Pogo Land Rush

Among the largest of land rushes in Alaska's rich and varied mining history, it seems that the Pogo area play has been appropriately nicknamed the "Goldpaster," even though that name was first coined as a typographical mistake in a newspaper headline.



Patricia Jones

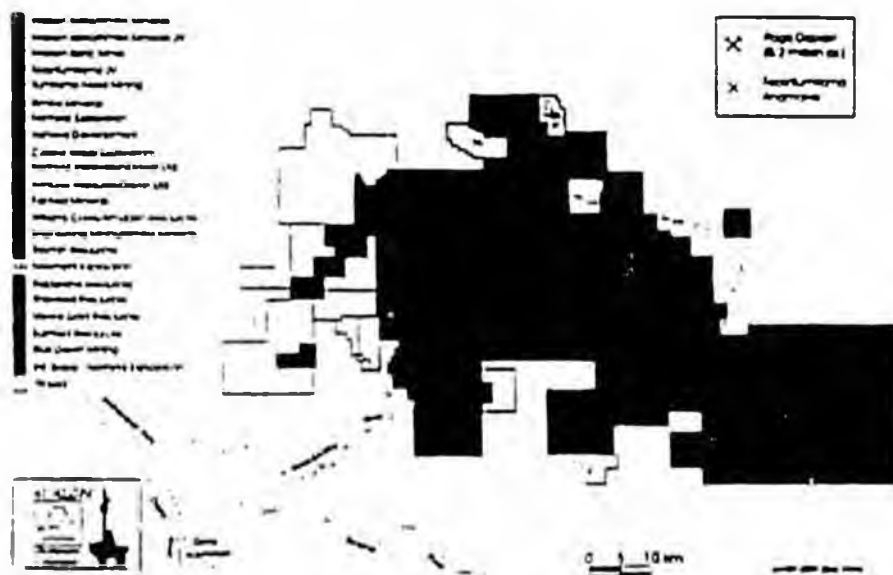
Tom Howard, left, and Ron Hanson, drillers working for Tonto Drilling, take diamond core samples in July 1998 at the Badlands hole at the Pogo prospect. Such drilling work helped spark a land rush in the upper Goodpaster River Valley.

BY PATRICIA JONES

Less than three years ago, the upper Goodpaster River valley was considered mineral-poor moose pasture by most gold prospectors. Only a handful of old-timers working placer claims and a Japanese-financed hard-rock exploration team considered the area as a prospective mining district.

But one single discovery—a 5 million ounce-plus gold deposit called Pogo—has dramatically changed geological opinion of the rolling, spruce-covered hills and river valley located about 40 miles northeast of Delta Junction in Alaska's Interior.

Now, it's the hottest place in Alaska to prospect for gold and interest in the area has sparked a virtual land rush. More than a half million acres of state



LAND STATUS OF THE GOODPASTER MINING DISTRICT

land was staked the last 18 months by prospectors hoping to find another Pogo, according to Erik Hansen, a land status consultant based in Fairbanks.

"Some Canadian junior mining companies decided to go in and stake all around Pogo," Hansen said. "That caused other people to wake up and smell the coffee."

Sumitomo Metal Mining Co., which holds the claims to the 72-square-mile claim block called Pogo, also has some surrounding and nearby land staked, compiling a considerable property package. And North Star Exploration, which signed an exploration property deal to work on Doyon Ltd. land in the area, also staked a sizeable position in the Goodpaster area.

In all, more than 700,000 acres—equal to about 1,100 square miles of land in the Goodpaster area—has been claimed for mineral exploration and development by gold prospectors.

"They've pretty much saturated the whole country with claims, so the Pogo land rush is coming to an end," Hansen said. "Next will be to see who keeps the claims and who drops them."

Prospectors are now looking at potential sites both to the northwest and the southeast of Pogo, he said. On a weekly basis, Hansen tracks claim filings and has produced a land status map of the Goodpaster mining district.

Staking the Goodpaster

During the Pogo area play, prospectors used both existing geologic data for the Goodpaster as well as the theory of closeness to make their land selections.

"It was a combination," Hansen said. "Anything in proximity of Pogo is fair game for the staking, but a lot of companies used existing public geological data to delineate targets for their staking."

Copper Ridge Explorations Inc., a recently formed junior exploration company, used both theories to select its 24,000-acre claim block located just north of the Pogo deposit, according to company president Gerald Carlson.

"By the time we decided to look for ground in the area, most of the prospective ground on the east-west trend had been taken up," he said.

Prior geological surveys conducted by the U.S. Geological Survey and

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recent stream sedimentation samples that produced trends similar to Pogo-style mineralization caused the company to select its property, called Ogo-pogo, he said.

"I think it is also quite significant that we were able to acquire this ground within only a few miles of the Pogo deposit itself—the 'closeology' factor," Carlson said.

Most agree that news about Pogo created this land rush. But the relatively unexplored land of the Goodpaster also made the district attractive, said Curt Freeman, a Fairbanks-based consulting geologist.

"Part of it was the fact that Pogo was unknown ... in a district that had absolutely nothing else going for it during the last 100 years. It was a dope-slap for geologists, telling us that we really don't understand what we think we do," said Freeman.

The land rush, which peaked about a year ago, was so great that junior-sized exploration firms were looking to hire claim-stakers to work on Christmas Day. Freeman was one who turned down such holiday pay.

"I don't think I could have hired a (helicopter) pilot then," he said. "The first real bunch of claim-staking started in June and July last year; then it ramped up to complete madness."

Because of the rough terrain and lack of road access, most of the land rush occurred with the help of helicopters, which were used to drop off claim-staking crews. That increased the initial land acquisition costs, as well as the first stage of exploration work conducted this past summer.

Exploration Spending

Two years ago, only Sumitomo and Teck Exploration (Sumitomo's joint venture partner on the Pogo project), were spending time and money in the Goodpaster area.

Now, about 20 companies are actively exploring the area, according to Richard Swainbank, the state's mineral development specialist headquartered in Fairbanks.

"There's a lot of interest around Pogo, but not a lot of money," Swainbank said. "If the price of gold was in the \$330 to \$380 (per ounce) range, the amount of activity in the Pogo area would

be double or triple. It's very, very hard to fund exploration programs right now."

When gold prices dropped to the \$250 per ounce range this summer, exploration crews found that funding also decreased. No matter what prospectors turned up on their properties, exploration firms couldn't seem to escape the financial drag of the slumping gold market.

"The fall in the price of gold couldn't have come at a worse time for the state of Alaska," Swainbank said. "Note: Gold prices rose in late September."

Freeman, who has several clients holding claims in the Goodpaster area, estimates that \$3 million to \$5 million was spent during the 1999 summer season by prospectors working around Pogo.

That number does not include about \$15 million in developmental expenses incurred by Teck Exploration to start construction of a mile-long tunnel that will access the Pogo deposit.

"If you would have asked me in March how much would be spent in the area, I would have estimated two to three times that which was spent,"

said Freeman. "With the drop off in interest in gold, money for the high-risk stuff has been that much harder to come."

There's one small consolation for such tight exploration funding, Swainbank said. Less money means that prospecting work has been more carefully planned and paced, rather than a willy-nilly process that can often accompany the start of such an exciting exploration area.

"Claims will get looked at more generally, instead of bringing in drill rigs prematurely," Swainbank said. "Nothing can kill a project quicker than a dry drill hole."

"Goldpaster" District's Future

Most in the industry expect to see in upcoming months some changes in land status surrounding Pogo. Temporary prospecting sites will be converted into more tangible mining claims while less prospective land will be dropped.

"A whole bunch (of prospecting sites) are being converted and some land has been windrowed out," Freeman said.

"There's a sifting process going on right now and by the end of the year, the Hansen map will look different with checkerboard holes where land has been dropped."

In addition to land changes, Swainbank expects to see continued partnerships and consolidation of efforts between junior exploration firms and major mining companies that have money to invest in prospecting and development.

"Major companies that have cash on hand will be shopping in the bargain basement because even the cost of maintaining the claim rent on those properties has to be a pretty good-sized burden on some of the juniors," he said.

Finally, some companies are pressing on with exploration on their properties after a successful start with their ground exploration efforts earlier this summer.

"We will be soil sampling and prospecting in the area of the anomalous gold results to try to localize the bedrock source of the gold," Carlson said in early September, about his company's Ogoopogo property. "We are very excited by the results of the program so far." □

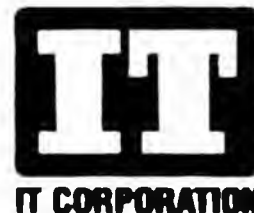
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Teck begins tunnel work on Pogo Ridge gold deposit near Delta

By Tim Bradner
Journal Reporter



Teck Resources crews are busy digging into Pogo Ridge at the company's big Pogo gold prospect 35 miles northeast of Delta.

The company also has initiated prefeasibility studies of development of a mine that, if positive, will be followed by environmental studies and the start of a long permitting process, Karl Hanneman, Teck's Alaska Regional Manager, told the Resource Development Council May 5.

More than 50 feet of a planned 5,500-foot underground exploration access tunnel is completed, he said. Tunnel work will pause 200 feet into the mountain to allow installation of a treatment facility to process drainage water and then resume, he said.

Teck received final clearance on permits from state agencies March 1 and federal agencies March 4. Work on a 2,000-foot

road began the same day from the present camp near the Goodpaster River, 200 feet up the side of Pogo Ridge to the portal, or entrance, to the tunnel.

Tunnel work began after heavy equipment was moved up the road. The tunnel is being built at a 15-degree downslope and upslope to come up under the ore body.

Configuration of the tunnel allows water to drain to the low point in the tunnel for treatment, with no chance of draining out with a risk of contamination of the Goodpaster River.

Teck now has about 45 people at work on the project, Hanneman said. About 30 will be employed over the next 12 to 18 months on the tunnel and test work.

Teck also plans an additional 50 test holes drilled from the surface in 1999 and a similar number in 2000 and 2001. These are mainly "in fill" holes

to obtain ore samples between the holes drilled earlier, which are at 50-foot intervals.

Once the tunnel is completed, drilling also will be done from underground to test suspected ore deposits that are too deep to reach from the surface.

Pogo has an identified gold resource of 5.5 million ounces in 10 million tons of ore grading an average of 0.5 ounce per ton, Hanneman told the RDC.

By way of comparison, Hanneman said, at this early stage of exploration, the Fort Knox Mine near Fairbanks had about 4 million ounces of identified gold resource in a lower-grade ore body.

Pogo is a higher-grade gold deposit and will be mined with a smaller, more compact underground project than the type of larger, open pit mine used at Fort Knox, he said.

Over the next 12 to 18 months Teck will do additional exploration drilling, both from surface and from the underground tunnel, to further define the ore body.

The company will also carry out tests on strength of the rock, gain information on potential water drainage problems, and mine bulk ore samples to test underground mining methods and procedures to extract gold from the ore.

The flat-lying orientation of the gold deposit poses a serious engineering challenge to the mining — how to "hold up the roof" — and the tests of rock strength are particularly important. About 30 people will be employed through this phase of exploration, Hanneman said.

The presence of the Pogo gold deposit was first detected in 1991 during a regional mineral reconnaissance. It wasn't until

1991 that Sumitomo Metal Mining Arizona Inc., a subsidiary of Japanese-owned Sumitomo Metals, staked claims on state lands in the area and began serious exploration.

Teck, a long established U.S. minerals company, bought 40 percent of the project and became its operator. The discovery was announced in 1997.

Teck has become active in Alaska in recent years, but the company owns 35 percent of Cominco, which operates the big Red Dog Mine in Northwest Alaska, and 15 percent of Alacus Minerals, which is exploring, with Teck as a partner, the Nihlack base metals prospect in Southeast Alaska.

Teck, which operates mines in the U.S., Canada, Chile and Australia, had \$713 million in revenues and \$193 million in profits last year. Sumitomo Metals is a subsidiary of Japan's Sumitomo Corp., a 300-year old company that, among all subsidiaries, had \$95 billion in revenues last year.

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BUSINESS

Al Slavin, Business Editor; 459-7593

Sunday, October 17, 1999

Teck weighs Pogo Mine route options

By AL SLAVIN
 Business Editor

One route is by air.

Another combines a little flying and a winter trail.

A third scenario involves building an all-season road in the Goodpastor River valley. All three lead to a remote parcel of land that is about to become Pogo Mine, a lucrative gold deposit located 40 miles from Delta Junction.

The choice is one of the more delicate ones from both a financial and environmental standpoint. It will define the permanent access through a relatively undeveloped section of wilderness to a deposit containing 5.2 million ounces of gold.

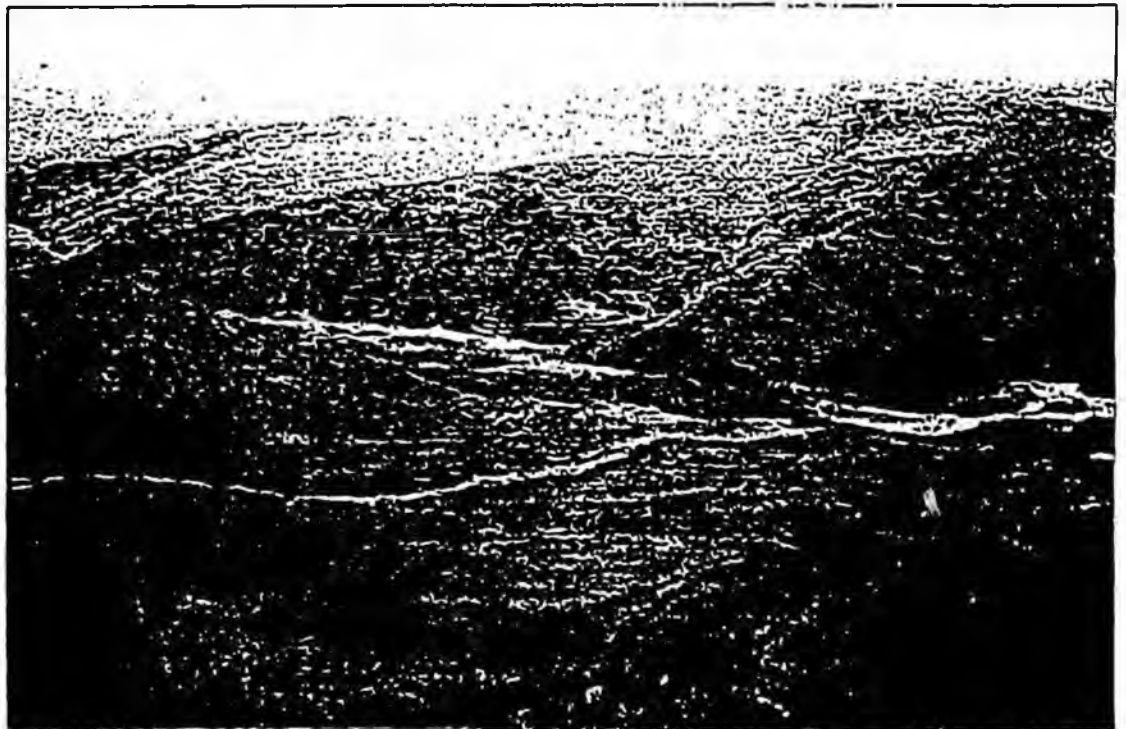
"We've got to come to grips with what's best for the project, what's best for the community and what we can get permitted," said Karl Hanneman, the project manager for the joint venture between Teck Resources and Summit Mining.

Hanneman spelled out the options last week to the Greater Fairbanks Chamber of Commerce's transportation committee. Some consideration is being given to a fly-in operation, which would leave the smallest footprint but bring a noise problem.

Equipment and supplies could be flown to the mine from a staging area at Fort Greely's airstrip, Hanneman said. But the flight path for the eight to 10 daily flights by DC-6s would be over Delta Junction.

The cost of a fly-in operation—\$8 million to bolster the one-mile airstrip and \$12 million to \$14 million in annual operating expense—could also prove too much, Hanneman said.

A second option has fewer flights by adding a winter road. That option has three scenarios, one of which involves using the existing winter trail that crosses 11 streams.



POGO DEPOSIT—Teck Resources is currently mulling over the best way into the Pogo Deposit, a remote parcel of land in the Goodpastor River Valley containing 5.2 million ounces of gold. The possible scenarios include a fly-in operation, building a new winter trail or constructing an all-season road.

Two other trail routes have been identified, traversing the north or south border of the Shaw Creek Plateau, Hanneman said. This would take the burden off a winter trail that already receives substantial recreational use.

A new trail would cost an estimated \$15 million to build and \$8 million to \$9 million each year to operate and maintain.

The final option involves building a \$25 million all-season road. Annual operating and maintenance costs could reach \$6 million. An additional \$3 million would be needed to remove the road at end of the mine's life, estimated at 10 to 12 years.

While the scenarios differ in approach, they all share one common thread. Each is certain to leave someone unhappy.

The promise of a \$250 million construction project and 300 year-round jobs is certain to rally support from the business sector. But it won't be enough to stave off environmentalists and property owners who fear that the Goodpastor River valley may get trampled along the way to development.

"A big project like that is going to include a lot of change and a lot of impact," said Sylvia Ward, executive director of the Northern Alaska Environmental Center. "There's some concerns. Everybody is going to keep an eye on protecting the Goodpastor River from contamination."

"That's an absolute," she said. "The river's got to be protected."

She also worries that an all-season road will harm the Fortymile Caribou Herd.

"We'll be doing all we can to stop an all-season road," Ward said.

Hanneman has spelled out one option that may appease everyone, including environmentalists like Ward. It requires running a power line to the remote project. This would reduce the amount of fuel needed on site, reducing the amount of traffic on the selected path. It would also eliminate regulations concerning air emissions.

"It's a great example of doing something for the environment that turns out to be the right thing for the business sector as well," Ward said.

Whether a power line will be cost effective is unclear. Golden Valley Electric Association has informed Teck Resources that it would cost \$18 million to upgrade GVEA's power system between North Pole and Eskola Air Force Base.

There would also be \$16 million in expenses to run power from that point back to the project. Both of those costs, which are subject to negotiation, would fall to the project's developers if GVEA cannot find a wider customer base in the area.

Hanneman is still gathering information and hopes to complete this feasibility study within 24 months. The analysis of underground exploration work is under way along with the environmental assessment.

This information will be used as a basis for a future permit application. But Hanneman is still awaiting one more component: comment from trappers, loggers, fish and game officers and anyone familiar with the sections of backcountry.

"We want to tap into the knowledge of the community to help us make a good decision," Hanneman said.

ROCK CREEK - NOME AREA

The Rock Creek Nome Area Road
January 27, 2000

The Rock Creek Road will help to encourage potential economic development of the hard rock mineral resources in the Nome area currently under investigation by a group of companies including Novagold, Alaska Gold, Sitnasuak, and the Bering Straights Corp.

The existing road is built along existing contours and is seasonal in nature. The road could not be used for transport of construction material during potential mine start-up due to it's windy nature, gradient and narrowness.

The new rerouted road would shorten the haul distance by two miles and be built across a flat plain that would make maintenance and use possible year round.

The City of Nome fully supports the road project for the potential economic benefit it could provide.

The City has recently lost 70 jobs due to the temporary shut down of mining operations in the Placer mining fields. The job loss is due to the current low prices of gold. Hard rock mining may still be viable at the current prices due to the higher tenor of the gold present. It must be remembered that the potential for sustained mining operations are speculative.

Currently, The rock creek gold deposit contains an estimated 500,000 ounces of gold.

GP:sp

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RE: GLACIER CREEK RD.

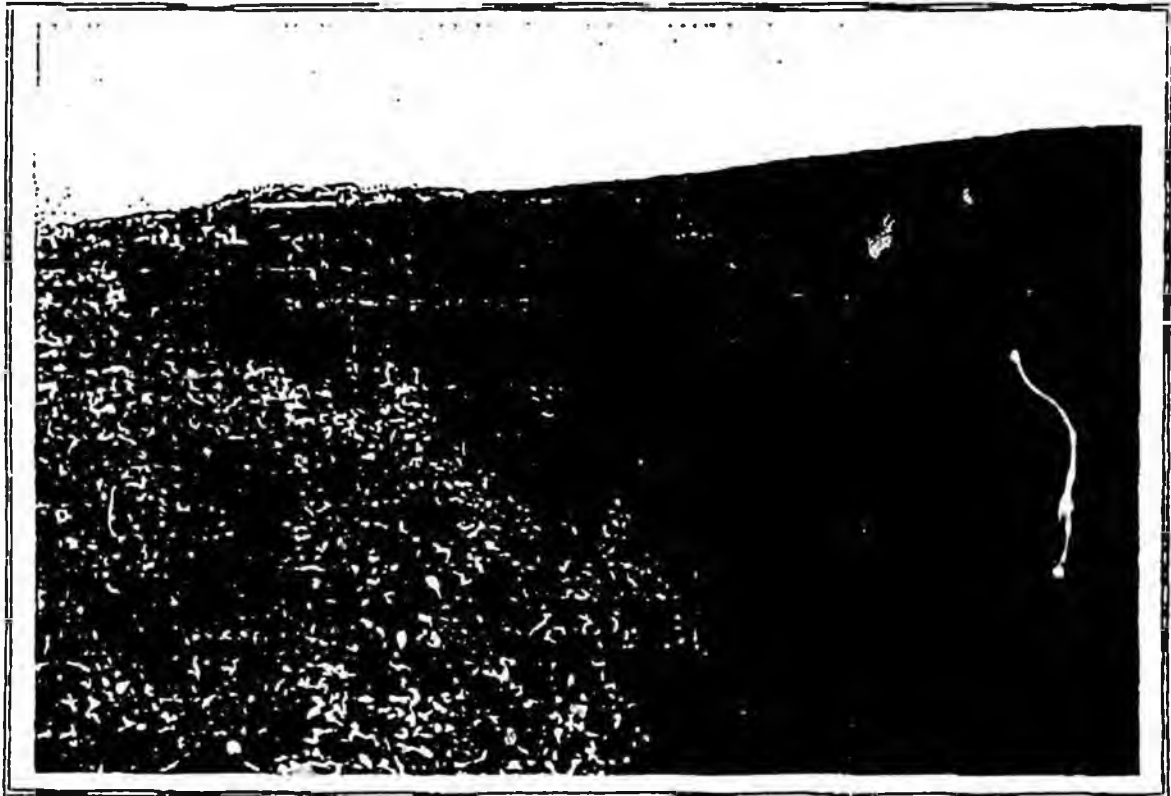
Note: Alternative 3 is the Preferred Route.

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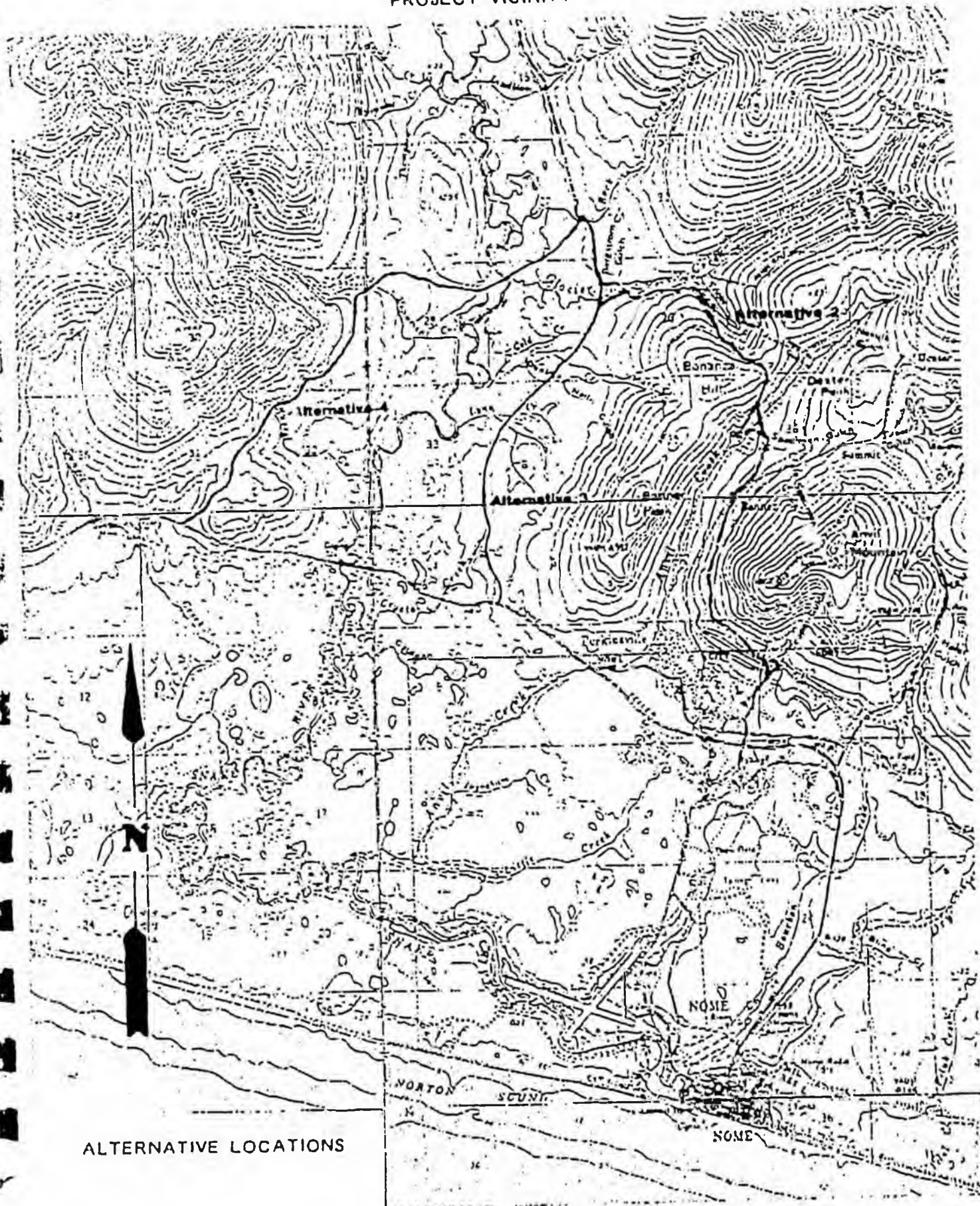
GLACIER CREEK ROAD
NONE, ALASKA
ENVIRONMENTAL ASSESSMENT



Glacier Creek

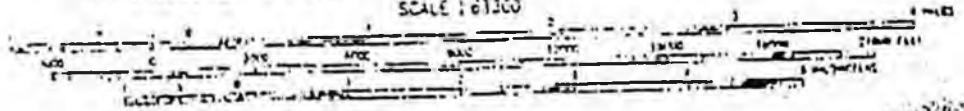
Alaska Department of Transportation
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Northern Region- Western District
Division of Design and Construction
Environmental Section

PROJECT VICINITY



ALTERNATIVE LOCATIONS

SCALE 1:61300



GLACIER CREEK ROAD

CHAPTER I

PURPOSE AND NEED

The Alaska Department of Transportation and Public Facilities (ADOT&PF) in cooperation with the Federal Highway Administration (FHWA) is proposing to either upgrade or reroute Glacier Creek Road in Nome Alaska. The proposed project's objective is to enhance economic development. Glacier Creek Road accesses numerous gold mining operations with new development and exploration expected during the next several years.

The proposed project would provide an all-season, year-round¹ access road to areas that are believed to contain large mineral deposits. The existing road was originally constructed as a sidehill cut for much of its length and is therefore susceptible to early and lengthy closure due to snow accumulation.

Glacier Creek Road has major deficiencies, especially for heavy equipment. Grades on the existing road are severe, and when combined with the many sharp curves sight distance becomes severely limited. The existing road is approximately 4.3 meters (14 feet) wide, is gravel surfaced, and without shoulders. There is very little room for maneuverability or passing. These aspects are a hinderance for drivers, especially when a vehicle breaks down, becoming more extreme when operating larger equipment.

Several large gold deposits have been identified in the vicinity of Glacier Creek Road by private sector exploration firms. Reports from both federal and state agencies have also documented the potential for economic lode gold deposits in this area. Additionally, there are several gold mines currently in production. However, the

¹ Currently, Glacier Creek Road is not maintained during the winter.

NOME, ALASKA

GLACIER CREEK ROAD

operation of these current mining ventures are sometimes hindered by the length of time the existing road is open to traffic.

Currently, mining companies are in the process of defining the Rock Creek ore body, in the anticipation of bringing it into production. (Rock Creek crosses the existing Glacier Creek Road at about 1 kilometer [$\frac{3}{4}$ mile]) beyond Glacier Creek. Exploration of the entire area is under the "Rock Creek" designation and encompasses nearly 13,760 hectares [34,000 acres]. An adjacent 14,165 hectares [35,000 acres] tract is also being explored. Until recently, these two tracts were being explored by separate companies. The Kennicott Mining Company has assumed Newmont Exploration's 13,760 hectare [34,000 acres] tract.

It is estimated that between 100-200 jobs would be created if a new mine were to begin production. This is a significant economic boost to an area which has a labor force of about 3,000 and an unemployment rate typically near 10 percent.

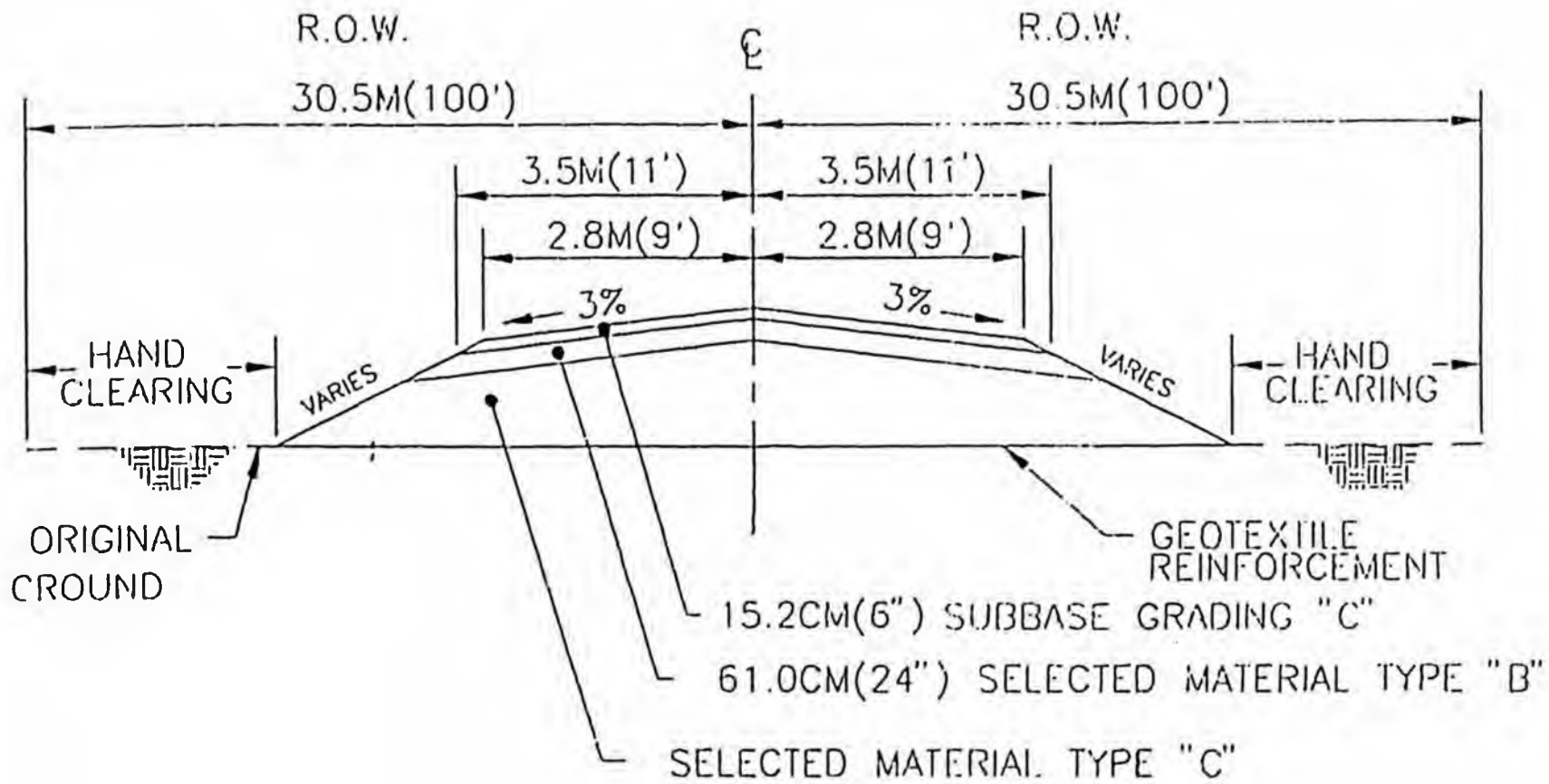
CHAPTER II

ALTERNATIVES

Four alternatives have been evaluated for this proposal. They are the no-action (or no-build), upgrade the existing roadway alignment, and two options to re-route the road.

All of the build alternatives would have a finished road width of 5.5 meters [eighteen feet] including shoulders. The typical section for the build alternatives would have foreslopes varying from 1:4 to 1:1 $\frac{1}{2}$ [4:1 to 1 $\frac{1}{2}$:1]. Design criteria recommended with all build versions would result in horizontal curves at or above the minimums. Other recommendations include flatter grades, and hand clearing alders and willows out of the right-of-way to help facilitate snow removal. The proposed facility would require additional right-of-way to establish a corridor width of approximately 30.5 meters [100 feet].

NOME, ALASKA



TYPICAL SECTION

GLACIER CREEK ROAD

Alternatives 3 & 4

Re-route Glacier Creek Road

Two locations were considered for realignment. An alternate route on the west side of the Snake River (Alternative 4) was investigated and discarded because of its longer length and higher cost; and a greater potential for environmental impacts, particularly with regard to crossing the Snake River. Because of its width, crossing the Snake would entail a bridge structure substantially increasing construction costs.

The recommended route, Alternative 3, starts on the east side of the Snake River, approximately 10 kilometers [6.3 miles] on the Bob Blodgett Nome-Teller Highway traversing into the Snake River valley and intersecting into the existing Glacier Creek Road near Kilometer 9 [Mile 5.6]. From this point, the existing Glacier Creek Road would be upgraded to Rock Creek. The approximate length would be 6 kilometers [3.6 miles].

A spur road connecting the new alignment with the existing Glacier Creek Road south of Glacier Creek is also proposed to access the area to eliminate the need for a new and additional crossing of Glacier Creek. This spur road would be about one-quarter mile long (approximately 400 meters). Two 3.7-meter [12-foot] culverts would replace the existing road crossing at Glacier Creek.

The topography along this alignment is flat, open terrain with sparse vegetation consisting of a combination of alpine tundra/barren ground system, with alders and willows lining the numerous drainage channels. Underlying soils are primarily undisturbed tundra consisting of fine material with a high moisture content that is interspersed with ice lenses.

The major advantage of this alternative is that it allows the desired all-season capability with minimal maintenance efforts. Another cost saving would be realized by incorporating an overlay throughout the proposed alignment and hand-clearing alders

NOME, ALASKA

GLACIER CREEK ROAD

and willows to the right-of-way limits. This in turn would reduce snow drift accumulation on the road's surface enhancing vehicle safety and minimizing maintenance costs.

A potential disadvantage with this alternative is possible differential settlement of the embankment placed over undisturbed tundra. Although eventually this type of problem generally reaches a point of equilibrium.

Right-of-way costs would be increased with this alternative. Land ownership along the proposed route is primarily native corporation lands.² This alternative's alignment would for the most part, avoid the numerous patented mining claims, except near the end of the project where the many claims cannot be avoided.

Alternative 3

Preferred Alternative

The department is recommending re-routing the road to the east of the Snake River, as described above. This alternative is preferred because it offers the best means to satisfy the purpose and need for the proposed project. It would provide users with a safe, all-season driving surface at minimum costs; and with minimal social, economic and physical environmental impacts.

²The Bering Straits Native Corporation has passed Resolution #2-4-94-2 granting a perpetual subsurface easement and restrictive covenant to the ADOT&PF to facilitate the Glacier Creek Road proposal. However, it is the village corporations who have been granted surface rights to the land.

NOME, ALASKA

GLACIER CREEK ROAD

**TABLE 1
ESTIMATED COST**

Alternative 1: No-Build	
Phase 2: Design	\$ 0
Phase 3: Right-of-Way	\$ 0
Phase 4: Construction	\$ 0
Maintenance: Summer	\$ 8,105
Maintenance: Winter	<u>\$ 0</u>
TOTAL	<u>\$ 8,105</u>
Alternative 2: Upgrade Existing Route	
Phase 2: Design	\$ 300,000
Phase 3: Right-of-Way	\$ 521,909
Phase 4: Construction	\$4,054,334
Maintenance: Summer	\$ 8,105
Maintenance: Winter	<u>\$ 390,184</u>
TOTAL	<u>\$5,265,532</u>
Alternative 3: Re-route road	
Phase 2: Design	\$ 300,000
Phase 3: Right-of-Way	\$ 159,770
Phase 4: Construction	\$2,947,854
Maintenance: Summer	\$ 4,053
Maintenance: Winter	<u>\$ 8,105</u>
TOTAL	<u>\$3,419,782</u>
Alternative 4: Re-route road	
Phase 2: Design	\$ 400,000
Phase 3: Right-of-Way	\$ 234,013
Phase 4: Construction	\$4,866,526
Maintenance: Summer	\$ 4,053
Maintenance: Winter	<u>\$ 130,061</u>
TOTAL	<u>\$5,634,053</u>

NOME, ALASKA

**REQUEST FOR FUNDING
PRELIMINARY ENGINEERING AND DESIGN
CROOKED CREEK DONLIN CREEK MINE ROAD**

PROJECT BACKGROUND

The Donlin Creek mine is a lode-gold exploration project located 15 miles north of the village of Crooked Creek (population 144). Small placer mining operations (total production 35,000 oz.) have been present in the area since 1915. In the mid-1980's, Calista geologists determined that a significant lode source could exist in the uplands above the existing placer mining operations near Snow Gulch.

In 1988 and 1989 Western Gold Mining and Exploration Ltd. (WestGold) spent \$2 million drilling and trenching the Donlin Creek deposit. Based on their fieldwork they estimated the Donlin Creek gold reserve to be over 400,000 ounces. In 1995, Placer-Dome North America (PDNA) operated a \$2 million exploration and drilling program. In 1996 and 1997 they extended \$18 million on additional drilling and exploration work at Donlin Creek, delineating a 3.6 million-ounce gold resource. Successful field results in 1998 produced an estimated 11.5 million ounces of resource which could lead to a preliminary mine feasibility determination by the end of 1999.

The level of exploration and financial investment PDNA is making at the Donlin Creek Project is a sign this area is considered a very advanced exploration property. The actual development cost for a mine facility will require an outlay of more than \$600 million dollars. The construction of an access road is just one of the costs associated with developing a producing mine. It is in the best interest of the mining industry that the State of Alaska encourages the development of remote mines.

An airstrip suitable for Hercules and DC-6 type aircraft was constructed at American Creek. Although it was expensive, Placer-Dome and Calista believed the expenditure was necessary to conduct advanced exploration. The airstrip will meet this project's needs for exploration support, but it will not be sufficient for use during actual construction and development of a mine. Long-term mine development will require access to the mine site over land. Over the next two years, it is essential to link the mine site with the Kuskokwim River via a road.

There is minimal road access to the Donlin Creek area. A pioneer road is in place from the placer mine sites at Snow Gulch and Queen Gulch. PDNA constructed an additional one and one half miles of road during 1997 from Queen Gulch to American Creek. The road provides access to the general location of the exploration camp, which was constructed in 1996. The road project and campsite represent a very high level of commitment by PDNA to undertake a viable exploration program to prove up the gold reserve in the area.

PROJECT DESCRIPTION:

Road access from the Kuskokwim River is required to move equipment, supplies and materials into the Donlin Creek area. Engineering studies to design and site a 24-mile road from Donlin Creek South, down the Crooked Creek valley, which terminates on the Kuskokwim River about 0.5 miles South of the Jungjuk Creek confluence, along with construction cost estimates, are required before actual road construction can begin.

Work which needs to be completed as soon possible includes; a) a preliminary engineering analysis, including the delineation of alternative and initial cost estimates and; b) soil borings at critical points along the proposed road alignment and at potential material sites to determine soil suitability. A field program can be completed using locally available equipment and manpower during late winter and early spring. It is estimated that the preliminary engineering and design work will cost \$500,000 for engineering services and field studies. An engineering study will identify a suitable road alignment and determine construction costs. Other work needed is an examination of available mapping and further investigation into the environmental issues so the cost estimate can be finalized.

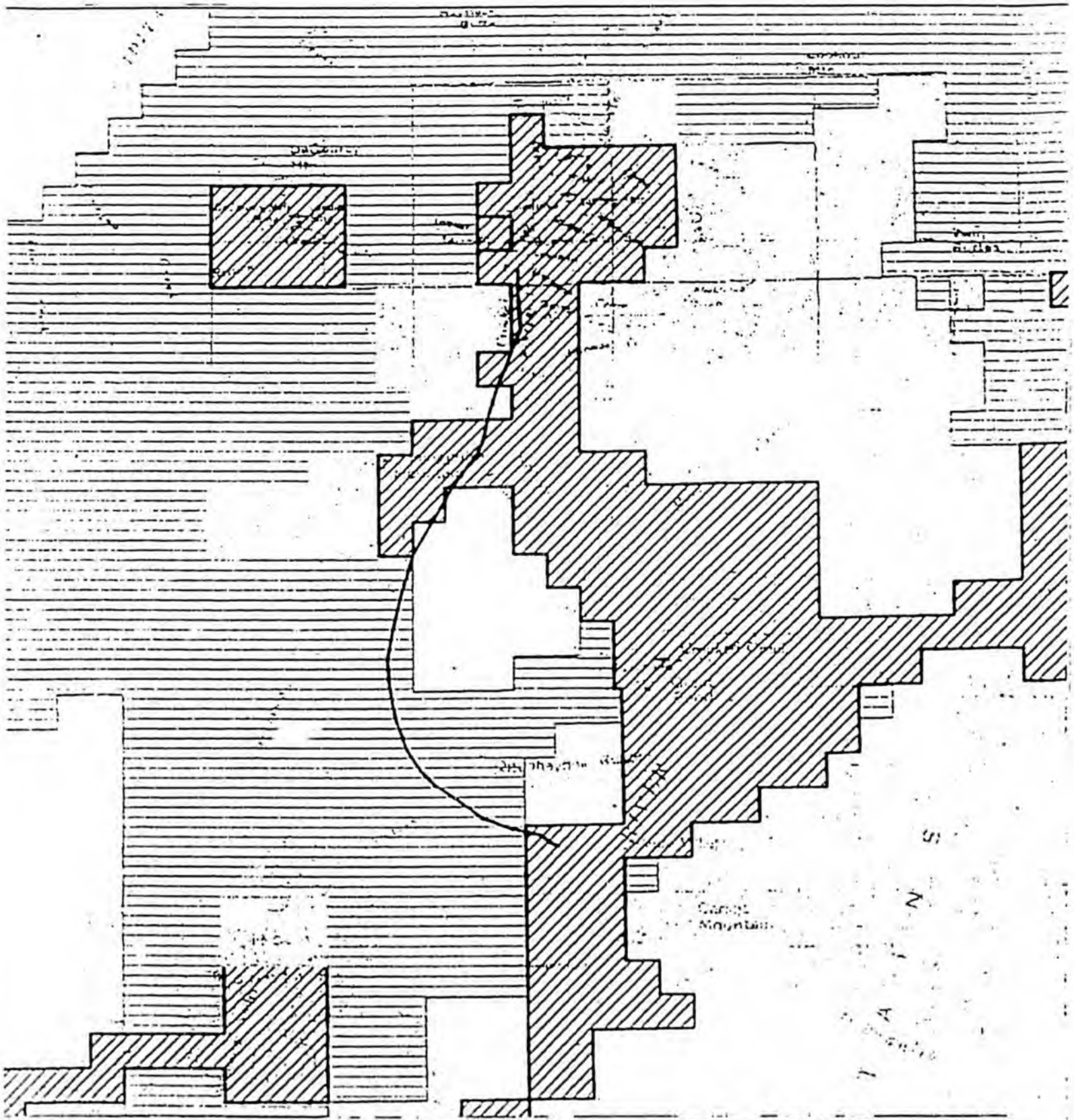
SUMMARY OF DESIGN STUDY SCOPE OF WORK BY TASK

1. Establish Land Ownership for route area
2. Control Survey GPS
3. Air Photo Mapping
4. Route Engineering
5. Geotech Field Work
6. Bridge, Drainage and Alignment Refinement
7. Environmental and Assessment
8. Cost Estimating

PROJECT JUSTIFICATION

The Kuskokwim Corporation, representing 10 villages in the upper Kuskokwim River, are in favor of this project. They will be sending in a resolution or letter of support for this project. Immediate benefits will be to employment of local residents during the construction of the road. It is estimated that during construction of the road it could employ in the neighborhood of 30-50 employees. The road will provide a critical link between the Kuskokwim River, and the mine and campsite at American Creek and Snow Gulch. Without a road, it will be difficult to move equipment and materials to the mine site for the construction and operation of a producing mine. The development of a mine in the region will provide a significant amount of employment opportunities for many years to come. Provided the exploration site does become a mine it is anticipated that 600 employees will be needed during the construction phase, and thereafter for operations an estimated 400 permanent jobs will be needed.





Unappropriated Federal Lands	7.3 Miles
State Selected	6 Miles
ANCSA Selected	1 Mile
ANCSA Conveyed	7.47 Miles
	<hr/>
	24.8 Miles (estimate)



0  5 Miles

Proposed Route: Donlin Creek to Canoe Village

Map Base: Sixteenth and Nineteenth 250000 quarter
 Projection: UTM zone 4 NAD 1927 Datum
 Canoe Land Deal 2/12/99

-  Proposed Route
-  ANCSA Land Selected
-  Interim Conveyed
-  State Selected

Calista Corporation

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Lat

March 31, 1999

The Honorable Ted Stevens
United States Senate
522 Hart Building
Washington, D.C. 20510-0201

Dear Mr. Chairman:

Per my conversations with Representative Gail Phillips, she indicated that you require certain information of the proposed road route, from Donlin Creek to Jungjuk Creek on the Kuskokwim River, namely, how much federal land does the road cross.

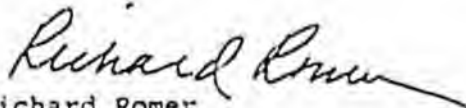
It is estimated, the proposed road map which was provided to your staff, the road crosses over the following designated lands:

- 2 miles of BLM lands
- 6.5 miles of ANCSA conveyed lands
- 1.5 miles of ANCSA selected lands
- 11 miles of State selected lands

Please be aware that the estimated total miles of the road may differ from what we originally submitted because we lack an actual road survey for the proposed route. In addition, we are producing an alternative road route, which will cross over more federal lands and could be a more preferable road design. As soon as we complete the proposed mapping we will send it to you, at least you will have an option to choose from.

If you need any further information please feel free to contact me at (907)279-5516. Thank you for your assistance and your attention in this critical matter.

Sincerely,


Richard Romer
1st Vice President

cc: Representative Gail Phillips

**REQUEST FOR FUNDING
PRELIMINARY ENGINEERING AND DESIGN
CROOKED CREEK DONLIN CREEK MINE ROAD**

PROJECT BACKGROUND

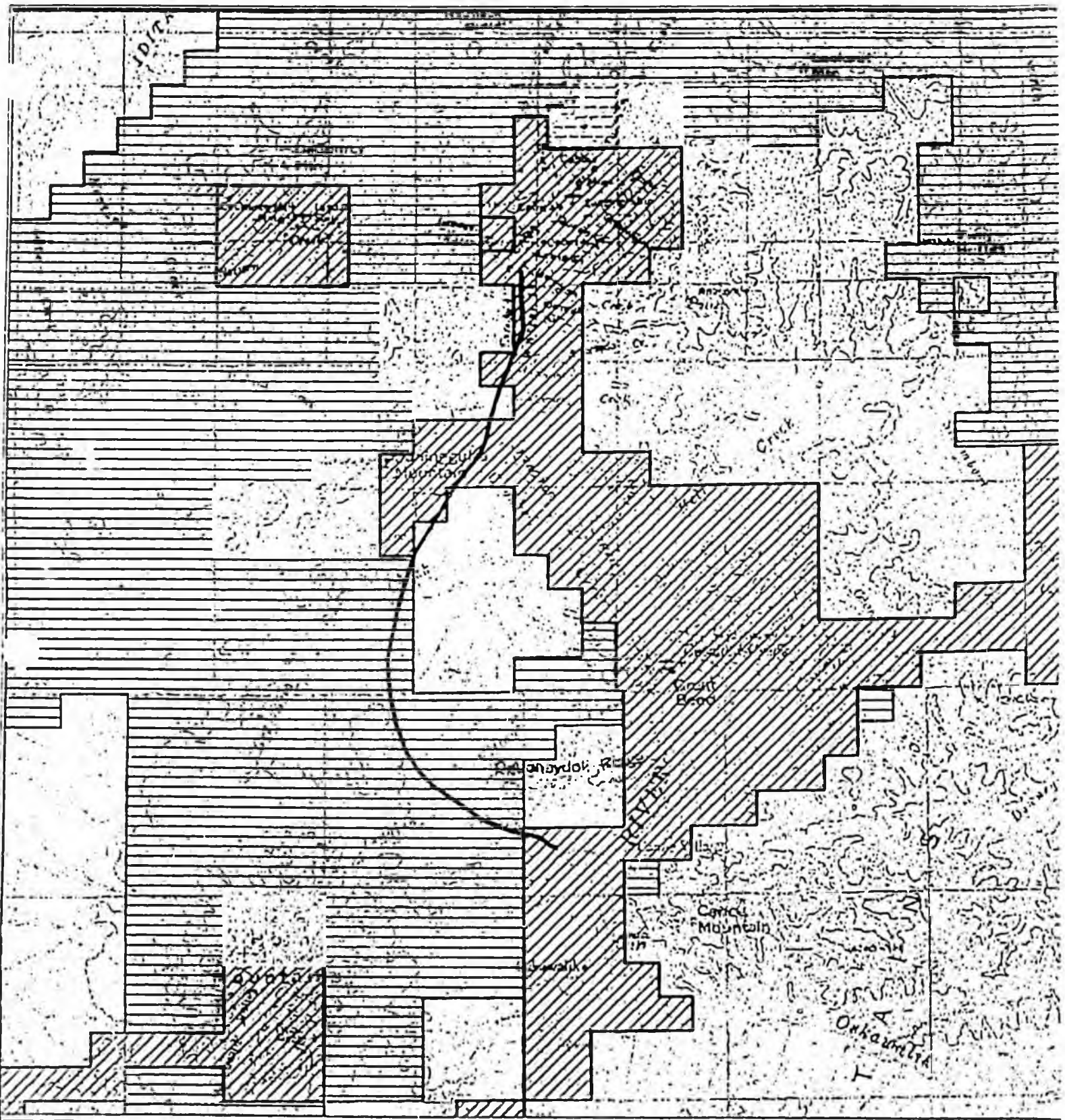
The Donlin Creek mine is a lode-gold exploration project located 15 miles north of the village of Crooked Creek (population 144). Small placer mining operations (total production 35,000 oz.) have been present in the area since 1915. In the mid-1980's, Calista geologists determined that a significant lode source could exist in the uplands above the existing placer mining operations near Snow Gulch.

In 1988 and 1989 Western Gold Mining and Exploration Ltd. (WestGold) spent \$2 million drilling and trenching the Donlin Creek deposit. Based on their fieldwork they estimated the Donlin Creek gold reserve to be over 400,000 ounces. In 1995, Placer-Dome North America (PDNA) operated a \$2 million exploration and drilling program. In 1996 and 1997 they extended \$18 million on additional drilling and exploration work at Donlin Creek, delineating a 3.6 million-ounce gold resource. Successful field results in 1998 produced an estimated 11.5 million ounces of resource which could lead to a preliminary mine feasibility determination by the end of 1999.

The level of exploration and financial investment PDNA is making at the Donlin Creek Project is a sign this area is considered a very advanced exploration property. The actual development cost for a mine facility will require an outlay of more than \$300 million dollars. The construction of an access road is just one of the costs associated with developing a producing mine. It is in the best interest of the mining industry that the State of Alaska encourages the development of remote mines.

An airstrip suitable for Hercules and DC-6 type aircraft was constructed at American Creek. Although it was expensive, Placer-Dome and Calista believed the expenditure was necessary to conduct advanced exploration. The airstrip will meet this project's needs for exploration support, but it will not be sufficient for use during actual construction and development of a mine. Long-term mine development will require access to the mine site over land. Over the next two years, it is essential to link the mine site with the Kuskokwim River via a road.





There is minimal road access to the Donlin Creek area. A pioneer road is in place from the placer mine sites at Snow Gulch and Queen Gulch. PDNA constructed an additional one and one half miles of road during 1997 from Queen Gulch to American Creek. The road provides access to the general location of the exploration camp, which was constructed in 1996. The road project and campsite represent a very high level of commitment by PDNA to undertake a viable exploration program to prove up the gold reserve in the area.



Proposed Route: Donlin Creek to Canoe Village

Map Base: Spherule and Aderod 1:250000 quad
 Projection: UTM zone 4, NAD 1983 Datum
 Cause Land Dept. 2/10/99

5 Miles

-  Proposed Route
-  ANCSA Land Selected
-  Interim Conveyed
-  State Selected



BERING STRAITS NATIVE CORPORATION

*Pat
Roads Program
for
Committee*

March 19, 1999

Representative Gail Phillips
State Capitol, Room 411
Juneau, Alaska 99801-1182

Dear Representative Phillips,

Thank you for your letter of March 9th in response to my letter suggesting a new resource road in the Nome area. I am enclosing some information for your review from our files including:

- 1) A Finding of No Significant Impact (FONSI) of the proposed road
- 2) BSNC's offer to grant an easement to the State to move the project forward
- 3) Portions of DOT/PF's Environmental Assessment of the project

The preferred alternative (#3) route would cost roughly three million to build. Summer maintenance is minimal (\$4,000). This road would eliminate the sharp switch back at Anvil Creek and provide a shorter route into a known lode gold resource at Rock Creek. Published data from Kenecott Exploration indicate that the Rock Creek deposit has a resource of ten million tons grading .075 ounces per ton or, 750,000 ounces of gold.

Please let me know if I can provide further information. I sincerely, appreciate your assistance.

Sincerely,

Thomas S. Sparks
Land & Resource Manager BSNC

map → over →



BERING STRAITS NATIVE CORPORATION

BERING STRAITS NATIVE CORPORATION RESOLUTION 2-4-94-2

A resolution of the Bering Straits Native Corporation granting a perpetual subsurface easement and restrictive covenant to the Department of Transportation and Public Facilities.

RECITALS

WHEREAS, approximately eight million dollars of private exploration funds have been spent during the period between 1987 to present to assess the potential economic mineral reserves at Rock Creek and surrounding lands; and

WHEREAS, the State of Alaska, residents of the community of Nome and residents throughout northwestern Alaska will benefit from such a road through increased employment opportunities, severance taxes, and increased economic development within the private sector; and

WHEREAS, the existing Glacier Creek Road has numerous switch backs and steep grades, which pose a threat to public safety and do not adequately provide access for exploration and development of known and inferred economic mineral reserves; and

WHEREAS, a new resource development road will provide for greater public safety, increased access for exploration and development, and decrease winter maintenance cost; and

WHEREAS, the new resource development road connecting the Bob Blodgett Nome Teller Highway to Glacier Creek Road has been identified as a Priority #3 in the Department of Transportation and Public Facilities October 1993 Draft List of Priorities; and

WHEREAS, it will be at least six to ten years before any Priority No. 3's will be under construction; and

WHEREAS, this road will be ready for construction in 1994; and

WHEREAS, mineral development is imminent and is pending completion of construction of this road; and

WHEREAS, it has been understood by BSNC, the City of Nome, Representative Richard Foster and Senator Al Adams that this project would remain a top priority of the DOT & PF; and



REPRESENTATIVE FRED DYSON

MEMORANDUM

04-05-99P01:55 CFMD

May 4, 1999

Alaska State Legislature

To: Gail Phillips

From: Fred Dyson *FD*

RE: Roads for Development

locally known as the "Williams port" road

Interim (May-Dec) -
1005 Eagle River Rd., Suite 140
Eagle River, Alaska 99577
☎ (907) 694-6683
☎ (907) 694-1015

Session (Jan-May) -
Alaska State Capitol
Juneau, Alaska 99801-1182
☎ (907) 465-2199
☎ (907) 465-4537

Toll free (800) 342-2199

I would like to nominate the existing road from Iliamna Bay, Cook Inlet to Pile Bay, Lake Iliamna for development. This is an old road about 15 miles long. DOT has estimated some \$15 million for rebuilding it to a really useful road.

The road goes from the NE corner of Lake Iliamna across a small river across the low mountain pass and down to tidewater at the head of Iliamna Bay on Cook Inlet. The existing bridge is too narrow for most traffic and may have weight limit problems. The road at the pass is now very narrow.

A rebuilding of this road and the same sort of docks or ramps at the waterfront will open the Lake Iliamna country to:

- (1) Easier and cheaper logistics (supply) for area residents and business. Now freight must go across the North Pacific, through False Pass, east through Bristol Bay and up the Kuichak River to Lake Iliamna. The transverse of the Kuichak Flats is difficult at all times and impassable at low river periods.
- (2) Access for the entire population riming Cook Inlet (CI) to immense and magnificent recreation opportunities. CI residents could take their watercraft from Homer (or other parts) to Iliamna Bay or Cook Inlet and then have access to all of Lake Iliamna. I anticipate that support services will develop to provide: barge service, trucking/trailing services, and watercraft rentals to meet customer needs.
- (3) Tourist opportunities, the Lake Country has world class fishing, beauty, bird-watching, rock-hounding and good hunting.
- (4) Ultimately there are some excellent mineral deposits in the area that will be economic someday. This haul road will be an asset to that development.

The only foreseeable downside to the road improvement is the significant impact on existing non-commercial residents. When I have discussed this issue with local residents, native corporations, and local legislators, there is consistent ambivalence. The existing local people will be impacted. The question is, should we improve access for thousands?

E-mail -
representative_fred_dyson@legis.state.ak.us

Internet -
http://www.akrepublicans.org



KENAI PENINSULA BOROUGH

144 N. BINKLEY SOLDOTNA, ALASKA 99669-7599
BUSINESS (907) 262-4441 FAX (907) 262-1892

DALE BAGLEY
MAYOR

December 29, 1999

The Honorable Tony Knowles
Alaska State Governor
Post Office Box 110001
Juneau, Alaska 99811-0001

Re: Kenai Peninsula Borough Resolution 99-088
Williamsport - Pile Bay Road Upgrade

Dear Governor Knowles:

Following discussion with the numerous parties that would benefit from an upgrade of the Williamsport - Pile Bay Road, the Kenai Peninsula Borough Assembly adopted Resolution 99 - 088 on December 14, 1999.

The enclosed copy is being forwarded to you and cross-copied to those listed below. The Kenai Peninsula Borough Assembly considered the upgrade of this road of such importance to the borough that it is included in the list of capital improvements priorities.

Your efforts to support this project will be appreciated by all concerned.

Sincerely yours

Dale L. Bagley
Kenai Peninsula Borough Mayor

cc: Mayor Glen Alsworth, Sr., Lake and Peninsula Borough
Manager Ron Drathman, City of Homer
Senator John Torgerson, Kenai Peninsula Borough Legislative Delegation
Senator Gary Davis, Kenai Peninsula Borough Legislative Delegation
Representative Jerry Ward, Kenai Peninsula Borough Legislative Delegation
Representative Hal Smalley, Kenai Peninsula Borough Legislative Delegation
Representative Gail Phillips, Kenai Peninsula Borough Legislative Delegation
Representative Carl Moses, Lake and Peninsula Legislative Delegation
Senator Lyman Hoffman, Lake and Peninsula Legislative Delegation
Commissioner Joseph L. Perkins, Department of Transportation

Introduced by Mayor
Date: 12/14/99
Action: Adopted
Vote: 7 Yes, 0 No, 2 Absent

**KENAI PENINSULA BOROUGH
RESOLUTION 99-088**

**A RESOLUTION IN SUPPORT OF THE WILLIAMSPORT-PILE BAY ROAD
UPGRADE PROJECT**

- WHEREAS, there is a demonstrated need to improve the transportation system linking Cook Inlet with Iliamna Lake; and
- WHEREAS, the Williamsport-Pile Bay Road acts as a gateway from Cook Inlet to Lake Iliamna and Lake Clark National Park, and
- WHEREAS, the Williamsport-Pile Bay Road upgrade will provide economic opportunities for increased boat hauling traffic, freight transportation and tourism into the region; and
- WHEREAS, the Kenai Peninsula Borough adopted Resolution 93-103 agreeing to act as local sponsor for a Corps of Engineers reconnaissance study in 1993; and
- WHEREAS, the Corps of Engineers completed a feasibility study in 1995 that found the project to be economically feasible and environmentally acceptable; and
- WHEREAS, the Williamsport-Pile Bay Road is a priority on the Kenai Peninsula Borough Capital Improvement list adopted in Resolution 99-010; and
- WHEREAS, elected representatives and officials of the Lake and Peninsula Borough, the Kenai Peninsula Borough, and the City of Homer held a joint meeting on November, 6, 1999, to discuss the Williamsport-Pile Bay Road upgrade; and
- WHEREAS, the Kenai Peninsula Borough will economically benefit from the increased use of the Williamsport-Pile Bay Road.

NOW, THEREFORE, BE IT RESOLVED BY THE ASSEMBLY OF THE KENAI PENINSULA BOROUGH:

SECTION 1. The Kenai Peninsula Borough strongly supports the Williamsport-Pile Bay Road upgrade project and supports the efforts of the Lake and Peninsula Borough to get the Williamsport-Pile Bay Road upgraded.



Lake and Peninsula Borough

P.O. Box 495
King Salmon, Alaska 99613

Telephone: (907) 246-3421

Fax: (907) 246-6602



January 14, 2000

Mayor Dale L. Bagley
Kenai Peninsula Borough
144 N. Binkley
Soldotna, AK 99669-7599

SUBJ: Williamsport-Pile Bay Road / KPB Resolution 99-088

Dear Mayor Bagley:

The Lake and Peninsula Borough would like to express its appreciation to you and the Kenai Peninsula Borough Assembly for adopting Resolution 99-088: A Resolution In Support Of The Williamsport-Pile Bay Road Upgrade Project. We also appreciate your letter of support to Governor Knowles and your efforts to make this support known to legislators and other interested parties. Strong support for this project from the Kenai Peninsula Borough will definitely help us raise the profile of this project.

We would also like to thank you and the Borough Assembly for the hospitality you provided us back in November when we had our joint meeting in Soldotna. We really appreciated the warm reception we received. We believe the meeting was very productive and came away from it feeling that a mutually beneficial partnership was possible. It has been our intent to write a follow-up letter to that meeting and your recent letter and attached resolution reminded us that it was time to do so.

We believe that now is a good time to begin discussing where we should go next and how we can further develop our partnership. Following are several ideas on ways the Kenai Peninsula Borough could help us achieve our immediate objectives on this project so that we can keep making progress:

- Matching Money for EDA Grant: You will recall that we are applying for a \$250,000 grant from the Economic Development Administration to replace or repair three and possibly four bridges on the road. The Lake and Peninsula Borough Assembly has pledged \$50,000 as a local match to leverage this grant. DOT/PF will also be making a significant contribution. A local match contribution from the KPB would be very helpful because it would enable us to leverage more money and plan for additional

upgrades. This could include replacement of the Iliamna River bridge. This is the bridge whose size is placing limits upon the number of fishing boats that can be transported across the road. A contribution from the KPB also seems appropriate because two of the four bridges we are proposing to repair or replace are in the KPB.

- Memorandum of Understanding on Maintenance: As you know, one of the reasons that this project does not appear in DOT/PF's STIP is the fact that neither borough has agreed to accept responsibility for routine maintenance. It is our understanding that routine maintenance would cost approximately \$50,000 to \$60,000 per year maximum provided that major repairs were made first and we assume that the road will only be open in the late spring, summer, and fall. In other words, taking over routine maintenance responsibility might cost each borough between \$20,000 to \$30,000 per year. There are many other details to work out of course, but doing this would be a very significant step forward.
- Local Match for Military Operation: You may remember that we have asked the military to make improvements on the road as part of a training exercise under the IRT program. They have expressed some initial interest in this project and if they got involved, would probably do so in the summer of 2001. They will require local participation and this could include cash, logistical support, planning and permitting support, housing and supplies for the troops, etc.
- Technical and Planning Assistance: We could use assistance and support from your planning department. For example, Commissioner Perkins has made it known that he does not believe there should be a large State commitment to this project until it can be demonstrated that the public will have equal and unrestricted access to the dock and port facilities at either end. Therefore, we need to research existing land ownership at either end and identify suitable public lands (if any) that would be available for these facilities. If necessary, we need to identify willing sellers of private land and put together a package for the acquisition of those lands.
- Local Sponsorship / Corps of Engineers Project: Our borough's most immediate objective is to improve this road so that it is possible to transport more freight including fuel, construction material and equipment, and other goods and services. This will lower the cost of living and stimulate economic development in the Lake Iliamna and upper Bristol Bay region. It is also likely that our communities will begin purchasing more goods and services from the Kenai Peninsula rather than Seattle or other commercial centers. Eventually, we may shift our focus to improving the dock and port facilities at either end of the road. This will of course mean dredging and new dock construction at Williamsport. A 20% local cash match is usually required for Corps of Engineers Projects of this type. This is potentially a large financial commitment that we all should be aware of and planning for.

We believe it would be prudent to establish a meeting schedule and get together on a regular basis to discuss these issues. The MOU on maintenance, local match for the EDA grant, and research on land ownership are our most immediate concerns.

Thanks to you and the Assembly for your time and consideration. Please do not hesitate to contact either myself or Walt Wrede, the Borough Manager, if you want to schedule a meeting. We are available to meet with you in Soldotna and want you to know that you,

your staff, and the Assembly are welcome to visit us in King Salmon or in one of the Lake Iliamna communities that would be most affected by this project. We hope to hear from you soon.

Sincerely,

A handwritten signature in dark ink, appearing to read "Glen Alsworth Sr.", with a stylized flourish at the end.

Glen Alsworth Sr.
Mayor

c.

Governor Tony Knowles
Commissioner Joseph Perkins
Senator Lyman Hoffman
Representative Carl Moses
Senator John Torgerson
Senator Gary Davis
Representative Jerry Ward
Representative Hal Smalley
Representative Gail Phillips

**SOUTHWEST ALASKA
TRANSPORTATION PLAN**

**FREIGHT MOVEMENT
ISSUES AND IMPACTS**

TECHNICAL MEMORANDUM

DRAFT

prepared for the

Alaska Department of Transportation and Public Facilities

prepared by

Parsons Brinckerhoff

December 1999



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INTRODUCTION

This report explores the probably freight movement impacts of selected alternatives developed as part of the Southwest Alaska Transportation Plan. The analyses presented herein focus on the proposed Trans-Peninsula Roadway, which would create a new overland route from Williamsport, which lies on the western shore of Cook Inlet, down the Alaska Peninsula, terminating at Ivanof Bay. Between these beginning and endpoints, the road would also link the following communities:¹

- Pile Bay
- Pedro Bay
- Iliamna
- Nondalton
- Igiugig
- Naknek
- Egegik
- Pilot Point
- Ugashik
- Port Heiden
- Chignik Lagoon
- Chignik Lake
- Chignik
- Perryville

Ferry service linking the Kenai Peninsula with the Alaska Peninsula at Williamsport is proposed in conjunction with these roadway segments. Of the many transportation concepts explored and developed as part of the Southwest Alaska Transportation Plan, it is the proposed roadway links and Kenai to Alaska Peninsula ferry service, which taken together constitute a regional surface network, that have the most potential to impact freight movement—as reflected in changes or shifts in mode split, intermodal transfer nodes, and shipping costs. For this reason, the probable freight impacts of the Trans-Peninsula Roadway System merit special attention. The freight movement impacts of two scenarios within this alternative are explored: (1) those impacts associated with implementation of the Trans-Peninsula Roadway System in its entirety; and (2) those impacts resulting from implementation of a select portion of the alternative, namely, the proposed roadway and improvements between Williamsport and Pile Bay, along with navigational improvements at Williamsport.

Rehabilitation of the existing Williamsport to Pile Bay Road has important freight movement implications in its own right, whether or not any other links are built. The existing Williamsport to Pile Bay road is a 15.5-mile gravel road with one drained, earthen lane and no shoulder. Historically, the road has been used to transport fishing vessels of the Bristol Bay gillnet fleet between Cook Inlet and Bristol Bay, which allows a safer, faster route than sailing around the Alaska Peninsula. However, the road and its bridges are in extremely poor repair. Portions of the road do not meet minimum width standards and are too narrow for current use. All of the bridges have sufficiency ratings below 50, and one has washed out and been dismantled. The major limitation restricting boat-haul traffic is the existing metal bridge across the Iliamna River, whose interior dimension of 12 feet is too narrow for the typical gillnet boat. The project contemplated as part of this regional transportation plan would reconstruct and widen the existing road in accord with national design standards.² Also included as part of this project

¹ Levelock could be added to this list, depending on which of two options were selected.

² The project would rebuild the existing road to meet standards set forth for a rural major collector with an ADT of less than 250 vehicles per day, as specified by the American Association of State Highway and Transportation Officials (AASHTO).

element would be navigational improvements at Williamsport, including dredging the approach channel, as recommended by the US Army Corps of Engineers in its 1995 study.

If this project were implemented, then it would become feasible (technically) to barge goods to Williamsport, truck them to Pile Bay, and then barge them to communities lying along the shores of Iliamna Lake. Goods could be moved down the Kvichak River to Bristol Bay between early August and late October, when the river is ice-free and when its water level is high enough to support navigation. The lake itself is navigable for six months a year, between May and October. As such, a marine shipper would need to dedicate a barge to serve Iliamna Lake communities during the six months the lake is navigable.³

Three challenging tasks had to be accomplished in order to quantitatively estimate the impacts of the roadway links proposed as part of the Southwest Alaska Transportation Plan: (1) documentation of existing freight movement patterns in the region—by mode, volume, direction, and commodity type; (2) development of freight demand forecasts by community and basic commodity type for the 2020 design year; and (3) development of a methodology with which to compare aggregate freight movement costs under both existing conditions and under the proposed infrastructure improvements. Each of these tasks was made difficult by the paucity of detailed and complete data on commodity flows by type, volume, seasonal split, shipping cost, or mode.

Moreover, to the author's knowledge, to date, no systematic study of freight movement in Southwest Alaska has ever been undertaken.⁴ While this report constitutes an effort to develop a stronger, more empirically based understanding of the region's freight patterns and needs, the scope of the planning effort precluded the level of additional primary data collection that would be necessary to develop a suitably accurate, detailed understanding of how freight moves into, out of, and around the region.

Because of the many gaps in the data, and other data issues, such as comparability, the discussion and findings reported herein have had to be built on the basis of numerous assumptions. Although these assumptions are based on the best information currently available (absent a major new data collection effort), there is no denying that changing one or more assumptions could change the outcome significantly. In this case the ultimate outcome of the report is an estimate of total freight movement cost savings achievable by building a road from Williamsport to Ivanof Bay. In sum, the findings reported herein should be taken for what they are—a conceptual, planning-level estimate of costs and benefits. Even where data are available, problems exist in terms of their comparability. For example,

- While the US Army Corps of Engineers (COE) Waterborne Commerce Statistics Department collects data on marine shipments to and from Chignik, the Federal Aviation Administration (FAA) does not collect data on airborne cargo for this community. In fact, "complete" data sets, that is, COE, FAA, and AMHS, are only available for a handful of communities.

³ Another reason to explore the freight movement impacts of this project as a stand-alone element has to do with the fact that of all the roadway links contemplated this one faces fewer environmental and political obstacles than do the others. The Williamsport to Pile Bay segment may face fewer implementation obstacles because a roadway—albeit in poor repair and primitive—already exists. The project proposed as part of this transportation plan would renovate this road, paving it, widening it, and bringing it up to national standards. As such, the political and environmental issues surrounding most roadway projects in Alaska would not be as formidable as building a new stretch of infrastructure through undeveloped wilderness.

⁴ To the author's knowledge this report reflects the first instance in which available primary data sources for different modes have been assembled in a single document for what comparative analyses they can support.

- While the COE data on marine shipments specify both origin and destination, the FAA reports only "freight enplaned."
- While the COE reports the basic type of commodity shipped by sea, no specification of any kind of airborne cargo is available in FAA data, nor in the AMHS data.
- None of the available sources provide any indication of the value of goods shipped.

Insofar as these fairly disparate data sources had to be combined in order to develop a single, multimodal picture of overall volumes moved, mode split, and other measures, the level of specificity was determined by the "lowest common denominator." From the data it was possible to determine how much freight, in aggregate, is handled in Southwest Alaska; mode split by volume, and gross breakdowns of commodity type. Additional manipulations were used to develop a sense of freight movement in the many smaller communities for which no data at all are available. These analyses are discussed in Part 3.

Because understanding the nature, sources, and limitations of the data upon which the report is based is so important to interpretation of the results, the report begins with a discussion of the data sources themselves.

NOTES ON THE FREIGHT MOVEMENT DATA

Three major source types were used to gain an understanding of freight movement in Southwest Alaska: (1) published primary sources; (2) unpublished primary sources, namely, in-person and telephone interviews with representatives of shipping companies operating in Alaska; and (3) published secondary sources.

Primary Sources

Published sources. Compilation by mode of the "raw" data needed to establish existing freight movement patterns in the region had already been carried out in an earlier deliverable for this planning effort, "Southwest Alaska Existing Conditions Technical Memorandum," April 1998. This document reported statistics gathered by the Federal Aviation Administration, the US Army Corps of Engineers Waterborne Commerce Statistics Division, and the Alaska Marine Highway System.⁵ The nature and type of data provided by each of these sources are summarized in Table 1. These data are at the core of the freight demand forecasting process, and in turn, for the analysis of freight movement impacts attributable to the proposed alternatives, with particular emphasis on the Trans-Peninsula Roadway System.

⁵ AMHS provided the consultant team with access to its computerized database, which includes information on the volume of freight vans carried, by sailing, origin, and destination.

**Table 1.
Primary Sources of Freight Movement Data
for Southwest Alaska**

Freight Mode	Primary Sources	Type of Data	SW Communities for which data are available	
Air Freight ⁶	Federal Aviation Administration: 1. Airport Activity Statistics of Certificated Route Air Carriers 2. Commuter Air Carrier Activity	<ul style="list-style-type: none"> Tons of enplaned mail and cargo from 1987-95 for certificated route air carrier; from 1988 to 1996 for small certificated and commuter air Enplaned tons are tons put on the airplane at the given location carriers 	Cold Bay	Port Heiden
			Dillingham	St. George
			Iliamna	St. Paul
			King Cove	Sand Point
			King Salmon	Togiak
			Kodiak	Unalaska
AMHS Freight ⁷	AMHS Database	<ul style="list-style-type: none"> Van volumes by number and van length Origin and destination for all ports served by AMHS 	Chignik	Kodiak
			Cold Bay	Port Lions
			False Pass	Sand Point
			King Cove	Unalaska
Private Marine Freight	US Army Corps of Engineers, Waterborne Commerce Statistics Center	<ul style="list-style-type: none"> Incoming and outgoing tonnage by freight category: <ul style="list-style-type: none"> Petroleum and petroleum products Durable goods Fish and fisheries products All other commodities 1986 to 1994 	Chignik	Naknek
			Cold Bay	Old Harbor
			Dillingham	Port Heiden
			Egegik	Port Lions
			False Pass	St. George
			Iliamna	St. Paul
			King Cove	Sand Point
			King Salmon	Togiak
			Kodiak	Unalaska

⁶ Data on cargo and mail shipped via air are available from the Federal Aviation Administration /Bureau of Transportation Statistics (BTS) from two sources: 1) *Airport Activity Statistics of Certified Route Air Carriers* and 2) *Commuter Air Carrier Activity*. These data provided the tons of enplaned mail and cargo from 1987 to 1995 for certified route air carrier, and from 1988 to 1996 for small certified and commuter air carrier freight. For this analysis, data from more recent years was used, that is, 1990 to 1995 for certified route air carrier and 1990 to 1996 for small certified and commuter air carrier. The data (for both cargo and mail) from these data sets were summed for each year to develop an annual average for each airport. The data are collected as enplaned tons; i.e., cargo put on the airplane at the given location.

⁷ Data on freight movement via AMHS were available from the AMHS Database, which provides van volumes, including each van's length in feet, by origin and destination. Van volumes were converted to a tonnage unit based on length. To convert feet to tons, each foot was multiplied by 650 for total pounds, then divided by 2000. The authors acknowledge that this equivalent is imprecise, since vans' weights are not measured or recorded. Nonetheless, the 650-pound figure is a conservative estimate the reference for which is *TRB Special Report 223, "Providing Access for Large Trucks,"* 1989, p.177. Data were available for each year from 1988 to 1997. For this analysis, data was averaged for the more recent years of 1992 to 1996, because the data set for 1997 appeared incomplete.

**Table 2.
Freight Movement Summary
for Southwest Alaska**

Community	FREIGHT MOVEMENT MODE				Total Tonnage	
	Air	AMHS Vans		Private Marine		
	Combined Air (tons of cargo & mail enplaned)	Origin	Destination	Total Average (incoming tons)	Total Average (outgoing tons)	Total Reported
Akutan				8,300	11,200	19,500
Chignik		11	2	9,800	1,500	11,313
Cold Bay	782	8	29	3,100	900	4,819
Dillingham	4,372			10,900	7,300	22,572
Egegik				400	1,100	1,500
False Pass		4	0	300	100	404
Iliamna	1,255			0	0	1,255
King Cove	44	0	0	7,100	4,500	11,644
King Salmon/Naknek	5,413			19,800	23,600	48,823
Kodiak & Surrounding	3,516	770	845	252,900	304,800	562,831
Old Harbor				600	700	1,300
Port Heiden	119					119
St. George	59					59
St. Paul	181					181
Sand Point	185	2	6	9,100	100	9,393
Togiak	118					118
Unalaska	1,272	15	11	312,700	436,100	750,098
Total	17,326	810	893	635,000	791,900	1,445,929

Interviews. Another key source of primary data were in-person and telephone interviews conducted with representatives of Alaska Airlines, PenAir, ERA Aviation, Everts Air Fuel, Samson Tug and Barge, Crowley Marine Services, Bush Consolidators, Northland Transportation, Coastal Marine Transportation, Coastal Freight and Salvage, Iliamna Transportation Company, Harkness Enterprises, Sea-Land, Airland, and Carlile Transportation. These interviews elicited the carriers' views as to the probable pricing and service level effects of the alternatives proposed in this planning effort. These representatives also served as a "sounding board" in terms of the reasonableness of the methodology established to assess the freight movement impacts of the proposed alternatives.

In addition to the shippers and consolidators, a useful resource was found in Dennis Niedermeyer, at the suggestion of Southwest Alaska Advisory Committee member, Sheila Bergey. Niedermeyer, who is employed by the Lake and Peninsula School District, manages the district's capital projects. The projects are scattered throughout the Borough (whose boundaries, incidentally, incorporate almost all of the communities that would be linked by the Trans-Peninsula Roadway System). His work puts him in a unique position in terms of experiencing firsthand the difficulties and high costs associated with getting a wide range of goods, including building materials, heavy machinery, and petroleum products, to construction sites. His firsthand knowledge provides insight into the cost of moving goods to and within the region by type, mode, community, direction, and season.

In fact, Niedermeyer was in several respects a better source than the shippers themselves. First, he, unlike them, was able to provide candid, realistic rate estimates. The shipping companies contacted were, virtually without exception, circumspect about revealing rates for contract shipments. They attribute their reticence to two primary factors: (1) that revealing their rates would give their competition useful intelligence which would then be used to compete against them; and, (2) that revealing rates in a public document could open shippers up to charges of price gouging and other undesirable public scrutiny. The shippers did provide broad rate ranges, but anonymously. To the extent that shippers were used to estimate rates, under existing conditions, and under the hypothetical situation involving the proposed roadway system, multiple shippers were contacted and rate quotes were generally averaged to strive for as much validity in those rate quotes as feasible. Another reason that Niedermeyer's input was helpful is that shippers appeared to be familiar with only their mode and market niche, whereas Niedermeyer was able to provide a more accurate overview of freight shipment across commodity types and modes.

Secondary Sources

As noted, available primary sources in Southwest Alaska are limited in their ability to illuminate the full extent of regional freight movement. Therefore, a literature review was conducted to ferret out bits and pieces of freight movement information—particularly for smaller communities, on which subject the primary sources are completely silent. What we had hoped to find at this point was a clearer indication of how freight moves on to the smaller communities after having reached the marine and aviation hubs for which primary data are collected. Ultimately, this effort simply revealed how little freight movement in the Southwest has been studied. As such, the information uncovered in this literature review was of limited value in painting with even broad brushstrokes a picture of regional freight movement. In any case, listed in Table 3 are the secondary sources referenced in this effort to “fill in the blanks.”

**Table 3.
Secondary Sources of Freight Movement Data for Southwest Alaska**

<ol style="list-style-type: none"> 1. Alaska Department of Transportation and Public Facilities, <i>Alaska Intermodal Transportation Plan, Appendices A-C</i>, October 1994. 2. Alaska Department of Transportation and Public Facilities, Division of Planning Central Region, <i>Nondalton-Newhalen/Iliamna Pioneer Road Economic Feasibility Study</i>, March 1986. 3. Alaska Marine Highway System Department of Transportation and Public Facilities, <i>Alaska Marine Highway System Master Plan</i>, July 1991. 4. Community Planning, <i>Draft Secondary and Cumulative Impacts Study of the Proposed Iliamna-Nondalton Road Reconstruction</i>. Alaska Department of Transportation and Public Facilities, September 1996. 5. Department of Community and Regional Affairs, <i>Community Information Summaries</i>, downloaded from website www.comreqaf.state.ak.us, June 1997. 6. Fried, Neal and Windisch-Cole, Brigitta, "A Trends Profile- The Bristol Bay Region" <i>Alaska Economic Trends</i>, July 1997. 7. HDR Alaska Inc., <i>Draft Assessment of Transportation Need, King Cove-Cold Bay Transportation Improvement Assessment</i>. Alaska Department of Transportation and Public Facilities, December 1997. 8. Kodiak Chamber of Commerce, <i>Kodiak Community Profile and Economic Indicators</i>, 1997. 9. Lake and Peninsula Borough, <i>Lake and Peninsula Borough FY'95 Transportation Improvement Program Priorities</i>. Prepared for the Alaska Department of Transportation and Public Facilities, October 1993. 	<ol style="list-style-type: none"> 10. Parsons Brinckerhoff, HDR Alaska, the Glostien Associates, Northern Economics, and Ogden Beeman Associates, <i>Southwest Alaska Transportation Plan- Existing Conditions Technical Memorandum</i>. Alaska Department of Transportation and Public Facilities, April 1998. 11. TRA-BV Airport Consulting, <i>Alaska Aviation System Plan Update Appendices</i>. Prepared for Alaska Department of Transportation and Public Facilities, March 1996. 12. TRA-BV Airport Consulting, <i>Alaska Aviation System Plan Update Executive Summary</i>. Prepared for Alaska Department of Transportation and Public Facilities, March 1996. 13. Tryck, Nyman, Hayes, Inc., <i>Reconnaissance of Navigation Improvements, Western and Arctic Coasts of Alaska, Task 1, 2, & 3</i>. Prepared for Alaska District Corps of Engineers, August 1997. 14. <i>Economic Impacts of the Copper River Highway</i>. Prepared for the State of Alaska Department of Transportation and Public Facilities, by the Institute of Social and Economic Research. University of Alaska, Anchorage, June 1993. 15. <i>Navigation Channel Feasibility Report and Environmental Assessment, Williamsport</i>; US Army Corps of Engineers, Alaska District, December 1995. 16. Parsons Brinckerhoff, Northern Economics, and the Glostien Associates, <i>Southwest Alaska Transportation Plan- Travel Demand Estimates Technical Memorandum</i>. Alaska Department of Transportation and Public Facilities, September 1998.
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PART 1. OVERVIEW OF FREIGHT MOVEMENT IN SOUTHWEST ALASKA

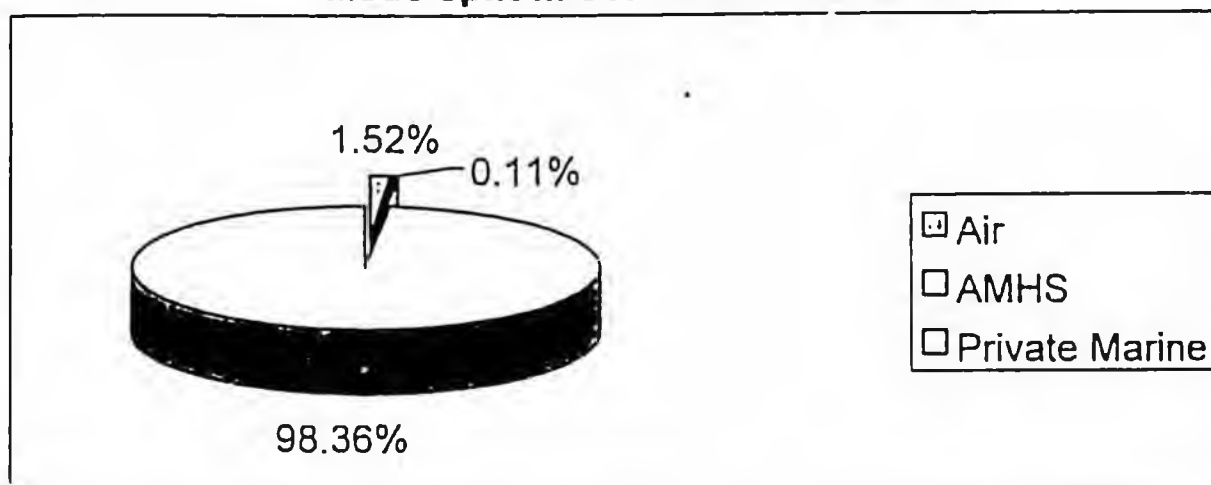
Because manufacturing in the region, outside of fish processing, is extremely limited, virtually everything Southwest Alaskans consume, apart from the subsistence resources they harvest, must be shipped in—by air or by sea. Imports include building materials, machinery, fishing support supplies, groceries, and consumer durables.

The vast majority of imports to the region originate not in Anchorage, but in the Puget Sound ports of Seattle and Tacoma. This is due to the fact that (1) Anchorage is a relatively minor manufacturer; and (2) Anchorage has few warehousing facilities, which limits its ability to serve as a transshipment point (Terry Hart, Sea-Land, Alaska Northbound Marketing Director, personal communications, September 23, 1999). In fact, Alaska ranks among the Port of Tacoma's biggest customers.⁸ Unalaska, in addition to its role as a major fishing and fish-processing source, serves as a key international transshipment site—for Asia-bound goods and ship traffic.

MODE SPLIT

By volume, the vast majority of goods to and from Southwest Alaska are shipped by sea, via private carriers, which include both ships (container and Ro-Ro) and barges. Marine shipping accounts for over 98% of the volume of goods shipped through Southwest Alaska.⁹ AMHS freight haul makes up a miniscule percentage (less than 1%) of the region's total freight movement (Figure 1).

Figure 1.
Combined Freight Movement
Mode Split in Southwest Alaska



⁸ Both SeaLand and TOTE, the largest Alaskan shippers, operate out of the Port of Tacoma.

⁹ Data on private freight marine was available from the US Army Corps of Engineers, Waterborne Commerce Statistics Center. This data included both incoming and outgoing tons for 1986 to 1994 for 4 major categories: 1) petroleum and petroleum products, 2) durable goods, 3) fish and fisheries products, and 4) all other commodities. In analyzing the data it was important to note that in 1990 the Waterborne Commerce Statistics Center changed its data collection methods and started to record data in short tons, so an entry after 1990 of '0' indicates less than 500 short tons were reported. Annual data was averaged for Petroleum, Petroleum Products, Durable Goods, Fish, Fisheries Products, and All Other Commodities for 1986 to 1995.

Marine shipping in Southwest Alaska is challenging because of the region's harsh weather, small populations, and relatively undeveloped ports. Winter ice typically prevents any navigation to Bethel and other Bristol Bay ports as well as the northwest coast of the Alaska Peninsula. Small villages must often be served by lightering cargo from barges or small ships to landing craft or small boats. In the Bristol Bay region it is common for barges to be grounded at low tide and to spend a tide cycle on the beach discharging cargo. Barge-mounted cranes are typically used.

There are three primary components to marine shipping in Southwest Alaska:

- (1) The large international shipping fleet represented by Sea-Land Services and American President Lines, both of which call at Unalaska on a weekly basis and transport frozen seafood products to the Far East. Sea-Land serves Kodiak and Dutch Harbor with freight from Seattle; APL only picks up export products for the Far East.
- (2) The specialty ship fleet of Coastal Transportation and Western Pioneer Shipping. Both maintain fleets of small refrigerator ships. They are configured to carry frozen seafood south and general cargo and seafood processing supplies north. Coastal has a fleet of seven ships and Western Pioneer has a fleet of ten. Western also operates a fleet of bulk petroleum barges that distributes refined products from the Alaska Peninsula to Southwest Alaska and other points in Western Alaska.
- (3) The barge operators that operate seasonal common carrier and contract services to Southwest Alaska. The principal barge operators are Northland Services and Samson Tug and Barge. These operators carry the majority of bulky freight to and from the towns and villages of Southwest Alaska. Container and individual items, such as buildings, vehicles, boats, construction equipment, and bulk materials can be transported on the flat deck barges operated by these carriers. Crowley Maritime also operates petroleum barges in the region. These carriers also act as feeder services for the international shippers and gather and distribute freight using Dutch Harbor as the hub. Other hubs include Naknek, Bethel, Sitka, and Kodiak. Sitka and Kodiak are used for transshipment of cargoes moving from Southeast Alaska and Prince William Sound ports.

A feature of marine service to Southwest Alaska is that capacity is quite elastic. Extra voyages can typically be added at the end of the normal season. For long-range projects, extra equipment can be dedicated to a service area. For example, both Western Pioneer and Coastal supplement their service during the peak of the fishing season. Furthermore, contract towing, wherein a customer contracts for a particular service, can provide substantial capacity; particularly for remote areas with only occasional service. Although excess capacity exists, it may not be available to all of the region's remote villages, or even some of its relatively large communities. This is because the fixed cost of making a stop is quite high. Aside from the fuel, and fixed vessel costs for the voyage, there is also the likelihood that a full longshore gang has to be called out—even for a small amount of cargo. One operator even noted that they provide service at a substantial loss during the off-season, in order to maintain relationships with customers for the peak season.

Table 5 contains a general schedule for marine service to Southwest Alaska ports. Do note that one item in this table is not up to date. Crowley recently rescinded its regularly scheduled service to Southwest Alaska for 1999, citing declining business, ostensibly related to poor fish harvests in Bristol Bay.

**Table 4.
Freight Movement Mode Split
by Southwest Alaska Community**

COMMUNITY	MODE			TOTAL	MODE SPLIT		
	Combined Air (tons of cargo & mail enplaned)	Combined Inbound and outbound AMHS	Combined inbound and outbound Private Marine		TOTAL FREIGHT MOVED	% OF TONNAGE MOVED BY AIR	% OF TONNAGE MOVED BY AMHS
Akutan			19,500	19,500	0.00%	0.00%	100.00%
Chignik ^a		13	11,300	11,313	0.00%	0.11%	99.89%
Cold Bay	782	37	4,000	4,819	16.23%	0.77%	83.00%
Dillingham	4,372		18,200	22,572	19.37%	0.00%	80.63%
Geqik			1,500	1,500	0.00%	0.00%	100.00%
False Pass		4	400	404	0.00%	0.99%	99.01%
Iliamna	1,255			1,255	100.00%	0.00%	0.00%
King Cove	44		11,600	11,644	0.38%	0.00%	99.62%
King Salmon/Naknek	5,423		43,400	48,823	11.11%	0.00%	88.89%
King Salmon	5,423			5,423	100.00%	0.00%	0.00%
Kodiak	3,516	1,615	557,700	562,831	0.62%	0.29%	99.09%
Naknek		0	43,400	43,400	0.00%	0.00%	100.00%
Old Harbor			1,300	1,300	0.00%	0.00%	100.00%
Port Helden	119			119	100.00%	0.00%	0.00%
St. George	59			59	100.00%	0.00%	0.00%
St. Paul	181			181	100.00%	0.00%	0.00%
Sand Point	185	8	9,200	9,393	1.97%	0.09%	97.95%
Tooiak	118			118	100.00%	0.00%	0.00%
Unalaska	1,272	26	748,800	750,098	0.17%	0.00%	99.83%
Total	22,749	1,703	1,470,300	1,494,752	1.52%	0.11%	98.36%

Note that "complete" mode split data are available only for a small subset of Southwest Alaska communities: Cold Bay, Dillingham, Kodiak, Sand Point, and Unalaska. This is a function of the basis upon which the data are collected. Akutan, as well as the Chignik, for example, certainly experience some degree of airfreight movement. However, since cargo enplanement data are not available for these communities, it is not possible to ascertain the aviation cargo mode split without additional data collection. Similarly, the absence of marine cargo data for the communities in the Iliamna Lake area is another limitation. Though waterborne commerce statistics from the US Army Corps of Engineers are unavailable for Iliamna, it has been reported in another secondary source that only about 40% of freight is flown into Iliamna, the rest arriving by barge and landing craft (US Army Corps of Engineers, Navigation Channel Feasibility Report and Environmental Assessment, December 1995). The absence of marine cargo data for the communities in the Iliamna Lake area is another limitation.

**Table 5.
General Service Schedule for Private Marine Shipping
to Southwest Alaska**

Carrie	Coastal Transportation	Crowley Manne Services Inc.	Northland Services Inc.	Samson Tug & Barge	SeaLand Service	Western Pioneer	American President Lines
Frequency of Service	Jan 1-Nov 15 Weekly Nov 16-Dec 31 Bimonthly Apr-Aug Twice Weekly	April- September Only	April- September Only	Year-Round Service-Weekly May-September	Year-Round Service	Supplemented During Fishing Season	Year-Round Service
Port							
Aktutan	Weekly					Every 10 days	
Aleknagik		Village service* provided via Dillingham	Service provided via Bristol Bay Villages				
Anchorage		4 times per season	8 times per season		B-Weekly		
Chignik	Weekly	2 times per season				Every 10 days	
Clarks Point		3 times per season					
Cold Bay	Weekly					Every 10 days	
Dillingham		7 times per season	9 times per season				
Egegik		2 times per season	4 times per season				
Ekuk			3 times per season				
Ekwok		Village service* provided via Dillingham	Service provided via Bristol Bay Villages				
False Pass	Weekly					Every 10 days	
Igiugig			Service provided via Bristol Bay Villages				
Iliamna			Service provided via Bristol Bay Villages				
Kino Cove	Weekly			B-Weekly		Every 10 days	
Kodiak		1 time per season		B-Weekly	B-Weekly	Every 10 days	
Kodiak Island		3 times per season					
Koiganek		Village service* provided via Dillingham	Service provided via Bristol Bay Villages				
Larsen Bay						Every 10 days	
Levalock			Service provided via Bristol Bay Villages				
Manokotak		Village service* provided via Dillingham	Service provided via Bristol Bay Villages				
Naknek		7 times/season (incl. occasional village svr)	9 times per season				
Nelson Lagoon		1 time per season					
New Stuyshok		Village service* provided via Dillingham	Service provided via Bristol Bay Villages				
Newhalen			Service provided via Bristol Bay Villages				
Old Harbor						Every 10 days	
Ouzinkie						Every 10 days	
Pedro Bay			Service provided via Bristol Bay Villages				
Pilot Point		Village Service provided via Naknek					
Port Haden		Village Service provided via Naknek					
Port Lions						Every 10 days	
Port Moller		4 times per season				Every 10 days	
Saint Paul	Weekly					Every 10 days	
Sand Point	Weekly		2 times per season			Every 10 days	
Seattle	Weekly	Vanes	Vanes	B-Weekly	Weekly	Every 10 days	
South Naknek		5 times per season					
Togiak			2 times per season				
Ugashik		Village Service provided via Naknek					
Unalaska (Dutch Harbor)	Weekly			B-Weekly	B-Weekly	Every 10 days	Weekly

*Village service is subject to sufficient cargo

PRIVATE MARINE TRANSPORT

The only mode for which it is possible to determine what commodity is being shipped, as opposed to simply volumes, is private marine. The statistics collected by the US Army Corps of Engineers Waterborne Commerce Statistics Department are broken down into four broad categories: Petroleum Products (which include gasoline, jet fuel, and industrial lubricants); Durable Goods; Fish and Fisheries Products; and "All Other." For the purposes of the analyses conducted in this report, Durable Goods and "All Other" are collapsed into a single category, "All Other."

The single largest category of goods shipped to and from Southwest Alaska communities as reported in the Waterborne Commerce Statistics is "Other," which includes diverse commodities, such as lumber, dry groceries, fishing gear, machinery, mobile homes, cement, boats, automobiles, toys, office supplies, and apparel. All told, "Other" accounts for about 40% of the goods shipped by sea to and from Southwest Alaska communities (Table 6).

Trailing close behind "Other" by volume, is the region's primary economic mainstay and export: fish products. Overall, fish products make up about 35% by volume of products shipped to and from Southwest Alaska by private marine carriers. The highest percentage is experienced in Egegik, where 60% of goods carried by marine carriers are fish products. Percentages in King Salmon/Naknek and King Cove are also relatively high.

Petroleum products make up a significant proportion of the freight carried by private marine shippers within Southwest Alaska. Petroleum products, compared to products such as lumber, dry groceries, or heavy machinery, are relatively inexpensive to ship, since they require much less handling and less wasted space than do products that have to be packaged and moved individually. Petroleum products are simply pumped in and pumped out mechanically.

Overall, about 26% of the volume of cargo moved by private marine carriers consists of petroleum products. The percentage is particularly high in selected communities, such as Old Harbor, where it reaches fully 83.3%, and to slightly lesser extents in Cold Bay and Chignik, where the totals are 74.6% and 64.6%, respectively. Unalaska is by far the single largest recipient of petroleum products—ostensibly related to its role as a fueling and transshipment point for marine vessels. Unalaska alone accounts for 447,873 tons of petroleum shipments per year, which represents 70.5% of the regional total of petrol products.

Table 6.
Private Marine Shipments for Southwest Alaska:
Basic Commodity Type Splits
(incoming and outgoing, in tons)

Trip End	Incoming or Outgoing Petrol	Incoming or Outgoing Fish	Incoming or Outgoing Other	TOTAL	PETROL SPLIT	FISH SPLIT	"OTHER" SPLIT
Chignik (or Fisheries or Lagoon)	5,250	375	2,500	8,125	64.6%	4.6%	30.8%
Cold Bay	2,750		935	3,685	74.6%	0.0%	25.4%
Dillingham and Aleknagik	7,000	3,750	11,265	22,015	31.8%	17.0%	51.2%
Egegik	375	1,125	375	1,875	20.0%	60.0%	20.0%
False Pass	125		125	250	50.0%	0.0%	50.0%
Iliamna and Newhalen			976	976		0.0%	100.0%
King Cove	3,375	3,620	4,414	11,414	29.6%	31.8%	38.7%
King Salmon and Naknek	11,000	24,375	24,387	59,762	18.4%	40.8%	40.8%
Kodiak	65,875	105,625	427,903	599,403	11.0%	17.6%	71.4%
Old Harbor	625	125		750	83.3%	16.7%	0.0%
Port Heiden			114	114	0.0%	0.0%	100.0%
Port Lions	625		882	1,507	41.5%	0.0%	58.5%
Sand Point			139	139	0.0%	0.0%	100.0%
St. George			60	60	0.0%	0.0%	100.0%
St. Paul			176	176	0.0%	0.0%	100.0%
Togiak and Togiak Fish			139	139	0.0%	0.0%	100.0%
Unalaska	293,500	383,250	122,930	799,680	36.7%	47.9%	15.4%
Total	390,500	522,250	597,320	1,510,070	25.9%	34.6%	39.6%

AMHS FREIGHT TRANSPORT

As noted, the percentage of freight carried by AMHS in Southwest Alaska is extremely small. Private carriers simply do not perceive AMHS in its current capacity as a competitor for marine shipment (Terry Hart, Alaska Northbound Marketing Director, personal communications, October 1999). This is likely due to several factors, including the following:

- Current AMHS service to Southwest Alaska communities along the Alaska Peninsula and Aleutian chain is extremely infrequent.
- Compared to private marine shippers, AMHS vessels have very little capacity. For example, while the vessels used in Sea-Land's Alaska service have capacity for about 400 vans, the *Tustumena* can only accommodate in the neighborhood of eight vans.
- Given that they make multiple port calls, AMHS vessels are relatively slow cargo conveyers, compared to private service.
- As a non-competing freight carrier, AMHS is not oriented to providing high-volume, highly efficient logistical capability. For instance, while private carriers often arrange for the delivery of goods from ship or barge to its ultimate destination, AMHS does not offer full service shipping services.
- Most goods shipped to Southwest Alaska originate in Seattle/Tacoma, not Anchorage. Even if they did originate in Anchorage, they would still have to be transported overland to the current ferry terminal at Homer, since AMHS does not currently operate out of Anchorage. Costs accompany each modal transfer. In contrast, private carriers can sail directly to Southwest Alaska from Seattle, or they can proceed to Southwest Alaska following a brief stop in Anchorage to unload goods.

AIR FREIGHT TRANSPORT

Although air freight makes up less than 2% of all Southwest Alaskan freight movement by volume, it is very important for certain types of goods, such as those with high value and or relatively low weight and volume. Another function served by air freight is to move goods that could be moved by barge more economically—such as building materials—but which, for whatever reason, including poor planning, have to be flown in—either because they are so time-sensitive or because winter ice precludes marine shipment.

Air freight is also critical to those communities, such as Dillingham and Iliamna, which are difficult or impossible to reach by water during much of the year. The dependence of communities like Dillingham and Iliamna on air freight is reflected in Table . This table indicates that 19% of Dillingham's freight moves by air, and 100% of Iliamna's.¹⁰ Cold Bay, and King Salmon also rely relatively heavily on of air freight. In Cold Bay, 16.23% of freight by volume is handled by air. In King Salmon, the figure is 11.11%.¹¹

¹⁰ The 100% air freight figure for Iliamna is misleading insofar as it does not take into account the barge shipments provided by Coastal Transportation Inc., which serves communities on Lake Iliamna during the brief summertime window when the Kvichak River is high enough to support navigation. This case again reflects the limitations of the US Army Corps of Engineers statistics, which are only collected at relatively major marine ports; the data collection does not extend to cover what happens to the freight once it is broken down to smaller vessels at ports such as Naknek.

¹¹ Another possibility for these communities' high air freight mode split is that the communities that experience higher rates of air transport also have lower rates of seafood exports—which magnifies the weight of cargo flown out since the mode splits are calculated on a percentage of volume basis.

Three of the four communities that are relatively dependent on air freight have long runways (Cold Bay, Dillingham, and King Salmon). In fact, each of these communities was considered a candidate in an earlier analysis to serve as a regional aviation hub. Clearly, these communities are already to some extent functioning as hubs.

**Table 7.
Airport Runway Lengths for SW Alaska
Communities Most Dependent on Air Freight**

Airport	Runway Length (feet)
Cold Bay	10,420
Dillingham	6,404
Iliamna	5,085
King Salmon	8,500

The Role of the Mail Service in Southwest Alaskan Air Freight Movement

The US Postal Service (USPS) plays a bigger role in air freight movement in Bush Alaska than virtually anyplace else in the country. In fact, Crowley Marine cites USPS Bypass Mail as the #1 factor in its suspension of regularly scheduled barge service to Southwest Alaska (Jim Vandeven, Crowley Marine, personal communications, 11/10/99). The USPS is mandated by law to provide universal mail service throughout the US at uniform rates, regardless of the fact that it is far more expensive to carry out this service in places like Southwest Alaska, where long distances and harsh conditions make air movement of the mail (including freight, such as groceries, carried as mail) necessary. Because mail rates must be uniform throughout the country, it costs far less to mail freight by parcel post through the USPS than it would to send goods through a private carrier. Tables 8 and 9 provide a comparison of rates for private air freight movement, priority mail, and Bypass Mail.¹²

¹² The Bypass Mail Program allows post shipments to bypass a post office, with postage affixed at its origin, thus benefiting from the uniform rate used by the postal service as described below.

Table 8.
Typical Air Freight and Mail Rates
Between Representative City Pairs
(\$/Pound)

City Pairs	Distance (ml.)	Freight Rate		USPS Priority Mail 2 days			USPS Parcel Post (Bypass) Mail 4-7 Days		
		100lb	100lb-499lb	Up to 1lb	10lb	10lb-70lb (limit)	1lb	10lb	70lb (limit)
Anchorage-Dillingham	329	.70	.50	10.00	1.00	.48	2.31	.31	.08
Anchorage-Iliamna	195	.45	.34	10.00	1.00	.48	2.31	.31	.08
Anchorage-King Salmon	289	.70	.50	10.00	1.00	.48	2.31	.31	.08
Anchorage-Kodiak	252	.70	.49	10.00	1.00	.48	2.31	.31	.08
Anchorage-St. Paul	767	1.07	.97	10.00	1.00	.48	2.31	.31	.08
Dillingham-Anchorage	329	.45	.32	10.00	1.00	.48	2.31	.31	.08
Iliamna-Anchorage	195	.35	.32	10.00	1.00	.48	2.31	.31	.08
King Salmon-Anchorage	289	.45	.32	10.00	1.00	.48	2.31	.31	.08
Kodiak-Anchorage	252	.45	.34	10.00	1.00	.48	2.31	.31	.08
St. Paul-Anchorage	767	.69	.58	10.00	1.00	.48	2.31	.31	.08

Table 9.
Rates Applied to Example of 70-lb. Package

City Pair	Shipping Cost via Commercial Air	Shipping Cost via Priority Mail	Shipping Cost via Parcel Post (Bypass Mail)
Anchorage-Dillingham	\$49.00	\$33.60	\$5.60
Anchorage-Iliamna	\$31.50	\$33.60	\$5.60
Anchorage-King Salmon	\$49.00	\$33.60	\$5.60
Anchorage-Kodiak	\$49.00	\$33.60	\$5.60
Anchorage-St. Paul	\$74.90	\$33.60	\$5.60
Dillingham-Anchorage	\$31.50	\$33.60	\$5.60
Iliamna-Anchorage	\$24.50	\$33.60	\$5.60
King Salmon-Anchorage	\$31.50	\$33.60	\$5.60
Kodiak-Anchorage	\$31.50	\$33.60	\$5.60
St. Paul-Anchorage	\$48.30	\$33.60	\$5.60

An example illustrates the tremendous savings achievable by sending goods via the US Postal Service. Whereas it would cost \$49.00 to send a 70-pound package from Anchorage to Dillingham via a private air freight shipper, the same package could be sent for \$33.60 via Priority Service, or for a mere \$5.60 if sent via Bypass Mail. No wonder one overland shipper in Alaska noted that, "Everything that can be shipped through the Mail already is." Another cited the case of an Alaskan who had had most of the materials he used in building his house shipped piecemeal via Bypass Mail.¹³ Freight consolidators, whose niche in the logistics market focuses on exploiting the opportunities provided by the USPS, operate in both Anchorage and Seattle.

The subsidization of mail delivery costs provides considerable benefits for the Alaskan residents and for air carriers that operate in the state. Air carriers rely on their mail delivery work as a mainstay of their Alaska service (Neil Fried, State of Alaska Economist, personal communications, September 30, 1999). The carriers' duty to carry mail to remote areas of the state also makes it more economical for them to provide passenger and private freight service. In the absence of the air freight business provided by the federal government to carriers to deliver mail by air, Alaskans would receive less frequent air service—at higher cost.

Under the current system, the USPS allocates mail equally among all carriers offering regularly scheduled service within a similar time frame. "The requirement to maintain competitive service frequency to handle a share of the mail has resulted in more frequent passenger service between Anchorage and Fairbanks and western-arctic hubs, and between hubs and outlying villages that could be supported otherwise" (*Alaska Intermodal Transportation Plan*, Alaska Department of Transportation and Public Facilities, October 1994). Communities in Southwest Alaska that currently serve as hubs include Cold Bay, Port Heiden, Dillingham, Kodiak, King Salmon, and Unalaska/Dutch Harbor.

Between 1987 and 1995, about 11% of total air freight by volume to Southwest Alaska comprised mail. Moreover, this percentage is increasing. The costs borne by the USPS to serve Alaska with the Bypass Mail Program have multiplied rapidly (Table 10). Between 1986 and 1991 the intra-Alaska air transportation costs paid by the USPS increased from \$59 million to \$95 million, most of which went to pay to move parcel post mail. "The increase in costs is due to increased volume, especially to bush destinations, as well as rate increases made under the continuing ratemaking responsibility of the US Department of Transportation to regulate the mail pay rates to air carriers in Alaska.

The deficit resulting from the difference between Alaska parcel post revenue from postage and the cost of purchased air transportation alone has risen from \$23 million in 1986 to \$70 million in 1991" (*Alaska Parcel Post Task Force Report*, 1993, provided by Carl Siebe, DOT&PF, January 1999). According to this report, the USPS, which was separated from direct Congressional control in 1971, is under pressure to operate more cost-effectively, and to balance user fees, in the form of postage, with delivery methods that allow the USPS to meet the actual costs of providing service. With this goal in mind, the USPS is seeking ways to deliver mail to remote regions of Alaska at a lower cost. Any such efforts will be monitored carefully by Alaska's congressional delegation, insofar as their effects on Alaskans' mobility and access to goods and services will be significant, particularly in the bush. In light of this pressure, one observer

¹³ As the result of public outcry over this case, USPS regulations were tightened up to specifically exclude building materials from eligibility for mail shipment (Sam Krogstad, Bush Consolidators, personal communications, October 4, 1999). Other items that cannot be mailed are hazardous materials, as defined by either the USPS or the air carrier.

suggested that the assumption that Alaska will always enjoy low postal rates may not be valid—particularly if and when the state's clout in Congress, now at an all-time high—were to suffer (Neil Fried, personal communications, September 30, 1999).¹⁴

Table 10.
Alaska Parcel Post
Financial and Operating Summary, 1986-1991

Fiscal Year	Volume (pounds) Mainline	Bush	Revenue	Costs	Loss
1986	90.5	36.4	\$8	\$31	\$23
1987	96.2	38.5	\$8	\$47	\$39
1988	102.3	42.6	\$9	\$58	\$49
1989	108.5	47.0	\$11	\$62	\$51
1990	113.2	49.5	\$10	\$79	\$69
1991	113.7	52.0	\$12	\$82	\$70
% Increase	25.6%	42.9%	50.0%	164.5%	204.4%

Were postal rates paid to move freight as mail to rise to levels that more accurately reflect the actual costs of delivery, then several repercussions would be likely.

- Rural Alaskans, including those who live and work in Southwest Alaska, would have to pay higher rates to mail in consumables, including groceries;
- The price of private freight *and* passenger movement would likely increase, with decreases in service frequency and convenience;
- As the result of the first two repercussions, benefits due to provision of a modal alternative, e.g., the Trans-Peninsula Roadway System, would be much magnified, with a shift from air to roadway transport of mail and other goods assumed.

¹⁴ Congress could end the bypass mail system, which would adversely affect the convenience of using parcel post and add to the total cost of moving goods (though not the postage rates themselves). Congress could also require that all postage rates reflect the cost of provision, but that would affect communities in every state and would probably not be politically feasible regardless of Alaska. Congress could not selectively change rates for Alaska alone.

PART 2. FREIGHT TRANSPORT DEMAND FORECASTS

Described in this section is the methodology developed to forecast freight transport demand for Southwest Alaska. Forecasts were developed for Petroleum Products, Fish Products, and "Other" Products, including Mail.

FREIGHT FORECASTS FOR PETROLEUM PRODUCTS

To forecast petroleum freight moved, several variables were tested statistically to determine which of them produced the best "fit" in predicting freight volumes. The best and final model includes population, and a variable to indicate the type of airport and marine facilities at the community (either only a community services port, a commercial services port or airport HUB, or both a commercial services port and an airport HUB). For the purpose of the forecast it is assumed that the types of marine or airport facilities at a community will be the same in the year 2010 and 2020. This model is as follows:

$$\text{Tons of Petroleum Shipped} = (2.443375)(\text{Population}) + (27778.04)(\text{Port Types})$$

The "goodness of fit" or R^2 coefficient for this model was poor, about 0.286, indicating that only about 29% of the variation in petroleum shipped can be explained by population and marine and airport types. This model is based on a limited data set of only 11 records. Only a limited data set is available because confidentiality requirements. To help improve the accuracy of the model, forecast volumes were adjusted.¹⁵

Petroleum shipments are forecast to stay about the same at most communities in Southwest Alaska. Petroleum shipments, however, are forecast to decrease at Cold Bay for the low, base, and high 2010 and 2020 scenarios. Shipments are also forecast to decrease slightly at several other communities in the low and base 2010 scenarios, and in the low 2020 scenario. These forecast decreases in petroleum movement are related to projected population decreases in the corresponding communities. The complete results of this analysis can be found in "Southwest Alaska Transportation Plan Travel Demand Forecasts," (September 1998).

FREIGHT FORECASTS FOR "OTHER" CARGO, INCLUDING MAIL

To forecast freight movement for "Other" cargo, including mail, several variables were tested statistically. The model that proved most effective in mathematically replicating existing freight movement relied on a single variable: population. This model is as follows:

$$\text{Tons of Other Cargo Shipped} = (36.21088203)(\text{Population})$$

At 0.95, the "goodness of fit" measure for this model, otherwise known as the R^2 coefficient, was quite high. This indicates that about 95% of the variation in "Other" cargo shipped can be

¹⁵ Forecast volumes were adjusted by comparing initial modeling output to known, existing volumes. That is, volumes "forecast" by the model for the existing year, based on current conditions, were compared to the actual volume reported. The ratio between existing year volumes "forecast" and the actual volume reported was then applied to future forecasts.

predicted on the basis of population. However, this model is based on a limited data set of only 16 records. Therefore, to improve its accuracy, forecast trips were adjusted.¹⁶

Other cargo shipped are forecast to increase at most communities in Southwest Alaska. However, shipments are forecast to decrease at Cold Bay for the low, base, and high 2010 and 2020 scenarios. This decrease corresponds to the forecast for a decreasing population in Cold Bay through the year 2020. In the low and base 2010 scenarios, shipments are also forecast to decrease at Chignik. Shipments are also forecast to decrease at several other communities for the low scenario only for 2010 and 2020.

FREIGHT FORECASTS FOR SOUTHWEST ALASKA COMMUNITIES

A limitation of the freight forecasts at the level just described is that they only project freight volumes for a relatively small number of Southwest Alaska communities—the communities for which primary source data are available. However, only about 40% of Southwest Alaska's residents live in these communities. To fill in this gap in the forecasts, another analytical step was taken. To provide community-specific freight movement forecasts for all Southwest Alaska communities, freight movement values were imputed.

A straightforward process was used to impute freight movement values to Southwest Alaska communities. First, the region's 2020 freight movement forecasts (base case) were totaled and then divided by the 2020 base population forecast for the region as a whole. Separate calculations were applied to Petroleum Products and "All Other." Note that Fish and Fisheries Products movements were not allocated among the communities.¹⁷

Note too, that Unalaska, which experiences by far the region's highest freight per capita, was excluded from this averaging process. This is because the vast majority of Unalaska's freight movement is attributable to two of its unique roles in the region: (1) its role as a major fish processing location; and (2) its role as a transshipment point for international freight lines bound for Asia. Had Unalaska not been excluded from the equation, then the resulting per capita freight movement estimate would have been grossly inflated. It would not have been as good an approximation of freight moved through the rest of the region's communities, which do not serve as major fish processors or transshipment nodes. For similar reasons, Kodiak's freight movement and population were excluded from the average. In essence, the goal of this exercise was not to develop the most accurate average, in terms of per capita freight movement in the region, but rather, to develop a reasonable proxy measure with which to predict consumption-based cargo flows to specific communities. The exclusion of Unalaska and Kodiak from the regional average helped meet this objective.

This averaging process produced a value of 2.7 tons per person for petroleum products, and 4.05 tons per person for "Other" cargo. These values were multiplied by the 2020 base case

¹⁶ Forecast volumes were adjusted by comparing initial modeling output to known, existing volumes. That is, volumes "forecast" by the model for the existing year, based on current conditions, were compared to the actual volume reported. The ratio between existing year volumes "forecast" and the actual volume reported was then applied to future forecasts.

¹⁷ The reasoning for not imputing fish value is as follows. Fish and Fisheries products are overwhelmingly *exported out of* Southwest Alaska, and the largest producers appear to be represented in the primary source data that are available. It is reasonable to impute freight values for Petroleum Products and "All Other" because consumption of food, fuel, and clothing, all of which must be imported to the region, can safely be assumed. However, any assumption that every community in the region exports fish products or serves as a transshipment point would be far more tenuous, and in some cases, would run contrary to what is known about regional freight movement.

population forecasts for each community. The result was an "imputed" 2020 freight movement forecast total for each community. The results of this process for affected Southwest Alaska communities are compiled in Table 11.

Once the volume of freight movement, roughly categorized by type, had been established for each affected community, it finally became possible to "cost out" the price of moving the forecast volumes under selected scenarios. The process used to establish approximate rates currently paid to move freight to Southwest Alaska, along with estimated rates under different circumstances than currently exist; i.e., under the alternatives proposed as part of this regional transportation planning effort—is described in the following section.

Table 11.
2020 Freight Movement by Southwest Alaska Community

	2020 Population Forecast	2020 Petrol Forecast (tons)	2020 "Other" Forecast (tons)	Total (tons)
Chigniks	377	1,018	1,527	2,545
Dillingham and Aleknagik	2,943	7,946	11,919	19,865
Egegik	167	451	676	1,127
Igiugig	68	184	275	459
Iliamna and Newhalen	346	934	1,401	2,336
Ivanof Bay	27	73	109	182
Kakhonak	207	559	838	1,397
King Salmon and Naknek	1,372	3,704	5,557	9,261
Levelock	139	375	563	938
Nondalton	317	856	1,284	2,140
Pedro Bay	45	122	182	304
Perryville	116	313	470	783
Pilot Point	115	311	466	776
Port Heiden	158	427	640	1,067
South Naknek	165	446	668	1,114
TOTALS	6,562	17,717	26,576	44,294

PART 3. DEVELOPMENT OF A FREIGHT ASSESSMENT METHODOLOGY

ESTIMATING EXISTING RATES

Having established a means of predicting freight movement volumes for each community, the next step in the analysis was to develop a framework with which to understand two facets of regional freight movement: (1) how much it would cost to move predicted volumes under an unchanged regional transportation network; and (2) how much it would cost to move predicted volumes if specified improvements in the regional transportation network were implemented. The improvements of interest are implementation of the Trans-Peninsula Roadway System in its entirety, as well as implementation of one element of that system, rehabilitation of the Williamsport to Pile Bay Road. Separate modal rates for the movement of "household goods" for each affected community were eventually established, under both existing conditions and the proposed alternatives.

Rate establishment was one of the most challenging tasks in developing this freight movement assessment methodology. There is no single, convenient source of shipping rates, which in any case vary by mode. Different shippers serve different communities within Southwest Alaska. Many shippers insist on keeping their actual rates confidential since much freight movement in Southwest Alaska is negotiated on a contract basis among competitors. Other shippers are reluctant to reveal their contract rates for fear that their publication will result in accusations of price gouging.

Aside from these complications, establishment of a single set of rates for analytical purposes was also complicated by the very nature of the multiple industries that transport goods. The rate that is ultimately paid to move goods from one point to another depends on complex interactions among many variables, including those listed below. Shipping rates among goods, among modes, and among times of the year—can and do vary tremendously.

- **Mode.** It is generally more expensive to ship goods by air than by sea. For bulk commodities, it is often less expensive to ship goods by sea than by land.
- **Handling.** The amount of handling required. It is relatively inexpensive to move petroleum products, for example, because they can be pumped directly in and out of dedicated storage facilities. They do not have to be assembled, wrapped, unloaded by hand, etc.
- **Special handling requirements.** Goods that require refrigeration or freezing are more expensive to haul than those that do not require this special treatment. Hazardous materials command a premium. In some cases, certain modes are precluded from even carrying the goods.
- **Spatial dimensions.** The dimensions of goods and or their packaging have a bearing on shipping costs. Bulky goods that take up a lot of space are more expensive, per pound, to ship than those that are more compact.
- **Backhaul.** The opportunity for backhaul is a factor. When a shipper can bring a load of goods to a point, and then fill up the vehicle, vessel, or aircraft with goods for the return journey, costs are much lower than if the shipper were to return to home base with an empty container.

- **Port facilities.** Characteristics of marine ports have a bearing on marine shipping costs. Ports with shallow water, such as Ivanof Bay, are more expensive to serve than deep-water ports, such as Chignik.
- **Volume.** Related to the backhaul factor is volume. All other things equal, rates will generally decrease with increased volume on a per trip basis. In addition, frequent shippers will generally enjoy lower rates than infrequent shippers.
- **Distance between ports** is a factor, insofar as longer distances entail higher fuel and labor costs.
- **Season.** This factor has to do with the region's extreme and challenging weather. It is much more expensive to move goods during the winter than during the summer. This is because some ports are not accessible by any mode other than air during the winter. Whereas communities around Lake Iliamna can be reached by moving barges up the river when the river water is high enough, and when it is not frozen (roughly three months per year), the rest of the year, goods, including petroleum products, must be flown in.
- **Natural navigational features.** Freight movement rates are affected by natural limitations to the size and efficiency of vessel that can be used to transport goods. The size of vessel that can currently be used to supply the communities of Iliamna Lake via the Kvichak River, for instance, is limited by the river. Only small barges, in the neighborhood of 150' by 45' are used in this area.
- **Competition between shippers** is a factor. Where two or more shippers compete to haul the same cargo, prices would ostensibly be lower than if one shipper held a monopoly.

Current and forecast rates were developed separately for Petroleum and "All Other" products.¹⁸ Ultimately, distinction of petroleum from "all other" cargo is only possible because the US Army Corps of Engineers separates out petroleum in its Waterborne Commerce Statistics. As desirable as it would have been to provide this level of specification of "Other" commodities, the underlying data upon which the analyses in this report are based do not support that level of detail.

Because there is no way to know what is being shipped by air (absent a major new commodity flow study for Southwest Alaska), and because even the available primary source data are not available for points beyond the region's cargo hubs, a proxy had to be used to represent freight flows. Based on input from shippers, "household goods" were used as a proxy for "Other" freight.

The consultant team is grateful to the many individuals and organizations who provided input and information for the rate establishment task. The data gathering for this task included multiple interviews with overland, marine, and air shippers in the region. The following organizations and individuals provided input into the rate estimation and forecasting process:

¹⁸ It is much less expensive, on a unit basis, to move petroleum than most other commodities because petroleum, a pumped product, requires so little labor and handling.

Alaska Airlines	FS Air Services
Bush Consolidators	Harkness Enterprises
Carlisle Transportation	Iliamna Transportation Company
CAT Transport	Lake and Peninsula School District
Coastal Freight and Salvage	Northland Services
Coastal Marine Services	PenAir
Crowley Marine	Reeve Aleutian Airlines
Crowley Petroleum	Samson Tug and Barge
ERA Air Cargo	Sea-Land
Everts Air Fuel	Orson Smith, Ph.D., University of Alaska
Neal Fried, Economist, State of Alaska	Reeve Aleutian Airlines

Listed in Table 12 and Table 13 are separate rate estimates for petroleum and "Other" cargo movement under existing conditions. Communities in the Iliamna Lake area are presented separately.¹⁹ Ultimately, existing shipping rates will be compared to projected rates under the assumption of a changed infrastructure. This comparison will allow us to assess the economic impacts of the Trans-Peninsula Roadway; as they relate to freight movement in particular. This analysis and comparison will call upon the freight movement forecasts described earlier in this report. Rates under the existing infrastructure and projected rates under the improved infrastructure will be multiplied against forecast freight volumes to derive overall cost savings. In evaluating the alternatives, these costs or benefits will be weighed against the capital and maintenance and operations costs associated with the proposed alternative.²⁰

19 The Iliamna Lake communities are accessible via either Bristol Bay or Cook Inlet; shipping rates for each point of access are distinct. As such, separating the Iliamna Lake communities from the others makes it easier to understand the rate tables.

20 This comparison will be documented in the course of carrying out the evaluation process.

Table 12.
Existing Freight Rates for Selected Southwest Alaska Communities

	MARINE			AIR			
	Petroleum Marine	Petroleum Pound Price Equiv	Other Marine	Petroleum Air	ANC-KS	KS-	AIR TOT
	(\$/gal)	(\$/lb)	(\$/lb)	(\$/gal)	(\$/lb)	(\$/lb)	(\$/lb)
Chignik	\$0.250	\$0.038	\$0.250	NA	\$0.420	\$0.560	\$0.980
Chignik Lake	\$0.500	\$0.076	\$0.500	NA	\$0.420	\$0.560	\$0.980
Chignik Lagoon	\$0.600	\$0.091	\$0.600	NA	\$0.420	\$0.560	\$0.980
Egegik	\$0.500	\$0.076	\$0.510	NA	\$0.420	\$0.250	\$0.670
Ivanof Bay	\$0.270	\$0.041	\$0.700	NA	\$0.420	\$0.670	\$1.090
King Salmon and Naknek	\$0.300	\$0.046	\$0.510	NA	\$0.420	\$0.000	\$0.420
Perryville	\$0.300	\$0.046	\$0.600	NA	\$0.420	\$0.650	\$1.070
Pilot Point	\$0.520	\$0.079	\$0.540	NA	\$0.420	\$0.360	\$0.780
Port Heiden	\$0.350	\$0.053	\$0.510	NA	\$0.420	\$0.450	\$0.870

*Air rates in this table are based on a 500-pound shipment. Note that marine rates to Chignik are relatively low, compared to Chignik Lake and Chignik Lagoon. Chignik has a year round, ice-free port, which makes its access relatively easy (and inexpensive). In contrast, a premium must be paid by the residents of Chignik Lake and Chignik Lagoon to import freight from Chignik. It is also notable that although Naknek is much farther from cargo destination points than Chignik, it is not much more expensive to get goods to Naknek than to Chignik. This is in part a function of the volumes carried. Goods transported to Naknek are also transported to the relatively large market of Bristol Bay communities, including Dillingham.

**Table 13.
Existing Freight Rates for Iliamna Lake Communities**

	MARINE						AIR				
	From Naknek			From Williamsport			Petroleum Air	Petroleum Pound Price Equiv	ANC-ILI	ILI-	AIR TOT
	Petroleum Marine	Petroleum Pound Price Equiv	Other Marine	Petroleum Marine	Petroleum Pound Price Equiv	Other Marine					
(\$/gal)	(\$/lb)	(\$/lb)	(\$/gal)	(\$/lb)	(\$/lb)	(\$/gal)	(\$/lb)				
Igiugig	\$0.800	\$0.121	\$0.765	NA	NA	\$0.370	\$0.961	\$0.146	\$0.390	\$0.250	\$0.640
Iliamna	\$0.800	\$0.121	\$0.765	NA	NA	\$0.370	\$0.961	\$0.146	\$0.390	\$0.000	\$0.390
Kokhanok	\$0.800	\$0.121	\$0.765	NA	NA	\$0.370	\$0.961	\$0.146	\$0.390	\$0.200	\$0.590
Newhalen	\$0.800	\$0.121	\$0.765	NA	NA	\$0.370	\$0.961	\$0.146	\$0.390	\$0.000	\$0.390
Nondalton	\$0.800	\$0.121	\$0.765	NA	NA	\$0.370	\$0.961	\$0.146	\$0.390	\$0.000	\$0.390
Pedro Bay	\$0.800	\$0.121	\$0.765	NA	NA	\$0.370	\$0.961	\$0.146	\$0.390	\$0.200	\$0.590

Marine shipping rates for petroleum via Williamsport are not provided because petroleum is not currently shipped via Cook Inlet, primarily because of the difficulty of meeting hazardous materials regulations (Rick Harkness, Harkness Enterprises, personal communications, November 1999).

Freight Movement to Iliamna Lake Communities

It bears mentioning that waterborne freight reaches the communities of Iliamna Lake via two routes. The primary route, which accounts for some 80% of Iliamna Lake communities' waterborne cargo, is via Naknek, where barges originating in the Seattle-Tacoma area offload onto much smaller barges that navigate the Kvichak River during its brief season of navigability. This season, during which the river is both ice-free and high enough to support even shallow-draft vessels, generally runs from early August to late November (Rick Harkness, personal communications, November 1999). The rate charged to lighten the goods from Naknek to Iliamna Lake communities is approximately 50% over and above the cost of getting the goods from Seattle to Naknek (Coastal Marine). Via Naknek, petroleum shipment runs \$0.80 per gallon, while "Other" cargo runs about \$0.77 per pound.

Although reliance on air shipment in the region is atypically high, this route is very important to Iliamna Lake communities because it is the only way to bring in particularly heavy and or bulky equipment, which can neither be flown in nor barged-trucked via Williamsport because of that route's width, height, and weight limitations. The fact that heavy equipment can only be transported for a brief period of the year (and some years not at all, if the river remains low) is thought to have expensive repercussions for area construction costs. The reason for this is that contractors realize that they may have to keep an expensive capital asset, a piece of heavy machinery—in the area for months in which it is not in use. For this reason, it is thought that contractors add a substantial margin to their bids on construction projects to cover their costs and asset depreciation.

The other marine route to Iliamna is via Williamsport, which accounts for some 20% by volume of the cargo surface shipped to Iliamna Lake communities (Rick Harkness, Harkness Enterprises, personal communications, November 1999). Despite Williamsport's navigational challenges (it is shallow, muddy, and strewn with boulders), barges operated by Coastal Freight and Salvage call on this port from Homer from June until November. The limiting seasonal factors are both ice on the lake, and the road's passability due to snow. Upon arrival at Williamsport, barges are offloaded onto a truck operated by Ray Williams' outfit, the Iliamna Transportation Company—which has been in existence since 1938. Upon completion of the road trip, at Pile Bay, cargo may be distributed to its ultimate destination in two ways:

- Some consumers sail their own vessels to Pile Bay to pick up shipments.
- A licensed operator on Iliamna Lake picks up the shipments and distributes them among the Iliamna Lake communities in his vessels.

The rate breakdown, according to area operators, is as follows:

Homer to Williamsport (barge)	\$0.12/lb
Williamsport to Pile Bay (truck)	\$0.10/lb
Pile Bay to Ultimate Destination (barge)	\$0.15/lb
TOTAL	\$0.37/lb

This rate is considerably lower than the \$0.77 per pound rate estimated for shipment via Naknek. However, route is arduous, for several reasons, including Williamsport's shortcomings as a port. Shallow water restricts barge deliveries to about two tides per month, each of which lasts about five days (Otto Kilcher, Coastal Freight and Salvage, personal communications, November 1999). Once transferred to the truck, there are other obstacles, including the washed out bridge on the road at Chinkelyes Creek, which requires that the truck ford the stream. This is hard on vehicle transmission and bearings, and on some cargo in particular, such as sheetrock and cement. Moreover, it poses safety hazards for operators (Ray Williams, Iliamna Transportation Company, personal communications, November 1999).

ESTIMATING RATES UNDER PROPOSED ALTERNATIVES

Having established freight shipment rates under existing conditions, the next analytical task was to project freight shipment rates under two separate scenarios related to alternatives proposed as part of this regional transportation planning effort. Two scenarios were explored: implementation of the Trans-Peninsula Roadway as a complete system, and implementation of the Williamsport to Pile Bay Road as a stand-alone project. While projecting rates for the Williamsport to Pile Bay Road was relatively simple, insofar as it had been studied previously (US Army Corps of Engineers, 1995), projecting rates for the larger project, the Trans-Peninsula Road was more complex.

This task required interface with area shippers, most of whom were reluctant to speculate on what they perceived as an extremely remote possibility. Most of those contacted expressed skepticism that the populations and volumes of freight to be served would justify the projects' large capital and maintenance costs. Ultimately, however, they were persuaded that their educated guesses as to the freight cost impacts of the proposed alternatives would be superior to those of anyone without firsthand experience with shipping in Southwest Alaska.

Modal rate estimates for affected communities were developed by breaking the journey from cargo origin to destination into its constituent modal links or elements. Unit costs were used where possible. Three sets of rates were developed:

- Petroleum Rates Assuming that the Trans-Peninsula Roadway System is Implemented;
- "Other" Cargo Rates Assuming that the Trans-Peninsula Roadway System is Implemented;
- "Other" Cargo Rates Assuming that the Williamsport to Pile Bay Road is Implemented as a Stand-Alone element.

For reasons to be discussed, separate petroleum rates under the Williamsport to Pile Bay Roadway as a stand-alone element were not projected.

Estimated Petroleum Movement Rates (Whole Road Built)

To project what it would cost to transport petroleum products to selected communities if the Trans-Peninsula Road were built, estimates for the barge portion of the trip, as well as the trucking portion of the trip, were elicited from Crowley Petroleum and from several trucking companies now operating in Alaska.

While multiple marine shippers have long served the communities, regional-scale trucking operations on the Alaska Peninsula are nonexistent because Southwest Alaska has so little