ALASKA LEGISLATURE COMMITTEE FILES 2001-2002 8672
10369 HOUSE RESOURCES

- Wetland/permafrost soils and a lack of gravel sources make construction and maintenance exceptionally expensive.
- Federal land management designations restrict land use.
- Villages are concerned about access to local subsistence resources.
- Villages are unwilling to trade local facilities for consolidated facilities at hub villages.
- New vehicle fleets needed for roads are expensive to purchase and operate compared to the current fleet of ATV's and snowmachines found in many villages.

Ruby to McGrath/Donlin Creek Road

The upper Kuskokwim River area does provide a promising opportunity for new road construction. A road through the western edge of the world class Tintina Gold Belt district is a practical construction project that would significantly contribute to the region's potential for economic growth. Segments of the route were constructed in the 1930's, but construction was halted during World War II. The project has been examined as recently as 1993 in the Ruby to McGrath Road Feasibility Study prepared for the City of Ruby.

The project would:

- Rehabilitate 54-mile Federal-Aid road from Ruby on the Yukon River south to Poorman.
- Rehabilitate 38-mile Federal-Aid road from Sterling Landing on the Kuskokwim River north to Ophir.
- Construct a 75-90-mile section between the two existing routes.
- Construct a 12 to 18-mile section from Takotna to McGrath.
- As a second stage development, construct a 60-mile section from Ophir west to the Donlin Creek mining district.

The north terminus of this route provides an intermodal connection to the Yukon River, the only navigable water capable of transporting products to develop the region, and transporting ore concentrates and other products out of the region. The south terminus connects the region to McGrath's 5,500-foot hub airport, providing excellent air transport for industrial, tourism and general commerce services. This unique combination of transportation links provides powerful opportunities for economic development of the region.

This road is a timely and critical element in the region's shift from salmon fishing economy to a more diverse economy that focuses on halibut/crab fisheries along the coast and mining developments in the upper reaches of the region.

The road is compatible with the department's policies on completing intermodal links that assist economic development in the state, and equally important, it lies in a corridor with land use designations that encourage rather than preclude construction.

The proposal is supported by the communities along the route and is supported by the mining industry led by Calista and Doyon regional corporations.

Conclusion

1. The project would be a substantive improvement to the mining industry that has essentially been on standby despite the potential of the region. Individual resource owners cannot construct a road of this magnitude.

2. A road between the Yukon River and the communities in the upper Kuskokwim River region will allow Fairbanks-based fuel and freight operators to deliver products at lower prices.

3. Land selections and land use designations in the area are designed to promote resource-based economic development.

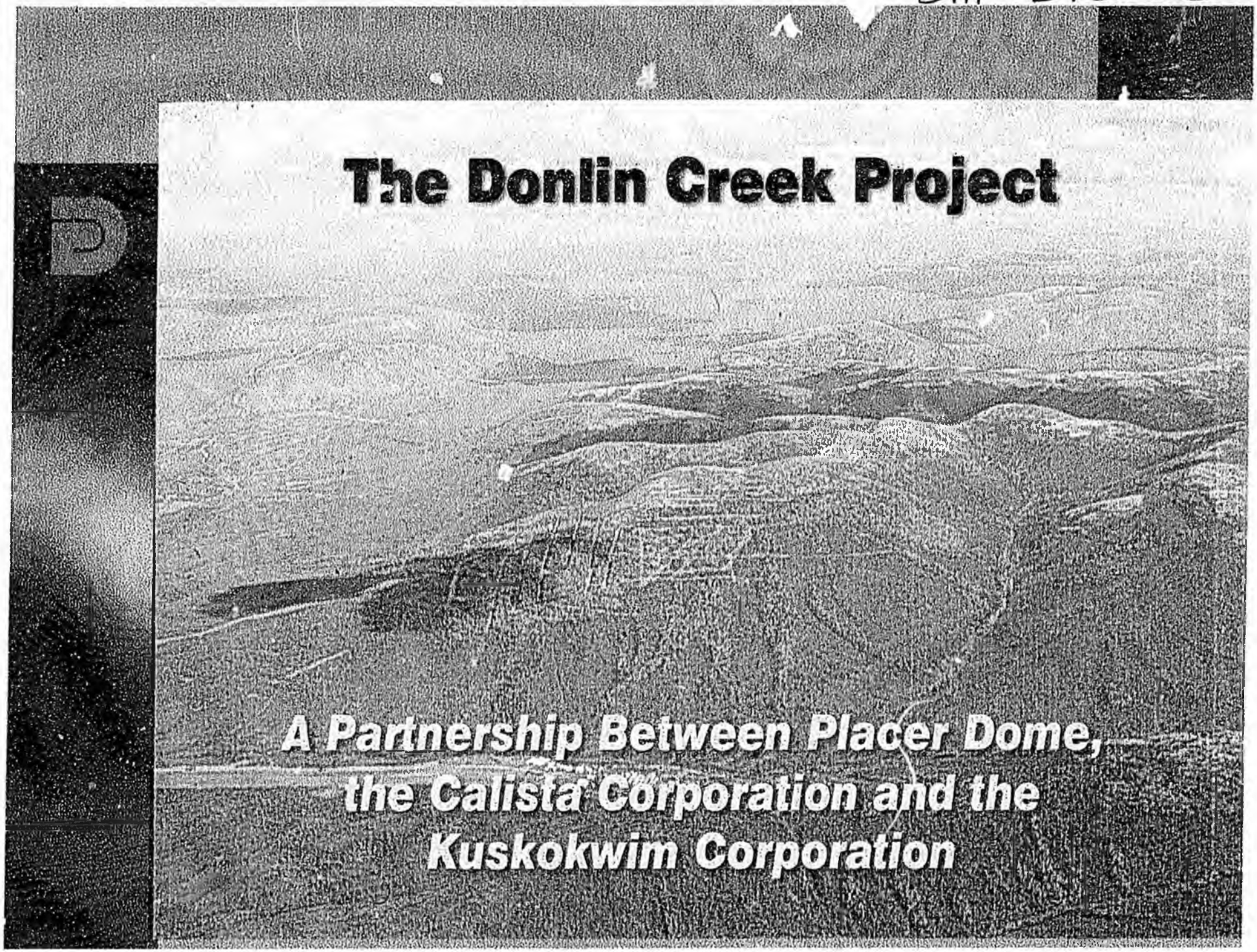
4. There is a high probability that mining companies would join in joint ventures with the department for construction and may be willing to enter maintenance and operations agreements.

5. The road reinforces development of all aspects of the region's economy, including tourism and general commerce.

Recommendation

Perform a Benefit/Cost Analysis as an element of the Northwest Alaska Transportation Plan currently underway. The study will quantify both the design and construction costs associated with the project and the economic benefits the project would bring to the region, the Fairbanks commercial sector and the state.

Bill Brieber



The Donlin Creek Project

A Partnership Between Placer Dome, the Calista Corporation and the Kuskokwim Corporation

LOCATION MAP
DONLIN CREEK PROJECT

PDX

Donlin Creek - History/Status

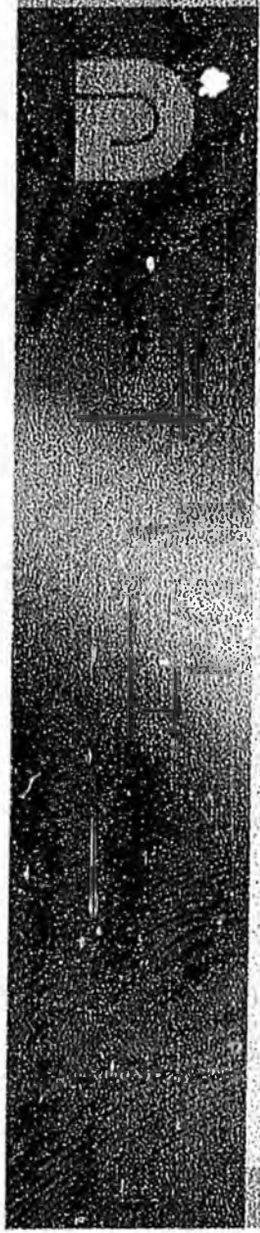
- Placer Dome/Calista lease agreement in 1995
- Placer Dome conducts large exploration programs from 1996 to 1999, and a small program in 2000
- Work includes:
  - 75 person year-round camp
  - 12 miles of roads
  - 5,000 ft airstrip
  - 290,000 ft of drilling
  - 36,000 ft of trenching
  - various geophysical surveys
  - geologic mapping/deposit modeling
  - 4 years of continuous environmental baseline surveys
  - mine development studies

Donlin Creek - History/Status

Continued

- Geologic resource is estimated to be: 12.9 Moz Au in 136.3 Mt @ 2.95 g/t Au (1.5 g/t cutoff)
- Economic studies show continual improvement in project economics
- Placer Dome has expended US$33 M on the project

Donlin Creek - Shareholder Hire



- Program to utilize and develop Calista Shareholder workforce
- Approximately 52% Shareholder hire on project
  - Provides local employment and job training
  - Demonstrates PDG commitment to regional development and builds relationships
  - PDG becomes educated in local culture
- Scholarship program ($20,000 annually)
- Public Meetings with local Village Elders

Donlin Creek – Shareholder Hire

Continued

Program Results

Year	95	96	97	98	99	00
• Employed	20	172	91	55	35	20
• Wages (in thou)	$122	1,174	976	664	423	242
• % Of Workforce	50%	51%	56%	55%	60%	70%
• % Turnover	?	310%	50%	20%	8%	0%
• Cost/M. Drilled	?	$485	$425	$320	$240	$225

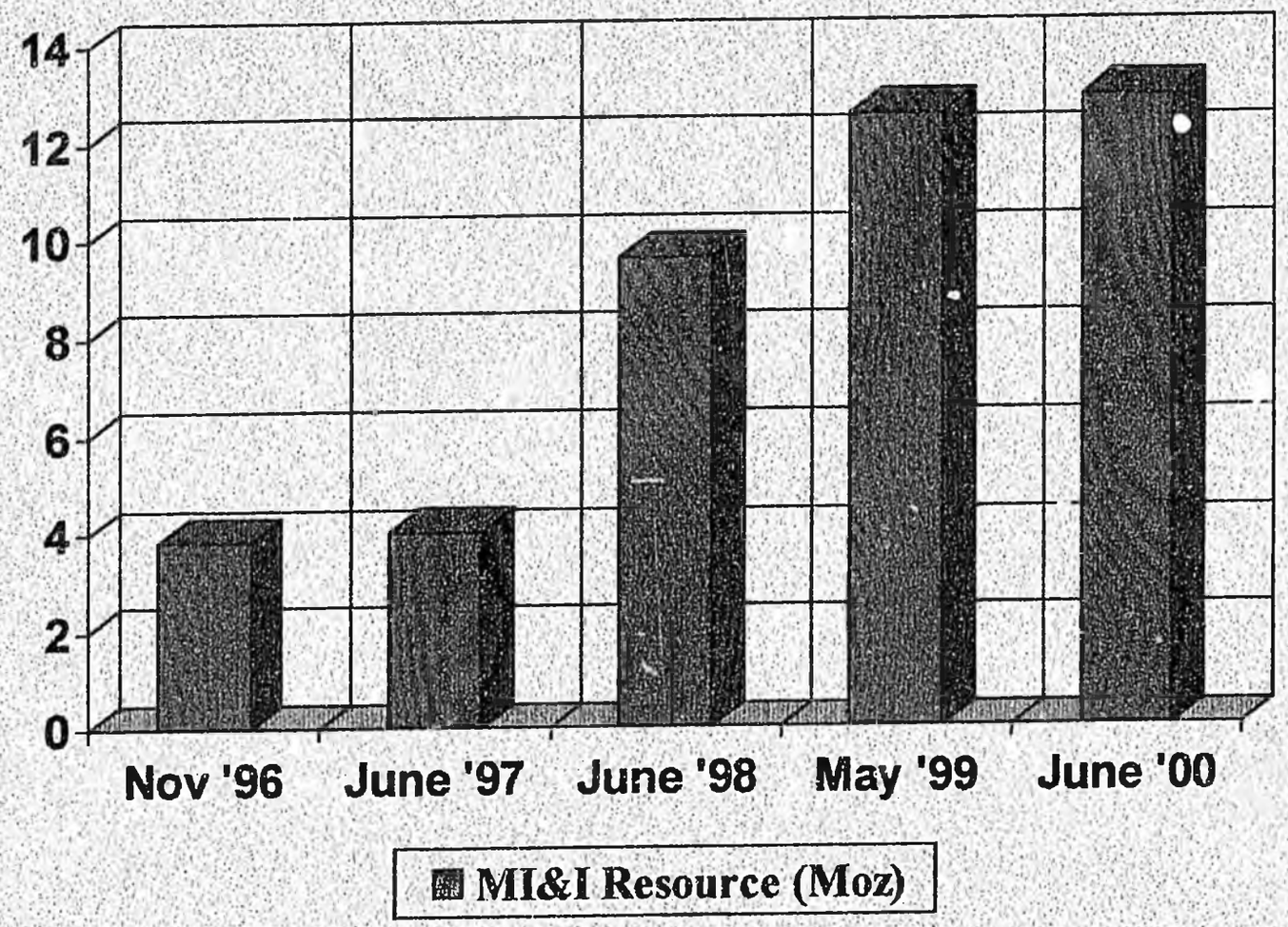
Drug Testing Results

• Pre-Emp. Fail %	?	90%	50%	20%	5%	0%
• Random Fail %	?	40%	25%	10%	0%	0%

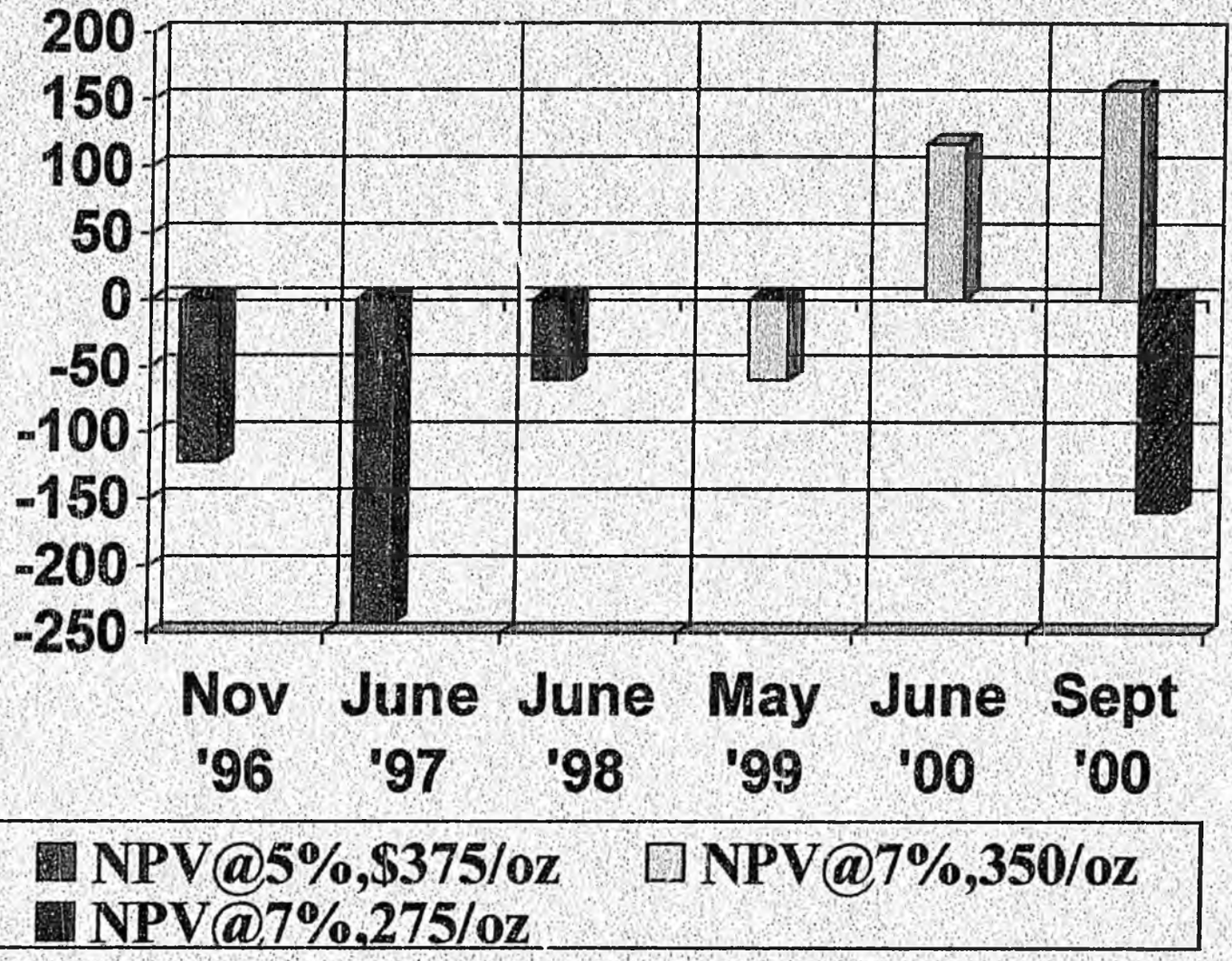
Donlin Creek - Mine Development

- Large Open Pit Mine
- Mining "Reserve": 109.5 Mt @ 2.98 g/t gold
- Milling Rate: 30,000 tonnes/day
- Production: 9.3 Moz Au, 1.2 Moz/year in first 5 years
- Approximately 600 employees
- Assume electric power delivered to site: $0.045/kWh
- Operating Costs: $11.50/tonne milled
- Capital Costs: $740 M
- Project not viable at 275 $/oz gold price under this development scenario

Donlin Creek - Resources



Donlin Creek - NPV



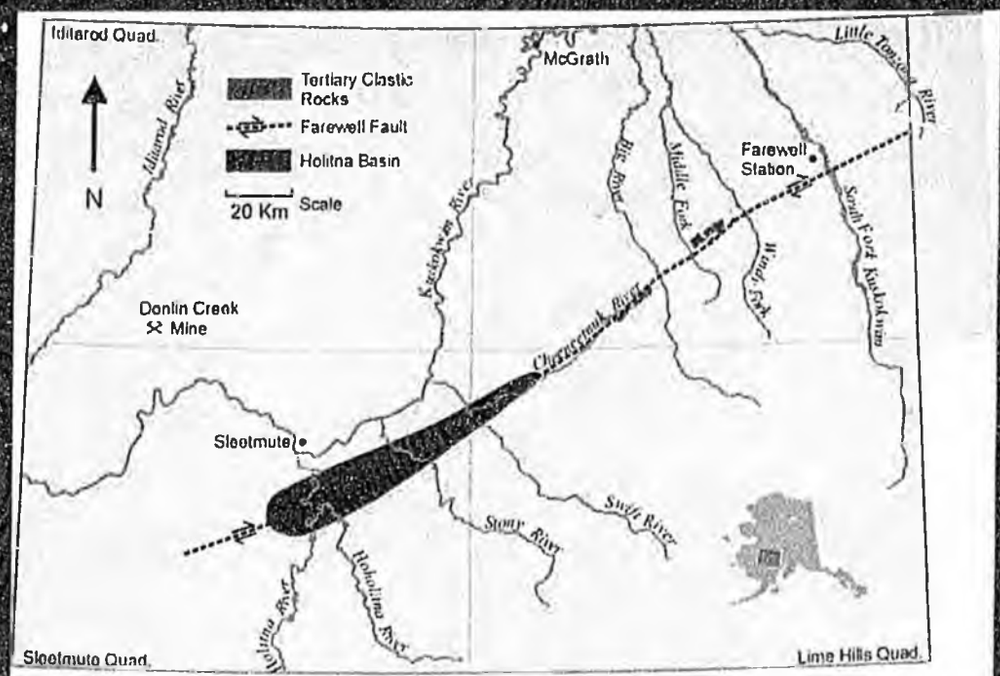
Overview of DGGS' Holitna Basin Project:

Gas for Donlin Creek?

David L. LePain
Alaska Division of Geological and Geophysical Surveys

Introduction

- Alaska Div. of Geological and Geophysical Surveys is conducting a one-year study to evaluate the potential for shallow gas in Tertiary strata of the Holitna basin
- Focus is on gas for use at Donlin Creek mine
- Basin located in northern Sleetmute and northwestern Lime Hills quadrangles
- Basin is defined by an elongate gravity low astride Farewell fault zone
- Subsurface feature
- Closest exposures are in the McGrath Quadrangle to NE



Outcrop belt from Gilbert (1981); Dickey (1982); and Bundtzen (1998)

Project Objectives

- Evaluate source rock and reservoir characteristics of outcrop section for both shallow conventional gas and coalbed methane
- Identify trends, if present, that will help relate the outcrop belt to the Holitna basin, where exposures are absent
- Utilize available geophysical and geological data sets to evaluate deep structure and fill of subsurface basin

Basin Analysis Approach

- Field work - Tertiary section in McGrath Quad.
  - Stratigraphic organization and depositional setting
  - Reservoir quality
  - Source rock characterization
- Geophysics
  - Re-processing and interpretation of high-resolution aeromagnetic data set
  - DNR purchase of existing commercial regional gravity survey
  - Integrate geophysics data sets
- Integrate outcrop and geophysical data sets

Significance of Project

- High fuel costs throughout rural Alaska
- Non-commercial field could be a long-term significant resource for region
  - Rural communities
  - Mineral prospects
  - Spur rural economy
- Projected energy use at Donlin Creek mine prospect - serious logistical problem

Summary of Donlin Creek Prospect

- 5.4 million troy ounces of gold identified; 6.1 million troy ounces inferred
- Gold disseminated in arsenopyrite
- Processing likely to involve three main steps:
  - Concentrate arsenopyrite using sulfide flotation
  - High pressure oxidation in an autoclave
  - Vat leach process to recover gold from solution
- Projected energy use
  - 66 MW peak demand - 27 million gallons of diesel fuel per year or 3.6 bcf gas (combustion turbine with 48% efficiency)
  - 54-144 bcf over projected life of mine (15-40 yr.)

Source: Jeff Foley, Calista Native Corporation; Keith Hand, FNG; Frank Bettine, Consultant

Small Alaskan Gas Fields

- North Slope (bcf)
  - Walakpa 180*
  - S. Barrow 25.9*
  - E. Barrow 12.6*

**Highly subsidized; non-economic if gas had to be moved to market off the Slope*

***Infrastructure exists in area, but field slightly removed - non-economic*

- Alaska CI (bcf)
  - Kenai 2,387
  - N. Cook Inlet 2,328
  - Beluga River 1,266
  - Swanson River 297
  - Cannery Loop 109
  - Sterling 33
  - Stump Lake 10
  - W. McArthur River 2
  - W. Foreland 20**

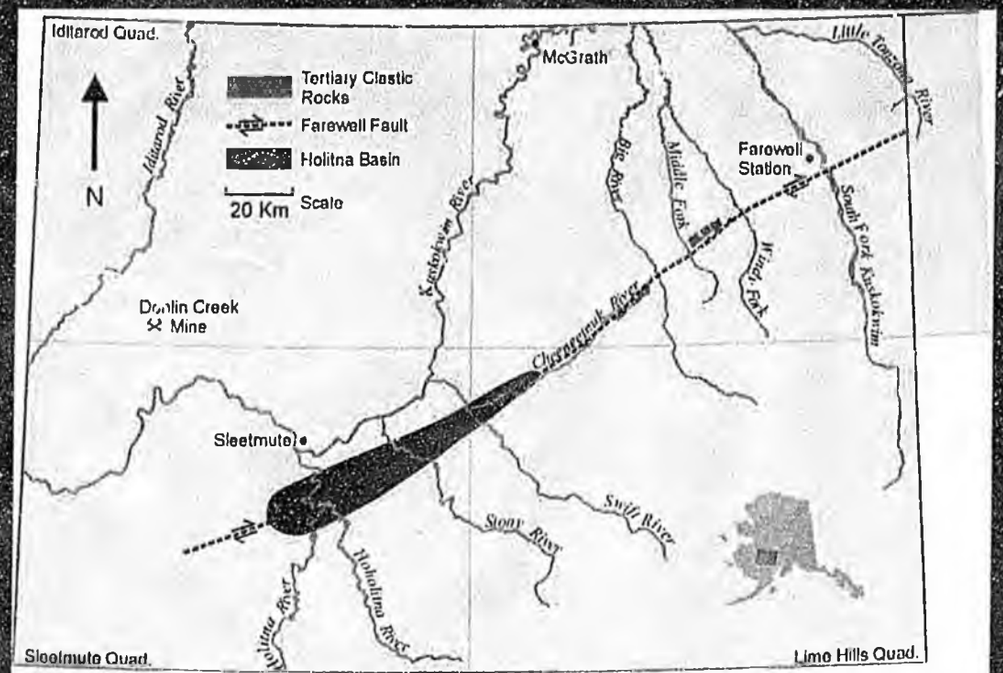
Source: Alaska Div. Oil and Gas

Field Work

- Detailed stratigraphic studies of the outcrop belt from Little Tonzona River to lower Cheeneetnuk River
  - distribution and thickness of coal and carbonaceous mudstones and potential reservoir facies
  - depositional environments
- Sample sandstones to evaluate reservoir quality
- Sample mudstones to evaluate source rock potential
  - Coal quality, coal petrology, and R_o
  - Gas holding capacity
  - Rock-eval pyrolysis and kerogen microscopy
- Relation to subsurface basin? Trends?

Regional Geology

- Tertiary section and subsurface basin are associated with Farewell fault zone
- In outcrop, Tertiary section exposed in small fault-bounded slivers
- Fault zone bounded by deformed older rocks
- In outcrop, depositional and tectonic setting are is poorly constrained
  - Thick braided stream deposits
  - Thicker swamp and lake deposits



Outcrop belt from Gilbert (1981); Dickey (1982); and Bundtzen (1998)

Conventional Gas Potential

- Source rocks in outcrop are gas-prone
  - Coal
  - Carbonaceous mudstone
  - No shortage of potential source rocks, at least in outcrop
- Source rocks in outcrop are thermally immature
  - R_o in outcrop 0.4 to 0.8
  - Shallow burial of Tertiary section in outcrop
  - Possibility for deeper burial in Holitna basin
- Reservoir quality – waiting for thin sections – probably not a big issue
- Trap - probably structural and complex
- Seal – only minor claystones with low enough permeability to serve as effective seals

Coalbed Methane Potential

- Volume of coal and carbonaceous mudstone in outcrop is encouraging
- Coal quality, coal petrology, and gas holding capacity of outcrop samples suggest fair to good methane potential
- Outcrop section is thermally immature – biogenic gas only
- Presence of coal in basin and depth of burial unknown
  - Deep enough for coalification process?
  - Methane content?
  - Coaly section at producible depths (between 200 m and 1,500 m)?
- Structure likely to be complex - simple is better
- Basin hydrology?

Status of Project

- Analytical data for:
  - High-pressure methane adsorption testing - received
  - Coal petrology and kerogen microscopy - received
  - Rock eval pyrolysis - pending
  - Thin sections for reservoir characterization - pending
  - Pollen biostratigraphy - pending
- Interpretation of aeromagnetic data and integration of recently purchase gravity data to evaluate deep structure of Holitna basin – work underway
- Geophysical report out this spring
- Summary report out this spring

Where To From Here?

- Shallow seismic?
- Slim-hole drilling technology
- If a discovery results, economic viability will depend on:
  - Nature of resource - methane gas sorbed to organic matrix or gas (methane or other) in conventional sandstone reservoir
  - Depth
- Development costs will depend on depth, characteristics of the resource, and pipeline costs
- What are chances of success?
- At this point - worth pursuing?

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William J. Carter
Signature of Camera Operator

10/14/2003
Date

Certification Rev. 7/98

MINING INDUST. BRIEF. 2/06/01

ALASKA STATE LEGISLATURE

SENATE RESOURCES COMMITTEE

Official Business

State Capitol
Juneau, AK 99801

Joint Senate & House Resources Committee Agenda

Mining Industry Briefing
Senate Finance Committee Rm. 532
Tuesday, February 6, 2001
12:15 – 1:15 p.m.

Industry Overview	Steve Borell	10 min
Greens Creek – Expansion and Update	Keith Marshall	10 min
Usibelli – Mining at Two Bull Ridge	To be determined	10 min
Fort Knox – True North in Construction	Ton Irwin/Bill Jeffress	10 min
Pogo – EIS and Permitting	Karl Hanneman	10 min
Red Dog – Port & Energy Studies, Air Issue	John Key/ Charlotte MacCay	10 min

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ALASKA MINERS ASSOCIATION, INC.

January 2001

ALASKA MINERALS WELL POSITIONED

By Steve Borell

With the stock markets in turmoil we are now at a time when investors will likely return some of their funds to traditional industries, including mining. Alaska is poised to take immediate and full advantage of such a situation.

Prices for gold, silver and most base metals have been depressed for several years. Many of the small family placer mines are not able to operate at current prices. For the large and junior companies, low metal prices mean less funds available for exploration. The result is that mineral companies have had limited exploration funds for the past several years.

However, even with this difficult situation junior and major mining companies have continued to explore in Alaska. They have worked carefully and have spent their limited funds very judiciously and have many promising prospects.

One such company is North Star Exploration. North Star made a major new discovery last summer at Northway near the Canadian border on Doyon lands. The discovery is still considered to be a "prospect" but North Star's parent company is breaking this project off into a separate stand-alone subsidiary company called Northway Holdings. Such a company can then be sold or merged into one of the large international mining companies. It takes one of these large companies with major financing and expertise to develop a major mine. For junior companies like North Star, this is what they dream about!

This is not an isolated example for Alaska. Fort Knox and Pogo were once prospects and a dream in the geologist's eye. The Fort Knox mine near Fairbanks now produces about 1000 ounces of gold per day. The Pogo project near Delta Junction has a reserve of 5.6 million ounces of gold and it is now in the EIS and permitting stage. There are certainly more major deposits out there and when investments return to mining, more deposits will be found.

Part of the good news is that companies focus on states and countries having high geologic potential and a track record of tax and political stability. Alaska State and Native lands fit these criteria and therefore continue as a focal point for the industry.

Alaska has excellent geologic potential and is known both historically and currently for some of the best deposits in the world. Alaska has also had tax stability for several years. Mining can never provide the level of direct tax and royalty revenues as Prudhoe Bay...nothing can. But mining can provide quality jobs and other local economic opportunities in all areas of the state.

A 1999 McDowell Group study showed this clearly. The study titled "Economic Impact of the Fort Knox Mine on the Fairbanks North Star Borough" was prepared for the Borough. It showed that even though Fort Knox is not making a profit, it is providing 260 of the best jobs in the area.

Furthermore, Fort Knox spends over $35 million annually on local goods and services, generates $4.4 million annually in mine-related revenues to the Borough (an average of $16,900 per mine employee), and since the mine began operating, all Borough residents have enjoyed a 7% decrease in their electric bills.

Alaska is also becoming known for political stability. Recent Legislatures and Governors of both parties have been supportive of mining and have sought to encourage mineral investments and reduce the uncertainty of doing business in the state. Various relatively small but important changes have been made to statutes and regulations that have improved the business climate by reducing uncertainty and streamlining the permitting process. There is still work to be done but important changes have been made.

Alaska is indeed positioned and ready for new mineral investments.

[Steven C. Borell is the executive director of the Alaska Miners Association. He is a registered professional engineer in Alaska, Colorado and North Dakota and has more than 26 years experience in coal and metal mining in Alaska, the Lower 48, Canada, and South America.]

ALASKA MINERS ASSOCIATION, INC.

3305 Arctic #202, Anchorage, Alaska 99503 • (907) 563-9229 • FAX: (907) 563-9225 • www.alaskaminers.org

For Immediate Release:
Friday, January 12, 2001

Anchorage, Alaska

Alaska Miners to Sue Department of Interior

Anchorage - The Alaska Miners Association announced today that it will sue the Department of Interior to set aside Solicitor John Leshy's "midnight" regulations designed to drive the mining industry out of business in Alaska. The AMA will file suit opposing new regulations that specify how exploration and mining on federal lands must be conducted.

"The Department of Interior has unconscionably exceeded the limits of the law in numerous areas," said Jerry Birch, Vice President of the AMA. "Interior did not provide fair opportunity for the public to comment on these regulations and they did not follow Congress' specific direction," Birch continued.

In 1999 after completing a study mandated by the Congress, the National Academy of Sciences reported that the existing regulations were working fine. The primary findings of the NAS study were that these regulations protected the environment while allowing our critical national mining industry to function.

One new item of concern to Alaska's miners is the requirement for a validity examination before the BLM approves a plan of operation. This means that mom and pop mines in the Wiseman and Fortymile Mining Districts that have been operating for generations will now have a new insurmountable legal hurdle that has nothing to do with environmental protection. This will force some of them out of business.

Another topic of concern involves outrageous changes to the bonding requirements. "We do not oppose bonding but we do oppose the way the regulation is written," stated Steve Borell, Executive Director of the AMA. "The State bonding pool will no longer be available," he continued. Since 1992 when the bonding pool was started there has not been a single default anywhere in the State. The bonding pool was created by the State Legislature to protect the environment because surety bonds are not commercially available.

For further information contact: Steven C. Borell, Executive Director
907-563-9229

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ALASKA MINERS ASSOCIATION, INC.

ALASKA

America's Sleeping Giant for Minerals

Alaska now provides the greatest opportunity for minerals exploration and development in all of North America.

There is more land in Alaska open to mineral entry than in any other western state. As compared to other parts of North America, Alaska has had very little mineral exploration and very little mining. Major world class deposits are known to exist, some of which are being developed at this time. And just as important, as oil production from Prudhoe Bay decreases, Alaskans are encouraging mineral development and see it as having the greatest hope for significant future economic development.

Alaska Has a History of Being Elephant Country

Alaska is known for its mineral elephants. The copper deposit at Kennecott provided the base for the modern mining giant of the same name and contained ore grading as high as 70% copper with the average mill grade for the mine life at 12%. The Alaska-Juneau underground mine milled 12,500 tons per day in the early part of this century and will likely re-open at 22,500 tons per day. The Greens Creek Mine has produced 7.6 million oz. silver, 37,000 oz. gold, and 58,700 tons of lead-zinc concentrates per year. The Red Dog mine has produced more than 550,000 tons of zinc, lead, and combined concentrates per year and at that rate has a mine life of more than 50 years. The recently discovered (1989) Pebble Copper deposit is know to contain at least 500 million tons grading 0.35% copper and 0.012 oz per ton gold.

It is estimated that there is as much coal in Alaska as in the remainder of the U.S. combined. All of this coal is very low sulfur and it is well positioned to compete in the Pacific Rim with coals from Australia and Indonesia. In addition to federal and state owned coal, there is also privately owned coal in some areas and these private owners are actively working to develop these coal fields.

Many other elephants are known to exist. Some are being reevaluated for application of modern mining and extractive technologies. Others are being evaluated for infrasturcture development.

Alaska Has Land Available

It is well known that the U.S. Congress has established many parks, preserves, refuges, etc. in Alaska but there is still a tremendous amount of federal, state, and private Native Corporation lands that are available for minerals development. The amount of federal land open to mineral entry (49.6 million acres) is larger than the entire area of the states of Washington, South Dakota or Nebraska.

The amount of state land open to mineral entry (95.9 million acres) is nearly the size of the entire state of California. Much of these state lands were specifically selected because of their high coal and hardrock mineral potential. State law encourages and even mandates development of resources.

Native Corporations

E-mail Steve Burnell

Alaska is unique in that twelve Native Corporations own more than 44 million acres of private land. Much of these lands were selected specifically for their mineral potential before most State selections or the establishment of the parks and refuges.

These Native Corporations have been in existence for more than twenty years and have tried many avenues to develop jobs for their regions. Because of Red Dog and other smaller projects they have seen what mining can do for the economy, especially in remote areas, and they want economic development for their regions and jobs for their people. These Native Corporations are not "reservations", they are modern businesses and they are actively marketing their lands for mineral development.

Alaska is Essentially Un-Explored

Because of past federal and state policies, the climate, remoteness, and a short summer exploration season, Alaska has had relatively little exploration - far less than any other part of the United States and less than most other parts of the world. The surface is typically covered by forest, tundra, or snow and ice and is not readily visible. The new exploration techniques developed over the past 20 years have been applied to only a few small areas of the state, much less than 5%.

Alaska Has Stable and Progressive Tax and Regulatory Policies

Alaska has a 7% net profits mining license tax on all mineral production, a 3% net profits royalty on minerals from state lands, and a graduated claim rental beginning at $0.50/acre. Alaska state corporate income tax is 9.4% if net profit is more than a set thresh[illegible]unt. Alaska does not now have a statew[illegible]ax nor a personal income tax. In 1992 the [illegible]egislature passed a bill specifically exempting insitu mineral reserves from taxation until they are mined.

Alaska's mining reclamation statute is logical and reasonable while still ensuring that the area mined is left in a stable condition that will provide for public safety and not pollute the environment. The statute requires bonding in the fairest possible way. The miner is held responsible for the reclamation but a bonding pool is available that provides access to bonding and limits the miner's cost to payment into a refundable escrow account and a small annual service fee.

Alaska Wants Mining

Alaskans are beginning to recognize that mining has the greatest potential for economic development and new jobs for all areas of the state. Oil production is declining at a rate of 7% per year. Harvesting timber is coming under increased pressure and will not provide new jobs and economic development. Tourism is important and may expand but primarily with short term, seasonal, entry-level jobs. Commercial fishing is already over-allocated and the future of that industry will be with the courts deciding who will get the fish. That leaves mining. And mining can provide challenging, skilled, good-paying, year-around jobs for all areas of the state.

Alaska Now Has a Growing Mining Industry

During the next 18 months, six mining projects in Alaska will be at a stage where they could make decisions to begin construction of major mines. Now is the first time that such a statement could have been made since 1902! There are no guarantees. Each has significant design, permitting, market and/or financing challenges that must be overcome and the owners are working on these remaining challenges.

Shouldn't You Be Part of This Exciting Time in Alaska?

There are various ways to approach mineral exploration in Alaska.

- Contact the state Division of Mining, Bureau of Land Management or the U.S. Forest Service to learn about their respective lands.
- Contact the 12 Native Corporations for information on leasing their privately owned lands.
- Use the Alaska Miners Association annual Service Directory to contact mining companies now operating in the state or to contact independent prospectors, geologists, engineers and others that have properties or know of properties that have already been discovered.
- Attend the Alaska Miners Association annual convention and trade show that is held in Anchorage **each year during the first week of November.**
- Attend the spring Bi-annual Placer Conference held in Fairbanks (even years) or the spring Bi-annual Conference Juneau held in Juneau (odd years), both orgainzed by the Alaska Miners Association.

No matter what your level of interest at this time, you will want to join the Alaska Miners Association to stay abreast of events in the 49th state. Membership includes the annual Service Directory and the monthly journal **The Alaska Miner.** Call or write today to:

Alaska Miners Association
3305 Arctic #202
Anchorage, Alaska 99503
Phone: (907) 563-9229
FAX: (907) 563-9225

ALASKA MINERS ASSOCIATION, INC.

Why Locate In Alaska for Projects In RUSSIA

By Steve Borell

Alaska and Russia share a very special relationship and companies wishing to do business in the eastern half of Russia should strongly consider locating their Russia contact office in Alaska. This applies not just to mining companies and mining industry suppliers but anyone wishing to do business in Russia.

In July, 1993 the Alaska Miners Association sponsored a tour of mines in the Magadan Region of the Russian Far East. I had had the sense that there was an Alaska advantage for several years and our tour confirmed this in many ways. I am now convinced that it is a significant advantage over having a contact office in another location.

PROXIMITY

The first obvious reason is the close proximity of Alaska to Russia. This is important for travel and for communications. For instance, Magadan is four time zones west of Alaska. This is the same time difference between Alaska and the east coast of the U.S. We in Alaska have a four hour business day overlap with the east coast and the same with the Russian Far East. The further east one moves from Alaska, the more difficult it will be to keep good contact with a project, partner or customer in Russia.

Air travel for personnel is another area where Alaska has a distinct advantage. Magadan is about four flying hours from Anchorage and there are now regularly scheduled flights between Anchorage and Magadan, Khabarovsk and Vladivostok on both Alaska Airlines and on Aeroflot. The time lost traveling back and forth is significantly increased when one adds the various connections required when coming from Canada or the lower 48. And although a four hour jet lag is still a bother, it is far better than a six or eight hour jet lag. Additionally, there are direct flights on Aeroflot between Anchorage and Moscow.

There are also significant arguments that favor Alaska when shipping parts, supplies and products to or from the Russian Far East or Siberia. Which would you prefer: 1) shipping your parts or products through New York, where there are 10,000 customs employees in a no-man's zone covering an area of several square miles, into Moscow where there are 15,000 customs employees and a similar area, or, 2) shipping directly from Anchorage where there are 6 customs agents, whom you get to know by name after a few shipments, and into Magadan, Khabarovsk or Vladivostok where your partner similarly knows the 8 local agents by name?

Keeping tabs on the whereabouts of your shipment will be much easier from Alaska. The problems are just an extension of the problems involved in shipping to the bush and Alaskans understand that process. Also, wouldn't you prefer to track your shipment through the U.S. or Canada for most of its journey and then in Russia for the least possible time? At the very worst you could visit the airport every day until you see that your pallet of parts is gone and call or telex or e-mail your Russian partner to tell him it is on the way. Try that in New York, Seattle, Vancouver or Moscow.

It should also be noted that several Alaska-based air carriers have established cargo shipment routes between Anchorage and many Russian cities.

SIMILAR CONDITIONS

On a purely technical level there are many reasons Alaska's Arctic-experienced miners, geologists, civil engineers, architects, etc., have an advantage over their counterparts from other areas of the country. When you mention discontinuous permafrost to an engineer in the lower-48 you may get a blank stare. For Alaskans such a phrase raises a series of red flags and brings to mind many additional considerations. The same can be said for design and operation in an area where the average temperature in January may be minus 32 degrees F. People who have not experienced this do not understand the implications!

For the miner, geologist and prospector, the mineral terranes of the Russian Far East in particular are similar to and an extension on those found in Alaska, the Yukon and British Columbia. The same kinds of rocks appear and one would expect to search for the same ore deposit models. Geologists acquainted with the rocks and associations in Alaska will be the obvious choice for work

in Russia and conversely. Here again Alaska bush logistics, challenges and local hazards (grizzly bear) experience will be invaluable.

BENEFITS FOR ALASKA MINERALS INDUSTRY

The benefits for the Alaska minerals industry are many. The transfer of experience and expertise will assist both Russian and Alaskan projects. Minerals companies with a Russia contact office in Alaska will likely take interest in Alaska prospects that may come along. The knowledge they gain working on Russian ore deposits and geologic models will be readily transferable to Alaska and will increase their effectiveness in exploring for deposits in Alaska.

The mining industry in Alaska will also benefit if equipment suppliers locate their Russia contact offices in Alaska. If the suppliers are strong and have larger volumes of sales they will be able to buy in larger volumes and maintain larger stocks of spare parts. The increased stock levels will mean improved parts availability for miners in Alaska.

Companies interested in placer mining or in selling supplies to this part of the industry will find Alaska and eastern Russia to be two pages of the same book. Experience gained in either area will be of major value when doing business in the other.

FAMILY CONSIDERATIONS

Do not forget spouses and families. Living in Russia will be a strain on even the strongest expatriate family. It may however be feasible for some families to live in Alaska rather than move to a remote site in Russia. Or how nice for expatriates living in Russia to be able to grab a flight to Alaska and enjoy some "America" while the manager, engineer, geologist, etc., visits the home office on business. I lived in South America for two years and my wife and I understand this aspect of foreign assignments -- and culture shock -- very clearly.

Just living in the north is another aspect of culture shock that should be recognized. Alaska experience for employees and families should reduce this hazard. There is often severe culture shock when lower 48 residents move to Alaska. It will be much easier and less traumatic if employees and their families are already accustomed to the high latitude and temperatures of Alaska. Moving a family to Russia, just as to any new culture, will become a major challenge for families and marriages. Alaska experience would help ease that transition.

CULTURAL TIES

An additional reason for locating the U.S. contact office for Russia in Alaska is that the Russians prefer to do business with Alaskans. They dislike the influence of Moscow just as much as we Alaskans dislike many of the influences of Washington. This helps explain why the Russians have a special kinship with Alaskans.

Another less positive but nonetheless important consideration is that the Russians seem to prefer to not do business with Asian companies, ie, Japan, Korea, China and Taiwan. Russia has had a long history of armed conflict with Asian countries and the issues are still not totally resolved. They may like the products but it appears they prefer to deal with Alaskans, even when buying products manufactured in Asia.

One must also recall that Alaska was once part of Russia and the first gold mining in the state was by the Russians in 1848 at the now famous Russian River salmon fishing stream on the Kenai Peninsula. The Alaska Commercial Company operating in Alaska today is a descendent of a Russian company and advertises as operating "Since 1867," the year Secretary Seward bought Alaska from Russia.

It is also of note that during the 70 year communist period few books written in English were allowed to be translated and widely distributed in Russia. One exception was the writing of Jack London. As a result there are all manner of lakes, roads, mountains, etc., in Russia named after London. One Alaskan mining executive working in Russia commented that so many people talked to him about the Jack London stories he had to buy a copy of London's complete works and re-read the stories so he could better relate to the Russians.

BUSINESS SUPPORT STRUCTURE

There is a significant amount of business activity between Alaskan and Russian companies. I'd estimate there are several hundred Alaskan companies of all types doing business with Russian companies. A few of these are mining ventures but most involve some form of import-export sales. Also, various agencies have protocols with their Russian counterparts to encourage cooperation between Alaskan and Russian entities.

The American Russian Center (907) 786-4300 of the University of Alaska has branches in Russia and Alaska to provide training, short-term technical assistance and act as a small business information system. Each major campus of the University (Fairbanks, Anchorage & Juneau) offers courses in Russian language, culture, history, etc. The State of Alaska's Division of Trade and Development Office (907) 269-8110 provides support for Alaskan businesses wanting to export to Russia. The Division arranges trade missions -- both to and from Russia -- gathers market intelligence and contacts with the assistance of representatives located in Sakhalin and Primorskii Krai. And the U.S. Department of Commerce has offices in Anchorage and several cities in eastern Russia.

(Steve Borell is the Executive Director of the Alaska Miners Association. A registered professional engineer in Alaska, Colorado and North Dakota, he has worked in coal and metals mining for more than 25 years throughout the United States and in Canada and South America).

ALASKA MINERS ASSOCIATION, INC.

LAND STATUS IN ALASKA
(Millions of Acres)

	Total	Total "Wilderness"	Total Closed to Mining	Total Open to Mining
Federal Lands				
National Park Service	54.7	32.8	54.7	0
U.S. Fish & Wildlife	77.1	18.5	77.1	0
U.S. Forest Service	22.8	5.7	5.7	17.1
Bureau of Land Management	57.9	2.4 (2) 23.0 (3)	2.4 23.0	32.5 0
Department of Defense	2.5		2.5	0
Subtotal	215.0 (1)	82.4	165.4 (5)	49.6
State Lands				
State Parks	3.2		3.2	0
Administrative Mineral Closures	5.3		5.3	0
Other State Lands	77.9		0	77.9
Not Selected/TA'd	18.0		0	18.0
Subtotal	104.4 (1)		8.5	95.9
Private Lands				
Native Corporations	45.6		0	45.6 (4)
Other Private	0.5		0.5	0
Subtotal	46.1		0.5	45.6
Total	365.5	82.4	174.4	191.1

(1) Final acres that will result after all State and Native Land Transfers.

(2) Wild and Scenic River Corridors total approximately 2.4 million acres and these are managed the same as Wilderness designated lands.

(3) National Petroleum Reserve Alaska is effectively managed as Wilderness.

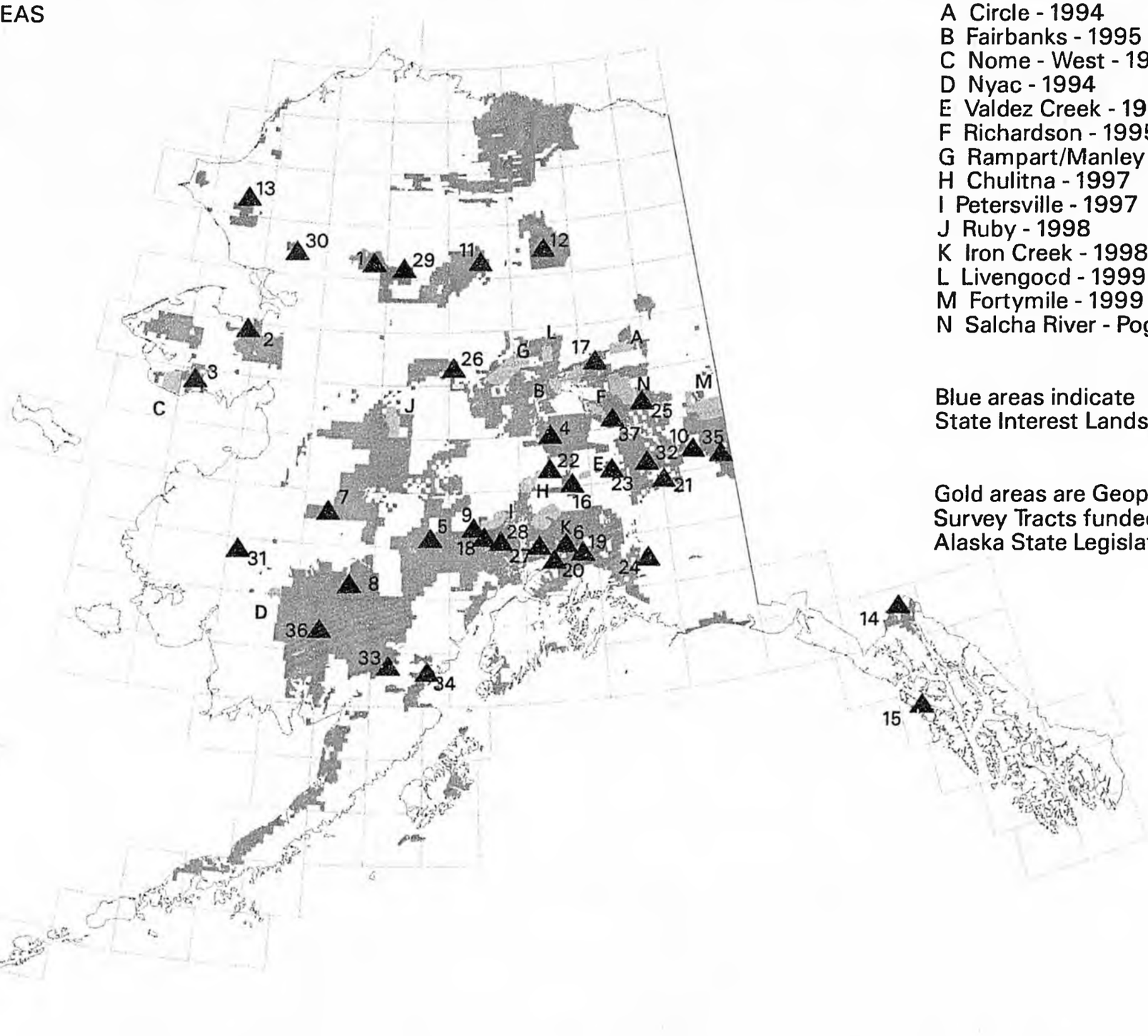
(4) Open to mining if leased from Native Corporations.

(5) AS A COMPARISON: Texas has 168 million acres. OR This 165.4 million acres, is equal to the TOTAL combined acreage of New York, New Jersey, Pennsylvania, West Virginia, Ohio, Indiana, and Illinois ! ! !

RED TRIANGLES INDICATE APPROXIMATE
LOCATIONS OF CANDIDATE AREAS NOT SURVEYED

UNSURVEYED CANDIDATE AREAS
(NOT IN ORDER OF PRIORITY)

1 Arctic (Ambler schist belt)
2 Candle
3 Nome East
4 Bonnifield
5 Farewell
6 Boulder Creek
7 Iditarod (Flat Donlin)
8 Sleetmute
9 Yentna
10 60-Mile Butte
11 Wiseman
12 Chandalar
13 DeLong Mountains
14 Haines/Klukwan
15 Chichagof
16 Gold Hill
17 Steese/Upper Chena
18 Skwentna
19 Sheep Mountain
20 King Mountain
21 Mentasta/Slana
22 Cantwell/Windy Pass
23 Paxson/McLaren
24 Tonsina/Tiekel
25 Goodpaster
26 Tanana/Melozi
27 Willow Creek
28 Yenlo Hills
29 Upper Kobuk River
30 Baird Mountains
31 Marshall
32 Delta
33 Pebble
34 Jurassic Arc
35 Ladue
36 Shotgun Hills
37 Shaw Creek



GEOPHYSICAL DATA AREAS
AND RELEASE DATES

A Circle - 1994
B Fairbanks - 1995
C Nome - West - 1994
D Nyac - 1994
E Valdez Creek - 1994
F Richardson - 1995
G Rampart/Manley - 1996, 1997
H Chulitna - 1997
I Petersville - 1997
J Ruby - 1998
K Iron Creek - 1998
L Livengocd - 1999
M Fortymile - 1999
N Salcha River - Pogo 2000

Blue areas indicate
State Interest Lands.

Gold areas are Geophysical
Survey Tracts funded by the
Alaska State Legislature.

DGGS ALASKA AIRBORNE GEOPHYSICAL/GEOLOGICAL MINERAL INVENTORY

KENNECOTT GREENS CREEK MINING COMPANY

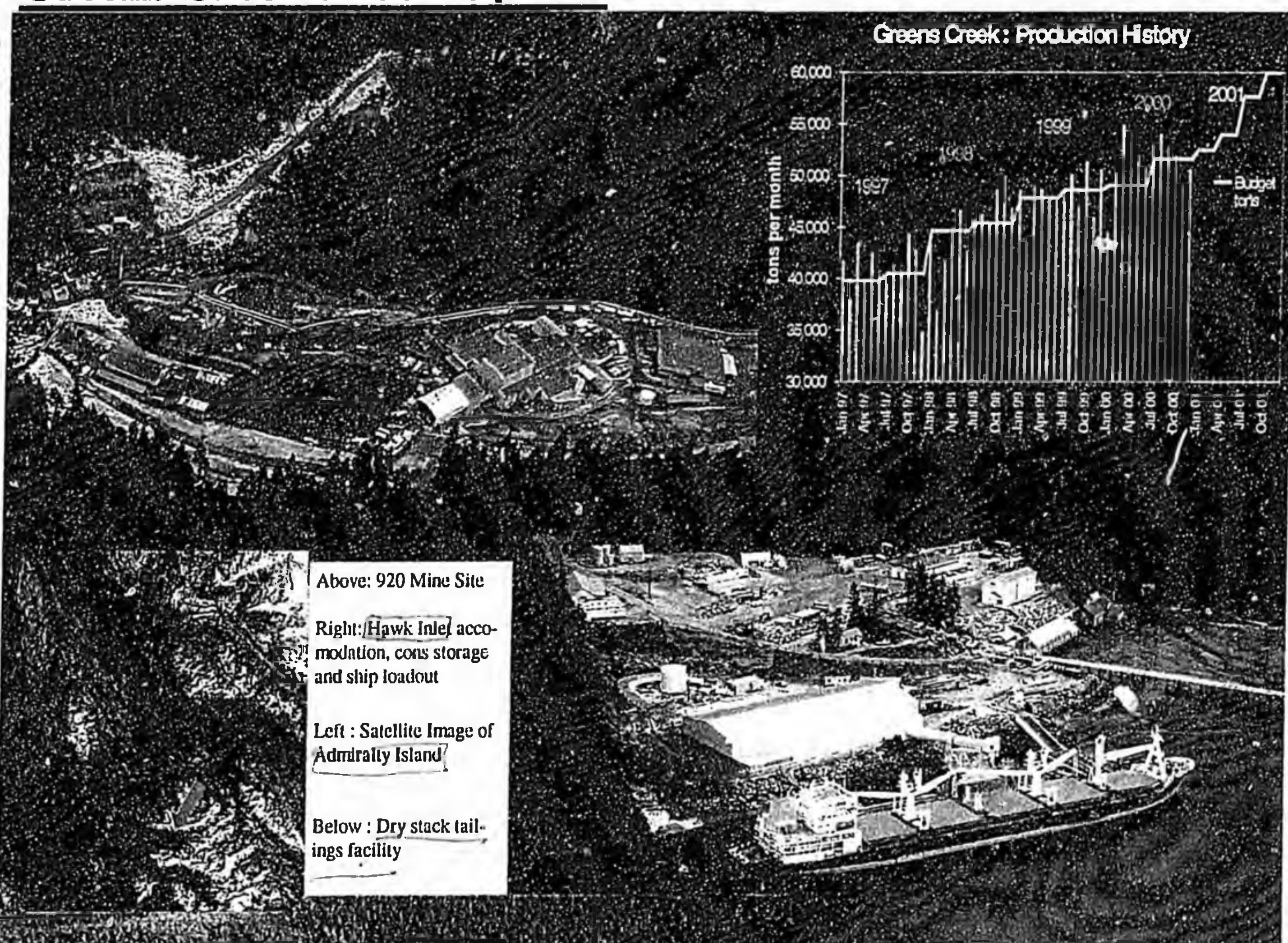
Ron Plante (1)
– Senate Committee
2-6-01

FROM THE ROCK

Joint House / Senate Resources Hearing : Feb 2001

Greens Creek : 2001 Update

(2)



Above: 920 Mine Site

Right: Hawk Inlet accomodation, cons storage and ship loadout

Left : Satellite Image of Admiralty Island

Below : Dry stack tailings facility

3 major projects

(3)

Production Highlights 2000

- Record production year 560,000t (+8%)
- Record backfill year 550,000t equivalent (+6%)
- Completed $6M mill "cleaner cells" project
- Completed $2.6M tailings impoundment extension
- Favorable Public Opinion Survey

McDowell group
see survey.

Tailings material
1/2 ua. 1/2 = Building

Production Details: 1998 – 2002

Mine Production Statistics	1998 Actual	1999 Actual	2000 Actual	2001 Plan	2002 Forecast
Operating Days	365	365	366	365	365
Ore Mined (Tons)	**538,624**	**573,265**	**616,943**	**657,250**	**720,875**
Ore Mined (TPD)	1,476	1,571	1,686	1,801	1,975
Waste Mined (Tons)	264,440	200,709	209,826	200,988	180,518
Total Rock Mined (Tons)	**803,064**	**773,974**	**826,769**	**858,238**	**901,393**
Cemented Tailings Placed	237,784	263,219	275,418	305,621	335,207
Waste Rock Backfill Placed	109,066	92,516	102,795	101,874	111,736
Equivalent Void Backfilled (Tons)	**553,516**	**571,712**	**606,916**	**655,749**	**719,228**
Void Fill Ratio	103%	100%	98%	100%	100%
Grades					
Zinc (%)	**11.93**	**13.47**	**13.57**	**13.37**	**13.45**
Lead (%)	5.13	5.66	5.28	5.16	4.98
Silver (OPT)	**22.74**	**23.64**	**20.06**	**20.22**	**19.09**
Gold (OPT)	0.170	0.212	0.208	0.184	0.192

2 Platinum/ Palladium ?

2000 Operation Details

270 Employees
85% Alaskan Hire
$26M Payroll
$6M Local Contractors
$15,000 Philanthropic Contributions

Major Projects in 2000

Mill Expansion (July – December)
- $6M Project
- Additional Flotation Cells
- Optimize Zinc distribution
  - Extensive use of local contractors
  - Civil
  - Steel Erection
  - Electrical

Major Project in 2001

5MW addition to Powerhouse
- $4M project
- Clean burning Combustion Turbine

Underground Paste
- $4M project
- Pumped backfill not trucked
- Improved ventilation
- Increase economic limit of mining – further and deeper

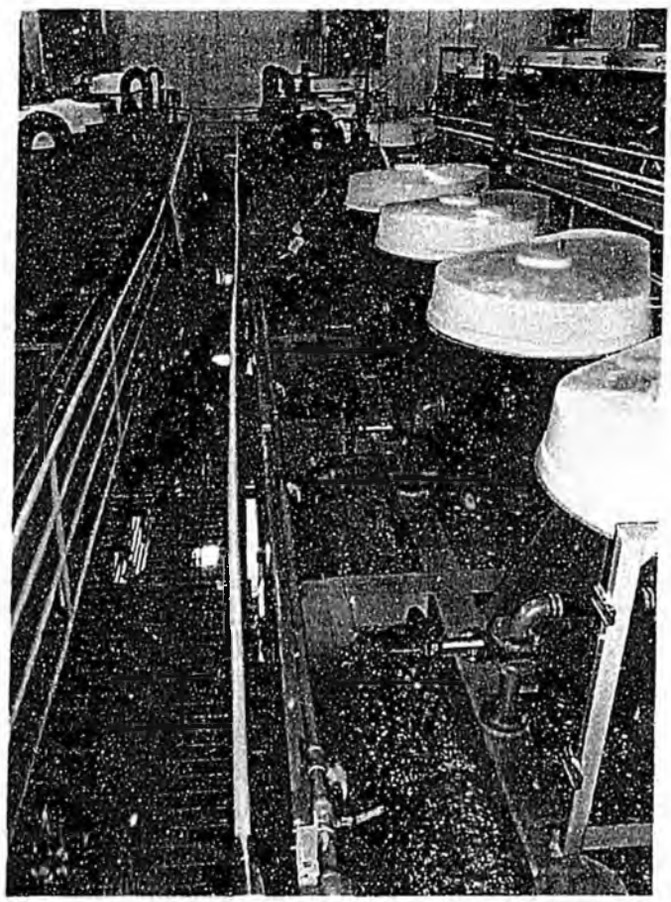
Tails II Permitting
- NEPA Process and EIS

Concurrent Reclamation
- Cap Testing

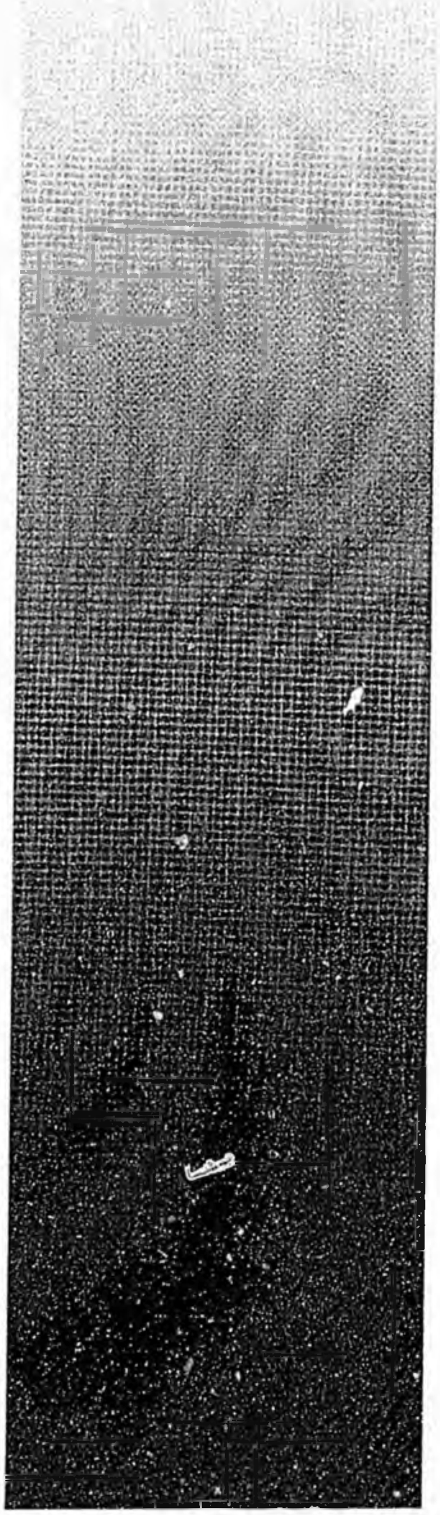
Exploration in 2000

Underground $0.5M program. Replaced 95% of 2000 production

Surface $1.2M program. Good indicators, found contact, but no direct hits.



Mill Cleaner Cells



GREENS CREEK HOUSEHOLD OPINION SURVEY

Prepared for:

KENNECOTT GREENS CREEK MINING COMPANY
P.O. Box 32199
JUNEAU, ALASKA 99803

McDowell
GROUP

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December 2000

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Purpose and Scope

The McDowell Group conducted a public opinion telephone survey for the Greens Creek Mine. The purpose was to identify general attitudes of the community of Juneau towards the mine.

Methodology

The Greens Creek Household Opinion Survey was conducted in November 2000. The telephone survey was administered to a random sample of 200 households. The sample represents the population of all Juneau households. The maximum margin or error for survey responses is ± 7%. The results are presented in narrative and graphic format.

Knowledge of Greens Creek Mine

- More than three-quarters (82%) of Juneau residents are able to recall Greens Creek Mine as a mine operating in the Juneau area.
- Three-quarters (73%) of Juneau residents are able to correctly identify the location of Greens Creek Mine.
- The most common source of information about Greens Creek Mine is newspapers (42%) followed by friends and family (32%).

Greens Creek Mine and Community and Charitable Support

- When asked what two companies they would identify as doing the most for Juneau in terms of community and charitable support, Juneau residents named Greens Creek Mine (12%) and Princess Cruise Lines (11%) the most often. Two-thirds (64%), however, said that they didn't know. (It should be noted that this question was asked at the very beginning of the survey before the respondent could identify that the survey was related to Greens Creek Mine.)
- Overall, Juneau residents see Greens Creek Mine as "somewhat involved" in community and charitable support. On a scale of 1 to 4, with 1 being "not at all involved" to 4 being "very involved", Juneau residents gave Greens Creek Mine an average rating of 2.4 (between "somewhat involved" and "involved").

Greens Creek Mine Operations and the Environment

- Juneau residents are nearly evenly divided between saying that Greens Creek Mine is above average or average, or that they do not know how Greens Creek Mine compares with other mines with respect to the environment. Only 2 percent rate it as below average.
- Two-thirds (67%) of Juneau residents feel that Greens Creek Mine does a good job of protecting the environment.

Overall Mining Industry

- Over three-quarters (79%) of Juneau residents feel that mining in the Juneau area has a positive impact on the community.

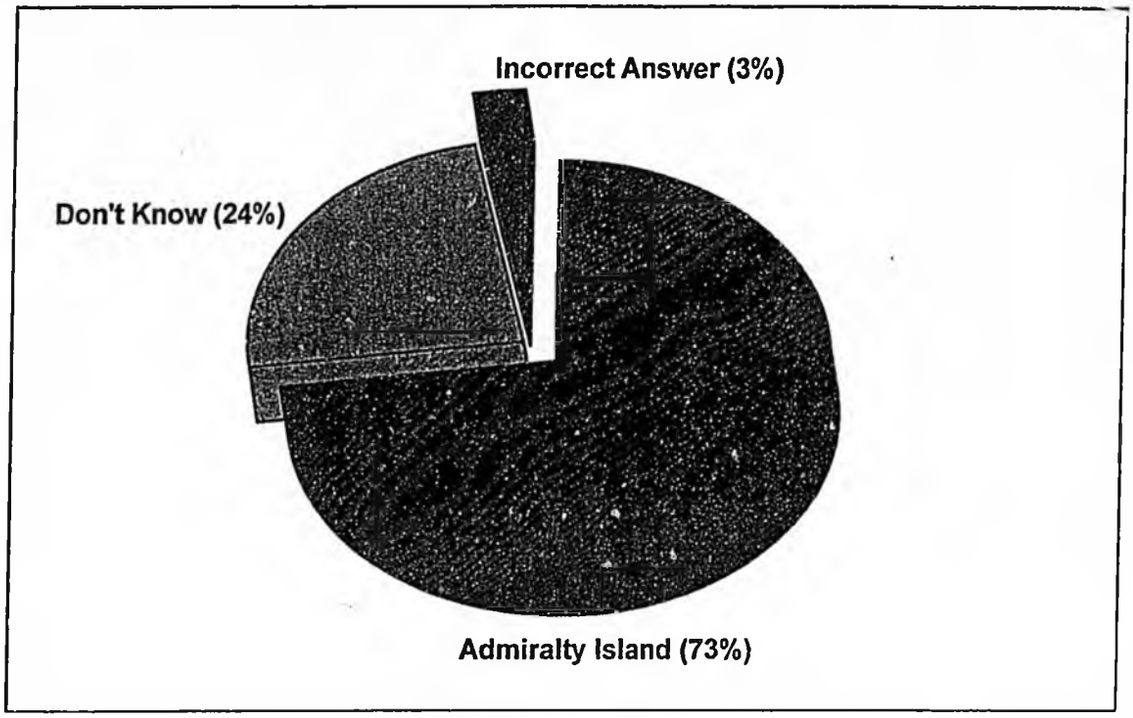
- Juneau residents see mining as important to Juneau's economy. On a scale of 1 to 4, with 1 being "very unimportant" to 4 being "very important", Juneau residents gave mining's economic impact in Juneau an average rating of 3.2 (slightly more than "important").

- Overall, Juneau residents feel positive about the mining industry in Alaska. On a scale of 1 to 4, with 1 being "very negative" to 4 being "very positive", Juneau residents gave mining in Alaska an average rating of 3.8.

Awareness of Location of Greens Creek Mine

Three-quarters (73%) of Juneau residents are able to correctly identify the location of Greens Creek Mine. Recent residents (living in Juneau less than six years) are less likely to identify the right location (39%), as are residents under age 35 (54%) and those with household incomes of less than $50,000/year (62%). (Other responses are included in the appendix to this report.)

Do you happen to know where the Greens Creek Mine is located?

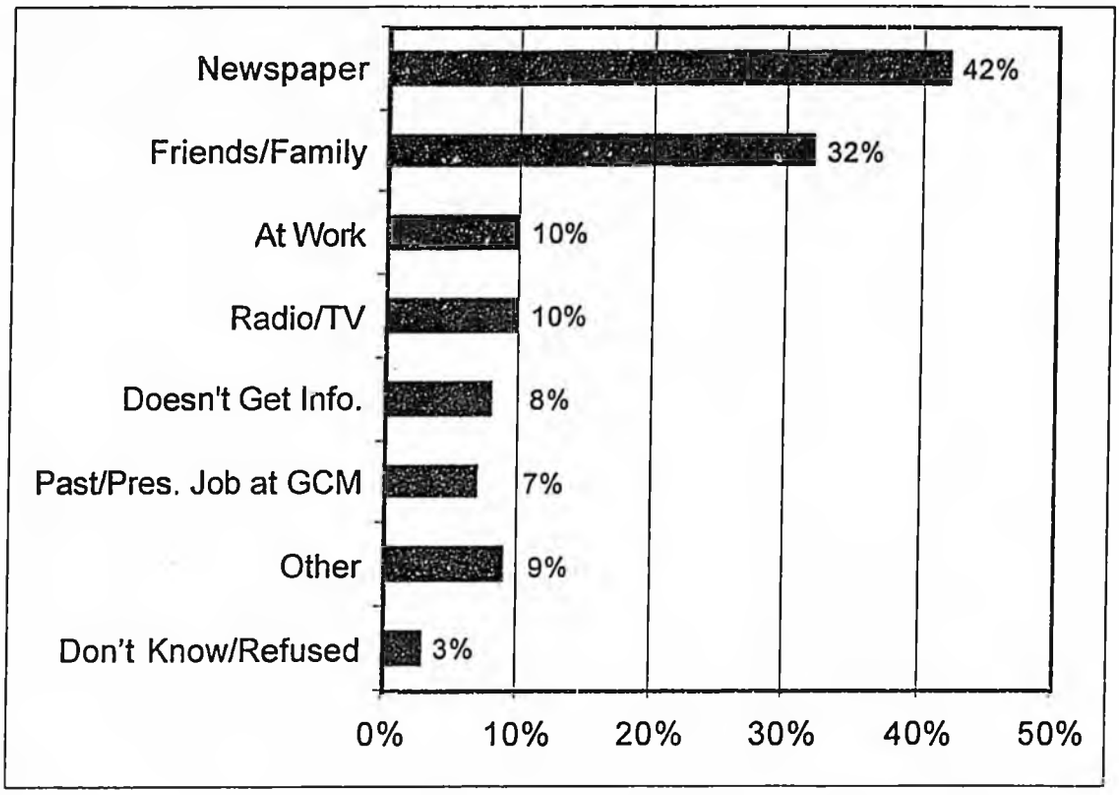


Sources of Information about Greens Creek Mine

The most common source of information about Greens Creek Mine is newspapers (42%) followed by friends and family (32%). Juneau residents also rely on radio and TV (10%), work, and past or present employment at Greens Creek Mine (7%).

Younger and more recent residents are more likely than other groups to cite friends and family as sources of information (41% and 42%, respectively) and less likely to cite newspapers as a source (29% and 22%). Those who feel positively about mining are more likely to cite friends and family as sources of information than those who feel negatively. Those who feel negatively are more likely than the general population to cite "other" sources of information, such as the Internet, public meetings, and conservation or professional groups. (All other responses are included in the appendix to this report.)

Where do you, yourself, get information about Greens Creek Mine?



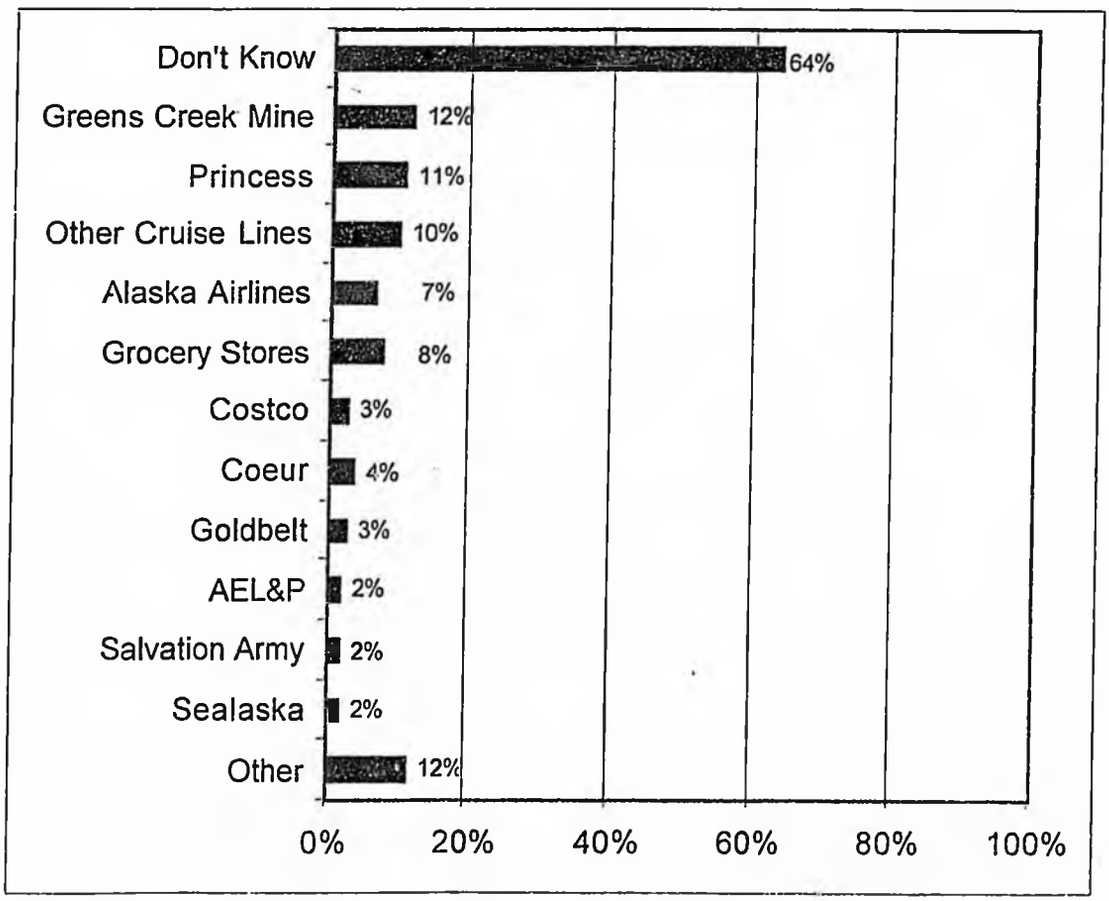
The Most Charitable Companies in Juneau

Juneau residents were asked what two companies they would identify as doing the most for Juneau in terms of community and charitable support. (It should be noted that this question was asked at the very beginning of the survey before the respondent could identify that the survey was related to Greens Creek Mine.)

Two-thirds (64%) said that they did not know. The most popular companies identified were Greens Creek Mine (12%) and Princess Cruise Lines (11%).

Interestingly, those who feel negatively about mining are far more likely to cite "grocery stores" as companies that do the most in terms of community support (20%-35% vs. 7%). Middle-aged residents and those earning over $100,000 per year are more likely than other groups to cite Greens Creek (20% and 19%, respectively). Recent residents and residents earning less than $50,000 per year are more likely to say they "don't' know" (81% and 71%, respectively).

In your opinion, what two companies currently do the most for Juneau in terms of community and charitable support? (Other responses are included in the appendix to this report.)

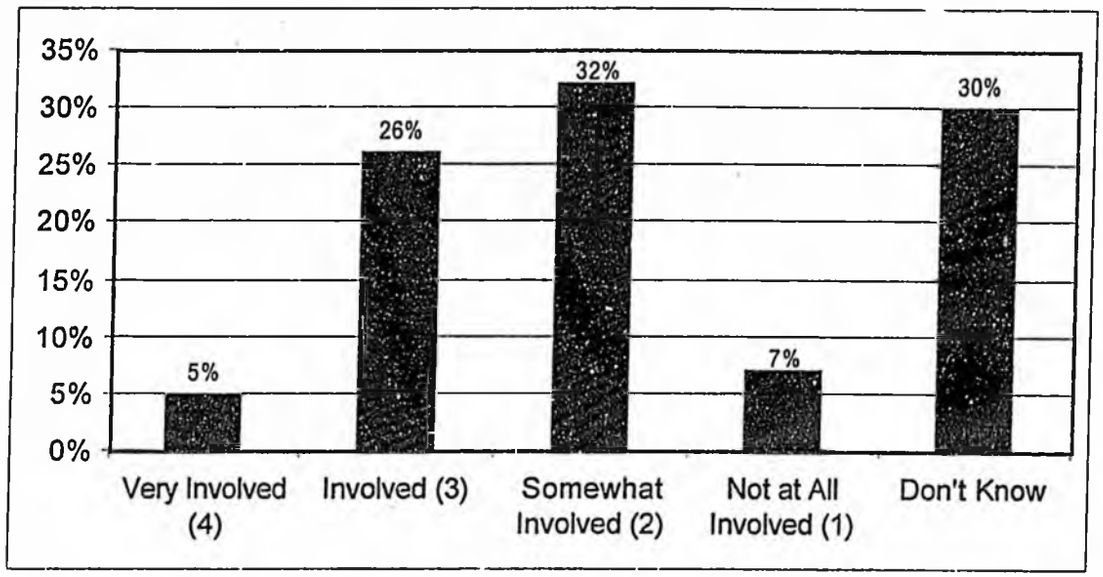


Community and Charitable Support of Greens Creek Mine

Overall, Juneau residents see Greens Creek Mine as "somewhat involved" in community and charitable support. On a scale of 1 to 4, with 1 being "not at all involved" to 4 being "very involved", Juneau residents gave Greens Creek Mine an average rating of 2.4 (between "somewhat involved" and "involved"). One-third (30%) said that they did not know.

Older residents, longtime residents, and residents earning over $50,000 per year are more likely to rate Greens Creek Mine as more involved.

In terms of community and charitable support, how involved do you think the Greens Creek Mine is?



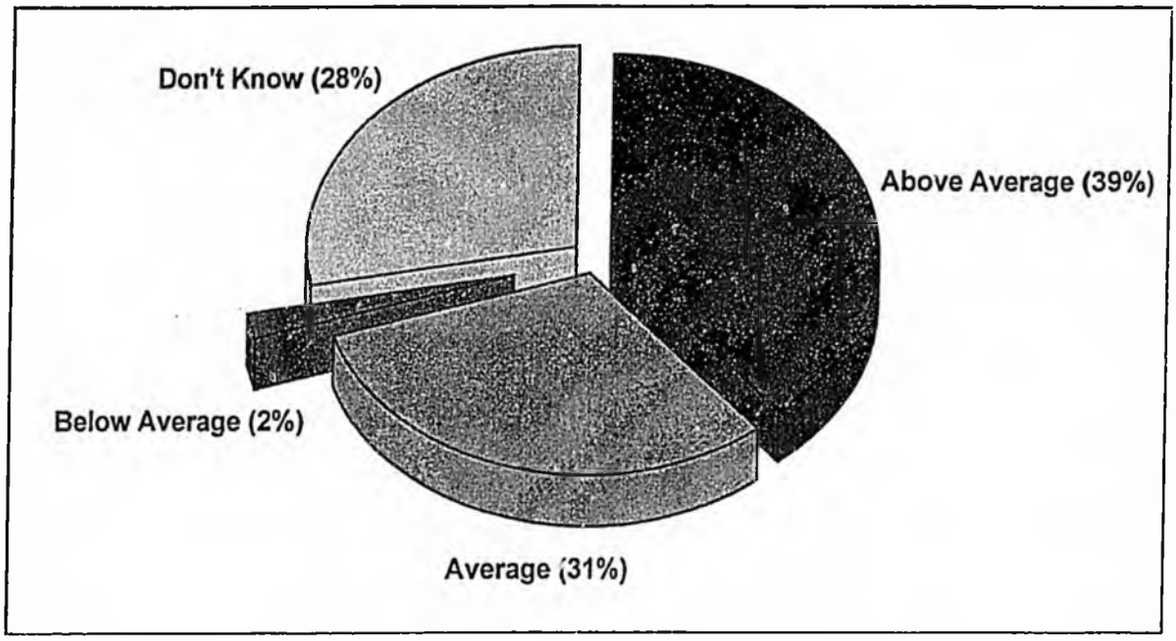
Greens Creek Mine Compared to Other Mines

Juneau residents are nearly evenly divided between saying that Greens Creek Mine is above average or average, or that they do not know how Greens Creek Mine compares with other mines. Thirty-nine percent rate it as above average, and only 2 percent rate it as below average.

Those who feel that Greens Creek does a good job in protecting the environment are more likely to rate it as above average (50%), as are longtime residents (49%), older residents (55%), and residents with higher incomes (56%).

Significantly, Juneau residents who express disapproval of mining are more inclined than the general population to rate Greens Creek Mine as average compared to other mines (36%-40% vs. 31%) – not as below average (0%-5% vs. 2%).

Compared to other mines in Alaska, would you say Greens Creek Mine is above average, average, or below average?

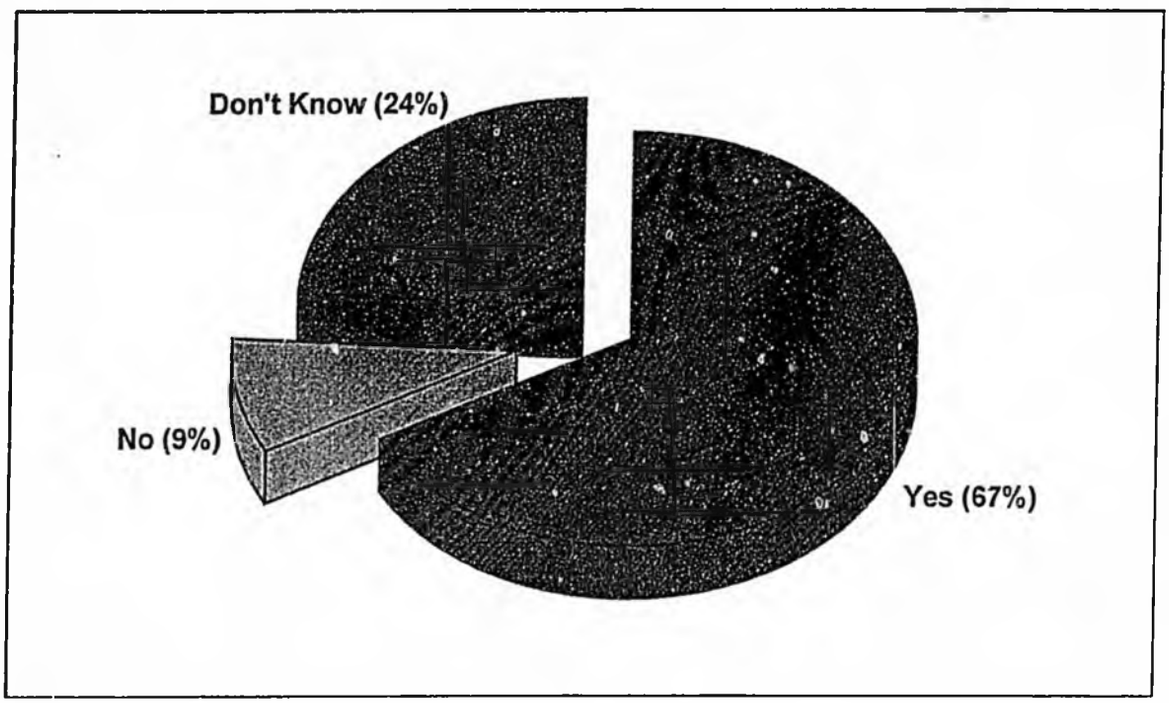


Greens Creek Mine and Environmental Protection

Two-thirds (67%) of Juneau residents feel that Greens Creek Mine does a good job of protecting the environment. Only 9 percent feel that it does not, and 24 percent say that they don't know.

Recent residents are far more likely to say they don't know (47%), as are women (32%). Residents with higher education (bachelor's degree and above) are somewhat less likely to rate Greens Creek Mine positively in this area (61% and 52%, respectively). Once again, older and longtime residents are more inclined to give Greens Creek a positive rating.

Do you think the Greens Creek Mine does a good job of protecting the environment?

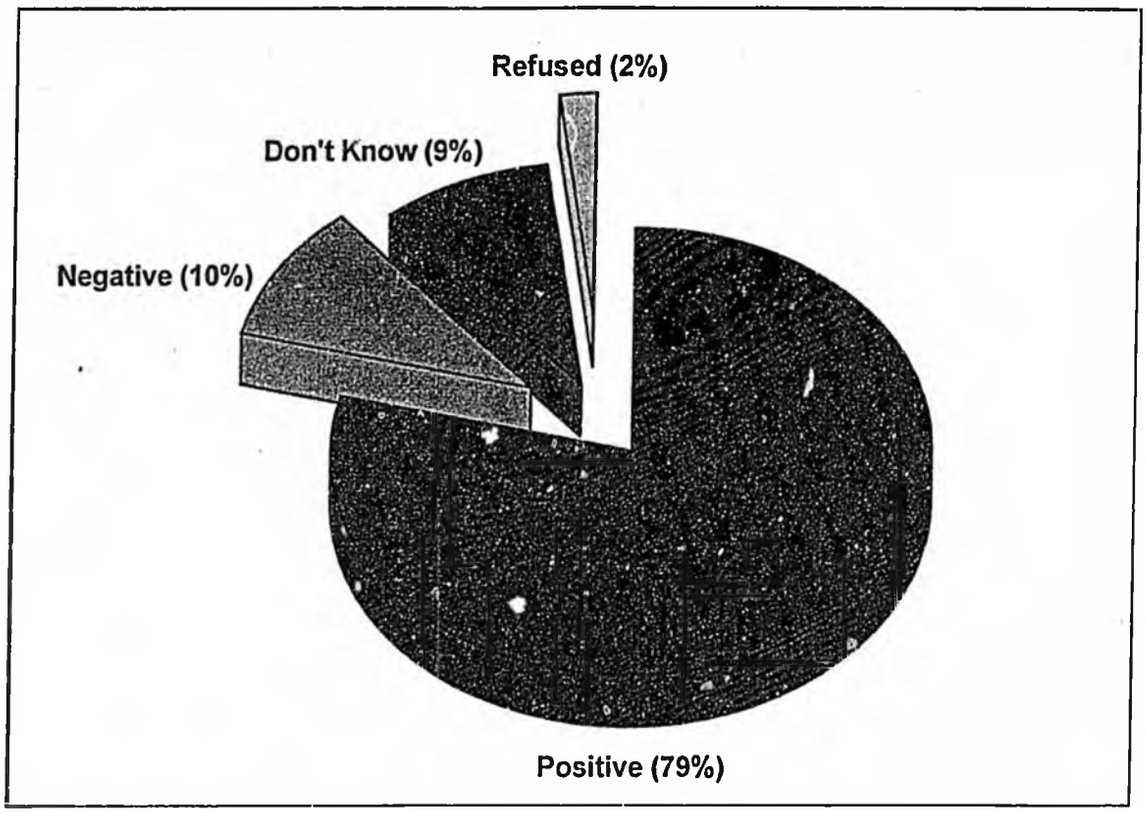


Impact of Mining on Juneau

Over three-quarters (79%) of Juneau residents feel that mining in the Juneau area has a positive impact on the community. Ten percent believe it has had a negative impact.

Once again, older and longtime residents are more inclined to rate mining positively. Women are more likely than men to say that they don't know.

Overall, do you feel that mining in the Juneau area has a positive impact or a negative impact in the community?

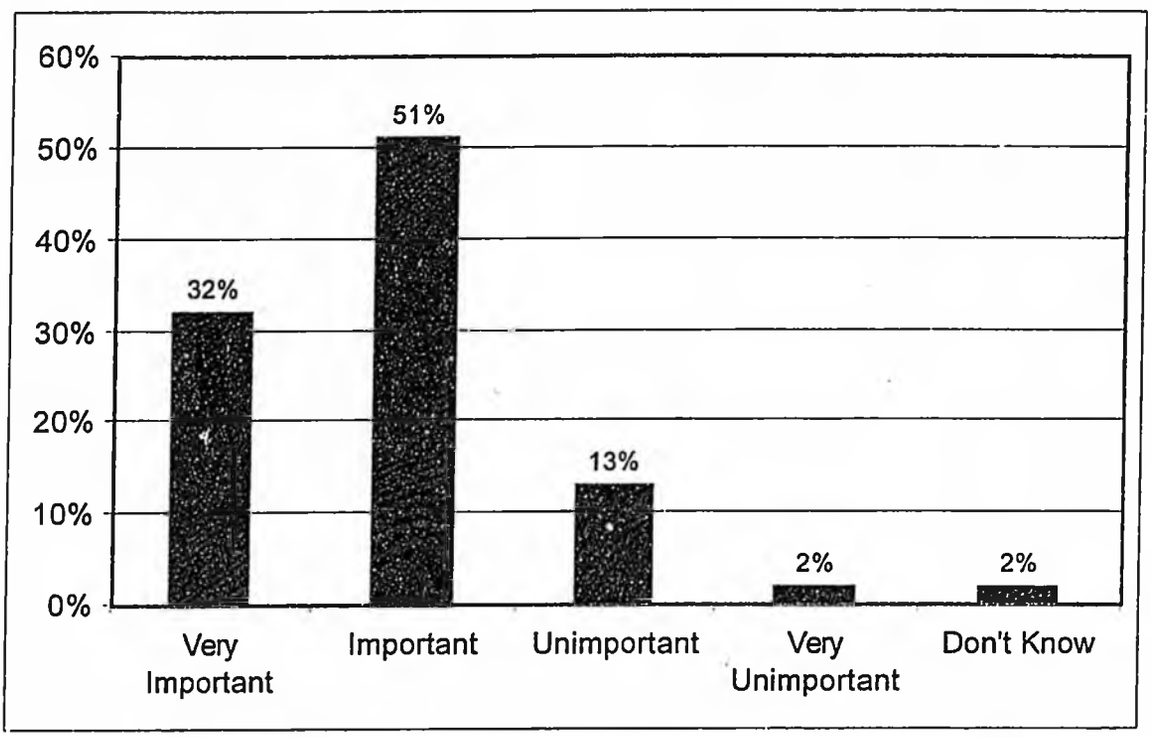


Mining and the Juneau Economy

Overall, Juneau residents see mining as important to Juneau's economy. On a scale of 1 to 4, with 1 being "very unimportant" to 4 being "very important", Juneau residents gave mining an average rating of 3.2 (slightly more than "important").

Eighty-three percent rate mining as important or very important to Juneau's economy, and only 15% rate it as unimportant or very unimportant. Juneau residents appear to view this issue similarly across different subgroups (e.g., age, residency, education).

How important do you think mining is to Juneau's economy?

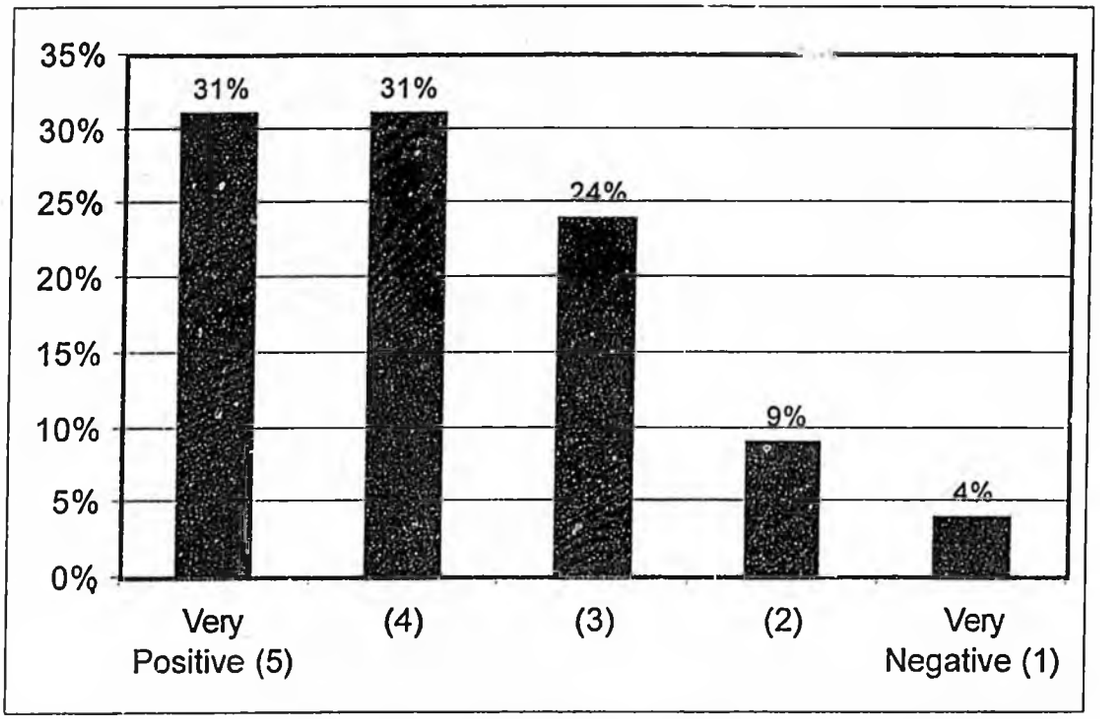


The Mining Industry in Alaska

Overall, Juneau residents feel positive about the mining industry in Alaska. On a scale of 1 to 4, with 1 being "very negative" to 4 being "very positive", Juneau residents gave mining an average rating of 3.8. Two-thirds (62%) rate Alaska's mining industry as "very positive" or "positive", 13 percent rate it as "very negative" or "negative", and 24% are neutral.

Longtime residents are more inclined to give the industry a very positive rating (55%), as are residents earning over $100,000 per year (47%). Residents with bachelor's degrees are less inclined to rate the industry as very positive (12%). In fact, only 47% rate Alaska's mining industry as "positive" or "very positive".

On a scale of 1 to 5, with 1 being "very negative" and 5 being "very positive", how do you feel about the mining industry in Alaska?



Demographics

Age of Respondent	Percentage
18-24	7%
25-34	14%
35-44	24%
45-54	30%
55-64	15%
65 and older	10%

Length of Residency	Percentage
1 year or less	4%
1-2 years	5%
3-6 years	9%
6-10 years	12%
11-20 years	27%
Over 20 years/lifetime	43%

Highest Level of Education	Percentage
Less than high school	0%
Some high school	3%
High school graduate/GED	18%
Some college/tech. training	31%
Vocational certificate	2%
Associate's degree	4%
Bachelor's degree	25%
Professional certificate	2%
Master's degree	12%
Ph.D.	2%

Annual HH Income	Percentage
Under $25,000	9%
$25,000-$50,000	21%
$50,001-$75,000	31%
$75,001-$100,000	13%
Over $100,000	16%
Refused	11%

Gender	Percentage
Male	56%
Female	44%

Companies That Do the Most for Juneau in Terms of Community and Charitable Support (Other Responses)

Friends of the Museum
Tourism
Mining
U.S Coast Guard
Juneau Empire
People
BP
Oil companies
Tour Companies
Pull Tabs
Youth Services
Big Brothers Big Sisters
Bartlett Hospital
Fred Meyers
AK and Proud
State of Alaska
City of Juneau
GCI
Bullwinkles
Glacier Swim Club
K-Mart
Combined Federal Campaign/ United Way
Catholic Community Services
Echo Bay
Tempsco
Forrest Service
St. Vincent
General Construction
Juneau Homebuilders
Women in Mining
Westmark Hotels
Alaska Native Brotherhood
Lynden Transport
Arco Alaska

Reasons Given Why Greens Creek Does Not Do a Good Job Protecting the Environment

Heard about reports being doctored
Quite a few fires/mishaps
Nature of business
Okay for a mine—destructive, problematic
Has been a miner and knows it's not good.
Has worked there and seen violations
Been able to control release of pollutants
Mining and environment don't go hand in hand
Skeptical about waste materials
Heavy metals make it difficult to protect H_2O supply—dangerous industry
No mining is good
Don't know
Not as good as when first opened; have more impact now on wildlife and area

They try
It's not their job; it's not right but they have to make money at odds with the environment.
We need EPA to check on them.
But, they're doing the best they can

Other Information Sources about Greens Creek Mine

Gold rush days
Conservation groups
Alaskans for Juneau
Engineering organization
Internet
Various
Economic trends
School board meeting
School
Environmental studies
Federal inspector
Travel/visits
Mail out
Public meeting
Hunt area
School report
Observation
Was a miner

Other Responses to Location of Greens Creek Mine

A boat ride away
About 35 miles out of Juneau
On a boat
On a boat behind an island
I can get there on a boat
Somewhere north of Juneau
An island
Funter Bay south side
Have to ride a boat to get there
South of Juneau
Have to take a boat to get there
Across the bay
General direction northwest of town
Outside Juneau
Thane road
Down the channel
Somewhere you can't drive to

Dan Graham

USIBELLI COAL MINE, INC.

P.O. Box 1000 ■ Healy, AK 99743
(907) 683-2226 ■ fax (907) 683-2253

FINANCIAL CONTRIBUTION OF USIBELLI COAL MINE TO THE ECONOMY AND ENVIRONMENT OF ALASKA

The following is a brief summary of the annual contribution Usibelli Coal Mine makes in each of the respective areas (numbers are rounded and based on FY2000 expenses)

3 seams mined
#6, 4, 3

ECONOMY

- $10.4 million paid in payroll checks to employees.
- $15 million spent in payments to Alaskan vendors.

Thus, over $25 million is put into the economy annually before applying the multiplier effect for a natural resource industry.

- $1.5 million paid to the State of Alaska in rent and royalties.
- An additional $350,000 was paid to the State of Alaska for the rights to additional lease blocks in the Healy area (a one time expense).
- $250,000 paid to other landholders and local government agencies.

The source for this infusion includes $22 million of annual revenues generated from buyers based outside of Alaska.

ENVIRONMENT

6100 man-hours were spent in FY2000 reclaiming recently mined lands at the Healy mine sites.

Total annual cost of reclamation for labor, equipment and supplies was over $1 million.

In addition, UCM pays over $500,000 to the federal government annually to help clean up old abandon mine sites throughout the United States. In return, the State of Alaska receives $2 million annually to clean up abandon mines within Alaska.

- Healy Clean Coal project

12 mo + 10 day test Burn

Better than projected - cleaner & more eff.

? = $ viability

Ready to deliver coal @ 1/10 today's Gas price.

- Rosalie mine

- old north of Wabelli (Healy)

Hydraulic coal leftovers

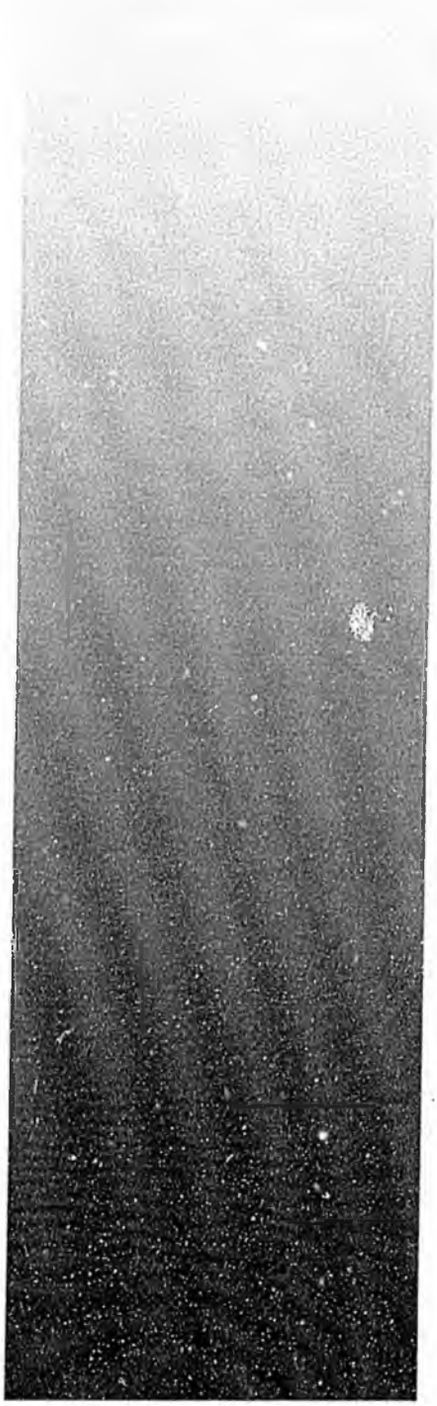
Finish mine off w/ Recreational label

- Wiseman Hill (Sutton/Jonesville)

testing! permit activities to make it $ profitable

- Jumbo Dome Leases (N. of existing Healy Reserve)

YUHAS



True North Mining Project
Economic Impact Study

Prepared for:

Fairbanks Gold Mining Company
#1 Fort Knox Road
P.O. Box 73726
Fairbanks, Alaska 99707

McDowell GROUP

416 Harris Street, Suite 301
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•

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January 2001

True North Mining Project
Economic Impact Study

TOM IRWIN
Before Joint
committee mtg.
02-06-01

Prepared for:

Fairbanks Gold Mining Company
#1 Fort Knox Road
P.O. Box 73726
Fairbanks, Alaska 99707

Prepared by:

McDowell GROUP
Juneau • Anchorage

January 2001

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Executive Summary

The purpose of this study was to measure the economic impact of the proposed True North mining project. The scope of work includes an overview of the anticipated employment, payroll, and local spending impacts of True North, as well as an overview of the economic impacts of the Fort Knox Mine. This study also includes an assessment of the linkages between the two mines and the economic consequences of those linkages for both mine owner and the community of Fairbanks. Key findings are summarized below.

- **Development of the True North gold deposit would have important immediate affects on the economics of the Fort Knox Mine.** Mixing the higher-grade True North ore with the lower-grade Fort Knox ore will, at a minimum, increase the average grade of ore processed in the Fort Knox mill, improve gold production, and increase the life of the Fort Knox operation. More important, mixing the True North ore will protect from declining gold prices the Fort Knox operation and the 570 jobs it creates in the Fairbanks economy.

- **Fort Knox is facing declining gold prices.** During exploration and development of Fort Knox gold prices averaged $387 an ounce. In 1997, however, gold prices began to slide, averaging $331 an ounce for the year. In 1998, the average price slipped further, to $294 and then $279 in 1999. In 2000, gold prices have also averaged about $279 an ounce.

- **The Fort Knox mining operation is moving into an area of lower-grade ore.** This results in higher operating costs per ounce (meaning that it will cost more to recover each ounce of gold). Within two to three years, the mine will be back in somewhat higher-grade ore, but in the meantime, the average cost per-ounce will increase. In 2001, without True North ore, Fort Knox operating costs will increase to $227 an ounce. In 2002, costs will rise to above $280 an ounce, unless severe cost reduction steps are taken.

- **True North can dramatically improve the future prospects of the Fort Knox Mine.** Blending True North ore with Fort Knox ore will result in an average cash cost of $196 per ounce of gold in 2001. Over the next three years of Fort Knox operations, this will improve annual cash flow by approximately $13 million thus moving Fort Knox from a slightly cash negative to moderately cash positive position. This is revenue that will be used to conduct additional exploration, to upgrade or replace aging equipment, and on other measures to insure the continued viability of the Fort Knox Mine.

- **With True North, nearly 800 jobs in Fairbanks are protected.** This includes 100 True North mining and trucking jobs, 260 jobs at Fort Knox, and another 430 jobs in the local support sector. These 800 jobs account for about $30 million in annual payroll. Further, Fort Knox and True North combined will account for $42 million in spending each year in Fairbanks on goods and services. Also, the Fairbanks North Star Borough receives $4.4 million in mine-related property tax revenues. All told, the spending impact of Fort Knox and True North on the Fairbanks economy will be approximately $132 million annually, including direct and indirect payroll and spending. Timely development of True North will ensure that Fairbanks will continue to enjoy these very significant economic benefits.

Summary of True North's Potential Economic Impacts

Development of True North will:

- Create approximately 100 new direct jobs over the project's expected three year life
- Generate $5.4 million in direct annual payroll
- Ultimately produce total direct and indirect impacts that could include 220 jobs and $7.1 million in annual payroll.
- Generate $6.5 million in direct local purchases of goods and services.

In addition, True North could prolong the life of the Fort Knox Mine. The total $107 million economic impact of Fort Knox includes:

- 260 jobs and $15 million in annual payroll
- 310 indirect jobs and $7 million in indirect payroll
- $35 million in direct local purchases of goods and services, and millions more in indirect and induced purchases
- $4.4 million in annual tax revenues to the Fairbanks North Star Borough, including direct payments from the mine and payments made by the mine-related population
- A net increase in state school revenues of $350,000
- Reduced electrical rates for GVEA customers.

Combined, Fort Knox and True North will have significant economic impacts on Fairbanks, including:

- Nearly 800 jobs in Fairbanks, accounting for approximately $30 million in annual payroll
- Annual expenditures (non-payroll) with Fairbanks businesses totaling approximately $42 million
- A total economic impact of $132 million, including direct and indirect payroll and spending.

Chapter I: Economics of the Fort Knox Mine

Since 1902, the Fairbanks mining district has produced in excess of 9 million ounces of gold, very little of which was lode gold. In 1984, lode gold mineralization was discovered at what would become the Fort Knox Mine. Between 1987 and 1991, exploration was carried out on the property primarily by Fairbanks Gold Ltd. In January 1992, Amax Gold Inc. acquired ownership of Fairbanks Gold Ltd. Construction of the Fort Knox Mine began in the first quarter of 1995 and was completed in the fourth quarter of 1996 at a capital cost of $373 million.[1]

The Fort Knox Mine is a conventional open pit gold mine located approximately 30 miles northeast of Fairbanks. The mine poured its first gold on December 20, 1996 and its millionth ounce of gold on September 27, 1999. The daily mill throughput exceeds 40,000 tons per day. Ore reserves at the end of 1999 in the proven, probable and possible categories total 3.1 million ounces. Cash production (mining and milling) costs[2] for 1999 averaged $194 per ounce as compared to $189 per ounce in 1998.[3]

On June 1, 1998, Kinross Gold USA, Inc. acquired the Fort Knox Mine through a merger with Amax Gold. Fairbanks Gold Mining, Inc. is a wholly owned subsidiary of Kinross Gold USA., Inc., a Nevada corporation that in turn is a wholly owned subsidiary of Kinross Gold Corporation, a precious metals company headquartered in Toronto, Canada. In 1999, Kinross properties produced in excess of 1 million ounces of gold and 300,000 ounces of silver. The Fort Knox Mine contributed 351,000 ounces of gold in 1999.

Fort Knox employs an average of 260 workers in Fairbanks, making it the fifth largest private employer in the borough. Fort Knox Mine employees are among the highest paid workers in Fairbanks. Mine payroll totals $13.3 million annually, for an average of $50,916 per employee.

Fort Knox directly injects $35 million in local spending on goods and services and $13 million in payroll into the Fairbanks economy annually. This spending creates jobs and earnings throughout Fairbanks' support sector. Based on an employment multiplier of 2.2 and an earnings multiplier of 1.5, the Fort Knox Mine's total employment impact on the Fairbanks economy is estimated at about 570 year-round jobs and $20 million in annual payroll. All told, mine spending has a $107 million impact on the Fairbanks economy, including direct and indirect payroll and local spending on goods and services. Over 1,200 Fairbanks residents are either directly or indirectly dependent on the mine.

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[1] Capital Costs are expenditures made to acquire, develop, improve or replace an asset(s), the benefits of which will be derived over several years. Typically, capital costs are depreciated, depleted, or amortized over the life of the asset.

[2] Cash Production Costs are the expenses incurred for day-to-day mining and milling operations. These costs include labor, materials, energy, and supplies that are consumed in the gold extraction process. Cash production costs also include surface lease cost, claim rental cost, regulatory cost, property taxes, state taxes, county (borough) taxes, and royalties for an operating mine. Off-site Kinross corporate level expenses are not included in cash operating costs. Capital costs, depreciation, depletion, amortization on debt repayment are not included in cash production costs. This definition is consistent with the Gold Institute's production cost standard.

[3] Source: *Kinross Gold Corporation 1999 Annual Report.*

The Fort Knox Mine annually pays $3.9 million in property taxes to the borough, representing approximately 8% of the total FNSB property tax revenues. In addition, the mine-related population pays approximately $500,000 in property taxes to the borough, for a total property tax revenue impact of $4.4 million. The Borough also enjoys a net increase in state school funding on about $350,000 as a result of additional enrollment from the mine-related population.

The Fort Knox Mine is the largest commercial customer of Golden Valley Electric Association (GVEA). It purchases approximately 25% of the total kilowatt-hours sold each year by GVEA, at a total cost of $14 million. In 1998, as a result of power sales to Fort Knox, GVEA ratepayers realized rate savings totaling $3.75 million. Without Fort Knox, residential electrical rates would increase by 7 percent and rates for large commercial users such as Williams Alaska Petroleum and Golden Heart Utilities would increase by 10 percent.

Current Status of the Fort Knox Mine

The gold industry overall is facing declining gold prices. During exploration and development of Fort Knox, gold prices averaged $387 an ounce. In 1997, however, gold prices began to slide, averaging $331 an ounce for the year. In 1998, prices slipped further, to $294 and then again to $279 in 1999. In 2000, gold prices have also averaged about $279 an ounce.

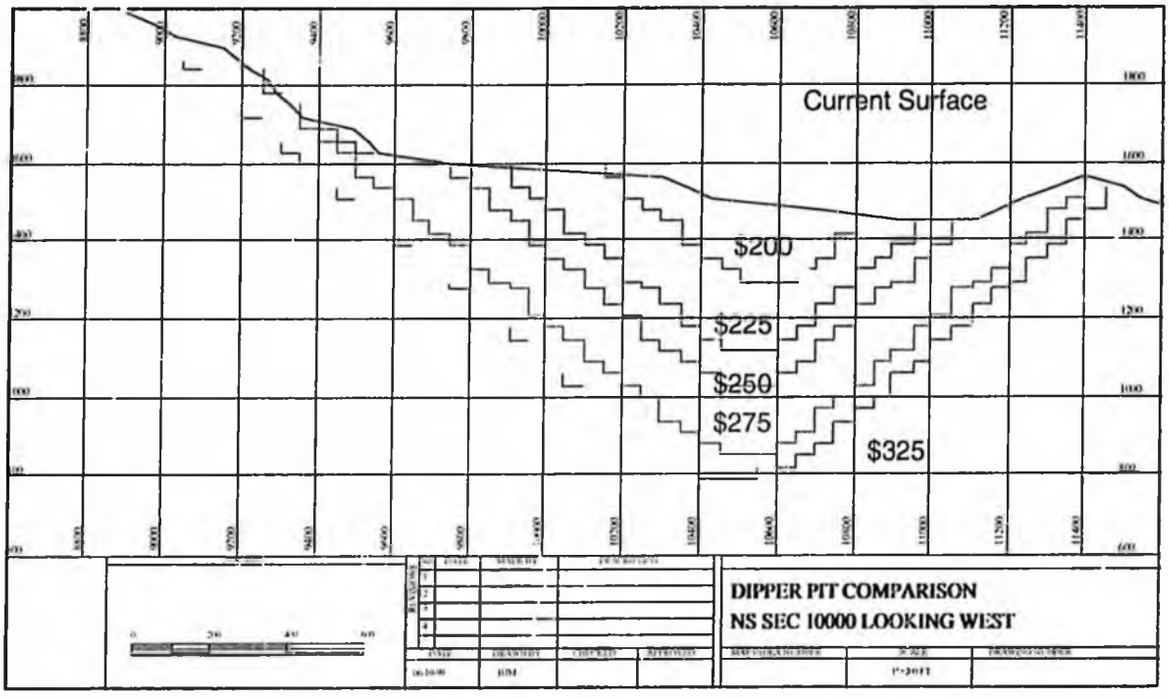
At the same time, the Fort Knox mine operation is moving into an area of lower-grade ore. The average grade since start up of operations has been 0.0292ounces per ton.[4] In 2001 the grade will drop to 0.0246 ounces per ton. Over the remaining mine life, ore grades are expected to average 0.0231 ounces per ton. This results in higher operating cash production cost per ounce (meaning that it will cost more to recover each ounce of gold).[5] In 2001, without adding higher grade ore, Fort Knox cash operating costs will increase to $227 an ounce. In 2002, costs will jump dramatically, rising to $282 an ounce. Clearly, with operating costs at that level and with gold prices averaging about $279 an ounce, severe cost reductions would be required.

As illustrated in the following diagram, mine life is directly related to the price of gold. As the price of gold rises, lower grades of ore can be profitably mined. This means that more of the deposit can be profitably mined, which can extent the life of the mine.

[4] Grade is generally defined as quantity or quality of a mineral, compound, raw material or precious metal per unit of volume or weight. For hard rock gold mining, grade is defined as the quantity of gold measured in troy ounces per ton of rock.

[5] Cash Production Cost per Ounce is the cash production costs divided by the gold troy ounces produced for a given period of time. Also generally defined as the unit cost of production.

Figure 1.
Fort Knox Mine Pit Sensitivity to Gold Price



Chapter II: Economics of the True North Project

The True North gold deposit is located approximately 25 miles northeast of Fairbanks and ten road miles west of Fort Knox. The project is located in an area with a long history of mining related activity and classified for resource development by the State of Alaska. Approximately 460,000 ounces of proven and probable gold reserves have been identified at the True North deposit as of year end of 1999. Currently the project is going through the permitting stage. An environmental evaluation was completed in September 2000.

Kinross acquired partial ownership of the True North gold deposit in February 1999 with the purchase of La Teko Resources Ltd. Kinross acquired 100% ownership of the deposit with the purchase of Newmont Mining Corporation's share in June 1999. True North, which has higher-grade ore compared to the Fort Knox orebody (.063 ounces per ton versus 0.0231), will be developed to supplement the Fort Knox mill feed.[6]

The True North mine will operate year-round using conventional open pit mining methods. Approximately 10,000 tons of ore per day will be trucked to the Fort Knox mill for processing. Production will average approximately 180,000 ounces of gold annually. Pending outcome of the permitting process, mining is projected to begin in early 2001 and continue into 2003. Capital costs, including road construction, pit development and equipment acquisition, are estimated to be between $'.0 and $30 million. The mine's estimated annual cash operating costs will total approximately $15 million, including labor.[7] Roughly half of the materials and services required for operation of the True North will be purchased in Fairbanks.[8]

The True North project will directly create approximately 100 new jobs in Fairbanks, with an annual payroll of $5.4 million. Additional jobs and payroll would be generated in the support sector as local spending creates additional economic activity in the community. This indirect or induced employment occurs throughout the local service and supply sector. Local spending by the mining company on supplies and services creates jobs in the businesses providing these goods and services. In addition, spending by mine employees in local stores and with service providers also creates jobs. These indirect or "multiplier" effects can represent a significant portion of the overall economic impact of industrial or commercial development.

While it is beyond the scope of this study to model the Fairbanks economy in sufficient detail to precisely determine the multiplier for True North, using standard multipliers developed elsewhere it is possible to predict indirect impacts with some level of accuracy. Based on research conducted on the economic impact of the Fort Knox Mine, the employment impact of True North, including direct and indirect employment, could total approximately 220 jobs.[9] These jobs would account for a total of about $7.1 million in annual payroll.

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[6] Source: *True North Project Environmental Evaluation.*
[7] Source: *True North Project Description*, Fairbanks Gold Mining, Inc.
[8] This estimate is based on the assumption that 75 percent of all purchases of goods and services will be made locally.
[9] Total employment attributable to True North could be less than this total, depending on the life of the mine. Typically, it takes several years for a local support sector to fully develop around a new industrial enterprise.

In summary, the True North project could generate a $25 million to $30 million annual impact on the Fairbanks economy, including direct and indirect payroll, and direct and indirect local spending on goods and services.[10] This does not include one-time economic benefits associated with construction-related spending.

Other Economic Impacts

Fairbanks Gold Mining Co. has awarded a contract for road construction to AIC, a wholly owned subsidiary of CIRI. The road is estimated to cost $6 million. The contractor (AIC) has been unable to begin road construction due to the delay in issuance of the necessary permits. The contractor has equipment and employees that are idle until the permits are granted. This could increase the cost of the True North Project.

Ore haulage from the True North mine to the Fort Knox mill will be done using over-highway tractor-trailers specifically for the True North. Trucking ore from True North is estimated to be worth $3.0 million annually over the three-year mine life.

[10] Total employment impacts are based on a multiplier of 2.2 (1 direct job creates another 1.2 jobs in the support sector). Spending impacts are based on an assumed multiplier of 2.5. See *Economic Impact of the Fort Knox Mine on the Fairbanks North Star Borough* for a detailed discussion on these multipliers

Chapter III.
Economic Linkages between True North and Fort Knox

Economic Impact of True North on the Fort Knox Mine

Development of the True North deposit would have important affects on the economics of the Fort Knox Mine. Mixing the higher-grade True North ore with the lower-grade Fort Knox ore will, at least, increase the average grade of ore processed in the Fort Knox mill, improve gold production, and increase the life of the Fort Knox operation. Development of True North ore will provide positive assurance of the 800 directly or indirectly jobs attributable to True North and Fort Knox.

This chapter addresses the economic linkages between True North and Fort Knox. The analysis begins with a discussion of how True North will affect operations and production at Fort Knox. Following that is a discussion of what the future may hold for Fort Knox in the absence of development of True North.

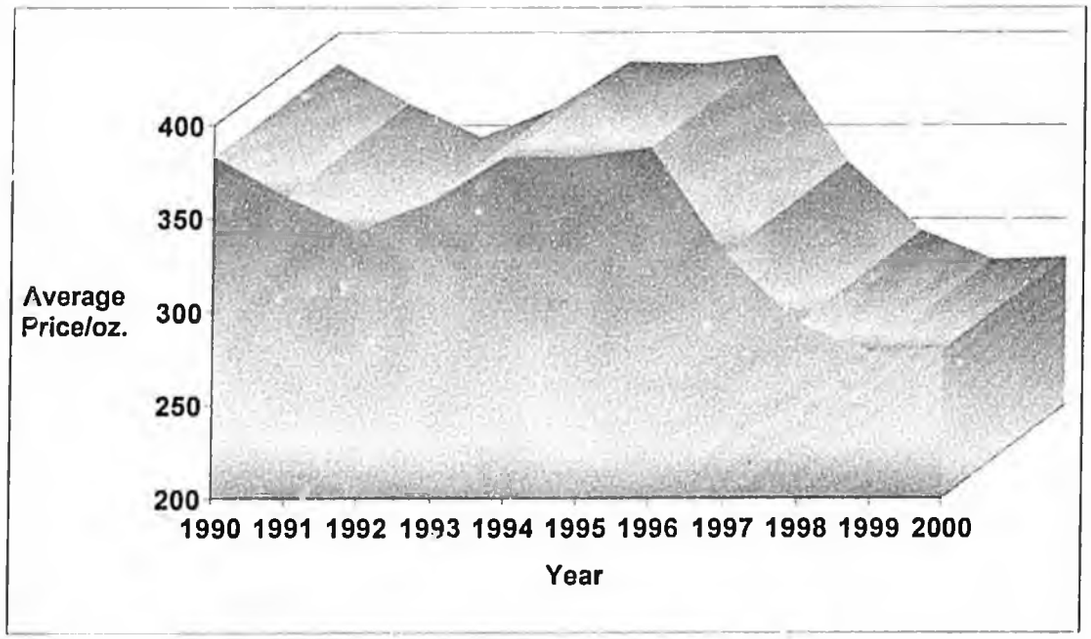
Current Situation

To understand the potential economic impact of True North, it is important to recognize the financial environment within which Fort Knox is operating. The Fort Knox deposit was explored and evaluated in the late 1980's and early 1990s. with mine development occurring in 1995 and 1996. During the ten-year period from 1987 to 1996 – including the exploration and development period for Fort Knox – gold prices averaged $387 an ounce. Mine developers invested $373 million in the mine, preparing the ore body, building the mill and constructing ancillary facilities. With the expectation of cash operating costs averaging 245 an ounce, the mine had a bright future (cash costs include all costs associated with mining and milling, but not including depreciation and debt service).

However, in 1997, gold prices began to slide, averaging $331 an ounce for the year. In 1998, the average price slipped further, to $294 and then again to $279 in 1999. In 2000 to date, gold prices have averaged $279.[11]

[11] Source: World Gold Council/Kitco Gold

Figure 2.
Average Annual Price of Gold
(U.S. Dollars – Actual Terms)



This decline in prices has hurt gold mines and gold mining companies around the world. Mine closures have accelerated in the U.S. and internationally. Mine operators have found themselves in the position in which they are forced to prematurely shutdown mines as a result of low gold prices.

In 1998, as a result of low gold prices, Kinross reviewed the carrying value of Fort Knox assuming a long-term gold price of $325 per ounce. As a result, it wrote down $145.2 million of the $375 million value of mine. In 1999, the company again evaluated the property with the assumption of a lower gold price of $300 per ounce and wrote down an additional $108.8 million for the Fort Knox Mine.

Fort Knox is not only contending with weak gold prices, but also with a decline in ore grade. The mining operation is moving into a area of lower-grade ore. The average grade has been 0.0292 ounces per ton. In 2001 the grade will drop to 0.0246 ounces per ton and over the remaining life of the mine will average 0.0231 ounces per ton. This results in higher cash operating cost per ounce (meaning that it will cost more to recover each ounce of gold). In 2001, without True North ore, Fort Knox operating costs will increase to $227 an ounce. In 2002, costs will jump dramatically, rising to $282 an ounce unless severe cost reduction steps are taken, before dipping back to around $240 in 2003 and 2004 as somewhat higher grade is processed.

In summary, Fort Knox faces declining gold prices coupled with increasing operating costs per ounce.

Response to Declining Prices and Rising Costs

Gold miners deal with declining prices and/or rising costs in fairly predictable ways – beyond the continuous effort to improve mine and mill efficiency (i.e., reduce operating costs). First, non-essential spending is cut. This sometimes means reduced or eliminated spending on exploration. This, of course, can only be a short-term solution. Exploration is the link to the future for mining companies. Without exploration, no new reserves will be discovered and ultimately, as known reserves are exhausted, mining will cease.

After exploration spending is cut, mining companies must begin reducing capital expenditures, that is, reinvestment in mine and mill equipment and other facilities. This, too, is a short–term solution. Without reinvestment, equipment reliability will decline, more down-time will be experienced and, over the long-term, operating costs will increase, sometimes to the extent that costs exceed revenues.

Declining prices and rising costs can also force mining companies to increase the cut-off grade. Rock with gold content above the cut-off grade is sent to the mill and gold is recovered. Rock with gold content below the cut-off grade is either treated as waste rock or stockpiled for potential future processing. When the cut-off grade is increased, the short-term economics of the mine can be improved, but it also reduces the life of the mine.

If all other measures fail, companies can be forced to place a mine on a care and maintenance status – temporarily closing the mine. Workers are laid off except for a skeleton maintenance crew. Finally, if the outlook for prices and costs is sufficiently discouraging, permanent closure can occur. The workforce is dismissed, equipment is sold for its salvage value, other facilities may be demolished, and mine reclamation is conducted.

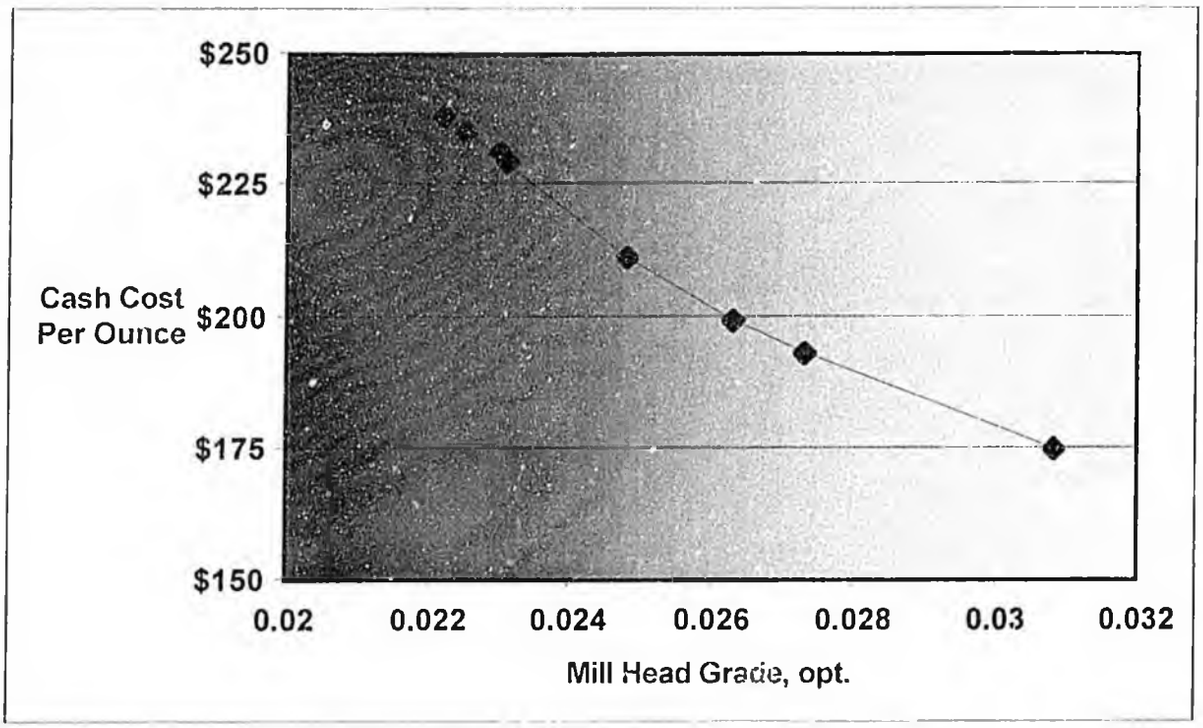
Impact of Milling True North Ore at Fort Knox

While the company cannot change the price of gold, True North presents a unique opportunity to blend higher-grade ore with Fort Knox ore, thereby increasing the average grade of ore processed by the mill. True North would supply approximately 10,000 tons of ore per day to the Fort Knox mill. That ore is expected to have an average grade of .063 ounces per ton, nearly three times the 0.0231 opt average life of mine grade at the Fort Knox ore body. This will result in production of a blended ore with an average grade of .0312 opt.

From a cost perspective, blending True North ore with Fort Knox ore will result in a reduction in per-ounce cash production costs. For example, in the absence of True North, Fort Knox will, in 2001, produce gold at an average cash cost of $227 per ounce. Blending True North ore with Fort Knox ore will result in an average cash cost of $196 per ounce of gold. Over the next three years of Fort Knox operations, blending ore from True North deposit will result in an average cash operating cost reduction of $31 an ounce. That cost reduction will translate into improved annual cash flow of approximately $13 million. This savings can be used to conduct additional exploration, to upgrade or replace aging equipment, and on other measures to ensure the continued economic benefits of the Fort Knox Mine.

If gold prices continue to trend down, the mining operating cost per ounce associated with blending True North ore could be enough to prevent mine shut-down.

Figure 3.
Fort Knox Mine
Gold Grade vs. Cash Cost



Life of Fort Knox with True North

The life of a mine can be longer or shorter than mine developers' originally anticipate. Increasing gold prices, improved technology, lower cost of production including factors such as lower fuel or electric costs, can all add years to the life of a mine. Conversely, technical difficulties, declining gold prices, or increasing production costs can force temporary closure or permanently end the life of a mine.

In addition to increasing average grades and lowering cash costs, blending True North ore with existing ore will extend the life of the Fort Knox Mine.

POGO PROJECT UPDATE

Karl Hanneman, Alaska Regional Manager, Teck-Pogo, Inc.
House/Senate Resource Committee
February 6, 2001 Delta Junction

Pogo:	Gold deposit containing 5.6 million ounces, gross value of $1.5 billion.
Owners:	Sumitomo 60%, Teck 40%
Operator:	Teck-Pogo, Inc.
Location:	On State land 35 miles northeast of Delta Junction.
Status:	Phase I. Surface Exploration, *(This phase began in 1981, drilling began in 1994, and is ongoing each summer season).*
	Phase II. Underground Exploration *(This phase began on March 5, 1999 and was completed in July, 2000)*
	Phase III. Environmental Assessment and Feasibility Study, 1-2 years *(This phase is underway)*
	Phase IV. Permitting, 1-2 years *(This phase is underway)*
	Phase V. Mine Construction, 1-2 years
	Phase VI. Operating Life of Mine, 10-15 years
	Phase VII. Reclamation

The Phase II underground exploration was completed in July, 2000. This work involved a crew of 35-40 to excavate a mile long tunnel to reach the underground gold deposit. Engineering data obtained regarding the underground rock strength, projected water inflows, uniformity and extent of mineralization, and practicality of potential mining methods were positive and generally confirmed prior assumptions. This information will be used in the feasibility study that is underway to assess the economic viability of the deposit.

The heavy equipment necessary to complete the tunnel was hauled to the site over a winter road along an existing RS2477 trail up the Goodpaster River valley during the winter of 1997-1998. Additional fuel and supplies required since that time have been flown to the site via a 1,500 foot airstrip.

The EPA, together with the State of Alaska and the Corps of Engineers as cooperating agencies, began an Environmental Impact Statement for the Pogo Project in August, 2000. Public scoping meetings were held in Delta Junction and Fairbanks in September, 2000. Public hearings for the draft EIS are anticipated to be held in mid-2001.

If the permitting process proceeds efficiently, construction could begin in the winter of 2001-2002. The infrastructure options available to support a future mining operation will have a critical impact on the economic viability of the operation. Teck has proposed to construct a private,50 mile all-season road and an adjacent powerline to the project. Access alternatives will be evaluated in the EIS.

POGO PROJECT POTENTIAL

- $200-250 million construction cost
- 500-600 construction jobs during peak of 2 year construction
- $125 million annual production
- 10-15 year project life
- 200-300 year round high quality private sector jobs