

MINING

OVER-

VIEWS,

2004

Alaska State Legislature

Senate Resources Committee

Senator Scott Ogan, Chair

Senator Fred Dyson
Senator Kim Elton
Senator Georgianna Lincoln
Senator Ralph Seekins
Senator Ben Stevens
Senator Tom Wagoner



State Capitol, Room 103
Juneau, AK. 99801-1182
Phone: (907) 465-4907
Fax: (907) 465-3265

Memorandum

DATE: February 9, 2004
TO: All Legislators
FROM: Senator Scott Ogan
Chairman, Senate Resources Committee
RE: Mining Industry Overview

On Wednesday, February 11th, the Senate and House Resources Committees will hold a joint hearing for an overview of the mining industry. The meeting will take place in Senate Finance, Room 532, from noon to 2:00 p.m.

This presentation is an annual event and represents an excellent opportunity for all legislators to become familiar with the mineral industry and the opportunities that exist in our state for development of these resources.

Participants will include the Alaska Miners Association, Usibelli Coal, Greens Creek, Red Dog, Fort Knox, True North, Pogo, Donlin Creek, Pebble, Rock Creek and Kensington Mines

While many of you will have the opportunity to meet individually with these mining representatives, the overview will be the best opportunity to assess the significance of this industry statewide.

I am aware that many legislators have conflicting committee schedules. Please feel free to sit in for any portion of the meeting. My office will have copies of handouts provided following the meeting.

Joint Senate/House Resources Committees
Annual Mining Industry Briefing

Wednesday, February 11, 2004, 12 noon

AGENDA

1. Overview – Steve Borell

Development and Exploration Projects

2. Pogo – Karl Hanneman
3. Kensington – Rick Richins
4. Rock Creek – Doug Nicholson
5. Donlin Creek – Gregg Bush
6. Pebble – Bruce Youngman

Operating Mines

7. Fairbanks Gold Mining Inc. (Fort Knox & True North) – Lorna Shaw
8. Greens Creek – Rich Heig
9. Red Dog – Karl Hanneman
10. Usibelli Coal Mine – Steve Denton

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Alaska Mining Industry

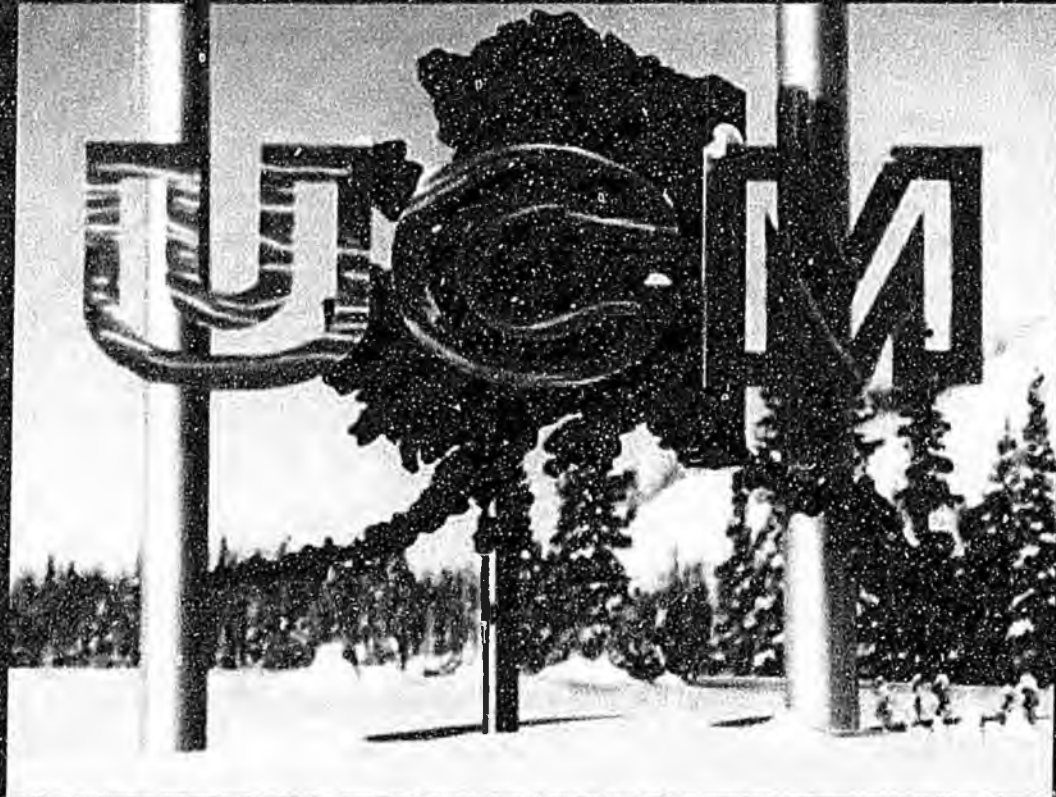
Alaska State Legislature

Joint Briefing to Senate and House Resources Committee

Overview:

- **Steve Borell, Executive Director, Alaska Miners Association**
- **Red Dog Mine – Charlotte MacCay, Environmental Permitting for Red Dog**
- **Greens Creek Mine – Rich Heig, General Manager**
- **Fort Knox & True North Mines – Rick Dye, General Manager, Fairbanks Gold Mining Inc.**
- **Usibelli – Keith Walter, General Manager**
- **Pogo Mine – Karl Hanneman, Alaska Regional Manager, Teck Pogo**
Kensington - Rick Rickins
- **Donlin Creek – Rick Van Nieuwenhuysse, President Nova gold**
- **Curt Freeman, President of Avalon Development**
“Perception is the Reality from Outside Alaska”

USIBELLI COAL MINE






Northern Alaska Basin

Hypothetical Resource (10 ⁶ tonnes)	Identified Resource (10 ⁶ tonnes)	Measured Reserves (10 ⁶ tonnes)
3,630,000	136,100	73

Nenana Province

Hypothetical Resource (10 ⁶ tonnes)	Identified Resource (10 ⁶ tonnes)	Measured Reserves (10 ⁶ tonnes)
13,320	7,800	227

Key to Coal Rank






	Bituminous
	Subbituminous
	Lignite

 Major Basin Margins

ARCTIC OCEAN

BERING SEA

GULF OF ALASKA

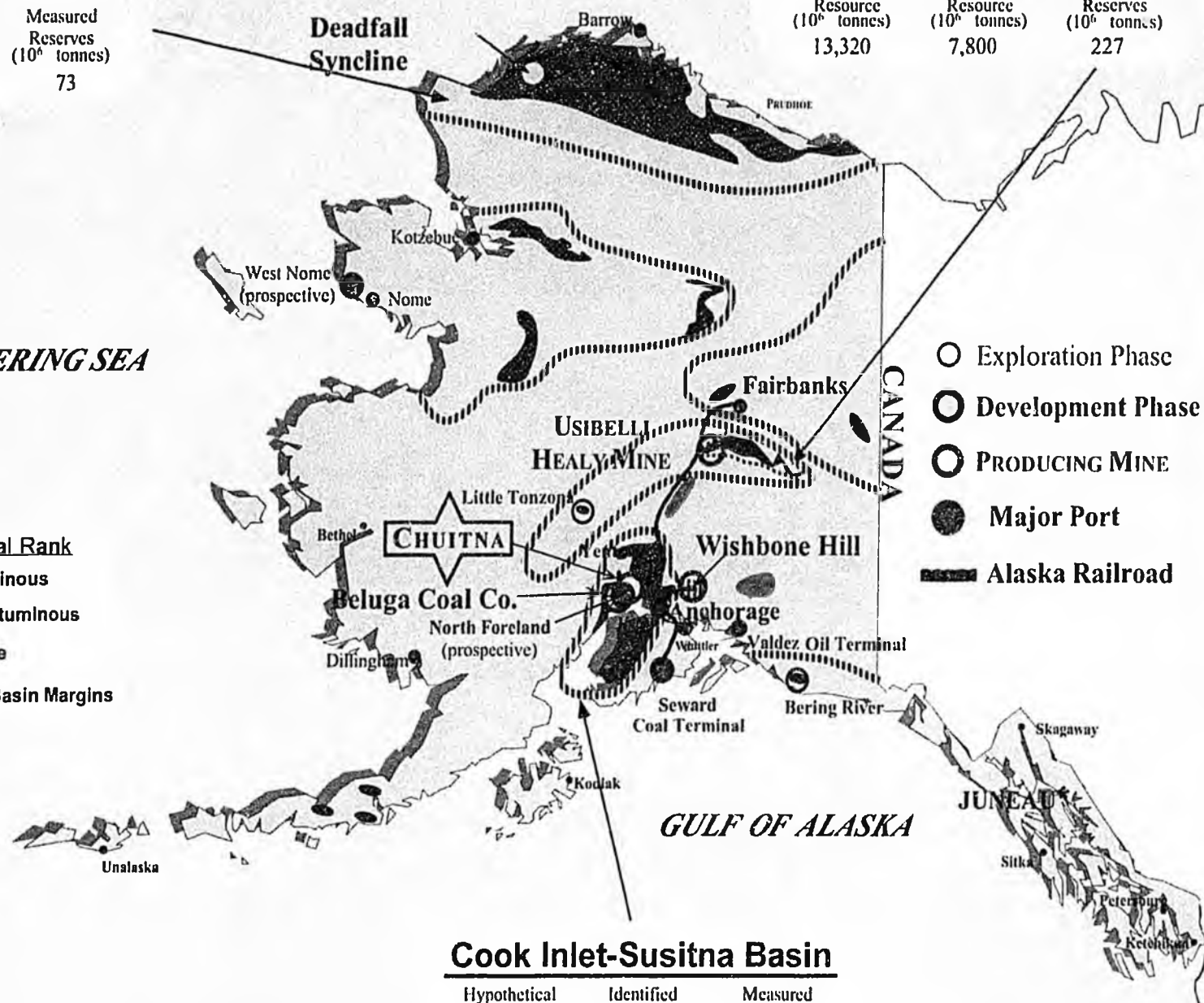
-  Exploration Phase
-  Development Phase
-  PRODUCING MINE
-  Major Port
-  Alaska Railroad

Cook Inlet-Susitna Basin

Hypothetical Resource (10 ⁶ tonnes)	Identified Resource (10 ⁶ tonnes)	Measured Reserves (10 ⁶ tonnes)
64,230	10,550	1,400

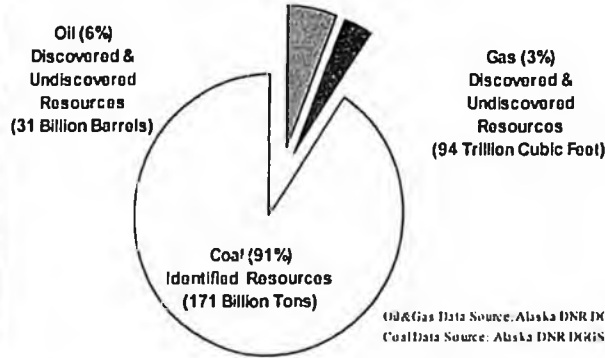
All Other Areas

Hypothetical Resource (10 ⁶ tonnes)	Identified Resource (10 ⁶ tonnes)	Measured Reserves (10 ⁶ tonnes)
8,660	520	0

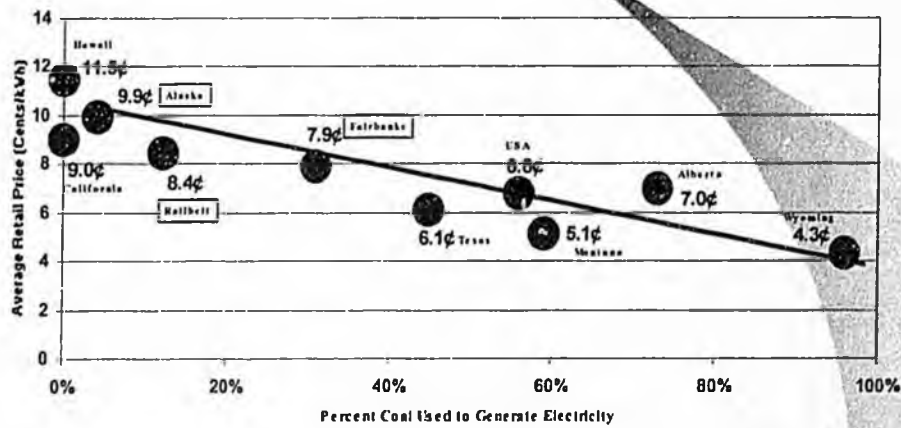


Alaska's Energy Resources

Alaska Fossil Fuel Energy Resources
(Based on contained energy)



Effect of Coal on Electricity Price

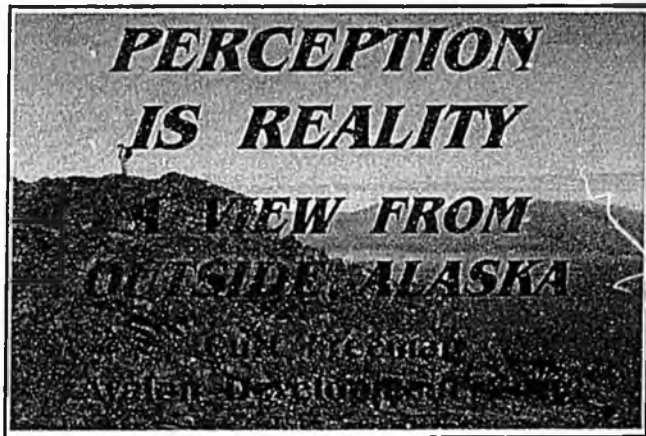





**PERCEPTION
IS REALITY**

**A VIEW FROM
OUTSIDE ALASKA**

**Curt Freeman
Avalon Development Corp.**



AVALON



DEVELOPMENT CORPORATION

ACKNOWLEDGMENTS
Office of the Governor
ADGGS, ADCED
and ADLWM
Alaska Miners Assoc.
Alaska Producers
Council
Juneau Econ. Dev.
Council

**ALASKA MINING INDUSTRY
REPORT CARD**

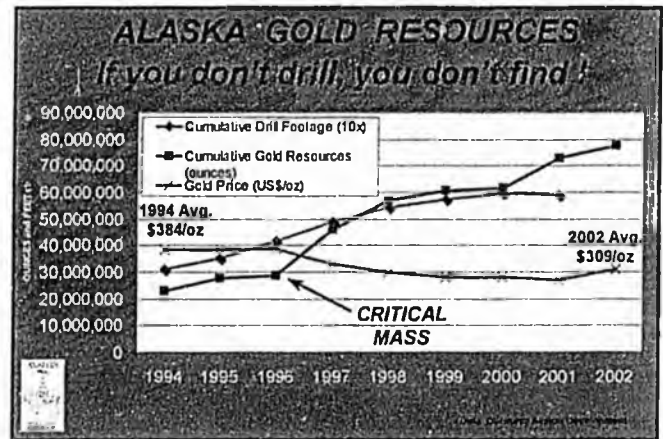
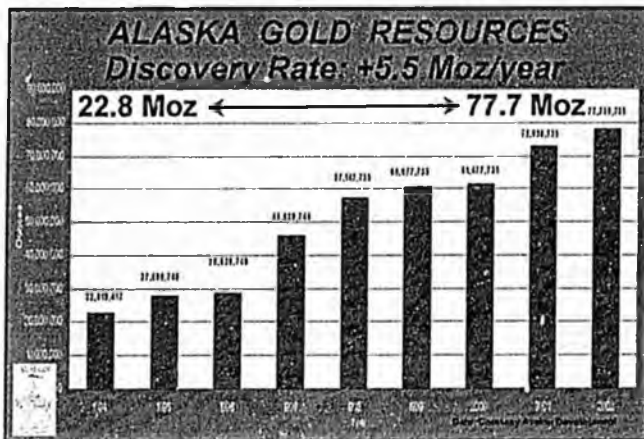
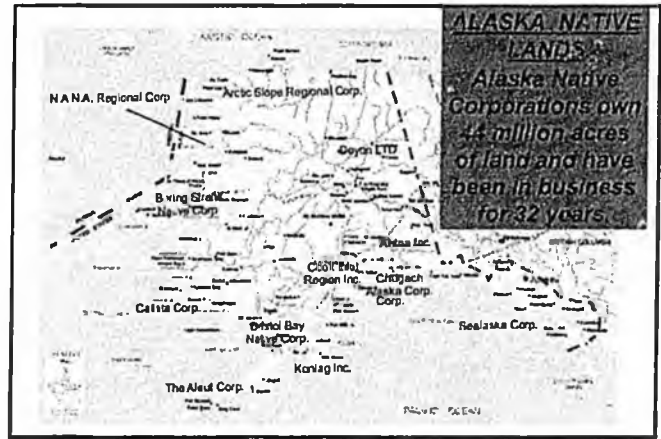
- ▶ **WHAT ARE WE DOING RIGHT?**
- ▶ **WHAT ARE WE DOING WRONG?**
- ▶ **WHAT CAN WE DO TO IMPROVE?**

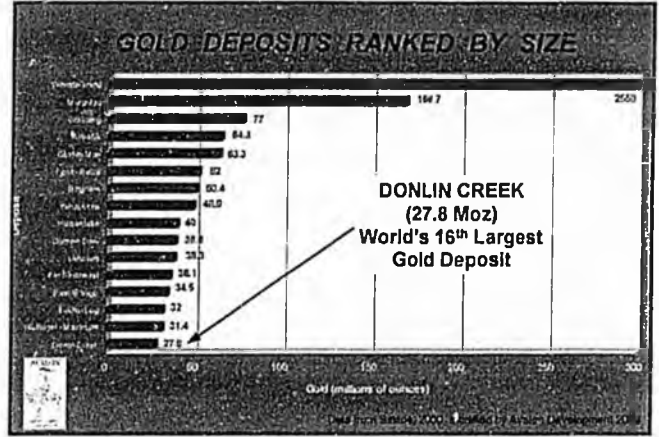
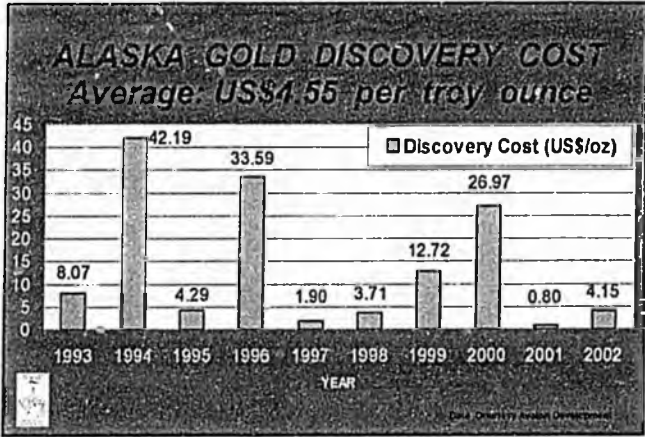
WHY ALASKA....WHY NOW?

- ▶ **Proven "Elephant" Country**
- ▶ **Highly Under-prospected**
- ▶ **Experienced Labor Force**
- ▶ **Abundant Stable Land**
- ▶ **Acceptable Tax Regime**
- ▶ **Pro-Development Government**

HOW BIG IS ALASKA?

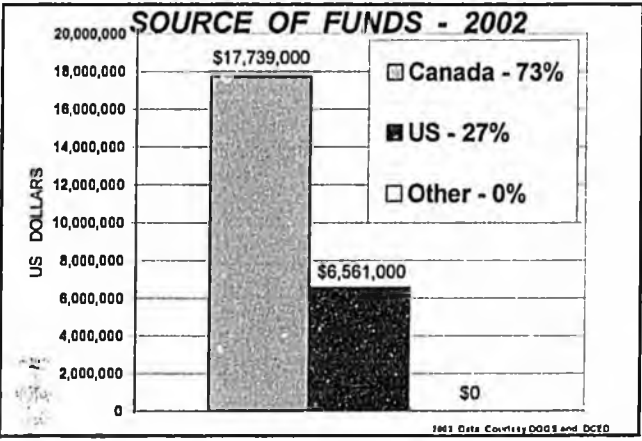
- ▶ Total land mass = 365 million acres (148 million hectares)
- ▶ 190 million acres available to mineral entry - an area as large as Chile and twice the size of Nevada
- ▶ More land open to mineral entry in Alaska than in the other 49 United States combined





**EVERYBODY IS
IGNORANT, ONLY ON
DIFFERENT SUBJECTS**

WILL ROGERS



WHY ALASKA....WHY NOW?

- ▶ Proven "Elephant" Country
- ▶ Highly Under-prospected
- ▶ Experienced Labor Force
- ▶ Abundant Stable Land
- ▶ Acceptable Tax Regime
- ▶ Pro-Development Government



TECK COMINGO'S
RED DOG MINE



THE WORLDS
LARGEST ZINC
DEPOSIT



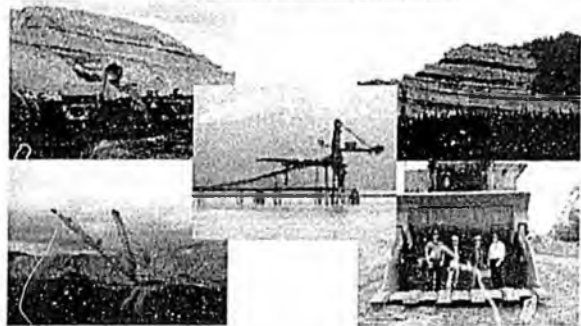
KINROSS GOLD'S
FORT KNOX MINE

2001 Production:
411,221 ounces at
cash cost of \$207/oz

2002 Production:
410,520 ounces at
\$232/oz



USIBELLI COAL'S
HEALY COAL MINE



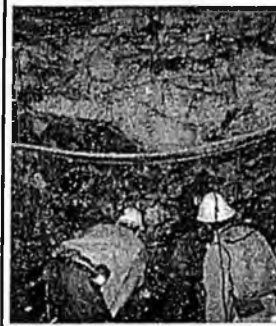
**KENNECOTT - HECLA'S
GREENS CREEK MINE**

2002 costs are \$1.93 per ounce silver (not including capitalized costs)



2002 production expected to exceed 10 Million ounces of silver

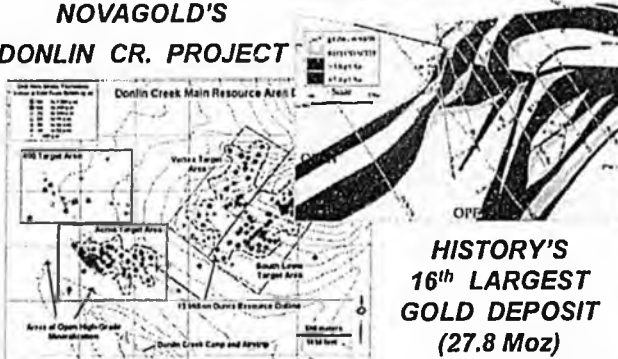
**TECK COMINCO - SUMITOMO'S
POGO DEPOSIT**



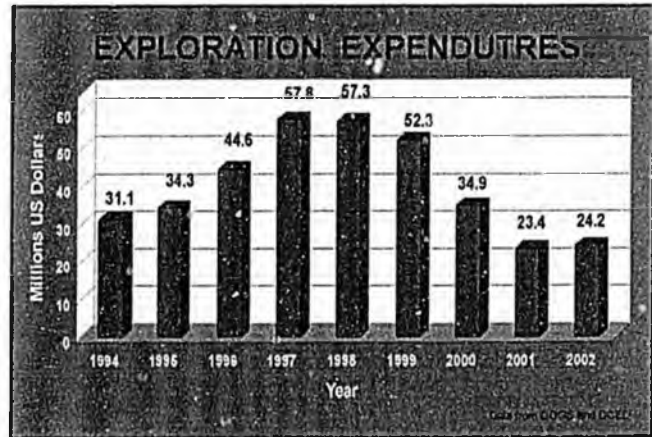
- > EPA is lead agency, State has been supportive during permitting
- > NEPA process is lengthy: two recent Nevada permits took +5 years to complete
- > Pogo should complete process in 4 years
- > Perception that State has hindered Pogo is incorrect

**PLACER DOME -
NOVAGOLD'S
DONLIN CR. PROJECT**

ACMA - Cross Section Looking Northwest



**HISTORY'S
16th LARGEST
GOLD DEPOSIT
(27.8 Moz)**



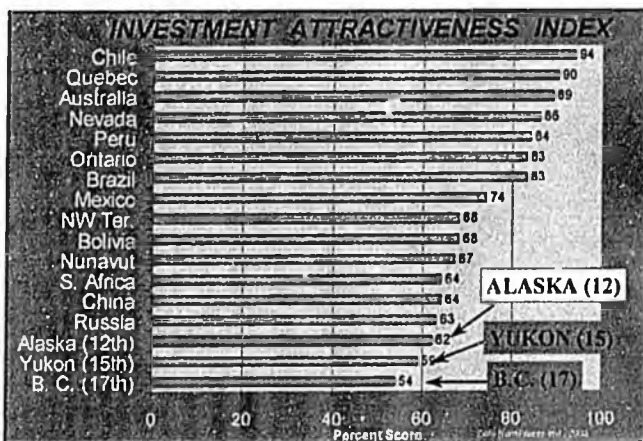
ALASKA LABOR

- ▶ About 75% of state/local jobs are paid by the petroleum industry
- ▶ 1 in 7 of Alaska's jobs are private sector while the U.S. average is 1 in 3
- ▶ In 1980 Alaska per capita income (PCI) was 45% higher than U.S. average. In 1990 Alaska PCI was only 16% higher
- ▶ In 2002 Alaska PCI = U.S., yet the cost of living remains above the U.S. average

Data from Juneau Econ Dev Council

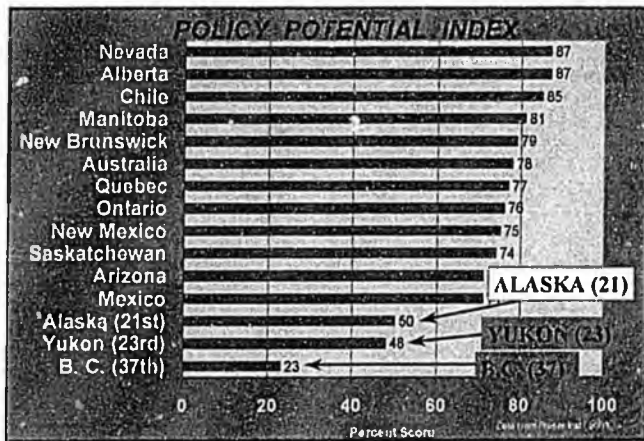
WHAT IS THE FRASER SURVEY?

- ▶ Canadian survey covers 131 junior and 27 senior mining companies
- ▶ Survey is intended to gauge mineral investment attractiveness
- ▶ Survey covers 47 political jurisdictions around the world
- ▶ Companies in survey responsible for \$480 million in expenditures



INVESTMENT REPORT CARD

- ▶ Alaska ranked #7 in Investment Attractiveness in 2001
- ▶ Alaska ranks #12 in Investment Attractiveness in 2002
- ▶ Conclusion: Industry perceives that Alaska's mining investment climate has degraded

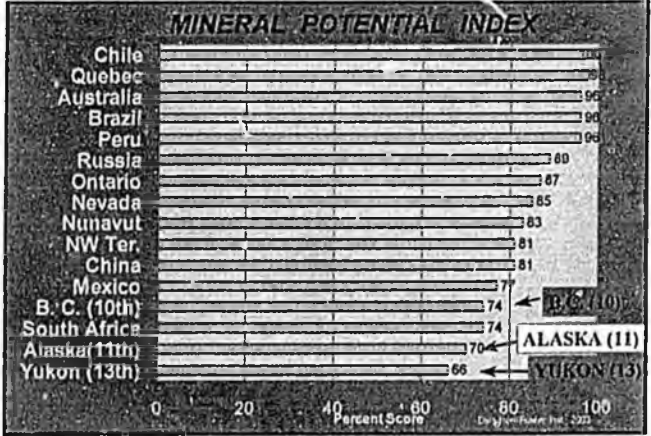


POLICY REPORT CARD

- ▶ Alaska is #3 of 47 jurisdictions if land use policies are ignored
- ▶ Alaska is #21 of 47 jurisdictions using current land use policies
- ▶ Conclusion: environmental and land use policies are major deterrent to mineral investment in Alaska

WHAT IS IT THEY DON'T LIKE?

- ▶ 4 of 10 companies think Alaska environmental policies are a strong deterrent to investment
- ▶ 4 of 10 companies think Alaska land status uncertainties are a strong deterrent to investment
- ▶ Almost 4 of 10 companies think Alaska's lack of roads/power is a strong deterrent to investment



POTENTIAL REPORT CARD

- ▶ *Alaska ranked #4 in Mineral Potential in 2001*
- ▶ *Alaska ranks #11 in Mineral Potential in 2002*
- ▶ *Conclusion: if you can't be with the one you love, love the one you're with!*

WHAT ARE WE DOING RIGHT?

- ▶ *We have proven the potential of our mineral endowment with numerous recent discoveries*
- ▶ *We addressed our First Nations issues over 30 years ago*
- ▶ *We have increased the mineral industry's value to \$1 billion/year*

WHAT ARE WE DOING RIGHT?

- ▶ *For the last 11 years we have conducted high quality airborne geophysical surveys by DGGs*
- ▶ *We have lowered the discovery cost by implementing new technologies*
- ▶ *We have brought experienced industry professionals inside state government*

WHAT ARE WE DOING WRONG?

- ▶ *We have built virtually no new rural roads or power facilities in recent years*
- ▶ *We have not convinced others of the stable nature of Alaskan lands*
- ▶ *State and Federal mine permitting is not coordinated to the extent it should be*

WHAT ARE WE DOING WRONG?

- ▶ *We have not removed the inequities in the wetlands and coastal zone issues*
- ▶ *We haven't followed recommendations of the Alaska Minerals Commission*
- ▶ *We have under-estimated the ability of our competition to attract capital*

HOW CAN WE SOLVE OUR PROBLEMS?

- ▶ *Continue streamlining permitting process*
- ▶ *Eliminate "zero liability" legal challenges*
- ▶ *Design and build rural roads and power facilities*
- ▶ *Expand the airborne geophysical coverage of Alaska's mining districts*

HOW CAN WE SOLVE OUR PROBLEMS?

- ▶ *Continue to require science-based air and water quality regulations*
- ▶ *Regain regulatory control of Alaska's waters and coastlines*
- ▶ *Aggressively market Alaska's mineral industry worldwide*

**YOU CAN'T STEAL
SECOND BASE AND KEEP
ONE FOOT ON FIRST**

60 YEAR-OLD JUNIOR EXEC.

QUESTIONS?



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Fax 907-455-3053
Email: avalon@alaska.net
Website: www.avalonalaska.com

POGO PROJECT UPDATE

Karl Hanneman, Alaska Regional Manager, Teck-Pogo, Inc.

House/Senate Resource Committee

February 19, 2003

Pogo: Gold deposit containing 5 million ounces, gross value of \$1.5 billion.
Owners: Sumitomo 60%, Teck-Cominco 40%
Operator: Teck-Pogo, Inc.
Location: On State land 35 miles northeast of Deita 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 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. The draft EIS is anticipated in March 2003 and public hearings will be held in Delta Junction and in Fairbanks this spring.

If the permitting process proceeds efficiently, construction could begin in the winter of 2003-2004. The infrastructure options available to support a future mining operation will have a critical impact on the economic viability of the operation. Access alternatives will be evaluated in the EIS. Teck-Pogo Inc. has proposed the following:

- to construct a 50 mile all-season road and an adjacent powerline
- to operate this road as a restricted use, industrial right-of-way
- to pay for all construction, maintenance, and reclamation
- road not opened to public during mine operation to reduce safety, liability, environmental, and subsistence issues
- existing public access to upper Goodpaster area via riverboat, snowmachine, and airplane to be protected
- limited other commercial use allowed on road such as:
 - timber harvest (in adjacent State Forest according to existing Forestry plan)
 - other major mines if/when found
- company will post bond for road and powerline reclamation at end of project

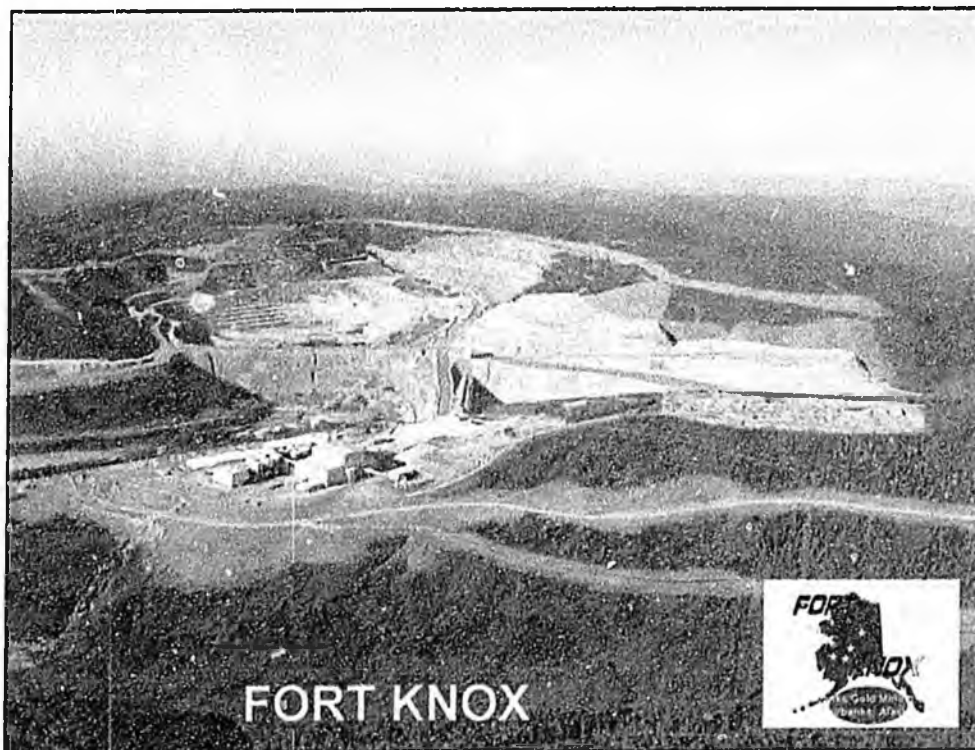
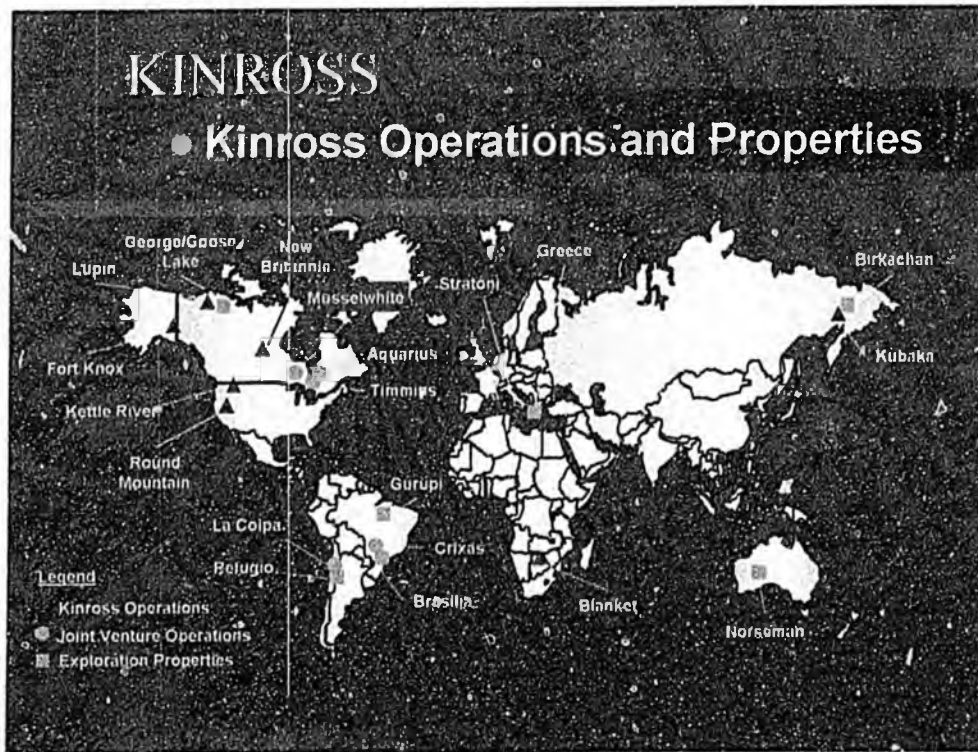
POGO PROJECT POTENTIAL

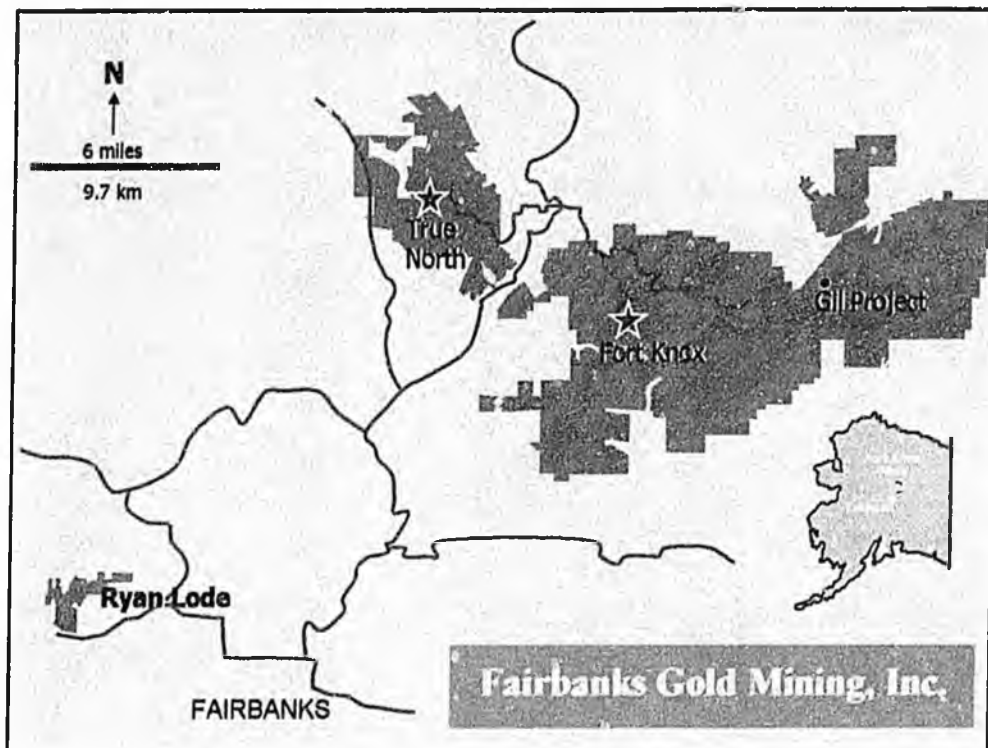
- \$250 million construction cost
- 500 construction jobs during peak of 2 year construction
- \$125 million annual production
- 10-15 year project life
- 200-300 year-round, high-quality, private sector jobs

FAIRBANKS GOLD MINING

Kinross Gold Corporation

- May 1993 – Company Formed
 - Initial Production 25,000 Ounces
- 1996 Production 525,000 Ounces
- 1998 Merged with Amax Gold
 - Production 1,200,000 Ounces
- January 2003 – Merged with TVX and Echo Bay
 - Production 2,000,000 Ounces





Fairbanks Gold Mining, Inc.

1984	Visible gold discovered on Fort Knox Claims.
1987 – 1995	Exploration, environmental and feasibility studies.
1994	State and Federal environmental permits issued.
1995	Construction begins.
December 1996	First gold pour at Ft. Knox.
October 1999	One million ounces produced at Ft. Knox.
March 2001	True North Mine Begins.
May 2002	Two million ounces produced at Ft. Knox.

Operation Update

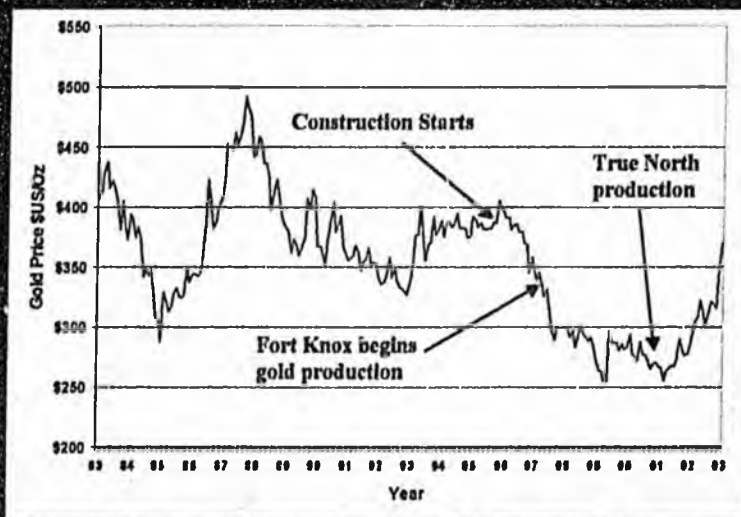
	<u>2002</u>	<u>2003</u>
Tons Mined	19,104,000	33,500,000
Ounces Produced	410,520	408,000
Operating & Capital	\$109,000,000	\$112,000,000
Personnel	388	425

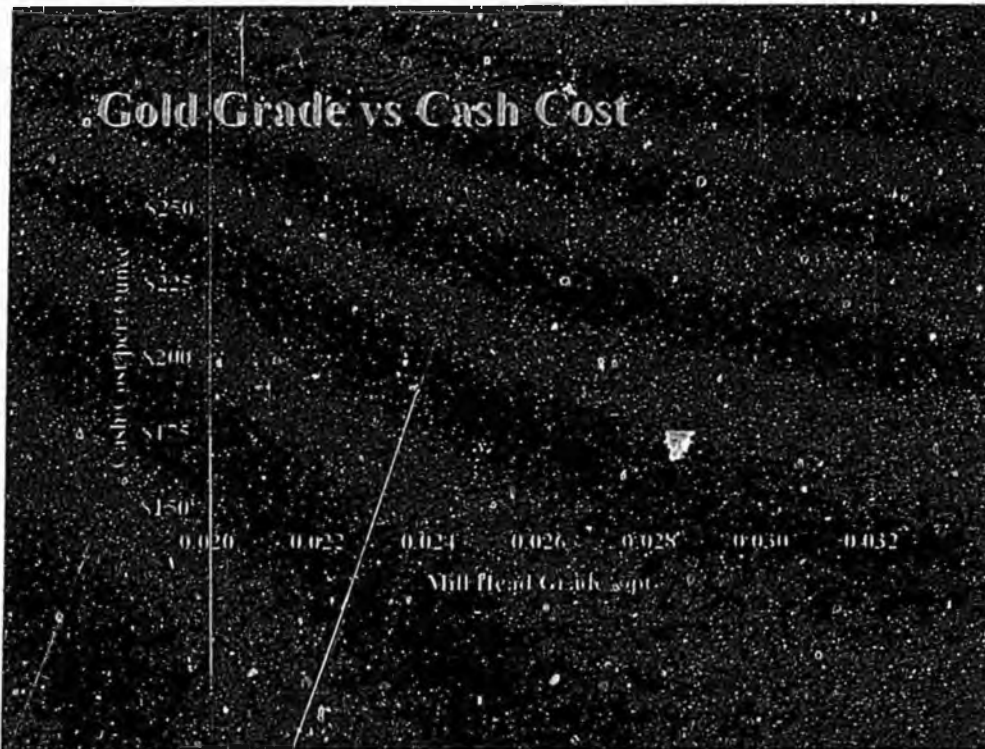
Operation Update - Reserves

	<u>Reserve Ounces</u>
Starting 2002	2,858,000
Mined / Removed	(493,000)
Added	623,000
Closing	2,988,000

OPERATING ISSUES

Historical Gold Price

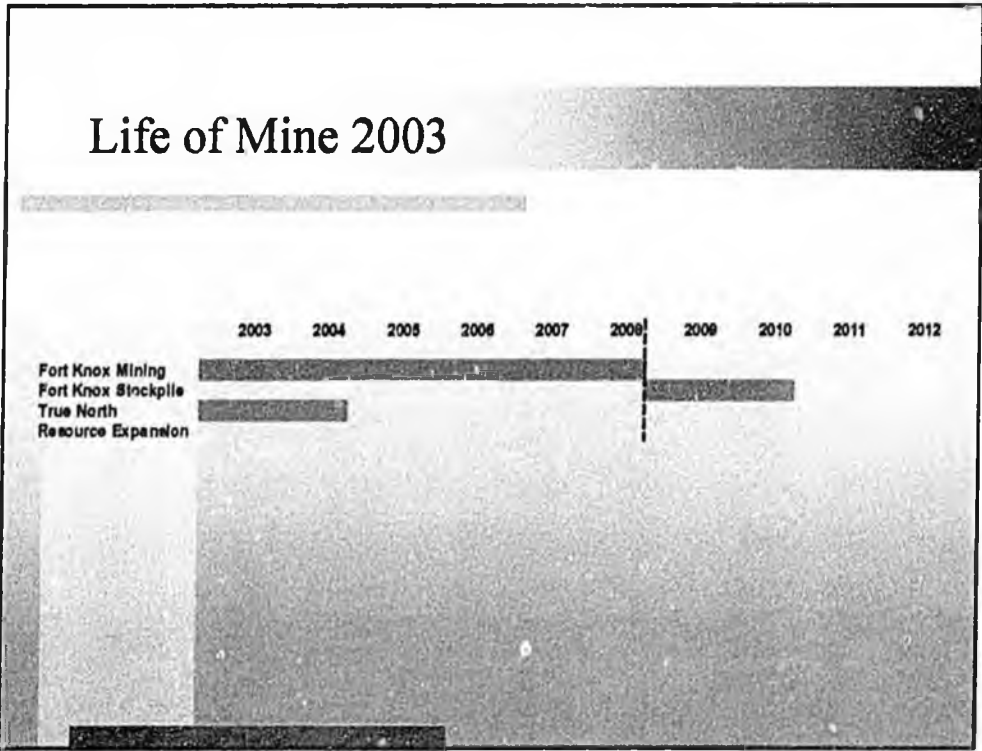
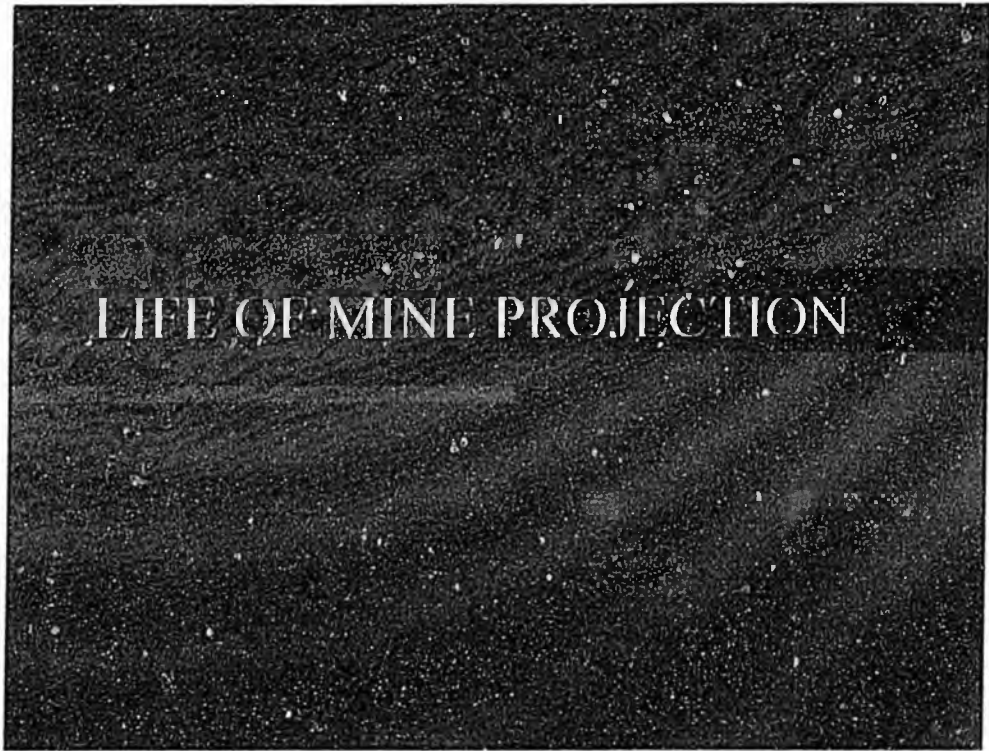




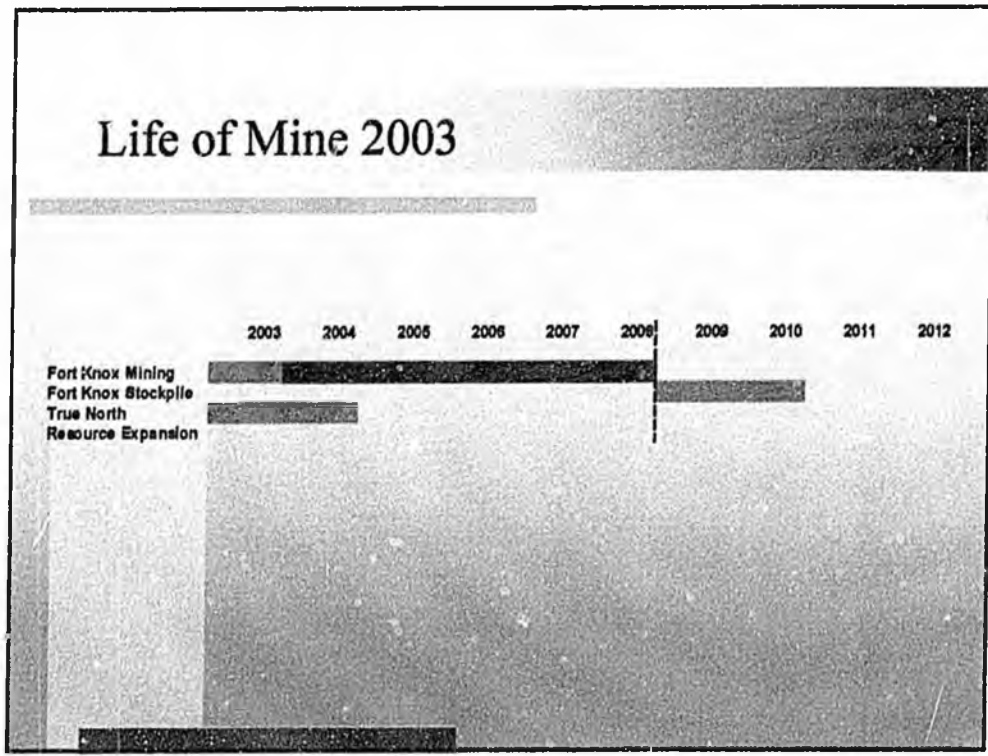
Operating Issues

Reserve Addition

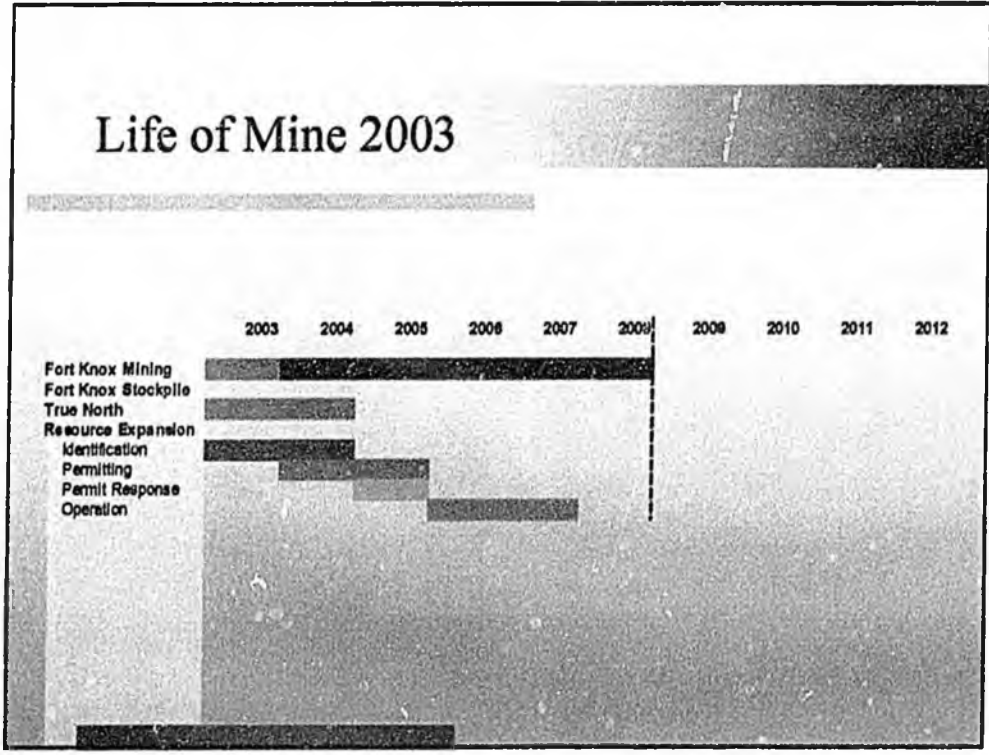
- Additional Expansion of Fort Knox Reserve
- Identification of Additional High Grade Ore Sources
 - Timely Project Identification and Permit Application
 - Timely Regulatory Permits



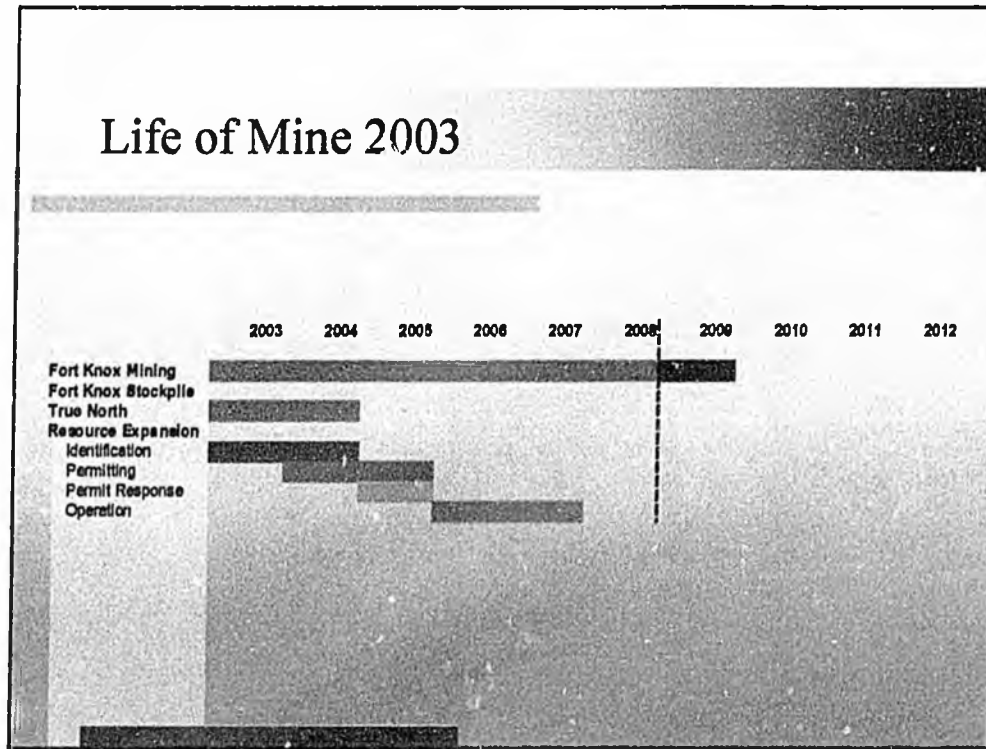
Life of Mine 2003



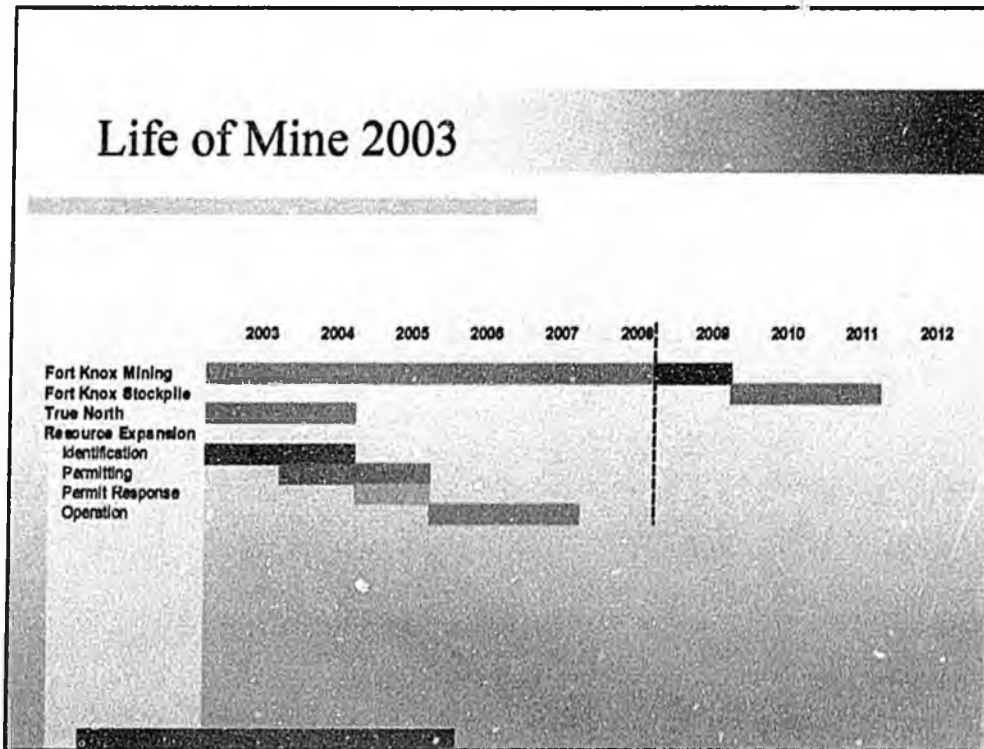
Life of Mine 2003



Life of Mine 2003



Life of Mine 2003



ECONOMIC BENEFITS

Current Economic Benefits

- Fort Knox creates 425 direct and 510 indirect jobs in Fairbanks.
 - Direct annual payroll is \$20.9 million.
 - Average pay is 70% above borough average.
- Fort Knox spends \$52 million annually in local goods and services.
 - "Virtually all goods that are available locally are purchased locally."

Current Economic Benefits

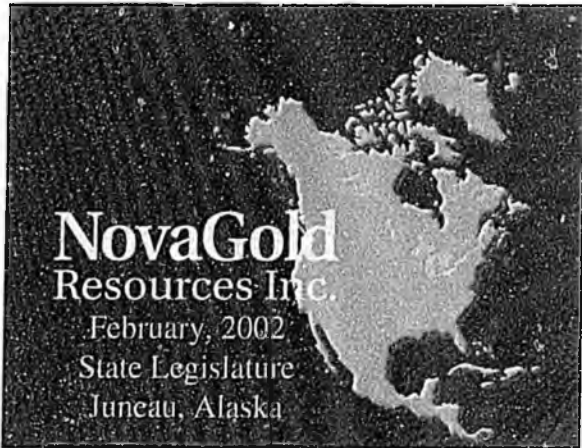
- Local power rates are lower due to Fort Knox
 - \$15.3 million in power represents 25% of all sold by GVEA
 - Savings of 7% to residential customers, 4% to small business and 10% to large commercial users
 - Total cost reduction is \$3.75 million to GVEA members
 - More reliable power

*Information Insights, McDowell Group, Feb. 1999
McDowell Group Update, Jan. 2001*

Current Economic Benefits


- Fairbanks North Star Borough (FNSB) receives \$4.4 million in mine-related revenues
 - Fort Knox pays \$3.9 million in property tax
 - 74% of employees own homes, paying \$300,000 in property taxes
 - Borough receives \$7,764 in tax revenue per job, compared to borough-wide average of \$975
 - The mine and mine-related population is 1.5% of the borough total but pays 9% of the taxes.
- FGMI mine spending in 2000 will generate an estimated \$196 million annual impact on the borough economy.

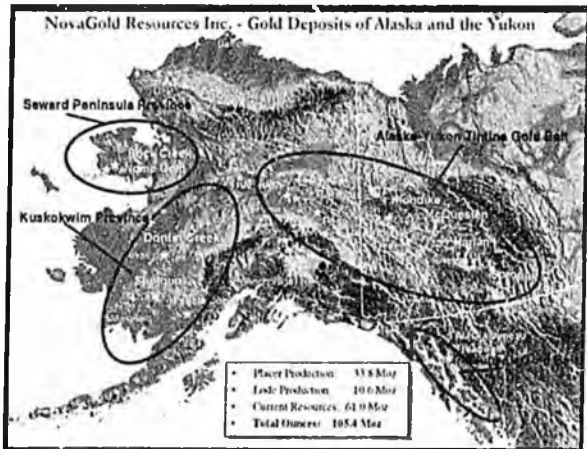
*Information Insights, McDowell Group, Feb. 1999
McDowell Group Update, Jan. 2001*



NovaGold Summary

- Senior Exploration Company
- Own 70% interest in the Donlin Creek and 100% of Rock Creek, Shamoon and Nome Gold projects
- 20 Billion Ounces of Gold Resources
- C\$250 Million Market Cap
- C\$20 Million in Cash
- C\$2.0 Million in Annual Revenue
- No Debt
- Non-Hedged



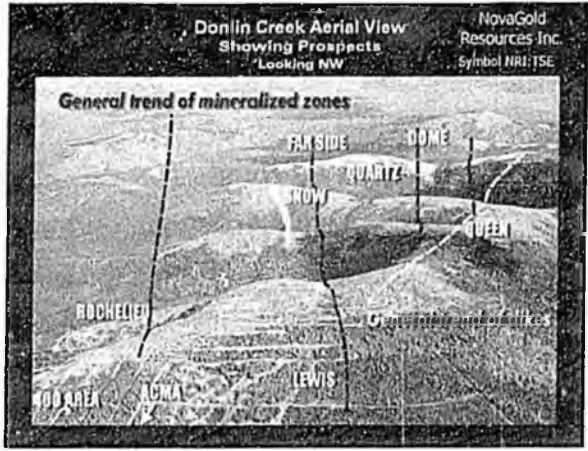


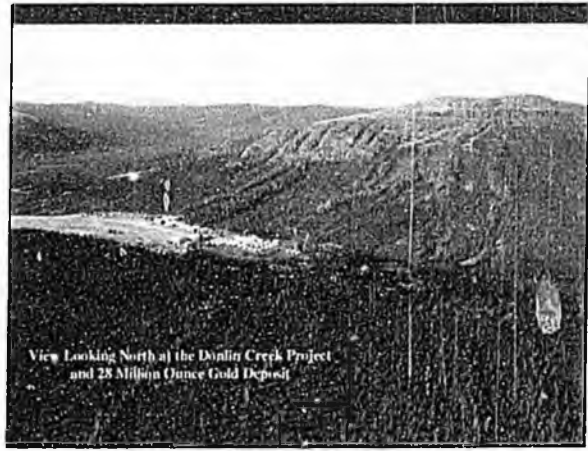


Project Expenditures

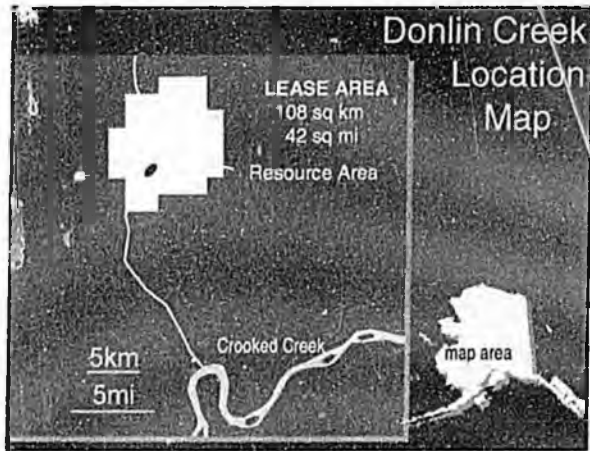
Calista	\$ 0.4M
WestGold	\$ 2.7M
Teck	\$ 0.3M
PDUS	\$31.7M
NovaGold	\$10.0M
NovaGoldPlacer IV	\$ 3.0M
Total	\$48.1M



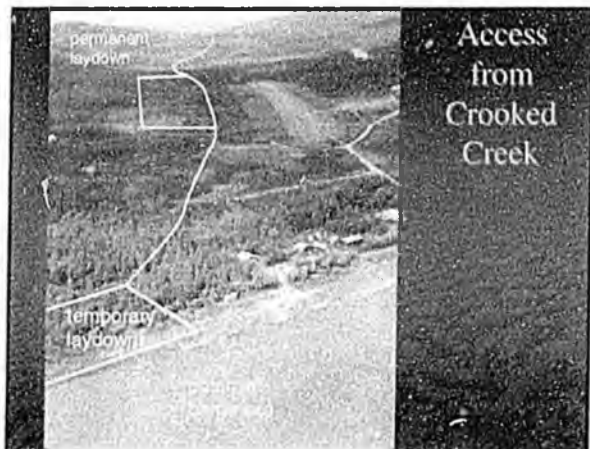






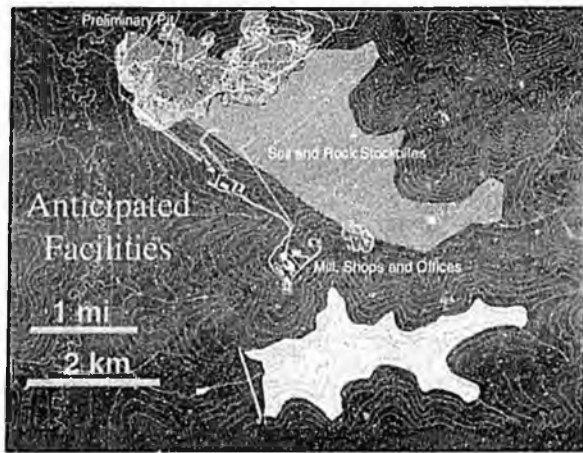


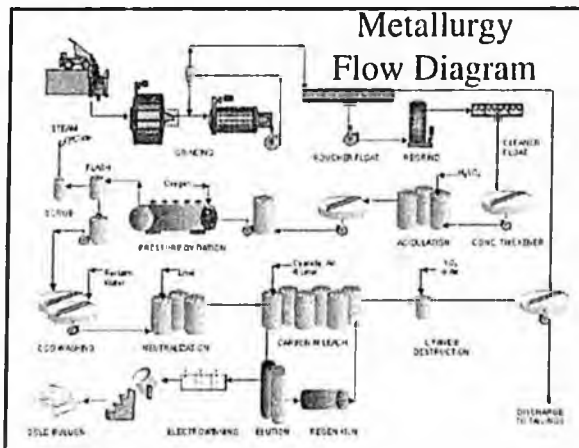


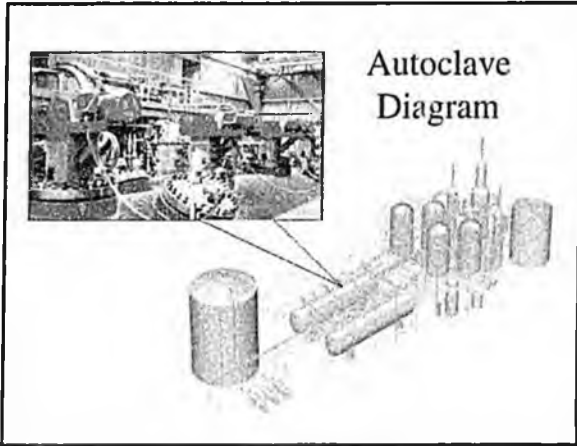


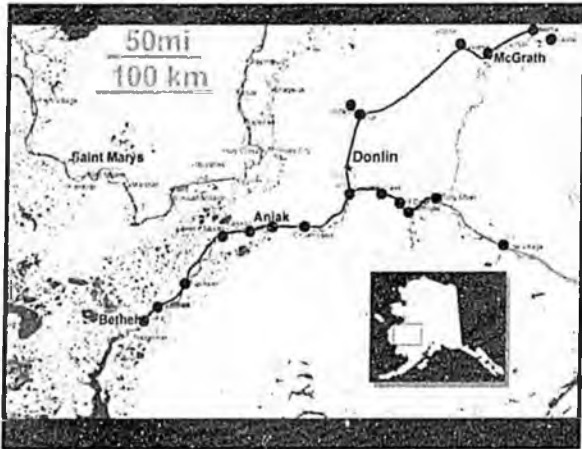
Donlin Creek Development Plan

- Pre-Feasibility Study - March 2002 to Aug 2003 (\$US13M)
 - Further Definition Drilling on Aema and Lewis Targets
 - Metallurgical Testing: Flotation/Bio-Oxidation
 - Engineering Design
 - Environmental Studies
- Feasibility/Baseline Studies - 2003 to 2004
- Financing/Final Permitting - 2004 to 2005
- Construction - 2006 to 2008
- Gold Production in early 2008









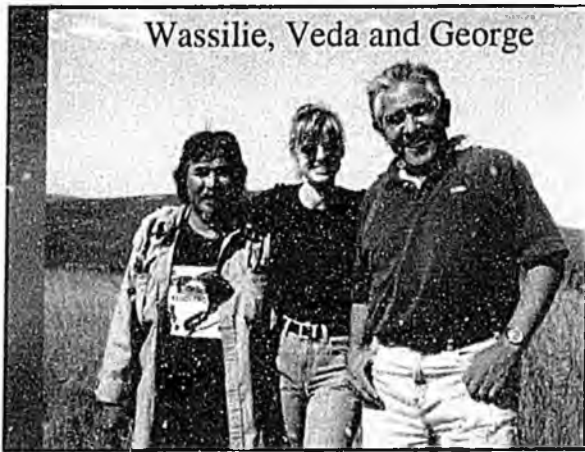
Regional Economic Benefits

Employment During Construction	500 - 600 people
Employment During Mining	450 - 550 people
Total Annual Salaries	\$25M - \$40M
Average Wages In Mining	\$49,000/yr
Capital Costs	\$600M to \$1 billion
Annual Expenditures into Local Economy	\$50M - \$80M
Gold Production: 1 million to 1.4 million ounces	\$375M to \$560M/yr
Other benefits	
Lower shipping, fuel & energy costs	
Business Opportunities	
Power generation	
Road and marine facility maintenance	
Oxygen Generation Plant at mine	
Fuel Storage/Hauling	
Camp facilities	

Local Shareholder Hire

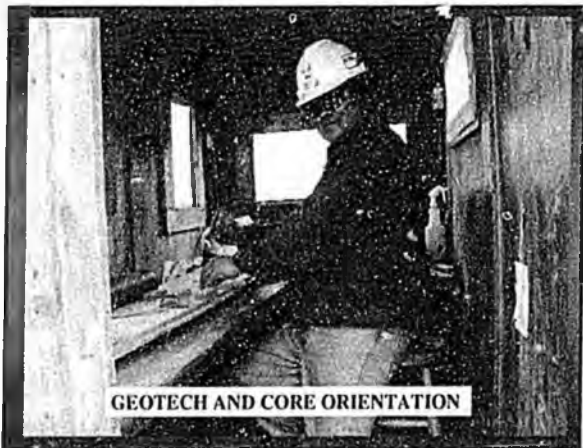
2002 camp population at 60 people:
65% Shareholders

Wassilie, Veda and George

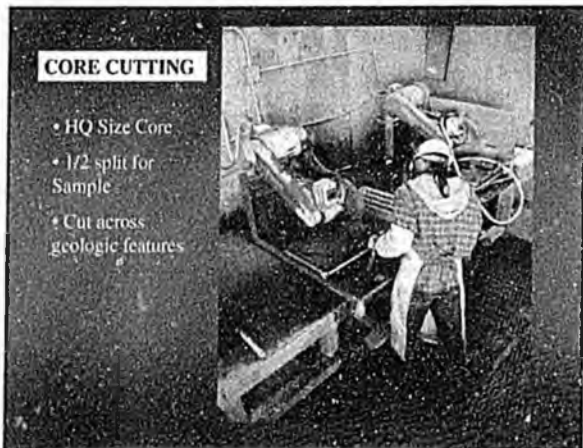






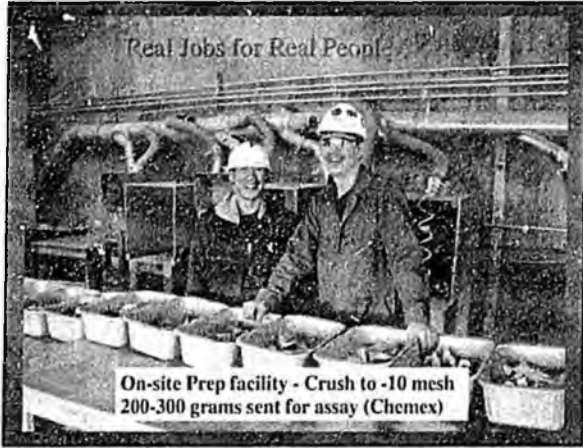


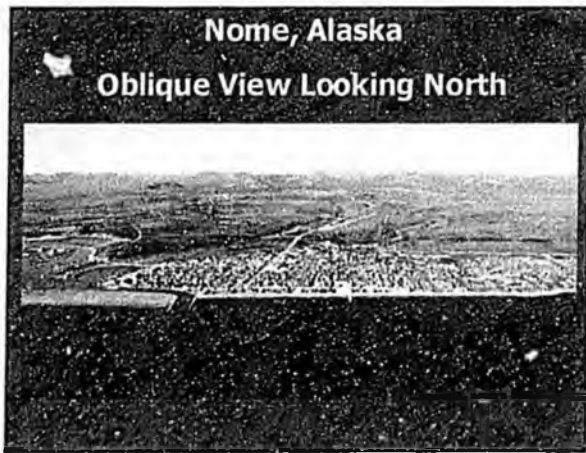
GEOTECH AND CORE ORIENTATION



CORE CUTTING

- HQ Size Core
- 1/2 split for Sample
- Cut across geologic features







Fairbanks Gold Mining, Inc.


a subsidiary of


KINROSS GOLD CORP.



Fort Knox & True North
Gold Mines

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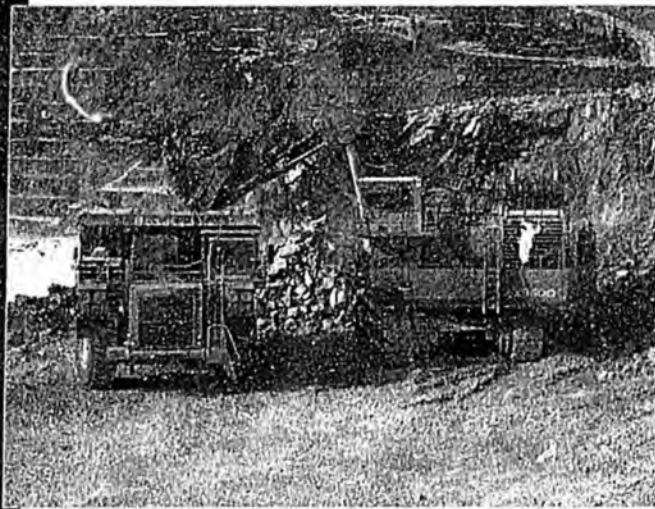
		<p>...ar environmental compliance record</p> <p>... party environmental audit</p> <p>...erial sales contract</p> <p>... Lode reclamation</p> <p>...aseline studies</p>
		

		<p>...high quality jobs</p> <p>...million annual payroll</p> <p>...million on-site contract labor</p> <p>...million + in direct purchases in</p> <p>...banks</p> <p>...y \$4 million in FNSB property</p> <p>...with over 500 Fairbanks</p> <p>...panies</p> <p>...ness with over 700 Alaskan</p> <p>...panies</p>	

Mineral & Energy Resource Education Fund
(MEREFE)

International tours

Commitment to local recruiting



Usibelli Coal Mine, Inc.

2003 in Review
and
Future Plans

Joint House/Senate Resources Committee

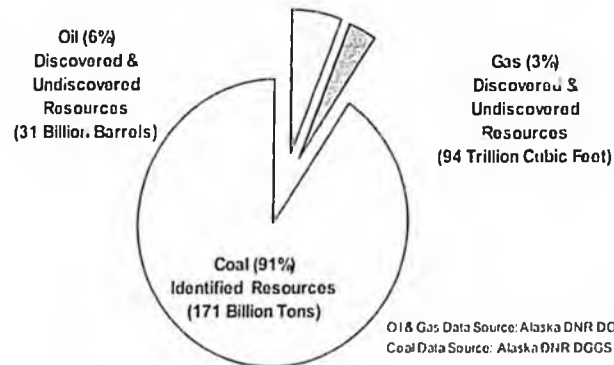
Briefing

February 11, 2004

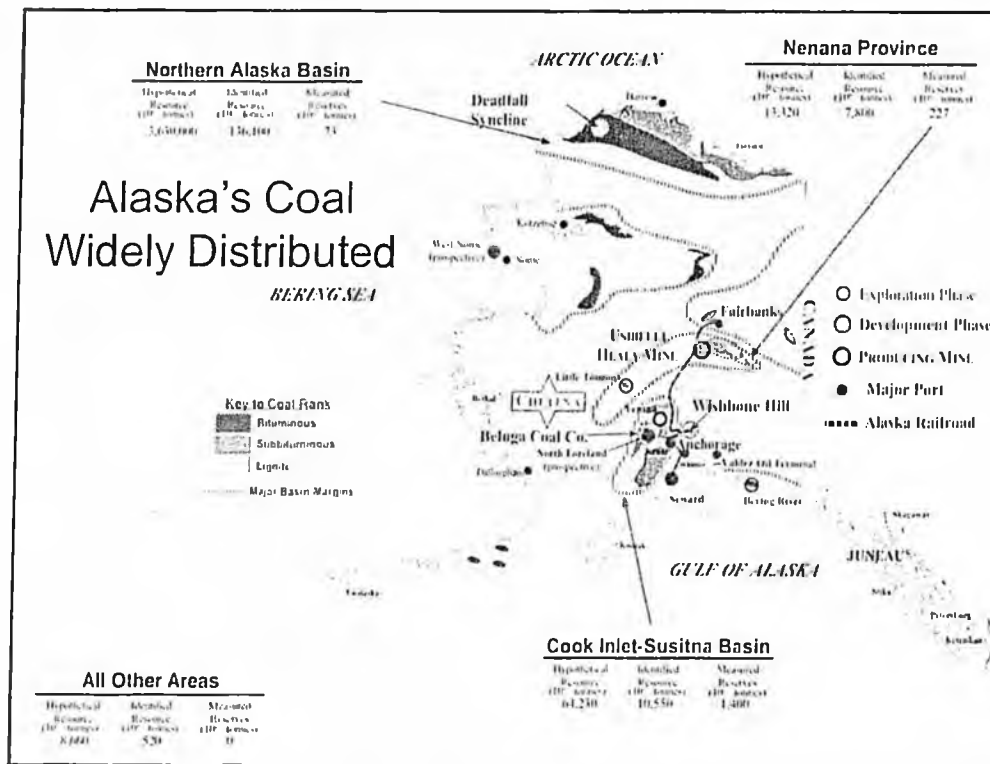


Alaska's Energy Resources

Alaska Fossil Fuel Energy Resources (Based on contained energy)



- ❖ Alaska coal resources are many times more than our combined oil and gas resources.
- ❖ If one includes hypothetical resources, coal resources are several hundred times greater than oil and gas.
- ❖ Currently proven railbelt reserves are on the order of 1 billion tons, equivalent to about 15 tcf of natural gas, compared to estimated N. Slope reserves of approximately 35 tcf.
- ❖ Proven railbelt reserves could meet our current electricity needs for over 250 years.



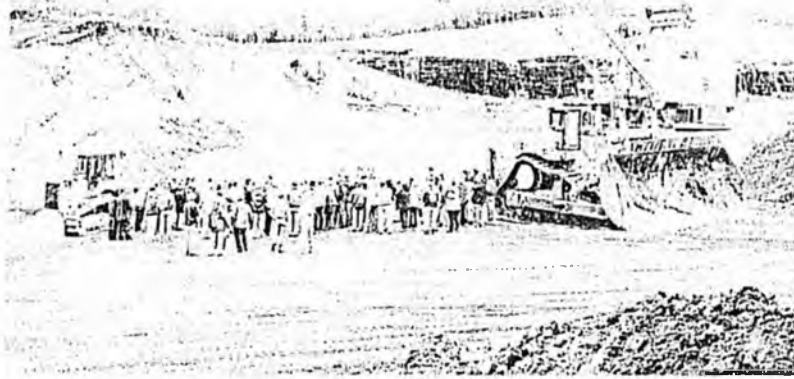
- ❖ Alaska has known coal fields located throughout the State.
- ❖ The Railbelt contains several fields that have been well explored and contain large known coal reserves.
- ❖ Many remote communities have coal resources near enough to supply fuel for district heating and electricity generation.
- ❖ Vast resources on the North Slope provide opportunities for coal export, as well as future feedstock for coal gasification and liquifaction to feed the pipeline(s) as oil and gas resources are depleted.
- ❖ Alaska has no energy shortage.

Export Sales Resume



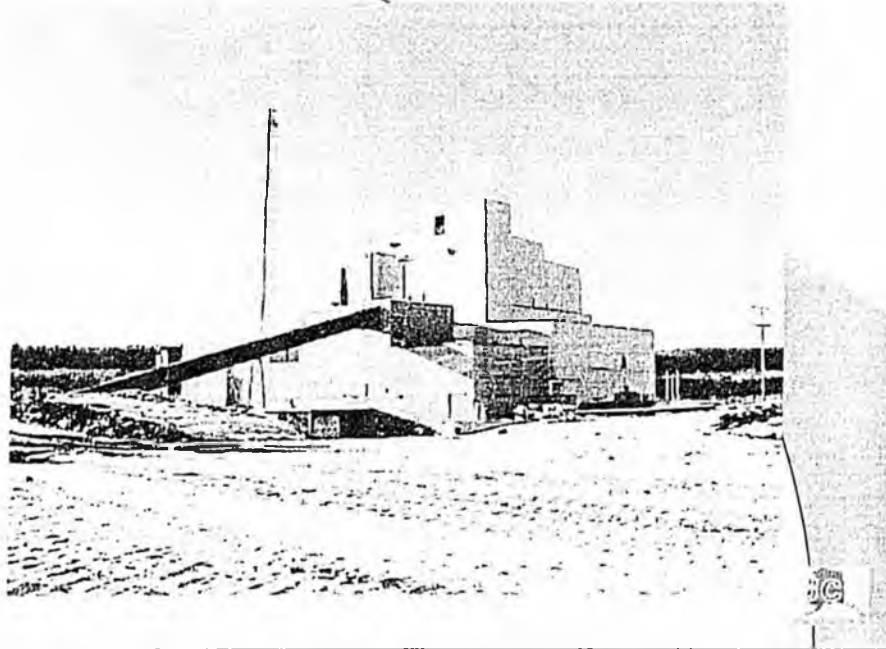
- ❖ Usibelli, the Alaska Railroad, and Hyundai Merchant Marine resumed export coal sales to South Korea in September 2003.
- ❖ A little over 280,000 metric tons have been shipped by Usibelli from September 2003 through February 9, 2004
- ❖ An appropriation secured by Senator Stevens allowed the Alaska Railroad to purchase Hyundai's interest in the Seward Port.
- ❖ All Alaska ownership in the Port should improve competitiveness of Alaskan coal and other potential bulk exports.
- ❖ Current contract is for 400,000 tons per year \pm 20% for two years.
- ❖ Pacific Rim coal prices have increased dramatically in last quarter of 2003, which is generating renewed interest in Alaska coal.
- ❖ Alaska Railroad and Usibelli working to develop ways to manage personnel and equipment to address short term opportunities in the export coal business.
- ❖ Photo shows a coal ship being loaded at the Seward Coal Terminal.

60th Anniversary and Two Bull Ridge Grand Opening



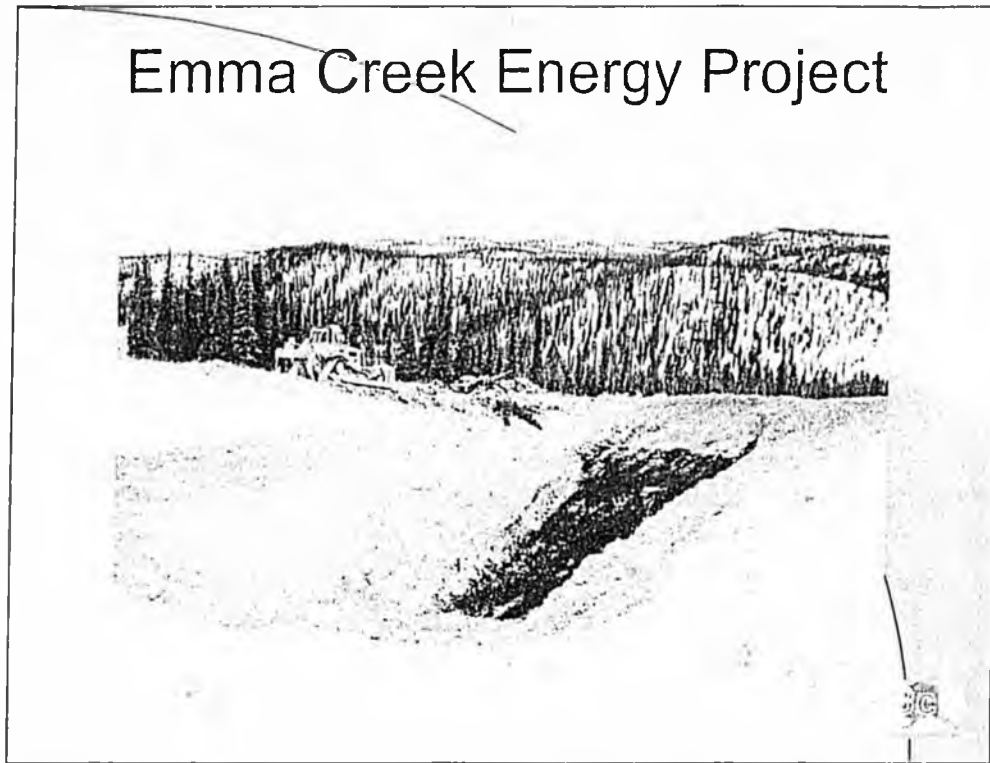
- ❖ July 26, 2003, Usibelli held an Open House to celebrate its 60th anniversary and the grand opening of our new mine at Two Bull Ridge.
- ❖ An estimated 1,200 people from as far away as Seward attended the event, which was a great success and Usibelli thanks all who attended.
- ❖ Working equipment provided visitors with an opportunity to see the major earth moving operations in action.
- ❖ Cloudy, cool weather proved that Alaskans can enjoy a barbecue and good times under just about any conditions.
- ❖ Photo shows the Two Bull Ridge ribbon cutting with the ribbon stretched between our largest and smallest dozer and the dragline “Ace in the Hole” in the background.

Healy Clean Coal Project



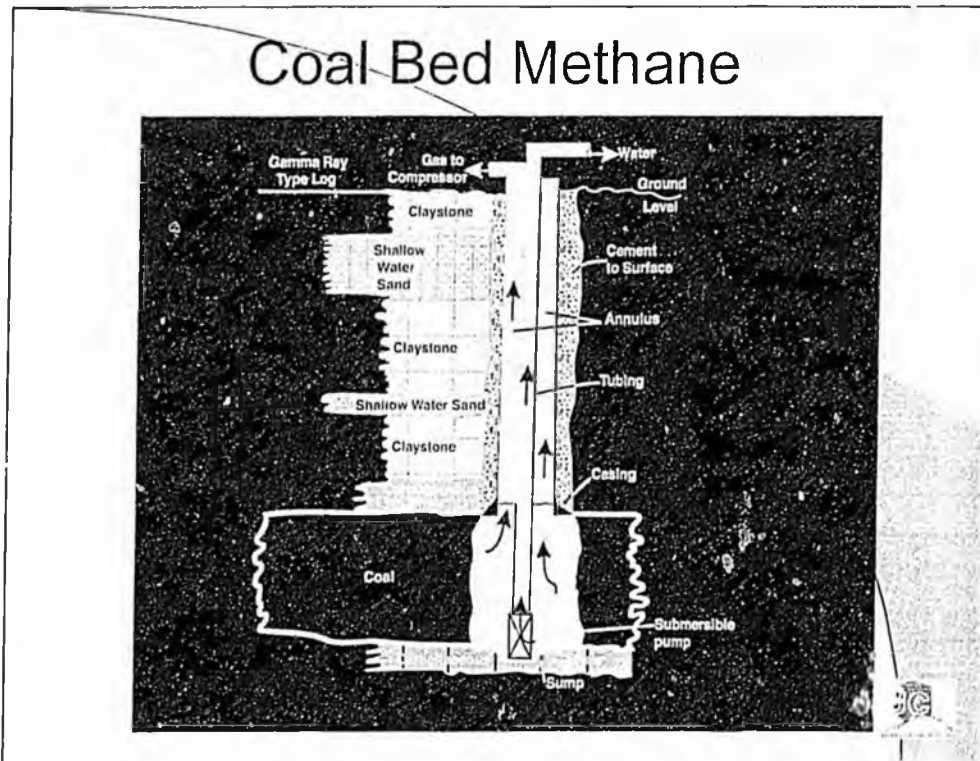
- ❖ 50 megawatt power plant designed to use clean coal technology to burn waste coal and reduce coal plant emissions.
- ❖ Funded by combination of grants from the State of Alaska and the US Department of Energy and equity from the Alaska Industrial Development and Export Authority
- ❖ Located adjacent to existing Golden Valley Electric Association 25 megawatt Healy Unit 1 plant. GVEA likely operator of the plant.
- ❖ Completed testing in December 1999.
- ❖ Currently idle due to disagreement over results of testing program.
- ❖ AIDEA and GVEA currently in negotiations to find a way to bring the plant back on line.
- ❖ HCCP is the lighter colored building in the background.

Emma Creek Energy Project



- ❖ Usibelli acquired 12,400 acres of leases north of our existing leases in February 2001.
- ❖ Leases contain large reserves of near surface coal in the same seams currently being mined.
- ❖ Emma Creek Energy Project, named after a small creek adjacent to the proposed project, is a conceptual plan for a 200 megawatt mine mouth power plant located adjacent to these reserves.
- ❖ Coal could be supplied to the plant for \$1.00 per million Btu, compared to approximately \$2.50 per million Btu currently for natural gas in Cook Inlet.
- ❖ Plant would save Railbelt consumers \$300 to \$500 million over a 30 year financing term and \$50 to \$60 million per year thereafter.
- ❖ Photo shows sampling trench in 4 Seam completed in November 2004.
- ❖ Sampling shows excellent coal quality with 4 seam averaging across 38 feet of thickness 4.4% ash and only 0.11% sulfur. 3 Seam at 27.5 feet thick averaged 8.8% ash and 0.13% sulfur.

Coal Bed Methane



- ❖ Usibelli applied for approximately 45,000 acres of shallow gas leases adjacent to its coal leases in the Nenana Coal Field.
- ❖ Usibelli holds approximately 25,000 acres of additional coal leases that may contain coal bed methane potential.
- ❖ Alaska's shallow gas leasing program currently on hold pending development of guidelines for regulation of shallow gas development activities.
- ❖ Usibelli began taking core samples on its coal leases in fall of 2003 and is installing monitoring wells to collect water samples needed for permitting future coal bed methane wells.
- ❖ Initial results are mixed. Cores recovered at depths of 300 to 800 feet hold natural gas, but at relatively low concentrations. Currently analyzing data to determine future activities.

Surface Impacts

The whole philosophy behind the Greens Creek mining operation is to minimize the impact upon the National Monument. The total surface disturbance is only 350 acres, including all of the impoundments for waste rock and tailings. All discharges to the environment are regulated by independent state and federal agencies. The discharges to land are the waste rock from development and the mill tailings. The discharges to the air are the exhaust gases produced from our power generation plant. The discharges to water are the minerals contained in our water outfall pipe in Hawk Inlet. All of our water is cleaned at one of two water treatment plants to ensure that it meets Alaska State water quality standards prior to discharge.

▼ Closure and Reclamation

Part of the General Plan of Operations is an Agency approved reclamation plan. This plan details all the steps required to return the Greens Creek Operation back to a pristine wilderness, through a process of building removal, recontouring and capping. The plan also requires bond or guarantee for \$26M, held by the regulating agencies, which can be used to employ a reclamation contractor should Greens Creek default on its reclamation responsibilities.



Hawk Inlet

Community Involvement

The Greens Creek Mine is the largest private employer in the Juneau area and as such plays an important role in helping to diversify the local economy. The mine employs 260 people with an average payroll, including burden, of \$26M.

The successful operation of the Greens Creek Mine demonstrates that mining, with all its associated economic benefits; local jobs; diversification of the local economy; strategic national importance, can be undertaken in an environmentally compliant manner without sacrificing responsible stewardship of the land.

The city of Juneau developed initially as a mining town and has a history rich in mining folk lore. At the turn of the last century Juneau boasted three mines, the Alaska-Juneau at the south end of Juneau, the Alaska-Gastineau at Thane and on Douglas Island was the world-renowned Treadwell Mine. The Kennecott Greens Creek Mine is proud to be the latest chapter in the city's rich mining history.

GENERAL CONTACT INFORMATION KENNECOTT GREENS CREEK MINE

P. O. Box 32199
Juneau, Alaska 99803

Phone: 907-789-8114
Fax: 907-789-8128

Email: ron.plantz@greencreek.com

Kennecott Greens Creek Mine

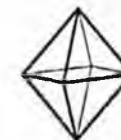
TOURIST INFORMATION



920 Mine Site

Welcome to the Kennecott Greens Creek Mine

Greens Creek is considered by many to be the environmental role model for the mine of the 21st Century. Located at the North end of Admiralty Island, in a pristine environmental area, the mine continues to operate within strict standards of environmental compliance. Working closely in an atmosphere of mutual respect with community leaders, regulatory agencies and environmental groups Greens Creek has developed a General Plan of Operations incorporating many stewardship activities recognized as best practice. All the activities undertaken at the operation take into account sustainability, with the goal of leaving Admiralty Island as beautiful as it was prior to existence of the mine.



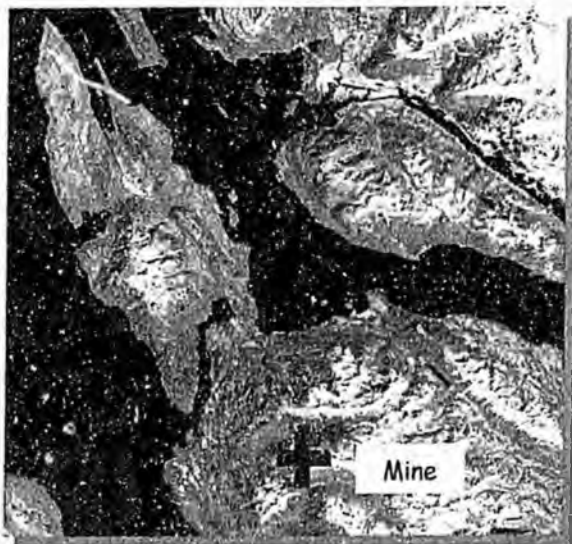
**Kennecott
Minerals**

Brief History of the Mine

Mineralized outcrops near Greens Creek were first sighted by geologists in early 1975 and preliminary core drilling followed soon after. Between 1978 and 1980 an exploratory tunnel was driven to allow underground drilling and inspection of the ore body. Full scale mine development began in 1987 and full production was reached early in 1989. Production was temporarily halted in 1993 due to low metal prices but re-opened in July 1997. Since re-opening the mine has steadily increased its productive capacity from an initial production rate of 1320 tons per day (tpd) to over 2100tpd in 2003.

General Information

Greens Creek is a polymetallic (silver, zinc, gold and lead) underground mining operation with a concentrator (or mill) and a 100 bed camp. The mine and the mill are located about three miles up the Greens Creek Valley and the camp is located at Hawk Inlet. The mine is expected to operate until 2012 based upon 7,4Mt of reserves and excellent exploration potential.



North Admiralty Island

Mine Operations

There are three main phases to the mining process:

Development

Production

Backfilling

Development is the tunneling or accessing phase. Using plans from the geology and engineering departments miners drive tunnels 15ft high by 15ft wide to access the various ore zones to be mined.

Production is the extraction phase. The method of extraction depends upon the geological nature of the orebody involved, some of the smaller more contorted orebodies are extracted using the same tunneling procedure as the development phase. In other more massive orebodies larger scale extraction methods are used, sometimes producing voids of up to 150ft long, 25ft wide and 60ft deep.

Backfilling is the replacement phase. The voids created during the production phase are filled up with a combination of mill waste (tailings) and cement. This "backfilling" process stabilizes the production voids and allows extraction of the ore beside, above, and even below the backfilled area

Mill Operations

There are three main phases to the milling process

Grinding

Flotation

Filtering

Grinding is the reduction of the mined ore from an average size of 9" (225mm) to an average size less than 50 μ m (50microns or .05mm). The main purpose of the grinding process is to liberate the various components of the ore. A 9" lump of ore is a combination of some rock, some zinc, some lead, some silver and some gold. By grinding that lump down to

particles of 50 μ m we aim to produce particles of either rock, zinc, lead, silver, or gold. Water is added during the grinding phase to suppress dust and to help pump the material around the mill.

Flotation is the separation of the particles produced during the grinding phase. The ground ore and water is passed through a series of cells which selectively float the zinc particles and the lead particles to produce a zinc concentrate and a lead concentrate. The silver and gold particles are more difficult to isolate and some silver and gold ends up in each of the concentrates as well as in a gold/silver concentrate which is smelted on site to produce a doré bar.

Filtration is the extraction of the water from the concentrates and tailings. All of the mill products are filtered to produce a dry cake with a moisture content of around 12%. The dried concentrate is easy to handle and ready to be shipped off to smelters around the world to be turned into metal. The dried tailings material is trucked to Hawk Inlet where it is placed in an engineered and regulated tailings impoundment.



Maxhaul in the snow

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NORTHERN DYNASTY'S PEBBLE GOLD-COPPER DEPOSIT ESTABLISHED AS ONE OF THE WORLD'S RARE BEHEMOTHS HOSTING RESOURCES OF 26.5 MILLION OUNCES OF GOLD AND 16.5 BILLION POUNDS OF COPPER

January 21, 2004, Vancouver, BC - Ronald W. Thiessen, President and CEO of Northern Dynasty Minerals Ltd. (TSX Venture: NDM; OTCBB: NDMLF) is pleased to report the results of a new independent mineral resource estimate for the Pebble porphyry gold-copper-molybdenum deposit in southwestern Alaska. The estimate was completed by the internationally recognized minerals industry consulting firm, Norwest Corporation (Norwest). Their work establishes Pebble as the largest deposit of contained gold resources in North America. It also establishes Pebble as the second largest deposit of contained copper resources in North America (Source: Metals Economics Group, December 2003).

Norwest has estimated that the Pebble deposit contains 26.5 million ounces of gold and 16.5 billion pounds of copper within an Inferred Mineral Resource of 2.74 billion tonnes grading 0.55% copper-equivalent (0.30 grams gold per tonne, 0.27% copper and 0.015% molybdenum above a cut-off grade of 0.30% copper-equivalent). Importantly, the Norwest estimate has significantly expanded the higher grade resources to 435 million tonnes of 0.49 grams gold per tonne, 0.42% copper and 0.021% molybdenum, or 0.84% copper-equivalent above a cut-off grade of 0.70% copper-equivalent. These higher-grade resources will facilitate rapid recovery of capital costs during the early years of a large scale mining operation.

Norwest's estimate is based on drill core assay results from 19,948 metres of drilling in 59 holes completed by Northern Dynasty during 2003 and 18,353 metres in 110 holes by Cominco American Incorporated to 1997. The resource estimate was completed under the direction of John Nilsson, P.Eng., Project Manager for Norwest Corporation, an independent Qualified Person as defined by National Instrument 43-101. Norwest is one of the largest privately held engineering service companies in North America and employs a highly experienced team working in all facets of the mining industry. Norwest was chosen to complete the independent resource estimate at Pebble because of their extensive bulk tonnage mining experience and their work on numerous North American projects in Alaska, British Columbia, Yukon and the Northwest Territories. A technical report detailing the resource estimate will be filed on SEDAR within 30 days. The specific breakdown of Inferred Mineral Resources for the Pebble deposit above varying cut-off grades is tabulated below:

PEBBLE DEPOSIT INFERRED MINERAL RESOURCES¹

Cut-Off CuEQ ² %	Size Million Tonnes	Grade				Contained Metal	
		Copper %	Gold g/t	Moly %	CuEQ ² %	Copper B lbs	Gold M oz
0.30	2,737	0.27	0.30	0.015	0.55	16.5	26.5
0.40	2,232	0.30	0.33	0.016	0.60	14.5	23.8
0.50	1,573	0.32	0.37	0.017	0.66	11.3	18.8
0.60	883	0.37	0.43	0.019	0.74	7.1	12.1
0.70	435	0.42	0.49	0.021	0.84	4.0	6.8
0.80	208	0.48	0.55	0.023	0.95	2.2	3.7



HUNTER
 DICKINSON
 INC.

Responsible
 Mineral
 Development

Note 1 Mineral resources do not have demonstrated economic viability. An Inferred Mineral Resource is that part of a mineral resource for which quantity and grade can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity.

Note 2 Copper and gold equivalent calculations use metal prices of US\$0.80/lb for copper, US\$350/oz for gold, and US\$4.50/lb for molybdenum. The contained gold and copper represent estimated contained metal in the ground and have not been adjusted for metallurgical recoveries. Adjustment factors to account for differences in relative metallurgical recoveries for gold, copper and molybdenum will depend upon the completion of definitive metallurgical testing.

$$\text{CuEQ} = \text{Cu \%} + (\text{Au g/t} \times 11.25/17.64) + (\text{Mo \%} \times 99.23/17.64)$$

$$\text{AuEQ} = \text{Au g/t} + (\text{Cu \%} \times 17.64/11.25) + (\text{Mo \%} \times 99.23/11.25)$$

Bob Dickinson, Co-Chairman said "Our drilling in 2003, has exceeded our expectations and massively increased the previous estimate of Inferred Resources at Pebble. When comparing the world's giant gold-copper porphyry deposits in terms of contained gold resources, Pebble and Telfer share second ranking, only behind the huge Grasberg deposit. We plan to develop a major mine in the shortest possible time frame."

All gold and copper companies in the world are benefiting from the recent increase in commodity prices but not all global producers are gaining the same advantage. This is, in part, because miners operating outside of the United States are being negatively affected by the reciprocal rise in the value of their own currency in comparison to the US dollar. With its Alaskan location, Northern Dynasty's Pebble project will receive the full benefit of strengthening gold and copper prices and is highly leveraged to profit from further price increases.

Immediate plans for Pebble are, to develop the drill parameters for definition of measured and indicated resources, complete a preliminary Sizing Study that will facilitate the start of environmental base line measurements for the permitting process, and collect engineering data for specific mine, mill and infrastructure design. This work has commenced.

Pebble has an excellent configuration for very low cost open-pit mining. The mineralization is very continuous with almost no internal waste and is persistent over a broad area measuring at least 3 kilometres E-W by 2 kilometres N-S. Mineralization begins right at the bedrock surface which is covered only by a thin veneer of gravel ranging from 5 to 25 metres thick, indicating the deposit will have an unusually low stripping ratio. The deposit is open to the south, west and to the east under thickening Tertiary cover. Currently, the deposit averages 350 metres thick and is open to depth.

Northern Dynasty has substantiated that the Pebble deposit constitutes about 5 percent of a much larger hydrothermal sulphide system covered by the property. This mineral rich terrain is outlined by an 89 square kilometre IP/chargeability anomaly, measuring 21 kilometres in length and up to 9 kilometres in width. The United States Geological Survey has listed the Pebble mineralized system as the most extensive in the world. Large-scale porphyry systems commonly host multiple deposits and Northern Dynasty's first pass exploration program in 2002 made several new discoveries indicating substantial potential for additional gold, copper and molybdenum resources within this giant mineralized system (see News Releases dated July 15, 2002 and October 15, 2002).

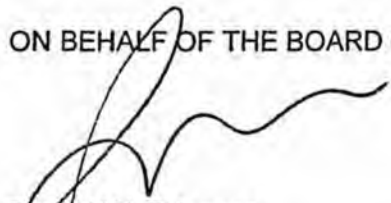
Pebble is favourably located in southwestern Alaska in a region of low rolling hills with an average elevation of only 350 metres above sea level. The project is situated only 132 kilometres from tidewater along a proposed level road route to a year round deep-sea port on Cook Inlet. The town of Iliamna, 25 kilometres from the project, has an airport with two 1500-metre paved runways that serve 3 daily scheduled flights from Anchorage. The district also enjoys a more favourable winter climate than much of the north-central United States.

Drill hole location maps, an outline of the Pebble deposit, and a complete tabulation of assays from Northern Dynasty's drill programs to date may all be found on Northern Dynasty's website at www.northerndynasty.com.

Mark Rebagliati, P.Eng., is the Qualified Person for Pebble and is supervising the quality control and quality assurance program. Logging and sampling is completed in Northern Dynasty's secure facility at Iliamna, Alaska. The NQ-size core is mechanically split and samples are transported to the SGS Mineral Services laboratory in Fairbanks for sample preparation. Sample pulps are shipped by airfreight to SGS Canada Inc., Toronto, Canada (an ISO 9002 certified laboratory) for analyses. Gold is determined by Fire Assay (FA) fusion with an Atomic Absorption Spectroscopy (AAS), finish. For results greater than 2,000 ppb gold, samples are re-analyzed by one-assay-ton FA fusion with a gravimetric finish. Copper assays are conducted with sodium peroxide fusion and Inductively Coupled Plasma-Emission Spectroscopy (ICP-ES) finish. All samples are analyzed for Cu and Mo, and 31 additional elements by aqua regia digestion (ICP-ES). Northern Dynasty includes standards and duplicates in addition to the laboratory's internal quality control work.

Northern Dynasty is a Hunter Dickinson managed mine-development company focused on the creation of significant value through the exploration and development of the most extensive gold-copper district in the world. Only five percent of the district hosts the 2.74 billion tonne Pebble gold-copper-molybdenum open pit deposit, which contains inferred mineral resources of 26.5 million ounces of gold and 16.5 billion pounds of copper. Northern Dynasty hold options to acquire from Teck Cominco and Hunter Dickinson Group Inc. a 100% interest (subject to no underlying royalty or back-in rights) in the "Resource Lands" which host the Pebble deposit. Northern Dynasty is also earning a minimum 50% interest in the extensive surrounding "Exploration Lands".

ON BEHALF OF THE BOARD OF DIRECTORS



Ronald W. Thiessen
President and CEO

No regulatory authority has approved or disapproved the information contained in this news release.

This release includes certain statements that may be deemed "forward-looking statements". All statements in this release, other than statements of historical facts, that address future production, reserve potential, exploration drilling, exploitation activities and events or developments that the Company expects are forward-looking statements. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those in the forward-looking statements. Factors that could cause actual results to differ materially from those in forward-looking statements include market prices, exploitation and exploration successes, continued availability of capital and financing, and general economic, market or business conditions. Investors are cautioned that any such statements are not guarantees of future performance and that actual results or developments may differ materially from those projected in the forward-looking statements. For more information on the Company, Investors should review the Company's home jurisdiction filings that are available at www.sedar.com.

Alaskans for Responsible Mining

P.O. Box 100660, Anchorage, AK 99501 ♦ (907) 258-6148 (907) 258-6177, fax ♦ info@reformakmines.org

February 11, 2004

Dear Alaskan Legislator,

In 2002, Alaska's mining industry was the nation's 4th largest toxic polluter—with 535 million pounds of toxic waste released. The Red Dog Mine in northwest Alaska, the world's largest zinc producer, ranked as the fifth largest discharger of toxic materials *in the nation*. Unless mining in Alaska is done more responsibly, existing mines and others slated for development threaten Alaska's communities, wildlands, and unique national treasures.

There are currently 1.2 million acres of state lands already under active claims. In the first two weeks of 2004 alone, more than 1,500 new state mining claims were filed. In addition, international mining corporations are expecting taxpayers to build the roads, power plants, and other services that would make otherwise uneconomic ore bodies financially feasible and to bail them out if inadequate safeguards fail.

Alaskans for Responsible Mining (ARM) is working to make mining in Alaska publicly accountable and fiscally, socially, and environmentally responsible.

ARM does not oppose mining in Alaska. We do, however, want to make sure that when mining occurs:

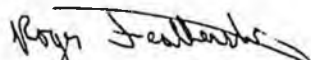
- strict safeguards are in place to protect Alaska's clean water and clean air
- the mines are fully bonded to make sure there is money for clean up in the event of an accident and when mining is complete
- it pays its fair share to reimburse Alaskans for the loss of resources and the cost to administer the checks and balances necessary to make Alaska mining responsible.

Especially during times of budget shortfalls, we all need to contribute our fair share to keep our current quality of life.

Right now with mineral prices higher than they've been for more than a decade, it's only fair the mining companies pony up their fair share in increased royalty payments to the state and to the Permanent Fund. It is also important that mining companies invest in Alaska's future by fully funding all the costs for reclamation and mitigation cost for cleanup and recovery when their mines are finished.

We are more than willing to further discuss our vision for responsible mining in Alaska at your convenience and hope you will take the time to review the attached material.

Sincerely,



Roger Featherstone
Alaskans for Responsible Mining

POSITION PAPER MINERAL ROYALTIES IN ALASKA

A royalty is a landowner's share of the value of a mineral extracted from their land. There are two ways that royalties may be calculated. The first – a Net Smelter Royalty (NSR) – is a percentage of the value of the mineral produced, free of development, production and environmental liability costs. The other – a Net Income Royalty (NIR) – is based on profit; allowances for certain operating costs are given. These allowances are negotiable between operator and landowner.

In Alaska, the current mineral royalty assessed on minerals taken from state land is a 3% net income royalty. Mining companies are allowed to deduct the costs of developing and operating the mine, overhead, investments in upgrades, as well as a percentage depletion (a non-cost accounting for the depreciation in mine value as ore is removed). As a result of these extensive deductions, many mines pay no royalties to the State. For example, the operators of the Fort Knox mine near Fairbanks have paid no net income royalties to the State of Alaska, although they have produced and sold over 2.6 million ounces of gold – worth over 8.5 billion dollars at today's gold prices.

The Problem

Alaskans are not receiving fair compensation for the value of minerals extracted from state land. Like oil and gas royalties, 50% of mineral royalties are supposed to go into the Permanent Dividend Fund. However, unlike the oil and gas industry, which most often pays a 12.5% royalty, the mining industry pays virtually nothing in royalties to the State, which means no contributions to the Alaska Permanent Dividend Fund or to the General Fund. This is because the net income structure allows companies to write off so much that there never is a profit against which to levy the royalty – even when millions of ounces of precious metals, like gold, are extracted and sold. The table below demonstrates the difference in value between a NSR and a NIR, assuming the same rate.

	Net Smelter Royalty	Net Income Royalty
Price of one ounce of gold sold:	\$325	\$325
Productions costs:	\$0	\$260
Margin:	\$325	\$65
NSR or NPI Rate:	3%	3%
Revenue to royalty holder:	\$9.75	\$1.95

If the mining industry were assessed royalty rates similar to those charged on oil and gas, the difference would be even greater: a royalty of \$40.62 /ounce of gold versus the current \$1.95.

The Solution

It's simple – net smelter royalties mean a larger percent of the value of Alaskan minerals go to Alaskans. Private individuals and corporations leasing mining claims are no dummies – they demand and receive from mining companies net smelter royalties – why should the State ask for less?

With Alaska's current budget woes and dwindling oil revenue, it's past time to change Alaska's mineral royalty structure. Mining companies should pay royalties commensurate with those of the oil and gas industry. A net smelter royalty of 12.5% is a royalty that better compensates Alaskans for valuable minerals extracted from state lands. It's only fair.

FACT SHEET ALASKA RECLAMATION BONDING PROGRAM

Reclamation Bonding Defined

A reclamation bond is a cache of money that mining companies are required to post before mining. It is meant to serve as a form of insurance to protect the public against the cost of mine cleanup should a company declare bankruptcy or refuse to complete reclamation according to its permit. Reclamation bonds for major mines are generally provided through a surety company. Similar to health or car insurance, the mining company pays a premium to the surety company, which in turn, provides a financial guarantee to the agency for the bond amount.

The Threat Facing Alaska

Communities through the west have been left with polluted water, devastated fisheries, and increased health risks due to mining bankruptcies. For example, at Summitville Mine, located on state lands in Colorado, the mining company walked away after severely polluting 18 miles of the Alamosa river, leaving taxpayers to pay \$120-150 million to clean the site up. This example is typical; when the companies don't adequately clean up mine sites, taxpayers are left holding the bag. Alaska is one of several states with weak reclamation bonding standards in need of reform.

Economic Opportunities

Stronger reclamation bonding standards can generate vast economic benefits for Alaska's mining communities. Environmental remediation activities create skilled, well paying jobs, ranging from project planners, engineers, biologists, hydrologists and ecologists to heavy equipment operators and laborers. (Kuipers 2001) These jobs can play a valuable role in stabilizing mining related employment, since the positions required are similar to those employed in mine development and operation. Thus, instead of repeating the cycles of layoffs, unemployment, and associated social stress every time minerals markets soften, companies can use reclamation as a bridge to promote greater economic stability.

Alaska Mining Statutes

In 1963 Alaska was the first western state to establish a Reclamation Act, but reclamation bonding was not required in a substantive form until 1991, when the Alaska Reclamation Act was codified.

Lead Agencies

- The Division of Mining, Land and Water of the Department of Natural Resources is the lead state agency responsible for administering the Alaska Reclamation Act.
- The Alaska Department of Environmental Conservation (ADEC) is responsible for permitting and bonding tailings ponds and heap leach facilities.
- Either the US Forest Service or Bureau of Land Management, along with the ADEC and the Division of Mining and Water Management, administers mining regulations on federal lands.

Mine and Bond Facts

- Six major hardrock mining operations are currently permitted in Alaska. There are four gold mines (Fort Knox, True North, Illinois Creek and Nixon Fork) and two base metal mines (Greens Creek and Red Dog).
- Of these mines, Illinois Creek and Nixon Fork went bankrupt after less than two years of operation. The \$1,618,209 bond for Illinois Creek, located on state land, was insufficient to cover full reclamation costs. The State was required to contract a mining company to "mine to reclaim" the property in order to generate revenue to pay for the full reclamation of the heap leach operation. Full reclamation and closure has not occurred yet at Nixon Fork – which was bonded at the statutory limit of \$750/acre, for a total bond amount of \$250,000.

Taxpayer Liability

The weaknesses in the current state program could result in a gap between the estimated costs of reclaiming the existing mines and the available bonds of 150 to 500 percent, leaving taxpayers with a potentially unfunded liability of \$7.2 million to \$57.6 million. Taxpayers will be burdened with this liability in the event that the mining companies fail to meet their reclamation obligations.

Strengths of the State Reclamation Bonding Program

- Alaska only allows for participation in the statewide bonding pool surety bonds, or personal bonds accompanied by a letter of credit, certificate of deposit or by a deposit of cash or gold.
- Alaska can conduct mine inspections as necessary to determine compliance with the statutes. Alaska's regulatory history, however, does not indicate that compliance inspections have been routinely conducted with the intent of determining regulatory compliance.

Weaknesses of the Alaska Reclamation Bonding Program

- Alaska is the only state, outside of Idaho, that places a "per acre" limit on the reclamation bond. Rather than requiring that the reclamation bond cover the full cost of reclamation, Alaska law limits the amount of performance bond to \$750 for each acre of mined area. An operator may provide a bond for more than the amount required, and many hardrock mines do. However, even in cases where the company volunteers a higher bond amount, the \$750 per acre limit essentially compels the Division to accept the original cost estimate of the company, regardless of the real cost of reclamation. As a result, many mines are not sufficiently bonded.
- The Alaska Reclamation Act lacks substance in terms of comprehensive and specific performance standards and other requirements. Reclamation planning in the State fails to adequately address water quality and fails to consider wildlife habitat and aesthetic considerations. The limitations on topsoil, revegetation and public safety seriously compromise the statutes as well. For example, ...
- Alaska is the only state, with the exception of Arizona, that permits reclamation and closure costs to be calculated on the basis of costs to the company, without regard for the indirect costs that would be necessary if the agencies were to perform reclamation. These costs can often add 30% to the total cost of reclamation.
- A separate administration for different aspects of reclamation and closure (both among state agencies and between the state and federal agencies) presents a difficult regulatory scheme with the potential for shortcomings on water quality issues.
- Despite a large area of tribal lands owned by Alaska Native and Village Corporations, the State has no formal relationship with various tribal organizations with respect to mining and reclamation issues.
- The Alaska Reclamation Act exempts operations of 5 acres or less from requirements. This exemption essentially allows small mining operations in the state to be conducted without regard for reclamation and closure issues.
- Alaska's Department of Environmental Conservation does not require additional financial assurance for mining operations that employ cyanide leaching or other toxic chemicals.
- Alaska's bond pools allow operators that would otherwise be unable to obtain standard bonds for various reasons, including financial difficulties, to obtain necessary bonding.
- No specific provisions for public participation are provided in the Alaska Reclamation Act. (Alaska does allow for proposed bonding to be included in the public review process for new permits.)
- The State does not require bonding on federal lands if the responsible federal agency has an approved reclamation plan and bonding mechanism consistent with state statutes. This provision limits the State's authority to require bonding on federal lands.

Excerpted from the February 2000 study by the National Wildlife Federation, author Jim Kuipers ("Hardrock Reclamation Bonding Practices in the Western United States")

FACT SHEET ALASKA MINING REVENUE

Mines operating in Alaska are required to pay a **Mining License Tax** to the State; they must also pay, as must all corporations that derive income from sources within Alaska, a **Corporate Net Income Tax**. Additionally, if the mine is located on State land, a **3% net income royalty** is assessed by the State. Like revenue generated by oil and gas royalties, 50% of mineral royalties collected are allocated to the Alaska Permanent Dividend Fund.

The **Mining License Tax** is a graduated tax levied on mining net income (not gross) and royalties generated in connection with mining properties and activities in Alaska (AS 43.65). The tax rate for net income over \$100,000 is \$4,000 plus 7% over \$100,000. All revenue, except for payments after a tax assessment, is deposited in the General Fund. New mining operations are exempt from this tax for three and a half years after production begins. Taxpayers may also take tax credits if they make contributions for educational purposes to accredited Alaskan colleges and universities, up to a maximum credit of \$150,000 per tax year. Additionally, there is a Minerals Exploration Incentive credit of up to \$20 million applied against 50% of mining license liabilities over 15 years, and a Special Industrial Incentive Investment credit for investment in mining projects in Alaska.

The mining license tax contributes **less than one percent in any given year to the General Fund**. In FY 2002, revenues from mining license tax, after credit and incentive deductions, amounted to \$446,430, for a zero percent contribution to the General Fund. FY 2001 was a better year for the mineral industry, which realized over \$ 3 million in tax credits on a \$5.3 million tax bill, for a total tax paid to the General Fund of \$1,729,156. This still contributed just 0.1% to the General Fund.

The **Corporate Net Income Tax** is based on federal taxable income, with Alaska adjustments (AS 43.20). Multistate corporations, such as large mining companies, apportion income to Alaska under a "water's edge" apportionment method, whereas oil and gas corporations apportion income through a worldwide method. Like the Mining License Tax, the Corporate Income Tax contains exploration incentives. Industry contributions to the Alaska General Fund are unknown, since law prohibits disclosure of any corporation's specific tax information; however, it can be deduced from corporate balance sheets that there is little if any contribution. For example, in FY 2002, Fairbanks Gold Mining, Inc., operator of the Fort Knox mine, declared a taxable income of negative \$17, 470, 149. Thus, no corporate net income tax was paid.

Metals removed from State land are assessed a **3% net income royalty**. Mining companies are allowed to deduct the costs of developing and operating the mine, overhead, investments in upgrades, as well as a percentage depletion (a non-cost accounting for the depreciation in mine value as ore is removed). As a result of these extensive deductions, many mines pay no royalties to the State.

The State also assesses a flat 3% royalty on royalty interest holders. These are underlying claim holders that lease their mining claims to a mine operator, and, as a condition of the contract, have established separate royalty payments and schedules. In these arrangements, which are very common, royalties are assessed on metal value not net income, which yields

bigger payments. For example, Fairbanks Gold Mining, Inc., a wholly owned subsidiary of Kinross Gold Corporation, pays another Kinross company, Kinam Gold, royalties on claims Kinam holds for the Fort Knox mine. In FY 2002, FGMI paid \$205,685 in royalties to Kinam, but just \$51,007 to the State. Aside from these small flat royalty interest payments, **FGMI has paid no royalties for Fort Knox gold to the State of Alaska – despite having produced and sold over 2.6 million ounces of gold – worth over 8.5 billion dollars at today's gold prices.**

Thus, in practice, because the Corporate Net Income Tax, the Mining License Tax and the royalty calculation are based upon net income, little money flows from the mining industry to the State of Alaska. And to date, there have been no contributions from mineral royalties to the Alaska Permanent Dividend Fund.

Reasons to Oppose Corporate Guarantees

◆ Corporate guarantees provide no financial protection to the State of Alaska in the event of a bankruptcy.

The purpose of a reclamation bond is to protect the State against the cost of mine cleanup should a company declare bankruptcy or refuse to complete reclamation according to its operating permit. As a form of financial assurance, corporate guarantees provide no guarantee at all. A corporate guarantee is simply a written promise, or "IOU," by the corporation that it will fulfil its reclamation obligation. There are no hard assets, cash, or cash-equivalents, behind it. Should bankruptcy occur, corporate guarantees leave the regulatory agency with no recourse but to pursue the corporation in bankruptcy court.

◆ Corporate guarantees are prohibited by most other western states and by federal land management agencies.

The U.S. Bureau of Land Management and the U.S. Forest Service prohibit corporate guarantees for mine cleanup. Many western states (Idaho, Montana, California, Oregon, South Dakota, and Washington) also prohibit the use of corporate guarantees for mine reclamation.

◆ The number of bankrupt mines in western states has increased significantly in recent years, putting many state and/or federal agencies in a position of significant liability.

State and/or federal agencies are presently potentially responsible for at least some portion of the cleanup costs of 13 mines in Nevada, five in Montana, and additional mines in South Dakota, Idaho, Colorado and New Mexico. For example:

- Pegasus Gold filed for bankruptcy in 1998, leaving the State of Montana with combined cleanup costs of over \$40 million at the Zortman/Landusky and Beal Mountain mines. "If DEQ had accepted corporate guarantees at the seven sites now being reclaimed, and had to stand in line with other creditors in bankruptcy court, or chase vanished companies, we would most likely now be dealing with an additional \$60 million shortfall, with the sites lying unreclaimed." Comments from Warren McCullough, Chief of the Environmental Management Bureau at the Montana Department of Environmental Quality.
- At the Summitville Mine, located on state lands in Colorado, the mining company walked away, leaving taxpayers with over \$120-150 million in reclamation costs.
- Similarly, South Dakota was forced to take the extraordinary step of requesting court intervention to keep the operator of the Gilt Edge Gold Mine from abandoning its water quality treatment plant. In 2000, the State of South Dakota was spending roughly \$100,000 each month on water treatment at the site. The state and EPA estimate the total reclamation costs to be between \$22 and \$27 million.

In Alaska, one major mine is currently in bankruptcy (Illinois Creek). Another mine that was part of the Alaska Bond Pool Program is also bankrupt, with clean-up costs likely to exceed \$250,000 (Nixon Fork).

◆ **Corporate guarantees are an unnecessary risk to the State because there are many other forms of financial assurance available.**

There are many types of financial assurance available to the mining industry. Reclamation bonds in the form of cash or cash-equivalent are the preferred form of financial assurance since they are the most secure and are readily available to the State in the event they are necessary. These include irrevocable letters of credit (bank guarantees), surety bonds, certificates of deposit, and trust funds.

◆ **The State of Alaska needs the protection provided by adequate reclamation bonds because mining is an inherently volatile industry.**

Circumstances such as mergers, hostile takeovers or dramatic fluctuations in metal prices often occur very rapidly, leaving what might appear to be a healthy corporation in difficult financial circumstances. In some cases, states have been left in an unexpected position of liability when subsidiaries have filed for bankruptcy after shifting assets to other subsidiaries within the parent corporation. For example:

- W.R. Grace filed for bankruptcy in April 2001 to protect its parent company from the liability of asbestos-related tort claims associated with the W.R. Grace Mine and processing facilities. According to Montana's Attorney General, Mike McGrath, W.R. Grace employed a "dizzying array of complex maneuvers" that moved a bulk of Grace's holdings and finances into subsidiaries and other companies. Because the reclamation bond was inadequate for mine cleanup, the W.R. Grace Mine was designated a Superfund site in 2001. The State will be responsible for 10% of Superfund costs, which have already topped \$60 million.
- In August 2002, the U.S. Department of Justice filed suit against ASARCO to prevent the company from selling its two remaining revenue-generating assets to another subsidiary within its parent company, Grupo Mexico. According to the U.S. Department of Justice, "If allowed to proceed, this transfer will strip Asarco of its most significant asset and will create a situation wherein the company will not only be unable to meet its environmental obligations in the future, but will endanger the future viability of the company." According to an August 2002 article in the Spokesman Review, ASARCO has over \$1 billion in liabilities at its mining and smelting operations in the U.S. ASARCO, one of the largest mining corporations in the United States, was purchased by Mexican Corporation Grupo Mexico in 1998.

Even if regulatory agencies have the capacity to monitor the financial health of every corporation that operates in the state, it is often too late to put in place other financial instruments once a corporation's financial difficulties become apparent.

FACT SHEET ACID MINE DRAINAGE

The Problem

The formation of acid mine drainage and the contaminants associated with it have been described as the largest environmental problem facing the U.S. mining industry.¹ Acid mine drainage occurs when sulfide minerals in the waste rock react with air and water to form sulfuric acid. This acid leaches out metals in the rock, which can enter nearby streams, rivers or seep into groundwater.

Acid mine drainage and metal leaching are a particular concern because they can continue indefinitely, causing environmental damage long after the mine operation has ended.² Acid mine drainage still occurs from hard-rock mines in Europe that were worked by ancient Romans prior to A.D. 476.³ Due to the severity of water quality impacts from acid mine drainage, many hardrock mines across the west require water treatment in perpetuity.

In the western U.S., the U.S. Forest Service estimates that between 20,000 and 50,000 mines are currently generating acid on Forest Service lands, and that drainage from these mines is impacting between 8,000 and 16,000 kilometers of streams.⁴ In addition to the acid contribution to surface waters, acid mine drainage can cause metals such as arsenic, cadmium, copper, silver, and zinc to leach from mine wastes.

In Alaska, the Red Dog mine in northwest Arctic near Kivalina, and the Greens Creek mine on Admiralty Island near Juneau, are both mines that are already generating acid from pit walls, tailings, waste dumps, roads and pads. To protect aquatic and human health, mine operators will have to employ complex technology to contain the acid drainage and leaching heavy metals. Even with these measures, water-treatment for decades, even hundreds of years, may be required.

Environmental and Human Impacts

If mining waste is acid-generating, the impacts to fish, animals and plants can be severe. The most immediate and serious impacts of acid mine drainage are on natural waterways. High levels of dissolved metals may kill off all of the resident fish and aquatic life. Migratory creatures not resident to mining sites are also affected. The death of migratory birds has been documented at mine sites where contaminated water filled abandoned pits or accumulated in tailings ponds.

Left unremedied, acid mine drainage can leave streams and rivers and areas downstream biological dead zones for decades, if not centuries. Metals contamination can also weave itself into the food chain causing serious physical stress to plants and animals, impacting biodiversity and food sources used for human subsistence.

Fiscal Impacts

The fiscal impacts of mitigating the damage caused by acid mine drainage can be enormous. Several large-scale environmental and taxpayer disasters have been caused by bankrupt mining companies. For example, at the Summitville Mine, located on state lands in Colorado, the mining company walked away and taxpayers are paying \$120-150 million to clean the site.⁵ At the Zortman Landusky Mine in Montana, Pegasus Gold Corp. declared bankruptcy in 1998, leaving the state of Montana with reclamation and water treatment costs of \$33 million.⁶ In South Dakota, Dakota Mining Co. abandoned the Brohm mine in 1998, leaving South Dakota with \$40 million in reclamation costs – largely due to acid mine drainage.⁷ The site has recently been declared a federal Superfund site.

Alaska is one of several states with weak reclamation bonding standards which do not adequately address the specter of acid mine drainage at mining sites around the state. State law should be amended to insure that reclamation bonds cover the full cost of reclamation to protect Alaskans and their natural resources.

Sources:

¹USDA Forest Service 1993, Acid Mine Drainage from Impact of Hardrock Mining on the National Forests: A Management Challenge. Program Aid 1505. p. 12.

USDA Forest Service 1992. A Conceptual Waste Rock Sampling Program for Mines Operating in Metallic Sulfide Ores With a Potential for Acid Rock Drainage. Written by Gene Farmer with the Department of Agriculture, Forest Service, Ogden, Utah.

²Placer Dome 2002, Available:

<http://www.placerdome.com/sustainability/environment/reports/ard.html>

³ University of Washington. 2000. Environmental Impacts of Hardrock Mining in Eastern Washington. Written by: Center for Streamside Studies, College of Forest Resources and Ocean and Fishery Sciences, Seattle WA.

⁴USDA Forest Service 1993, Acid Mine Drainage from Impact of Hardrock Mining on the National Forests: A Management Challenge. Program Aid 1505. p. 12.

⁵ McClure, Robert. "The Mining of the West: Profit and Pollution on Public Lands".

Seattle Post-Intelligencer, June 13, 2001. Available:

<http://www.seattlepi.nwsourc.com/specials/mining>

⁶*ibid.*

⁷*ibid.*



MINERAL POLICY C E N T E R

*Protecting
Communities
and the
Environment*

*** TAXPAYER PROTECTION AND CORPORATE ACCOUNTABILITY ***

The various laws that govern hardrock/metal mining in the United States combine to give away billions of taxpayer dollars to the mining industry. Historically, the environmental and taxpayer communities have opposed separating fiscal mining reform from environmental mining reform, reasoning that the environmental aspects would never pass without the fiscal aspects as a "sweetener." We would like to discuss rethinking that philosophy, and potential planks of a proactive fiscal reform platform. Described here are five potential remedies that could be addressed in combination or separately:

1. End patenting;
2. Increase and make permanent the claims maintenance fee;
3. Implement a royalty;
4. Repeal the percentage depletion allowance;
5. Establish a 'bad actor' mining prohibition.

END PATENTING

Under the General Mining Law of 1872 mining claim holders can purchase, or patent, mining claims on public land for between \$2.50 to \$5 per acre (depending upon claim type). Since the law was passed, mining interests have patented an area roughly equivalent in size to the state of Connecticut containing mineral values exceeding \$245 billion.

Status

Congress passed a patenting moratorium in 1994 as an amendment to the Interior Appropriations bill, and has renewed the moratorium annually since then. We have no reason to expect that moratorium would not be renewed for FY2003. Hundreds of patent applications filed before 1994 were grandfathered. Interior estimates that the last of the grandfathered patents will likely be completed (sold) by the end of FY2002.

In the 1st session of the 107th Congress, Rep. Nick Rahall (D-WV) introduced a bill (H.R.1085) that would make permanent the patenting moratorium, as well as the claim maintenance fee (see below). The reform bill that Rep. Rahall will likely introduce would end patenting as well.

INCREASE AND MAKE PERMANENT THE CLAIMS MAINTENANCE FEE

In 1992, Congress enacted an annual maintenance, or holding, fee of \$100 per claim per year for unpatented mining claims. Before the claims holding fee was introduced, claim holders only had to show \$100 worth of "improvement" on each claim each year, leading to widespread land fraud. After enactment, the maintenance fee cut the total number of mine claims in half in the first year. Although the original legislation called for the fee to be adjusted for inflation after 5 years, it has never been increased. The fee generates the only public revenue associated with hardrock mining: about \$25 million/year. At present, all revenue from the fee goes to administration of the mining laws.

Status

The FY2002 Interior Appropriations bill renewed the claim maintenance fee, at \$100 per claim per year, through 2003.

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H.R. 1085 would make permanent the claim maintenance fee at the present \$100/claim/year rate. The comprehensive mining reform bill would double the claim maintenance fee and then double it again to \$400 if no mining occurs within 5 years of filing a mining claim. Without adjustment for drop in claims associated with increased fee, a doubled fee would return approximately \$50 million/year.

IMPLEMENT A ROYALTY

Under the 1872 Mining Law, mining companies extract minerals from publicly owned lands (almost \$1 billion worth in 2000) without paying royalties to the federal government. All other extractive industries (including coal, oil and natural gas) pay between 8 and 12.5% of the value of minerals extracted from federal lands. On average, hardrock mining companies pay each other about a 5% royalty when mining each other's deposits. In 2000, an 8% royalty would have returned \$79 million on hardrock minerals.

Status

No stand-alone royalty legislation has been introduced in the 107th. None has been introduced since the 105th. The comprehensive mining reform bill would contain at least an 8% royalty.

REPEAL THE PERCENTAGE DEPLETION ALLOWANCE (PDA)

The PDA allows mining firms to deduct a fixed percentage from their corporate income taxes to compensate for the reduced value of a mine as mineral production progresses. There are two problems with the PDA: (1) on public lands, the mining industry didn't pay anything to obtain the mineral deposit; (2) because the percentage is fixed, over the life of the mine the company can actually deduct more from their taxes than the mineral deposit is worth. The FY2002 Bush budget classifies the percentage depletion allowance as a "tax expenditure" and estimates that it costs the public about \$300 million/year, or \$1.3 billion over 4 years.

Status

Senator Feingold has introduced or been willing to introduce legislation repealing this tax break every year for the past 4 or 5 years.

ESTABLISH A 'BAD ACTOR' PROVISION

Under current law, land management agencies must permit a mine no matter the environmental track record of the company involved. Many of the major players in the U.S. mining industry are currently in violation of the Clean Water Act. Also, corporate officers from bankrupt mining companies that have abandoned mine cleanup to taxpayers have resurfaced in new companies proposing new mines. A 'bad actor' provision would require regulators to consider a mine operator's past performance before permitting it do business. A 'bad actor' could be an operator that has:

- Violated a federal law, such as the Clean Water Act;
- Defaulted on a reclamation bond;
- Violated the terms of a previously issued permit.

Status

Section 510(c) of the Surface Mining Control & Reclamation Act (SMCRA), which governs coal mining, contains a bad actor provision. The comprehensive mining reform bill would also contain a bad actor provision.

Rock Creek Project Overview

NovaGold Resources, Inc./Alaska Gold Company

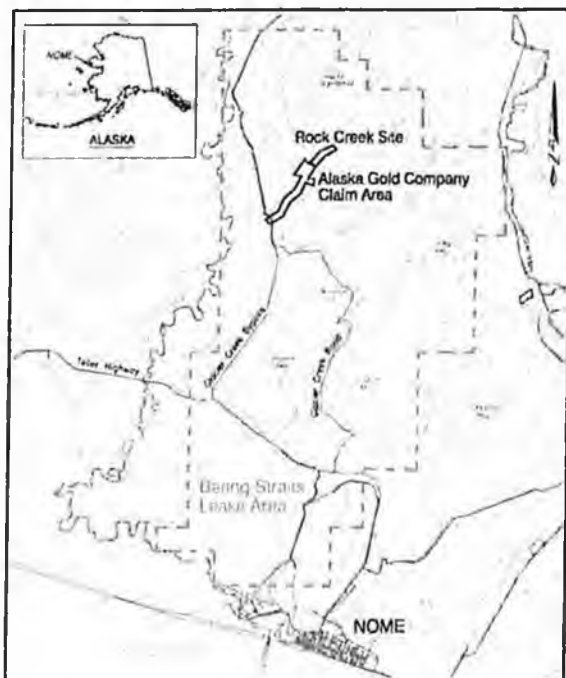
Doug Nicholson, Project Manager

Summary

NovaGold Resources, Inc. through its subsidiary Alaska Gold Company is involved in exploring and studying the potential of developing its 100% owned Rock Creek Project. Rock Creek is 13 km north of Nome on patented claims owned by Alaska Gold and on land owned by Bering Straits (subsurface) and Sitnasuak (surface) Native Corporations. Rock Creek is potentially NovaGold's first operating property and would provide high wage jobs and economic benefit to Nome and the State of Alaska. NovaGold has recently completed a Preliminary Economic Assessment demonstrating that a conventional open pit and stand alone mill employing gravity/flotation could produce an average of 112,000 ounces per year of gold at a total cash cost of less than \$200 per ounce.

Location/Land Status

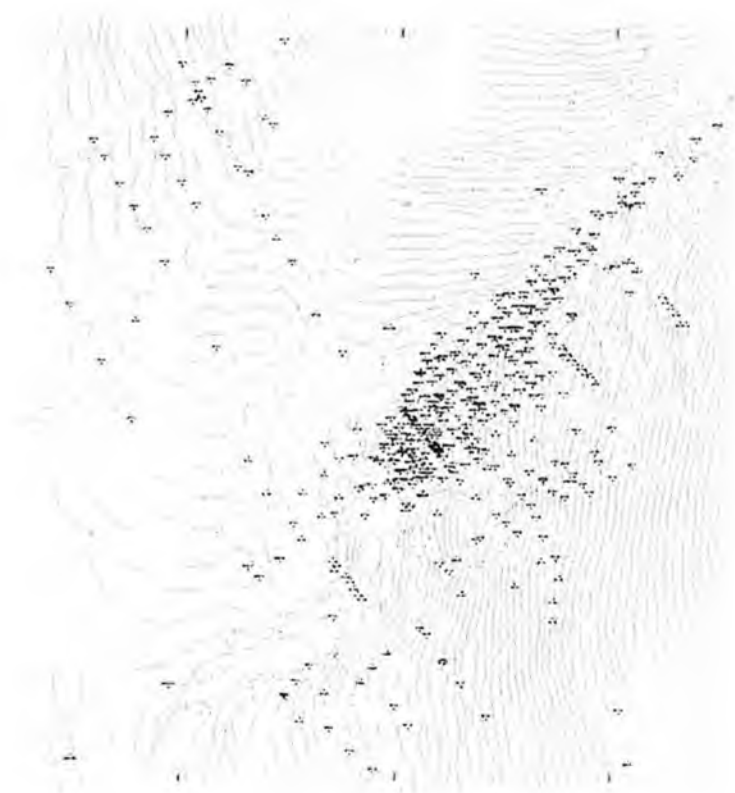
The Rock Creek project is located approximately 13 km north of Nome. The ore body is located on the existing road system. The State of Alaska, through its 'Roads to Resources' program, currently has a road re-alignment in design which will significantly enhance access to the project and aid development.



The Rock Creek project is located within a lease boundary between Alaska Gold and the Bering Straits Native Corporation (BSNC). Alaska Gold has a separate agreement with the Sitnasuak Native Corporation for the surface estate. The project boundaries encompass approximately 1000 acres comprised of patented mining claims owned by Alaska Gold and land owned by BSNC and Sitnasuak.

Exploration

Alluvial gold has been known from Rock Creek as far back as 1905 (Moffit, 1906) and gold-bearing quartz veins were discovered in its gravels as early as 1908 (Collier and others, 1908) (Freeman, 2002). From 1984 to 1999 a succession of companies has explored the property's potential including; Aspen Gold, Placer Dome, Tenneco, Newmont, Kennecott and Alaska Gold. These companies completed approximately 5,230 meters of both core and RC drilling within what is now defined as the project boundary. In April of 1999, NovaGold acquired Alaska Gold and the core of the Rock Creek property. Since then NovaGold has completed a further 15,791 meters of drilling following up and further delineating previously identified mineralization.



NovaGold identified a block model resource for the Preliminary Economic Assessment, at a 1.0 gpt cutoff, of approximately 11,342,000 tonnes of ore at an average grade of 1.95 grams per ton (gpt). This amounts to 774,825 contained ounces. A new resource estimate will be completed, incorporating delineation drilling from the 2003 season, for the Feasibility Study due out in the second quarter of 2004.

Mine Plan

The design pit for the Preliminary Economic Assessment is based on \$325 gold price and a 1.0 gpt cutoff resulting in an in-pit resource of approximately 10,695,000 tonnes at an average grade of 2.03 gpt and a 4.4:1 strip ratio. The plan calls for 1,790,000 tonnes of ore per year to be mined and milled producing 112,000 ounces per year on average.



Ore will be mined on 5 meter benches seven days per week, 24 hours per day, 365 days per year. Apart from the pit the mine facilities will consist of an ore stockpile, rock dumps, growth medium stockpiles, explosives storage, mill, shop, office trailers, and fuel storage. The Preliminary Assessment assumes power will be supplied by the Nome Joint Utilities.

Rock Creek is envisioned as a conventional open pit moving between 24,000 and 30,000 tonnes per day. The mine fleet consists of 12 cubic meter wheel loaders, 100 tonne haul trucks, a blast hole drill and various support equipment.

Metallurgy

Rock Creek is comprised of two distinct ore types, each with its own metallurgical characteristics. The primary mineralization is tension veins which host 90% of the tonnes and 85% of the recoverable gold. The remaining gold is hosted by the Albion Shear Zone. Metallurgical testing to date indicates an overall recovery of over 96% can be achieved utilizing a combined gravity/flotation circuit.

Timeline

Work on a feasibility study has been initiated with field work for collection of geotechnical, hydrological and metallurgical data. The Feasibility Study is scheduled to be completed in the second quarter of 2004. NovaGold has initiated collection of baseline environmental data to support an Environmental Assessment (EA) in anticipation of submitting permit applications in the third quarter of 2004 pending successful completion of the feasibility study. Construction could follow permit approval in the summer of 2005 with the first gold production in the first quarter of 2006.

Coeur Alaska
Kensington Gold Project
Mining Industry Briefing for the
Joint House and Senate Resources Committee
February 11, 2004

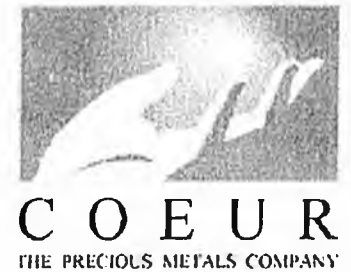


Key Coeur Financial Commitments



- \$150 Million Invested Since 1988
- Over \$25 Million Spent On Environmental Studies
- Over \$36 Million of Capitalized Interest for Period 1991-2002
- Feasibility Study Update Underway

Coeur Is Well Positioned For Growth



- 2003 Production = 119,000 oz Gold;
14.2 Million oz Silver
- \$95 Million in Cash; Debt Free
- Generating Positive Cash Flow
- \$ 1 Billion Market Capitalization
 - Versus \$38 Million in November 2001
- Stock Price Up From \$1.60 to \$6.00

Overview of Why Lower Slate Lake is Only Viable Alternative

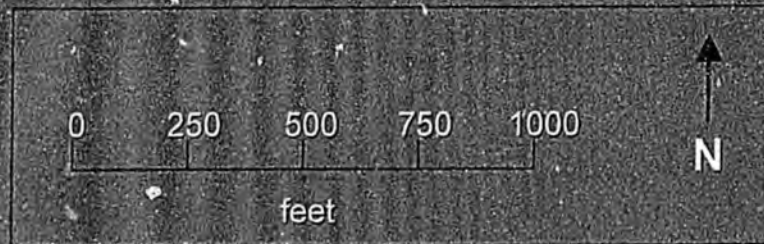
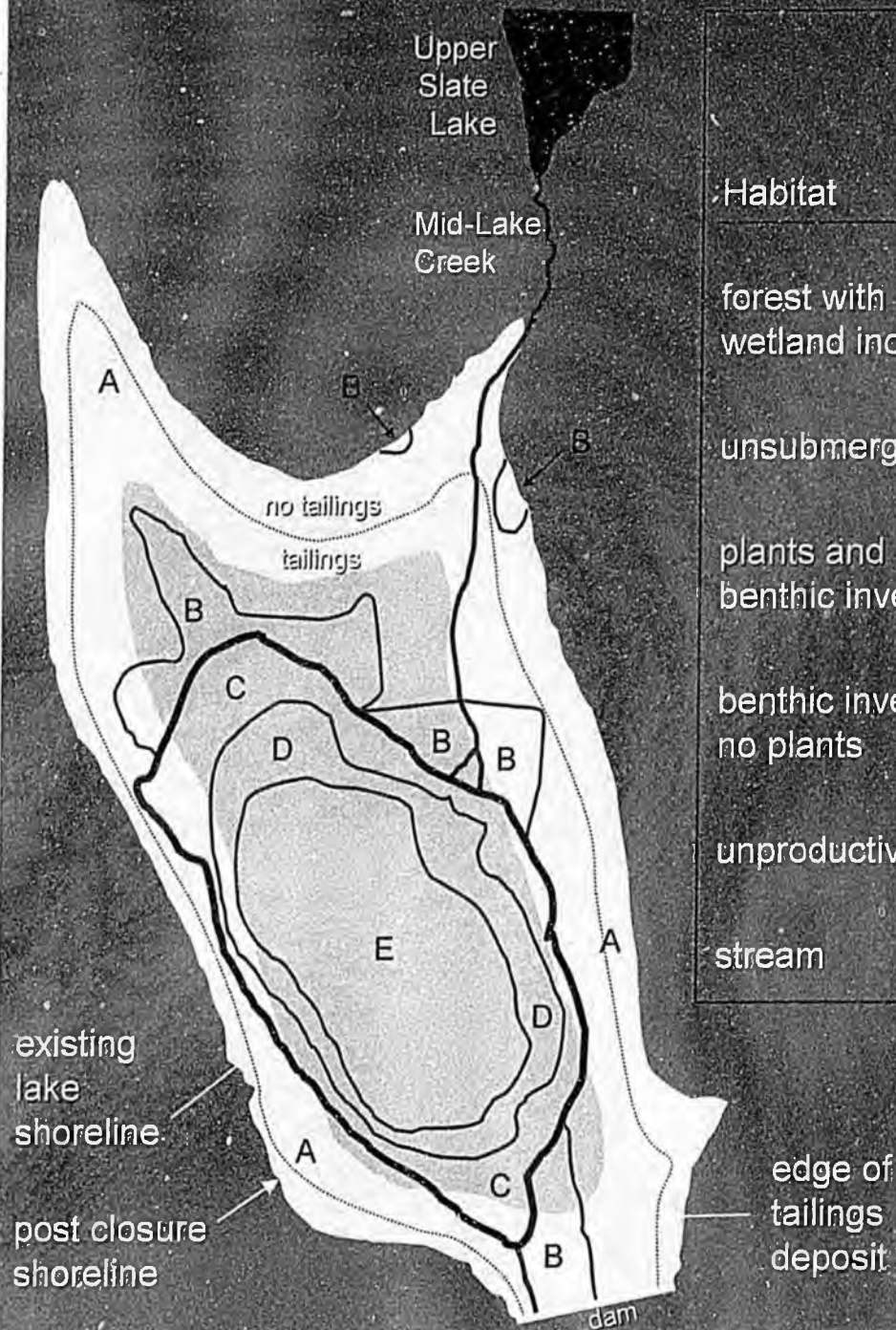


- Reduces Surface Area Disturbance
- Meets Water Quality Standards
- Reduces Wetlands Impacts; Creates New Productive Fisheries & Wildlife Habitat
- Reduces Air Emissions; Requires Less Energy
- Simplifies Reclamation Requirements Including Long Term Care & Maintenance
- Improves Worker Safety
- Reduces Environmental Risk During Operations
- Eliminates Commercial Fishing Conflicts
- It is the Best Economic & Environmental Alternative

Existing vs. Post Closure Habitat

Change in Habitat Area and Length

Habitat	Existing	Post Closure	Change
forest with wetland inclusions	A = 28.7 ac	= 0	-28.7 ac
unsubmerged wetland	B = 6.6 ac	= 0	-6.6 ac
plants and benthic invertebrates	C = 6.3 ac	● = 29.8 ac	+23.5 ac
benthic invertebrates, no plants	D = 5.0 ac	● = 25.8 ac	+20.8 ac
unproductive bottom	E = 9.0 ac	= 0	-9.0 ac
stream	↘ = 1810 ft	↘ = 401 ft	-1409 ft



Key Comparisons

Key Economic Factors-DTF vs. Slate Lake



C O E U R
THE PRECIOUS METALS COMPANY

	DTF	Scaled-down DTF	Slate Lake
<i>Criteria</i>			
Contained Ounces	1.9 MM	1.1 MM	1.1 MM
Capital Cost	\$227 M	\$204 M	≈\$75-125M*
Capital Cost/Ounce	\$117.90	\$185.45	\$90.90
Operating Cost/oz.	\$326	\$326**	\$195
Full Cost	\$444***	\$511***	\$286
*Based on \$100MM			
**Requires Detailed Engineering Study; Intuitively Higher With Less Contained Ounces			
***Does Not Include Target Return On Investment			

Public Interest Benefits



C O E U R
THE PRECIOUS METALS COMPANY

- The new proposal is based on local Southeast Alaska business partnerships (privatization/Alaskanization).
- The project has an estimated minimum 10-year operating life, significant exploration potential, plus sixteen months of construction and two years of reclamation, and significant opportunity to extend life of mine based on resource potential
- Coeur has pledged a local and Native hire and training policy, and has implemented an MOU with the Berners Bay Consortium to achieve this goal.
- Coeur is further evaluating other Alaska privatization opportunities.
- The project promotes economic diversity for Southeast Alaska.

Public Interest Benefits (cont'd)



- It will create over 325 high-paying jobs during peak construction, and ramp up from 100 to 225 during operations. The estimated annual payroll is \$16 million.
- These jobs include: management, administration, engineers, geologists, assayers, technicians, heavy equipment operators, truck drivers, miners, laborers, and maintenance.
- The project will create an additional 180 indirect jobs.
- It will also create at least \$7.5 million in direct local purchases during construction.

Public Interest Benefits (cont'd)



- During operations, it is estimated that local purchases will exceed \$1.5 million annually (not including indirect spending).
- The Project is strongly supported by the communities of Juneau and Haines, the BBC, the Murkowski Administration (AIDEA financing; Roads to Resources).
- Local commercial fishing groups support project relocation away from Comet Beach.
- Coeur has received over 19 major national and international environmental stewardship awards since 1990.

Key 2004 Milestones



- Draft Supplemental EIS Completed (public comment period underway)
- All Major Permit Applications Filed (consolidate public comment period pending)
- Significant Efforts by ADNR and ADEC to Add Predictability to the Permitting Schedule
- Construction Decision to be Made by Coeur in Summer, 2004
- Construction Period 16 Months/Startup of Production Late 2005

Greens Creek Mining Company

**Alaska State Legislature
Senate/House Resources Committees
February 11, 2004**



 **Kennecott Minerals Company**

Hecla
MINING COMPANY

Greens Creek Mining Company

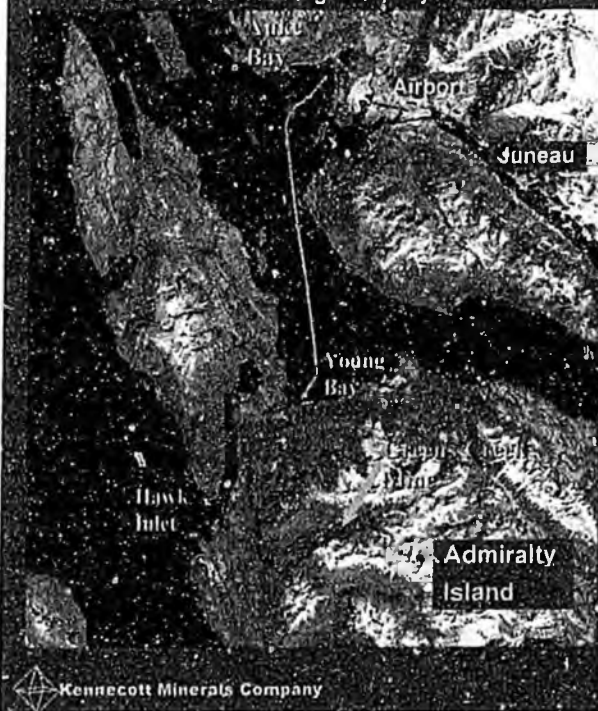
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Kennecott Minerals Company

Hecla

Greens Creek Mining Company



Kennecott Minerals Company

Hecla

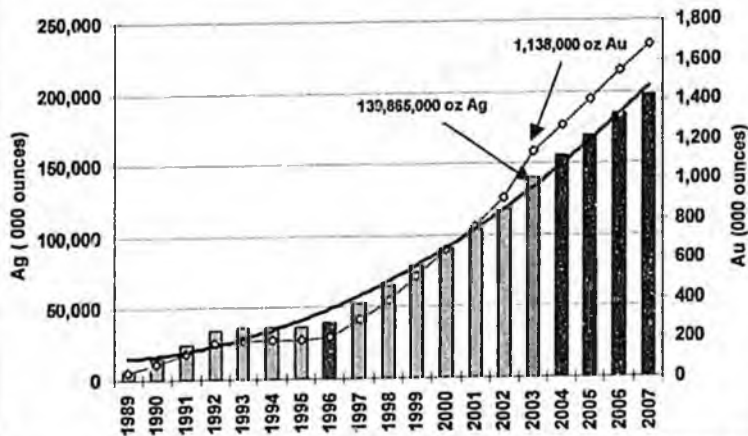
BACKGROUND

- 18 miles south of Juneau
- 1975: Initial drill hole discovery
- 1987: Pre-production development
- 1989: Full Production
- 1993: Closure - depressed metal prices
- 1995: Pre-Production development
- 1997: Full Production

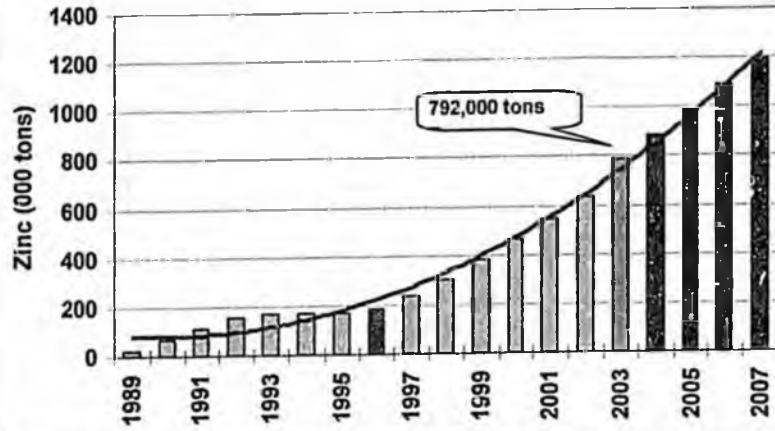
Greens Creek at a Glance

- Joint Venture - KMC/Hecla Mining Company (70/30 Ownership)
- Underground mine and surface concentrator
- Approximately 260 employees
- Pristine environmental locale (National Monument)
- Polymetallic ore body (zinc, silver, lead & gold)
- Three types of concentrate produced (lead, zinc & bulk)
- Concentrate sold to smelter customers - mainly in Asia for zinc, Europe for bulk, various for lead

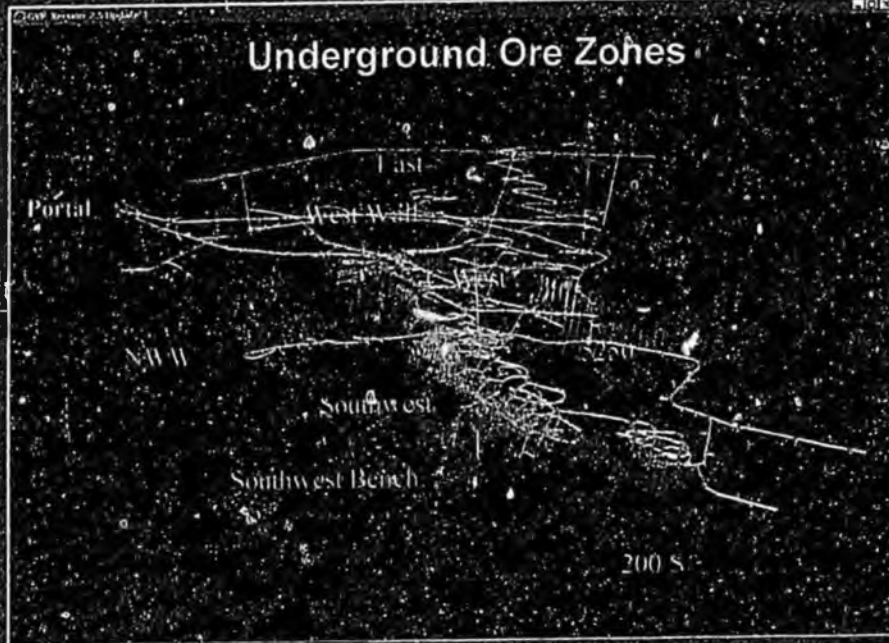
Historical and Projected Cumulative Au and Ag ounces Mined

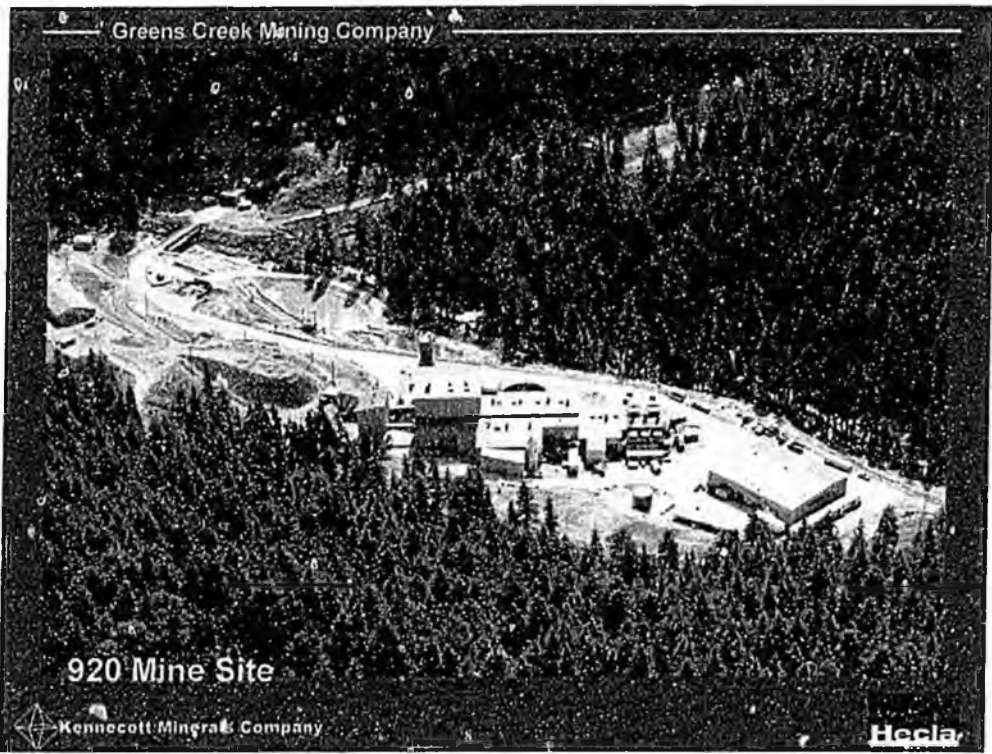
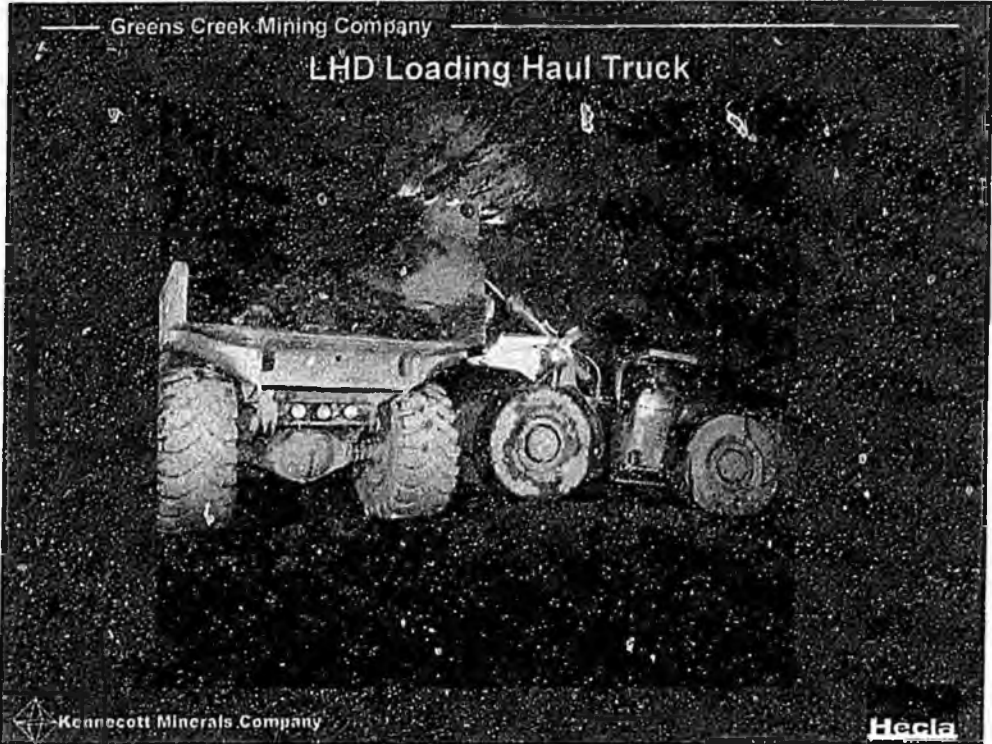


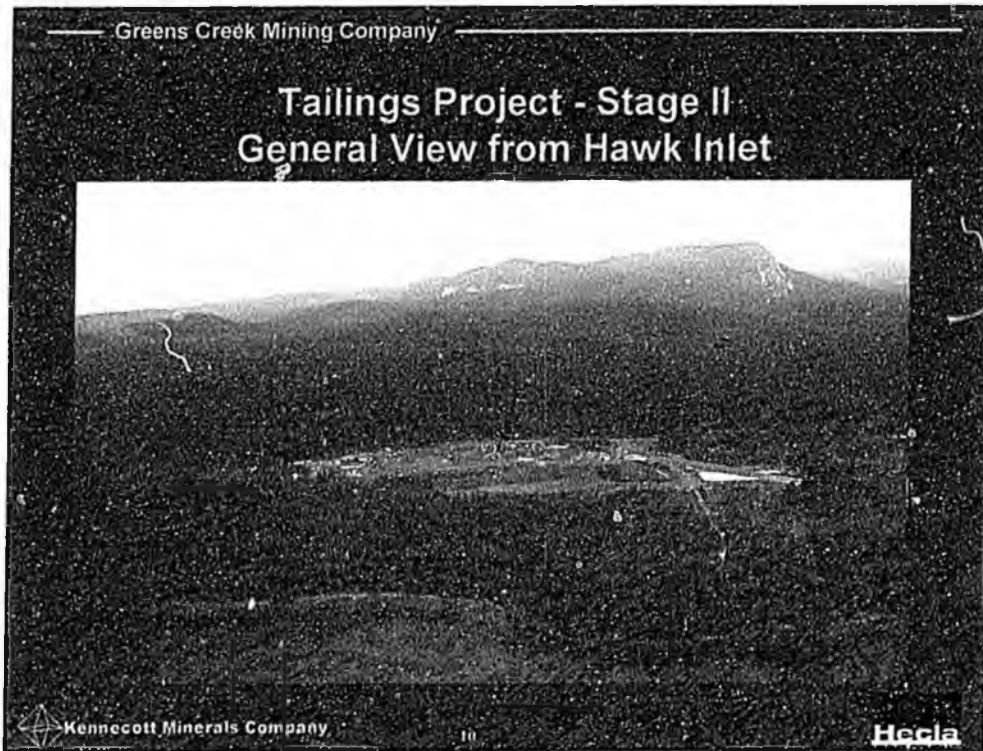
Historical and Projected Zn Mined



Underground Ore Zones







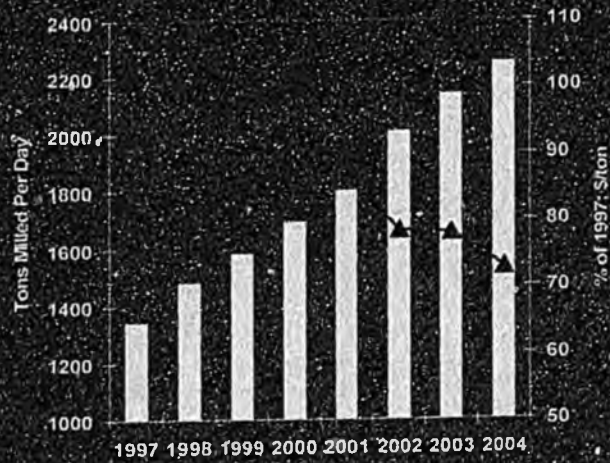
Greens Creek Mining Company

Loading a Concentrate Ship



Greens Creek Mining Company

Production & Costs Since 1997



Kennecott Minerals Company

Hecla

2003 Overview

Operations

- Record Production 781,300t ore, 12% Zn, 20 opt Ag, 0.19 opt Au
- Record Low Operating Cost
- Good Overall Financial Performance

Projects

- Longhole Stope Implementation
- Flotation Expansion
- Tailings EIS Completion



Kennecott Minerals Company

13

Hecla



Kennecott Minerals Company

14

Hecla

Environmental Challenges

- Development and closure of a sulfide ore body in a rain forest environment
- Operation within Admiralty Island National Monument raises the level of performance expectation and resultant scrutiny
- 1,600 square mile Admiralty Island supports the densest known brown bear and nesting bald eagle populations
- Glacier Bay National Park lies some 40 miles away
- Greens Creek passes through the KGCMC site, supports anadromus salmon and trout runs

Greens Creek Environmental Overview

- 327 Acres of Associated Surface Use (1/2 Road-Access)
- \$2M Annual Environmental Budget
- Regulatory:
 - 10 Federal Agencies, 14 Departments; 25 Permits/Leases, Plus 8 Compliance Programs
 - 5 State Departments, 14 Divisions; 23 Permits/Leases
 - City & Borough of Juneau; Large Mine Permit, Building Permits, Construction Inspections
 - Two Multi-Agency Memoranda of Agreement
 - Continuous Monitoring and Reporting of Air, Fresh & Marine Waters, Soil/Rock, Weather, Wastes; Fuel, Facilities



Greens Creek Mining Company

2002 Public Opinion Survey Results

- Over 200 Juneau households surveyed by McDowell group
- 83% - aware of Greens Creek operation
- 78% - mining very important to Juneau economy
- 77% - mining has positive impact in Juneau
- 61% - Greens Creek does a good job environmentally, 32% didn't know, and 7% say bad job
- Greens Creek & Princess identified as the two most charitable companies, in Juneau

Kennecott Minerals Company

Hecla

Annual Effect on the Alaska Economy

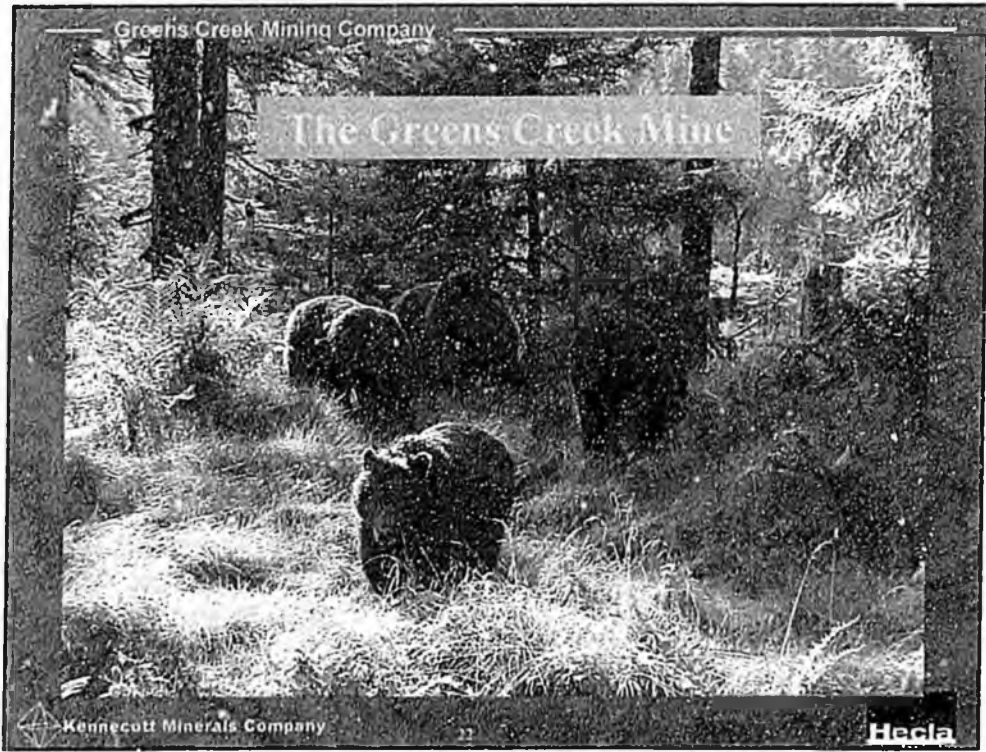
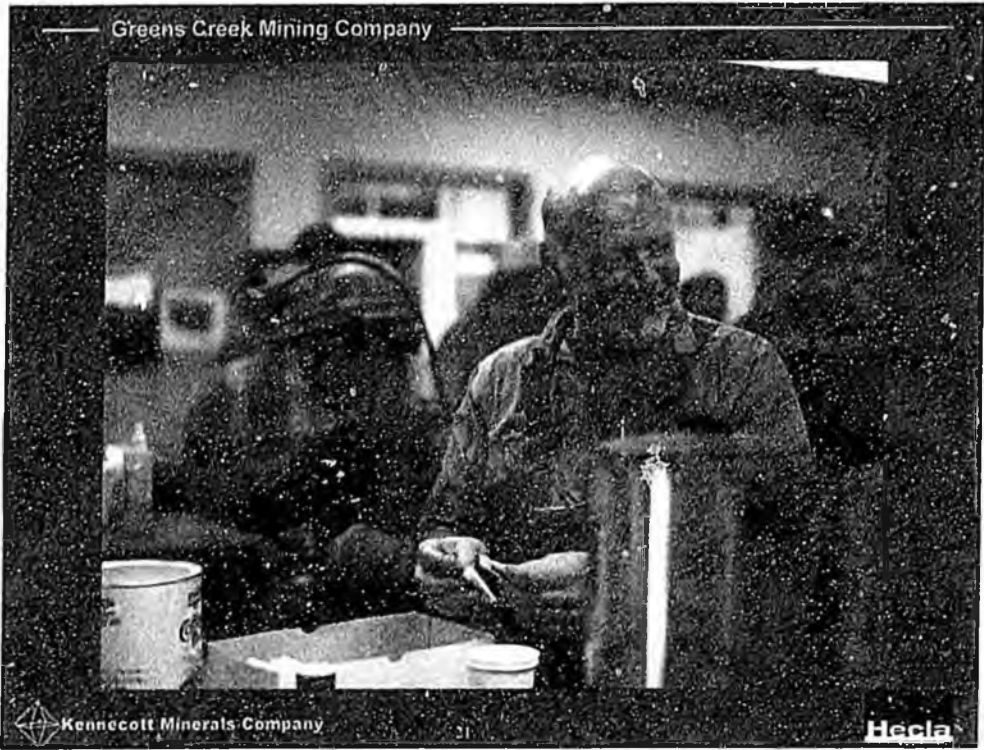
- The largest private sector employer in SE
- 260 Employees
 - 75% Live in Juneau
 - 85% Live in Alaska
 - 15% Live in Lower 48
- Economic Impact
 - \$26M pay and benefits
 - \$8M purchases
 - \$5M contracted services
- \$26,000 in philanthropic contributions
- \$21,000 in local/IAF educational scholarships
- Property taxes of +\$600,000
- Alaska Minerals Tax



Greens Creek – The Future

- Present Life of Mine Plan of 9 years
- Production rate to 2,400 t/d by 2006
- Expansion of tailings facilities
- Aggressive exploration plan
- Continued productivity improvements
- SE Alaska Intertie possibility





THE FOLLOWING DOCUMENT HAS NOT
BEEN FILMED BUT IS AVAILABLE IN THE
ORIGINAL FILE.



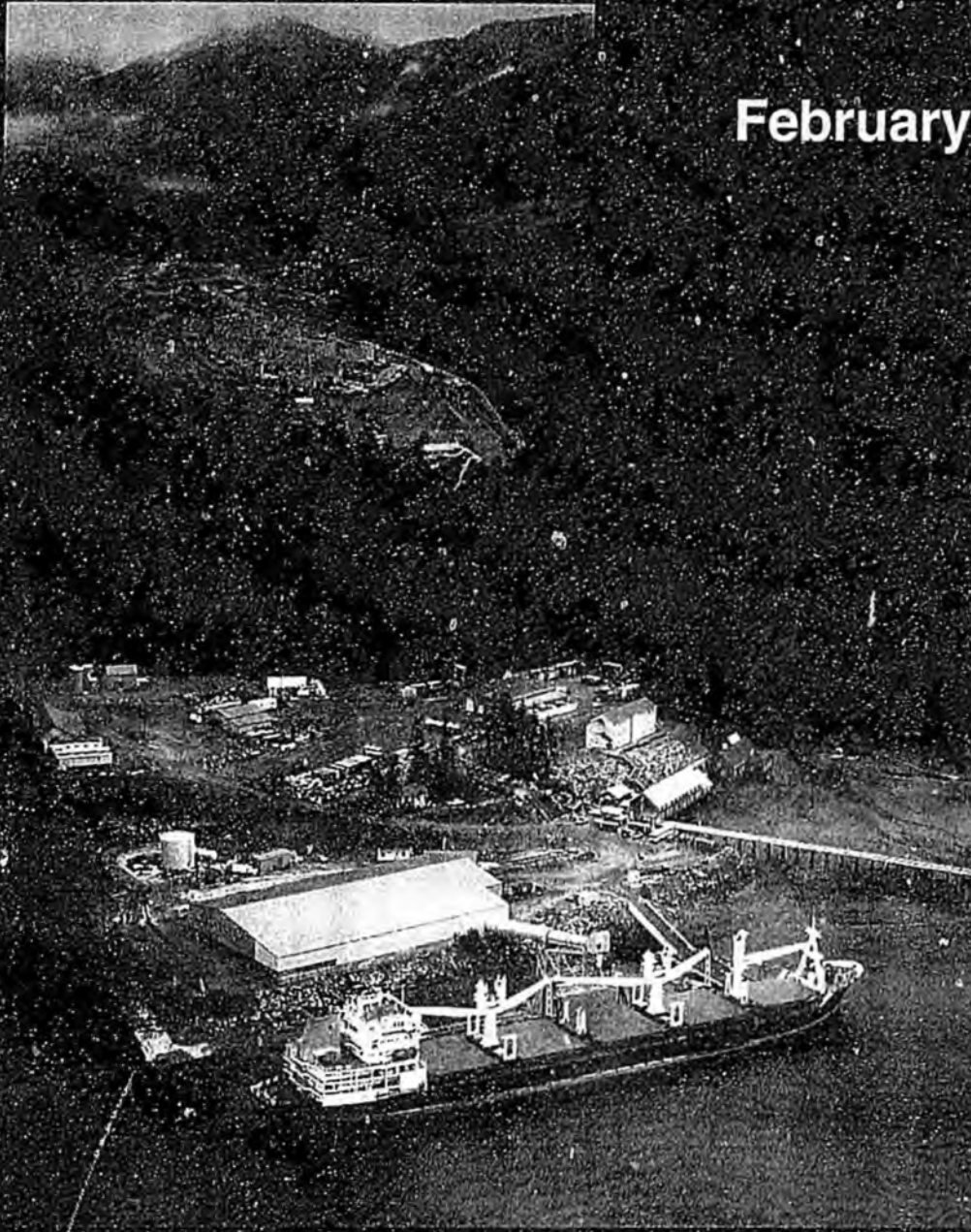
Cover photo by Dave Willson

2004
GREENS CREEK MINING COMPANY

CALENDAR

2003 Joint Senate/House Resources Committee

February 19, 2003



Joint Resources Committee Feb 19, 2003

Kennecott Greens Creek Mining Company

2003 Joint Senate/House Resources Committee

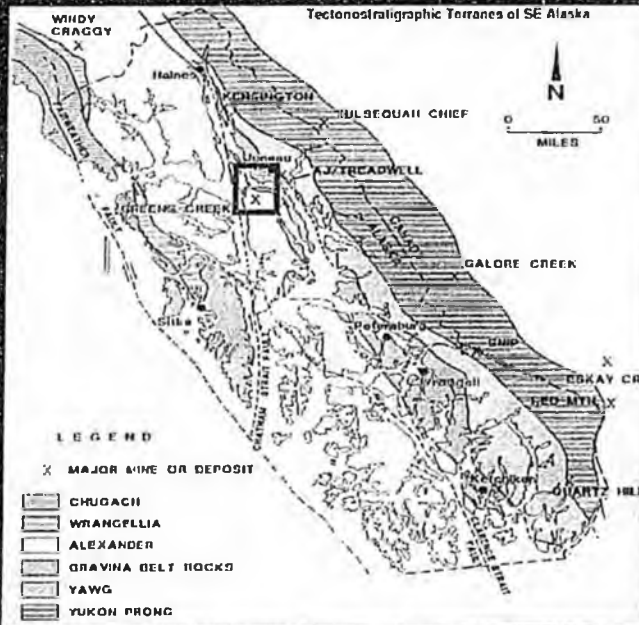
February 19, 2003



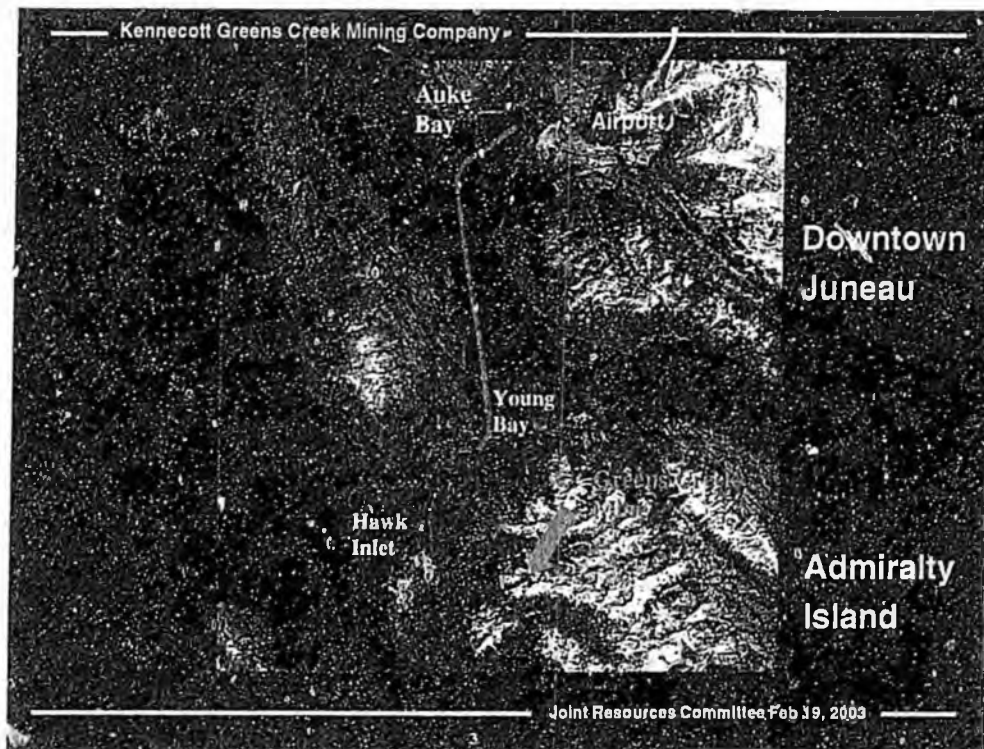
Joint Resources Committee Feb 19, 2003

Kennecott Greens Creek Mining Company

Tectonostratigraphic Terranes of SE Alaska



Joint Resources Committee Feb 19, 2003



Kennecott Greens Creek Mining Company

Greens Creek at a Glance

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- Underground mine and surface concentrator
- First production in 1989; closed in 1993; reopened in 1995
- Approximately 260 employees
- Located Within Admiralty Island National Monument
- Polymetallic ore body (zinc, silver, lead & gold)
- Three types of concentrate produced (lead, zinc & bulk)

Joint Resources Committee Feb 19, 2003



Production Flow Sheet

Run of Mine Ore



Milling



Gravity Spirals



Concentrates

Gold



Lead Flotation



Lead (Silver)



Zinc Flotation



Zinc



Bulk Flotation



Bulk



Tailings

Kennecott Greens Creek Mining Company

920 Mine Site



Joint Resources Committee Feb 19, 2003

Kennecott Greens Creek Mining Company

Tailings Impoundment



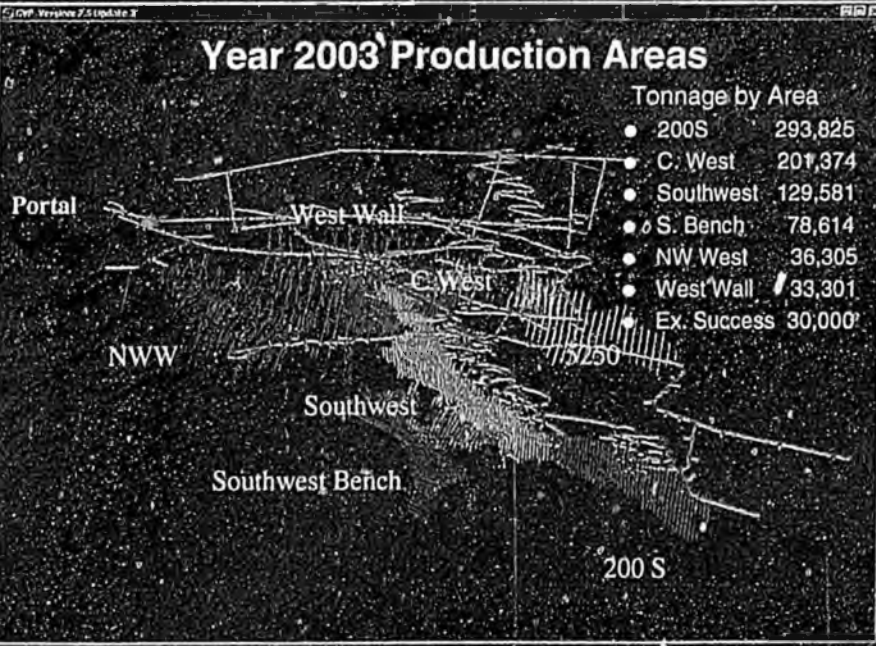
Joint Resources Committee Feb 19, 2003

Loading a Concentrate Ship



Joint Resources Committee Feb 19, 2003

Year 2003 Production Areas



Joint Resources Committee Feb 19, 2003

Kennecott Greens Creek Mining Company

LHD Loading Haul Truck

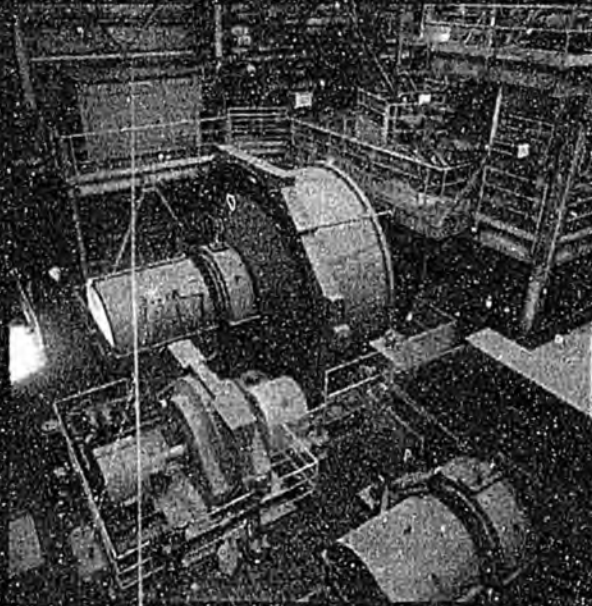


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Kennecott Greens Creek Mining Company

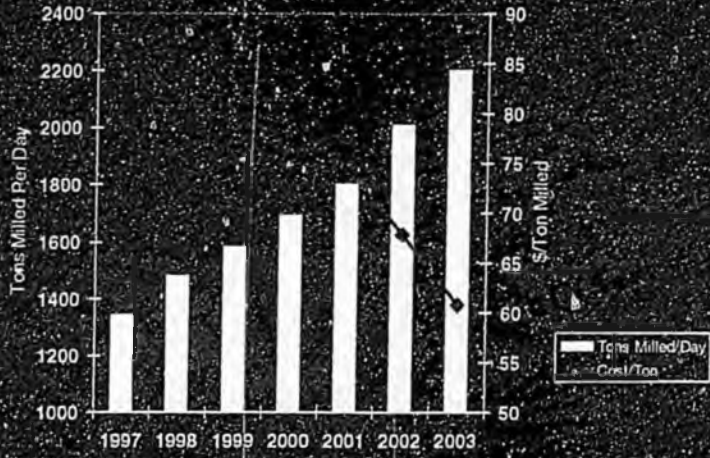
SAG Mill



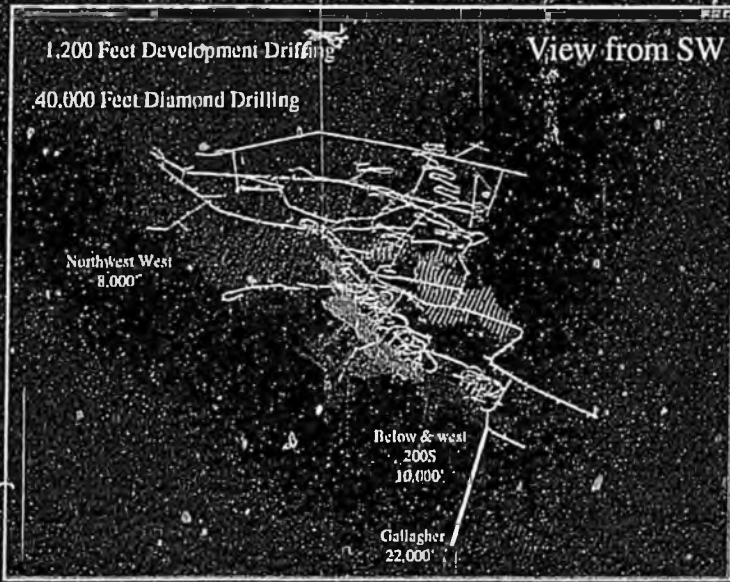
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12

Production/Costs Since 1997



2003 Underground Exploration Plan



Greens Creek Environmental Overview

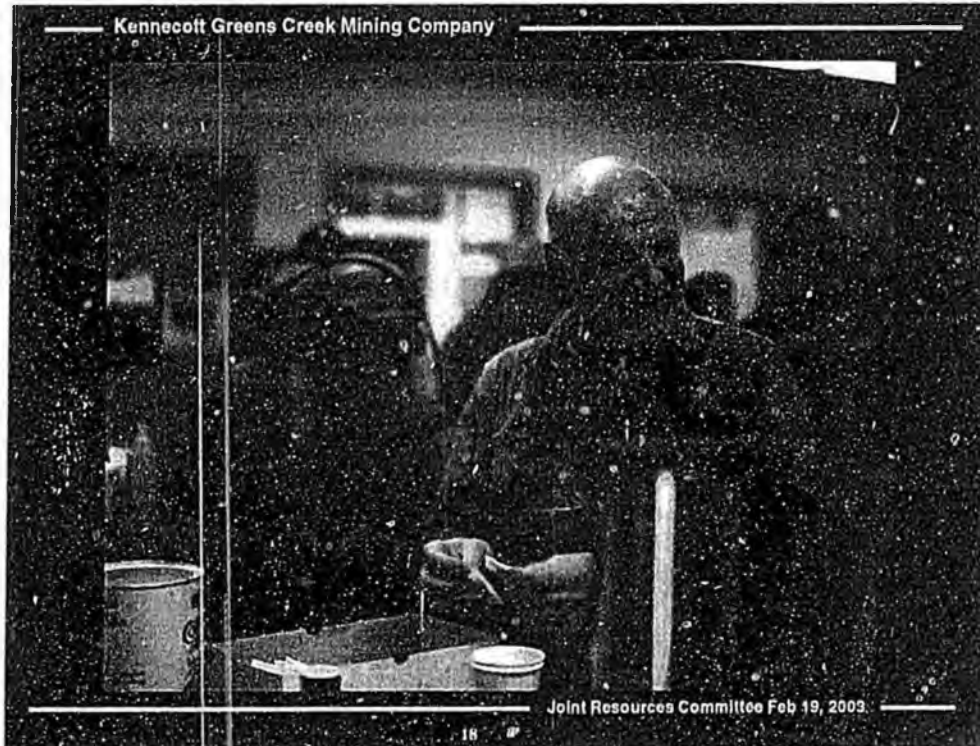
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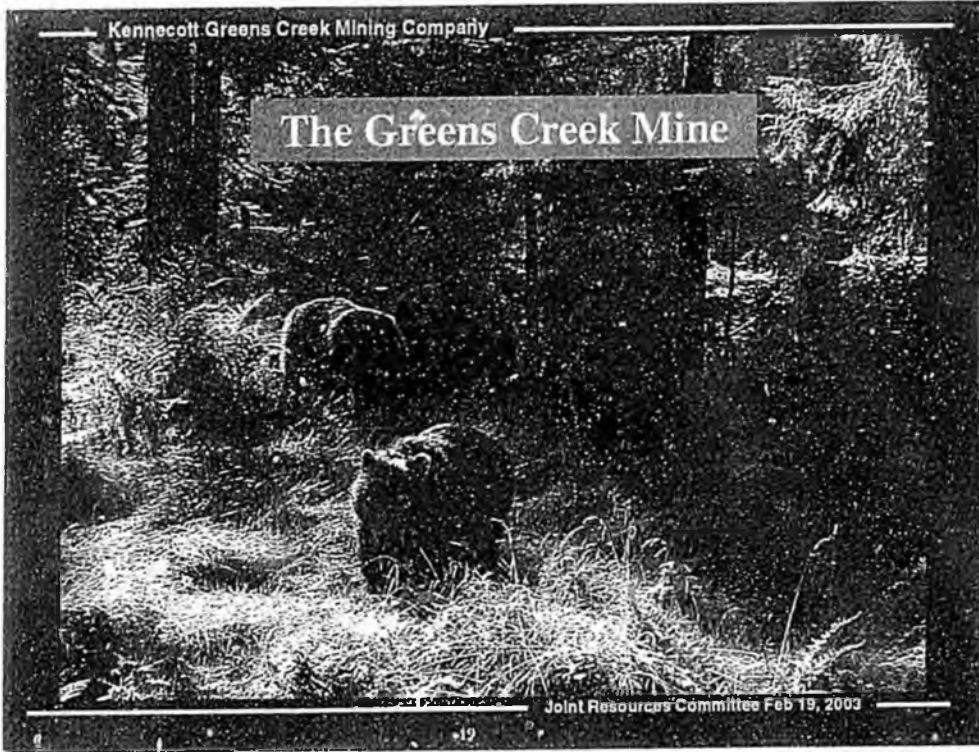
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Kennecott Greens Creek Mining Company

The Greens Creek Mine



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