

02/13/2018

Overview:

Update on

Alaska's

Mining

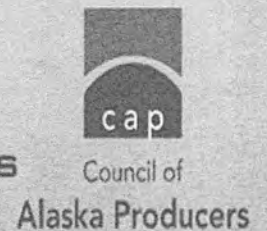
Industry

<TARGET><BILL></BILL><SUBJECT>02-13-2018 Overview Update
on Alaska's Mining
Industry</SUBJECT><COMM>SRES30</COMM></TARGET>



Mining Industry Update


Joint House/Senate Resources Committee
February 13, 2018





- ✓ Mining's Benefits for Alaska and Alaskans
 - Red Dog case study
- ✓ Expansion potential: what's holding us back?
 - Economics
 - Uncertainty
- ✓ Environmental safeguards
 - Perception vs. reality

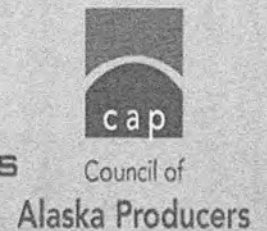

ALASKA MINERS
ASSOCIATION

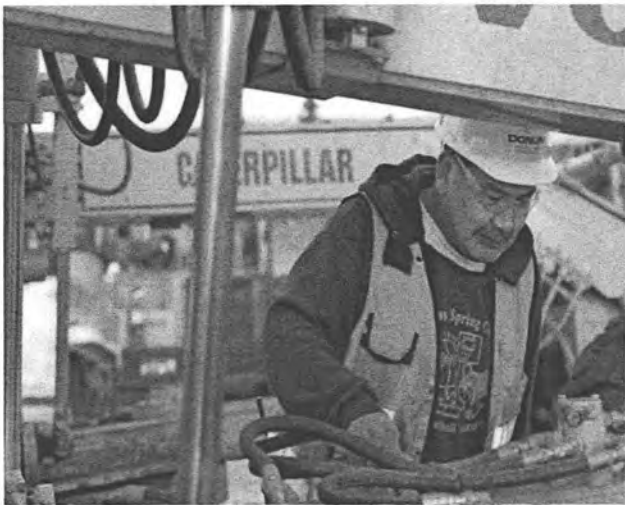

Council of
Alaska Producers



Benefits to Alaska: jobs

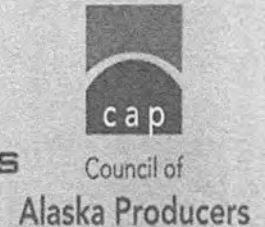
- 4,400 direct jobs
- 9,000 total direct and indirect jobs
- \$700 million total payroll
- Average annual wage of \$108,600
- Residents of 55+ communities
- \$580 million in contracts for 600+ AK businesses





Benefits to Alaska Native Corporations

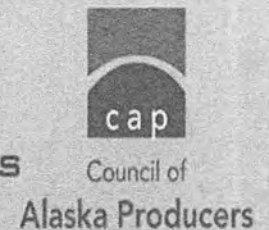
- 7(i) and 7(j) royalty sharing:
 - \$1.5 billion to NANA (1982-2017), of which \$1 billion shared
 - \$2 million to Calista in 2016
- Jobs for shareholders:
 - Red Dog 55%
 - Upper Kobuk Minerals Projects 59%
- Business partnerships



Local and State Government Revenue

2017

- \$34 million to local governments (largest taxpayers in Juneau, Fairbanks and Northwest Arctic)
- \$61 million to state government
- \$49 million in other state government-related revenue



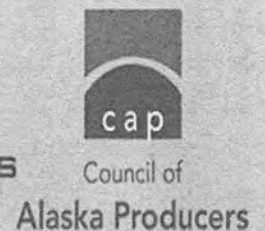
Alaska Permanent Fund

Corpus: 25-50% of lease rentals and royalties from mines on state land is deposited into Permanent Fund

Investments:

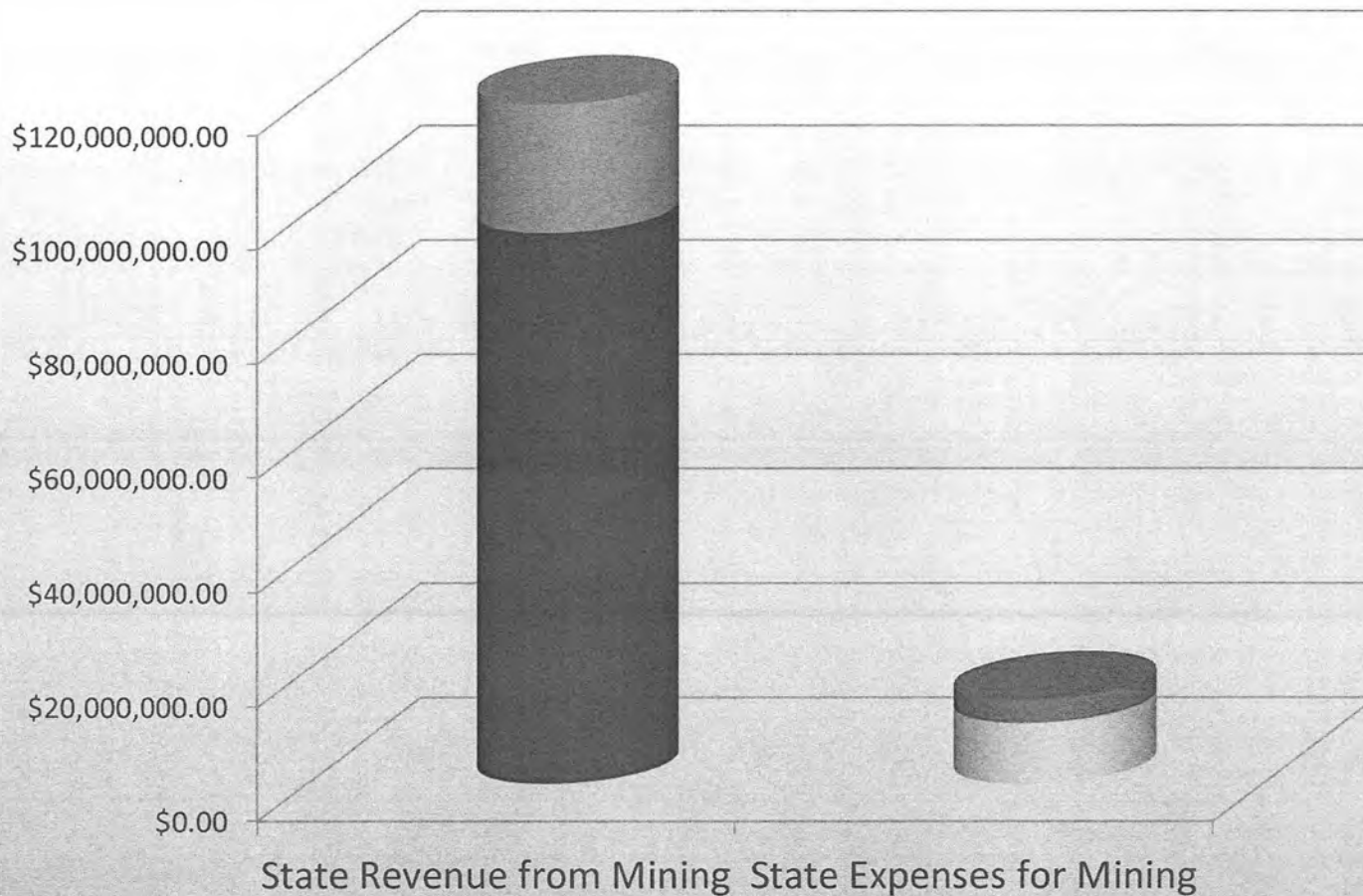
- 479 investments in global metals mining and fabricating
- \$516.6 million value
- Includes \$23.5 million of stock in companies operating mines in AK, >\$7 million of stock in companies with exploration projects in AK

Source: www.apfc.org, 02/12/2017



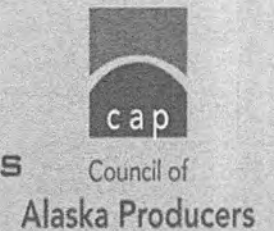
State Revenue vs. State Costs

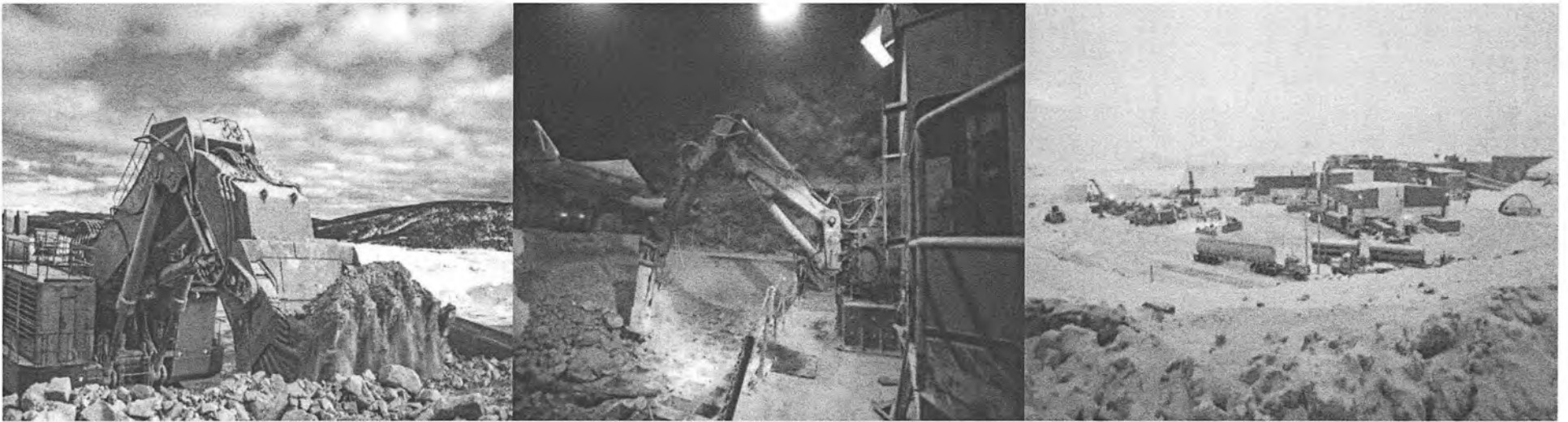
● State Revenue ● Local Revenue ● Operations ● Capital



"Fiscal Effects of Commercial Fishing, Mining, & Tourism. What does Alaska receive in revenue? What does it spend?"

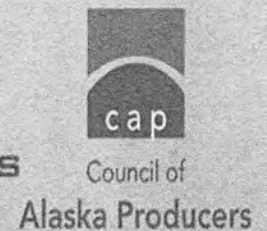
Bob Loeffler and Steve Colt, Institute of Social and Economic Research, UAA, 2016





Mining Pays its Way

- Companies pay exploration, development and construction costs
- This often includes access and infrastructure, unlike in Lower 48
- Reimbursable Service Agreements
- Financial assurance for reclamation and closure





AIDEA'S Return on Investment

- Mission: encourage Alaska's economic growth
- \$265 million investment in the Red Dog port and road
- \$465 million in payments from Red Dog (12/2017)
- 6.5% annual interest on loan agreement
- Annual dividend to State General Fund
- Contract goes to 2040

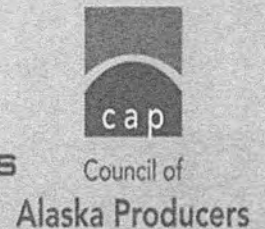
Source: www.aidea.org and AIDEA email 2018-02-08





Why do we mine?

If you have turned on a light, entered a building, driven on a road, made a phone call, used a computer, or visited a doctor, then mining is an important part of your life.



Alaska metals could be in your phone

ELECTRONICS

MICRO-ELECTRICAL

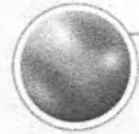
Copper, gold, silver, and tungsten are used for electrical connections within the phone. Which metal is chosen depends on the need. For example, while silver is the most conductive metal, gold never tarnishes.



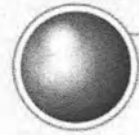
GOLD



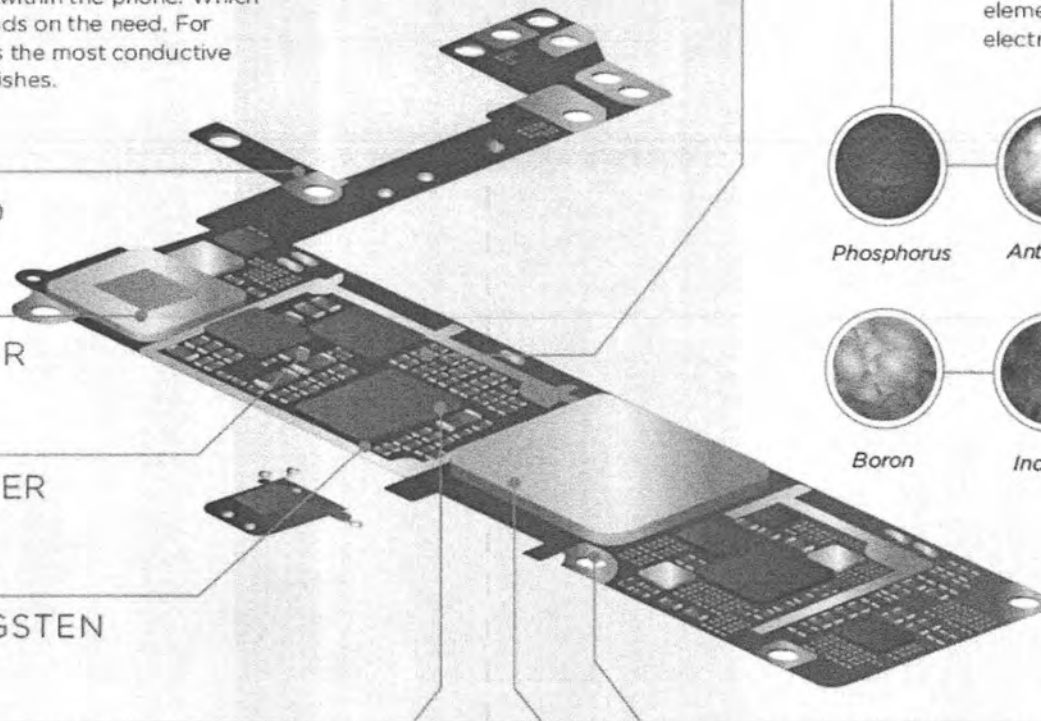
SILVER



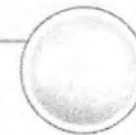
COPPER



TUNGSTEN



PROCESSOR CHIP

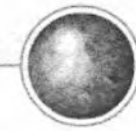


SILICON

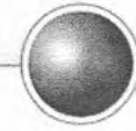
The phone's processor is mainly made from silicon, but it is bombarded by various elements to give it superior electrical properties.



Phosphorus



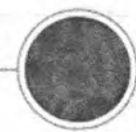
Antimony



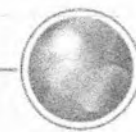
Arsenic



Boron



Indium



Gallium

335 tons steel

700 lbs rare earths

molybdenum

3 tons aluminum

zinc

4.7 tons copper



Case Study: Red Dog

Liz Cravalho, NANA



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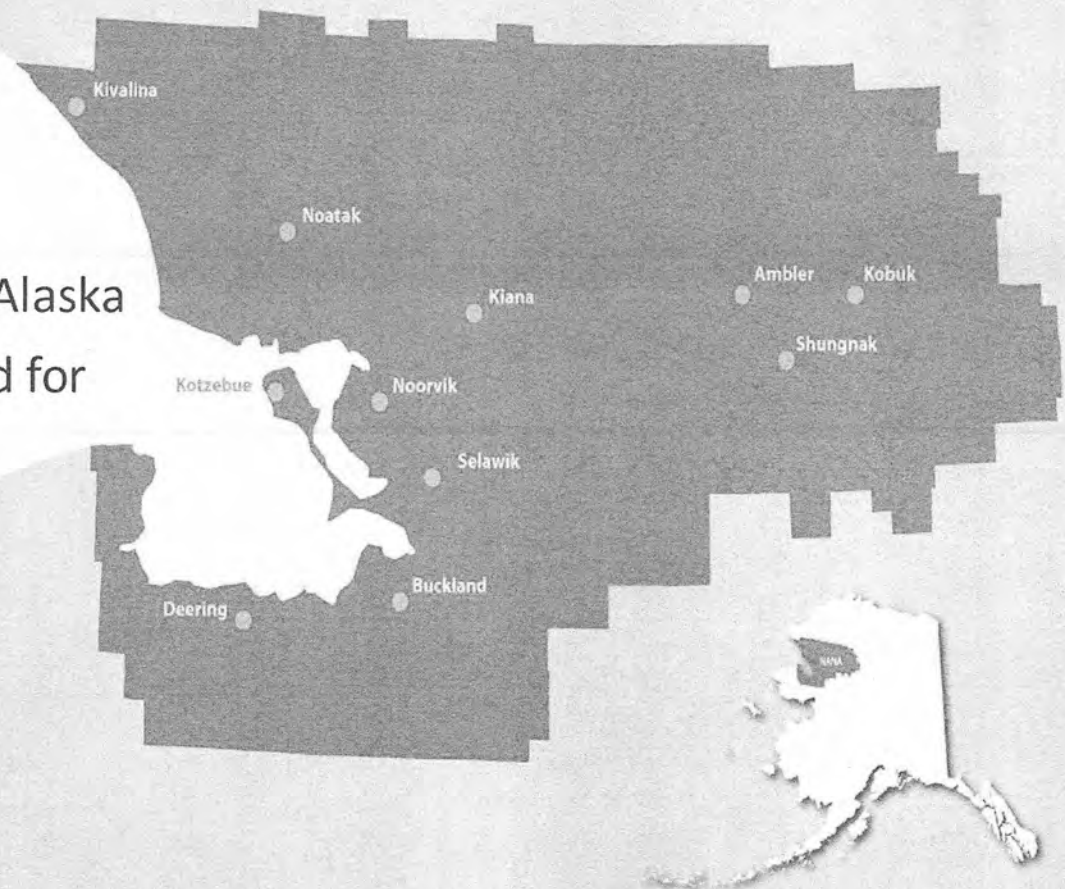


Council of
Alaska Producers

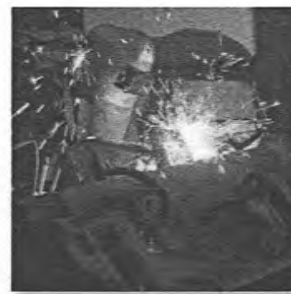


NANA REGION

- 38,000 sq. miles
- 98,000 sq. kilometers
- 11 communities
- \$1.3 B Corporation
- 85% of shareholders live in Alaska
- 1,400+ Shareholders worked for NANA in 2017
 - 10% Globally
 - 29% in Alaska



RED DOG CONTRIBUTIONS



Annual average jobs (including on-site, year-round contractors)	610 jobs
Average Red Dog regular annual wage	\$112,000
Red Dog (Teck) employee wages (excluding benefits) to NANA shareholders	\$31 million
Red Dog (Teck) cumulative wages paid to NANA shareholders (1999-2013)	\$303 million
Red Dog state and federal taxes (annual)	\$100 million
Red Dog (Teck) cumulative wages paid to NWAB residents shareholders (1999-2013)	\$132 million

BENEFITING OUR REGION, STATE AND NATION

73%

Total U.S zinc
production

\$55.7 million

Red Dog profits after
expenses and 7(i) sharing

\$1.1 Billion

in benefits to
Alaska

\$820 Million

In total 7(i)
payments

\$155.6 Million

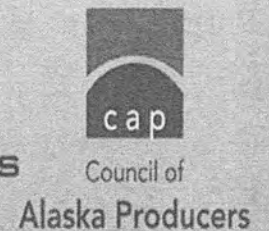
In total PILT to NWAB
since mining began

\$4-\$8 Million

Annual Teck
contribution to VIF

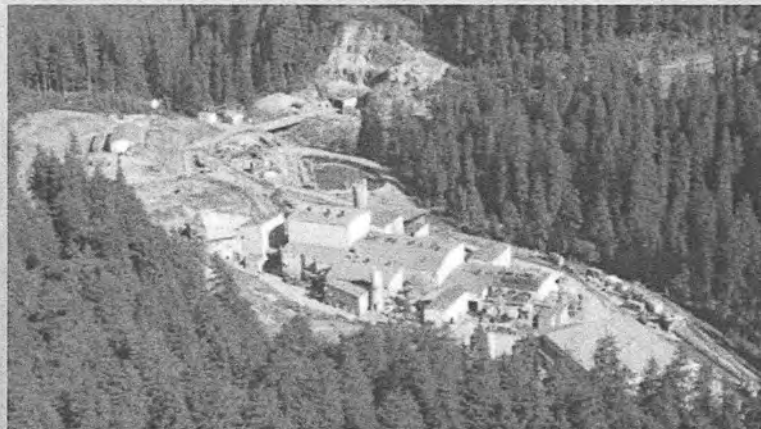
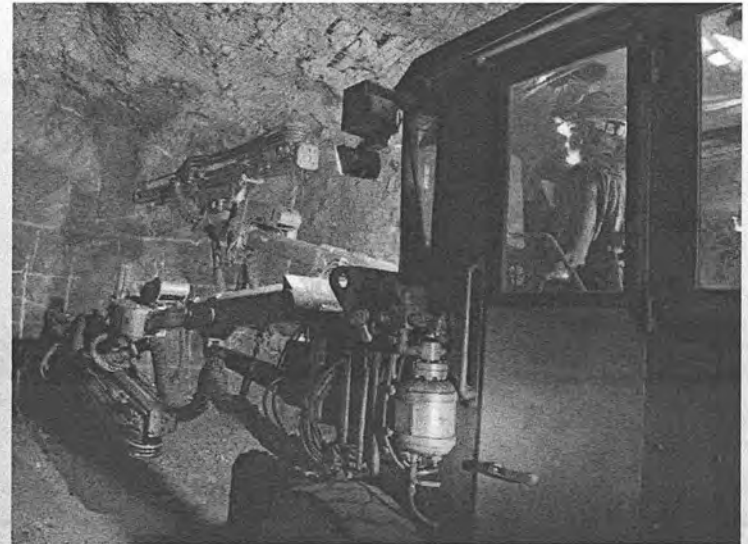
Expansion potential: What's holding us back?

Mike Satre,
Hecla Greens Creek Mine



Life Stages of Greens Creek

- Exploration 1973-1980
- Permitting 1980-1987
- Construction 1987-1989
- Operation 1989-Present
- Value Creation 2006-Present



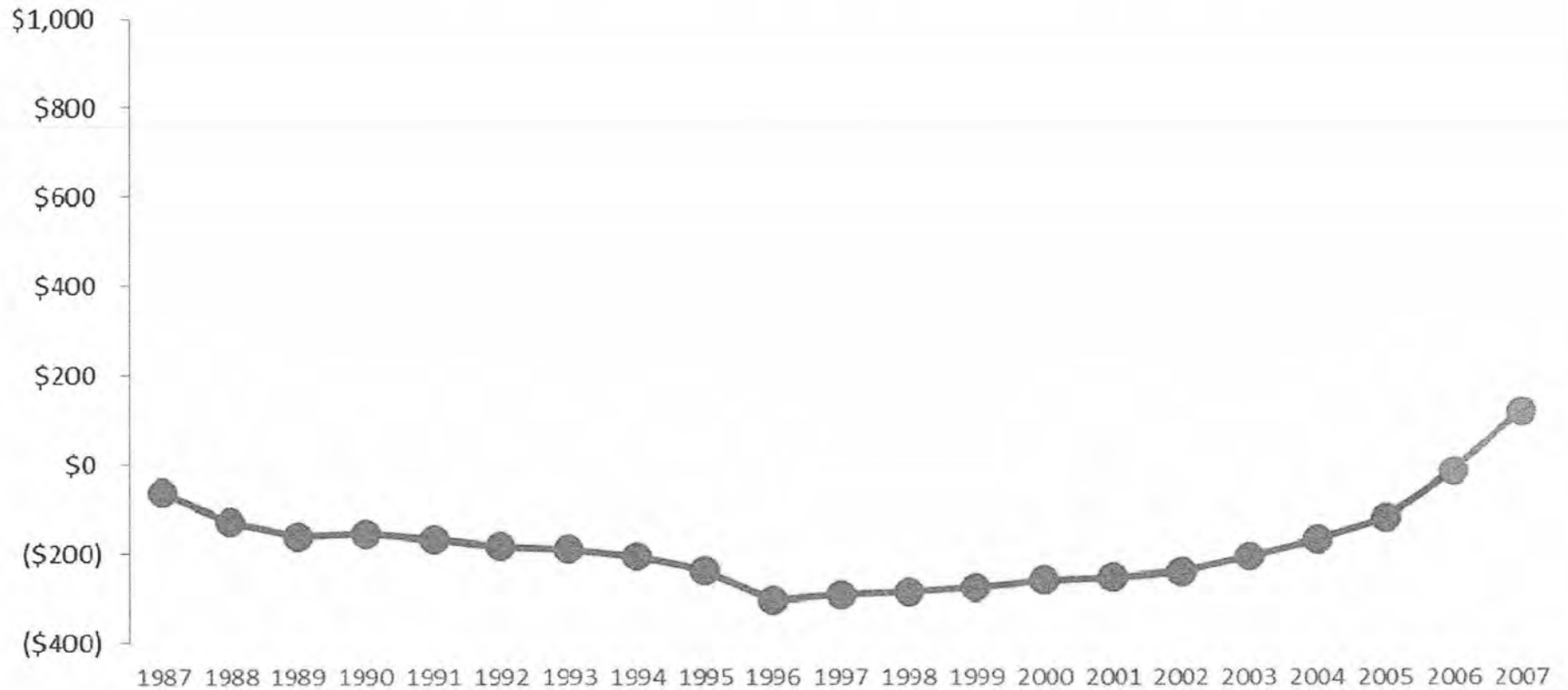

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Alaska Producers

Mines are made...not found

\$ in millions

Cumulative Net Cash Flow*

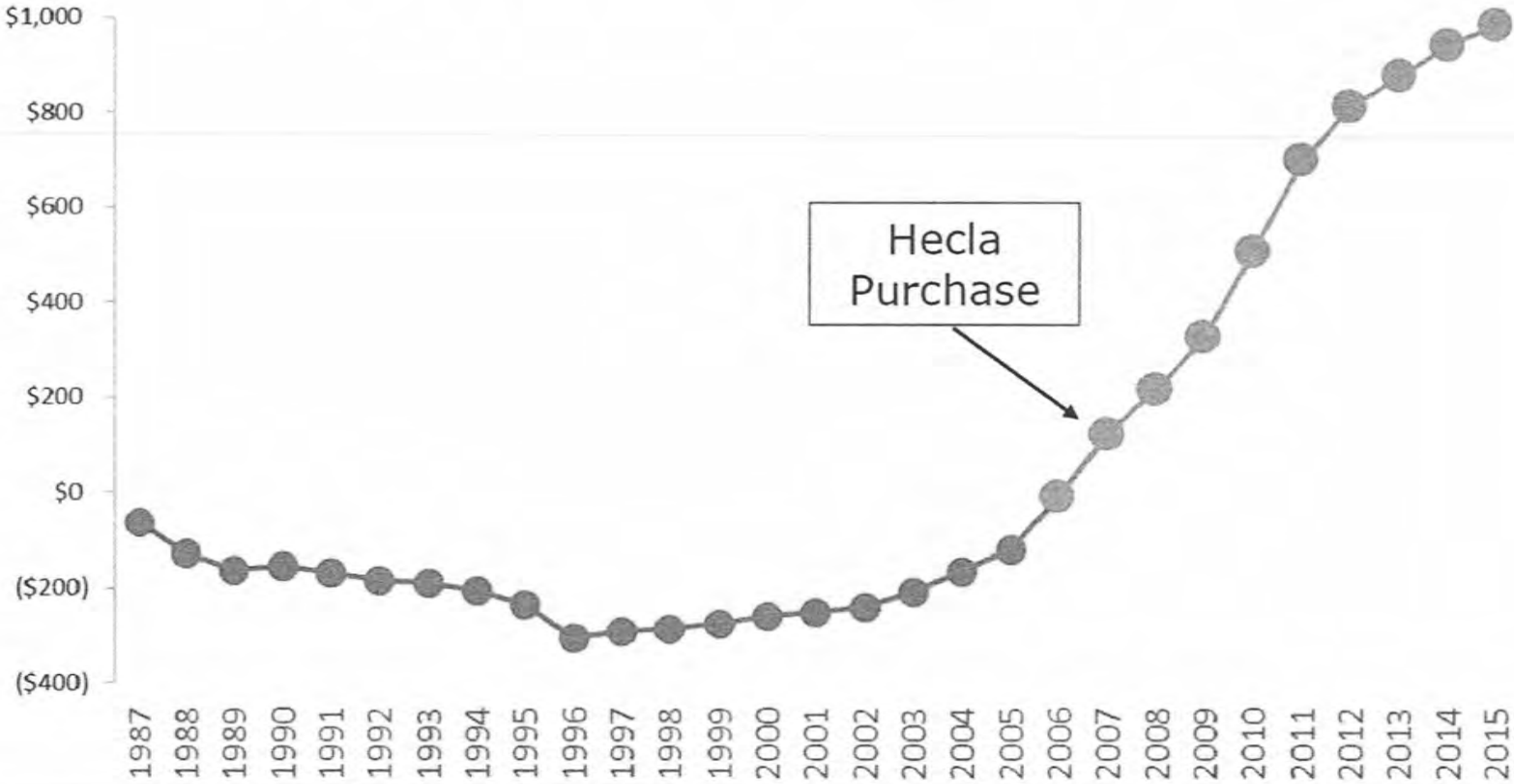


Mines are made...not found

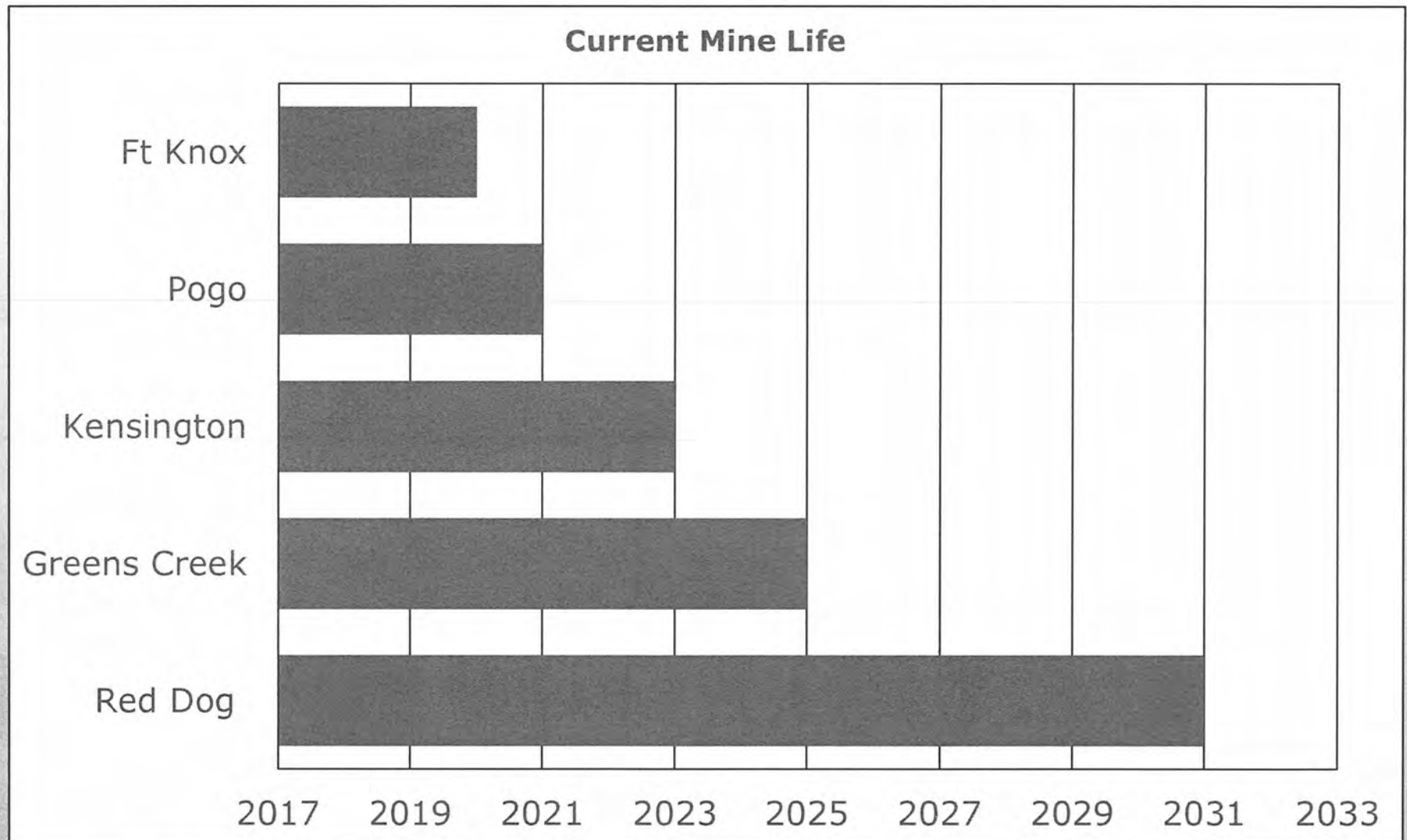
Patience Pays!

\$ in millions

Cumulative Net Cash Flow

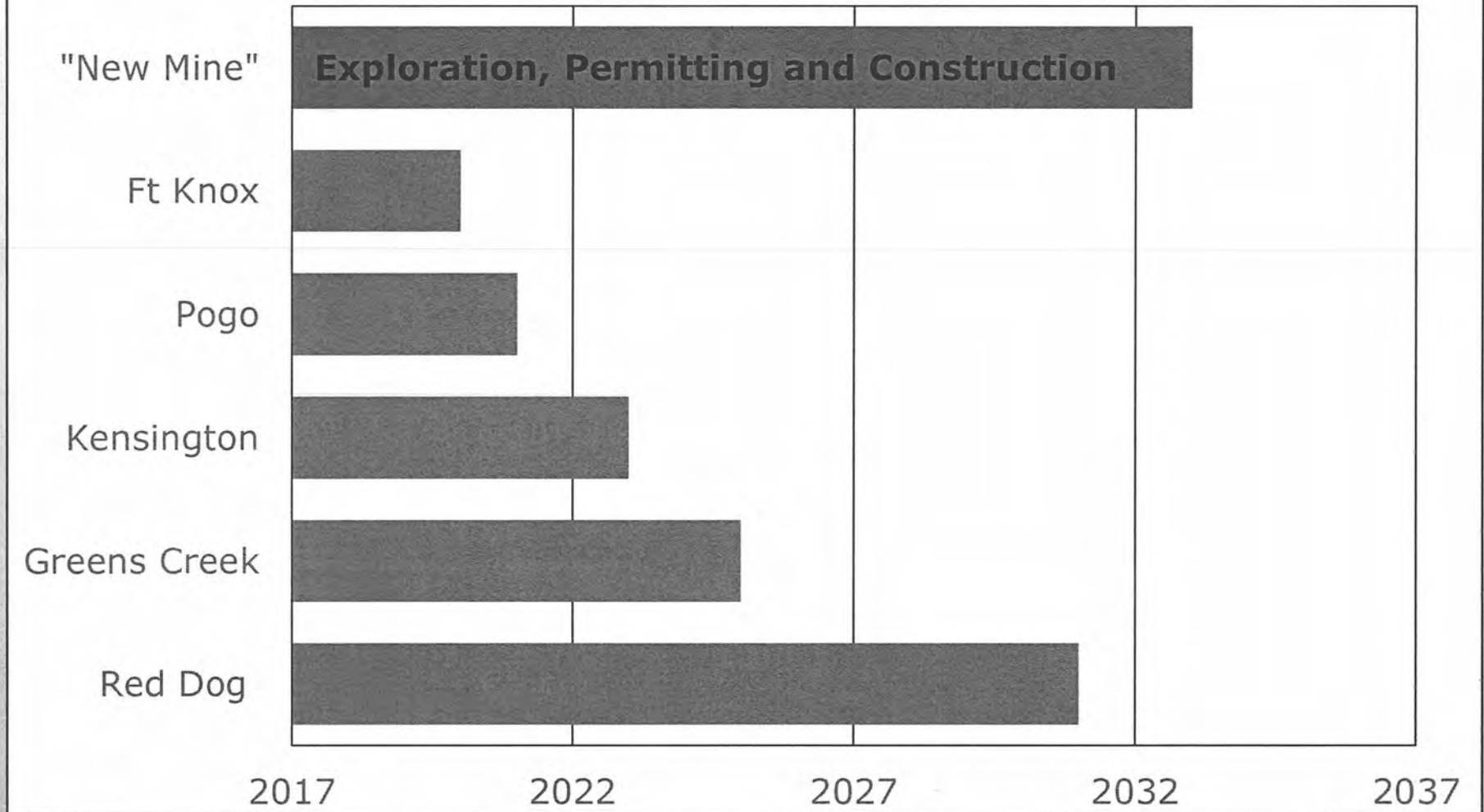


Life expectancy of AK mines



Do we have a production gap?

Current Mine Life



What does a new mine need?

	Grade	Size	Access	Power
Red Dog	✓	✓		
Ft. Knox			✓	✓
Pogo	✓	✓	✓	✓
Kensington			✓	
Greens Creek	✓		✓	✓

But much more is needed...

- Community support
- Mineral tenure partnerships
- Stable fiscal climate
- Stable regulatory regime



How are we doing today?

	Current Status	Outlook
Existing Mines		
Exploration		
Infrastructure		
Community Support		
State Land		
Federal Land		
ANCSA Land		
State Permitting		
Federal Permitting		
Fiscal Climate		



Environmental Safeguards

Deantha Crockett, AMA



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Alaska's World Class Regulatory System

- Rigorous permitting system
 - air, land, water, fish and wildlife
- Strict operational oversight
- Closure/Reclamation
- Financial Assurance



No Single Permit to Mine: there are many permits & authorizations

Mine permitting is a mixture of State, Federal and local permitting requirements.
Each project is unique.

STATE

- Plan of Operations (DNR)
- Reclamation and Bonding (DNR)
- Waste Management Permits and Bonding (ADEC)
- CWA Section 402 APDES Water Discharge Permit
- Certification of ACOE Permits (ADEC)
- Sewage Treatment System Approval (ADEC)
- Air Quality Permits (ADEC)
- Fish Habitat and Fishway Permits (ADF&G)
- Water Rights (DNR)
- Right of Way/Access (DNR/DOT)
- Tidelands Leases (DNR)
- Dam Safety Certification (DNR)
- Cultural Resource Protection (DNR)
- Monitoring Plan (Surface/Groundwater/Wildlife) (DNR/DEC/DFG)

FEDERAL

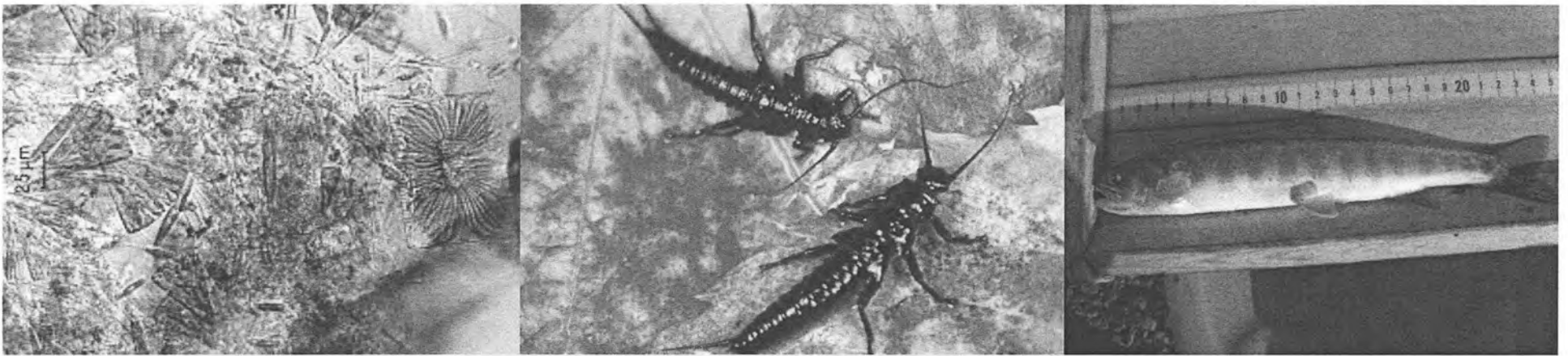
- US EPA Air Quality Permit review
- US EPA Safe Drinking Water Act (UIC Permit)
- US ACOE S. 404 Dredge and Fill Permit
- US ACOE S. 10 Rivers and Harbors Act
- US ACOE S. 106 Historical & Cultural Resources Protection
- NMFS Threatened & Endangered Species Act Consultation
- NMFS Marine Mammal Protection Act
- NMFS Essential Fish Habitat
- NMFS Fish and Wildlife Coordination Act
- USFWS Threatened & Endangered Species Act Consultation
- USFWS Bald Eagle Protection Act Clearance
- USFWS Migratory Bird Protection
- USFWS Fish & Wildlife Coordination Act

These are only some of the permits required!



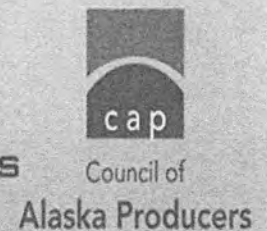
Council of

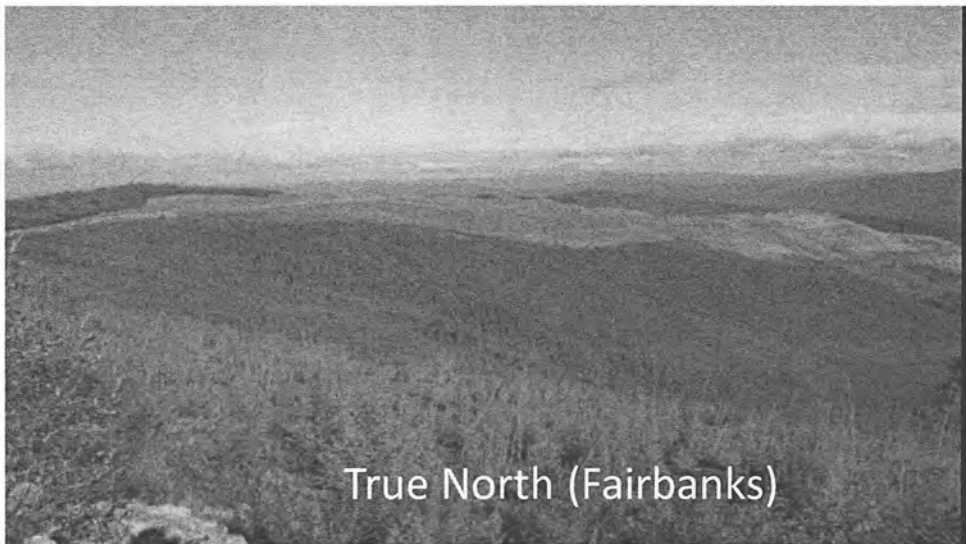
Alaska Producers



Alaska's Permit System is Unique

- Stringent application of a national water quality system
- Robust monitoring system
- 3rd party compliance audits of both:
 - company methodology and results
 - regulatory agency oversight





True North (Fairbanks)



Poker Flats (Healy)

Reclamation and Closure

- Alaska law (AS 27.19) requires that a mine site must be returned to a stable condition compatible with the post-mining land use
- Plan & financial assurance must be approved by DNR Commissioner *before* operations begin
- Financial assurance applies to all companies
- Reviewed every 5 years or earlier if necessary



Doing it Right: Fort Knox Mine





Potential

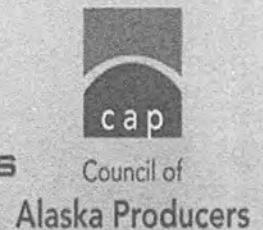
Are the right policies in place to encourage development and production of critical and strategic minerals in Alaska?





Let's Attract Investment to Alaska

- Bring more mines into production, especially those on state land
- Keep Alaska competitive with other mining jurisdictions
- Keep the permitting process rigorous *and* efficient
- Preserve a stable and predictable tax structure at the state and local level



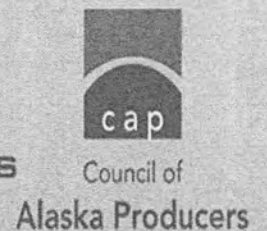
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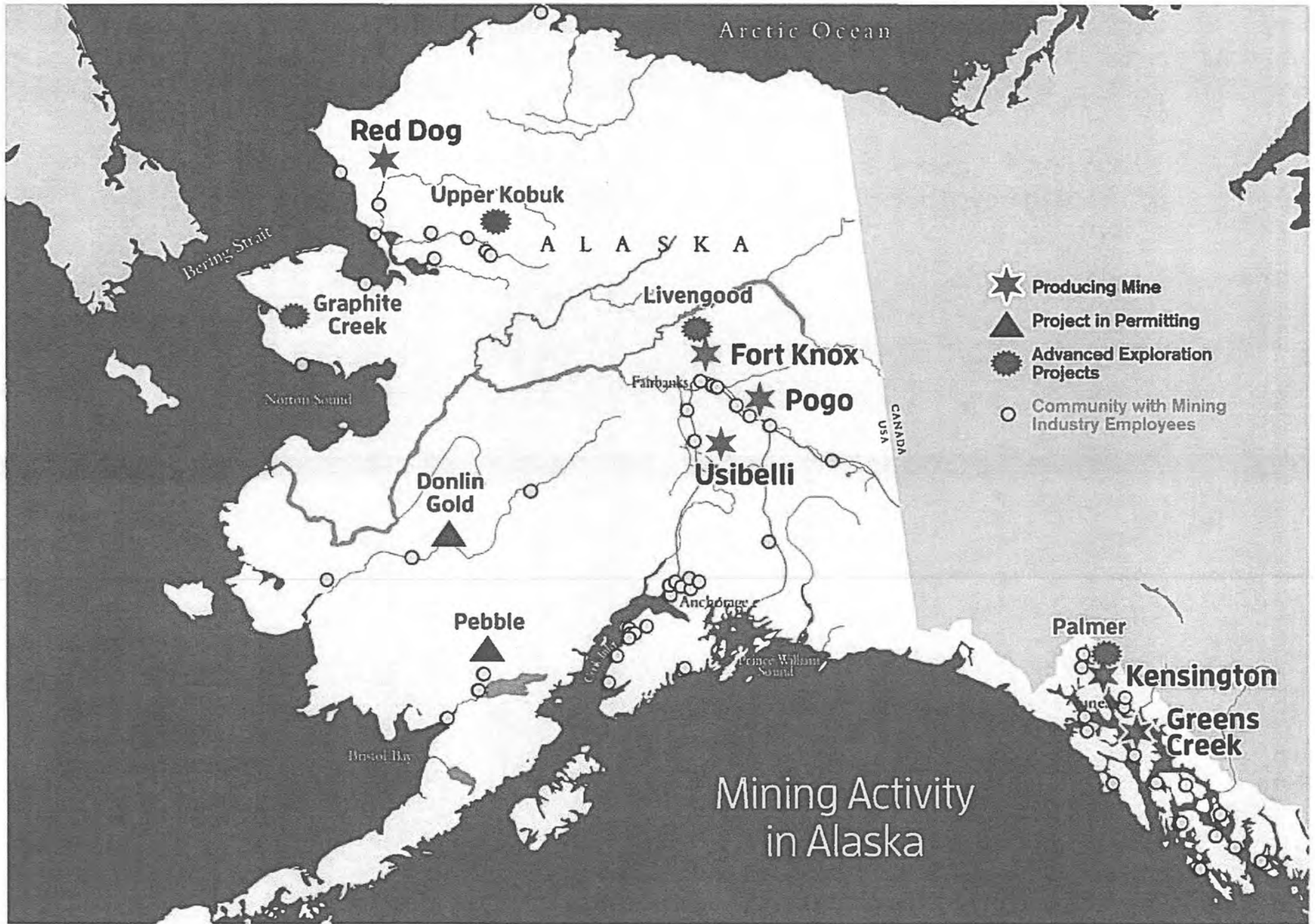
Alaska Miners Association

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Mining Activity
in Alaska