

Mining Industry Update

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Deantha Skibinski, Executive Director, Alaska Miners Association

Karen Matthias, Executive Director, Council of Alaska Producers

Greta Schuerch, Senior Advisor, Government and External Affairs, Teck Alaska

Wayne Hall, Community & Public Relations Manager, Teck



Overview

- 🛖 Global Factors: Growing Demand
- 🛖 US Policy: Increase Domestic Production
- 🛖 Alaska's Advantage
- 🛖 Benefits for Alaska and Alaskans



Global Factors: Growing Demand for Minerals



Who We Are

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PRESS RELEASE | MAY 11, 2020

Mineral Production to Soar as Demand for Clean Energy Increases

WASHINGTON, May 11, 2020 — A new [World Bank Group report](#) finds that the production of minerals, such as graphite, lithium and cobalt, could increase by nearly 500% by 2050, to meet the growing demand for clean energy technologies. It estimates that over 3 billion tons of minerals and metals will be needed to deploy wind, solar and geothermal power, as well as energy storage, required for achieving a below 2°C future.

The report **“Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition”** also finds that even though clean energy technologies will require more minerals, the carbon footprint of their production—from extraction to end use—will account for only 6% of the greenhouse gas emissions generated by fossil fuel technologies. The report underscores the important role that recycling and reuse of minerals will play in meeting increasing mineral demand. It also notes that even if we scale up recycling rates for minerals like copper and aluminum by 100%, recycling and reuse would still not be enough to meet the demand for renewable energy technologies and energy storage.

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Global Factors: Growing Demand for Minerals

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Where our Critical Minerals are coming from



RACE TO THE FUTURE

How the U.S. Lost Ground to China in the Contest for Clean Energy

Americans failed to safeguard decades of diplomatic and financial investments in Congo, where the world's largest supply of cobalt is controlled by Chinese companies backed by Beijing.



FINANCIAL TIMES

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The Big Read Mining + Add to myFT

Congo, child labour and your electric car

Informal workers produce almost a third of the country's cobalt. Can mining groups address the problem?

DEFENSE DEPARTMENT

China Maintains Dominance in Rare Earth Production

9/8/2021

Mined in America: US Policy needed

“America’s reliance on foreign countries for the production and recycling of our critical minerals is a vulnerability to our national security, a disadvantage to our economy, and a hindrance to our global competitiveness. Unfortunately, the current Federal permitting and review process is painfully inefficient.”

- Senator Lisa Murkowski

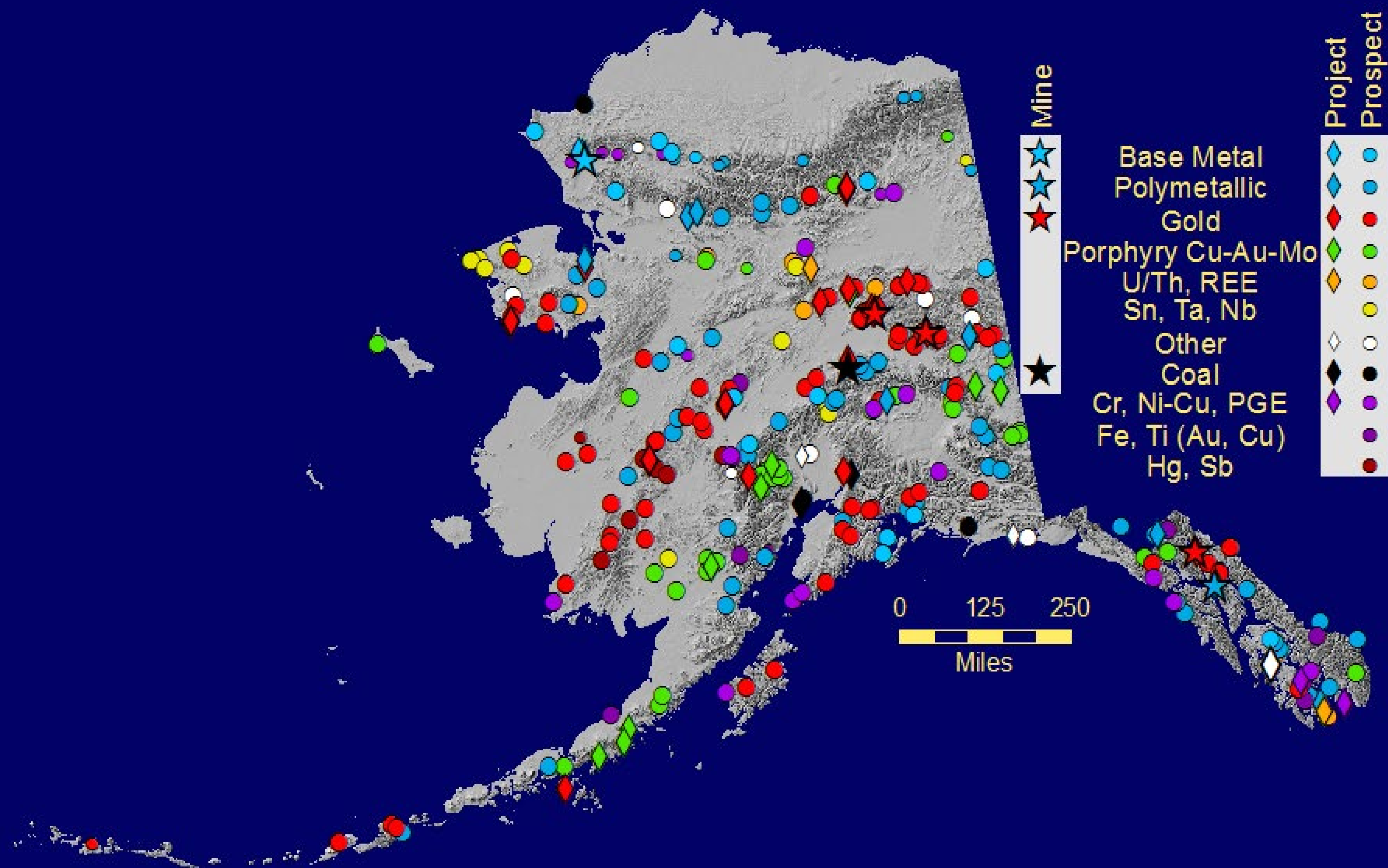
- Access to lands
- NEPA process scope and timelines
- Collaboration amongst agencies
- Spotlight on Ambler Road decision
- Public comment and local engagement = better projects



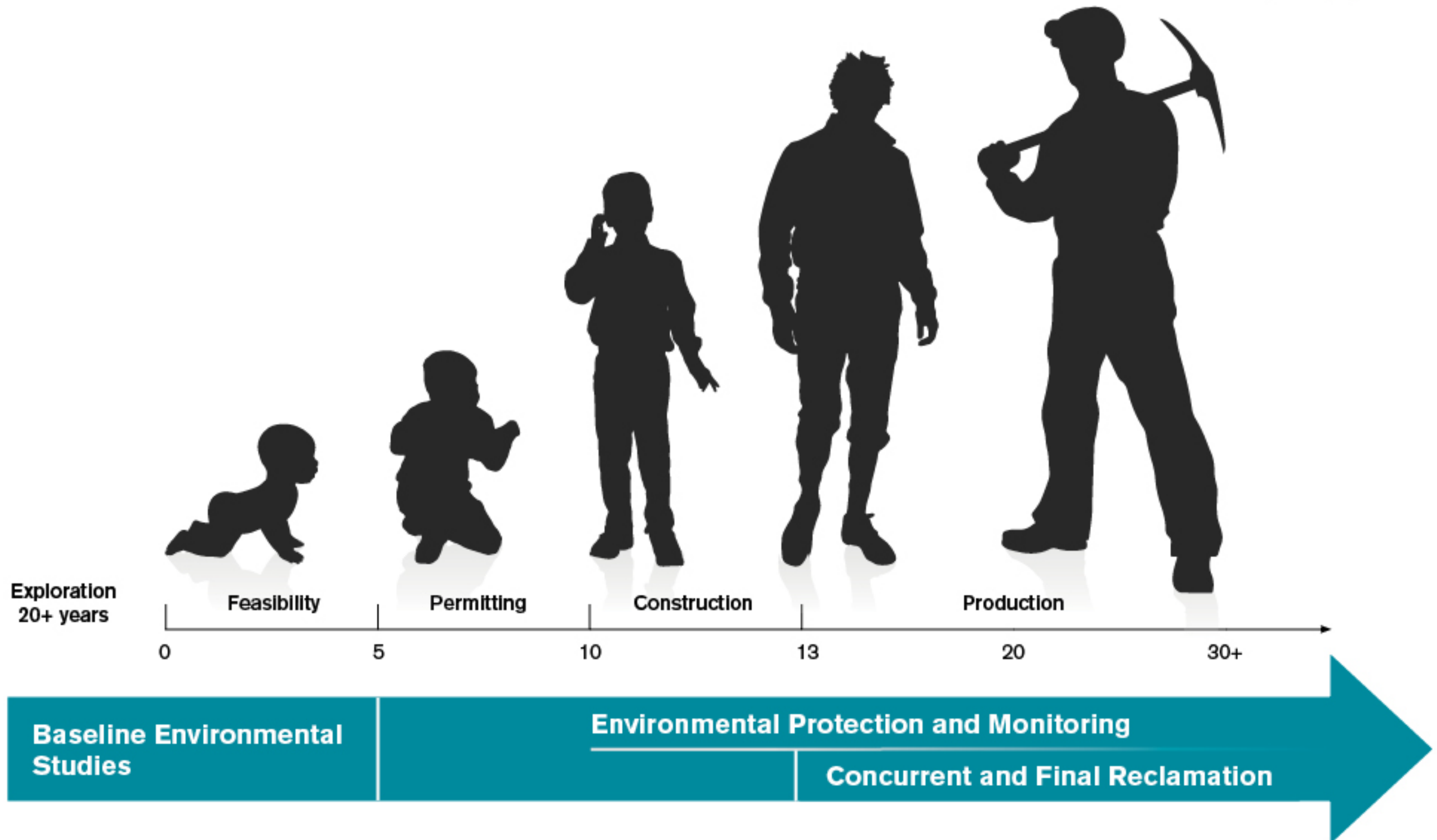
Alaska's Advantage

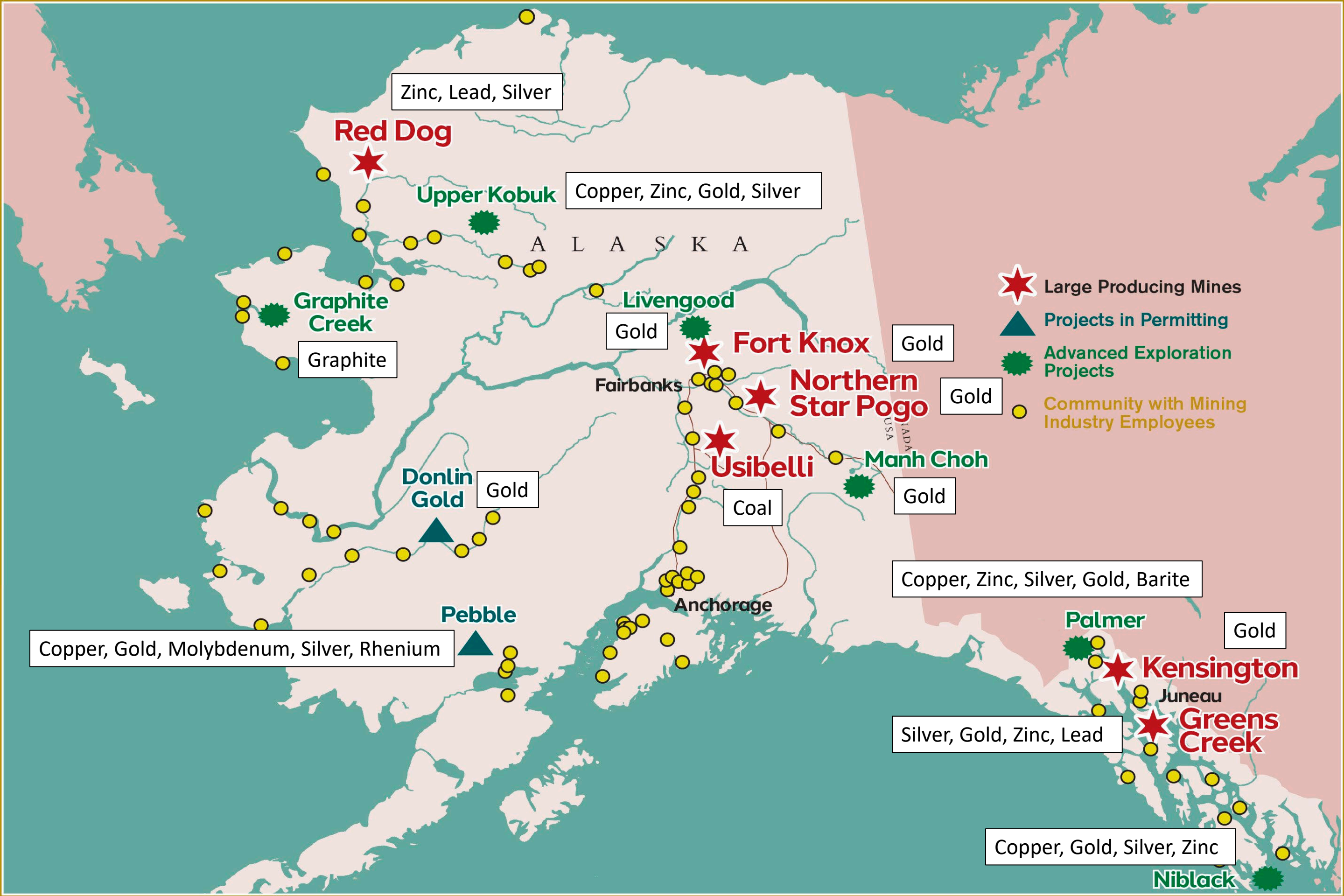
- Mineral potential
- Strict environmental regulations
- Excellent track record





Mining Development Takes Time







Doing it Right: Environmental Safeguards

- Rigorous permitting regulations
- Strict operational oversight
- Reducing emissions and increasing efficiency
- Closure/Reclamation
- Financial Assurance prior to operating



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

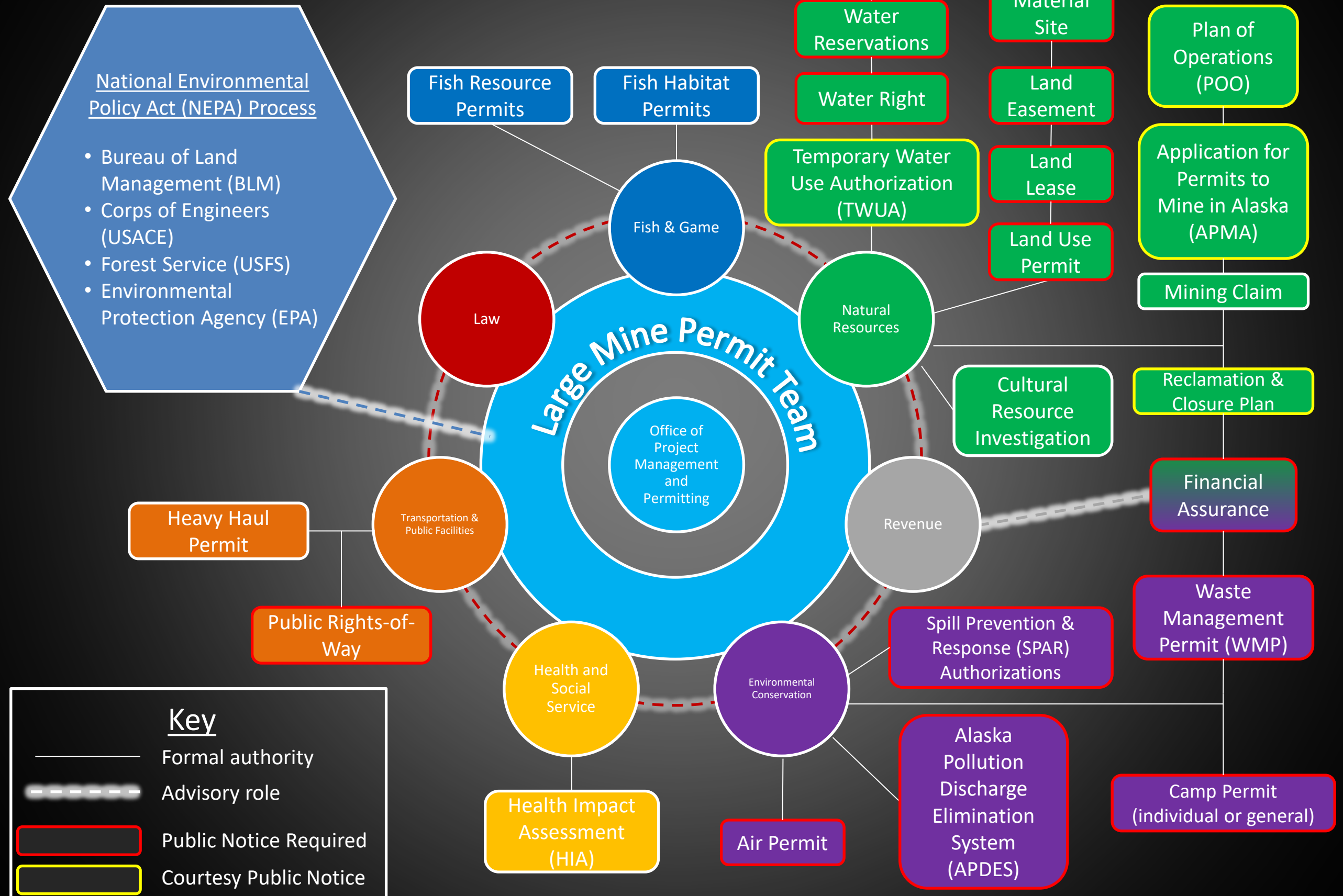
- US EPA Air Quality Permit review
- US EPA Safe Drinking Water Act (UIC Permit)
- US ACOE S. 404 Dredge and Fill Permit
- US ACOE S. 10 Rivers and Harbors Act
- US ACOE S. 106 Historical & Cultural Resources Protection
- NMFS Threatened & Endangered Species Act Consultation
- NMFS Marine Mammal Protection 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!





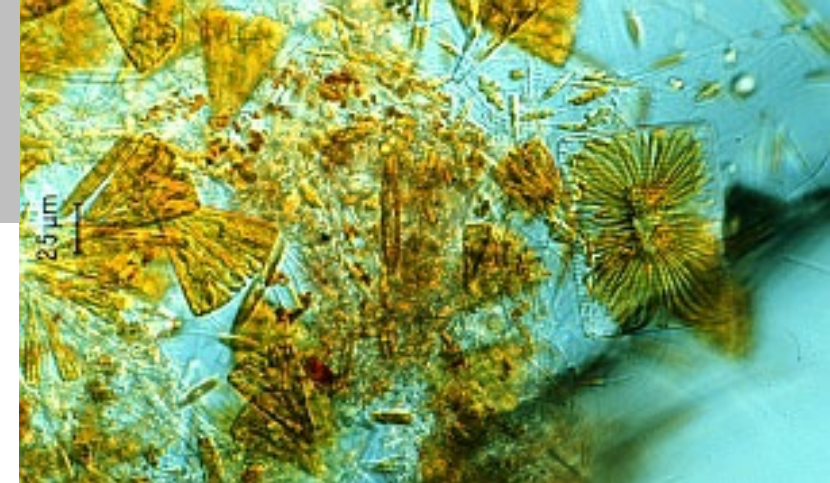
For public information purposes. More information can be found at <http://dnr.alaska.gov/commis/opmp/>



Strict Operational Oversight

Alaska: the best mine monitoring system in the world

- Water quality monitoring
- Bottom-to-top comprehensive biomonitoring
- Third-party of both the mine and the regulatory agencies



Usibelli – January 2016



Usibelli – July 2016



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 must be approved by DNR Commissioner *before* operations begin
- Financial assurance applies to all companies
- Reviewed every 5 years or earlier if necessary

Poker Flats – Usibelli Coal Mine

DNR Commissioner Corri Feige: “In successfully achieving Phase III bond release, Usibelli has demonstrated the fundamental strength of our state’s mineral development system. We can develop our land to produce resources to meet the state’s energy and economic needs, then restore the land to provide healthy habitat for people and wildlife.” September 2021



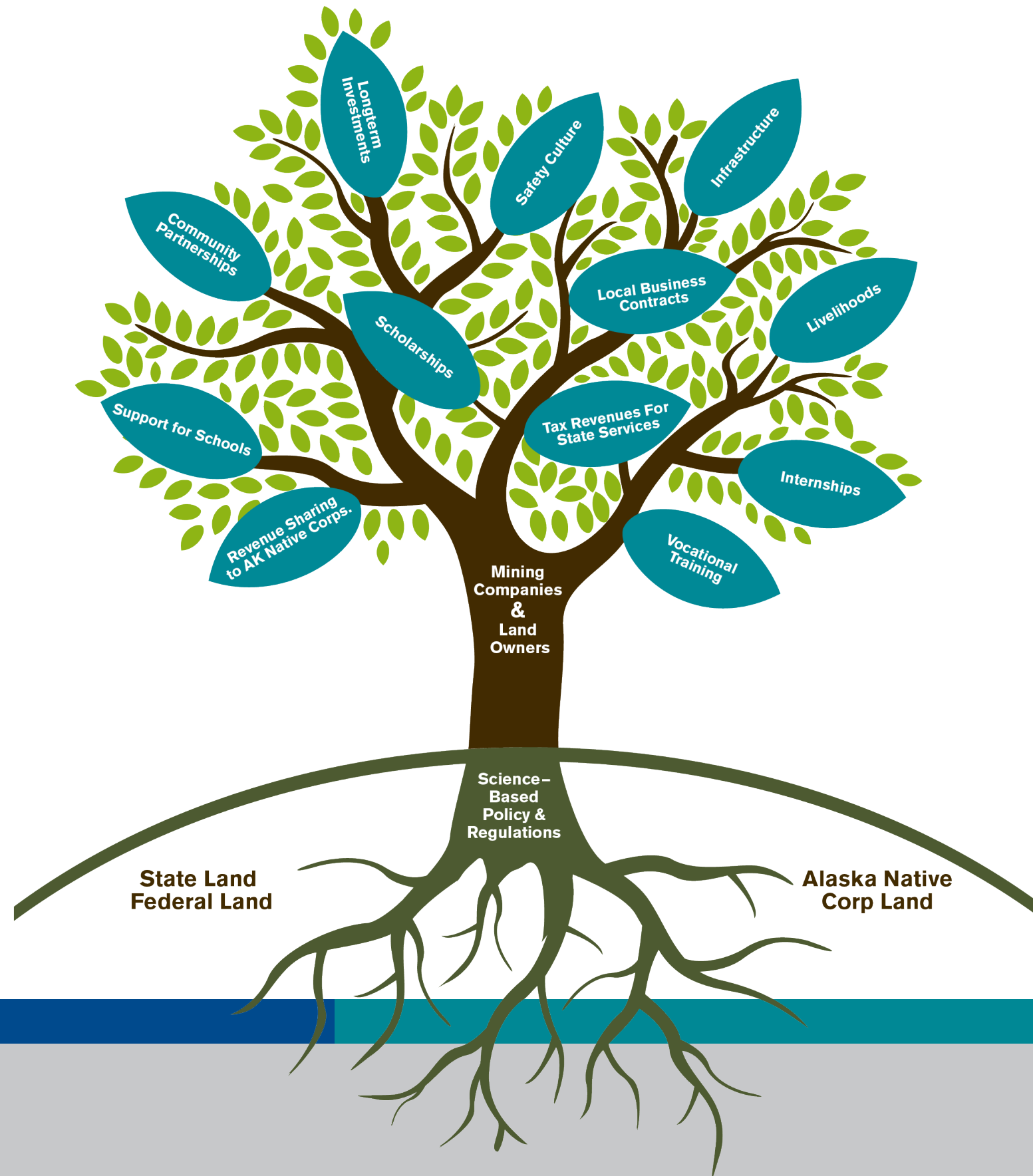
True North – Kinross Alaska

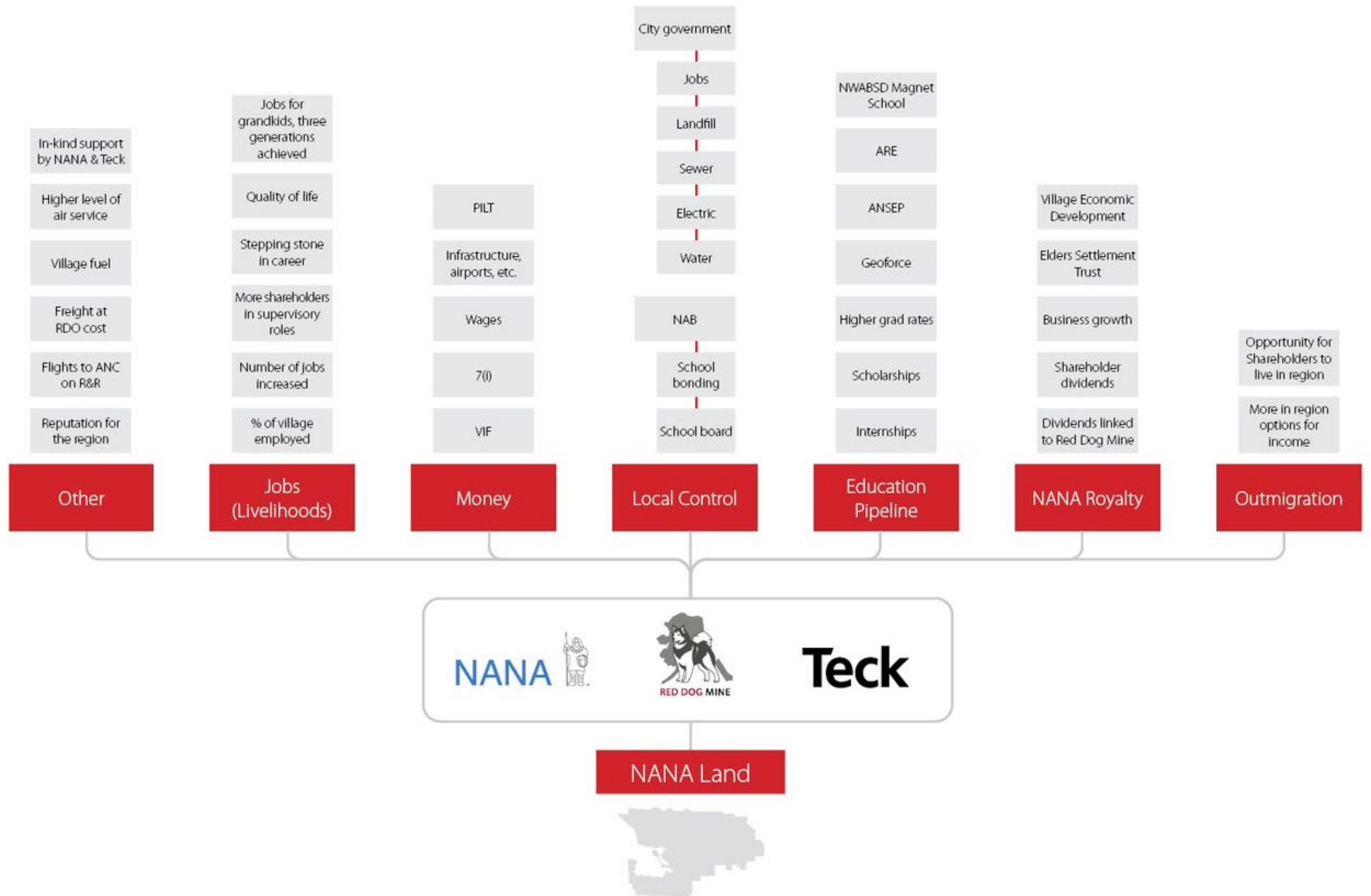


DNR Commissioner Corri Feige: “The developers leased state land, produced a valuable commodity to serve global markets, employed Alaskans, and paid state taxes and royalties. When they were done, they remediated the effects of their work and returned the land to the state for its next use. The system works.”

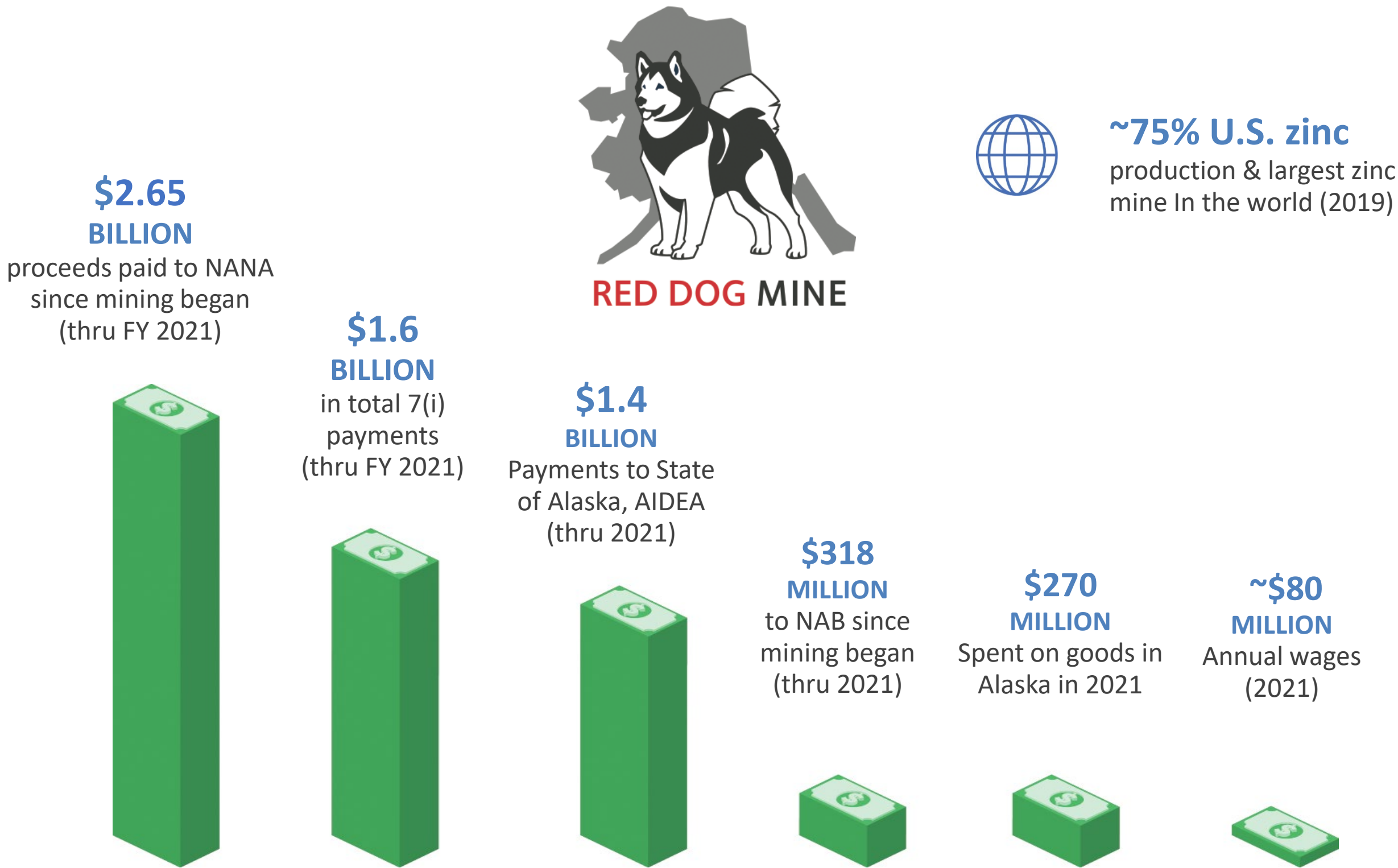
October 27, 2020

Benefits for Alaska and Alaskans





Broad Benefits of Development



Northwest Arctic Borough Payments in Lieu of Taxes & Village Improvement Fund – Successful models

Payment in Lieu of Taxes

- \$20-26M annually
- Primary revenue for the NWAB

Village Improvement Fund

- \$4-8M annually
- Increase benefits by setting money directly aside for villages
- Long-term sustainability - aimed at socioeconomic investment
- Each community has a voice in how the funds are spent



Broad Benefits of Development

Selawik – Wellness Program



Organization	Project	Amount
City of Kivalina	Evacuation Road	\$1,000,000
City of Kivalina	Electrical Intertie	\$3,500,000
City of Selawik	Water & Sewer	\$1,000,000
Native Village of Selawik	Wellness Program	\$378,872
Ipnatchiaq Electric Co	New Generator	\$147,750
Native Village of Deering	On-demand Water Heaters	\$166,049
Native Village of Buckland	Water & Sewer	\$579,331

Kivalina - Kisimigiuktuq Hill Electrical Intertie



Buckland – Water & Sewer Project

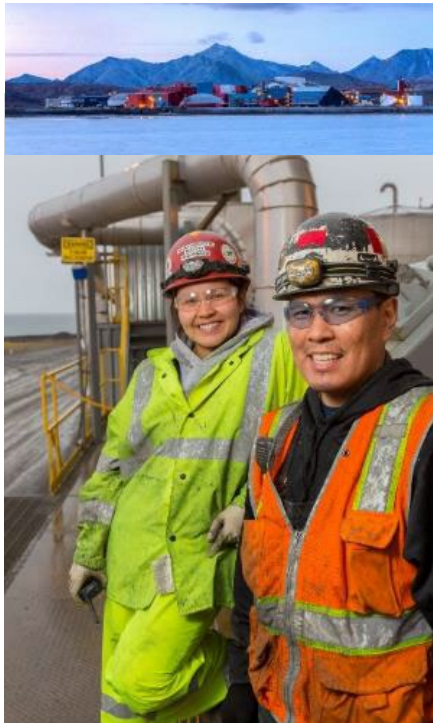


Jobs and Livelihoods

Teck Alaska Persons on Roster as of September 2021

- Regular – 527
(56.4% NANA Shareholder)
- Seasonal & Temp - 92
(96.7% NANA Shareholder)

73% of employees live in Alaska



Jobs and Livelihoods

In-house Apprenticeship Program

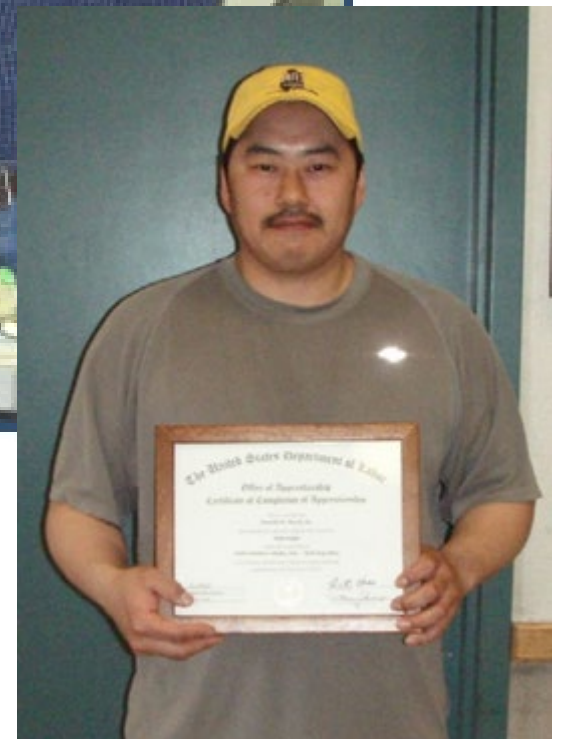
Training
8,500 hrs avg/yr

Trades Apprentices

- Powerhouse, Electrical, Millwright
Heavy Equipment & Light Vehicle
Mechanic
- Apprentices are 25% of the total trades

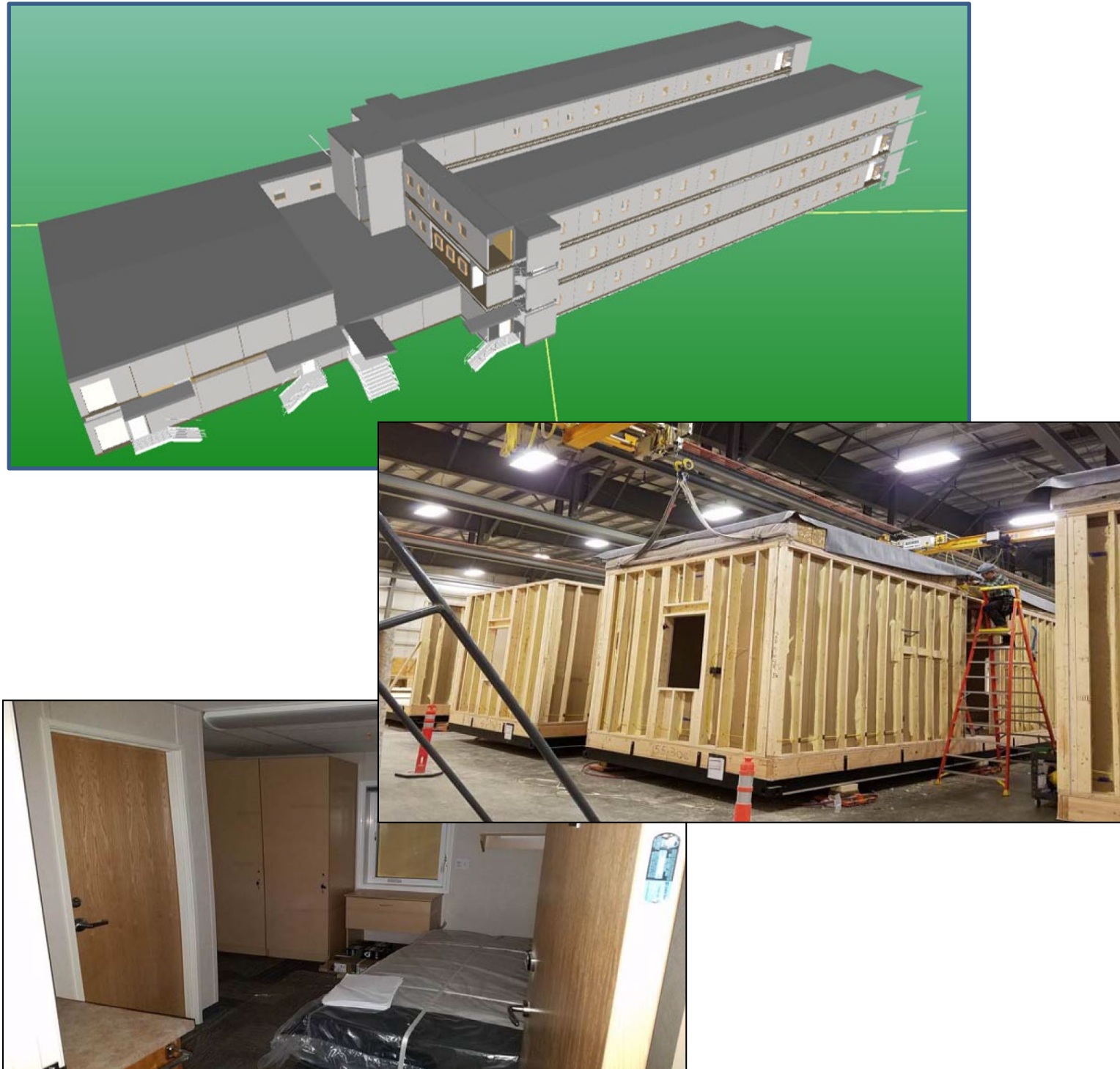
Mill Operator Apprentice Program

- Commenced in 2016
- **First Mine in North America**



Alaska Built and Alaska Infrastructure

Accommodations Modules – Built in Big Lake



Powerhouse Module – Built in Anchorage



Alaska Built and Alaska Infrastructure

DeLong Mountain Transportation Road and Port Facilities



Borough Formation allows for bonding new schools



Thank you

For more information:

Deantha Skibinski
Executive Director
Alaska Miners Association
deantha@alaskaminers.org
(907) 317-6323

Karen Matthias
Executive Director
Council of Alaska Producers
kjmatthias@alaskaproducers.org
(907) 301-1022

