

NANA



Critical Minerals and ANC's

Responsible Mineral Development and Helping to Solve the Minerals Crisis

Andrew Willman, NANA



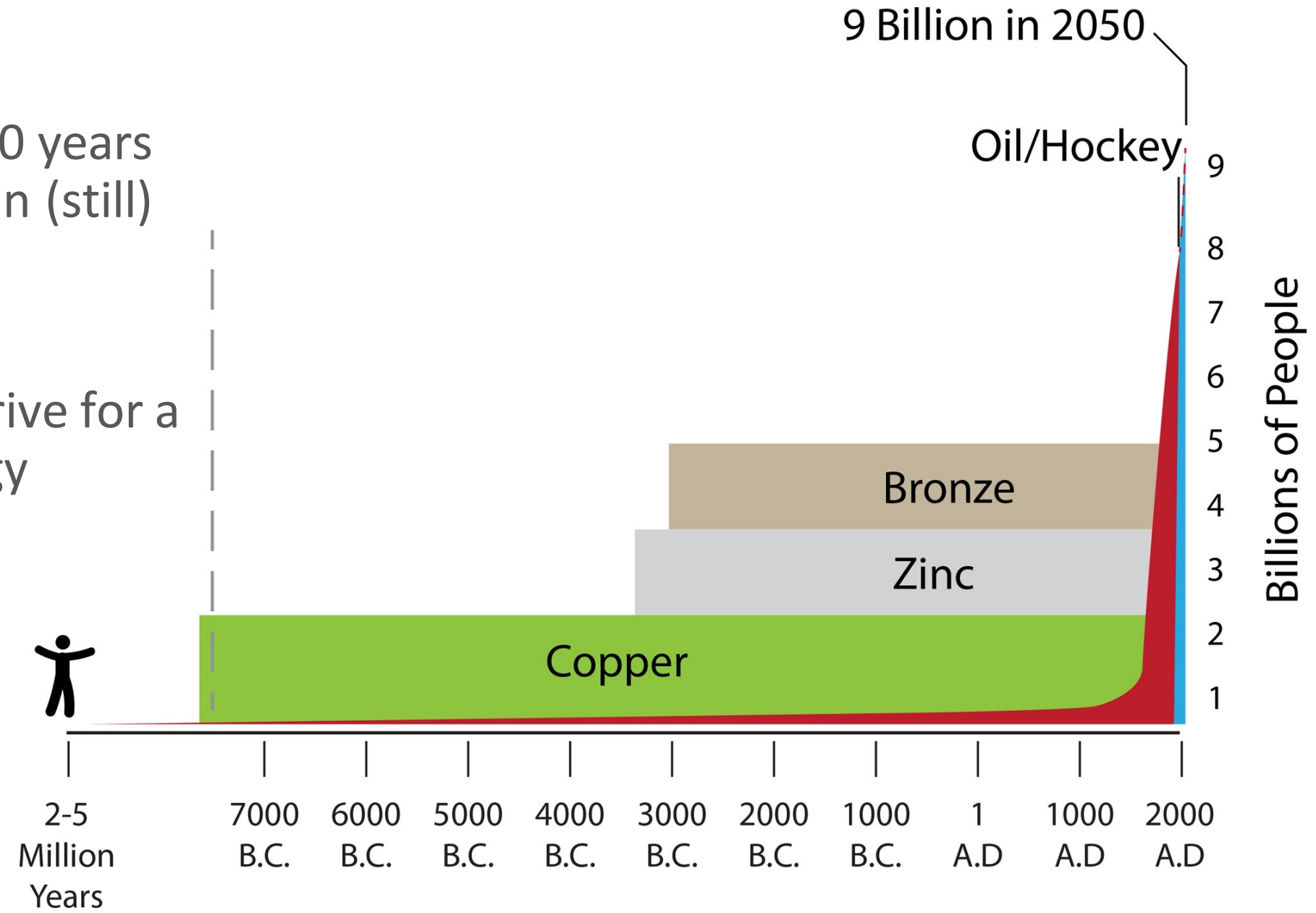
- Is there a crisis?
- ANCSA history
- Benefits of responsible mineral development
- Challenges
- Opportunities
- What's next?

“mining is not everything, but without mining everything is nothing”

Max Plank; Nobel prize winner in physics and known as the originator of quantum theory

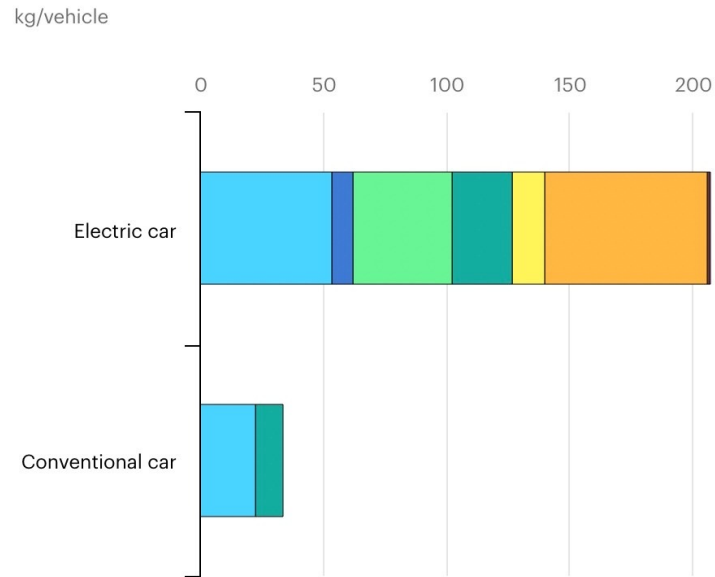
Framing Demand for Metals: The population will increase

- After over 7,000 years metals are again (still) important!
- And now the drive for a net zero “energy transition.”



Critical Minerals and Energy Transition

Minerals used in electric cars compared to conventional cars



Nickel	14x
Aluminum	14x
Phosphorus	13x
Iron	13x
Copper	10x
Graphite	10x
Lithium	9x
Cobalt	3x
Manganese	3x

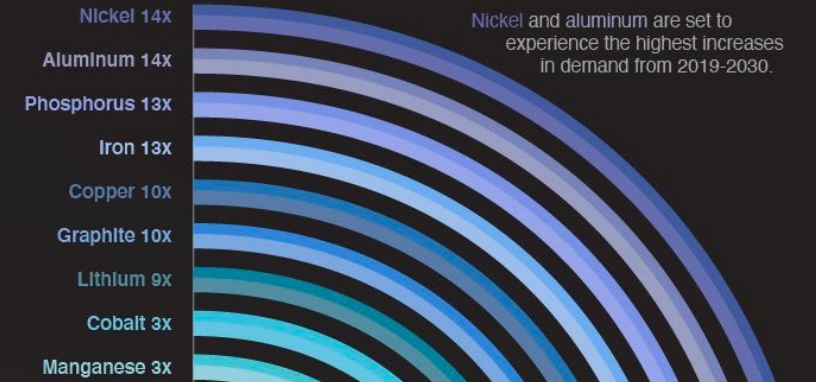
IEA. All Rights Reserved

- Copper
- Lithium
- Nickel
- Manganese
- Cobalt
- Graphite
- Zinc
- Rare earths
- Others

ELECTRIC VEHICLES DRIVE UP THE DEMAND FOR METALS

Here's a look at the expected demand growth for some of the metals required for the production of electric vehicles.

2019-2030 Demand Growth Coming from the EV Industry



Nickel and aluminum are set to experience the highest increases in demand from 2019-2030.

There is currently a metal supply surplus due to a sudden decline in EV sales at the start of the pandemic, but sales are now bouncing back

The demand for EVs is driving the demand for metals, with EVs expected to represent 58% of car sales by 2040.



Copper, nickel, and lithium are some of the key metals used in EV battery production.

Source: Bloomberg



Modern technologies have become more mineral intensive



H																	He	
Li	Be											B	C	N	O	F	Ne	
Na	Mg											Al	Si	P	S	Cl	Ar	
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe	
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cp			Fl			Lv	

Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr

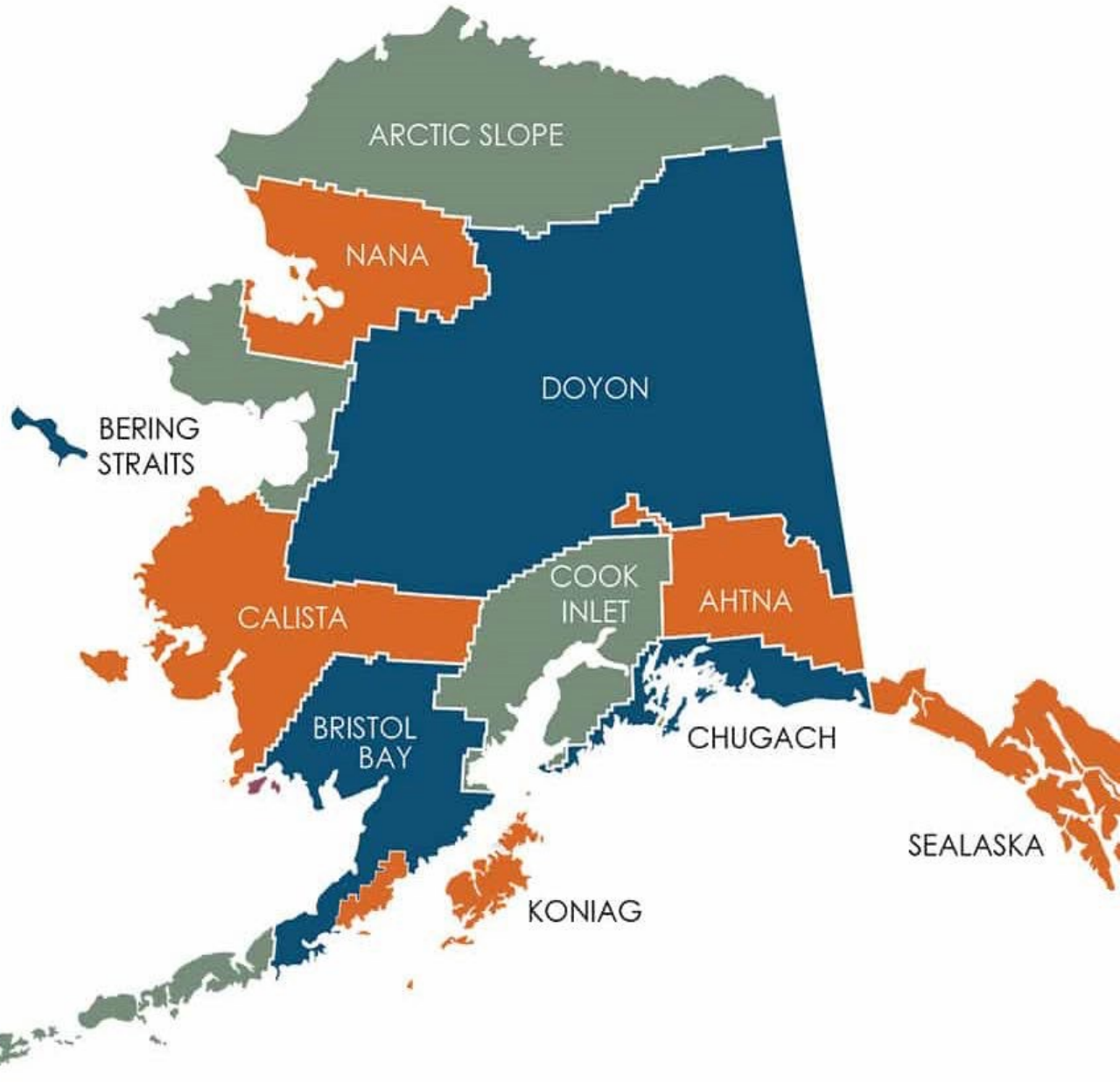


H																	He	
Li	Be											B	C	N	O	F	Ne	
Na	Mg											Al	Si	P	S	Cl	Ar	
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe	
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cp			Fl			Lv	

Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr

Alaska Native Claims Settlement Act Review

1867	1912	1959	1971
<p>The Treaty of Cession: The U.S. purchases Alaska from Russia</p> <p>Treaty outlines terms for sale of Alaska from Russia to the U.S. U.S. pays \$7.2M for Alaska. Native land claims left unresolved in sale.</p>	<p>The Second Organic Act for Alaska, now a territory</p> <p>Establishes Alaska as an incorporated U.S. Territory, establishes a territorial government.</p>	<p>The Alaska Statehood Act</p> <p>Alaska becomes the 49th state on Jan. 3, 1959.</p>	<p>The Alaska Native Claims Settlement Act</p> <p>Commercial quantities of resources discovered, settled land claims with 44 million acres, over 200 native corporations.</p>



Alaska Native Claims Settlement Act - 1971



Lands

The ANCs are some of the largest private landowners in the nation. Land selections were complex.



Business

ANCs were established as for-profit corporations. Cover most industries from in-village to global business operations.



Shareholders

Social and economic benefits for our shareholders at forefront of our missions.



Partnerships

Planning for the success of our future requires meaningful relationships across Alaska.

Before ESG was a thing! ESG is at the core of ANCs.

1970s

- Legislation and land selections
- Social and economic benefits



Today = mostly the same

- Responsible development
- Protection of subsistence resources
- Shareholder benefits

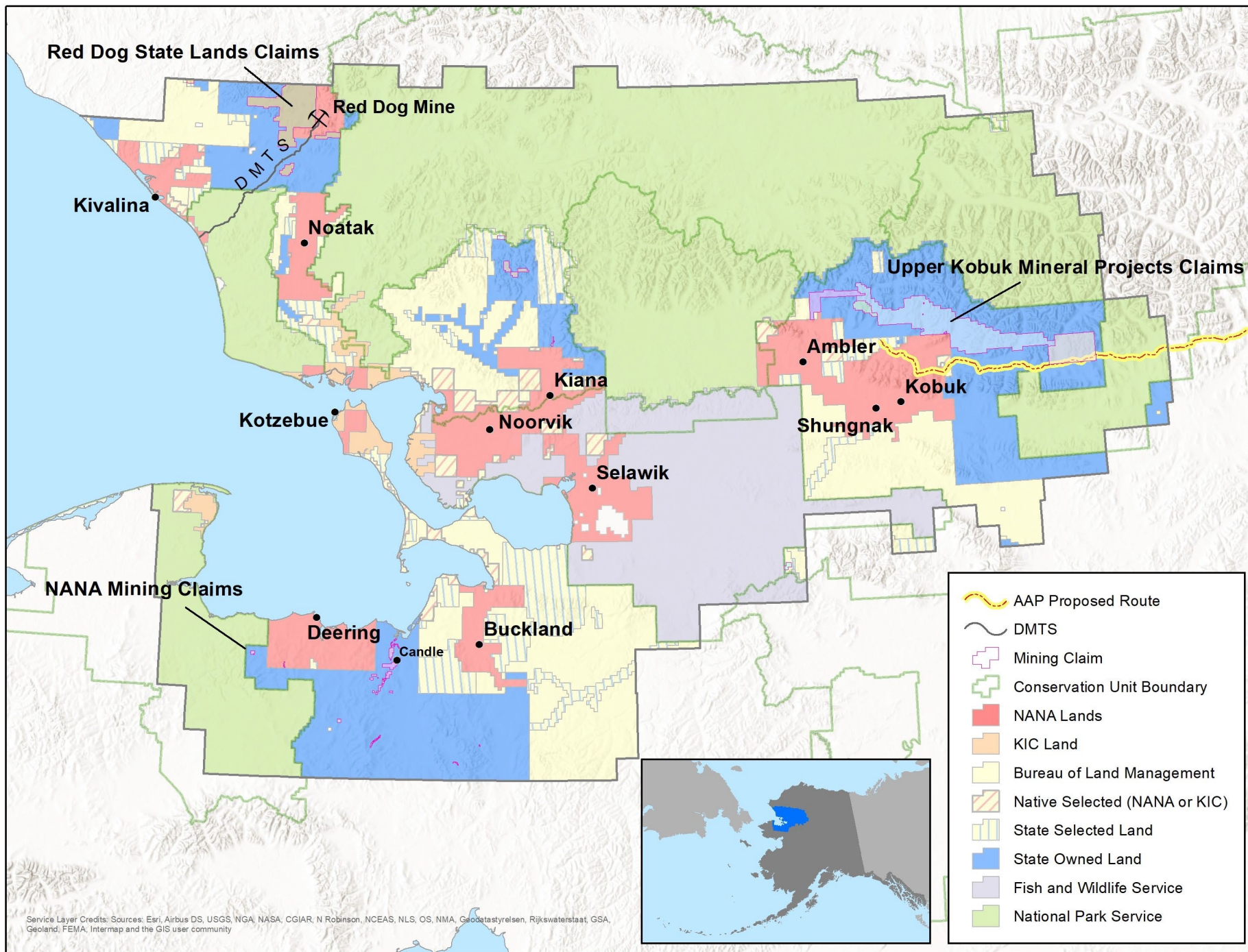


70% of resource revenues received are shared

- An ANC can retain 30% plus its “allocable share”

50% of an ANCs “allocable share” is shared with its villages and “at-large” shareholders

Natural Resource revenue has been critical for ANC’s
(over \$4B in revenue shared (\$3B through 2015))



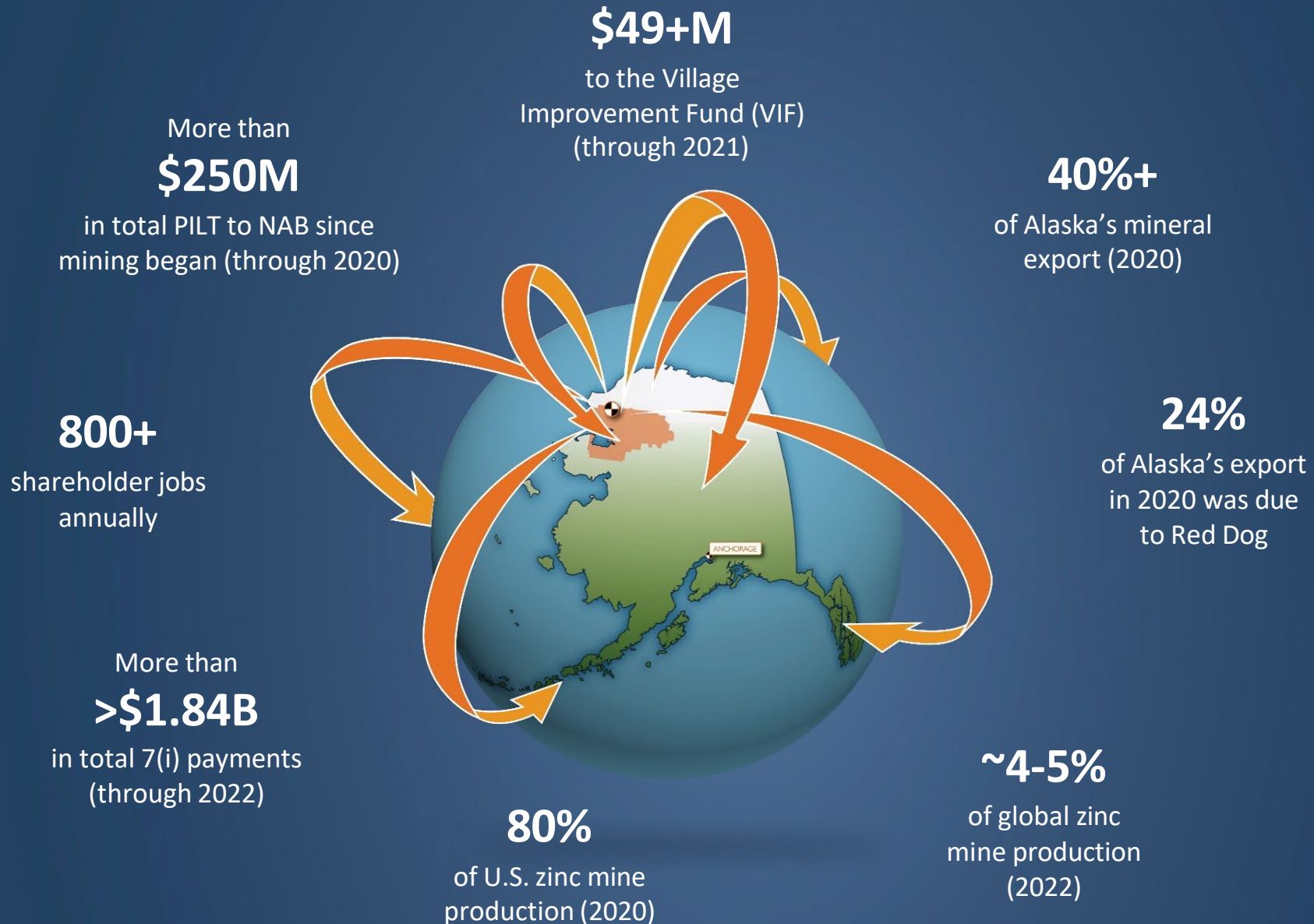
Responsible Development at Red Dog Mine



Deposit Locations – NANA Land and State Lands



Mining Benefits of Red Dog Mine

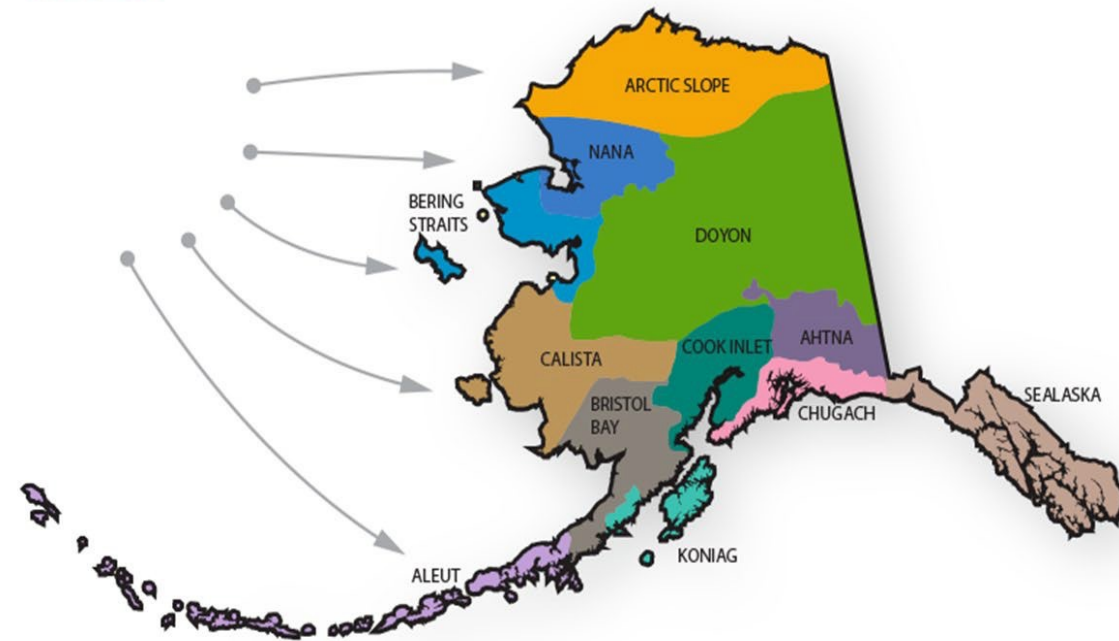
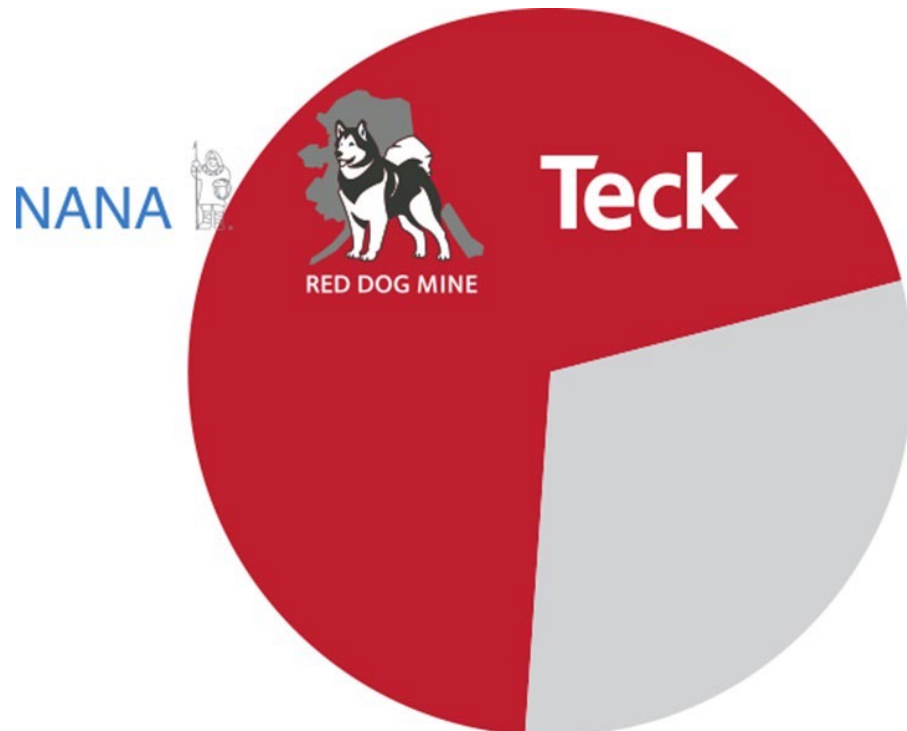


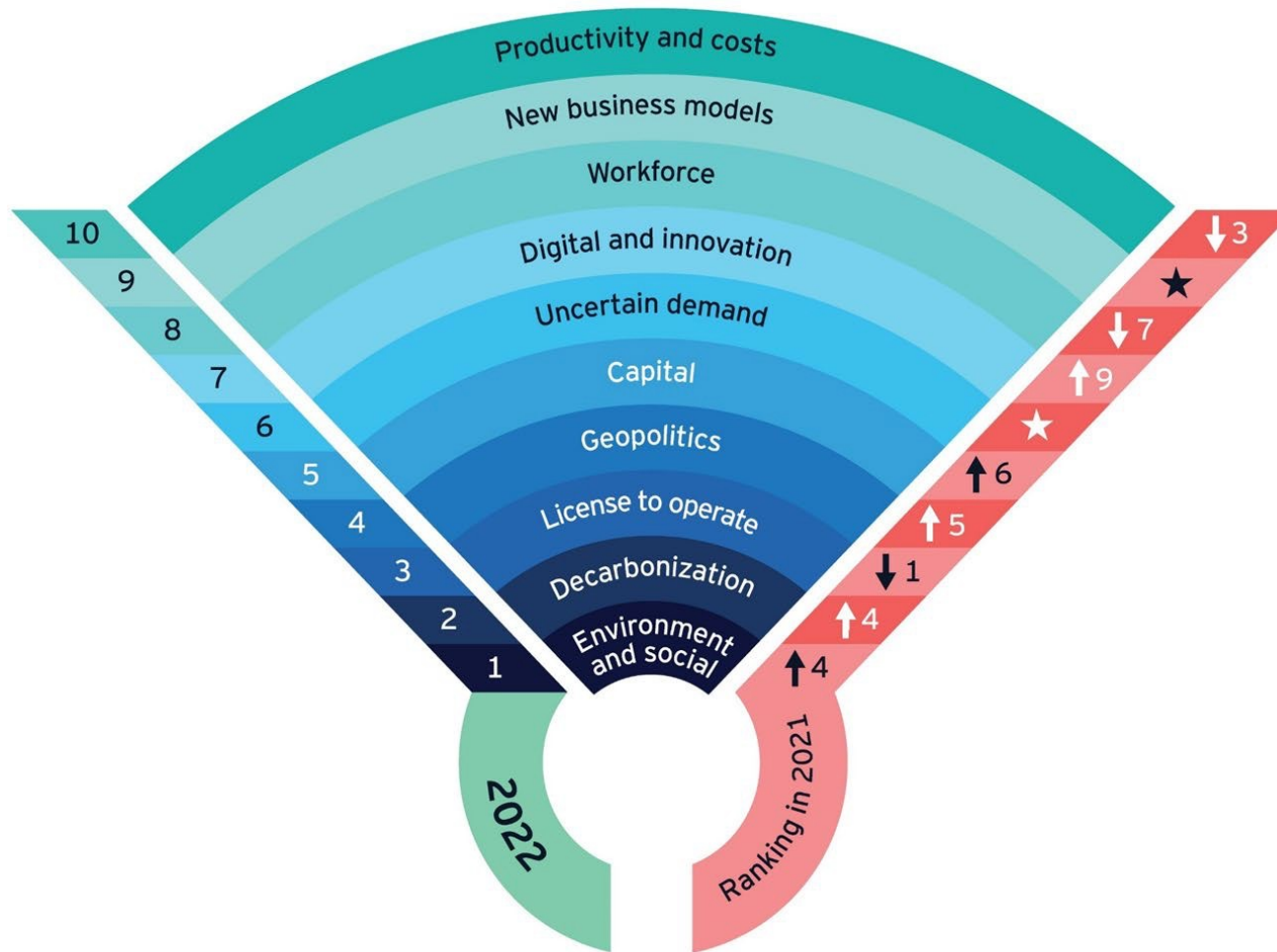
Mining Benefits All of Alaska: NANA via Red Dog

- **>\$1.84B in total 7(i) contributions through 2022**
- In 7 years (FY14-FY20) 69% of 7(i) came from Red Dog.



Teck





↑ Up from 2021 ↓ Down from 2021 — Same as 2021 ★ New to the radar

Oh, we are slow....18-20 years to a mine and...

- for every 1000-3000 prospects, <2% go to prefeasibility.

	Exploration		Prefeasibility		Feasibility		Permitting/ Design		Construction
Resource	Inferred	Positive Order of Magnitude Study	Indicated	Positive Prefeasibility Study	Measured	Positive Feasibility Study	Measured	Decision to Mine	2-3 years \$100's M
Reserves	Assumed		Probable		Proven/Prob.		Proven		
Mine	Sketch		Preliminary		Firm		Final		
Processing	Assumed		Options		Selected		Optimized		
Market	Assumed		Options		Letter of Intent		Agreement		
Environment Impact	Concept		Approximate		Near Complete		Completed		
EIS	Conceptual		Scoped		Approved		Final		
Closure Plan	Concept		Preliminary		Advanced		Granted		
Permits	Assumed		Identified		Applied for		Agreement		
Community	Fatal Flaws		Issues		Negotiations		Final		
Project Schedule	Assumed		Approximate		Firm		Final		
Cost Estimate	±30%		15-25%		±15%		±5%		
Economics	Est. ±30%		Probable ±15%		Firm ±15%		Finalized		
Finance	Assumed		Options		Negotiations		In place		
Time	A few years		1-2 years		A few years		???		
Cost of Stage	\$5-10M	\$10-30M	\$30 – 100M	\$5-10M					



Not enough geologists, engineers, scientists, technicians



ANSEP Acceleration Academy
Advanced Academics and Career Exploration

Acceleration Academy Students earn three years of college credits while in high school


3 years of free college credits = **\$75,000** savings in college costs

Fall 2022 locations:

- Anchorage
- Mat-Su
- Bethel
- Kotzebue
- Juneau
- Dillingham

Eliminate university remediation and the associated costs to the State of Alaska

Eighth grade to a Bachelor's degree in five years or less

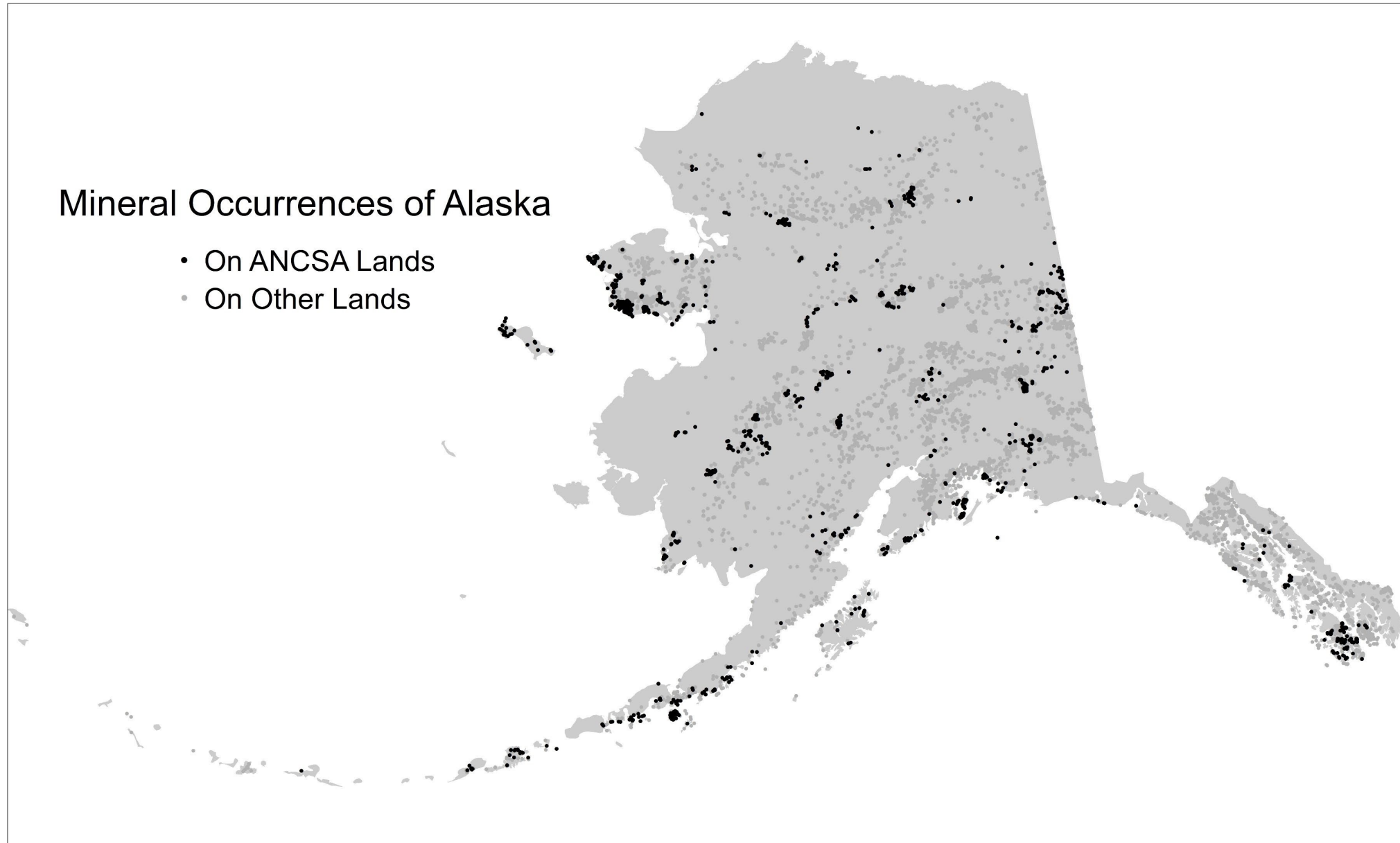


Red Dog: America's Largest Critical Minerals Mine

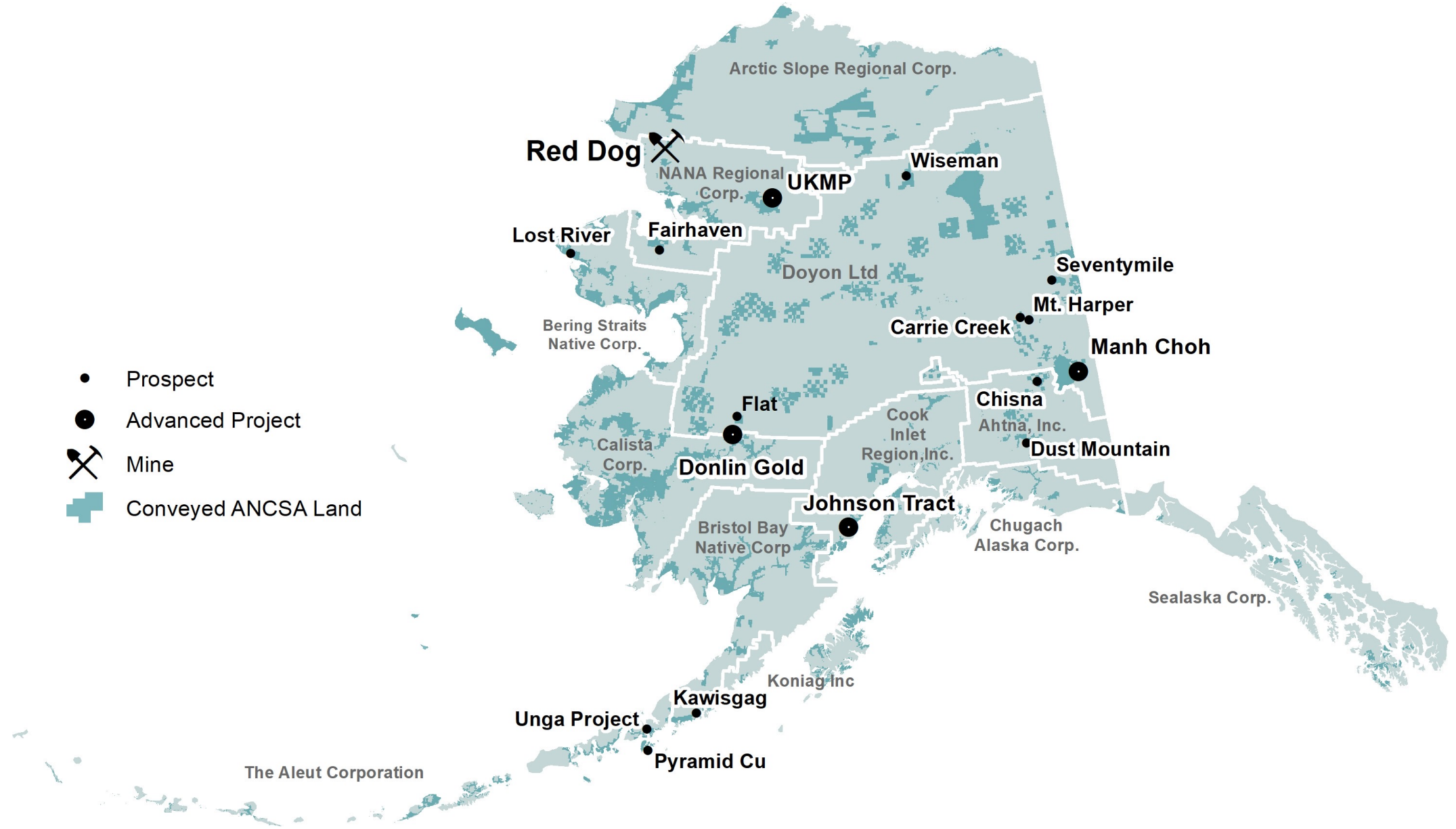
“With zinc added to the list of minerals and metals critical to the U.S., world-class mine in Northwest Alaska is now top dog”

- North of 60 Mining News – March 4, 2022





ANCSA Lands: 44 Million Acres of Sustainability



What's next? ANCs and Alaska are well positioned.

Metal production, processing and manufacturing is not ready to accommodate demand (project pipeline is small and lead time long due to metals cycles, permitting, logistics, financing, workforce, social pressures)...

Big Picture

Alaska has the mineral resource potential and ANCs embody the principles of ESG.

ANCs and AK

Federal

Federal Policies need to align with their actions.



Taikuu
Quyanaqpak