

A close-up photograph of a person's hand holding a large, irregular gold nugget. The nugget is bright yellow and has a rough, textured surface. The background is a dark, out-of-focus surface.

Southeast Conference Mid-Session Summit

Deantha Crockett, Executive Director
Alaska Miners Association
March 13, 2014

Alaska Miners Association

Over 1,500 members

Prospectors and Placer Miners

Large-scale mines

Vendors, suppliers

Seven statewide branches

Established in 1939



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Alaska Mining

Importance of minerals in our lives

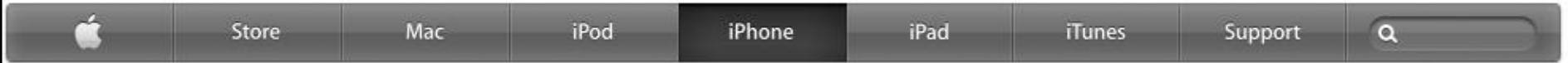
Landscape of Alaska's mines

Why mine in Alaska?

Challenges to mining in Alaska

Opportunities for mining in Alaska

Minerals Make Life



iPhone

[Why iPhone](#)

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[Design](#)

[Built-in Apps](#)

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iPhone 5

Loving it is easy.
That's why so many people do.



Minerals Make Life

Broken-down Raw Materials of Worth in Your iPhone 5



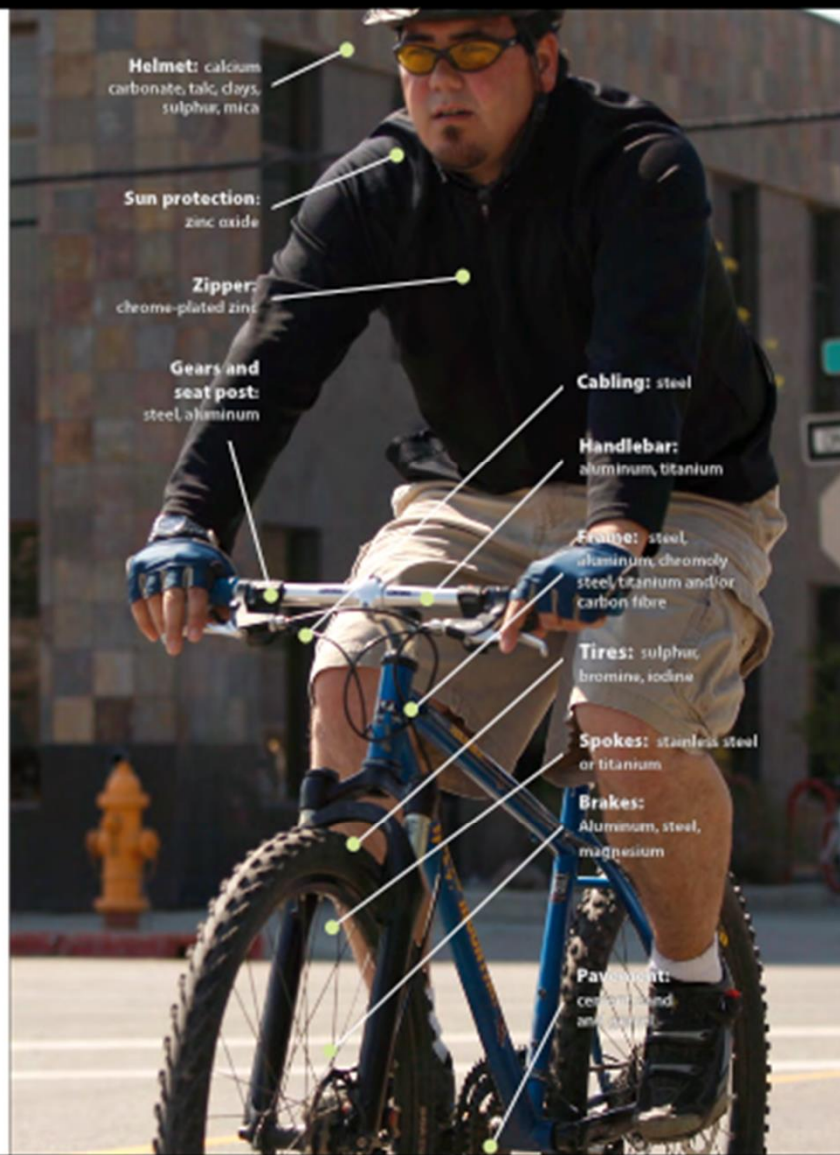
THE BIRTH OF BIKING

aluminum
bromine
Calcium
carbon
cement
chromium
clay
gravel
iodine
magnesium
mica
molybdenum
sand
steel
sulphur
talc
titanium
zinc

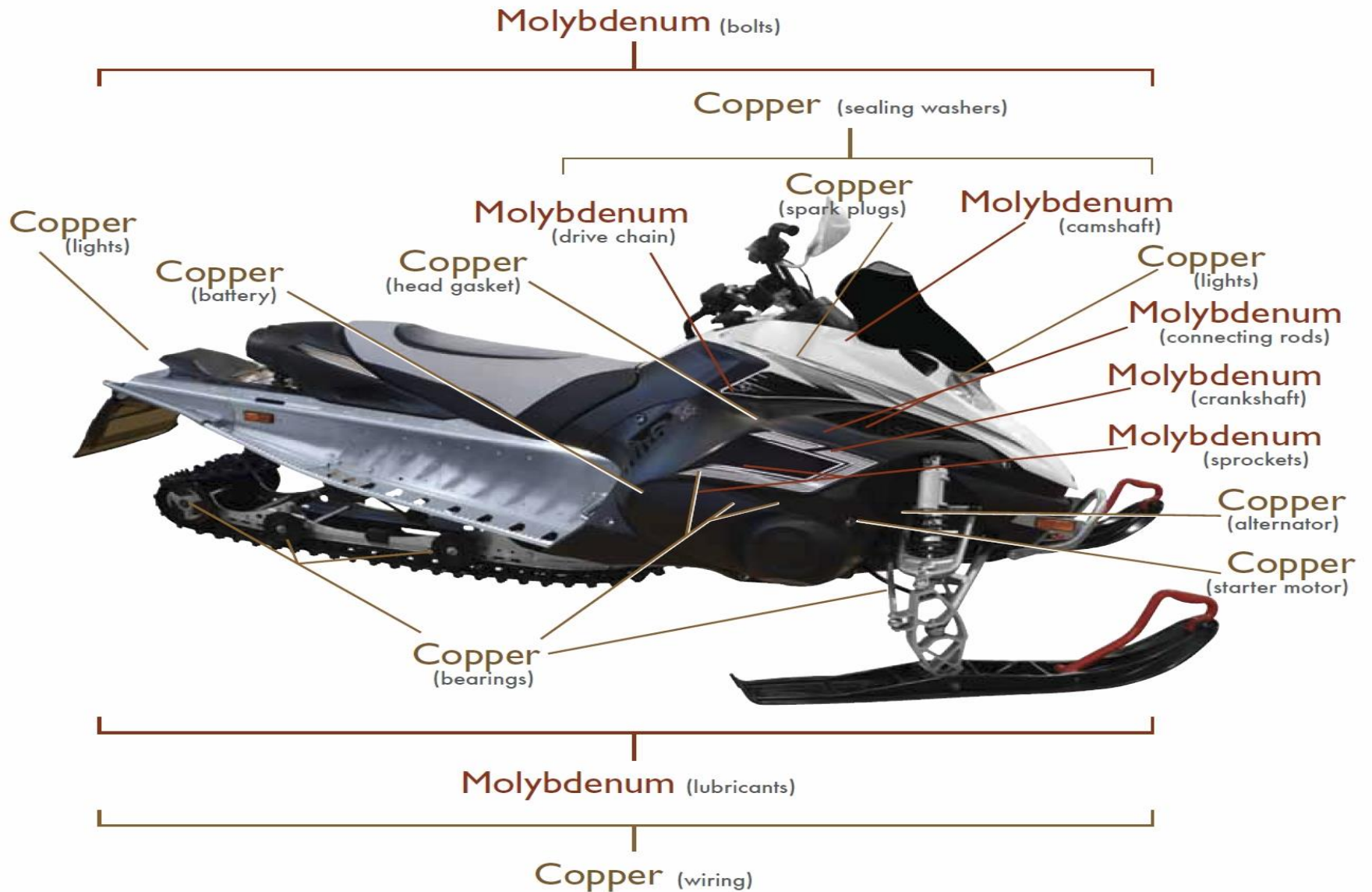


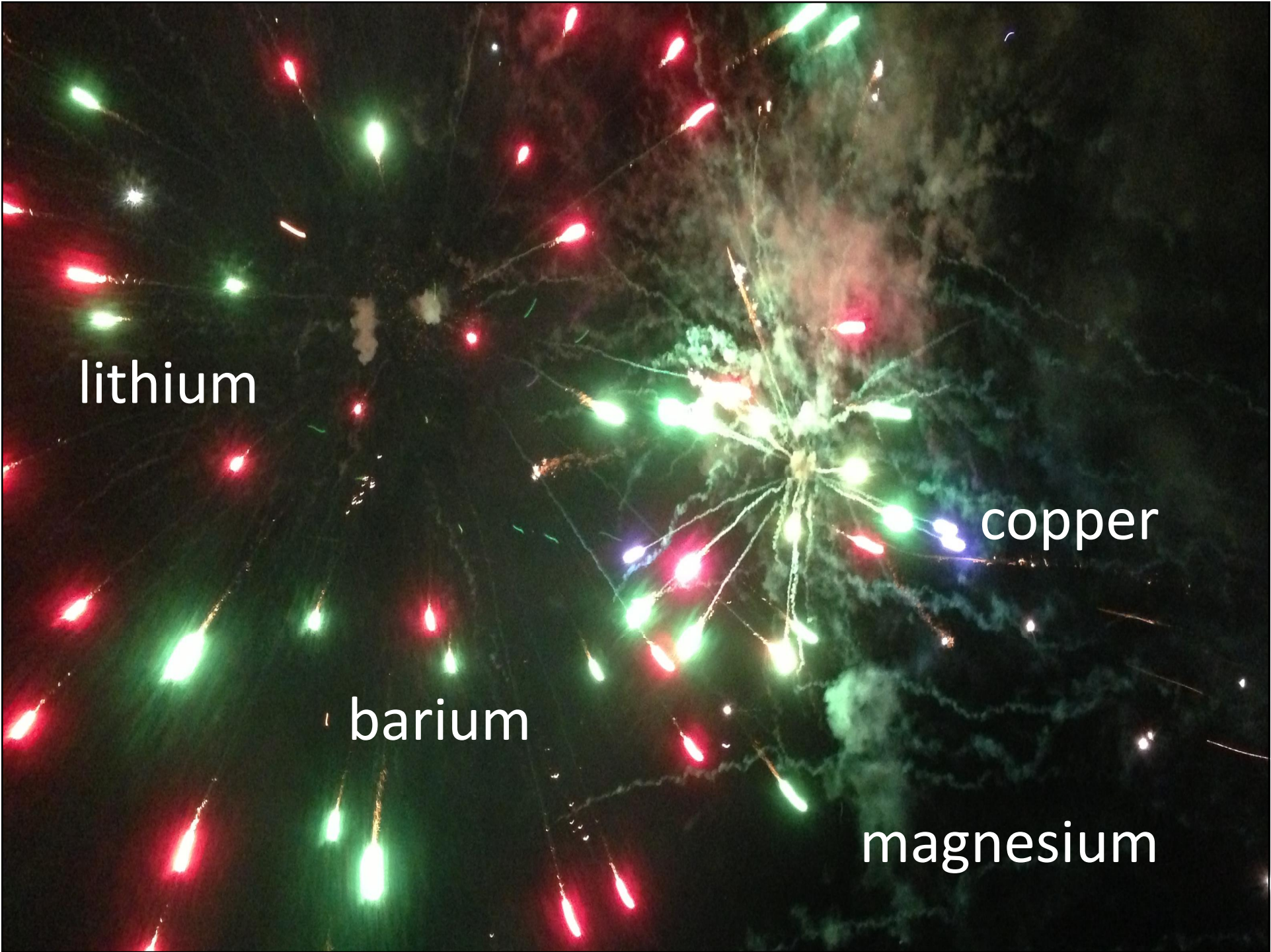
Did you know that without mining the bicycle would never have been invented?

In fact, without mining, none of the everyday products we take for granted would exist. If you look beneath the surface, you'll find that mining has something to do with everything.



Minerals Make Life





lithium

barium

magnesium

copper

Minerals Make Life



"RELIABLE ACCESS TO CRITICAL MINERALS IS A MATTER OF BOTH ECONOMIC AND GEOSTRATEGIC IMPORTANCE TO THE UNITED STATES. ALTHOUGH CONCERN ABOUT ACCESS TO MINERALS WAXES AND WANES, IT IS RISING NOW DUE TO INCREASING DEMAND, NEW COMPETITORS CAPTURING LARGE MARKET SHARES AND OTHER TRENDS THAT DEFY EASY PREDICTION. THESE SAME TRENDS CAN INTERFERE WITH FOREIGN AND DEFENSE POLICY GOALS AND GIVE MINERAL SUPPLIERS EASY LEVERAGE OVER THE UNITED STATES AND OTHER COUNTRIES RELIANT ON GLOBAL SUPPLY CHAINS."

CHRISTINE PARTHMORE
FORMER FELLOW
CENTER FOR A NEW AMERICAN SECURITY

Top 10 Standard Materials

Used by Department of Defense

Regular DoD
Demand in STONS/YR

1	ALUMINUM METAL	275,219.8
2	COPPER	105,625.8
3	LEAD	88,464.8
4	FLUORSPAR ACID GRADE	56,544.5
5	ZINC	51,085.5
6	RUBBER (NATURAL)	29,490.3
7	MANGANESE ORE CHEM/METAL GRADE	25,041.8
8	NICKEL	17,311.8
9	CHROMIUM FERRO (FERROCHROMIUM)	9,667.8
10	CHROMITE ORE (ALL GRADES)	9,630.5

Source: "Reconfiguration of the National Defense Stockpile Report to Congress," U.S. Department of Defense, April 2009.



Rhenium
Nickel



Lanthanum
Gadolinium
Yttrium



Aluminum
Copper



Manganese
Molybdenum



Nearly 750,000
Tons
of Minerals Annually

335 tons steel

700 lbs rare earths

molybdenum

3 tons aluminum

zinc

4.7 tons copper



Alaska's Mining Projects



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

Mine permitting is a mixture of State, Federal and, potentially, 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 Section 404 Dredge and Fill Permit
- "US ACOE Section 10 Rivers and Harbors Act
- "US ACOE Section 106 Historical and Cultural Resources Protection
- "NMFS Threatened and Endangered Species Act Consultation
- "NMFS Marine Mammal Protection Act
- "NMFS Essential Fish Habitat
- "NMFS Fish and Wildlife Coordination Act
- "USFWS Threatened and Endangered Species Act Consultation
- "USFWS Bald Eagle Protection Act Clearance
- "USFWS Migratory Bird Protection
- "USFWS Fish and Wildlife Coordination Act

These are only some of the permits required!

Responsible Closure



True North (Fairbanks)

- “ Alaska law (AS 27.19) requires that a mine site must be returned to a stable condition compatible with the post-mining land use
- “ Financial assurance reassessed every 5 years
- “ Applies equally to US and non-US companies

Reclamation of historic dredging area



Poker Flats



July 2003



July 2012

9 Years
Later



Mining “Works” for Alaska

4,600 mining jobs
9,100 total in
industry **\$100,000 average
wage**

\$630 million payroll

Jobs for residents of 80
Alaskan communities



Mining “Works” for Alaska

\$17 million in revenues to local governments

\$150 million in revenues to state government

\$144 million to Alaska Native Corporations

\$500 million to over 600 Alaskan businesses for purchases of goods and services



Greens Creek Mine - Juneau



Kensington Mine - Juneau



Niblack – Prince of Wales Island



Bokan–Dotson Ridge Prince of Wales Island



What in the world is a Rare Earth Element?

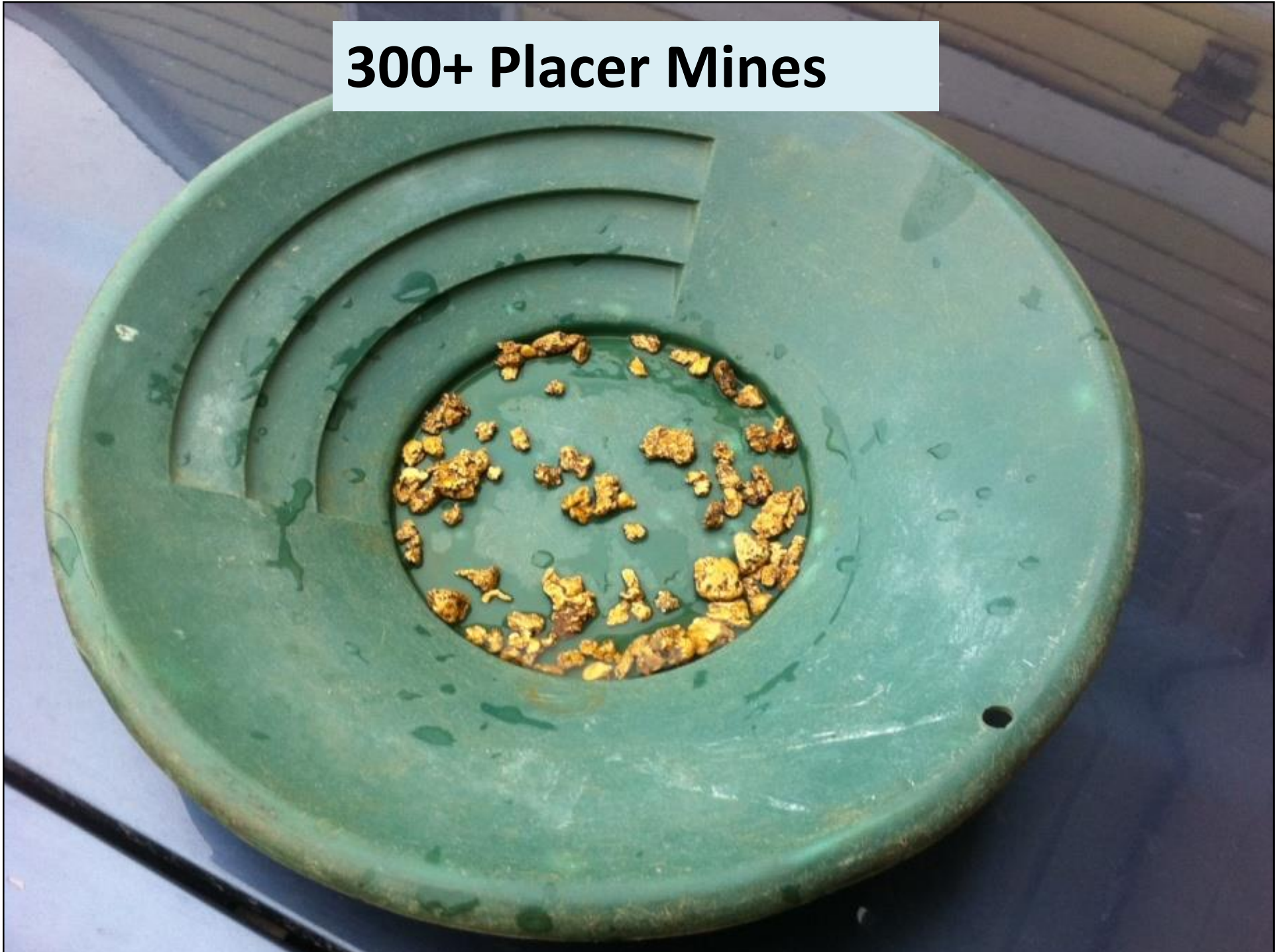
UCORE – Bokan Mountain

Heavy vs Light Rare Earth Elements

	Pure Metal Oxide	Principle Uses	Price US \$ / kg *
light	Lanthanum Oxide	Re-chargeable batteries	\$ 173
	Cerium Oxide	Catalysts, glass, polishing	\$ 157
	Praseodymium Oxide	Magnets, glass colourant	\$ 250
	Neodymium Oxide	Magnets, lasers, glass	\$ 335
	Samarium Oxide	Magnets, lighting, lasers	\$ 129
heavy	Europium Oxide	TV colour phosphors:red	\$ 5,860
	Terbium Oxide	Military: Guided missiles, smart weapons	\$ 4,500
	Dysprosium Oxide	Military: Lasers, high powered magnets	\$ 2,830
	Gadolinium Oxide	Magnets, superconductors	\$ 201
	Yttrium Oxide	Phosphors, ceramics, lasers	\$ 180

* Rounded from source: metal-pages.com; Mar 2011

300+ Placer Mines



A close-up photograph of a person's hand holding a large, irregular gold nugget. The nugget is bright yellow and has a rough, textured surface. The background is a blurred, warm-toned surface, possibly a wooden table or a piece of equipment.

Challenges to Alaska Mining

- “ Public perception, NIMBY
- “ Attacks on permitting process
- “ unpredictable federal regulation/overreach
- “ Initiatives, Litigation
- “ Exploration investment down
- “ Commodity prices down
- “ Costs NOT down: ENERGY, labor
- “ Proximity of mines to existing infrastructure

No such thing as a "little bit" pregnant

The Pebble Partnership claims it will only damage a small part of America's richest salmon spawning streams in Alaska's Bristol Bay.

But Pebble Mine would sit 950 feet above Bristol Bay, which produces 51% of the wild sockeye salmon in North America – and we all know what flows downhill.

Every large gold/copper mine in the world has had environmental disasters. Every one.

Pebble Mine is a Trojan Horse that must never be allowed through the gates of Bristol Bay.

The only "safe mining" in Bristol Bay, is **ABSTINENCE.**



**RENEWABLE
RESOURCES
COALITION**

NUNAMTA AULUKESTAI
"Caretakers of our Land"

Operating Costs Keep Rising

	2003	2013
Average mining salary	\$70,750	\$100,000
6 yard underground loader	\$570,000	\$1,100,000
40 ton underground haul truck	\$560,000	\$1,300,000

Opportunities

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Tremendous mineral potential
Alaska is a secure jurisdiction
Strong State permitting system
Supportive lawmakers in Alaska
Commitment to workforce development
Ability to justify infrastructure
Support from Alaskan communities

Mining Technology at Work



Mining Day – May 10th



Seward, AK



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What can YOU do?

- “ Talk to your legislators
- “ Talk to the Alaska Delegation
- “ Talk to your friends, family, neighbors, colleagues
- “ Talk to me!

Thank you!



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