

Mining Industry Briefing

Alaska Miners Association
Council of Alaska Producers

Joint House/Senate Resources Committee
February 27, 2013



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Mining Works for Alaska

- ▶ Seven producing large mines
- ▶ 60 exploration projects >\$1M
- ▶ >4,800 direct mining jobs
- ▶ \$100,000 average annual wage



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Mining Activity in Alaska

This map illustrates the distribution of mining activities across Alaska. It features a legend with three categories:

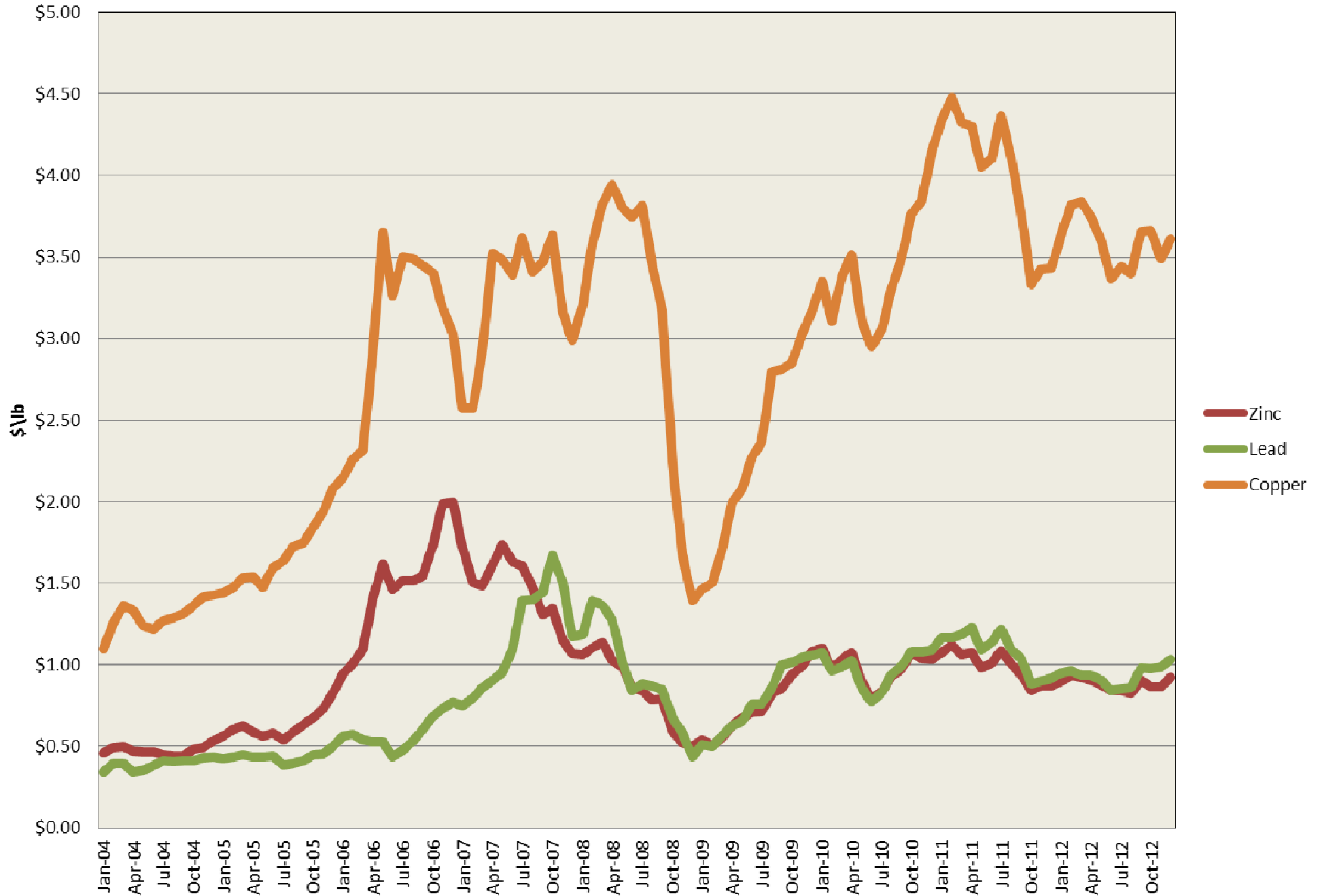
- Producing Mine:** Indicated by a red triangle icon.
- Advanced Exploration Project:** Indicated by a blue square icon.
- Community with Mining Industry Employees:** Indicated by a grey circle icon.

Key locations and features labeled on the map include:

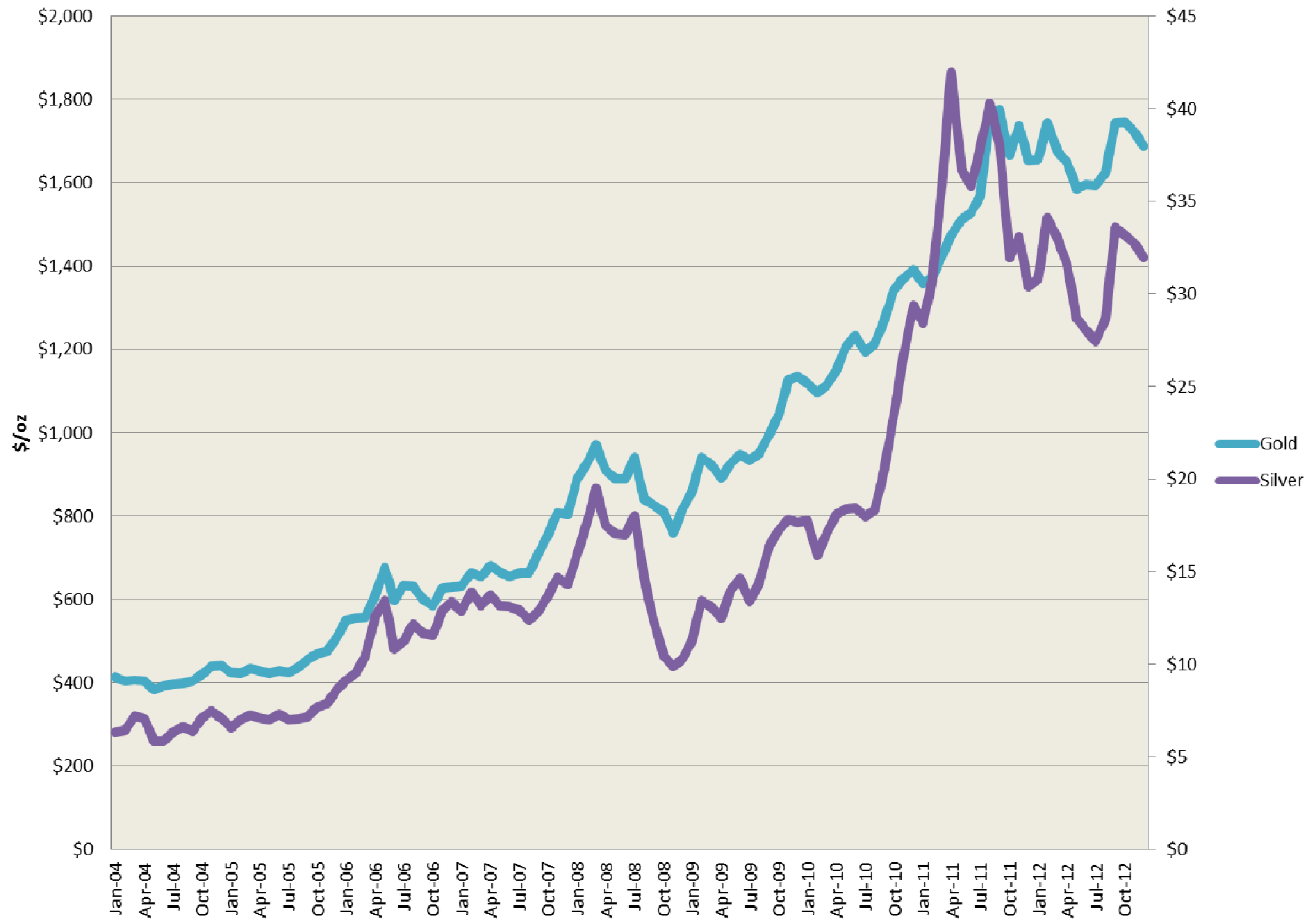
- Geographic Features:** Arctic Ocean, Bering Strait, Norton Sound, Bristol Bay, Kodiak Island, Alaska Peninsula, Cook Inlet, Kenai Peninsula, Prince William Sound, and the Gulf of Alaska.
- Rivers and Waterways:** Yukon River, Tanana River, Copper River, Kuskokwim, and the Richardson Highway.
- Communities and Towns:** Fairbanks, Anchorage, Juneau, and various smaller communities like Livengood, Chitna, and Pebble.
- Mining Projects:**
 - Producing Mines:** Red Dog, Fort Knox, Usibelli, Chitna, Pebble, and several in the Juneau area.
 - Advanced Exploration Projects:** Upper Kobuk Mineral Projects, Nixon Fork, Donlin Gold, and Wishbone Hill.

The map also shows the state boundary with Canada and the location of the Bering Sea.

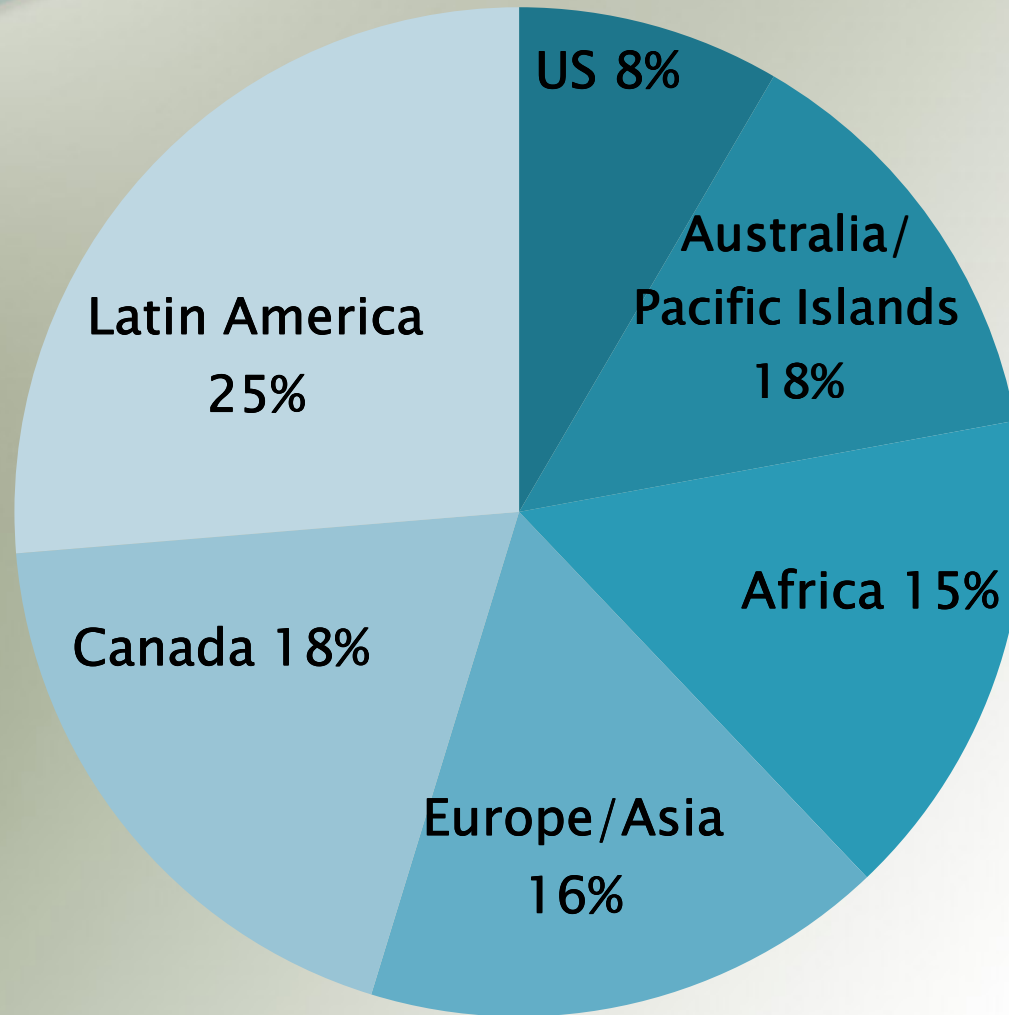
Monthly Base Metal Prices 2004-2012



Monthly Precious Metal Prices 2004-2012



Exploration spending by region



Source: Metals Economics Group, *Global nonferrous exploration budgets by region, 2011*



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Alaska Permanent Fund

- ▶ 292 investments in metals mining and fabricating
- ▶ \$567 million value
- ▶ Includes shares in Anglo American, Barrick, Coeur d'Alene Mines, Hecla, International Tower Hill Mines, Kinross, Northern Dynasty, NovaGold, Sumitomo, Teck.

Source: www.apfc.org, 12/31/2012



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Alaska's Advantages and Challenges

- ▶ Rich resource potential
- ▶ High costs (energy, labor, transportation)
- ▶ Northern climate
- ▶ Lack of infrastructure (roads, ports, energy)
- ▶ Litigation costs (money and time)



Gold – Uses and Production

- ▶ *Historically significant, modern importance*
- ▶ *Computers and cell phones:* microchips, touch tone telephone typically contains 33 gold-plated contacts
- ▶ *Medical:* used in pacemakers and stents; dentistry
- ▶ *Sun-block:* astronauts wear gold-plated visors to protect their eyes from the sun



Production	Ounces
Annual Worldwide	~86 Million
Annual United States	~7.3 Million
Annual Alaska	>900,000
All Alaska 1880–2010	>40 Million



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Gold – Producers Hardrock

- ▶ Kinross – Fort Knox
- ▶ Sumitomo Metal Mining Pogo
- ▶ Fire River Gold – Nixon Fork
- ▶ Coeur Alaska Kensington Gold Mine
- ▶ Hecla Greens Creek Mine



Gold – Placer Mining

- ▶ >300 Placer Mines
- ▶ >85,000 Oz Mined



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Gold – Developers

- ▶ ITH Mines – Livengood Project
- ▶ Barrick and Novagold – Donlin Gold
- ▶ Heatherdale Resources – Niblack
- ▶ Pebble Partnership – Pebble

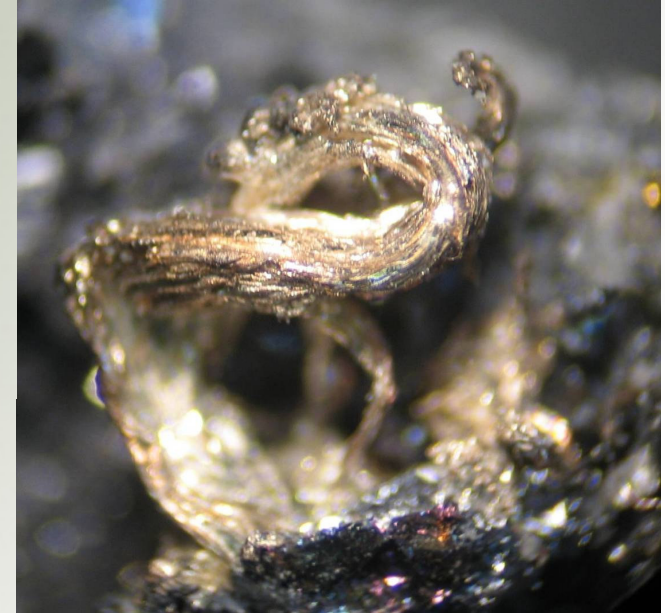


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Silver – Uses and Production

- ▶ Best thermal and electrical conductor of all the metals
- ▶ *Medical*: most powerful treatment for burns is silvadene (silver sulfadiazine), which is used in every hospital in North America to promote healing and reduce infection
- ▶ *Electronics*: electrical switches
- ▶ *Home*: rear defrost in many cars, button batteries in cameras and watches



Production	Ounces
Annual Worldwide	~771 Million
Annual United States	~34 Million
Annual Alaska	~13 Million
All Alaska 1880–2010	>140 Million

Silver – Producers

- ▶ Hecla Greens Creek Mine
- ▶ Teck/NANA Red Dog Mine



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Lead and Zinc – Uses and Production

► Zinc

- *Anti-corrosive*: galvanized metal (guard rails on highways, underside of vehicles, roofs)
- *Zinc oxide*: sunscreen
- *Health*: essential for life – growth, development, immune system.

► Lead

- *Most common use*: lead-acid batteries
- *Hunting*: bullets and shot
- *Health*: radiation shield



Production	Lead Tons	Zinc Tons
Annual Worldwide	~5.7 Million	~14 Million
Annual United States	~380,000	~825,000
Annual Alaska	~155,000	~690,000
All Alaska 1880–2010	>2 Million	>9.7 Million



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Lead and Zinc

► Producers

- Teck/NANA Red Dog Mine
- Hecla Greens Creek Mine

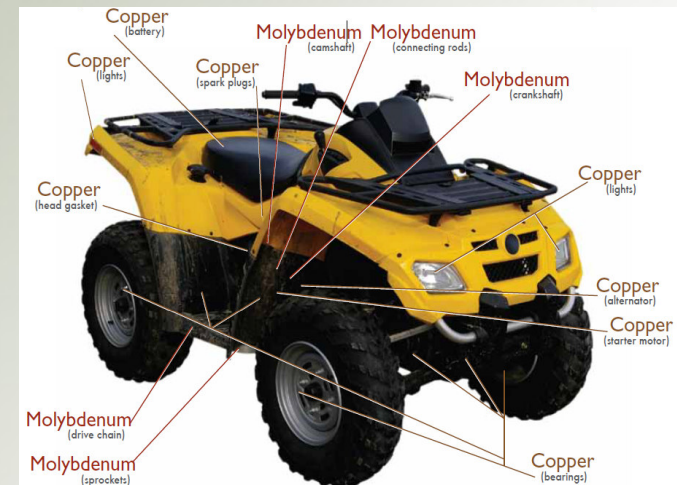
► Developers

- Heatherdale Resources – Niblack



Copper– Uses and Production

- ▶ Copper – third most widely consumed metal in the world
- ▶ *Wiring and electrical components:* essential for snowmachines, fishing boats, airplanes, and buildings



Production	Pounds
Annual Worldwide	~37.4 Billion
Annual United States	~2.5 Billion
Annual Alaska	N/A
<i>All Alaska 1880–2010</i>	<i>> 1.3 Billion</i>



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Copper– Developers

- ▶ NovaCopper/NANA – Upper Kobuk Mineral Project
- ▶ Pebble Partnership – Pebble
- ▶ Heatherdale Resources – Niblack



Coal

- ▶ Production
 - Usibelli Coal Mine
- ▶ Development
 - Wishbone Hill
 - Chuitna Coal Project



Rare Earth Elements

- ▶ Rich resources in Alaska – especially valuable heavy REEs
- ▶ AK could play critical role in domestic supply
- ▶ Used in electronics, radar systems, avionics, satellites



33 lbs of REEs in each hybrid car



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Alaska Mining Activity in 2012

- ▶ \$275 million Exploration Expenditures
 - >60 exploration projects spending more than \$100,000 annually
- ▶ \$270 million Development Expenditures
 - Mine construction and other capital investments
- ▶ \$3 billion in gross mineral production
 - \$80 million from 120 active RSG operations



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Employment and Payroll

- ▶ 4,800 direct jobs
- ▶ 9,500 total direct and indirect
- ▶ \$650 million total payroll
- ▶ Average annual wage of \$100,000
- ▶ Residents of 120 communities



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Payments to Local Governments

- ▶ \$21 million to local governments:
 - \$13 million in PILT to NWAB
 - \$5.2 million to FNSB
 - \$2.7 million to CBJ
 - Denali, City of Nome, etc.



Noatak School



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Payments to State Government

- ▶ \$80.4 million in royalties, rents, fees, and taxes
- ▶ \$56.9 million in other state-government related revenues, including:
 - \$28 million to Alaska Railroad (moving coal, sand, gravel)
 - \$25.5 million to AIDEA (DeLong Mountain Regional Transportation System, Skagway Ore Terminal)
 - \$3.4 million to Alaska Mental Health Trust



Benefits to Alaska Native Corporations

- ▶ Nearly all Alaska Native corporations benefit:
 - 7(i) and 7(j) royalty sharing
 - Jobs for shareholders
 - Business partnerships



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Benefits to Alaska Native Corporations

- \$124.7 million in net proceeds from Red Dog Operations to NANA – \$76.4 million distributed to other ANCSA regional and village corporations
- 57% of the over 600 jobs at Red Dog held by NANA shareholders
- Donlin Gold camp over 90% Calista shareholder and descendant hire



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Mining Will Work for Alaska



- Seven producing large mines
 - ... and more to come
- Significant Exploration Potential
- Global importance
- Local benefits



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