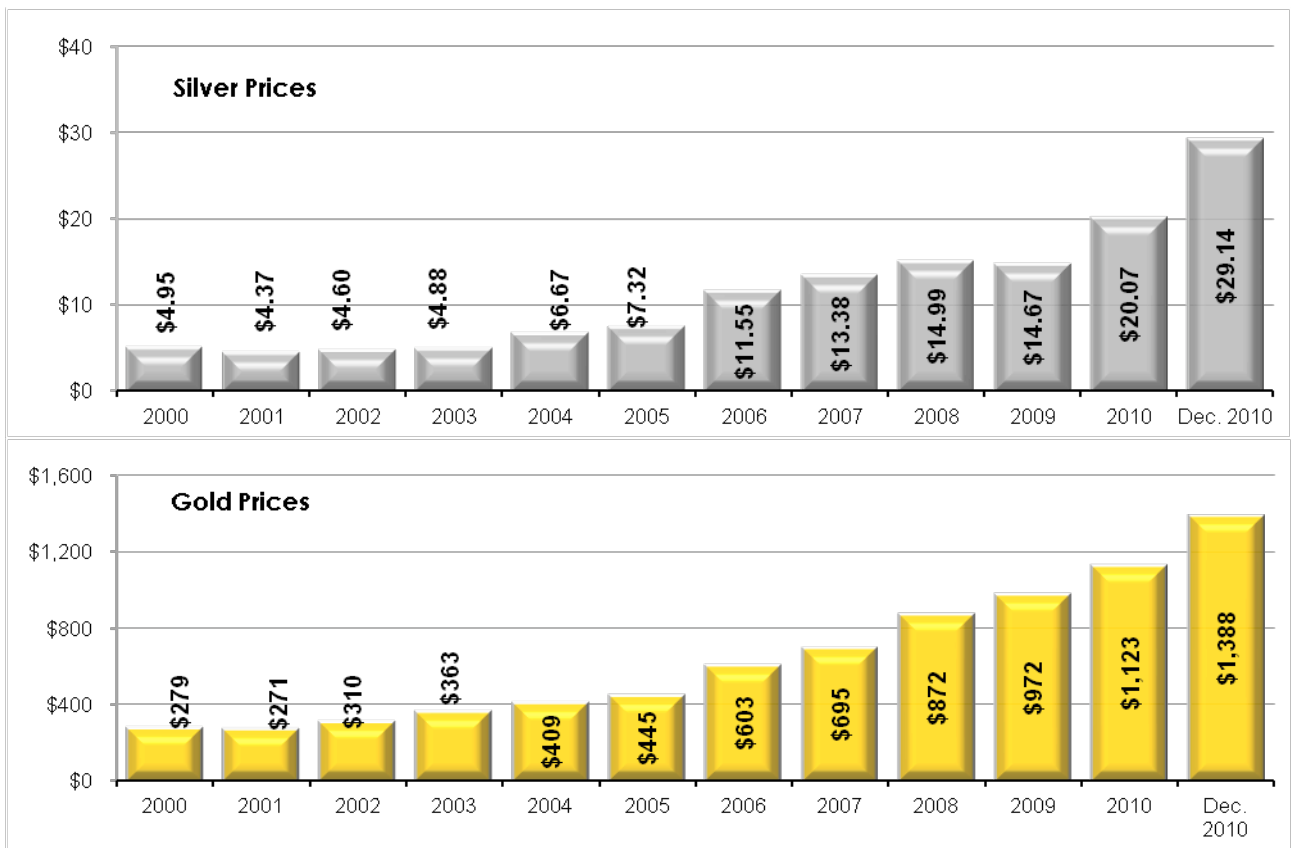


# 9. Mining

Mining has played a large role in the history of the region. Prince of Wales Island had the first gold mine in Alaska and supplied the world with first class marble for buildings for years. Gold was discovered in Juneau in 1880, and the area hosted one of the largest gold mine operations in the world. Southeast Alaska has tremendous minerals resources. The region's mineral deposits are large and diverse. They include gold, silver, lead, zinc, copper, molybdenum, platinum, limestone, marble, uranium, and rare earth minerals. There are also substantial quantities of rock, sand, and gravel for use in construction around the region.

In 2009, there were 413 mining jobs in Southeast Alaska with an average wage of \$92,000 annually – the highest for any industry in the region. Due to the recent opening of the Kensington Mine near Juneau, and the rising values of key metals, such as gold and silver, employment figures will continue to rise.

Gold and Silver Prices, 2000 to 2010



Source: Kitco Metals Inc. <http://www.kitco.com/>

By 2011, JEDC expects the Southeast mining industry to have 600 employees in total and a combined payroll of \$50+ million annually by 2011. Statewide the Alaska Department of Labor forecasts that mining

will grow by 17% between 2008 and 2018 and mining support activities will grow by 10% during this time period.

The Hecla Mining Company's Green's Creek mine on Admiralty Island is the second largest silver producer in North America and the sixth largest silver producer in the world. The Greens Creek Mine, Juneau's top private employer with 333 employees, is located on Admiralty Island near Juneau. The mine was purchased by the Hecla Mining Company for \$750 million in April 2008. It produced 7.5 million ounces of silver in 2009, along with 67,278 ounces of gold, 70,379 tons of zinc and 22,253 tons of lead. Milled tonnage averaged 2,167 tons per day, 8 percent higher than production in 2008. Despite slightly lower mined grades of silver and gold in 2009, metal production of silver, gold, zinc and lead was higher compared with metal production in 2008. Unit operating costs for mining and milling in 2009 were \$65.55 per ton, or 18 percent lower than unit costs in 2008.

During the first quarter of 2010, the Greens Creek mine produced 1.6 million ounces of silver. Milled tonnage averaged 2,201 tons per day, 6 percent higher than production in the first quarter of 2009. Although total production costs at Greens Creek were higher in the first quarter of 2010 compared to the same 2009 period, increased production volumes lowered unit operating costs for mining and milling by 5 percent to \$64.05 per ton compared with unit operating costs in the first quarter of 2009.<sup>1</sup>

After two decades of efforts, the Coeur Alaska owned Kensington Mine began producing gold in June of 2010. The company anticipates that Kensington will produce 50,000 ounces of gold during the remainder of 2010 and will average approximately 125,000 ounces of gold annually over the mine's initial 12.5 year life. The Kensington mine will ultimately employ about 200 workers when it is in full production. Direct payroll is expected to be approximately \$16 million annually (or \$25 million including direct and indirect wages). According to Coeur Alaska, 30 percent of the workers currently at Kensington are Alaska Native, and approximately 75 percent are Alaska residents. The mine is also expected to pay \$1.5 million in taxes to Juneau each year, and spend \$9.3 million annually on local supplies and services.

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<sup>1</sup> Hecla Mining Company press releases [www.phx.corporate-ir.net/phoenix.zhtml?c=63202&p=irol-news&nyo=0](http://www.phx.corporate-ir.net/phoenix.zhtml?c=63202&p=irol-news&nyo=0)

## Southeast Alaska State Mining Claims, Mines, and Significant Mineral Deposits



Source: Alaska Department Natural Resources Division of Geological & Geophysical Surveys

Other significant mining prospects in Southeast Alaska include the following:

- **Bokan Mountain** on Prince of Wales Island was historically a high-grade uranium mine. The site is currently being explored for rare earth elements such as dysprosium by UCore. Rare earths are a group of 17 minerals that are highly valuable today with unique chemical, electrical, and physical properties. Bokan Mountain is thought to hold about 3.8 million tons of rare earth elements. Bokan Mountain deposits are currently being developed and one source suggested production could occur as early as 2012.
- The gold rich copper-lead-zinc volcanic massive sulfide **Niblack Prospect** on Prince of Wales Island is in active and advanced exploration by Niblack Mining Company.
- The **Poorman Prospect** near Kaasan is being explored for its magnetite (iron ore) potential by Eagle Industrial.
- The copper-rich **Palmer Project**, near Haines, is one of North America's newest volcanogenic massive sulphide discoveries.
- The gold, silver and zinc **Woewodski and Zarembo prospects** are located on separate islands near Petersburg and Wrangell.
- The **Admiral Calder Calcium Carbonate Mine** on Prince of Wales Island was purchased from Sealaska by Tri-Valley in 2005. The mine is currently in a care and maintenance mode while Select Resources Inc., the mineral division of Tri-Valley Corp., organizes a customer base before restarting the mine.

Another potential opportunity in mining comes from increased interest rare earth elements (REEs). The Bokan Mountain is thought to be one of the three largest sources of REEs in the U.S. Alaska Governor Sean Parnell's proposed budget for fiscal year 2012 includes \$500,000 for a strategic assessment of these elements and Alaska Senator Lisa Murkowski recently introduced legislation that would foster investment in exploration and development in REEs. REEs, have become vital components in computer hard drives, cell phones, hybrid vehicles, and other clean energy technology. As the global demand for REEs grows, the worldwide supply is starting to dwindle.

Finally, it is important to point out a key partnership that assists with developing a regional mining workforce. Vocational technical training and education to support mining is available at the University of Alaska Southeast through a partnership between the UAS School of Career Education, the UA Corporate Programs Mine and Petroleum Training Services, the Alaska Department of Labor, and the mining industry. Multiple classes and trainings are available that directly satisfy requirements to work in the industry.

## **Mining Strength/Constraints**

### ***Key strengths/opportunities***

Mining and mining support is forecast for significant growth in Alaska due to the increased price for minerals on world markets and the presence of several large economically viable mineral deposits in the State.

There are two large mines in Southeast Alaska and several prospects under exploration (see map).

A successful partnership between the UAS School of Career Education, the UA Corporate Programs Mine and Petroleum Training Services, the Alaska Department of Labor, and the mining industry has enabled establishment of a vocational technical Mine Training Center to support mining.

A State of Alaska tax credit program directly makes possible corporate contributions to support this training through the Educational Tax Credit (ETC). ETC is valid for companies paying Income Tax, Insurance Premium Tax/Title Insurance Premium Tax, Mining License Tax, Oil & Gas Property Tax, Oil & Gas Production Tax, and Fishery Business Tax/Fisheries Landing Tax in the State of Alaska. During the 2010 Legislative Session the legislature expanded the Alaska Higher Education Tax Credit to increase the credit amount for corporations making contributions in support of education.

With Southeast Alaska's inexpensive and abundant renewable hydropower energy, deep water access, and world class mines, Southeast Alaska could be an attractive site for a smelter. China is a primary smelter destination as is Canada, but in the US there are various sized smelters in Arizona, Texas, Montana, Utah, Missouri, Illinois, Tennessee, and Pennsylvania, Iowa, Nevada, Connecticut (mostly for copper, nickel, zinc, lead, zinc, beryllium, molybdenum and tungsten).

### ***Key constraints/obstacles***

World mineral pricing primarily dictates economics and this is beyond Alaska's control.

Mines require very high front-end capital investment.

Mines always require careful environmental control but there is a high level of scrutiny in Southeast Alaska. Much of the surrounding land and resources are publically owned, so many parties from outside the region pay close attention to public assets here. Seafood and tourism are critical sectors of the economy and both depend on the image and reality of a clean environment.

There are no smelters in Southeast Alaska so all products are shipped out raw with limited value-added activity.