PRIMER

After the Gold Rush.ca

ENERGY, MINING AND SUSTAINABILITY IN NW BRITISH COLUMBIA • FEBRUARY 2008

Sustainable Energy Solutions

Mining for Dollars

The Economic Value of Minerals in the Stikine and Taku

Mining companies are rushing to develop mineral claims in Northwest British Columbia, a region they refer to as the "Golden Triangle." What makes it "golden"? Mining sites proposed in the Stikine and Taku watershed regions contain gold, silver, copper, lead, zinc, molybdenum and anthracite coal deposits which are worth an enormous amount of money.

However, mining companies don't actually own these minerals – the public does.

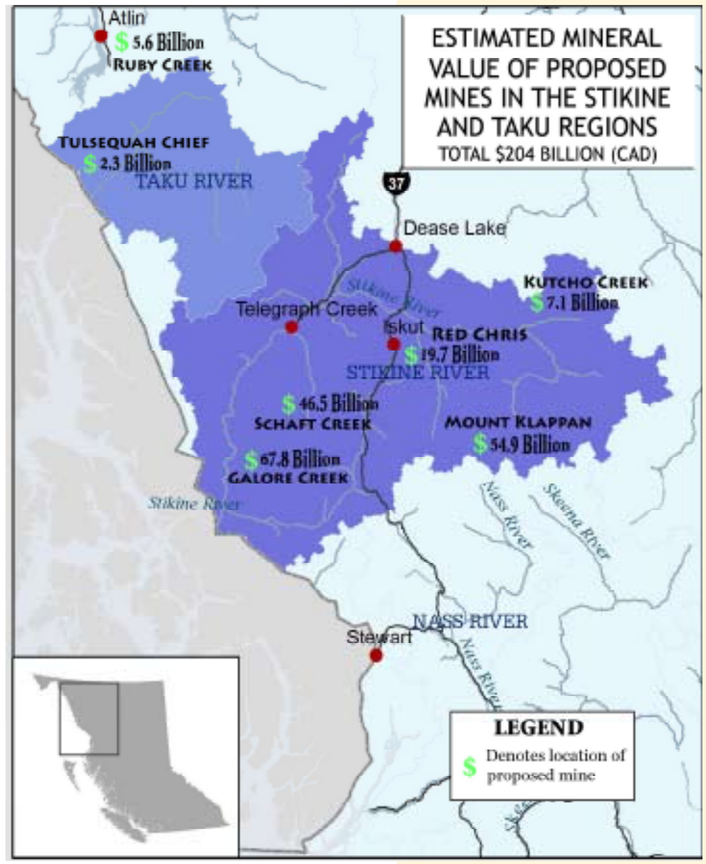

Figure 1. Estimated value of mineral reserves and resources at proposed mines in the Taku and Stikine watersheds, based on average mineral prices over the last year.

The gold rush taking place in Northwest British Columbia will have a lasting impact on communities and the environment.

PHOTO BY GARY FIEGEHEN

The PEMBINA institute

Mining for Dollars

- The total mineral value of seven proposed mines in British Columbia's "Golden Triangle" is $204 billion.
- Mining companies typically earn 29% of available mineral value as pure profit.

  By contrast, resource owners typically earn about 8% of mineral value through mining taxes.
- On average, no more than 1% of mineral value is invested in community stakeholder engagement, First Nations participation agreements, and environmental management.
- Mineral prices have more than doubled during the last five years, spurring rapid development – but prices remain volatile.
- The "gold rush" currently underway will transform lands and communities in Northwest British Columbia forever.

The seven new mines proposed for the Stikine and Taku regions in Northwest British Columbia are just the tip of the iceberg.

PHOTO BY GARY FIEGEHEN

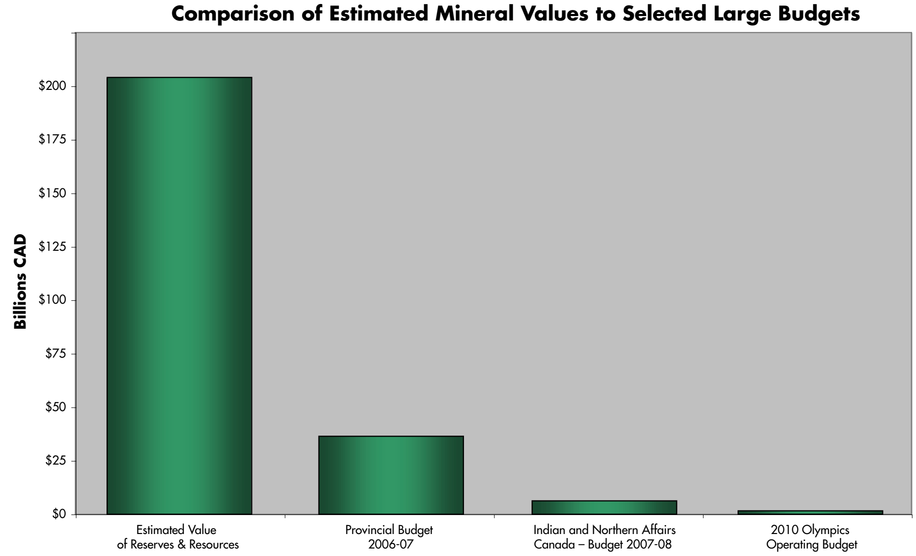

Figure 2. Putting it in perspective: comparing estimated mineral value.

Public resource owners,[1] whether First Nations or British Columbians, give companies permission to develop the mineral deposits on their behalf. In return, they should earn a "fair share" of the revenues.

Currently, tax breaks for mining companies create a big gap between what the minerals are worth and what the owners – First Nations and British Columbians – earn. This means increased profits for mining investors.

How Much Are the Minerals in the Stikine and Taku Worth?

Seven new mines are currently proposed for the Taku and Stikine regions in Northwest British Columbia, – and these are just the tip of the iceberg – at least twice as many exploration projects are underway.

Still, the **estimated total mineral value of the seven current proposals alone is $204 billion**. That's nine zeros: $204,000,000,000!

Figure 1 displays the estimated value of minerals from each proposed mine.[1] The value is based on the estimated size of mineral deposits (as reported by mining companies) and the market value of the minerals.

To put $204 billion in perspective, Figure 2 compares it with some other big dollar amounts. For instance, $204 billion is more than five times as much as British Columbia's entire provincial budget. It easily dwarfs the $6.3 billion allocated to Indian and Northern Affairs Canada each year. And it's more than a hundred times the size of the operating budget for the 2010 Olympic Games, which is "just" $1.63 billion.

Although none of the seven proposed mines is operating yet, one, the Galore Creek Mine, has received provincial approvals.

1 Mount Klappan, Schaft Creek, and Kutcho Creek report resource estimates only, while the other proposed mines report both reserves and resources. The estimated value of reported reserves per mine is $0.8 billion for Tulsequah, $8.2 billion for Red Chris, $5.6 billion and $25.5 billion for Galore Creek. Total reserves are estimated at $40.1 billion.

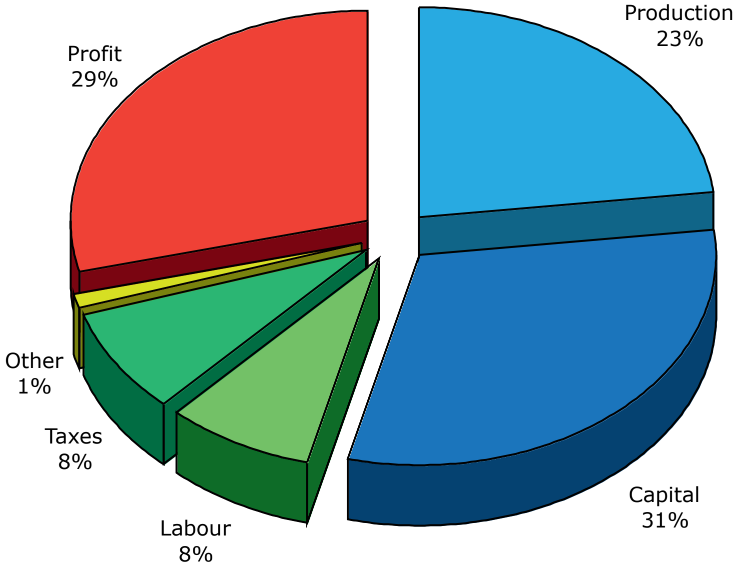

Figure 3. Typical allocation of revenue from mines in British Columbia.

In addition to these seven proposals worth $204 billion, there were more than 15 major exploration projects in the Taku and Stikine regions in 2006.[2]

Who Profits From Mining in British Columbia?

Figure 3 shows where mining revenue typically ends up in British Columbia.[3] Just over half of the dollars earned from minerals goes to cover the costs of building and operating mines ("Production" and "Capital"). The lion's share of what's left – 29% of the total mineral value – typically ends up as investor profits. These profits are almost four times higher than what the public earns through taxes, or what employees and contractors earn in salaries ("Labour").

Meanwhile, the total amount of money spent on First Nations participation, stakeholder engagement, reclamation and environmental management is less than 1% of the mineral value. In short, even though mining companies don't own the resources, they earn the most profit from them, by far.

Mining companies also stand to earn disproportionate benefits from the British Columbia government's plan to fund construction of the Northwest Transmission Line. As proposed, the line would facilitate more new mine construction, but not necessarily help communities that rely on polluting diesel generators for electricity.

There are alternatives. Fairer tax structures and community agreements would mean better returns for public resource owners and more opportunities to invest in sustainable development options for Northwest British Columbia. With a resource this valuable, mining companies can afford to minimize impacts on British Columbia's environment and to support healthy British Columbia communities.

2 T.G. Schroeter and E. Man, *Select Major Exploration Projects in B.C. – 2006, (Min. of Energy Mines and Petroleum Resources, 2007).*

3 Price Waterhouse Cooper. *Opportunity: The Mining Industry in British Columbia 2006* – Appendices. (Vancouver, B.C.: 2006) available online: http://www.pwc.com/ca/eng/ins-sol/publications/miB.C._app_06.pdf (accessed October 19, 2007)

The Galore Creek Mine

The Galore Creek Mine, a joint-venture by NovaGold Resources Inc. and Teck Cominco Ltd., is an open pit copper-gold project with an estimated mineral value of $57.8 billion.

The land on which the Galore Creek Mine hopes to operate is so rich with minerals that, at current metal prices, the mine projected recovering its construction costs in just 24 months, then churning out $1 billion in after-tax cash flow every year.[1]

Compare that figure with $23 million – the amount the mine expected to contribute every year to local economies through salaries and contracts.[2] That's a little over $1 locally for every $50 in investor profits.

Construction on Galore Creek started in early 2007, but was suspended a few months later when construction costs rose by an estimated $2 to $3 billion. At that point, the companies said that the project's economics were no longer favourable.

[1] Nathan VanderKlippe, "Building B.C.'s most expensive mine," *The Financial Post,* October 12, 2007.

[2] NovaGold Presentation, Association of Mineral Exploration BC, September 2007

PHOTO BY GARY FIEGEHEN

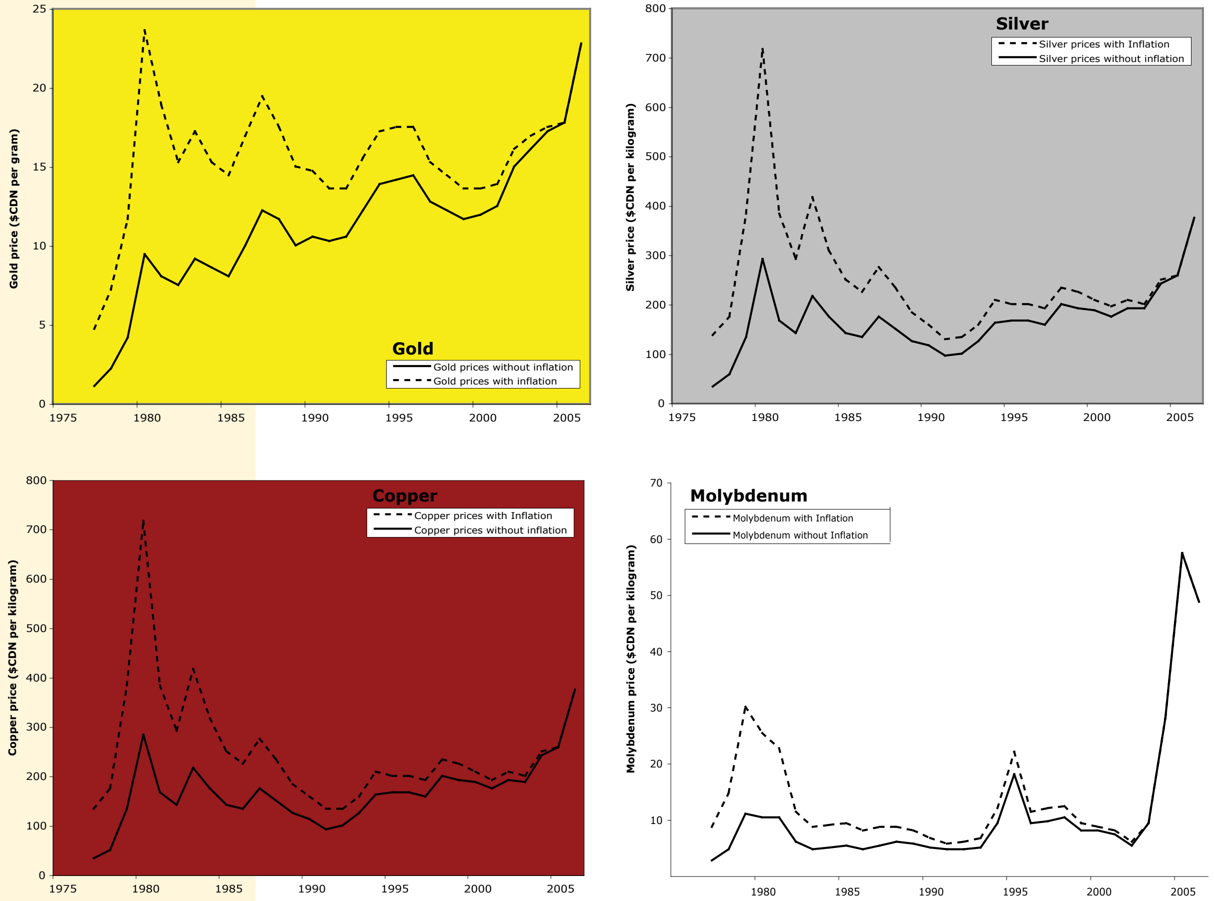

Figure 4. Mineral price trends.

Want More Information?

For reports, primers, maps and slide shows on energy, mining and sustainable development in Northwest British Columbia, visit our website:

www.afterthegoldrush.ca.

For more information on the boom and bust cycle of mineral development, see our *Boom to Bust* primer at:

www.afterthegoldrush.ca.

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The Boom and Bust Mining Cycle

Mining can be an uncertain business, especially because market prices for minerals are volatile. (Figure 4 shows how the prices of gold, silver, copper and molybdenum have changed over the last 30 years.) Typically, there are sudden bursts of exploration and mine development when prices are high – and sudden cutbacks and pull-outs when prices fall.

For local communities, the rollercoaster ups and downs of the mining cycle can make it harder to obtain a fair share of mineral value. At times there may be too many jobs to be filled locally; at others, not enough. Social costs created by booms and busts – like periodic unemployment – can end up being shouldered by communities.

It's important for communities to think carefully about their options for obtaining a fair share of Northwest British Columbia's enormous mineral value – not just in the short term, but over generations.

You can find more information on these issues, and the options for communities, in two other primers from this series. The *Boom to Bust* primer is available on-line at www.afterthegoldrush.ca. A primer on Impact Benefit Agreements or "IBAs" will be released in March, 2008.