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High Costs Dig Into Mine Profits

As Nickel Falls, BHP Faces Long Road for Australian Project

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Weaker commodity prices and higher costs are starting to take a toll on the global mining industry as the billions of dollars being spent on new projects could take years to recoup.

For years, **BHP Billiton** Ltd. assured shareholders that one of its biggest new mines, an Australian nickel project called Ravensthorpe, would be a big moneymaker.

DIGGING DEEP

- **What's New:** The economics have shifted for some mines that were undertaken amid a boom in demand for commodities.
- **What Changed:** The cost of energy to run mining trucks and other equipment has soared. And the recent boom in commodity prices caused many customers to cut back or look for cheaper alternatives.
- **What's Next:** Some analysts say recent mine closures are bullish for commodity prices in the long run because the moves indicate companies are imposing more financial discipline than in the past.

Now, with production under way, the Melbourne, Australia-based mining company says Ravensthorpe isn't profitable though it will do well eventually. But with nickel prices down 60% from mid-2007 highs and mining costs spiraling higher, some analysts wonder if Ravensthorpe will ever make much money at all.

BHP isn't unique. Unprofitable mines are cropping up in a lot of places -- a surprising turn for an industry that could seemingly do no wrong during the past five years.

Bad news has been trickling out all summer. On Thursday, OZ Minerals Ltd. of Australia, one of the world's biggest zinc producers, said major parts of its business sustained a net loss in the first half of the year because of weak zinc prices, which have fallen about 60% from 2006 highs to about $1,800 a metric ton.

Perilya Ltd., another Australian company, said last week that it plans to halve production at one of its zinc and lead mines and will also slash its 760-member work force by more than half.

A few days before that, Anglo-Swiss miner Xstrata PLC said it was halting production for at least four months at a nickel project in the Dominican Republic because it wasn't as profitable at current nickel prices. That followed news in July that Xstrata and **Teck Cominco** Ltd. of Canada had decided to close a jointly owned Australian zinc and lead mine several years ahead of schedule because the project didn't make sense at current prices.

At least three other mining companies have curbed output or delayed expansions because of softer prices and higher costs. Analysts believe more will follow.

The turnaround highlights an important change in the world's mining industry. A few years ago, demand was rising so quickly, and supply was so tight, that almost any new project seemed attractive.

Since then, costs have surged and demand has started to wane. As a result, analysts say, some of the newer and higher-cost mines coming online are likely to struggle to deliver returns -- even if demand for commodities continues to boom. Costs for miners vary widely depending on location of the mine, quality of the ore and local tax regimes, making it difficult for investors to pick out which projects could face risks in the new environment.

It may seem odd that some mines don't work at a time "when there seems to be a world-wide shortage of minerals," says Neil Boyd-Clark, a portfolio manager at Fortis Investments in Australia. But "times are more difficult than they were a while back."

The change of fortunes doesn't mean the international commodities boom is over -- far from it. Prices for most commodities remain far above their levels of a few years ago, and most mines continue to deliver big profits. Generally, zinc and nickel are among the most troubled metals at the moment, while mines producing copper, coal and iron ore are generally believed to be doing better. Iron ore prices in some contracts are up 85% this year alone.

BHP, which has some of the biggest iron-ore reserves in the world, recently reported annual earnings of $15.4 billion, up nearly 15%. Demand for resources by China and other emerging markets still is expected to soar in the years ahead.

Some analysts view the recent mine closures as bullish for commodity prices in the long run, because the moves suggest companies are imposing more financial discipline than in past booms. As miners curb output, it could help prop up prices.

Still, the economics of mining have shifted drastically in recent years. The cost of energy to run mining trucks and other equipment has skyrocketed, while steel and other building materials also are more expensive. Nickel producers are also being squeezed by rising costs of sulfuric acid, a key component for processing some types of nickel ore. Sulfur prices have rocketed from an average of just more than $100 a ton last year to more than $800.

Another issue for miners is that as commodity prices rose, customers began finding ways to cut back on consumption, such as using raw-material substitutes. Builders are using plastic pipe in place of copper, and stainless-steel producers are turning to "nickel pig iron" made from low-grade mineral ores.

As a result, "we now believe nickel is below the marginal cost of production" for many mines, says John Reade, a metals analyst at UBS in London.

While it is only a tiny part of BHP's overall business, Ravensthorpe is the kind of project that could get squeezed. BHP managers announced the project, which is centered on a mine in southwestern Australia, in 2004. A company official at the time touted the project's "low mining costs" and said it offered "just about the best risk-reward profile" of any similar nickel project in the world. Its estimated cost: $1.4 billion.

Some investors questioned the project because of its complex refining process. In late 2006, BHP increased Ravensthorpe's budget to $2.2 billion as material and labor costs ballooned, but noted that the project was "well-positioned to deliver positive results." Soon after, the price of nickel hit all-time highs of more than $20 a pound.

Ravensthorpe began initial production in late 2007, with plans to ramp up to full capacity by 2010. But by early 2008, nickel fell to about $12 a pound -- and was heading lower. On Friday in London, the three-month nickel contract closed at $9.50 a pound.

The project isn't currently making money, a representative said. But the company and some industry analysts believe it will become profitable as costs are paid down.

BHP often doesn't break out detailed information on costs at its mines. But Chief Financial Officer Alex Vanselow said last week that the project would ultimately need nickel prices within a range of $5 and $8 a pound -- probably at the bottom of the range -- to break even.

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