## Cashing in on the Ring of Fire

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ying along the Pacific's volcanically active Ring of Fire, the Philippines has vast untapped mineral reserves. But until 1995, the Philippine mining industry had been near-moribund for nearly 20 years.

The global commodities price collapse in the mid-1980s led investment to dry up. The 1995 Mining Act was the country's first attempt to revive the sector, passed during the pro-reform presidency of Fidel Ramos. But it failed to attract the hoped-for funds, primarily because of a lengthy legal challenge to the law by anti-mining groups, claiming it violated the constitution.

However, the administration of President Gloria Macapagal-Arroyo has sent pro-mining signals to the international community, backed up by the Supreme Court's 2005 decision confirming the foreign ownership of mining projects.

Last year the Chamber of Mines of the Philippines said that the country needed as much as US\$8.5 billion in investment over the next decade to develop 23 "priority" mining projects and another 37 exploration plans.

The potential for development is considerable. The country sits on significant deposits of nickel (perhaps as much as one-quarter of the world's reserves), copper, gold, silver, chromite ore and molybdenum – used in the aviation and electronics industries. Prices of all metals have raced ahead over the past two years, both on the London Metal Exchange and on the

spot markets, (even allowing for the recent volatility of many commodity prices in the fall-out of the subprime crisis), making the development of projects an attractive proposition.

The latest figures from the country's Mines and Geosciences Bureau show output up across the mining sector, with nickel production for the first half of 2007 up 174 per cent year-on-year. Silver output increased by 55 per cent over the same period, and copper by 23 per cent.

Investment in the mining sector more than tripled in 2007, to US\$348 million from US\$109 million in 2006, according to the country's former Environment and Natural Resources Secretary Angelo Reyes, now secretary at the Department of Energy.

"We are really headed for a take off this year and we foresee a mining boom starting in 2008," he said earlier this year, adding that a major construction boom began in 2007, which is expected to peak in 2008-09.

The list of multi-national giants forming joint ventures within the Philippines continues to grow. Anglo American Corp. and Philex Mining Corp., the country's leading mining firm, have a joint venture to develop copper and gold at the Boyongan complex, which covers more than 25,000 hectares in the Surigao gold district in Mindanao in the south of the country. The two companies are prepared to spend between US\$750 million and US\$1 billion developing the deposit, which they own on a 50:50 basis.

In September, after a visit to the country from BHP Billiton's chief development director Chris Campbell, Reyes reported that the mining conglomerate, currently embroiled in a US\$140 billion takeover bid for rival Rio Tinto, was to invest around US\$1 billion in the Hallmark nickel project in the Pajuda peninsula.

"They were very upbeat on the developments of the Hallmark project, and they brought up the possibility of building their own nickel processing plant here in the Philippines, should the volume of the deposit from Hallmark and other local sources so warrant," Reyes said.

In October Freeport McMoRan Exploration and Philex Gold (81 per cent-owned by Philex Mining) signed an earn-in agreement to explore for copper in 6,854 hectares of the Sibutad project in the Zamboanga peninsula in western Mindanao.

Meanwhile, Australian miner Xstrata Copper, one of the five commodity units of global, diversified mining giant Xstrata Plc, is conducting feasibility studies

Field technicians conduct water level monitoring near the Tampakan project site



Photograph courtesy of Xstrata Copper

at the Tampakan copper and gold project, in South Cotabato. Pre-feasibility studies have confirmed a mineral resource of almost 2 billion tonnes, containing 11.6 million tonnes of copper and 14.7 million ounces of gold at a 0.3 per cent copper cut-off grade. It is a project for which Xstrata Copper chief executive Charlie Sartain has high hopes.

"It's a very large project, among the largest undeveloped copper-gold projects in South East Asia, and we are pretty excited about continuing with the evaluation work on it. We have developed a two-year time frame now on our target to complete all the feasibility studies, at which time the intention is to submit an environmental and social impact assessment report for both public and government review, as part of an approval process," he says. The potential of the project more than justifies his enthusiasm.

"There's no doubt it is a very substantial project, and has enormous potential to add to the economic and social development of the Philippines and Mindanao.

"We know from our experience in other projects that you typically have a very large benefit from employment, from taxes, and from general economic activity. One of the most important aspects of mining development in a region is that it does add to the overall level of economic activity, not just in the mining area itself, but through service and support industries."

His desire to emphasise the benefits of such projects to the country and the local and wider communities is understandable, given the political hot potato that mining in the country can occasionally become.

There has been an unholy row between the proponents of mining development within the Philippines, both in the private sector and in government, and a coalition of protesters including the Communist party, local interest groups representing indigenous peoples, and perhaps most importantly in a deeply religious country, the Catholic Church.

An environmental incident last year at the Rapu-Rapu copper-zinc operation in Albay province, run by Australian-based Lafayette Mining Ltd, led to the government creating the Rapu-Rapu Fact Finding Commission, to investigate the environmental impact of mining on the island.

The commission, chaired by Arturo Bastes, a Catholic Bishop from Sorsogon province, recommended a moratorium on mining and the suspension of the Minerals Production Sharing Agreement on the island "pending scientific and experts' favourable resolution of the issue of ecological conservation."

The government promptly rejected the findings. President Arroyo's press secretary, Ignacio Bunye, acknowledged the importance of the commission's report and emphasised the government's commitment to the environment, saying: "We thank the Commission

for its work and assure the public that its report will be reviewed and considered".

However, he said that mining remains a priority area for development. "Our country is blessed as one of the most highly mineralised countries in the world. It would be a disservice to our people if our mineral potential is not realised, as this is clearly a source of employment and development. Sustainable jobs in the mining sector can be had side-by-side with strict environmental protection measures."

"I think there have been some legacy issues," says Sartain. "The mining industry in the Philippines doesn't have a very good history in terms of some of its performance, particularly in environmental terms.

"The way that we approach our projects and the management of those projects is to operate in a responsible manner with high standards of performance. The Philippines has had some difficulties – some real issues with some environmental management of mining and processing operations. What we are about is establishing a model of how the modern mining industry can operate, showing how we can operate very responsibly in the Philippines, and through that approach develop the support of a broad range of stakeholders in the country."

Jonathan Beardsworth, chief executive of Metals Exploration Plc, which he describes as a "Philippine-focussed, London-financed" company exploring and developing the Runruno gold-molybdenum project in the north of the country, currently estimated to hold 2 million ounces of gold and 40 million pounds of molybdenum, agrees that involving the community is key to the successful development of projects in the country. He is proud that his company's head of community relations, Ernesto Mendoza, won recognition at the recent Mines and Money Conference in London.

"Ernie Mendoza won the Special Award for his

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Old mining buildings at Metals Exploration's Runruno project site



By retaining the net mining revenue option, the DENR believes that it will result in a more equitable sharing of the benefits between the government and contractors

■ contribution to the community in the aftermath of a typhoon. You get a lot of typhoons in the Philippines," says Beardsworth. The CIA World Factbook backs him up, describing the Philippines' natural hazards as "astride typhoon belt, usually affected by 15 and struck by five to six cyclonic storms per year; landslides; active volcanoes; destructive earthquakes; tsunamis."

"That's an astonishing achievement for a very humble person, in a tiny company like ours, to be recognised by the mining industry worldwide."

Small at the moment perhaps, but how big is the Runruno project?

"In economic terms, we've got 40 million pounds of molybdenum. The moly price is somewhere above US\$30 a pound at the moment, so that's over a billion dollars of value in the ground attributable to the moly. Do the same exercise on gold, which is above US\$800 at the moment. 2 million ounces gives you US\$1.5-1.6 billion. So it's substantial numbers, but in the ground. We've got to get them out," he says.

It is worth noting that Xstrata and its Chilean rival Codelco are currently exploring new technologies in molybdenum production that significantly enhance the production of rhenium, the price of which has increased nine-fold in the past two years, and is now seen by the major copper-moly producers as a vibrant potential revenue stream in its own right.

In response to the challenge of maintaining good community relations with the local population, Metals Exploration established the Runruno Livelihood Foundation. "We've set up this foundation, the aims of which are to promote the welfare and economic well-being of the local community. It's through that that we funnel funds that support things like school teachers and medical missions. We do little bits of infrastructure, we build the occasional bridge and try and set up sustainable businesses."

Sartain agrees that it is essential that companies such as Xstrata use their expertise to the benefit of the local and wider communities in the Philippines. "We have the skills and competencies a project of this magnitude needs, and that's across the whole spectrum of capabilities that are required to develop such projects. The technical and project management capabilities, but also the approach we take towards community relations and the social development of the region.

"We have people who are very experienced in working with communities across a number of countries, and it's that type of capability that we can introduce immediately to a project as well as a strong commitment towards training and development of local people. We have a very strong policy towards local employment and development. There are systems, well-established across a number of countries, that we can introduce immediately into a project like Tampakan."

Another general indicator of economic potential in the sector is the presence of Chinese investment in Philippine mining projects. Jinchuan Nonferrous metals Corp, China's biggest nickel producer, has conducted due diligence on the Philippines' largest nickel refinery on Nonoc island off the coast of Mindanao. The plant was mothballed two decades ago, and the Chinese firm is talking of investing US\$1 billion to gain manufacturing capacity of 40,000 tonnes per year of nickel, in mixed sulphides.

But as Jonathan Beardsworth points out, this is an inevitable by-product of geographical location. "It is only a two-day boat ride from Manila to Shanghai. It would be a natural plank of Chinese economic foreign policy to try to establish relationships with the Philippines as part of their sources of raw materials."

One other issue affecting mining investment in the Philippines concerns recent changes to the situation regarding foreign ownership of mining projects. In July the Department of Environment and Natural Resources (DENR) made a change that it says will simplify the contracts it signs with foreign companies investing in Philippine mining projects.

Formerly, under its financial or technical assistant agreement (FTAA) contracts, foreign mining companies were offered three options of profit-sharing with the government: the net mining revenue option, the additional profits option and the cumulative net cash flow option.

Now the scheme will offer only the net mining revenue option, where the mining contractor and the government split revenues on a 50:50 basis.

"By retaining the net mining revenue option, the DENR believes that it will result in a more equitable sharing of the benefits, where the contractor gets a reasonable return on its investments while the government gets its reasonable share from the utilisation of the country's mineral resources," Secretary Reyes said at the time.

He added that the new changes apply only to future FTAAs, and do not cover the two existing FTAA contract holders, Xstrata's Tampakan copper project and Oceana Gold's gold-copper project in Nueva Vizcaya.

But as Metals Exploration's Jonathan Beardsworth observes, the Philippines is "hugely prospective. It's the Pacific Ring of Fire, and that leads to all sorts of interesting geological events. We're positive about the Philippines, about the government, about our projects and the communities in which we operate. We believe it too."

Mining projects commonly involve relatively long lead times. Given that China and India are the current powerhouses of the global economy, and have thus far been immune to the chill afflicting growth in the USA, it is likely that the current historic highs being seen in the price of virtually all metals will ensure that the Philippines mining sector has a copper-bottomed future.