

Myra Falls

885854

ENDAKO from HI

## Cost reductions sought

Job commissioner Eric van Soeren said discussions with Endako involve deferred property taxes and reduced electricity rates.

"We are seeking ways to reduce costs so Endako would close at a lower molybdenum price and reopen at a lower molybdenum price," van Soeren said in an interview.

Endako is majority owned by Thompson Creek Mining of Englewood, Colo. A unit of Nissho Iwai of Japan is the minority owner.

Fraser Lake Sawmills is the only other major employer in the community of 1,400, about 170 km west of Prince George.

"It's a huge impact on the local businesses, families, housing prices, everything," said Mayor Tony Thompson. "I don't think people fully understand it."

The mine accounts for 40 per cent of the local workforce and one-third of the community's tax base, he said.

Boliden president and CEO Anders Bulow said ore won't be processed during the suspension at Myra Falls

but the milling facilities will operate at 50-per-cent capacity to process waste rock for backfill production.

"We have chosen to take a much more aggressive and all-inclusive approach to dealing with the increasingly challenging ground conditions at the mine," Bulow said in a release.

"We are confident this approach will result in a quicker turn-around for the operation and will provide a safer working environment for our employees."

Boliden said the rehabilitation and maintenance work will cost \$9.8 million US in the first quarter of 1999, of which \$6.6 million will be capitalized.

In the first nine months of this year, Myra Falls produced 84,000 tonnes of zinc concentrate and 51,000 tonnes of copper concentrate.

Toronto-based Boliden, controlled by Trelleborg AB of Sweden, acquired Myra Falls this year when it paid \$513 million for Westmin Resources.

Boliden's share price closed down 10 cents in Toronto on Friday at \$5.35 on volume of 153,000 shares.

## Boliden gets nod to reopen mine near Seville

CANADIAN PRESS

TORONTO — Base metals producer Boliden Ltd. has announced that it will restart its notorious Spanish mine by year-end.

The Los Frailes mine was closed in April after a tailings dam gave way at the operation near Seville, sending millions of cubic metres of sludge into rivers running through Donana National Park, Europe's biggest nature preserve.

Boliden took a \$34-million charge against earnings earlier this year to cover the cleanup costs, net of insurance.

The Toronto-based company said Friday that its Spanish subsidiary, Boliden Apirsa, has received permission from the Spanish government to restart Los Frailes.

Boliden also said it is temporarily closing its zinc-copper underground mine at Myra Falls on Vancouver Island, citing "challenging ground conditions."

The mine will shut down in mid-December, with full production to resume by April 1999.

About 90 of the 450 employees at Myra Falls will be laid off, with the rest involved in work to refurbish the mine and perform scheduled maintenance.

Boliden said the B.C. shutdown will cost \$9.8 million US, and "will result in a quicker turnaround for the operation and will provide a safer working environment."

YGS → Myra Falls

The Sun Mar. 19/99

## Boliden set to re-open Myra Falls m

ROD NUTT  
SUN BUSINESS REPORTER

Boliden Ltd. said Thursday that it will re-open its Myra Falls zinc-copper mine on Vancouver Island next Wednesday, eight days ahead of the scheduled re-start date of April 1.

The Toronto company said the earlier-than-expected re-opening is due to the success of the rehabilitation and development work carried out during the last three months.

The work, which cost about

\$9.8 million, affected 90 of the 450 employees at Myra Falls.

Boliden vice-president of investor relations Thomas Atkins said the mine, which is located in Strathcona Park, will produce at approximately 75 per cent to 85 per cent of rated capacity as rehabilitation work continues.

Production is expected to move towards full capacity of 110,000 tonnes of zinc per year during the third quarter of this year.

Separately, Boliden said production of cathode copper at its Lomas Bayas mine in Chile continues to increase towards rated capacity.

During the first four months of commercial production, Lomas Bayas produced at an average

of about 70 per cent of capacity due to unanticipated high levels of chlorides and nitrates in the ore.

Atkins said the company has been successful in solving the chloride problem and has recently begun to implement changes to the production process to address the nitrate problem.

He said January and February production averaged about 80 per cent of rated capacity.

Cash operating costs during January and February were about 50 cents US a pound.

Boliden acquired Myra Falls last year when it paid \$513 million for Westmin Resources Ltd. of Vancouver.

Boliden's share price rose nine cents Thursday to \$1.82 on volume of 275,000 shares.

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The Van Sun  
June 27/00

## Bulow leaves troubled copper-zinc producer

Departure raises more questions about the future of debt-ridden Boliden.

CANADIAN PRESS

TORONTO — Anders Bulow is leaving the executive office of Toronto's Boliden Ltd., a departure that raises more questions about the future of the troubled copper and zinc producer.

"I'm not dispirited at all but on the other hand, it has been one hell of a tough ride," the president said Monday in a telephone interview from his native Sweden.

"You sort of run out of steam. Instead of letting the organization suffer from that, it's better to be pro-active."

The resignation is effective Sept. 30 and fulfills Bulow's three-year commitment to run the Toronto company. A committee has been formed to find a new chief executive.

Bulow's tenure has been filled with crisis and financial difficulty.

Boliden, a former subsidiary of Sweden's Trelleborg AB, arrived in Canada with a bang three years ago through the \$520-million stock and cash acquisition of Vancouver-based Westmin Resources Ltd.

But, as the company soon realized, it had paid top dollar for a handful of problem mines only months before a collapse in metal prices.

Events turned from bad to worse in April 1998.

The tailings dam failed at the company's Los Frailes zinc mine in Spain, dumping nearly seven million cubic meters of mine waste and water into the local river system.

The spill was contained quickly but the disaster cost the company \$42.5 million US to clean up. Mining at Los Frailes resumed a year ago but the operation continues to lose money because of metallurgical problems.

Long-term debt and liabilities have ballooned to \$1.3 billion US.

The bulk of available funds have financed the expansion of the company's most prized asset, the Ronnskar copper facility in Sweden.

Shares have tumbled from \$12.50 three years ago to a close Monday of \$1.80.

"I've come to the point where I don't feel that I'm all that efficient any longer," Bulow said. "This has been a more than full-time job. After a while, you simply run down."

The 46-year-old executive plans to spend the fall deer hunting in southern Sweden before resuming his career.

It's expected Bulow's successor will have few options available to keep the company afloat.

Zinc and copper prices appear to have peaked and future equity and debt financings have been ruled out. To date, the auction of company assets, including zinc properties, have failed to attract substantial bids.

# Liberals munch at fear of backlash over park

VGS → MYRA FALLS

VICTORIA

Premier Gordon Campbell and his ministers have dismissed a proposal from the mine in Strathcona Park to switch to hydro power from diesel generation, angering the local B.C. Liberal MLA.

"MLA unhappy with power plant rejection," declared the front-page headline last week in the Campbell River Mirror.

The story by reporter Grant Warkentin went on quote Rod Visser, the Liberal backbencher representing North Island, at some length.

"I'm personally disappointed in the way we approached this," Mr. Visser was quoted as saying. "The value of this opportunity was not understood as clearly as I would have liked."

He criticized the government for stringing the mining company along for more than a year — "It took too long in giving them an answer" — then dropping it flat instead of suggesting ways the proposal could be reshaped — "I am disappointed we didn't provide the opportunity to look at this further."

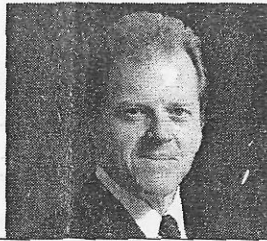
He noted that the company, a Canadian subsidiary of Swedish-based Boliden, had gone to great lengths to line up support in Campbell River. "I would have liked us to be as sensitive to them as they were to other folks."

Supporters argued the proposal had environmental as well as economic merit for Boliden's copper and zinc mine at Myra Falls.

The operation would have been weaned away from its current reliance on diesel power, saving one million litres of fuel annually, ending the discharge of an estimated 3,500 tonnes of carbon dioxide and eliminating a major source of noise pollution within park boundaries.

The switch to cheaper — and, in some circumstances marketable — hydro power would also have

Vaughn  
Palmer



improved the economic position of a sometimes marginal operation.

Myra Falls was forced to close for three months last year and lately it has been further stressed by low international commodity prices and a rising Canadian dollar.

But the merits of the proposal were discounted by a premier and cabinet unwilling to risk an environmental backlash over increased industrial activity within a provincial park.

The mine has been there for more than 30 years and has become a popular tour for some visitors to the park. The mine site occupies a cabinet-designated enclave of just 170 hectares, surrounded by 213,000 hectares of Strathcona Park.

But the replacement power would have been generated by drawing water from two lakes within the park, and that would have meant further encroaching on the park boundaries to allow industrial activity.

A bad precedent, decided the Liberals, so concerned about the headlines that they concluded the proposal was beyond rescue.

"Very disappointing," responded mine manager David Bazowski. "The decision by our provincial government comes at a time when we are faced with severe economic pressures resulting from poor metal prices and a dramatically stronger Canadian currency."

Perhaps he also thought back to his testimony last fall to a committee of the B.C. legislature. "There's a per-

ception that that mining and forestry are sunset industries and that what is happening to the North Island economy is a natural progression, where resource-dependent regions are giving way to tourism and to the vibrant services and high-tech economies of our urban centres."

But, as Mr. Bazowski noted, the resource industries continued to provide about two-thirds of exports and thus a major share of provincial wealth.

His company's mine, for instance, provides 360 direct jobs, 1,000 indirect jobs, a \$34-million payroll, \$14 million in taxes for all three levels of government, \$100 million in economic activity and a thriving partnership with the local Indian band.

In the same week as Mr. Visser expressed his disappointment over the decision on the mine, he had to explain why the government would not be providing an asked-for 500,000 cubic metres of wood to prop up the Doman pulp mill at Port Alice.

The increased wood supply would amount to a subsidy, Mr. Visser said, adding that the company ought to begin "buying wood on the open market" as the government would prefer.

But the same government that vowed to put an end to subsidies and nurture market forces in the resource industries also promised to improve access to resources and stop pandering to environmentalists.

In practice, the Liberals have pursued the first two objectives with more consistency than the second two, creating a form of double jeopardy for resource-dependent communities.

Mr. Visser's disappointment, far from being an isolated instance, illustrates an emerging dilemma for B.C. Liberals from rural and hinterland constituencies.

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Vaughn  
July 16/03



Mexico Falls

# Scandinavian metals merger

Two of Europe's largest mining and metals groups, Outokumpu Oyj of Finland and Boliden AB of Sweden, have signed a 'letter of intent' (LoI) to undertake a major exchange of assets and shares designed to allow each to concentrate its operations and growth on its core business (Comment, this issue, p.190).

Under the deal, announced this Monday, Boliden will effectively double in size by acquiring Outokumpu's mining, smelting and refining assets in zinc and copper, plus a 2.8% shareholding in the Finnish group; and Outokumpu will take Boliden's European downstream copper business and its minerals technology business, plus a 49% shareholding in Boliden's enlarged share capital.

Boliden will acquire the Tara zinc mine in Ireland; the Kokkola and Odda (Norzink) zinc smelters in Finland and Norway, respectively; Outokumpu Zinc Commercial, a marketing office in the Netherlands; the Harjavalta copper smelter in Finland; and the Pori copper refinery, also in Finland. Under the LoI, these assets have been assigned a value of €736 million, which Boliden will pay in cash and shares. This will result in the need for Boliden to account for significant 'goodwill', as the assets have a book value of only €552 million.

Boliden will issue new shares to Outokumpu such that the latter holds a 49% interest (approximately 82.4 million shares) in the enlarged Boliden ('New Boliden') to cover €307 million

The Tara zinc mine in Ireland. (Photograph courtesy of Outokumpu Oyj.)



## Anglo receives Kumba approval

The South African Competition Tribunal has approved the acquisition by Anglo American plc of a major shareholding in South Africa's largest iron-ore producer, Kumba Resources Ltd. The ruling, which follows a lengthy review period, will be a relief to Anglo American, as the London-listed natural resources group has made clear that its entire strategy in iron ore is now focused on Kumba (MJ, August 15, p.118). Shares in Kumba rose by 5% following the announcement late last week and continued strongly this week.

The only significant condition stipulated by the Tribunal is that no one may serve as a director both of Kumba and of either Scaw Metals or Highveld Steel & Vanadium Corp. Ltd, respectively owned 100% and 80.2% by Anglo American. Anglo already has one director on Kumba's board, and intends to seek an increase in its representation.

Anglo American acquired a 20.1% shareholding in Kumba last year, along with a 34.5% interest in Anglovaal Mining Ltd (Avmin), which has a 50.3% interest in South Africa's only other significant iron-ore producer, Assmang Ltd. Anglo American won initial approval from the competition authorities, and the group subse-

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of the total purchase price. On this valuation, Outokumpu will be paying (in the form of its assets) a 25% premium over the SK27.40/share closing price of Boliden on the Stockholm Stock Exchange last Friday (September 5). New Boliden will be equity accounted as an associate of Outokumpu. Boliden will pay the balance as €373 million

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## Inside

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- More gold financings (p.204)

quently also acquired an option to increase its shareholding in Kumba to just under 35%. However, the state-owned Industrial Development Corp. (IDC) won the right to intervene in the second stage of the competition review (MJ, April 4, p.231), thereby also lengthening the process. Meanwhile, Anglo American accepted an offer from Harmony Gold Mining Co. Ltd and African Rainbow Minerals Gold Ltd for its shareholding in Avmin, which eased the competition concerns (MJ, May 9, p.313).

The news is a blow to the IDC, which had sought to oppose Anglo's moves to build its stake in Kumba, largely on the grounds that this would reduce

Continued on p.191

## Kumba green light . . .

*Continued from p.189*

the choice of iron-ore supply for domestic steel producers (*MJ*, November 29, 2002, p.373). The IDC has a shareholding in the largest of these, Iscor Ltd. The IDC described the Tribunal's decision as "disappointing", but maintains that its intervention led Anglo American to sell its Avmin shares and forced other concessions. The IDC also believes that the condition regarding directorships will "prevent collusion on the pricing of steel".

In welcoming the Tribunal's ruling, Anglo American said that it "intends to continue discussions with all stakeholders involved in the iron-ore industry, including the IDC ... to unlock the full growth potential of the Northern Cape iron-ore assets and supporting infrastructure. Kumba's main iron-ore operation, the 26 Mt/y Sishen mine, is located in the Northern Cape, along with its 10 Mt/y Sishen South project. Assmang owns the adjacent 5 Mt/y Beeshoek mine. Last month, these two companies signed a 'heads of agreement' regarding a possible asset exchange

to allow each to concentrate its operations geographically (*MJ*, August 22, p.125). The main infrastructure is the railway operated by Orex to Saldanha Bay on the Atlantic coast, where Iscor operates the country's largest steel plant and from where iron ore is also exported.

The chief executive of Anglo American, Tony Trahar, commented that the ruling will allow "all stakeholders ... to work together, within the provisions of the MoU signed with the South African Government" to create "a world-class iron-ore operation with economic scale to compete internationally". In the MoU, signed at the end of last year, Anglo American undertook to maintain the owner of the Northern Cape iron-ore assets as a separate company, listed in South Africa, and to create opportunities for 'black economic empowerment' (*MJ*, December 22/27, 2002, p.431). Mr Trahar added: "Kumba needs to participate fully in the international growth phase for iron ore. It is our intention to support and encourage Kumba to utilise the window of opportunity currently presented by the strong global demand for iron ore, recognising that South Africa's competitors are seeking to fill that demand themselves."

## Royalty secures future for Altius

Earlier this year, Altius Minerals Corp., based in St John's, Newfoundland, signed a rather unusual deal for a junior exploration company: it acquired a 7.5% interest (with options to increase to 10%) in Labrador Nickel Royalty Limited Partnership, whose only asset is a 3% net smelter royalty (NSR) in the Voisey's Bay nickel-cobalt property in Labrador. Altius paid C\$9.75 million in cash and issued 750,000 warrants (*MJ*, July 18, p.53), raising the cash by making a placing of its own shares. Speaking to *Mining Journal* in London last Friday, the chief executive of Altius, Brian Dalton, explained the background to the deal, which essentially stemmed from a personal acquaintance between Mr Dalton and Chris Verbiski.

Mr Verbiski and his partner, Al Chislett, were the original holders of the Voisey's Bay exploration licences, and they retained the NSR via their company, Archean Resources Ltd, when Archean sold the licences to Diamond Fields Resources Inc. in 1993. The latter was acquired by Inco Ltd in 1996 and, after the well documented delays over the issue of beneficiation within the Province of Newfoundland and Labrador, Inco is now constructing a mine with a target commissioning date of 2006 (*MJ*, June 14, 2002, p.429). The partnership allows Archean to turn a portion of its future

royalties into an up-front cash payment, retaining the balance of 90-92.5%.

Mr Dalton explained that the partnership structure was chosen for two main reasons. First, it avoided giving Inco the chance to exercise pre-emptive rights, as would have been the case with a sale. Second, it allows Altius to treat its share of the revenue stream from the NSR as a royalty. Royalties are taxable in the province at 20%, but exploration expenses (such as Altius routinely incurs) are deductible.

Apart from the upside potential of Altius' 7.5-10% share in the Voisey's Bay NSR, which covers not only production from the known deposits but also possible expansions plus any new discoveries or acquisitions by Voisey's Bay Nickel Co. anywhere in Labrador (a 29.4 Mha 'area of interest'), Altius has a portfolio of some 29 exploration joint ventures established over the past five years. Mr Dalton said that Altius' approach is to bring in partners to fund the projects, and the company has been successful in attracting several major companies. Altius typically remains the exploration operator, but has no ambitions to become the builder of a large mine: should any project become a major development, the operatorship would pass to the partner. The projects include Rocky Brook, a high-grade uranium prospect in joint venture with Cameco Corp. (*MJ*, June 21, 2002, p.462), and a high-grade gold project with the Agnico-Eagle Mines Ltd group in the Botwood Basin (*MJ*, November 1, 2002, p.303).

## . . . Avmin improves

Meanwhile, Avmin this Thursday reported an attributable net loss of R191 million for the year to June 30, 2003, compared with a loss of R866 million in 2001/02. Excluding exceptional charges of R388 million (net) and unrealised hedging losses of R103 million, Avmin's attributable 'headline' earnings for 2002/03 were R241 million, compared with R204 million in the preceding year. Operating cash flow was R630 million, a rise of 113%, as turnover increased by 21%, to R4.90 billion.

The main exceptional item was a loss of R649 million booked on the sale of the 90%-owned Chambishi cobalt-copper retreatment operation in Zambia (*MJ*, June 20, p.427), partially offset by a profit of R241 million taken on the sale of part of Avmin's shareholding in Avgold Ltd, which ceased to be a subsidiary as a result (*MJ*, April 18, p.274). The disposals reduced Avmin's long-term borrowings of R1.18 billion at June 30, 2002 to zero, and its net-debt equity to 11%.

Assmang sold 5.26 Mt of iron ore for the year, compared with 4.78 Mt in 2001/02. □

Because its projects are invariably funded by the partners, Altius' 'burn rate' (ongoing expenditure) is relative low, at about C\$300,000/y. The company currently has C\$1.6 million in its treasury which, Mr Dalton says, will be ample to see it through until the Voisey's Bay NSR starts producing cash in 2006. Based on current prices and exchange rates, and assuming the exercise of the option to increase to 10% of the NSR, Mr Dalton calculates that Altius will receive around C\$2.2-2.7 million annually from the partnership. □

## Outokumpu-Boliden metals merge

*Continued from p.189*

in cash, funded by a bank loan, and €56 million in the form of a subordinated loan note to be issued to Outokumpu. As part of the overall transaction, and in order to take New Boliden's net debt below a ratio of 100% of shareholders equity, New Boliden plans to make an underwritten rights issue to raise €150 million. Outokumpu will participate fully in this rights issue as a shareholder in New Boliden, maintaining its 49% interest.

The chief executive of Outokumpu, Jyrki Juusela, said: "We do not seek a majority position in New Boliden. We may in time, in a controlled manner, reduce our shareholding for example in the form of private placements or other one-time transactions." However, Mr Juusela said that Outokumpu has not yet decided on the timing



of any share disposals or the final size of its shareholding in New Boliden. He said that he wishes to see the new company have "a good start", and he expects a lock-up period restricting any sales to be agreed, as "we are not in a hurry".

Under the LoI, the board of New Boliden will include four nominees of Outokumpu, from which the chairman will be elected, three nominees of Boliden's current shareholders, plus employee representatives. The chairman of Boliden, Carl Bennet, will become vice chairman, and Jan Johansson, chief executive of Boliden, will continue to hold that position in the new company and will also be a director. The deputy chief executive will be Tom Niemi of Outokumpu. The management team will also include Jan Ohman as chief financial officer, Svante Nilsson as president of mining, Jukka Järvinen as president of the copper division, Harri Natunen as president of zinc and Lars-Göran Björkqvist as commercial director. The company will continue to be listed on the Stockholm and Toronto stock exchanges.

New Boliden is forecast to have sales in 2003 totalling €1.6 billion (based on treating the transaction as if it had taken place at the start of the year), of which 20% would be from mining and 80% from smelting and refining. Production of copper and

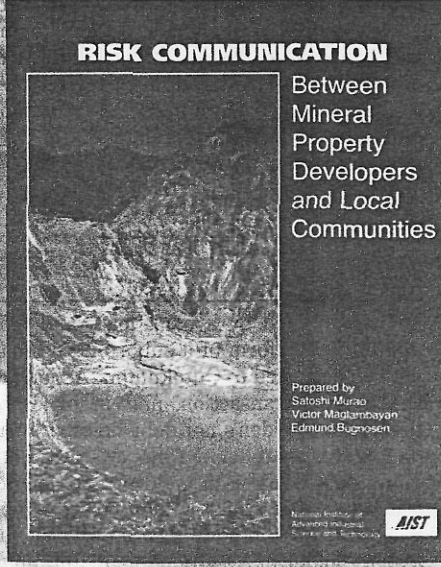
zinc will be roughly double Boliden's current rate. The combination of the two group's mining, smelting and refining businesses are expected to yield annual net cost savings of €25-30 million, mainly from raw-materials supply and commercial optimisation, with the full effect coming in 2005. Mr Johansson said that this estimate is conservative, and does not include any synergies from future investments in copper and zinc. Some 2,200 people currently employed by Outokumpu will be transferred to New Boliden, which, after accounting for Boliden employees joining Outokumpu via its acquisitions, will raise New Boliden's total complement by about 1,000 to 4,800.

Mr Johansson said that New Boliden will be well placed to benefit from a recovery in the zinc market, which he believes is only a matter of time. He calculates that a US\$0.10/lb rise in the zinc price would add €80 million to the new company's annual profits, US\$0.10/lb in copper would yield €20 million, and a 10% strengthening in the US dollar against the euro would add €60 million.

In the other leg of the transaction, Outokumpu will acquire Boliden's copper fabrication business, producing copper tubes and brass products in Sweden, Belgium, the Netherlands and the UK, which Mr

Johansson described as "non core" to Boliden; and Boliden Contech, its technology sales business based in Sweden. These assets had combined sales of €270 million in 2002. Outokumpu will make payment in the form of 5 million new shares, representing a 2.8% shareholding in its enlarged share capital. Based on Outokumpu's closing price last Friday of €9.75/share, these shares are valued at €49 million. The two companies said that there is unlikely to be any lock-up period with respect to these shares, which New Boliden will treat as a cash-equivalent investment. Mr Johansson said that the shares will be sold "when we can get the best value".

The deal remains subject to a number of conditions, including the agreements of both boards and of the majority of shareholders in Boliden, various regulatory approvals, including those of the relevant competition authorities, and to Boliden completing its financing arrangements. Mr Johansson said that experts in competition issues have been consulted, and that no problem is foreseen in this area. The parties expect to sign a final agreement next month, and the arrangements are scheduled to be completed by the end of this year. Enskilda Securities is acting as Boliden's financial adviser, and Outokumpu is being advised by Alfred Berg. □



**RISK COMMUNICATION**  
Between Mineral Property Developers and Local Communities

Prepared by  
Satoshi Murao  
Victor Maglambayan  
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# Myra Falls

## Successful Mining in a Provincial Park

By Julie Domville

**T**he Myra Falls mine is a zinc, copper and gold producer in Strathcona Park, B.C.'s oldest provincial park. An unlikely pairing, a mine and a provincial park, it is, nonetheless, a successful one. The mine has been producing for over thirty years and the horizon is still open.

A veritable workhorse, Myra Falls is one of many in the stable of Boliden Resources, (BOL-TSE) the new Swedish owners of Westmin Resources. Boliden took over the company earlier this year. The mine is now operated under the title of Boliden Westmin Limited — Myra Falls Operations.

Driven by the need to replace a depleting reserve base, mine site exploration in 1998-1999 will reach historical highs in terms of metres of development and diamond drilling. Total expenditures are planned at \$4.1 million Cdn this year and rising to \$5.0 million in 1999.

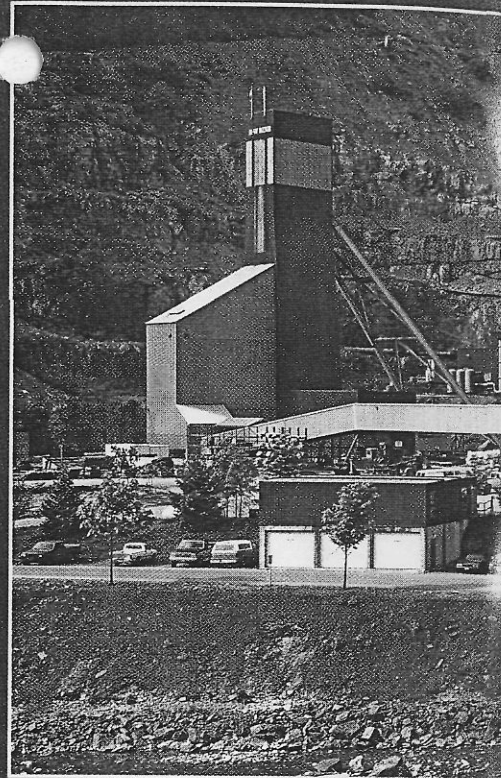
The plans for the 1998 campaign include 1,000 metres of level development to provide a number of drilling cutouts, 21,000 metres of underground diamond drilling and 6,000 metres of surface drilling. The plans for 1999 are not finalized but are tentatively budgeted at 1,500 metres of underground development and 36,000 metres of underground drilling.

Cliff Pearson, Chief Geologist, has been at Myra Falls since 1969. He explains, "We have a long and successful history of minesite exploration, and believe we have a good grasp of exploration targets. Target selection is important and is carefully considered each year. Currently, the main target areas chosen for testing in 1998-99 are the Marshall and West Test zones. These represent the continuation of the highly mineralized HW horizon to the west of the actively producing Battle mine. Approximately 3 km of strike length are unexplored along this trend to the west

property boundary.

The exploration drilling platform of choice is 10 level in the Lynx mine, which lies some 700 metres above the expected ore position. From this advancing development, drilling will test the trend on a predetermined pattern. This work will be augmented by a number of other target areas, which can be tested by surface drilling or underground drilling from pre-existing drilling platforms. These target areas include a potential rhyolite horizon in the footwall to known HW horizon mineralization, the Trumpeter trend along the east half of the property and areas along the upper Lynx-Myra-Price horizon."

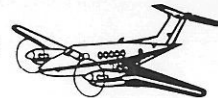
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canogenic massive sulphide deposits are located in the east. A sense of isolation in terms of a relevant pool of knowledge led the geology department to develop an on-going relationship with the CODES (Centre for Ore Deposit and Exploration Study) group from Hobart, Tasmania. CODES is an Australian technical research agency active throughout the Pacific Region countries. Over the past four years, students from CODES have been conducting research and writing reports on Myra Falls, while visiting CODES professors offer their expertise. The Geological Survey of Canada has also done studies on the geochemistry of the deposit on an ongoing basis. The Mineral Deposit Research Unit at the

University of British Columbia has also done studies on the geochemistry of the deposit.

Strathcona Park encompasses 225,000 hectares in the mid-section of Vancouver Island. Of that total, the Myra Falls claim block is 3000 hectares and of that, the actual total of disturbed land is only 150 hectares. One advantage to operating within the boundary of a park is the lack of competition. "Our claim block is discreet; nothing can be done outside the claim block by anyone else or by ourselves," says Mr. Pearson. The company has to seek approval for all surface work from the B.C. Environment Lands & Parks and the Mines Branch, and in some cases the company has had to go

through public process as well.

"You can't just go out, set up and start surface diamond drilling in the same way an exploration company can do outside the park." But, in the last decade, Mr. Pearson says the relationship with the Parks branch has been very good. A hidden advantage to operating a mine in such an area is the high environmental standards the company has developed and maintains. Monitoring of the water quality in Buttle Lake show that metal concentrations in the lake are near pre-mining background levels.

Myra Falls is a classic example of what the mining industry can achieve in terms of environmental excellence. ☒



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SEPT 29/92  
C.M., KAMLOOPS

**BUTTLE LAKE, VANCOUVER ISLAND:  
25 YEARS OF PRODUCTION, 75 YEARS OF DISCOVERY**

**R. Walker**

Geologist John Buttle began mineral exploration in 1865. Subsequent expeditions recognised alpine beauty but, unlike the first, failed to detect mineral potential. This led to the creation of Strathcona Park in 1911. Altered social priorities opened the park to exploration in 1918. Private prospectors, particularly James Cross, immediately staked three surface showings in their search for gold and copper. These became the Lynx, Myra and Price ore zones. Trenches, diamond drill holes and adits in the early 1920's marked this era's failed attempt to develop mineral wealth.

In 1930, H.C. Gunning, in a prescient, G.S.C. Report, correlated the three areas along a "schistified zone" over a length of three miles. By then floatation was established and zinc was a commodity. Gunning concluded: "the principal possibility is of developing a large tonnage of ore of milling grade".

Interest renewed in the 1950's. The property was consolidated and promoted by the Reynold's Syndicate. In 1961, Harold Wright optioned the property for Western Mines (now Westmin Resources) and undertook exploration and development with the support of Cominco. Development was risky and, after withdrawal of bank support, Western Mines succeeded on its own through the grace of a 3 year, tax free period and the unexpected definition of open pit reserves by underground exploration. In 1966, Western Mines committed to production at 680 tonnes/day. The surrounding Park was closed to exploration in 1973.

Exploration has always been based on geometric extrapolation and geological interpretation. The shear zone, vein replacement model prevailed until 1968 when the sea floor, massive sulphide model gained influence. Structural interpretation passed from fault control, to unstructured volcanic morphology to a current view of strong folding and faulting superimposed on bedded volcanics with linear facies. The latter model aided discovery of the Price ore and H-W Mine in 1979. Subsequent discoveries on Lynx and H-W horizons have been guided by long projections of linear trends across offsetting faults. Extreme relief dictates extensive drill drifts too follow the flat plunging zones. This long term venture tests multiple horizons on trends known to extend more than 7 km with no end in sight other than our still distant boundaries against Class A Park which enshrouds this multibillion dollar "resource of the people".

JCS → MYRA FALLS

## SATURDAY, OCTOBER 3, A.M.

### SESSION 2

#### Mining

#### GALAXY THEATRE 1

JOHN SAGMAN, Gibraltar Mines Ltd., and  
RICHARD GRAINGER, Session Chairmen

#### Paper No. 21 — 9:00 a.m.

*Remote-controlled Bench Recovery at the Equity Silver Open Pit Mine.*  
DON ROBERTS, ALBERT CHANCE, Golder Associates, and  
GLENN DUTHIE, Equity Silver Mine

Placer Dome's Equity Silver open pit mining operation, Canada's largest silver mine, is located approximately 70 km southeast of the town of Smithers in north-central British Columbia. The ultimate configuration in the Main Zone Pit was attained in 1991, leaving approximately 143 000 t of high-grade ore containing 146 g/t Ag, 1.2 g/t Au and 0.30% Cu in portions of the benches at the bottom of the pit. Equity has recently recovered the ore from these high-grade zones by removing selected portions of the benches.

This paper discusses the mine planning aspects of the bench recovery program, which include rock mechanics, blast design and mining equipment selection. A detailed review of the stability of the ultimate pit was conducted to assess the feasibility of steepening the pit slopes. Controlled blasting, utilizing decked-charges and inclined blast holes, was used to fragment the 25 m high benches. Excavation was conducted by remote-controlled front-end loader, which permitted mining beneath unbenced slopes up to 55 m in height.

#### Paper No. 22 — 9:30 a.m.

*Labour Relations Issues in the 1990s.*  
VINCENT L. READY

Well known to Canadian industry, the author, a labour arbitrator and mediator, will discuss emerging trends in today's economy, encompassing unions, management, and balance of power.

#### 10:00 a.m. — Coffee Break

#### Paper No. 23 — 10:30 a.m.

*The Lynx Mine, Myra Falls Operations, Westmin Resources Ltd.*  
MIKE BECHERER, Myra Falls Operations, Westmin Resources Ltd.

The Myra Falls Operations of Westmin Resources comprises the H-W and Lynx underground mines and a 3650 tpd milling facility.

The Lynx Mine has been the "link-pin" of the operations. It has been in constant operation for 26 years — at production rates ranging from 1000 tpd to the current 400 tpd. This continuous production has been achieved against formidable odds, a complex orebody, difficult ground conditions, and ore reserves that rarely exceeded five years of planned production.

An estimated 120 individual ore lenses have been accessed, including a number in the Myra Mine (which will be briefly referenced). The 6.1 million tonnes of ore mined to date averaged 2.8 g/t Au, 135 g/t Ag, 1.2% Cu, 1.3% Pb and 7.8% Zn. This represents a gross payable metal value of over one billion dollars.

Mining methods used are conventional and mechanized, and combinations of the two. Many of the stoping techniques that have been tried will be discussed, i.e. cut-and-fill, room-and-pillar, longhole retreat and shrinkage.

#### Paper No. 24 — 11:00 a.m.

*Gibraltar Mines Ltd.'s Employee Involvement Program.*  
JOHN SAGMAN and ROBERT SLATER, Gibraltar Mines Ltd.

Gibraltar Mines Ltd. is one of the lowest grade copper producers in the world today.

CIM Dist. 6 - Oct. 2/92

**TURDAY, OCTOBER 3, A.M.**

**SION 2**

**ng**

**LAXY THEATRE I**

**IN SAGMAN, Gibraltar Mines Ltd., and  
HARD GRAINGER, Session Chairmen**

**No. 21 — 9:00 a.m.**

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**ROBERTS, ALBERT CHANCE, Golder Associates, and**

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**SAGMAN and ROBERT SLATER, Gibraltar Mines Ltd.**

raltar Mines Ltd. is one of the lowest grade copper producers in the world today.

YGS → MYRA FALLS

In order to remain competitive, it is essential that the company investigate new and novel methods of producing copper concentrate. One method has been the introduc- tion of an employee involvement program. The purpose of this program is to remove roadblocks, bottlenecks, and streamline work procedures which will result in increased productivity, employee job satisfaction, and safety awareness. This paper will review the type of program chosen and the reasons for this decision. It also illustrates an ex- ample of one team's performance, and discusses some of the successes and failures that have been encountered to date.

**Geology 2 — Volcanic Massive Sulphide Deposits of the Coastal Cordillera**

**GALAXY THEATRE II**

**JOHN WATKINS, Lac Minerals Ltd., Session Chairman**

**Introduction — Past, Present and Future VMS Deposits of the Coastal Cordillera.**

**Paper No. 25 — 9:00 a.m.**

**Buttle Lake: 25 Years of Production, 75 Years of Discovery.**

**R. WALKER, Westmin Resources Ltd.**

Geologist John Buttle began mineral exploration in 1865. Subsequent expeditions recognized alpine beauty but, unlike the first, failed to detect mineral potential. This led to the creation of Strathcona Park in 1911. Altered social priorities opened the park to exploration in 1918. Private prospectors, particularly James Cross, immediately staked three surface showings in their search for gold and copper. These became the Lynx, Myra and Price ore zones. Trenches, diamond drill holes and adits in the early 1920s marked this era's failed attempt to develop mineral wealth.

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**Paper No. 26 — 9:30 a.m.**

**The Tulsequah Chief Deposit.**

**JOHN GREIG, Redfern Resources Ltd.**

The Tulsequah Chief is a Kuroko-type volcanogenic massive sulphide deposit. The minesite is located in the Tulsequah River valley in northwestern British Columbia, about 45 miles northeast of the deep sea port of Juneau, Alaska, at an elevation of 400 ft.

C/M Distr. 6 - Oct. 2/92



## TECHNICAL PROGRAM

**FRIDAY, OCTOBER 2, A.M.**

### Plenary Session

W. RIVA, Plenary Session Chairman and Honorary Chairman, Fourteenth District 6 Meeting.

Introductory Remarks — 8:30 a.m.

Presentation No. 1 — 8:45 a.m.

*Our Major Challenge is to Bring About Change in Government Attitudes Toward Mining in British Columbia.*

T. WATERLAND, President and Chief Executive Officer, Mining Association of British Columbia

Presentation No. 2 — 9:15 a.m.

*International Partnership in Mine Development.*

A. PETRINA, President and Chief Executive Officer, Placer-Dome Inc., and Chairman, Mining Association of Canada

9:45 a.m. — Coffee Break

Presentation No. 3 — 10:00 a.m.

*The Need for More Effective Management.*

M. LIPKEWICH, Senior Vice-President, Teck Corporation, Metals Division

Presentation No. 4 — 10:30 a.m.

*Opportunities and Challenges for Mining*

JOHN ALLAN, Deputy Minister, Ministry of Energy, Mines and Petroleum Resources, Province of British Columbia

Question Period — 11:00 a.m.

## Technical Sessions

**FRIDAY, OCTOBER 2, P.M.**

### SESSION 1

**New Mining Projects in the District**

**GALAXY THEATRE II**

MIKE DAVIES and FRED BAKER, Klohn Leonoff, Session Chairmen

Paper No. 1 — 2:00 p.m.

*The Windy Craggy Project.*

KEITH SOMERVILLE, Geddes Resources Ltd.

Geddes Resources Ltd. is planning the development of a major copper mine on its Windy Craggy property in the northwestern corner of British Columbia. Engineering plans have been formulated for the project which address technical challenges of mining, processing and transportation for a secure, competitive mining operation. These plans resolve the methods for preventing acid rock drainage, protecting water quality and fish resources and minimizing impact on the wilderness and recreational interests. However, many environmentalists and wilderness proponents oppose the project, proposing instead that the Alsek/Tatshenshini area be excluded from mineral development and be set aside as part of expanded protected areas within the province.

The British Columbia government is carrying out an evaluation of land and water use options for the area preliminary to the remaining permitting studies and reviews.

Paper No. 2 — 2:30 p.m.

*New Ore Discoveries at Myra Falls.*

CLIFF PEARSON, Westmin Resources Ltd., Myra Falls Operations

The Myra Falls Operations of Westmin Resources Limited comprise the H-W and Lynx underground producing mines, together with a 3650 tonne/day milling facility. Production to date has been 12.7 million tonnes from the Lynx, H-W, and Myra mines combined. Present geological reserves are in the 12 to 13 million tonne range.

The ore deposits are volcanogenic massive sulphides of Devonian age, hosted in the Sicker Group of Vancouver Island.

New ore discoveries over the past two years have revitalized the operations and added significant new tonnage to geological reserves.

Specific areas of new ore discovery that will be discussed include: new discoveries in the Lynx Mine; the "Gap" Zone, a high-grade polymetallic ore lens discovered in May 1991 in the H-W Upper Zone stratigraphic position; the "Battle" Zone, a flat-lying lens or series of lenses on the H-W main lens stratigraphic position, i.e. base of the H-W Rhyolite; the H-W West Extension Zone and H-W 43 Block, areas of new ore discovery immediately west and east, respectively, of the H-W Mine; and the "Trumpeter" Zone, a recently discovered (February 1992) high-grade massive sulphide lens (or lenses).

All of the new ore zones mentioned appear to be significantly higher grade than current reserves and thus will have a very positive impact on the economics of Myra Falls Operations as they come on-stream.

Paper No. 3 — 3:00 p.m.

*Brewery Creek Project, Yukon Territory.*

JERRY BIDWELL and J.L. DUKE, Noranda Exploration

The Brewery Creek property is a bulk tonnage gold prospect located 57 km due east of Dawson City, Yukon. The occurrence was discovered by Noranda Exploration in 1987. The project is now held by Hemlo Gold Mines Inc. (51%) and Loki Gold Corp. (49%). Noranda Exploration operates the project on behalf of Hemlo Gold. The

Distr. 6 C/M - CCV. 2/92

# Ivanhoe purchases Mongolian dollar debt

TORONTO-LISTED copper producer Ivanhoe Mines Ltd has purchased US\$50 million in treasury bills issued by the Government of Mongolia as part of the latter's effort to settle outstanding debt with Russia. The one-year debt securities are denominated in US dollars, carry an interest rate of 3% and mature on December 31, 2004.

Ivanhoe said that it had been approached by the government to take part in the offer, which is part of an initiative by Mongolia to raise funds to repay its substantial convertible sovereign debt obligations to Russia that accumulated during the pre-1991, Soviet era. As part of the repayment deal, Russia has agreed to forgive a significant portion of the original debt.

Robert Friedland, Ivanhoe's chief executive, described the initiative as a "very important step by Mongolia in its transformation to a dynamic, modern economy", and said that Ivanhoe was "proud to fulfil a role".

Mr Friedland noted that Ivanhoe has invested around US\$60 million over the past two to three years at its Turquoise Hill copper-gold project in Mongolia's Gobi desert.

The government recently approved the conversion of Ivanhoe's exploration licence to a long-term mining licence, and the company is currently in discussions with the Mongolian authorities to establish the terms and conditions that will apply to the project during its operational phase.

Ivanhoe indicated last month that it would begin constructing some



Friedland: "very important step by Mongolia in its transformation to a modern economy"

exploration shafts at Turquoise Hill in the early part of this year (MJ, December 5, 2003, p9).

Meanwhile, Ivanhoe has purchased 2.5 million units in Pacific Minerals Inc, at C\$1.75/unit, for gross proceeds to Pacific Minerals of C\$4.4 million. Each unit consists of one common share and one share-purchase warrant. Each whole warrant entitles Ivanhoe to acquire an additional Pacific Minerals share at C\$2.20/share for two years.

Ivanhoe now owns approximately 39% of Pacific Minerals' issued and outstanding shares (45% on a fully-diluted basis).

Ivanhoe acquired the securities in a private placing after entering into an agreement with Pacific Minerals regarding the reorganisation of certain project participation agreements between the two companies.

Pacific Minerals raised a further C\$4.8 million through a simultaneous private placing of 3 million units at C\$1.60/unit, in which each unit comprises one common share and one half of a share-purchase warrant. The net proceeds from both placings will be used to advance Pacific Minerals' precious and base-metals projects in China (MJ, March 28, 2003, p221) and Mongolia.

## Development in wrangle over Kaltim Prima Coal

THE longstanding ownership wrangle over Indonesia's largest coal producer, Kaltim Prima Coal (KPC), appears to have been at least partially resolved after the East Kutai Regency effectively acquired a 5% interest in the mine for free.

PT Bumi Resources purchased KPC from the Rio Tinto group and BP plc for US\$500 million last year, and entered into an agreement with the Indonesian Government that it would subsequently sell a 51% stake to Indonesian companies and regional governments (MJ, July 25, 2003, p57).

Under the plan, East Kutai would acquire an 18.6% stake in KPC, the

Provincial Government of East Kalimantan would purchase 12.4%, and PT Tambang Batubara Bukit Asam, a state-controlled coal producer, would buy 20%. East Kutai agreed last year to pay US\$104 million for its 18.6% interest (MJ, October 17, 2003, p309), but subsequently failed to secure financing for the acquisition.

According to a report this week in Indonesian newspaper Kompas, the regency has now 'sold' a 13.6% stake back to Bumi for the same amount, presumably resulting in the cancellation of any outstanding debt to the latter. Bumi would now appear to have a 62.6% interest in KPC.

## Kinross sells its stake in PacRim

AS FORESHADOWED in *Mining Journal* last month (MJ, December 19, 2003, p11), Toronto-listed Kinross Gold Corp has sold its entire 22% shareholding in Vancouver-based Pacific Rim Mining Corp for net proceeds of C\$21.8 million.

Kinross said the investment was "deemed not to be strategic on a going-forward basis".

The shareholding was acquired two years ago through the merger of Pacific Rim and fellow Canadian-based company Dayton Mining Corp, in which Kinross was a significant shareholder (MJ, January 11, 2002, p29). Pacific Rim's shares closed at C\$1.12 last Tuesday (December 30), down by 41% from the closing price on December 12, the day Kinross announced its intention to sell.

### ■ SUEZ'S UMICORE BONDS

Belgian-based speciality materials and metals producer Umicore SA expects bondholders of Suez SA to exercise their right to exchange debt for Umicore shares following Suez's call for early redemption of the convertible bonds. Suez owns 15.7% of Umicore, and issued the bonds in December 2000 as a way to prepare the divestment of its shareholding by 2005. Suez has now exercised an early-redemption option on the bonds which was triggered by Umicore's shares trading at more than 120% of the bond exchange price for one month. Umicore said that the bondholders are now likely to convert their bonds into Umicore common shares, as the conversion value is significantly higher than the cash price offered by Suez for early redemption. Umicore closed at €52.20/share on Monday (January 5), the day Suez announced its early-redemption offer.

### ■ GINDALBIE RIGHTS ISSUE

Australian-listed Gindalbie Gold NL is launching a rights issue to raise up to A\$7.3 million for its exploration projects in Western Australia. Existing shareholders will be offered one new share in the company, at A\$0.16/share, for every three shares held. Meanwhile, Gindalbie announced that it has completed the winding-up of its hedging book, and will now proceed as an unhedged gold producer.

### ■ NEW BOLIDEN DEAL

Boliden AB and Outokumpu Oyj have completed the deal announced last year (MJ, September 12, 2003, p189) whereby Boliden has acquired Outokumpu's mining, smelting and refining assets in zinc and copper, valued at €849 million according to the latest estimate (€736 million last September), and Outokumpu has taken Boliden's downstream copper assets and its minerals technology business. In consideration, New Boliden has issued to Outokumpu: 82.4 million shares in New Boliden (about 49% of its enlarged share capital); €373 million in cash; and a subordinated debenture. Any further change to the value of the assets (resulting from estimated changes in the capital employed), prior to the March 2004 closing date, will be reflected by a further change in the amount of the subordinated debenture (currently estimated at €137 million, compared with €56 million in September). For its part, Outokumpu has issued New Boliden with 5 million new shares (representing approximately 2.8% of the enlarged share capital of Outokumpu).

the reserve of 3.4 million tons  
ing 0.086 oz. gold per ton.  
ayside now says the report was  
oping study analysis" and that,

for the project the Toronto-based  
consulting firm will carry out the  
work needed to grade the DJP  
scoping study to the standard of a

that the economic viability of the  
DJP report will be realized and  
[that] the economic viability of  
project has yet to be established.

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Hole 29 intersected three zones had  
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# CAREER OPPORTUNITIES

STOS → Myra Falls  
Careers cont

Boliden Limited is engaged in the mining, processing and selling of metals and mineral products, principally copper and zinc, with operations in Europe and Canada. Immediate vacancies exist at our Myra Falls Operations located on Vancouver Island for:

## ROCK MECHANIC ENGINEER

This position reports directly to the Senior Engineer. The Rock Mechanic Engineer will work independently to administer the day-to-day operation of existing geotechnical programs. Responsibilities include the development of relevant technologies to evaluate new areas of production and mining methods, determining the effect of rock behavior in compensation to mining activities, and proposing the necessary ground reinforcement to facilitate a safe and efficient underground operation.

Preference will be given to an Engineer with operational experience, as close liaisons with the geology, mining and maintenance groups are essential. The successful candidate will be a Rock Mechanic Engineer who has relevant experience in longhole and drift and fill mining. Good communication and computer skills are required, as well as a demonstrated ability to develop and implement new geotechnical programs.

## GEOLOGIST

A Geologist is required immediately to implement the mine site exploration program at Myra Falls. The exploration program is an integral part of the long-term strategy for Myra Falls and must be led by a dynamic self-starter. Preference will be given to a Geologist with operational experience, as close liaisons with the engineering, mining and maintenance groups are essential. Reporting directly to the Senior Geologist, the responsibilities include program and budget administration, control of drilling programs, core logging and mapping, and calculation of preliminary ore reserves.

The successful candidate will be a Geologist, eligible for APEG of BC Membership, and experienced in a massive sulfide geological setting. Computer skills and a solid understanding of Compass/Minesight software are assets.

Myra Falls Operations offers relocation assistance and an attractive salary and benefits package in a most desirable West Coast location.

Interested, qualified candidates are invited to apply by forwarding their resume by email, fax, or mail to:

Boliden Westmin (Canada) Limited  
Myra Falls Operations, P.O. Box 8000  
Campbell River, B.C. V9W 5E2  
Attention: Ken Doherty  
Human Resources Supervisor  
Fax (250) 287-2093  
email: kdoherty@boliden-westmin.com

We thank all those who apply, however only those under consideration will be contacted.



**Claude  
Resources  
Inc.**

## MINE GEOLOGIST & SHIFT BOSS

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Competition #NOM-04-108

## INTERMEDIATE/ SENIOR MINING ENGINEER

Competition #NOM-04-109

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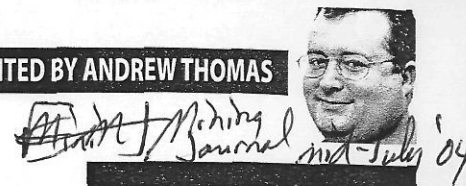
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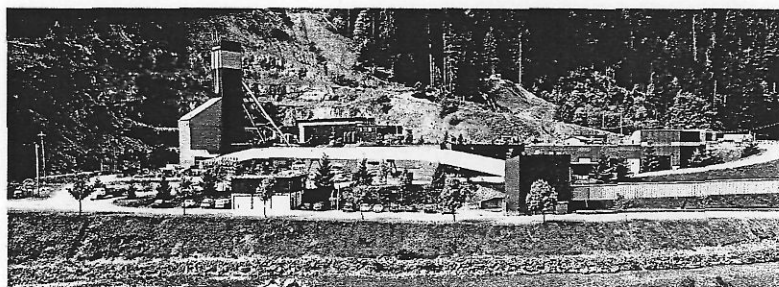
The selected individual will be a hands-on, results-oriented, self-reliant manager with significant demonstrated success in heavy equipment sales, business development, and service contract management. Strong leadership, team-building, interpersonal, and communication skills and commitment are essential.





# Breakwater finalises Myra Falls purchase

TORONTO-BASED Breakwater Resources Ltd has reached a definitive agreement with Boliden Ltd regarding the acquisition of the Myra Falls polymetallic mine on Vancouver Island, British Columbia, and expects to close the deal next week. A preliminary agreement was struck five months ago (MJ, February 20, p5).



Breakwater expects the acquisition of Myra Falls to increase its net revenue during the next six years by 85%. Although the mine is predominantly a zinc producer, and will increase Breakwater's zinc output by 68%, Myra Falls will actually decrease the company's reliance on the metal, from 80% of gross revenue to 71% at current prices, owing to significant by-production of copper, gold and silver.

Myra Falls has proven and probable reserves of 7.75 Mt, at 6.3% Zn, 1.2% Cu, 1.2 g/t Au and 40 g/t Ag; and measured and indicated resources of 10.39 Mt, at 7.8% Zn, 1.4% Cu, 1.7 g/t Au and 56 g/t Ag.

Breakwater estimates mine life at a further seven years, with a "high probability" of 12 years. The acquisition will boost the company's contained zinc

reserves and resources by 41% (proven and probable) and 48% (measured and indicated) respectively.

There are also significant lead values, but these are not currently included in the published reserves and resources as lead is not recovered. Breakwater has begun metallurgical testing at Myra Falls with a view to designing a possible new plant flowsheet incorporating lead recovery.

The acquisition will be settled in Breakwater stock, comprising 18 million new shares, worth approximately C\$7.5 million at current prices, and 5 million share-purchase warrants exercisable at C\$1.00/share until January 27, 2009.

The 18 million shares represent a holding of about 5% in Breakwater, and Jan Johansson, Boliden's chief executive, will join the board of Breakwater. Break-

water will also assume about C\$21.5 million in environmental liabilities.

Meanwhile, Boliden will maintain for a year its existing letters of credit with respect to Myra Falls, posted to comply with environmental obligations, after which Breakwater will release Boliden from these obligations.

As Breakwater is making the acquisition via the purchase of Boliden Westmin (Canada) Ltd, the deal also includes the latter's other assets.

These include a C\$17 million convertible debenture in Taseko Mines Ltd; 11.3 million shares in Expatriate Resources Ltd (representing a 13% interest, worth roughly C\$3.3 million at market prices), which is developing the Wolverine project in Yukon Territory (MJ, June 4, p10); and minor shareholdings in several other exploration companies.

## Lead and zinc output up

MINED lead output rose to 274,500 t in May, from 261,500 t in April, bringing the total for the first five months of this year to 1.27 Mt, according to data released this week by the International Lead and Zinc Study Group (ILZSG).

Refined output, which includes the very significant secondary supply, totalled 2.84 Mt for the five-month period, compared with 2.78 Mt in the corresponding period of last year, whereas refined consumption was only slightly higher, at 2.88 Mt compared with 2.85 Mt.

The continued deficit, albeit narrower, continued to dent stocks, which stood at 3.3 weeks' consumption at the end of May, according to the ILZSG, compared with 4.0 weeks' worth at the end of last year.

Meanwhile, refined zinc production of 4.13 Mt in the five months to the end of May was 3.2% higher than in the cor-

## Japan's Itochu to join CVRD's Chinese coke JV

ITOCHU Corp of Japan plans to join Cia Vale do Rio Doce of Brazil and Yankuang Group Co Ltd of China in a joint venture to produce metallurgical-grade coke in China's Shandong Province.

The JV between CVRD and Yankuang was first revealed in May during a visit to China by the Brazilian President, Luiz Ignácio Lula da Silva (MJ, May 28, p1), and is CVRD's first direct investment in the country.

The project will produce 2 Mt/y of coke and 200,000 t/y of by-product methanol, with a start date in 2006, for a total investment equivalent to US\$275 million. Yankuang has bought the Kaiserstuhl coke plant in Germany, which the JV plans to rebuild in Shandong.

Yankuang will hold a 70% interest in the project, CVRD 25% and Itochu

funding, implying total equity contributions of US\$108 million and project debt of US\$167 million.

Yankuang's contribution will include the mineral resource, plant and physical infrastructure, and the group will guarantee the coal supply, and CVRD and Itochu will also provide marketing, trading and project-finance expertise.

CVRD will export its equity share of output to Brazil, where it will have exclusive marketing rights, Yankuang will have sales rights in China and Itochu will sell its share in other markets.

The deal remains subject to approval by the Chinese authorities.

Meanwhile, CVRD has also signed an agreement with Yankuang for a 25% interest in the Zhaolou coking-coal project in Shandong project. A feasibility study is under way, envisag-

### ■ BECANCOUR UPDATE

A meeting was scheduled for this Thursday afternoon (after Mining Journal went to press), between the Mayor of Becancour, union representatives of the workforce at the town's 400,000 t/y aluminium smelter and Alcoa Inc, the plant's US-based owner, in an effort to resolve a strike which began last week (MJ, July 9, p3). Meanwhile, on Tuesday Alcoa announced it would close the second of the smelter's three potlines as a result of the strike, reducing output to 135,000 t/y on an annualised basis.

### ■ WABUSH STRIKE

The United Steelworkers of America union called a strike at the Wabush iron-ore mine in Labrador, Newfoundland, and its pelletising facility in Québec this week. Wabush is owned 44.6% by Stelco Inc and 28.57% by Dofasco Inc, two steel producers, and 26.83% by iron-ore producer Cleveland-Cliffs Inc. Wabush was scheduled to produce 5.8 Mt this year. According to Cleveland-Cliffs, the strike is over efficiency issues. The company calculates that each week the operations are idled will cost 120,000 t of pellet production. Stelco said its steel production will not be affected, as it has alternative supply sources.

### ■ SHOUGANG BLOCKADE

Contract workers at Shougang Hierro Peru SA's iron-ore mine in Peru continued their two-week-old strike this week. The 180 workers, who are employed by a sub-contractor, have blocked the mine's access road since June 30. Peru's Energy and Mines Minister, Jaime Quijandria, expressed concern that the action would affect production in Peru's steel sector. Company employees at Shougang struck last month for higher pay (MJ, June 4, p4), and the contract workers are apparently seeking a comparable increase.

### ■ DRC MINERS DIE

Nine illegal miners have died and a further 30 or more are reported missing after a collapse at the Shinkolobwe mine near Likasi in the Republic of Congo at the end of last week. Shinkolobwe is famous as the source of the uranium used in the atomic bombs dropped by the US in the Second World War, at which time the deposit was being worked under the Belgian colonial administration. The uranium-mining operation was formally closed, but the area has since been worked for cobalt-



→ Myra Falls

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**MINING**

GlobeMail

**Breakwater stock falls  
on Myra Falls mine delays**

Stock in Breakwater Resources Ltd. dropped yesterday, a day after the company lowered its 2006 production estimates because of delays at its Myra Falls zinc mine in British Columbia. "Principally, additional ventilation requirements in the western extensions of the mine has slowed, and will continue to slow, production improvements in the short term," the company said in a release late Monday. "The surface ramp continues on plan and the breakthrough into the mine ventilation system is anticipated in early November. The mill upgrades are on schedule and on budget." Its revised forecast for Myra Falls calls for 750,000 tonnes of ore milled, consisting of 5.9-per-cent zinc. BWR (TSX) fell 7 cents to \$1. CP

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**ENERGY**

Sep. 26/06

**Alberta Tory decries  
new bitumen exports**

Dinning, the front-runner for  
Alberta

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