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vide at least two thirds of the mill feed until reserves are exhausted elsewhere on the property.

After reviewing the progress Westmin has made delineating and expanding not only the H-W deposit but reserves elsewhere on its nearly 10-sq.-mile property, The Northern Miner can say the potential there appears virtually unlimited. Richard Walker, Westmin's exploration manager, who incidentally spent time at Kidd Creek Mines' Timmins operation, (formerly Texas Gulf), admits about the only thing he can compare the Buttle Lake property to is the deposit at Kidd Creek.

Westmin has nearly all the same metals and significant amounts of gold as well. Kidd, on the other hand, doesn't have any appreciable amounts of gold at its main mine but the company's reserve inventory is enormous.

Mr. Walker notes that the H-W deposit contains 0.07 oz. gold and at the end of 1981 had reserves of 12.9 million tons with 1.0 oz. silver, 2.2% copper, 0.4% lead and 5.1% zinc. A new reserve estimate is being

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Total Pete defers Canadianization due to red tape delays

CALGARY — Delays in getting rulings relating to taxation and exploration incentives have effectively scuttled a planned Canadianization move by Total Petroleum (North America) through a $291 million partnership arrangement with **Newport Petroleums** and **Associated Stanford Resources** (**N.M.**, Oct. 28).

"This has dragged on for several months . . . our board decided not to extend the closing date," Robert A. Wall, Total's general manager for Canadian operations, advised The Northern Miner this week.

The arrangement, involving the sale by Total of a 75% interest in its Canadian oil and gas producing assets to Newport and Stanford, was scheduled originally to close on Oct. 1. In addition to the producing assets, Newport and Stanford were to have the right to earn a 75% interest in Total's unexplored Canadian properties on meeting certain commitments.

chib's president, Richard Lister tells The Northern Miner. As previously reported (**N.M.**, Sept. 23/82), the decision to halt production in August was taken on account of prevailing low metal prices and high production costs. To help reduce labor costs, the company has been asking unionized workers to accept a temporary suspension of automatic cost-of-living increases and a reduction in incentive payments. Dr. Lister notes that all management salaries have either been frozen or reduced and suppliers have made some cost-saving concessions to the company.

and the recovery rate is around 95%.

Resumption of milling also means that Camchib is able to custom treat ore from the nearby Norbeau gold mine, Vice-President Paul Middleton says. Norbeau is a joint venture of **Consolidated Copper-Lode Developments** and Zinc Metal Corp. (a private company owned by Copper-Lode president S. E. Malouf and his family), which have signed a contract for the use of surplus mill capacity over a period extending to Jan. 1, 1984.

While the company has put one of its more advanced projects, the

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Refinancing by Dec. 10

Belmoral and its bank develop objectives for mines' future

CALGARY — Belmoral Mines and Continental Illinois Bank (Canada) have agreed that a refinancing plan for Belmoral should be developed by the mining company "in a form satisfactory to the bank by Dec. 10, 1982, and implemented no later than Mar. 31, 1983."

The Northern Miner gathers that, at this time, it is not known what type of refinancing will be completed.

In a jointly prepared statement last week, Belmoral and the bank said the refinancing may be a straight equity financing through the sale of common and/or preferred shares and/or convertible debentures. It may also involve the restructuring of the approximate $36 million owed the bank by Belmoral.

"In any event, the refinancing plan should reasonably assure the bank a full repayment of its indebtedness and must be prudent in the sense that it should allow Belmoral to meet all of its obligations as they are due, using slightly pessimistic assumptions," said the statement.

It is expected that, whatever refinancing plan emerges, Belmoral will be left in a position to continue operations at its two Val d'Or area gold mines.

"The plan should leave Belmoral in a position to be successful and stable over time," continued the statement.

A listing of Belmoral's liabilities shows that the company's debt to the bank approximates $36 million. Additionally, the company owes $3 million in trade and in other accounts.

About $500,000 is also owed to an unnamed Canadian bank and the company may be liable for up to $4 million to another (unnamed) Canadian bank. Major Belmoral share-

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Esso makes impressive discovery on Silver Butte's Missouri claims

Silver Butte

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VANCOUVER — Although it's still too early to assess the tonnage implications, **Esso Minerals Canada** has partially outlined an impressive but localized zone of base-precious metals mineralization on its Big Missouri Ridge claim group near Stewart, B.C. It is under option from **Consolidated Silver Butte Mines** and is located less than 10 miles from the Canada Wide Mines' (an Esso subsidiary) mill near that community.

According to C. A. Aird, Esso's regional exploration manager, the program was forced to wind down by weather conditions which proved hazardous to drill crews, otherwise it would have been continued because the results are so good. From the exploration standpoint, the topography is extremely difficult and requires helicopter servicing of drill sites, he informs The Northern Miner, but notes another drill program will definitely be mounted next year.

Mr. Aird says the drilling was done "to extend mineralization discovered earlier by trenching," and he adds the present zone of interest involves an area 100 by 100 metres and the zones are very localized and are similar to those found at the old Premier mine which is under option to **Westmin Resources**.

Westmin has property adjacent to the discovery area (on the north and east) but Arthur E. Soregaroli, vice-president exploration, mining division, says Westmin has never explored the area since the focus of its budget involves the Big Missouri mine property.

Esso's drilling returned some nice gold intersections. However, Mr. Aird cautions the core lengths are not true widths although some banding at low angles to the core were noticed.

Most of the drilling was concentrated in the general area of the number two, three and four trenches and the main showings are situated some 800 ft. east and 200 ft. vertically
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Mr. Aird states that

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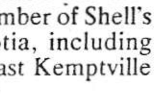

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Minerals Canada, Lacana Mining Corp. and **Kidd Creek Mines.**

Shell has also recently completed a deal to sell many of its claims (excluding uranium properties) in New Brunswick and Quebec to **Billiton Canada.** Billiton has also purchased a large number of Shell's claims in Nova Scotia, including properties around East Kemptville in Yarmouth County.

Rio Algom's strong financial position (net earnings of $65 million in 1981) and the fact that **Rio Tinto Zinc. Corp.** (holding a 52.76 beneficial interest in Rio Algom) operates a tin smelter in England and is familiar with tin marketing through its Cornwall mine and Malaysia tin placer operations, are thought to be the main factors in the company's decision to purchase Shell's property. It is the largest known casserite deposit in North America.

A Rio Algom spokesman told The Northern Miner that "plans for on-going work are being formulated."

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ins major gold producers

Mr. Walker points out that most of the "additional potential" in the H-W zone resulted from "drilling to the east" which blocked out the eastern limit of the deposit. That limit was outlined from the bottom level of the Myra mine where a crosscut extends out to the new H-W zone, although it's about 1,500 ft. above. So far, the H-W zone has been drilled along a strike length of 4,000 ft. and 1,500 ft. of this was drilled from the bottom of the Myra mine. "Compared to other Canadian massive sulphide deposits, it's about average grade," but he adds, "it has an unusual gold content."

Shaft sinking was stopped temporarily at the 20 level (about 1,328 ft. down) until 3,000 ft. of lateral development work was completed which provided a good bulk sample for metallurgical testing and drill stations for close-spaced drilling. Ground conditions were also monitored closely. However, Westmin doesn't think there will be any problems in that area.

The metallurgical program identified three major sulphide types and part of the Myra high grade circuit in the mill was devoted to test material from the H-W mine. No significant recovery problems were identified.

According to Mr. Walker, "there is a distinct possibility of finding other orebodies in the H-W rhyolite," although he notes the "Lynx mine is far from dead yet." Edward Soder, mine manager, says most of the mill feed is being supplied by Lynx at present.

Ideally situated, the H-W deposit is right in the centre of Westmin's property which, incidentally, is located in a Class B park.

H-W shaft

M. F. Lindsay, superintendent, H-W project, says the ultimate depth of the new shaft will be 2,335 ft. and the work is proceeding with an average advance of 7.0 ft. per day (when crews are sinking) for the 14 x 21 ft.-rectangular shaft.

Once the shaft sinking phase is completed, Peter Stokes, general manager, projects, says there will be a changeover period of about three months when power cables are installed together with the pumping system and the roping in of the hoist and skips takes place. By May 1983, major development work underground should be under way.

The H-W will be entirely different from the Lynx mine. Completely trackless (with the exception of haulageways), Mr. Stokes predicts the operation will probably employ a variety of mining methods which might include mechanized cut and fill, blast hole and room and pillar. "We can't utilize any single mining method but rather a variety of methods." Because of the elongated nature of the orebody a ramp will be needed between production levels.

He expects operating costs in the H-W mine will be "substantially lower" than present costs although metallurgical work suggests a finer grind will be needed in the mill for this ore.

The new production hoist is a Swedish model (Asea) with a hoisting capacity at present of 4,200 tons although there is 1,800 tons of additional capacity. The basic requirements have been met to modify the unit to this rate if feasible but Westmin doesn't think it's warranted at the moment. There will only be a hoistman for the service hoist since the production unit will be completely automated.

Mill

The new mill will be built adjacent to the existing one and will have a capacity of 3,000 tons per day, giving the whole operation a total capacity of 4,000 tons. The structure has been designed in such a way that it can be expanded easily should the situation warrant such a move. Overhead conveyors, totally enclosed, will feed ore a distance of 1.2 km from the H-W mine to the process plant. Although no decision has been made yet on what to do with the old mill, it might be used for crushing, or as a backfill plant for underground.

Tailings system

Environmental considerations are an important component in Westmin's expansion program and as a result the company has chosen a land-based tailings system to alleviate public fears of pollutants entering the water system. Extensive testing has shown this wouldn't happen but Westmin decided that tailings disposal on land would be more appropriate given these fears.

Silver Butte

Hole	Intersection (ft.)	Copper	Lead	Zinc	Silver oz.	Gold oz.
3	29.5	—	0.24	1.04	0.50	0.239
4	9.8	—	—	—	0.20	0.160
5	23.0	2.28	4.18	12.61	6.00	0.016
6	23.0	1.75	9.25	11.93	7.78	0.018
7	3.4	—	0.17	3.25	1.53	0.012
8	42.7	0.73	0.14	6.82	2.31	0.022
15	23.0	1.78	0.13	7.18	7.49	0.130
	27.6	—	0.32	5.74	3.58	0.352
	25.6	—	0.24	3.92	1.85	0.101
16	52.5	1.69	3.02	17.43	10.36	0.310

From Page 1

grades were also found in float samples taken below the roadway and this will be a prime target area for next year.

One of the options open to the company would be to drive an adit into the zone which would provide secure drill stations although he believes the present approach will likely be adopted again next year. With a mining operation in the area, Esso would, no doubt, have the capability of mounting a major underground exploration program next year or in the future, The Northern Miner gathers.

Esso has spent about $300,000 on the property already and Louis P. Starck, Silver Butte president, confirms that the company has already earned 60% interest in the property. Silver Butte can elect to take a 20% carried interest by deciding not to participate as a working interest partner in future exploration, he says.

According to Mr. Aird, "Esso is bullish on this little property and we want to find out what modifications have to be made to our mill" to handle material from this property. He feels the localized nature of the zones indicates they could be repeated "several times by faulting."

Mr. Soregaroli doesn't rule out the possibility of Westmin custom-milling material at the Granduc mill, admitting discussions have taken place on this possibility. Any decision would simply be based on price, he adds. In the past Westmin has stated the Big Missouri could be the "nucleus of an important mining operation" and there is considerable speculation the company is close to making a decision on its Stewart holdings.

Following the death of T. S. MacKay last February, Andrew Robertson, well-known mining executive and promoter, took over Silver Butte as interim president until replaced by Louis P. Starck, who also heads up Mascot Gold Mines. Mr. MacKay held on to the Big Missouri Ridge property for 28 years before optioning half to **Tournigan Mining Explorations** which in turn optioned half to Westmin. The other half of the Missouri Ridge ended up with Esso Minerals.

Kiena profit

Kiena Gold Mines, one of the brighter spots in the Falconbridge Group stable, reports a healthy third quarter profit, with earnings to Sept. 30 of $1,336,000, or 28¢ a share.

Kiena President G. P. Mitchell says this result compares favorably with losses of $852,000, and $9,000, for the first and second quarters of 1982 respectively. The third quarter gain brought earnings for this year's 9-month period to $475,000.

There are no comparable figures for the third quarter of 1981 since the company didn't begin commercial production until November of last year.

Mr. Mitchell said higher gold production due to increased tonnage milled, and higher metal prices, contributed to an operating profit of $3,377,000 in the first quarter this year, with net revenue from metal shipments of $8,011,000.

Who will develop the mines in the Hemlo gold camp?

By David Duval

VANCOUVER — All of the evidence to date suggests that the Hemlo area has the makings of a new gold camp. And a look at the players in the area and the status of their various properties indicates there just might be one big mine, rather than two or three smaller ones.

At the moment, **Goliath Gold Mines** and **Golden Sceptre Resources** appear to be in the drivers seat, with Goliath testing the down-dip extension of the open pit discovery made by **Long Lac Mineral Exploration** (**N.M.**, Oct. 21/82), which adjoins the **International Corona Resources** find to the northwest.

Goliath has intersected some spectacular widths, and a gold-bearing mineralized zone at the 1,150-ft. horizon over a distance of 656 ft. with an average true width of 82.2 ft. grading 0.249 oz. gold (**N.M.**, Oct. 28/82). Goliath has put the inferred tonnage in the zone at 2.5 million tons.

Long Lac has calculated its open pit reserves at 1.8 million tons averaging 0.15 oz. gold and that discovery is remarkably similar to the west zone on the nearby Corona property which has 450,000 tons averag-

however, the company still finds itself in an enviable position with what appears to be an important gold discovery down dip and Long Lac has a major trump card in its hands — a sound financial position.

But should the property revert to Corona, which has an option agreement with **Teck Corp.**, the prolific mine developer would likely make an agreement similar to the one on the original discovery property. The two companies have agreed that if either acquires another property five miles east or west, or 3.5 miles north or south of the discovery property, it will be offered to the other on a 55%-45% split in Teck's favor. This is similar to the original agreement.

In the past, Goliath has stated its intention to develop the down dip-extension of Lac's deposit itself. But given the fact Goliath has not had development experience, the logical way to go would be with a major like Teck — or Long Lac for that matter.

Chose Teck

When the original Corona discovery was made, industry sources note that Placer Development offered the company a deal, but Corona chose Teck because it fitted in more closely with Corona's flamboyant

recently purchased a 39% interest in Teck's Bullmoose mine), so the **Rio Algom** subsidiary might be willing to take a piece of the action as well.

The wild card in the Hemlo play would have to be **Noranda Mines,** which is also strapped for cash. Noranda has a sizable position in the area, obtained mostly from VSE juniors, and it wouldn't be out of character for Noranda to acquire a good mineral discovery like Hemlo with a little creative financing.

Noranda's Geco mine (with considerable on-site engineering and management expertise) is within 50 miles of the main discovery and it is plausible that the Geco mill could handle Hemlo ore since Noranda is processing sulphide material containing copper-zinc-silver-lead and probably minute quantities of gold.

Mineralization in the Hemlo area seems to consist of disseminated pyrite and molybdenite which would be compatible, no doubt. Having a process plant in the area would also make it easier for Noranda to establish a quick cash flow from any mining development. Any mine development on the Long Lac property would be difficult, given its property boundaries, but should Lac's holding revert to the Teck-Corona venture the latter would be in a clas-