092HSE 013 092HSE 242 (VIRGINIA)

009006

Drill results enhance Similco mine potential

VANCOUVER — The second phase of this year's drilling program on the area north of the Similco open pit mine, owned by **Princeton Mining** (TSE), continues to yield encouraging results for the company. The Similco copper mine is near Princeton, B.C.

The drilling is part of a $1.5-million program to delineate reserves in the Virginia and Alabama zones as well as in the area joining the two zones.

Results from the initial 20 diamond drill holes on the Virginia zone indicate that the area could add substantially to reserve tonnage and grade.

Drilling on the northeast corner of the Virginia zone intersected 228 ft. grading 0.44% copper from 107-335 ft. with an additional intersection from 400-706 ft. grading 0.59% copper. The intersect included a 56-ft. zone of massive magnetite-chalcopyrite-pyrite mineralization grading 2.21% copper, 0.031 oz. gold and 0.14 oz. silver per ton. The company notes that these intersections greatly increase the potential reserves in the northeast corner of the deposit.

Drilling is continuing toward the open, western end of the deposit, and in the zone connecting the Virginia and Alabama deposits.

Result speculation reason for jump in Crown Butte issue

Crown Butte Resources (VSE) says it isn't aware of any reason, other than market anticipation of drill results at its Montana project, why the price of its shares increased by $2.25 recently on heavy trading.

On July 18, the issue climbed to $11.50 after 42,850 shares had changed hands in morning trading.

Crown Butte currently has five drill rigs running on its New World gold-silver-copper prospect in Montana where **Noranda** (TSE) can earn a 25% interest by funding the project to the feasibility stage.

With reserves standing at 4.64 million tons of grade 0.17 oz. gold (uncut), 0.72 oz. silver per ton and 0.81% copper, a budget of $5.9 million has been set for this year's development program.

"Visual examination of some of the initial holes in the Miller Creek zone has identified good mineralization, but in keeping with past policy only complete assay results will be announced," said President David Rovig.

Complete information on the first set of Miller Creek deposit drill holes is expected to be available soon. Noranda holds a 23% equity interest in Crown Butte.

Durvada looking for reserves

VANCOUVER — With almost no reserve base, **Durvada Resources** (ASE) has been carrying out an ongoing exploration program as it moves previously stockpiled ore to a leach pad at its small gold mining operation near Sandy Valley, Nev.

That program is now beginning to show results in that Durvada recently encountered gold mineralization during a sampling program in the Condor area.

The sampling program was conducted over a 1,500 ft. long baseline at 50 ft. intervals. Values over a 500-ft. width for the length of the baseline returned an average grade of 0.05 oz. gold per ton and varied from 0.015 oz. to 0.13 oz.

The company plans further sampling to extend the surface grid as well as a trenching program. Durvada expects to follow up the sampling and trenching.

Indigo buys claims at Kitsault, B.C.

103P

Indigo Gold Mines (ASE) has purchased an 8-claim property and two crown grants, covering about 6,130 acres, in the Kitsault Lake area of northwestern British Columbia.

The property is being acquired from International Controlled Investments, formerly Lodestar Mines, for $25,000 in past staking costs and 100,000 shares of Indigo. The property will remain subject to a 2% net smelter royalty with a $1-million buyout at the option of Indigo.

Exploration activity has recently been stepped up in the area as another company — **Dolly Varden Minerals** — has commenced a major drilling program within one kilometre of the Indigo property boundary. Initial exploration will begin as soon as regulatory approval has been given to the Indigo property purchase deal.

Program begins on SIB claims

104B

VANCOUVER — The first phase of the 1990 exploration program on the SIB claim group in the Eskay Creek area, 50 miles northwest of Stewart, B.C., is under way. The project is a 50/50 joint venture between **Silver Butte Resources** (VSE) and **American Fibre** (VSE).

The partners plan to complete a

VIRGINIA 092NSE 242

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Pegasus, Pioneer face off in legal battle

VANCOUVER — Court dates have been set for several ongoing disputes involving **Pioneer Metals** (TSE) and **Pegasus Gold** (TSE).

The two companies' falling-out can be traced back to November, 1988, when Pegasus loaned Pioneer $12 million by way of a convertible debenture secured by Pioneer's Stibnite and Bonito gold properties in the U.S.

In November, 1989, Pegasus served Pioneer with a notice of non-monetary defaults under the terms of the convertible debenture and demanded immediate repayment of the debt.

At this point "the gloves were off," with Pioneer responding to the default by commencing action in the Supreme Court of British Columbia. Pegasus in turn began foreclosure action against the Stibnite in Idaho and filed a defence and counterclaim against Pioneer in British Columbia.

The hearing proceeded on April 6, with Pegasus putting its arguments before the court. Pioneer will present its position on June 15. The decision will then rest with the court, which will either grant one company's order or refer the matter to a full trial currently scheduled for May, 1991.

Pegasus's litigation in Idaho to seek a foreclosure of the company's mortgage on the Stibnite mine will be settled in a jury trail set for Oct. 1 in Cascade, Idaho.

Pioneer has made a counterclaim against Pegasus.

As a result of these actions, Pioneer has asked the court to order that the mortgage indebtedness of $12 million be cancelled, that the court award $20 million in damages against Pegasus, and that Pioneer also be awarded punitive damages against Pegasus.

Pioneer notes that it has raised more than 20 defences to Pegasus' foreclosure action.

Pioneer alleges that following a management change at Pegasus in January, 1989, the company was attempting to influence and control Pioneer and that Pegasus was attempting to find a way to acquire Pioneer U.S.'s interest in the Stibnite gold mine in Idaho as early as August, 1989.

Pegasus' primary argument relates to the non-monetary defaults. When the original lending agreement was put in place, Pegasus required that there be certain covenants under the loan arrangement, some of which required Pioneer to keep all of its financial obligations current. Essentially, this means the company must continue to operate as a going concern with sufficient cash flow to pay off its indebtedness.

Pegasus specifically cites Pioneer's inability to meet cash calls made by **Westmin Resources** (TSE) for the Premier project north of Stewart, B.C. Arrears owed by Pioneer are estimated at more than $11 million.

New mines boost Minnova's profit

Production contributions from the new Ansil and Samatosum mines in the first quarter of 1990 resulted in higher earnings for base metal and gold miner **Minnova** (TSE). Net income for the quarter increased to $4.5 million (31¢ per share), compared with $233,000 (2¢ per share) in 1989.

Net sales grew to $47.8 million, more than double the $22.6 million at the same time a year ago. The results reflect strong production performances by the company's operations and contributions from its two new mines which began production on July 1, 1989.

Minnova anticipates that a preliminary feasibility study should be available in the third quarter for its 50/50 joint venture with **Audrey Resources** (TSE) on the Mobrun 1,100 lens polymetallic deposit near Rouyn-Noranda, Que.

The 1100 lens could be in production by the end of 1992, the company said. Underground drilling is nearly half complete and a drift to reach the mineralized zone has commenced with bulk sampling to follow. Preliminary reserves were last reported at 10 million tonnes grading 0.9% copper, 6.2% zinc, 43 grams silver per tonne and 1.6 grams gold.

Cash and short-term securities increased by $3.6 million during the quarter to a balance of $15.4 million at March 31. Capital expenditures, principally on deep development at Lac Shortt, declined to $3.7 million for the quarter.

Minnova (TSE)
$000s except per share items

Quarter ended Mar. 31	1990	1989
Net sales	$47,755	$22,580
Net Income	4,479	233
per share	0.31	0.02

Cal Graphite split

Cal Graphite (VSE), operator of a graphite mine in the startup phase north of Huntsville, Ont., is proposing a 3-for-2 share split. Shareholders will vote on the proposed split June 12 in Vancouver. The company, with about 7.3 million shares outstanding, is currently processing 2,500-3,000 tons of material per day. President John Stirling said the company expects to commence shipping its product by the end of May.

VIRGINIA

Business Opportunities

Princeton president confident of healthy balance sheet

92HSE

VANCOUVER — With net earnings of $2.3 million for the 1990 first quarter, **Princeton Mining** (TSE) is still firmly in the black and paying dividends even though this year's results are off considerably from the 1989 comparable period when earnings totalled $7.3 million.

At the company's first annual meeting of shareholders since a corporate reorganization was completed last winter, President James O'Rourke said the reduced earnings were largely the result of lower copper production and prices and increased costs at the Similco mining operation near Princeton, B.C.

O'Rourke stressed, however, that earnings for the balance of 1990 for all operations are expected to show considerable improvements from first-quarter results at current product prices.

The company produces about 60 million lb. copper each year from its open pit Similco mine near Princeton, and about 100,000 tonnes per year of asbestos fibre from its mine near Cassiar in northwestern British Columbia.

At the Similco mine, earnings were adversely affected in the 1990 first quarter by higher production costs and reduced recoveries resulting from the introduction of ore from the newly developed Pit 1.

O'Rourke said the increased production costs were mainly the result of a temporary accelerated waste stripping program, while the reduced recoveries were the result of higher than expected oxidized ore from the upper benches of Pit 1.

The strip ratio is expected to improve later this year, and recoveries are expected to return to normal levels as the mining progresses below the oxidation.

As part of a new 5-year mine plan implemented in mid-1989, about 30% of the ore mined last year came from the new pit where the ore was found to be fine-grained and harder than originally expected.

In order to keep throughput levels up to target, O'Rourke said the mine plan was "revisited and readjusted" so that mill feed would be an approximate 50-50 blend from the new pit and from Pit 3 which has been the source of mill feed for the past several years.

This year Princeton plans to continue upgrading the mill at Similco and it will also carry out an aggressive exploration program. The 1989 drilling program at Similco outlined a potential deposit which is still open to the west, northwest and at depth. This will be further tested as will other known targets on the property.

Meanwhile, up at the Cassiar operations, Princeton is continuing development of the McDame under-

come the primary source of ore into the next century. Production is expected to start later this year.

Having eliminated its long-term debt associated with the 1988 leveraged Similco acquisition, Princeton is now looking to continue its objective of diversification in the mineral business.

The company has set up a subsidiary in Chile to examine a number of base and precious metal targets in that country. Drilling is planned to start shortly on the Holy gold project where preliminary work has already been completed with encouraging results.

Princeton appears satisfied with its approximate 20% equity interest in **Rea Gold** (TSE) which has a 30% interest and a 5% net smelter return at the producing Samatosum polymetallic mine near Kamloops, B.C.

But O'Rourke said the company may sell its stake (about 2.6 million) shares in **Western Canadian Mining** (TSE), "if the right opportunity came along."

In a more recent development, Princeton announced plans to gain control of **Cliff Resources** (TSE) which is building a wet milling process plant to treat asbestos tailings in Newfoundland. A due diligence study is continuing. If the proposed transaction is completed by Princeton, it would be with a view to apply the wet milling technology to treat tailings at its Cassiar operations.

Northern Dynasty involved with Placer

VANCOUVER — Following the acquisition of the WX Syndicate, Placer Dome U.S., a unit of **Placer Dome** (TSE), is an equal partner with **Northern Dynasty Explorations** (TSE) in the Little Bald Mountain mine.

The mine, an underground heap leach gold-silver operation in Nevada, produced 5,425 oz. gold and 1,589 oz. silver in 1989.

Placer has also entered an agreement allowing it to earn up to a 60% interest in the property surrounding the mine by spending US$1.5 million over four years. Placer must spend US$350,000 in 1990, and a minimum of US$200,000 in each subsequent year.

Dynasty will retain a 44% interest in the current mining operations and can retain up to 31.6% working interest in the area outside the mine.

Dynasty will remain the operator of the mine while Placer will manage its exploration program. The company notes that the exploration program will likely concentrate on areas of projected mineralization across claim boundaries

VIRGINIA 092HSE 242

Cache to resume Courville drilling

A new drilling program will soon be under way on the Courville gold property in the Val d'Or area of Quebec, the president of **Parquet Resources (ME)**, William Plexman, said at the annual meeting.

Explorations Cache (ME), which is earning a 50% interest in the property, will perform surface work and undertake a drilling program this summer. Plexman said eight holes will test the A zone laterally and at depth.

To date, Cache has completed 24 holes representing 15,000 ft. Plexman said the zone has been traced along a strike length of 1,000 ft. and to a depth of 500 ft.

Cache may earn its interest by spending $3 million on exploration work during a 3-year period and making cash payments to Parquet of $300,000. The option deal was signed near the end of 1989.

Work is also expected to start up shortly at Parquet's Duparquet base metal property in the Rouyn-Noranda area of Quebec. Noranda Exploration, a unit of **Noranda (TSE)**, has an option to earn a 50% interest in the property by spending $500,000 during a 3-year period and making payments to Parquet totalling $80,000.

Shares of **Silver Spur Resources Inc (SLC:VSE)** have been split on a 5-new-for-1-old basis. Royal Trust is the transfer agent.

Minera to seek funds for development

Toronto-based **Minera Rayrock (TSE)**, a company whose main mining assets are located in Latin America, is gearing up to raise major development funding for two advanced-stage projects in Chile and Costa Rica.

Shareholders at the annual meeting were told Minera could eventually require up to US$50 million to develop its Bellavista gold deposit in Costa Rica and another US$35-$45 million for development of the company's Ivan copper project in Chile.

"Financing the company's projects will be the main objective for 1990," said President David Crombie, who hopes the company can also develop a larger shareholder base.

Minera's parent is **Rayrock Yellowknife Resources (TSE)**, which owns 58.7% of the company's outstanding shares.

Nearly five years after Minera began its first exploration programs in Latin America, the company has successfully outlined two significant orebodies, the Ivan copper deposit in Chile and the Bellavista gold deposit in Costa Rica. Minera's corporate strategy has been to seek low-cost mining projects in the less-developed countries of Latin America where the geological setting and investment policies are favourable.

"We're working in Latin America for geological and economic reasons," Crombie told shareholders, adding that both Chile and Costa Rica have been experiencing a resurgence of foreign investment in recent years.

In Costa Rica, Minera's Bellavista deposit is situated about 112 km northwest of the capital, San Jose. The deposit hosts minable reserves of 14.5 million tons grading 0.05 oz. gold per ton, and operating costs for a proposed open-pit mine are estimated at between US$200-$225 per oz., based on an annual production rate of between 65,000-75,000 oz.

Crombie said Minera's objective is to complete a final feasibility study at Bellavista this year and finalize negotiations with the Costa Rican government regarding foreign exchange policies.

Following a planned merger with **Westlake Industries (VSE)**, which owns 40% of the Bellevista project, Minera will end up with 100% control of the gold deposit. Westlake also holds 3.2 million shares of Minera, which will be cancelled upon completion of the merger. The arrangement is still subject to the approval of Westlake shareholders. Following the merger, Minera would have $4.7 million in cash and nearly 16 million shares outstanding with a float of about 9 million shares.

In Chile, the company's 100%-owned Ivan copper project could receive a positive production decision later this year following completion of a feasibility study. The deposit, which hosts 5.8 million tons grading 2.3% copper, is small but of good grade and is well-located near Antofagasta, northern Chile's largest city.

Minera has also formed a 50/50 joint venture for general exploration in Chile with partner **Hecla Mining (NYSE)**. The joint venture, operated by Minera, is focusing on copper and precious metal properties in northern Chile. About $1 million will be spent during each year of the 3-year exploration agreement.

Shareholders also approved resolutions at the annual meeting reducing the company's stated capital by $11.3 million, as well as increasing its authorized capital to an unlimited number of common shares.

Varitech, Major General agree on Tam copper-gold option terms

Vancouver-based **Varitech Resources (VSE)** has signed a letter of intent to option a 50% interest in **Major General Resources' (VSE)** Tam copper-gold-silver property in British Columbia.

The agreement calls for Varitech to make a cash payment of $60,000 as well as issue 150,000 shares to Major General and spend $600,000 on exploration over a 3-year period.

The property, formerly owned by UMEX, is located in the Omineca mining district about 93 miles northwest of Fort St. James, B.C.

Previous drilling by UMEX in 1973-75 outlined a deposit containing preliminary reserves estimated at 7.7 million tons grading 0.55% copper with unknown gold values. The property is situated in a porphyry-copper-gold setting.

Core from some 19 previous drill holes will be reassayed for gold as part of the future work program, Varitech said. Strong exploration potential is indicated on the Tam property by large surface geophysical and geochemical anomalies trending northwest from the Boundary deposit. Additional claims have been staked to cover the northerly extensions.

Some of the better results from previous drilling on the property include 578 ft. grading 0.67% copper, 536 ft. grading 0.38%, 183 ft. grading 0.56% and 170 ft. grading 0.40%.

Varitech said preparations are currently under way to commence field work on the property. The company recently completed two private financings.

Elsewhere, Major General has two drill programs under way on its other gold properties in Ontario and Newfoundland. The first program is on its Rendell-Jackman joint venture with **Noranda (TSE)** near Springdale, Nfld., the second on its Dorothy Lake gold property near Pickle Lake, Ont.

The 7-hole program at Rendell-Jackman is designed to test the depth and strike extent of the Hammer Down and Rumbullion gold zones where preliminary reserves stand at 429,593 tons grading 0.34 oz. gold per ton (0.57 oz. uncut).

Additional work is also planned this summer for the Lochinvar zinc-silver showing situated half a mile east of the Hammer Down gold zone. The Lochinvar program will test the depth and strike extension of zones which yielded intersections of 16 ft. grading 3.95% zinc and 15 ft. grading 2.3% zinc with silver and lead values. Work will consist of a deep electro-magnetic survey and two drill holes totalling about 1,600 ft.

A deep EM survey is also planned for another copper-gold prospect situated 2.8 miles east of the Hammer Down gold zone.

Melinga Resources completes drill access road in Honduras

Dallas-based **Melinga Resources (VSE)** has completed construction of a drill access road into its 100%-owned Macuelizo mineral concession in northwestern Honduras.

The 55-square-mile property, which is being re-evaluated by Melinga for its gold potential, hosts a deposit with preliminary reserves estimated previously at around 17.5 million tons grading 0.04 oz. gold per ton.

According to W.F. Johnson, a Melinga director, a preliminary sampling program was initiated last month over portions of the Macuelizo concession, formerly known as the Vueltas del Rio area.

Previous work on the property has indicated a large tonnage of low-grade gold and copper reserves, minable by open pit methods.

Samples from the gold zone were sent to Assayers Ontario Laboratories for confirmation and later forwarded to Lakefield Research for metallurgical testing. Mr. Johnson said the initial five bottle roll tests indicate acceptable levels of cyanide consumption (under 1.7 lb. per ton) with gold recovery averaging 91% in 48 hours. In addition to the metallurgical work, four 30-day column tests are under way with results expected soon. Two of the column tests are using agglomerated material and two are unagglomerated to determine whether that processing phase will be necessary.

Mr. Johnson said "the results to date are encouraging, and it appears that the gold zone is amenable to low-cost, heap-leach gold extraction."

Underlying the gold zone is an 11-million-ton preliminary reserve of copper mineralization averaging about 0.54% copper per ton. The property was examined back in [illegible]

Phoenix dissolution

Shareholders of **Phoenix Gold Mines (TSE)** and **St Andrew Goldfields (TSE)** have ratified an agreement under which the latter company has agreed to buy all the property assets of Phoenix for 2.3 million previously unissued shares of St Andrew worth about $3.4 million.

The transaction was ratified by a special resolution passed by a majority of more than two-thirds of the votes cast at the recent annual meeting of Phoenix shareholders. The transaction will be completed by the end of June, the company said.

The shares of St Andrew received by Phoenix will [illegible]

(92HSE012)

Princeton encouraged by drill program

VANCOUVER — An exploration program at the Similco copper mine near Princeton, B.C., is turning out "encouraging" results for owner, **Princeton Mining (TSE)**.

The company believes the area of exploration north of the existing mine could be the site of a new pit exceeding 20 million tons with a low strip ratio.

The drilling, part of a $2 million program, points to a link between two zones, the Virginia and Alabama. Copper values in the two zones indicate an average of 0.32% copper, while precious metal values appear to be about three times the mine's present average (Similco produced 17,277 oz. gold and 432,220 oz. silver in 1989).

Drilling in another area, dubbed the Oriole Pits, defined a vertically-dipping linear sulphide zone southeast of Pit 3 grading about 0.5% copper. The average thickness encountered is 150 ft., while the strike length is in excess of 600 ft. with the zone remaining open to depth.

About 3,000 ft. southeast of the Oriole Pits, a drill hole intersected 130 ft. of 0.7% copper in an area where, in 1989, hole 89-3 intersected 53 ft. of 0.97% copper and hole 89-6 returned 217 ft. grading 0.58% copper.

The continuing exploration program will concentrate on delineating the Virginia and Alabama for inclusion in [illegible]

George Cross

VIRGINIA

092HSE 242

NO.81(1990)
APRIL 26, 1990

Reliable

WESTERN CANADI

PRINCETON MINING CORPORATION (PMC-T)

THREE MONTHS ENDED MARCH 31,	1990	1989
REVENUE	$28,600,000	$33,200,000
NET EARNINGS	2,300,000	7,300,000
EARNINGS PER SHARE BASIC	10¢	40¢
EARNINGS PER SHARE DILUTED	10¢	31¢

James C. O'Rourke, president, told the annual meeting of Princeton Mining earnings for the quarter ending March 31, 1990 were slightly higher than the $1,900,000 for the previous quarter. Earnings for the quarter were below those for the comparable period last year because of increased costs associated with the accelerated waste mining plan and lower production resulting from treating Pit 1 ore at the Similco copper mine at Princeton, B.C. The upgrading of the mine trucks from 100 tons to 120 and 150-ton trucks has reduced unit mining costs from 80¢ to 67¢ per ton. The stripping ratio in the last quarter of 1989 was 2:1 and is now forecast to be 0.8 to 1 for the next five years in the No.3 pit. The ore from the No.1 pit has been fine grained and harder than other mine ores. The recent increase in production from the No.1 pit has provided poor copper recoveries. To improve recoveries No.1 pit production has been adjusted to about 50% of throughput. These factors continued to impact on operations during the first two months of 1990. A significant reduction in waste removal is planned at Similco later in 1990. The $2,000,000 in flow-through funds received for 300,000 shares at $6.50 from CMD are to be used to explore the No.2 pit area and the Virgina and other deposits in the Lost Horse Canyon area. The 1989 diamond drilling program has added geological reserves of 10,000,000 tons grading 0.327% copper. Total mineral inventory at the mine at Jan. 1, 1989, was calculated at 170,500,000 tons grading 0.41% copper.

ALABAMA
092HSE 013

The Similco milling operation is being upgraded to improve recoveries and sustain copper output at 60,000,000 pounds per year. The operational performance of the plant improved considerably in March. The company has sold forward 59% of the 1990 copper production at a price of $1.10 U.S. per pound.

92HSE 173

092HSE 242 (VIRGINIA)

NO.148(1990)
AUGUST 1, 1990

George Cross

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WESTERN CANADA

PRINCETON MINING CORP. (PMC-T)
(formerly CASSIAR MINING CORPORATION)

RECENT MINE EXPLORATION HAS INCREASED TONNAGE
INCREASED OVERALL GRADE AND INCREASED GRADE AT DEPTH

At Dec.31,1989, reserves at the Similco copper mine, 100% owned by Princeton Mining, located at Princeton, B.C., were 170,000,000 tons grading 0.41% copper plus gold 0.0021 ounces gold/ton. The company in June reported 25,000 feet of drilling added some 20,000,000 tons to these reserves at a grade of 0.32% copper but with elevated gold values, three times the present mine average. (One hole carried 10 feet of 0.44 oz. gold per ton.) That would be to a gold grade of 0.006 oz.per ton. From 8,312,000 tons processed in 1989, the mine recovered 57,420,000 pounds of copper, plus 17,277 ounces gold and 432,220 ounces silver. These new reserves hold the potential to double or triple gold production in future years with a significant impact on earnings when these reserves are mined and processed. A further favourable feature is the ore is near surface and available to a suggested 0.6 to 1 stripping ratio. (SEE RESULTS AND MAPS OVERLEAF PAGES 1 & 2)

In April 1990, Princeton Mining concluded the sale of about 300,000 flow-through shares at $6.50 each to CMP Funds Management Ltd. for $2,000,000 to be used in mine exploration. About two-thirds of the program is now completed.

92HSE 13 1

p. 1 of 6

George Cross
Reliable K
NO.148(1990)
AUGUST 1, 1990
WESTERN CANADA

In a recent interview with Bob A. Hamaguchi, general manager, Similco Mines, and Bill Epp, mine exploration geologist, they pointed out exploration at the mine substantially ceased about 1970 when ore reserves had been established for 20 years of operations. When ownership of the mine was assumed by Princeton Mining, exploration resumed. The work has been in two main areas. First is in the Lost Horse Gulch area where the Alabama zone and the Virginia zone have been drilled to add the 20,000,000 tons. The most recent drilling has added further to the mineable area in each of these zones but also has established the zones are connected and that they will likely be mined as one pit. New reserve calculations will only be made when the current drilling is completed but a substantial addition to the 20,000,000 tons is indicated. As important as the new tons is the real impact from the elevated gold values which tend to be increasing in both thickness and grade at depth. Two of the better holes returned 651 feet of 0.6% copper and 587 feet of 0.96% copper, with good grades in the toe of the hole. The zones are still open to extension on three sides. Part of the Lost Horse Gulch was being explored as a potential waste disposal area when soil sampling returned elevated gold values and two percussion holes cut 100 feet of 0.3% copper. Then a follow-up hole cut 575 feet of 0.5% copper. The area was considered attractive since there is an old adit carrying 1% copper on the Alabama zone.

The present drill plan calls for definition of the Virginia zone by year end where mining could be underway as early as mid-1991. The recent drilling has increased the Virginia zone overall grade from 0.32% to 0.41% with an indicated recovery of 85% in the mill.

-CONTINUED ON PAGE TWO-

92HSE 13
p. 2 of 6

George Cross
Reliable K
WESTERN CANADA

NO.148(1990)
AUGUST 1, 1990

PRINCETON MINING CORP. (PMC-T)
(formerly CASSIAR MINING CORPORATION)

CONTINUED FROM PAGE ONE - In this same Lost Horse Gulch area there are the Mill zone, the Voight zone and the Wolf Creek East zone each of which hold strong potential and all are related to the contact area between the Voight stock and the Nicola volcanics. The Voight is a linear structure carrying copper and gold values indicated by geologial mapping, soil sample and magnetometer anomalies. The Wolf Creek East has a high chargeability induced polarization anomaly and the old files note an adit with 1% copper.

The No.1 and No.3 pits which are currently being mined are located along the Main Mine fault which runs northwest-southeast. Just to the southeast of the No.3 pit is the Oriole zone which has been mapped over a 4,000-foot length along the fault and is up to 1,000 feet wide. Within this Oriole zone, in the northwest section, is an area 500 ft. by 500 ft. and to a depth of 600 feet which grades 0.5% copper. This area could add some 10,000,000 tons. None of zones are sufficiently explored to be included in reserves. Further to the southeast in the Oriole area there are induced polarization and soil sample anomalies which have returned 217 feet of 0.578% copper and 198 feet grading 0.5% copper which have yet to be tested in detail. Almost a mile due south of the Oriole zone is ground recently optioned from Targas which carries copper and gold values of interest and which will be further explored.

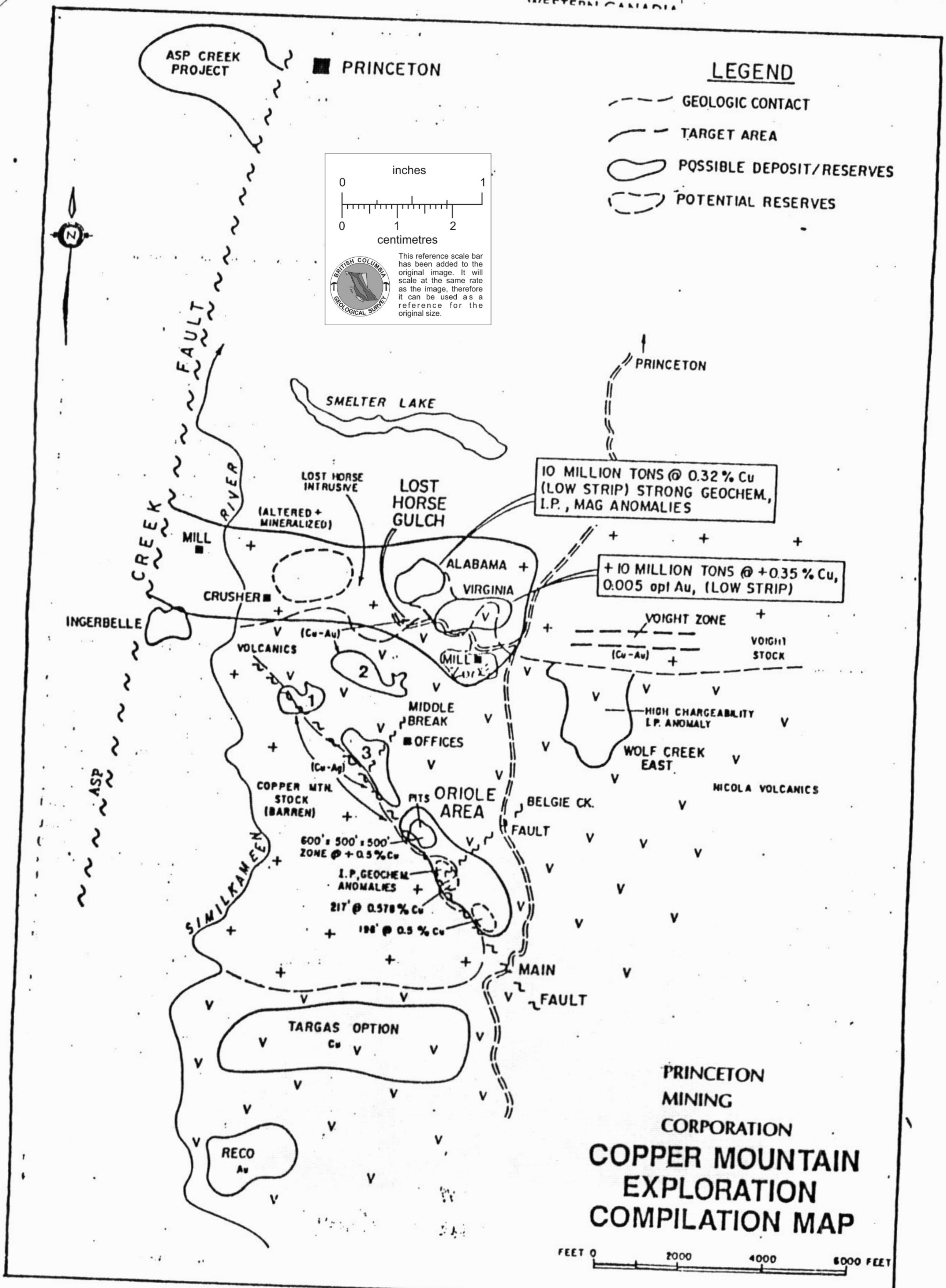
There are also half a dozen other areas on the property where elevated gold and copper values have been recorded which will also be further explored.

Mr.Hamaguchi summarized by saying while it is not yet complete he is comfortable a five-year mine plan will be in place by the end of 1990 and a ten-year plan probably by mid-1991. With those in place, more management efforts can be directed to increasing efficiency, through-put, recovery and cost reduction.

92HSE 131
p. 3 of 6

NO.148(1990)
AUGUST 1, 1990

George Cross
Reliable K



92HSE 1

inches

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centimetres

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

NO.148(1990)
AUGUST 1, 1990

WESTERN CANADA

George Cross

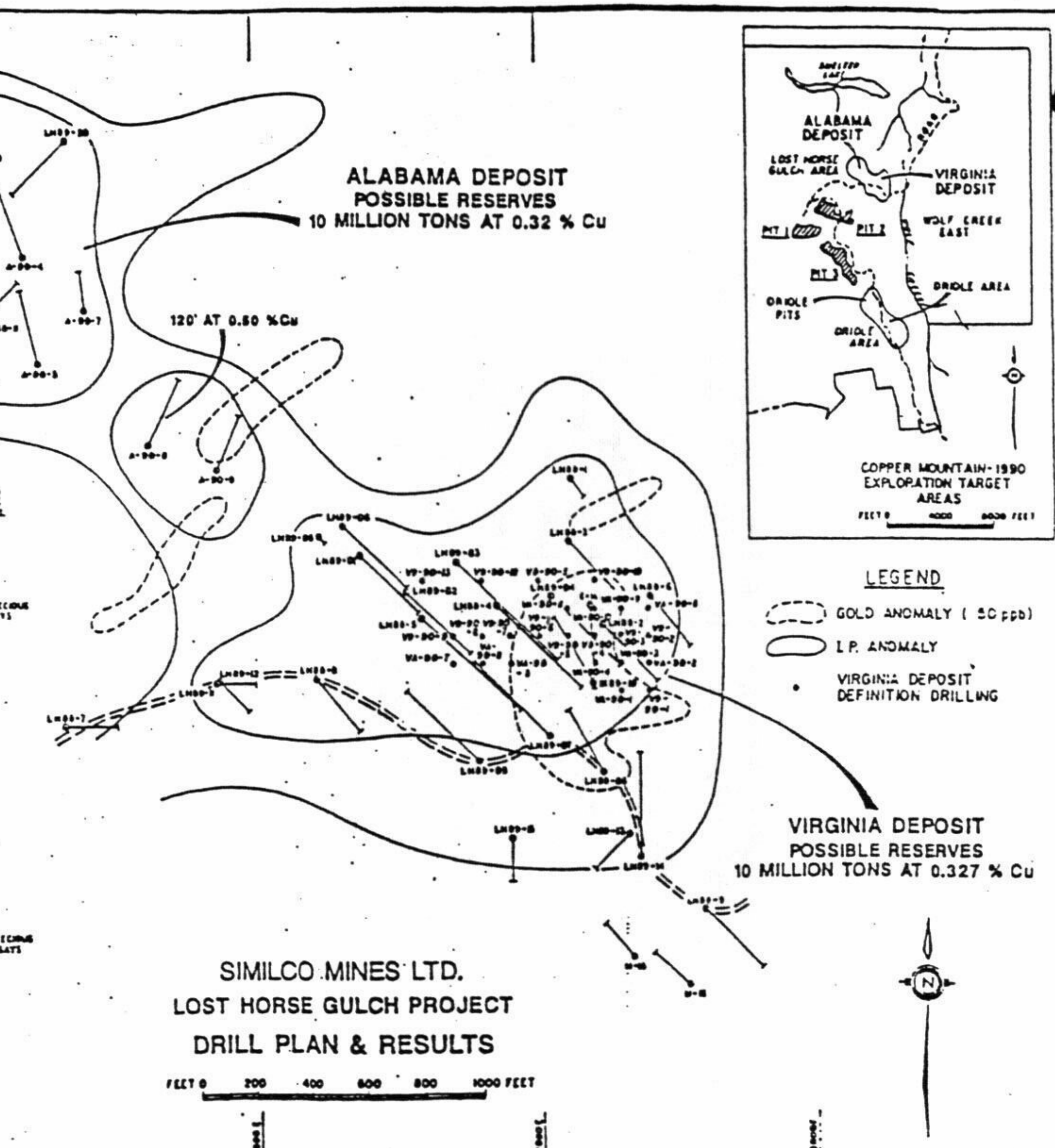
PRINCETON MINING CORPORATION

HOLE NO.	INTERVAL	LENGTH	COPPER %
VA-90-11	680-760	80	0.52%
VA-90-12	160-228	68	.25
	380-420	40	.28
VA-90-13	230-258	28	.26
VA-90-14	293-760	467	.44
including		60	1.30
VA-90-16	410-560	150	.26
including		40	.40
including		65	.30
VB-90-11	133-165	32	.30
	450-475	52	.29
	580-613	33	.24
VB-90-12	80-128	48	.26
	695-750	65	.35
	740-750	10	.95
VB-90-13	70-661	591	.34
including		75	1.12
including		135	.40
VB-90-14	370-580	210	.24
including		50	.46
VB-90-17	210-340	130	.32
including		100	.37
VB-90-18	140-180	40	.30
including		80	.34

1990 VIRGINIA DRILLING RESULTS

HOLE No	FROM FEET	TO FEET	LENGTH FEET	COPPER %	*COPPER EQUIV %
VA-90-1	88.5	330	[illegible]	0.281	0.33
ALSO	370	520	150	0.37	0.46
ALSO	624	672	48	0.53	0.66
END OF HOLE					
VA-90-2	60	266	206	0.33	0.44
	431	480	33	0.28	0.34
VA-90-3	340	392	52	0.39	PENDING PRECIOUS METAL ASSAYS
VA-90-4	20	673	653	0.33	"
ALSO	477	587	110	0.66	"
ALSO	346	587	241	0.46	"
	490	587	97	0.95	"
VA-90-5	20	193	173	0.34	"
ALSO	438	651	213	0.49	"
END OF HOLE					
VA-90-6	62	507	445	0.30	"
VA-90-7	15	310	295	0.30	"
ALSO	611	675	64	0.33	"
ALSO	15	675	660	0.25	"
END OF HOLE					
VA-90-8	265	404.5	139.5	0.34	"
VA-90-9	20	70	50	0.40	"
	300	770	[illegible]	0.30	"
VA-90-10	190	380	190	0.48	"
VB-90-1	420	690	270	0.30	0.46
END OF HOLE					
VB-90-2	0	183	183	0.30	0.52
ALSO	231	470	239	0.27	0.35
VB-90-3	27	420	393	0.32	0.82
NOTE: 410-420 IS 0.44 oz/Ton GOLD					
VB-90-4	230	480	250	0.22	0.29
VB-90-5	118	310	192	0.52	PENDING PRECIOUS METAL ASSAYS
VB-90-6	329	412	83	0.22	"
ALSO	615	670	55	0.34	"
VB-90-7	90	208	118	0.27	"
ALSO	490	740	250	0.44	"
END OF HOLE					
VB-90-8	455	660	206	0.32	"
ALSO	445	540	95	0.74	"
ALSO	610	660	50	0.90	"
VB-90-9	80	480	400	0.70	"
VB-90-10	107	335	228	0.44	0.87
ALSO	400	706	306	0.59	0.78
ALSO	558	614	56	2.21	2.76

*NOTE —
— Cu EQUIV CALCULATED @ $350 US/oz Au AND $5 US/oz Ag AND $1.05/lb Cu



SIMILCO MINES LTD.
LOST HORSE GULCH PROJECT
DRILL PLAN & RESULTS

FEET 0 200 400 600 800 1000 FEET

VIRGINIA

092HSE242

George Cross

Reliable K

NO.118(1990)
JUNE 19, 1990

WESTERN CANADA

PRINCETON MINING CORP. (PMC-T)

ORE RESERVES INCREASED BY - David K. Duval, manager,
12% IN CURRENT PROGRAM corporate relations, reports encouraging diamond drill results have been received from the first phase of an exploration program on the 100%-owned Similco open pit copper mine Princeton, B.C. SEE RESULTS AND MAP OVERLEAF PAGE 1. Since April, 25,000 feet of drilling has been completed on a large IP anomaly located adjacent to the current mining. The work is being funded by a $2,000,000 flow-through equity issue to CMP Funds Management. About $500,000 has been spent to date.

The results indicate a link between the Alabama and Virginia zones, which could result in a new low strip ratio open pit reserve exceeding 20,000,000 tons. Mine reserves at Jan.1,1990, were estimated at 170,500,000 tons grading 0.41% copper available to a 2.07 waste to one stripping ratio. Copper assays in the Virginia and Alabama zones average 0.32% copper with elevated precious metal values up to three times the present mine average. The mine produced 17,277 oz. of gold and 432,220 oz. of silver in 1989.

Drilling in the Oriole pits defined a vertically dipping linear sulphide zone SE of Pit 3 grading 0.5% copper. Average thickness of the portions drilled is 150 feet with a 600 foot strike length, open to depth.

Some 3,000 feet SE of the Oriole pits, drill hole 0-90-1 cut 130 feet of 0.7% copper. Two 1989 holes on the same section returned 53 feet grading 0.97% copper in hole 0-89-3 and 217 feet of 0.58% copper in hole 0-89-6. Other IP drill targets are about 4,000 ft. east of Pit 2 and will be tested. Definition drilling is planned for the Alabama and Virginia zones. The current program is designed to upgrade reserves for mining. (SEE GCNL No.81, 26Apr90, FOR MINE REVIEW)

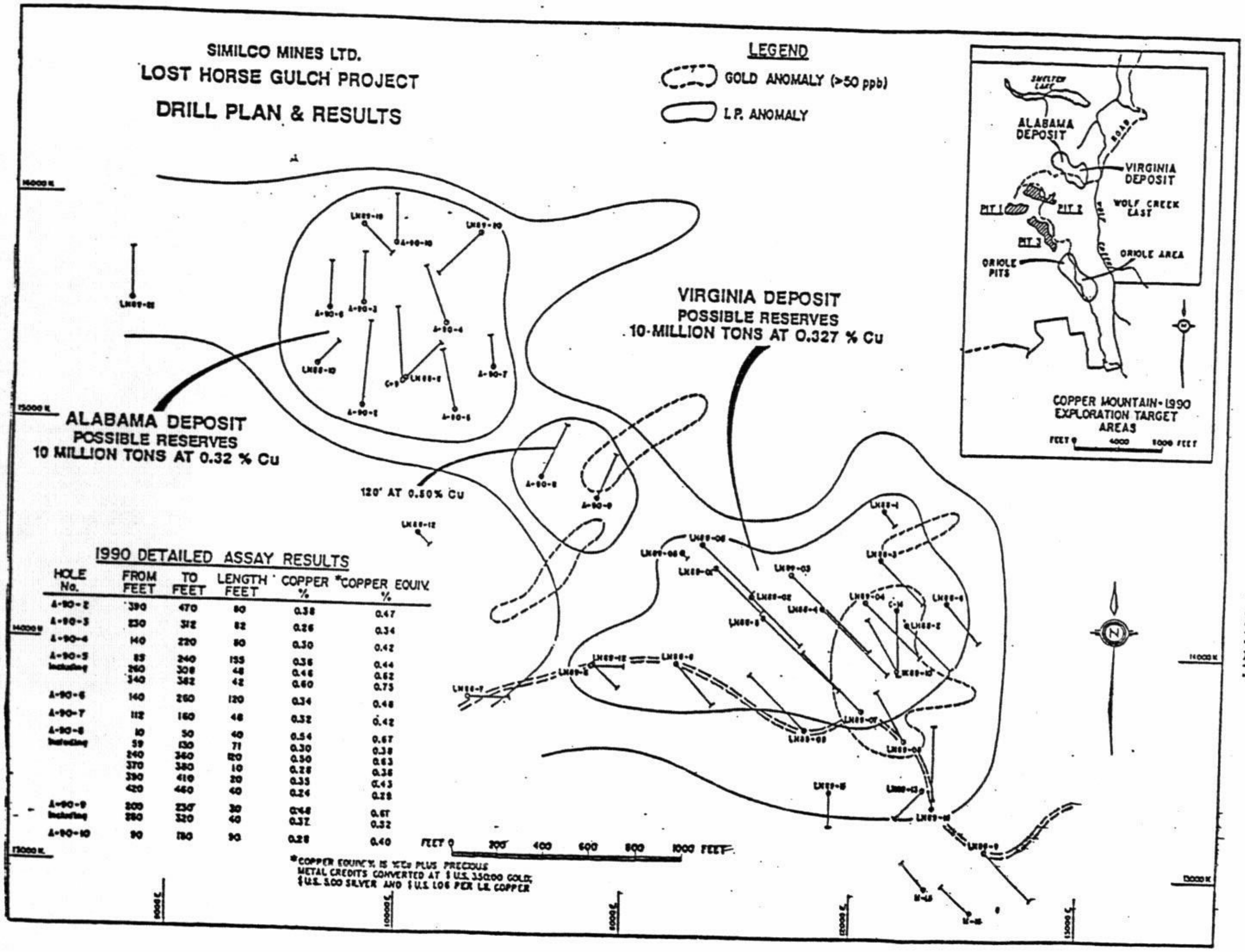
92HSE XB 1

p. 1 of 2

NO.118(1990)
JUNE 19, 1990

George Cross

VIRGINIA



1990 DETAILED ASSAY RESULTS

HOLE No.	FROM FEET	TO FEET	LENGTH FEET	COPPER %	*COPPER EQUIV. %
A-90-2	390	470	80	0.38	0.47
A-90-3	230	312	82	0.26	0.34
A-90-4	140	220	80	0.30	0.42
A-90-5	85	240	155	0.36	0.44
Including	260	308	48	0.46	0.62
	340	382	42	0.60	0.73
A-90-6	140	260	120	0.34	0.48
A-90-7	112	160	48	0.32	0.42
A-90-8	10	50	40	0.54	0.67
Including	59	130	71	0.30	0.38
	240	360	120	0.50	0.63
	370	380	10	0.28	0.36
	390	410	20	0.35	0.43
	420	460	40	0.24	0.28
A-90-9	200	230	30	0.48	0.67
Including	280	320	40	0.32	0.32
A-90-10	90	180	90	0.28	0.40

*COPPER EQUIV.% IS %Cu PLUS PRECIOUS METAL CREDITS CONVERTED AT $U.S. 350.00 GOLD; $U.S. 5.00 SILVER AND $U.S. 1.06 PER LB. COPPER

92H SE TB 1
p. 2 of 2

Founded 1915

CANADA'S MINERAL RESOURCES NEWSPAPER

August 8, 1990

092HSE 242 (VIRGINIA)

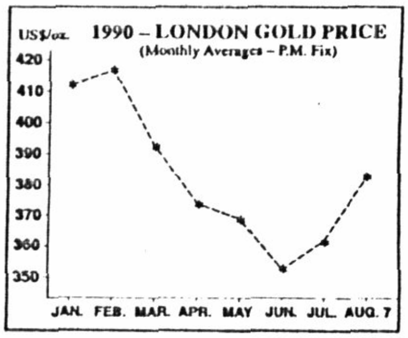
ions in Middle East send bullion, oil prices soaring

extremely volatile with the ng crisis in the Mid-East. ek as an armada of U.S. forces headed for the Gulf, oil hit a 5-year high 28.31, up nearly 70% from 72 as of July 2.

sts said the prospect of sus- igher oil prices will most bring higher inflation, and s caused gold share prices ate wildly.

some observers feel the s over-reacting, other analysts suggest North American gold equities may now face a period of relative improvement.

"The recent developments in the Middle East are very positive for gold," said Catherine Gignac, an analyst for securities firm McNeil Mantha. "Investors who are not currently holding gold equities may now move into the market," she said, adding there will likely be some heavy selling by profit takers, but some large buyers could also come back into the market.



Gignac is forecasting a gold price of US$400 by year-end and an average price of US$425 in 1991.

"This is an obvious buy signa for investors who have not bee holding gold stocks," she said.

Often considered as the las refuge of security in times of economic uncertainty, investors ca find plenty of reasons for insecur ity these days.

"Gold is an emotional metal," explained Ron Coll, an analyst with securities firm McLean McCarthy. "Probably 50% of what affects the price of gold is emotion."

See GOLD, Page 2

92HSE 076

Princeton surveys potential r Similco reserve expansion

ivian Danielson

inceton, B.C. — When a cessor company to Prince- Mining (TSE) acquired the co open pit copper mine this picturesque com- ty in June, 1988 ~~it was~~ a view to provide a much- d diversification from as- s fibre.

ving accomplished that tive at a bargain basement in time to benefit from a upswing for the red metal, ton is turning its attention anding reserves at Similco d its current 5-year mine At the same time, the com- is continuing work to le and refit the 30-year-old trator to increase its over- ciency and availability.

k on both fronts was in ar when *The Northern* visited the Similco prop- 70 miles east of Vancou- C., in late July. The 1990 tion program, funded by $2-million flow-through ssue, is largely focused Lost Horse Gulch project lefinition drilling is con- to return encouraging rom the Virginia and Ala- eposits.

the end of this year we should have a minable reserve in the Virginia deposit at a higher grade than we initially thought," said Robert Hamaguchi, general manager at Similco. "We now see the kind of potential we need for a 10-year mine plan."

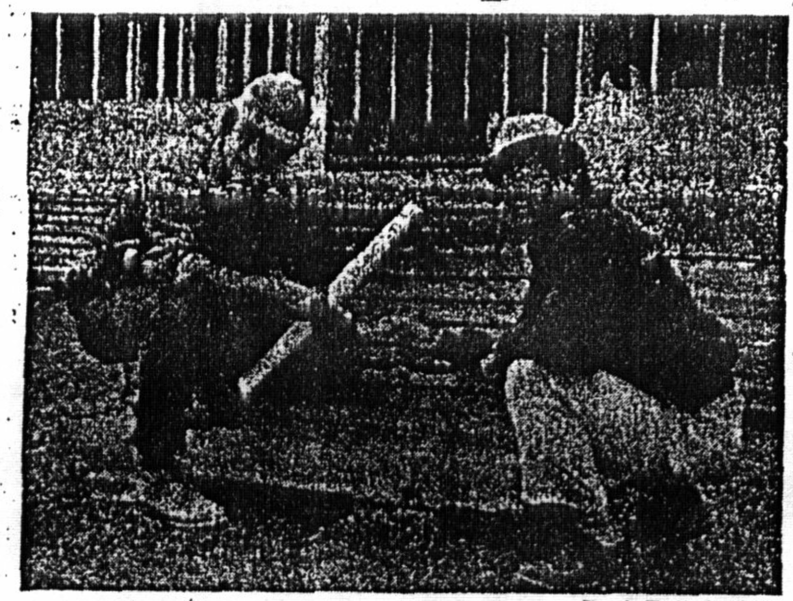


Photo by The Northern Miner

Bill Epp (left), senior exploration geologist, and Robert Hamaguchi, general manager of Similco Mines, examine drill core from an ongoing program to define new reserves at the open pit copper mine near Princeton, B.C.

The Lost Horse Gulch project is one of several exploration targets examined by Princeton since it acquired the Similco property from Newmont. Bill Epp, senior exploration geologist, said the targets were selected after a review of previous drilling and exploration work going back to the 1920s when Copper Mountain came to prominence as a result of high-grade copper discoveries.

pg. 1

See PRINCETON, Page 19

Major ready to veto deal at Louvicourt

by Peter Kennedy

A senior official in Noranda Minerals group has told a Quebec business paper that **Noranda (TSE)** is opposed to an agreement designed to end the legal dispute over the massive sulphide discovery of **Aur Resources (TSE)** and **Societe Miniere Louvem (TSE)**.

While Noranda has until Aug. 14 to make a decision on the proposed deal, Michel Lefebvre, vice-president of Noranda Minerals' eastern mining group, said his company will exercise its right of veto.

In Quebec's *Finance* magazine, Lefebvre described Louvem's decision to settle the lawsuit by selling to Aur a 10% stake in the Louvicourt Twp. massive sulphide discovery, east of Val d'Or, Que., as unrealistic.

"That would mean the (36-million-ton of 3.11% copper and 1.34% zinc) deposit is worth $50 million," he said.

Under the a proposed agreement that would essentially end all of the litigation relating to the deposit, Aur would end up with a 60% interest in the project while Louvem retains 40%.

In return, Louvem would receive

See AUR, Page 2

by vanishing K... gold f...

...n Ski disappoint investors

— Assay results ...drian Resources ...at two holes drilled ...ect north of Stewart, ...djacent to the Eskay ...ct, owned by Prime Re... ...roup (VSE) and Stikine ...ces (TSE).

...long-awaited results appear ...ave generally disappointed investors, as the share price of Adrian slipped $1.25 to $7.75 in active trading immediately after the results were announced.

The first hole of the program, 90-1, returned 0.10 oz. gold and 8.93 oz. silver per ton over 4 metres (13 ft.) at 322-326 metres.

The second hole, 90-2, returned an average of 0.11 oz. gold and 6.36 oz. silver over 3 metres at 322-325 metres.

Corrections

Contrary to an earlier story (*T.N.M.*, Aug. 6/90), **Flagship Resources (COATS)** has not changed its corporate name. Another over-the-counter firm, Delbridge Mines, recently changed its name to Hoverspace International.

The employer of project superintendent Ron Koebel, who is stationed at the Eskay Creek gold project in northern British Columbia, was incorrectly identified (*T.N.M.*, Aug. 6/90). Koebel works for Tonto Mining.

pg. 2

Princeton drilling

From Page 1

Although Epp noted only minimal exploration work was done by Newmont during the 1970s, he said the historical review showed numerous areas where adits and shafts had been driven on 1% copper (or better) by earlier operators only to be abandoned when grades fell to roughly half this level.

"This left us with a tremendous opportunity to evaluate these targets with modern exploration techniques in light of the economics of the day and in view of the fact that our capital costs are paid off," Epp said. (Princeton paid off the costs of its Similco acquisition in less than a year, with the exception of a concentrate return obligation to Newmont that was recently satisfied.)

The Virginia and Alabama deposits are currently reported to each contain possible reserves of 10 million tons grading 0.32% copper. This year's program is focused on infill drilling to better define the geometry, grade and tons in these deposits, although some earlier stage exploration is under way or planned for promising targets elsewhere on the property. All are near or adjacent to existing operations.

The company recently reported that results from the initial 20 diamond drill holes on the Virginia definition drilling program "indicate significant potential to increase both grade and tonnage of the deposit." All holes are vertical, drilled on 100-ft. centres, and average close to 700 ft. deep.

One of the more significant holes drilled in this series, VB90-10, encountered 228 ft. of near-surface mineralization (from 107-335 ft.) grading 0.44% copper, and an additional 306-ft. intersection (from 400-706 ft.) grading 0.59% copper. The deeper intersection in this hole included 56 ft. of massive magnetite-chalcopyrite-pyrite mineralization (558-614 ft.) grading an impressive 2.21% copper, 0.031 oz. gold and 0.14 oz. silver. These intersections are expected to increase potential reserves in the northeast corner of the deposit which remains open.

As an interesting aside, Princeton plans to drill a deep hole (about 2,000 ft.) in this area later this year, after more geological information is compiled, to test a tantalizing theory that a large, deep-seated but higher-grade deposit might be associated with the Lost Horse intrusive, possibly acting as a plumbing system for mineralization in the Copper Mountain area.

Meanwhile, the company is also encouraged by "significant" results from several holes that opened the eastern end of the Virginia deposit, both near surface and at depth. Selected results here include 270 ft. grading 0.39% copper (0.48% copper equivalent after taking into account precious metal assays), 206 ft. of 0.35% copper (0.44% copper equivalent) and 183 ft. of 0.39% copper (0.52% copper equivalent).

"We could be looking at a grade increase from 0.32% copper to about 0.41% copper in the Virginia deposit," said Hamaguchi.

Although precious metal assays are still pending from some holes, Princeton estimates that the average precious metal contributions converted to copper equivalent will add about 25% to the copper grades in this area. The increase in grade at depth noted in this area also prompted a decision to do deeper drilling to determine the extent of mineralization (some holes ended in mineralization), and a number of holes to about 800 ft. have already been drilled.

In addition, recent drilling is revealing a possible connection between the Alabama and Virginia deposits. Two holes drilled in this area, VA90-8 and VA90-9, returned 139.5 ft. grading 0.36% copper and 180 ft. of 0.50% copper respectively.

Based on preliminary investigations, it is also projected that material in this area (Virginia deposit) will have a markedly lower work index and increased recoveries than the pits currently being mined. The strip ratio is also expected to be favorable, at less than 1-to-1.

Hamaguchi expects that the Virginia deposit could be ready for mining sometime in mid-1991. In the meantime, mill feed is being blended from the new pit one and from pit three, which has been the source of feed for the past several years.

The introduction of feed from the new pit one was not without problems, particularly in the first quarter of this year. Recoveries were lower than expected because of oxidation levels in the upper benches, strip ratios were higher than anticipated, and the ore was found to be fine-grained and harder than originally estimated. After some modifications to the mine plan, including the introduction of a more desirable blend of ore feed, Princeton was able to report increased copper output for its most recent quarter ended June 30. Output totalled 14.9 million lb., up from 11.7 million lb. in the first quarter when production was affected by poor copper recoveries and by extra scheduled maintenance in the mill.

Work is still continuing to modernize the concentrator across a valley from the open pits. (Ore is delivered to the mill by a 2,370-ft.-long conveyor system and suspension bridge.) Mill superintendent Tim Smith, whose position appears to be one of the most challenging on site, estimates budgeted mill improvements will total $2 million this year. The concentrator has been averaging about 20,400 tons per day for the year to date. The long-term objective, however, is to increase daily throughput to 30,000 tons.

Princeton also owns a chrysotile asbestos mine near Cassiar, B.C., where a new underground deposit, the McDame, will replace production from open pits early next year. The new deposit will be mined by bulk tonnage, block-caving methods. Both operations generated net earnings of $4.1 million for the company's most recent quarter ended June 30, compared with $10.5 million for the same period in 1989.

First phase complete at Iskut project

VANCOUVER — The initial phase of drilling on the Iskut Joint Venture Project has been completed. The project is an equal joint venture between Prime Resources Group (VSE), American Ore (VSE) and Golden Band Re... (VSE)... deposit, 66 miles northwest of Stewart, B.C.

A total of 10 holes have been drilled to date. The first four holes of this year's program were designed to test the strike and dip extensions of the RPX zone discovered in 1989 by hole 189-10

INDEX

All significant references to publicly traded mining companies or parent companies mentioned in this issue of *The Northern Miner* are included in this index. Not included are references to companies on the Editorial page, the *General News and Comment* page or the Stock Markets page.

August 13, 1990

REGULAR DEPARTMENTS

MEETINGS

Aug 20, 5 p.m. Starrex Mng — annual, general. Toronto Board of Trade, Toronto, Ont.

Aug 20, 4 p.m. Minefinders — special. 1 Dundas St. W., Toronto, Ont.

COMING EVENTS

Aug 24-26 The Lapidary Rock and Mineral Society of British Columbia — "B.C. Gem and Mineral Show." South Delta Recreational Centre, Delta, B.C. Contact, Wayne Belzer (604) 946-8214.

Aug 26-30 Metallurgical Society of CIM — Int'l Symposium on Extraction, Refining & Application of Light Metals — 29th Annual Conference of Metallurgists, Hamilton Convention Centre, Hamilton, Ont. Contact: Patrick C. Gagnon, CIM Headquarters, Tel: (514) 939-2710 Fax: (514) 939-2714 or Pierre Tremblay, Alcan Int'l Ltd., Arvida Research & Development Centre, 1955 Mellon Blvd., Jonquiere, Que., Tel: (416) 699-3878 Fax: (418) 699-3956.