



I.M. WATSON & ASSOCIATES LTD.

MEMO

TO: A.F. Reeve  
 FROM: I.M. Watson  
 RE: Westmin Resources Ltd.  
 Myra Falls Property, Buttle Lake, Alberni Mining Division  
 DATE: February 19, 1992

1. **PROPERTY (see claim map attached)**

5 Mining Leases (pale blue)  
 45 Claims (dark blue)  
 ≈ 25 Crown Grants (purple)

According to Canadian Mines Handbook, property occupies 10,000 acres (4,047 ha).

Dimensions as measured on government claim map - approx. 9,500 m x 3,500 m (irregularly shaped NNW trending).

i.e.:

33.25 million square metres  
 = 3,325 hectares  
 = 8,215 acres = 133 claim units

1 Unit:

= 250,000 square metres  
 = 25 hectares  
 = 61.8 acres

2. **DRILLING**

(Information obtained from Richard Walker, Westmin Resources - February 17, 1992)

Three main phases of drilling: 1. Recce; 2. Exploration; 3. Detail.

## 2.1 Recce Drilling

Drilling of areas containing few or no holes, where holes are drilled to check the geological environment and/or test for favourable geology.

*Stage 1* - Profiles/Drill sections spaced at approx. 1,400' (depending on access). Holes drilled at approx. 350' spacings along the sections.

*Stage 2* - If any intersections of interest, profile spacing closed to 700', further reduction of spacings dependent on results.

## 2.2 Exploration Drilling\*

Drilling of areas of known interest (e.g. follow-up of successful Stage 2 recce drilling) to establish ore reserves.

Profiles at 500' spacings.

Holes drilled at 150' - 200' spacings.

(Walker notes that some targets are as small as 100' x 100' [width x length]).

## 2.3 Detail Drilling\*

Drilling for development/mining control.  
Holes drilled at 50' spacings.

\* Holes drilled normal to plane of ore.

## 2.4 Rate of Drilling

Illustrated by example.

Lynx Mine - production period 1967-1980 (13 years).

Drilling rate of 75,000' per year was sufficient only to maintain a three-year level of reserves - this includes both exploration and production drilling, the latter at 50' centres.

i.e., 75,000' x 13 years = 975,000'.

## **2.5 Depth of Drilling**

Averages about 2,400', surface or underground. Maximum depth drilled to date, i.e. longest hole = 3,400'.

## **3. GENERAL**

Walker provided following information re specific zones/targets.

### **3.1 Thelwood Valley**

Current exploration area is 1,400' x 1,400' (425 m x 425 m).

83 surface holes drilled to date.

16 u/g holes drilled to date.

### **3.2 Gap Zone (see Northern Miner extracts attached)**

Current exploration drilling on sections 400' apart.

Holes at 100', reducing to 50', spacings.

### **3.3 HW Zone**

15 x 10<sup>6</sup> tons, in an area 4,000' x 4,000'.

- Initial recce drilling at 1,400' section spacings to 2,600' depth.
- 40 holes drilled before HW Zone 'discovered'.
- After discovery, drill section separations were reduced to 500', with hole spacings at 150' - 200', to establish reserves.
- Detail drilling for development at 100' centres, reducing to 50' spacings (i.e. after shaft sunk to 18 level).

(Each reduction of hole/section spacings increases the number of holes four-fold.)

Walker notes that ideas leading to the discovery of the HW zone were developed in part as a result of relogging old holes.

Walker expressed strong interest in development at Lara, and would like to be informed of new plans/work as appropriate.

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**DIRS & OFFS:** J. T. Eyton, chm, P. M. Marshall, pres &  
 CEO, P. J. Keenan, N. W. Baker, J. L. Cockwell, all Toronto,  
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 Seldon, v p mktg, W. C. Skrlac, controller, B. K. McKnight,  
 v p business dev, A. L. Arias, asst treas  
 INC: 1951, BC chart, cont 1981 Fed TR AG: Royal Trust,  
 Vancouver, Calgary, Toronto AUD Deloitte & Touche,  
 Vancouver

CAP: Auth, unlimited com, unlimited Cl A, unlimited Cl B  
 pref shs Iss 39,219,577 com, 857,375 Cl A Series 1,  
 2,812,500 Cl B Series 1, 2,812,500 Cl B Series 3.

Cl A pref shs, Series 1, have rt to divd equal to 1.5%, plus  
 1/2 of prime rate, pyble quar, red at co's option at par plus  
 divs; red at holder's option after June 1, 1992, at \$100 per sh  
 plus accrued divs. Cl B pref shs, Series 1, have rt to divd of  
 \$2.125 per yr, pyble quar, co can repurch at \$25 plus divs  
 Cl B pref shs, Series 3, entitled divds 4 times those pd on  
 com shs, holders have rt to conv into com shs, on sh-for-sh  
 basis, to May 1, 1991.

DIVID: Initial, semi-annual, 10¢ & 5¢ extra pd Dec 14, 1970,  
 pymts recent yrs: 1976-78, 10¢ yrly, 1979-80, 20¢, 1981-82,  
 10¢ yrly, 1983-89, 20¢ yrly.

Major Shareholder: Mar 1990, Brascade Resources Inc  
 owned 85% by Brascan L & 15% by Caisse de Depot et  
 Placement du Quebec indirectly held 72.7% int (fully  
 diluted). In addition, Brascan held all iss Cl A pref & all iss Cl  
 B pref, Series 3 shs

Interests: (1) Myra Falls Opers: Copper-zinc-lead prod,  
 incl H-W, Lynx & Price (inactive) Mines, 10,000 ac, Buttle  
 Lake, 90 km SW of Campbell River, Alberni dist, Vancouver  
 Isl, BC. Prod from Lynx prop via O/P & U/G via shaft & 17  
 levels. H-W shaft to 2,343 ft

1989, ramp in progress at Lynx to access "S" Zone orebody  
 below 15 level.

In-depth review in 1989 indic res could not sustain 4,000  
 mtpd beyond 1993; to avoid decline in prod at that time, 1990  
 milling rate set at 3,650 mtpd, allowing time to dev new res

Aug 1989, d d intersected significant thickness of massive  
 sulphide mineralization, to N of & 300 m below Lynx  
 workings, named Ridge Zone; explor drilling underway

Production: Start-up of 3,000-tpd H-W mill in May 1985;  
 incr to 4,000 mtpd in 1988

Yr to Dec 31:	1989	1988	1987
Ore milled, tonnes	1,229,262	1,255,124	1,201,294
Aver mtpd	3,456	3,467	3,000
Concentrate Prod			
Copper, tonnes	101,118	118,790	100,222
% copper grade	23.0	22.9	23.3
% copper recov	88.2	87.11	87.1
Zinc, tonnes	79,305	96,640	86,508
% zinc grade	49.5	49.4	50.3
% zinc recovery	80.2	79.4	81.2
Payable Metals			
Copper prod, lb	48,989,000	57,470,000	49,185,000
Zinc prod, lb	72,263,000	88,067,000	80,393,000
Lead prod, lb	280,000	82,000	340,000
Gold prod, oz	39,000	44,000	37,000
Silver prod, oz	691,000	813,000	772,000

Proven & Probable Reserves, Jan 1, 1990			
Mine	H-W	Lynx	Price
Res, tonnes	10,138,400	191,300	209,500
Gold, gpt	2.1	3.0	1.2
Silver, gpt	30.4	90.8	53.1
Copper, %	2.0	1.7	1.1
Lead, %	0.3	0.9	1.1
Zinc, %	3.5	9.1	8.3

Total proven, probable & possible res 12,101,700 tonnes  
 aver 2.5 gpt gold, 34.5 gpt silver with 2.3% copper, 0.4% lead

& 5.2% zinc. Additional resources (uneconomical at current  
 prices) 3,726,700 tons aver 2.5 gpt gold, 16.8 gpt silver,  
 1.1% copper, 0.1% lead & 1.2% zinc

(2) Premier Gold Project, 50 1% int, incl Big Missouri &  
 Silbak Premier props, 15 km from Stewart, BC, brought to  
 prod in May 1989 but commercial prod not attained due to  
 start-up difficulties incl lower than expected head grades &  
 recoveries, & higher prod costs

Mill cap 2,000 mtpd, m g from several o/ps  
 Explor incl further evaluation of u/g res potential, probable  
 u/g res 851,000 tonnes aver 7.5 gpt gold & 34.84 gpt silver.  
 Prelim mine planning & additional drilling begun to deter-  
 mine viability of u/g m g

1990, o/p res being re-evaluated 1989, acq 65.7% int in  
 Indian prop which cons much of favorable mineral lands adj  
 prop, also, agreement in principle with Tenaion Resources  
 Corp for dev of nearby SB prop & processing of ores in  
 Premier mill

Production: From May to Dec 31, 1989, mined 511,180  
 tonnes ore from Premier, Dago & S1 pits plus 4,038,269  
 tonnes waste rock. To Dec 31, 1989, milled 170,000 tonnes  
 of low-grade dev ore stockpiled in 1988 to prod 14,787 oz  
 gold & 178,972 oz silver, aver 1,707 mtpd. Mill recovery  
 aver 90.4% for gold & 61.5% for silver in 4th quar 1989

Exploration: (1) Gold prop, 60 1% int in Debbie project,  
 Sicker belt, 6 mi from Port Alberni, BC; Nexus Resource  
 Corp holds remaining int. Feb 1989, 2.2-km tunnel com-  
 pleted to Mineral Creek Zone, work primarily on 3 known  
 zones incl d d, crosscutting, & trenching. Probable res  
 168,892 tonnes aver 5.97 gpt gold additional 323,167 tonnes  
 possible

(2) Gold pros, Clearwater prop, 250 mi N of Matagami,  
 Baie James area, PQ, 1988-89, d d encouraging

(3) Gold pros, 53.33% int in Little Stull project, MB;  
 Tanqueray Resources L & Estaurum Mines hold remainder,  
 1987-89, d d encouraging on several zones. Geological  
 inventory 750,000 tonnes aver 10.5 gpt gold, open along  
 strike & at depth. New gold showing in Ken Bay area

(4) Owns 4 copper-gold pros in Nation Lakes area, BC;  
 prelim drilling planned for 1990

Other Interests: (1) Owns 32.9% int in Colony Pacific Explo-  
 ration L.

**Consolidated Profit & Loss Statement**

Yr to Dec 31:	1989	1988
M/g rev	\$103,533,000	\$114,342,000
Invest inc	10,130,000	11,081,000
Oper & admin exp	80,461,000	68,670,000
M/g explor	6,795,000	5,864,000
Depl, deprec	20,745,000	20,238,000
Int exp	23,089,000	18,251,000
Inc, resource taxes	17,318,000	5,919,000
Inc (loss) discont opers	63,664,000	(476,000)
Net earnings	\$63,555,000	\$17,843,000
Net per sh*	\$1.17	7¢
Cash flow	\$26,830,000	\$54,969,000

\*After pymt of pref sh divd. Note: 1988 figures restated to  
 reflect disposal of oil & gas ints

**Consolidated Financial Data, Dec 31**

	1989	1988
Cash, short invests	\$78,474,000	\$110,173,000
Accts recvble	23,574,000	32,865,000
Inventories	13,825,000	17,121,000
Total curr assets	115,873,000	160,159,000
Total curr liabs	57,768,000	56,897,000
Working cap	58,105,000	103,262,000
Total assets	684,702,000	853,587,000
Long term debt	133,293,000	277,932,000
Deferred credits	80,225,000	136,077,000
Retained earnings	101,216,000	63,035,000
Shlders equity	413,416,000	387,691,000

NM 3-2-92

## Drilling continues at Battle zone

VANCOUVER — A recent hole drilled by **Westmin Resources** (TSE) at the east edge of the newly discovered Battle zone encountered three intersections of ore-grade material.

The drilling is part of an effort to expand reserves on the company's Myra Falls mine property near Campbell River, B.C., where copper and zinc concentrates are produced from two underground mines.

The latest hole, 14-723, returned 3.7 metres (12.1 ft.) grading 0.9 grams (0.026 oz.) gold and 52.8 grams (1.5 oz.) silver per tonne, plus 1% copper, 0.3% lead and 15.6% zinc.

A second 3.7-metre intersection graded 1.5 grams (0.04 oz.) gold, 487.1 grams (14.2 oz.) silver, 1.4% copper, 4.2% lead and 16.3% zinc. The third intersection was 16 metres (52.4 ft.) grading 1.1 grams (0.03 oz.) gold, 11.7 grams (0.34 oz.) silver, 1% copper, 0.4% lead and 8.4% zinc.

Westmin said although the deepest intersection in hole 14-723 appears to correlate well with the other Battle zone intersections, the hole contains "stringer-zone type" mineralization compared with massive, bedded ore encountered in other holes.

NM 10-2-92

## Westmin's drilling extends Battle zone

VANCOUVER — A fifth intersection of Battle zone mineralization was intersected by **Westmin Resources** (TSE) during an ongoing drill program at the company's Myra Falls mine property near Campbell River, B.C.

The most recent hole, 14-909, intersected the zone 30 metres (98.4 ft.) south of hole 14-908 and brings the total dip length on the zone to over 150 metres (492.1 ft.).

Hole 14-909 returned 17.8 metres (58.3 ft.) from 268.7-286.5 metres grading 0.8 grams (0.023 oz.) gold and 16.5 grams (0.48 oz.) silver per tonne, 1.8% copper, 0.1% lead and 10.6% zinc.

The hole was stopped at 305 metres (1,000 ft.) and a new hole was collared. Westmin has two other machines probing for extensions to the Battle zone.

# Westmin encouraged by exploration at producing Myra Falls mine property

by Vivian Danielson

VANCOUVER — The final numbers aren't in yet, but **Westmin Resources** (TSE) expects that last year's exploration at its Myra Falls mine property near Campbell River, B.C., will more than replace ore mined in 1991 with significantly higher grade reserves.

About \$4 million was spent on exploration in 1991 as part of an ongoing effort to expand reserves which currently are viewed as sufficient for about 10 more years.

Myra Falls has been producing copper and zinc concentrates with significant gold and silver content for 25 years. The operation currently consists of the Lynx and H-W underground mines, a milling complex sized at 4,000 tonnes per day (but currently processing about 3,650 tonnes per day), and related facilities.

Only about 40% of the property's area has been explored to date, and there is also still plenty of exploration potential within the several favorable horizons that host the various deposits.

The most exciting exploration development last year was the discovery of the Gap zone, so named because the massive sulphide mineralization was encountered in a gap area between the Ridge and H-W zones. Westmin drilled the hole from Lynx underground to test an area that was previously unexplored from surface because of difficult topography.

The discovery hole returned a 33.1-metre (108.5-ft.) intersection which returned an average assay grade of 3.6 grams (0.105 oz.) gold and 365 grams (10.6 oz.) silver per tonne, plus 4.5% copper, 0.5% lead and 18.5% zinc.

Underground diamond drilling continued to probe the discovery, and by the year-end the zone had been intersected by nine diamond drill holes and its strike extent traced for over 189 metres (620 ft.)

By the end of October 1991, the zone was estimated to contain geological reserves of 222,353 tonnes grading 3.41 grams (0.09 oz.) gold and 213 grams (6.22 oz.) silver per tonne, 2.7% copper, 1.1% lead and 16.6% zinc.

These grades are well above the average of current reserves being mined which, during the 1991 third quarter averaged 2.11 grams (0.06 oz.) gold, 23.59 grams (0.68 oz.) silver, 1.68% copper and 3.48% zinc.

Westmin's calculations show that geological reserves identified to date indicate a net smelter return of about \$160 per tonne at present prices, compared to roughly \$55 per tonne for current production.

Westmin hopes to prove up about 800,000 tonnes of high grade material in the Gap zone within its currently defined boundaries. In the meantime, development crews are driving to access the zone from H-W workings (as well as to provide drill stations for other exploration). The company expects to access the zone later this year.

Last year's program also expanded reserves at the Lynx mine by about 60%, and the high grade 43 block (discovered in 1990) was enlarged to over 400,000 tonnes. These reserves indicate a net smelter return of about \$77 per tonne, which is still higher than current production.

Westmin is also probing its more recent Battle zone discovery made about 200 metres (656 ft.) southeast of the Gap zone. The zone is named because debate continues whether it is a faulted extension of the Gap zone or a new H-W main zone trend lens. The discovery hole also returned good zinc grades; 15.2% and 9.5% respectively were encountered in two intersections from the hole.

This discovery is also viewed as significant because it will be accessed by the drive from the H-W workings before the Gap zone. Which means the development drive will encounter ore sooner than expected.

Westmin plans to spend about \$3.5 million this year to continue exploration on its Myra Falls property, which includes a surface program in the Thelwood Valley area to test targets near the former Cream Silver property.

But the company is also expecting an improved operating performance and a turnaround from recent operating losses. Results aren't available for all

of 1991, but Myra Falls reported an operating loss of \$11.9 million for the 1991 third quarter, which follows a loss of \$9.1 million for the second quarter.

Like most producers, Westmin's bottom line has been affected by lower metal prices and a higher Canadian dollar. But this has been exacerbated by lower copper and zinc grades and production shortfalls. Last year, production was affected by a scheduled maintenance shutdown in late July and August, together with disruptions caused by a major lay-off and the conversion to predominately longhole mining.

(For example, mining rates in the third quarter were 37% below the comparable period in 1990.)

But Westmin now believes it has solid reasons for optimism. The conversion to longhole open stoping showed improved results in the fourth quarter as more longhole stopes became operational and production from them was more sustainable. But grades are still low, metal prices depressed, and the operation is not yet making money.

With tonnage recovering to budget levels Westmin sees better prospects this year to get its unit costs to the target of less than \$50 per tonne, a level that would provide cash flow even at current depressed metal prices.

Westmin also operates the Premier gold mine near Stewart, B.C., where an exploration program will be carried out this year focused on underground potential. This will be a priority as no long term reserves have been identified and operations will wind down near the end of 1992 if new ore sources are not found.

In the meantime, the company is continuing to pursue custom milling opportunities.