

G. TOWER FERGUSON LTD.

ESTABLISHED 1888

823268

82E

Brenda Ken

110 YONGE STREET, TORONTO, CANADA • TELEPHONE 362-2931 • TELEX 02-29224 • CABLE FERUSSTOR
MEMBERS: THE TORONTO STOCK EXCHANGE • THE INVESTMENT DEALERS ASSOC. OF CANADA

attach to

MAR 29 1968

Jan 1970

BRENDA MINES LTD.

Don't update

Common Shares

Authorized	5,000,000
Outstanding*	2,410,000

* Financing completed 4,199,000
outstanding

Recommendation

Brenda Mines is recommended for the investor willing to take above average risk but this could be rewarded by substantial capital appreciation within the next 1 to 2 years.

In our opinion, the stock at its current price of \$7.50 per share is at a reasonable price level for accumulation.

While substantial price appreciation is not expected over the next year, past experience has shown that the best buying opportunities often occur in the year prior to production (e.g. Mattagami Lake - average price \$10.50 per share, Northgate - average price \$5.67 per share).

In the past, Canadian mining companies having substantial ore reserves have sold during the initial years of operations at market prices equivalent to 5-8 times cash flow. Brenda's cash flow is estimated at \$2.94 - \$3.89 per share in the first year of operation.

Summary

Brenda Mines is in the process of constructing facilities to bring into production one of the largest low grade molybdenum-copper orebodies in the Province of British Columbia.

Total tonnage proven is currently estimated at 177 million tons containing .20% copper and .05% molybdenum. Mining is to be done by the open pit method. Good metallur-

gical recovery at the projected very high rate of production makes the operation economically feasible.

Costs of bringing the mine into production are estimated at \$59.5 million. Most of this will be done through debt financing and equity capital will only be increased from the current 2.4 million shares outstanding to 4.2 million shares through the issuance of bonus shares to Noranda and Nippon Mining Ltd.

With this limited expansion of the equity base, Brenda will be one of the lowest capitalized mining companies to come into production since Pine Point in 1964.

In the first few years of operations, mill feed grade should be above average - a customary practice in new mining operations. The very high daily operating rate should result in substantial operating profits, and cash flow on a per share basis.

Cash flow is estimated at \$2.94 - \$3.89 per share depending on whether the Company operates at 25,000 t.p.d. or 30,000 t.p.d. The latter estimate could be a distinct possibility as most concentrators can and do operate above their nominal rated capacities. With the availability of 72,000 t.p.d. in primary crushing capacity, Brenda could expand beyond 30,000 t.p.d. if additional water sources can be obtained. This expansion could be accomplished at a reasonable cost for other ancillary facilities.

Payback of the capital required to put the property into production should occur in the fourth year of operation.

Ore reserves are sufficient for 20 years at a 25,000 t.p.d. operating rate. A large portion of the property which is underlain by similar geological formations remains unexplored. Any additions to reserves would lengthen the estimated life of the mine or increase the concentrator rate above present projections.

At \$7.50 per share Brenda is selling below its estimated discounted (10%) present value of \$8.41 per share.

The Company

Brenda Mines Ltd. owns 51 mineral claims including 7 crown granted claims 14 miles northwest of Peachland, British Columbia in the Okanagan Valley.

The property is accessible by about 20 miles of logging road extending up Peachland Creek.

This low grade copper-molybdenum property is

scheduled to commence production at 24,000 t.p.d. between July and September 1969. Total investment will be approximately \$56 - \$60 million. Noranda, the largest shareholder, will manage the operation.

History

The original mineral discovery was made on the central claims in 1954. During the years 1955-57, two companies Noranda Exploration and Kennco conducted separate exploration programs on the property. Both companies found occurrences of widespread copper and molybdenum mineralization, but metal prices at that time made development of the property uneconomic.

In 1963 Noranda Exploration Ltd. reacquired the claims. Subsequently the property was sold to Northlands Exploration Ltd. which was renamed Brenda Mines Ltd. in December 1965.

In 1965 under the supervision of the Company's consultants, Chapman, Wood & Griswold, work commenced to further investigate the grade of molybdenum and copper which was known to be present in large tonnages but of low grade. An extensive exploration program including surface drilling, underground bulk sampling, pilot mill studies, and pit clearing culminated in a feasibility study which recommended that the property be brought into production at an initial rate of 20,000 t.p.d.

The mineralized zone has been traced from the 5,100' to the 5,600' elevation level on a south-easterly spur between tributaries of MacDonald and Peachland Creek.

The original financing agreement, signed in 1966 between Brenda and Noranda, gave the latter first call on providing capital to develop the Brenda properties upon receipt of the feasibility study. Noranda delayed their decision to finance the property to production until the Federal Government gave assurance last April that the three year tax exemption accorded new mines would remain unaltered for those mines commencing commercial production prior to January 1971.

In August 1967, Brenda arranged a \$25 million letter of credit with the Bank of Nova Scotia. Noranda is committed to purchase \$27.5 million of income debentures while Nippon Mining Ltd. of Japan has agreed to loan Brenda \$7.5 million. Formal signing of the financial agreement should occur within the near future.

Geology

Copper and molybdenum mineralization (chalcopyrite and molybdenite) occurs in fracture fillings in an

extensive granodiorite mass near the east end of a large re-entrant of Nicola volcanic and sedimentary rocks. Mineralization is confined principally to three steep fracture sets: 60°E, 50°W, and N5° - 20°E. The orebody has been outlined over a 3,000' length and a width of 2,500'. The fracturing is greatest in the centre of the orebody and gradually diminishes outward to the extent that some fracture sets have disappeared near the orebody periphery. The concentration of mineralization is largely a function of the fracture density.

Exposure is very limited occurring mainly in the initial discovery pit. The orebearing minerals have not undergone any appreciable alteration, oxidization, etc. The shallow oxide cap varies on depth from 10 - 30' over portions of the deposit.

Ore Reserves

Ore reserves have been delineated and calculated to a depth of 900'. Company officials announced in 1967 that open pit ore reserves totalled 167.5 million tons grading .19% copper and .052% MO. Included is an initial 3 year pit containing 21 million tons grading .245% copper and .076% MO. A recent revaluation by other officials computed reserves at approximately 177 million tons grading .20% copper and .055% MO. Dependent on a favourable production ratio (low grade + waste: ore), ore reserves could exist below the projected pit depth (900' - 1,000').

A large portion of the property (particularly the northern sector) will be investigated for similar low grade deposits. Computed ore reserves are sufficient for 20 years at a 25,000 t.p.d. operating rate.

Mine Development

A major stripping program will begin within the next several months. Eight million tons of overburden will be removed during the pit development period.

The pit will be 3,000' long, 2,500' in width and extend to a depth of 900' - 1,000'. Mining will be done from 50' benches with the final pit walls having a 45° slope. Pit walls should be quite stable because of the reduction in fracturing towards the orebody's limits.

Grade control will be utilized in mining the orebody. During the first 3 years, ore grading above .50% equivalent copper vs the mine average .40% equivalent, will be fed directly to the mill. Material mined above the cut-off grade .30% equivalent copper will be stockpiled for future mill feed. The Company has purchased mining equipment applicable to large scale strip mining techniques i.e. eight 100

ton shovels, two 11 cubic yard shovels, plus two outsize drills.

The production ratio for the designed pit is estimated at 1:1 with little annual variation.

Milling

Engineering studies for a mill have been completed with construction of the concentrator to begin shortly. Buildings and related facilities have been designed to provide for future expansions at a reasonable cost.

The nominal rated capacity will be initially 24,000 t.p.d. but as in the case of most concentrators (for example Craigmont, Endako, and Bethlehem) the operating rate should be above this level.

The major bottleneck to overcome in expansion lies in additional primary crushing and grinding capacity. The Company has acquired the largest gyratory crusher in Canada (72,000 t.p.d.).

Pilot mill studies which are a simulation of the actual operation but on a reduced scale indicate that separation of the copper and molybdenum from the ore can be accomplished at high recovery rates (90%). Initial recoveries should be near their projected rates as the ore has undergone little oxidization. Copper concentrate grade is estimated at 27.5%. Installation of roasters is expected in order to market some molybdic oxide from output.

Other Developments

Brenda has built a 90' high dam on Peachland Lake to service the concentrator. Application for water rights on Pennask Lake and Creek were rejected, but this is not expected to affect Company plans or operations.

Additional water resources are required, however, to service the mill above an operating level of 30,000 t.p.d.

B.C. Hydro will construct a 50 mile transmission line from a substation in the Highland Valley. Brenda will advance the necessary funds (\$2 million) with repayment at 5% at a later date.

Marketing

Copper and a large proportion of molybdenum production will be shipped under contract to overseas consumers in Japan and Germany.

Nippon Mining Ltd. of Japan has the exclusive

right to purchase all copper concentrates produced for the first five years of operation.

The approximate terms of the contract are outlined below:

Grade of concentrate:	27.5%
Tolls for smelting)	8¢/lb. pay metal (Cdn.) or \$42.40 per ton of concentrate shipped
refining)	
ocean freight)	
marketing)	
Moisture content:	7%
Copper price basis:	EMJ export price for electrolytic copper

About 80% of molybdenum concentrate production has been sold forward five years to German and Japanese buyers. Part of the balance will be sold in the open market and the remainder roasted into high grade molybdic oxide which commands a premium price.

Brenda's settlement price will be the E.M.J. quoted Climax price F.O.B. mine. The prices are currently \$1.75 (Cdn.) per pound of molybdenum in molybdenite concentrate and \$1.97 (Cdn.) per pound of molybdenum in molybdic oxide. Noranda Sales Corp. will act as sales agent and receive a commission of 3/4 of 1% of the invoice price. The sale agreements provide that the concentrates can contain up to .2 of 1% copper (4 lbs. per ton) before penalty deductions for impurities.

Financial

The estimated cost spent to bring the property on stream is \$57.5 million including \$3.5 million in the initial exploration period, primarily raised through the sale of treasury stock.

Brenda has made arrangements to borrow up to \$60 million but expects that only \$54 million will be spent prior to production.

The financing agreement which has yet to be signed is on a last in first out basis. In order of repayment the agreement is outlined below.

Bank of Nova Scotia

\$ 21 million - 7.5% loan secured by 1st mortgage debenture

\$ 4 million - 7.4% working capital loan

Nippon Mining Ltd.

\$ 7.5 million - 7.3% 10 year secured income debenture

Noranda

\$ 27.5 million - 7.2% 10 year secured income debenture

If necessary Noranda will provide additional capital. Barring unforeseen circumstances (escalating costs, labour stoppage problems), Company officials believe that the property can be brought on stream for less than the budgeted \$57.5 million. The bank loan then would be lower than previously outlined.

Initial application of cash flow to debt retirement begins after \$4 million is provided for working capital requirements. The major factor being the lengthy "in transit" time period between molybdenum production and settlement date in overseas markets, compared to the standard payment schedule terms received in the copper industry. If the Company wishes, there is a \$5 million contingency allowance for capital expenditures before repayment can begin on principal in the first year.

Dividends cannot commence until the 10 year income debentures are fully repaid. However, when the profitability of the operation has been demonstrated, the Company will consider retiring this debt portion ahead of schedule through bank refinancing. Dividends could then be initiated possibly as early as the 3rd or 4th year of operation.

When the financing agreement between Brenda and its major creditors is formally consummated 4,199,000 shares will be outstanding. Noranda, with the shares purchased for cash, plus those attached to the income debentures will hold approximately 50% of the issued equity and have management responsibility until all costs are recovered. Nippon Mining Ltd., through its financial participation in the original mining syndicate plus those shares attached to the income debentures, will own 10% as will the original group that formed Brenda. A floating supply of approximately 1.0 - 1.2 million shares will be in the public hands. In time, the Company expects to apply for listing on the T.S.E.

Projections

Estimates are based upon discussions with Company officials in Vancouver, a visit to the property and other experienced open pit copper and molybdenum producers in British Columbia.

In preparation for a present value estimation we have assumed the following:

Production Date - Unless work stoppages occur due to Labour unrest, production should commence by the scheduled September 1969 target date. Projections are on a 12 month operating period rather than a calendar year basis.

Operating Rate - It has been stated that the concentrator will come on stream at a nominal rated capacity of 24,000 t.p.d. However, most open pit mines can and do operate at above their rated concentrator capacity especially in the initial years when recovery of capital invested is of prime importance. The processing of the highest grade mill feed obtainable with good mining practices in the three year tax free period allows a company to recover a substantial portion of the capital invested.

Our projections are based on a 30,000 t.p.d. operating rate in the first two years and 35,000 t.p.d. for the next 12 years.

Ore Reserves - Using the projected operating rates, ore reserves are sufficient for 14 years.

Mill Feed Grade - In the first three years, mill feed grade will be above the mine reserve average (i.e. .20% copper and .055% MO). Initially we have used a grade of .225% copper and .076% MO and the mine reserve average thereafter.

Mill Recoveries - Metallurgical tests in the pilot mill indicate that a 90% recovery to concentrate for both metals can be achieved. Separation of the molybdenum and copper is not as difficult as previously contemplated. Our projections are based upon minimum recoveries of 85% which might only occur in the initial tune up period.

Metal Prices - Projections are based on a lower E.M.J. foreign copper refinery price (40¢ per lb. U.S.) than at the current inflated level (70¢ per lb.). In our opinion, continuing political unrest plus rising operating costs in most of the major developing nations are the main factors in preventing any price erosion below the projected level.

Molybdenum prices should remain firm over the long term in the overseas market. A \$1.75 per pound Cdn. price is a reasonable expectation and does not consider any possible price pre-

mium from the high grade roasted product (MOO_3).

Operating Costs - Assuming a constant 1:1 production ratio, direct operating costs before interest and excluding smelting etc. are projected at \$1.49 per ton milled. Mining costs are estimated at 40¢ per ton, milling 85¢ per ton, and overhead 24¢ per ton. When the concentrator has experienced a steady period of operation increased recovery, efficiency, and automation could reduce costs and offset any outlay for further exploration expenditures.

Taxation - Provincial and Federal tax laws are assumed to remain in their present form. Included are the proposed recent amendments to the B.C. Mining Tax Act whereby the tax rate is increased to 15% from the previous 10% rate and termination of the 3 year tax exemption period accorded new mines there.

Preproduction development write offs should defer federal taxes until the eighth year.

Preproduction and Capital Costs - The total investment including early development expenditures is estimated at \$59.5 million (\$56.0 million financed by debt). Total costs include \$4 million in working capital, \$14.5 million in proproduction costs, and \$41 million in capital costs.

In applying cash flow to debt retirement, \$4 million has been reserved for working capital commitments in the first operating year and \$3 million for capital expenditures in the second year.

Economic Evaluation

Tables I - III (see Pages 11 to 13) demonstrate at different operating rates Brenda's projected cash flow generation which can be applied against debt retirement.

We estimate a 4 year payback period which compares favourably with other recent producers (Endako, Craigmont, Mattagami, and Northgate).

Table IV (Pages 14 and 15) is a summary of operations and a present value analysis over the projected 14 year life of the open pit mine. The discounted (10%) present value of net cash flow is estimated at \$8.41 per share. No allowances have been made for the following possible developments.

Additions to present proven reserves resulting from a lower cut-off grade and possible development of new deposits when exploration commences, could lengthen the life of the mine.

A higher composite molybdenum price from the sale of the premium priced molybdic oxide.

Improved recoveries, operating costs, and a higher copper concentrate grade than used in the projections.

Conclusion

The investor must be prepared to wait for favourable operating developments before substantial price appreciation can occur from the present \$7.50 per share level.

During the development period of the mine, the stock should sell below its discounted present worth of \$8.41 per share reflecting the uncertainty of the future profitability of the operation.

In the first two years of production, cash flow is estimated at \$2.94 - \$3.89 per share annually depending on whether Brenda operates at 25,000 or 30,000 t.p.d.

If forecasted operating performances are realized on a per share basis, substantial price appreciation could occur from present levels.

The investor who was willing to accept above average risk in such stock as Mattagami, Northgate, etc. in their development period was rewarded by substantial capital appreciation in the early years of production.

Brenda is in this period of development where investment at the current level (\$7.50 per share) must be based on a 1 to 2 year hold for possible substantial price appreciation.

Donald R. Scott

Table I

Operating Rate Projections
25,000 t.p.d.
Years 1-3

	Case I	Case II
Mill Rate: t.p.d.	25,000	25,000
t.p.y. (000)	8,760	8,760
Grade: % Copper	.225	.225
% Molybdenum	.076	.076
Recoveries to concentrate		
% Copper	.85	.90
% Molybdenum	.85	.85
<u>PRODUCTION</u>		
<u>Copper</u>		
Tons of concentrate produced (dry)	60,921	64,579
% copper grade	27.5	27.5
Pounds contained	33,507,000	35,518,500
Pounds payable	32,288,130	34,226,870
Settlement price - ¢/lb. (Cdn.)	43.2	43.2
<u>Molybdenum</u>		
Pounds produced	11,317,920	11,317,920
Settlement price - \$/lb. (Cdn.)	1.74	1.74
Gross smelter return - copper	\$ 13,948,472	14,786,007
Less: smelting, marketing, refining freight to smelter @ 8¢/lb.	<u>2,583,050</u>	<u>2,738,149</u>
Net smelter return - Brenda	\$ 11,365,422	12,047,858
Molybdenum revenue	\$ 19,693,180	19,693,180
Less: marketing	<u>147,698</u>	<u>147,698</u>
Net molybdenum return	\$ 19,545,482	19,545,482
Total concentrate return	\$ 30,910,904	31,593,340
\$ per ton	3.53	3.61
Less: operating cost \$1.49 per ton	<u>13,052,400</u>	<u>13,052,400</u>
Operating profit	\$ 17,858,504	18,540,940
\$ per ton	2.04	2.12
Interest	4,082,000	4,082,000
Provincial tax	<u>1,414,928</u>	<u>1,486,584</u>
Gross cash flow from operations	\$ 12,361,576	12,972,356
\$ per ton	1.41	1.48
\$ per share	2.94	3.09

Payback completed in 5th year.

Table II

Operating Rate Projections
30,000 t.p.d.
Years 1-3

	Case I	Case II
Mill Rate: t.p.d.	30,000	30,000
t.p.y. (000)	10,950	10,950
Grade: % Copper	.225	.225
% Molybdenum	.076	.076
Recoveries to concentrate % Copper	.85	.90
% Molybdenum	.85	.85
<u>PRODUCTION</u>		
<u>Copper</u>		
Tons concentrate produced (dry)	76,152	80,631
% copper grade	27.5	27.5
Pounds contained	41,883,750	44,347,500
Pounds payable	40,360,056	42,734,430
Settlement price - ¢/lb. (Cdn.)	43.2	43.2
<u>Molybdenum</u>		
Pounds produced	14,147,400	14,147,400
Settlement price - \$/lb. (Cdn.)	1.74	1.74
Gross smelter return - copper	\$ 17,435,544	18,461,273
Less: smelting, marketing, refining freight to smelter @ 8¢/lb.	<u>3,228,804</u>	<u>3,418,754</u>
Net smelter return - Brenda	\$ 14,206,740	15,042,519
Molybdenum revenue	\$ 24,616,476	24,616,476
Less: marketing	<u>184,623</u>	<u>184,623</u>
Net molybdenum return	\$ 24,431,853	24,431,853
Total concentrate return	\$ 38,638,593	39,474,372
\$ per ton	3.53	3.60
Less: operating cost \$1.49 per ton	<u>16,315,500</u>	<u>16,315,500</u>
Operating profit	\$ 22,323,093	23,158,872
\$ per ton	2.04	2.11
Interest	4,082,000	4,082,000
Provincial tax	<u>1,903,710</u>	<u>1,971,467</u>
Gross cash flow from operations	\$ 16,337,383	17,105,405
\$ per ton	1.49	1.56
\$ per share	3.89	4.07

Payback completed in 4th year.

Table III

Operating Rate Projections
35,000 t.p.d.
Years 1-3

	Case I1	Case II
Mill Rate: t.p.d.	35,000	35,000
t.p.y. (000)	12,775	12,775
Grade: % Copper	.225	.225
% Molybdenum	.076	.076
Recoveries to concentrate		
% Copper	.85	.90
% Molybdenum	.85	.85
<u>PRODUCTION</u>		
<u>Copper</u>		
Tons of concentrate produced (dry)	88,844	94,070
% copper grade	27.5	27.5
Pounds contained	48,864,375	51,738,750
Pounds payable	47,087,320	49,857,100
Settlement price - ¢/lb. (Cdn.)	43.2	43.2
<u>Molybdenum</u>		
Pounds produced	19,418,000	19,418,000
Settlement price - \$/lb. (Cdn.)	1.74	1.74
Gross smelter return - copper	\$ 20,341,722	21,538,267
Less: smelting, marketing, refining freight to smelter @ 8¢/lb.	<u>3,766,985</u>	<u>3,988,568</u>
Net smelter return - Brenda	\$ 16,574,737	17,549,699
Molybdenum revenue	\$ 33,787,320	33,787,320
Less: marketing	<u>253,405</u>	<u>253,405</u>
Net molybdenum return	\$ 33,533,915	33,533,915
Total concentrate return	\$ 50,108,652	51,083,614
\$ per ton	3.92	4.00
Less: operating cost \$1.49 per ton	<u>19,034,750</u>	<u>19,034,750</u>
Operating profit	\$ 31,073,902	32,048,864
\$ per ton	2.43	2.51
Interest	4,082,000	4,082,000
Provincial tax	<u>2,802,545</u>	<u>2,904,916</u>
Gross cash flow from operations	\$ 24,189,357	25,061,948
\$ per ton	1.89	1.96
\$ per share	5.76	5.97

Payback completed in 3rd year.

PRELIMINARY ESTIMATES OF GROSS CASH FLOW, NET CASH
Shares Outstanding

	Preproduction Period (to Sept. 69)	Year 1	Year 2	Year 3
Operating Rate:				
t.p.d.		30,000	30,000	35,000
t.p.y. (000)		10,950	10,950	12,750
		(The Following Figures R		
Operating Profit		22,323,093	22,323,093	31,073,902
Interest(1)		4,383,000	3,427,500	2,403,000
Provincial Taxes		1,903,710	1,984,037	3,010,445
Federal Taxes		-	-	-
Gross Cash Flow from Operations	-	16,036,383	16,911,556	25,660,457
Per Share		3.82	4.03	6.11
Less Amort. of Debt		12,036,383	13,911,556	25,660,457
Net Cash Flow after Amort. of Debt		4,000,000(2)	3,000,000	-
Per Share		-	-	-
Less Write Offs:				
Depreciation		-	-	-
Preproduction		-	-	-
Net Profit		4,000,000	3,000,000	-
Per Share		.95	.71	-
Preproduction Cost	14,500,000	-	-	-
Working Capital	4,000,000	-	-	-
Capital Costs	41,000,000	-	3,000,000	-
Cum. Debt Position	56,000,000	43,963,617	30,052,061	4,391,604
Net Cash Flow for Equity		-	-	-

(1) Deferred preproduction interest written off in first three years.

(2) Only 12 million applied against debt retirement.

IV

FLOW AVAILABLE FOR EQUITY & PRESENT VALUE ANALYSIS

4,199,000

Year 4	Year 5	Year 6	Year 7	Year 8	Year 9 - 14
35,000 12,750	35,000 12,750	35,000 12,750	35,000 12,750	35,000 12,750	35,000 12,750
epresent Dollar Amounts)					
17,319,003	17,319,003	17,319,003	17,319,003	17,319,003	17,319,003
308,000	-	-	-	-	-
1,786,155	1,818,495	1,818,495	1,818,495	1,818,495	1,818,495
-	-	-	-	3,377,205	4,243,156
15,224,848 3.63	15,500,508	15,500,508	15,500,508	12,123,303	11,257,352
4,391,604	-	-	-	-	-
10,833,244 2.58	15,500,508 3.69	15,500,508 3.69	15,500,508 3.69	12,123,303 2.88	11,257,352 2.68
1,500,000 6,500,000	3,450,000 4,500,000	3,450,000 3,500,000	3,950,000 -	3,950,000 -	3,650,000 -
2,833,499 .67	7,550,508 1.80	8,550,508 2.04	11,550,508 2.75	8,173,303 1.95	7,607,352 1.83
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
10,833,244	15,500,508	15,500,508	15,500,508	12,123,303	11,257,352
Net Cash Flow from Operations for Equity					\$ 137,002,174
10% Discount Factor .2322					31,805,054
Working Capital					\$ 4,000,000
10% Discount Factor .8816					3,526,288
Present Value					\$ 35,331,342
Per Share					8.41

JAN 14 1970

RSD Mines & Metals

82 E

For Internal Use Only

70 - 1

January 9, 1970.

B.C. EDITION*attach to previous memos.*In this issue: Brenda Mines Limited
Granduc Mines Limited*Feb 67?*

I.H.S.	✓
P.M.K.	✓
G.M.H.	
R.D.S.	
B.C.B.	
I.D.B.	
M.D.R.	
J.H.F.	

E.C.J.

BRENDA MINES LIMITED (\$15.50)

This large low-grade British Columbia copper-moly producer recently came into production and is currently operating at approximately 25,000 tons per day. It is expected that January, 1970 will be the first month of optimum output. The original feasibility study estimated that mill heads would average 0.212% copper and 0.063% molybdenum during the first three years of production. The plant was scheduled to start at an initial rate of 24,000 tons per day, but it could be increased to 30,000 tons per day shortly after a successful break-in period.

It is now understood that ore grades could be some 10% higher than what was calculated in the original feasibility study. It is to be noted however that the metallurgy is somewhat more complex than the conventional copper-moly circuit. For this reason, we have tended to be conservative towards earnings estimates.

Assuming an average mill rate of 27,000 tons per day, copper recoveries of 88%, moly recoveries of 82%, total operating costs of \$1.75 per ton, copper prices of 60¢ (Cdn.) per pound for 1970 and molybdenum prices of \$1.50 (U.S.) per pound; we estimate total operating profit for 1970 to be \$19.5 million. Due to a possible 5%-10% capital over-run, it is now estimated that the total outstanding capitalization could approach 4.4 million shares. Thus the estimated annual operating profit is calculated at \$4.50 per share. Assuming annual interest charges of \$4.4 million and annual write-offs of \$4.5 million, Brenda Mines could then report a net profit of \$10.6 million or approximately \$2.40 per share.

On the assumption that operating profits will approach \$4.50 per share, we feel that this stock could trade at an eventual \$22-\$24 price range. Technically the stock is displaying a constructive pattern and appears to show a potential break-out at the \$16 level, having established fairly good support at the \$13 level.

Recommendation

At the current price level, we consider this stock to be an attractive purchase for the medium-term account who is willing to speculate on better than expected earnings during the initial year of operations. The Company enjoys sound technical management provided for by Noranda Mines, which currently holds effective control of the issued stock.

GRANDUC MINES LIMITED (\$11.50)

Major construction work on this large copper mine is virtually nearing completion with one of the major projects being the building of concentrate-handling facilities and employee-housing facilities at Stewart, B.C. Although nothing has been stated officially, it is felt that production start-up could commence by May - June, 1970. This entire project could eventually cost \$110-\$130 million. Access to this orebody has made Granduc one of the most difficult ventures undertaken in mining today. The venture is being managed and financed by



RICHARDSON SECURITIES OF CANADA
RESEARCH DEPARTMENT