

Canada Tungsten  
Mining Corporation  
Limited.



**Annual Report 1986**





# Corporate profile

Canada Tungsten is a significant factor in the production of tungsten in the western world. The Company owns and operates the western world's largest tungsten mine at Tungsten, Northwest Territories, Canada that mines and concentrates scheelite (calcium tungstate) and it has a long-term leasehold interest over an ammonium paratungstate plant in Fort Madison, Iowa, U.S.A. It also has two of the western world's most promising tungsten mining projects: it owns the Mactung scheelite project located near the MacMillan Pass on the Yukon/Northwest Territories border and has an option to acquire a wolframite (iron manganese tungstate) and tin project located at Hemerdon Ball near Plymouth, southwest England. Canada Tungsten's activities include the purchasing and selling of tungsten concentrates and upgraded tungsten products.

Tungsten is a very hard, dense metallic element that has the highest melting point and highest tensile strength of all known metals

and has unique electrical properties. It has a diversity of uses in tungsten carbides, mill products, tool steels, alloys and in chemicals for catalysts. Examples of end-uses range from cutting parts for machine tools and drill steel through the wear parts of transportation and electrical equipment to armaments, dies for extrusion presses, high-temperature alloys and lamp filaments.

The Company is incorporated under the Business Corporations Act, (Ontario). Its common shares are quoted on the Toronto Stock Exchange (symbol: CTM). The principal shareholder, holding 57% of the outstanding common shares, is AMAX Inc. which is a worldwide supplier of minerals and energy with headquarters in Greenwich, Connecticut.

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**Cover photos.** Tungstic blue oxide, white ammonium paratungstate, ammonium metatungstate and a gold nugget represent some of our products in the photographic composition on the front cover. The powders are manufactured in our plant at Fort Madison, Iowa from tungsten concentrates coming from the Company's mine at Tungsten, in the Northwest Territories. The nugget was taken from our gold project at Dublin Gulch in the Yukon. The back cover shows some of the tungsten carbide industrial products manufactured by one of our customers.





## Report of directors to the shareholders

The Directors present the Company's Annual Report for the year ended December 31, 1986.

**The 1986 net loss, after costs of closed facilities and other provisions, was \$17,237,000"**

The net loss for 1986, after providing \$6,323,000 for costs applicable to closed facilities and \$3,580,000 for possible losses on future sales from inventories, was \$17,237,000 or \$1.45 per common share. This compares with the 1985 net loss, before extraordinary item, of \$8,512,000 or \$1.49 per common share. These losses are disappointing. While we are confident that, in time, the tungsten market will again exhibit at least part of its past strength and that the Company will then profit from its very competitive mining operations and projects, management is vigorously exploring opportunities for broadening the business base of the Company.

**Low prices have severely affected the operations of your Company and other producers. A supply shortfall could eventually develop"**

The Company's 1986 results and operations were adversely affected by material falls in tungsten prices. The Metal Bulletin scheelite quotation fell 24% in the year, while wolframite fell 33% to a level that is less than one-third of the average prices recorded for the three years

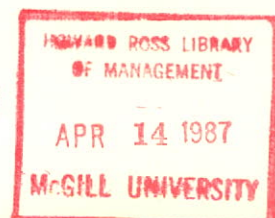
prior to 1982. As virtually all western-world tungsten mining operations are uneconomic at today's prices, closures and cut-backs are taking place and there is a considerable and growing shortfall of mine production as compared to usage of tungsten concentrates in the western world. While our statistics are poor regarding levels of inventories as well as new production and consumption in China and Russia, most industry-observers agree that world inventories are being reduced and that higher prices will eventually be required to prevent a global imbalance of supply and demand. Production from the more competitive of the western world mines, including Canada Tungsten, should be required and be economic in the future. In the past, prices have risen quite steeply after recoveries have commenced but then, as now, it has been very difficult to forecast the timing and extent of recovery.

**Sales from China were a disruptive factor in 1986, but China is now taking corrective steps"**

In 1986, sales into western markets by various competing agencies of the People's Republic of China contributed significantly to the fall in market prices. These included sales of ammonium paratungstate (APT) at prices that progressively eroded the profitability of North American APT plants. However, recent announcements indicate that China is taking steps to better manage its sales of tungsten in world markets and is increasing prices.

**The Company's tungsten assets, its long-term potential and capital base were strengthened by acquisitions from AMAX and share issuances"**

During 1986, the Company acquired virtually all of the tungsten interests of Amax Inc. (AMAX), its principal shareholder. By transactions concluded on May 26 and June 30, the Company acquired from AMAX its wholly-owned subsidiary, Amax Northwest Mining Company Limited, which holds the MacMillan Pass tungsten deposit located some 110 miles north of the Company's present mine, together with a long-term leasehold interest (at nominal rental) in the ammonium paratungstate plant at Fort Madison, Iowa, an option over the Hemerdon wolframite and tin property in southwest England and AMAX's inventories of tungsten products. The consideration was \$60.0 million, settled by the issuance of 6,000,000 common shares and \$12.0 million in cash. Prior to these transactions, private placements of securities, in the form of special warrants, were made in March for gross proceeds of \$36.0 million. These warrants were later surrendered in exchange for the issuance of 4,500,000 common shares and 2,250,000 common share purchase warrants. The 57% shareholding by AMAX in the Company did not change materially as a result of these transactions.





As a result of the above transactions, the Company has excellent potential for the long-term and should be a major factor in the tungsten industry of the future. Its tungsten mine and mining projects are amongst the best in the world and it has now moved into the production of APT and other downstream products. The Company has strong liquid resources and is soundly financed. It is well able to expand its business, in tungsten, or into the mining of precious or other metals, as profitable opportunities are identified.

**'Due to low prices, mining operations were suspended. APT operations will temporarily cease in March 1987'**

For the short-term, however, tungsten prices are too low to justify operations. Operations at the Tungsten, NWT, mine were suspended on May 20, 1986 as a result of a strike. In August, 1986, the Company announced that the mine will remain closed until market conditions improve. Since the 1986 year-end, the Company has announced that, effective March 2, 1987, the Fort Madison, APT plant will be closed temporarily. The closure reflects currently poor market conditions and APT inventories that are adequate to sustain the Company's planned reduced level of sales for a considerable time.

**'The Company will continue to serve its key customers although it has reduced its volume of sales'**

The Company intends to continue to be a factor in the market and will make every effort to supply its key customers. It has considerably reduced its level of sales and is avoiding low-priced sales so as to conserve inventories and in anticipation that realizations will improve in the future.

The Company is committed to a policy of close customer contacts and individual needs of the key customers will continue to be emphasized.

**'The Directors thank employees for their efforts and success in cost-reduction'**

The Company regrets the unavoidable temporary closure of operations and the impact that this has on the lives of so many of its dedicated employees and their families. In recent years, all employees of the Company, working as a team, have significantly improved the cost-effectiveness of the operations. Successive reductions in the costs of production, which were evidenced again prior to closure of mining operations in 1986, represent a significant and worthwhile achievement. The low-cost base that has been established will be an asset in the future. The Directors recognize and record their appreciation to all employees and former employees for the efforts that have been made.

#### **Board of Directors**

Following the sale by Dome Mines Limited of its shareholdings in the Company pursuant to a private agreement, Messrs. Fraser M. Fell,

Q.C., and Robert M. Franklin resigned as Directors and Mr. Fell resigned as Chairman during 1986.

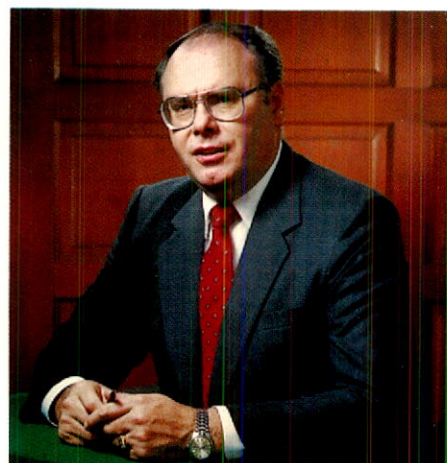
On behalf of the shareholders and employees, your Directors extend to the retirees sincere thanks for their valued contributions. Special thanks are extended also to those various officers and employees of Dome Mines Limited who have worked with the management of the Company over the years.

At the July, 1986, meeting of the Board, Mr. Douglas A. Berlis, Q.C., was elected as Chairman and the Board of Directors was reduced to seven.

On behalf of the Board of Directors,



Wayne D. Lenton  
*President and Chief Executive Officer*  
Vancouver, B.C.  
March 6, 1987





# Review of operations and projects

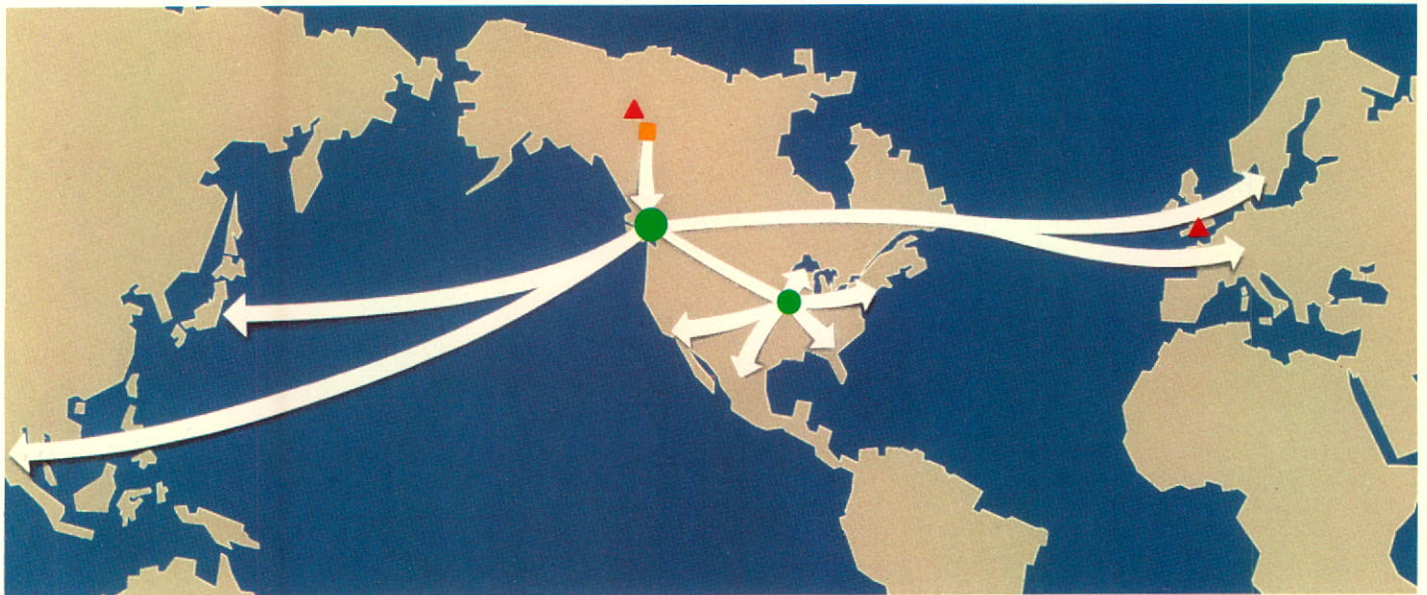
## Mining operations

Production from the Tungsten, NWT, mine was halted by a strike, by members of the two principal bargaining units there, that commenced on May 20, 1986. Previous to that date, the Company had notified its unionized employees at Tungsten that new conditions of em-

ploymen- tions including the powerhouse were closed. Power is now being supplied for care and maintenance operations from smaller low-cost generators.

Prior to the closure of operations, production efficiency and cost performance were excellent. Production in 1986 to May 20 was

ounces of gold and generated a net cash inflow of \$0.9 million. It is anticipated that this operation will continue for the 1987 placer season but additional reserves will require to be found in the vicinity to allow operations thereafter. Exploration will proceed in 1987 on two properties in the region of Dublin Gulch.



- Mine and mill
- ▲ Mining projects
- APT plant and warehouse
- Warehouse, distribution and executive office

ployment, including reduced wage rates, would be introduced unless agreement was reached on the terms of a new labour contract. Following the announcement in August that the mine will remain closed until further notice, the facilities were "mothballed" preparatory to a period of care and maintenance with a minimal caretaking crew. With the exception of key senior management, all staff were severed and townsite opera-

197,000 STUs which compares with 174,000 STUs produced in the first half of 1985 and with production for the year 1985 of 410,000 STUs. The 1986 production was from 151,000 tons of ore grading 1.56% tungsten trioxide ( $WO_3$ ) with a mill recovery of 83.2% whereas production for the year 1985 was from 381,000 tons of ore grading 1.35%  $WO_3$  with a mill recovery of 79.7%.

At December 31, 1986, mineable ore reserves in the proven and probable categories at the Tungsten, NWT, mine are estimated to be 1.4 million tons averaging 1.20%  $WO_3$ .

The gold placer mining operation at Dublin Gulch, Yukon, had another successful year in 1986. It produced approximately 2,600

## Conversion facility

Following the Company's assumption of its leasehold interest in the Fort Madison ammonium paratungstate plant on July 1, 1986, conversion operations restarted as from September 21. Until then, operations had been suspended as an inventory control measure. Production in 1986, from September 21, totalled 55,000 STUs of APT and other upgraded projects.

## Tungsten projects

In view of the present depressed state of the tungsten market, expenditures on the Company's two tungsten mining projects, at MacMillan Pass on the Yukon/Northwest Territories border (the Mactung project) and at Hemerdon



Ball near Plymouth, England (the Hemerdon project), were minimal. Definition of mineralization, studies of economics, mine design and preliminary planning for these projects are well advanced.

The Company believes that the Mactung project has exceptional potential and will eventually become one of the largest mines producing tungsten in the western world. When developed, it should have a relatively long life. Mine plans have been prepared to mine



plans are 17.2 million tonnes grading 0.78%  $WO_3$  in the upper zone and 6.1 million tonnes grading 1.16%  $WO_3$  in the lower zone. Current plans allow for mining during the first five years, at 1,000 tons per day of mill feed, at an average grade of 1.29%  $WO_3$ .

Mineralized material included in a design for an open pit at Hemerdon is estimated at 38 million tonnes, with an average grade of 0.183%  $WO_3$  and 0.029% tin.

At Hemerdon, Planning Permission for the development of the project became final in 1986, following agreement with the local governmental authorities on certain conditions covering details of the proposed operation, including compensation for residents who would be affected by the project. The eventual development of the Hemerdon project will depend not only on market conditions but on the Company's decision as to whether it will supply demand from Hemerdon or from its other sources.



an upper zone as an open pit and a lower zone as an underground mine with adit access. The mineable reserves included in these



**Centre:** Gold project at Dublin Gulch, Yukon.

**Bottom:** Canol Road leading to Mactung project.





**Top:** Mactung project.

**Centre:** APT plant, in red outline, at Fort Madison, Iowa.



**Centre Right:** Hemerdon project near Plymouth, England.

**Bottom:** Townsite at Tungsten, Northwest Territories.





## Financial review

Results in 1986 were affected by further steep falls in sales prices for tungsten in world markets which resulted in closure of the Company's mining operations and provisions for losses on future disposals of inventories.

The net loss in 1986 was \$17.2 million or \$1.45 per share as compared to a loss before extraordinary item of \$8.5 million or \$1.49 per share in 1985. In 1985, as a result of a reduction in estimates of mineable ore reserves, an extraordinary charge of \$20.4 million was made, primarily to reduce the net book value of assets, and brought the net loss for that year to \$28.9 million or \$5.05 per share.

The Metal Bulletin average scheelite quotation was U.S. \$50/STU in 1986 as compared to U.S. \$67/STU in 1985. During 1986, the quotation fell from U.S. \$60/STU at January 1 to U.S. \$46/STU at year-end. The wolframite quotation at year-end was only U.S. \$34/STU which compares with the average wolframite quotation in 1979 through 1981 of close to U.S. \$130/STU. The fall in scheelite prices in 1986 was principally in the period March to September. From a low of U.S. \$41/STU in September, the scheelite quotation has improved gradually and was U.S. \$47/STU, with a wolframite quotation of U.S. \$41/STU, as of March 3, 1987.

In 1986, sales of \$23.4 million were less than the 1985 sales of

\$30.5 million as a result of the Company's decision to reduce sales levels and despite the addition of sales of APT and other upgraded products as from mid-year (replacing sales of lower-grade scheelite concentrates made previously). Applicable operating expenses, excluding costs for closed facilities and depreciation, were \$29.3 million in 1986 and \$31.9 million in 1985. However, the 1986 costs included provisions totalling \$3.6 million in respect of possible losses on future sales from inventories (computed based on end-1986 realized prices). Accordingly, excluding the inventory-loss provision, the 1986 gross margin was \$0.9 million worse than in 1985. This reflects lower sales price realizations partly offset by low production costs prior to the mine closure in May.

Costs applicable to closed facilities, comprising the cost of closing and mothballing the Tungsten, NWT, mine as well as ongoing caretaking costs (which have now reduced to approximately \$125,000 per month at Tungsten, NWT) totalled \$6.3 million in 1986.

As a result of lower production, depreciation computed using the units of production method was \$3.3 million less in 1986 than in 1985.

Exploration was at a minimal level in 1986, only \$0.1 million being expended as compared to \$0.6 million in 1985.

The Company's equity in net losses of Queenstake Resources Ltd. (32% owned) amounted to \$2.1 million in 1986 and \$0.7 million in 1985. The high charge in 1986 results

from provisions made by Queenstake to reflect a reduction in its estimated placer gold reserves and impairment or abandonment of certain of its hardrock and oil and gas properties.

In 1986, the Company's revenues included \$0.6 million net interest income as compared to net interest expense of \$1.0 million in 1985.

As a result of the foregoing, the \$17.2 million loss before income taxes in 1986 was \$6.9 million higher than the \$10.3 million loss before income taxes and extraordinary item in 1985.

In 1985, the net loss was reduced by \$1.8 million representing the previously unrecovered balance of deferred taxes that was credited in that year, thereby reducing the loss before extraordinary item in 1985 to \$8.5 million. The 1986 net loss was, as previously stated, \$17.2 million.

### Dividend

No dividend was declared during 1986 whereas a stock dividend equal to 10 cents per common share was paid in 1985. However, a stock dividend of 18 cents per common share was declared and paid in early 1987. As a result, the Company's common shares continue to be eligible investments for certain life insurance companies, pension funds and trusts.



# Auditors' report to the shareholders

## Cash flows, liquidity and working capital

The Company's working capital and liquidity improved significantly in 1986 due to proceeds from the issuance of securities and to the acquisition of inventories from AMAX.

After excluding financing activities and the acquisition transactions with AMAX, 1986 net cash flows were \$1.7 million positive, due to cash realized from reduction of other working capital items. By comparison, 1985 recorded a net cash drain:

	Cash in (out)	
	1986	1985
	\$ millions	
Cash from (invested in) other working capital	\$ 9.8	\$(1.6)
Costs of closed facilities	(6.3)	—
Other operating cash flows	(1.6)	(2.0)
	<u>1.9</u>	<u>(3.6)</u>
Invested in property, plant, equipment and exploration	(.2)	(1.2)
	<u>\$ 1.7</u>	<u>\$(4.8)</u>

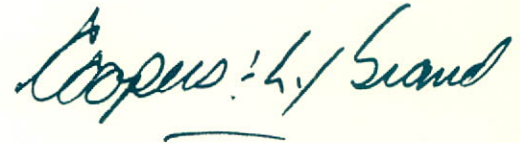
After taking account of share issuances and the acquisitions from AMAX, there were cash and marketable securities at December 31, 1986 of \$12.4 million. Working capital totalled \$26.9 million at December 31, 1986, as compared to \$14.8 million at the end of 1985. Debt was reduced in the year from \$14.0 million to \$2.1 million.

Until tungsten markets recover, working capital may continue to reduce, although at lesser rates than in the latter half of 1986.

The strong working capital and liquid position, together with available credit facilities, should be adequate for the Company's needs, insofar as these can be foreseen at present.

We have examined the consolidated balance sheet of Canada Tungsten Mining Corporation Limited as at December 31, 1986 and the consolidated statements of loss and retained earnings and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the financial position of the Company as at December 31, 1986 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.



Vancouver, B.C.  
January 29, 1987



## Consolidated statement of loss and retained earnings

<i>for the years ended December 31</i>	<i>Note</i>	<b>1986</b>	1985
		<i>in thousands (except per share)</i>	
<b>Revenues</b>			
Sales		\$ 23,390	\$ 30,486
Interest income (expense), net		561	(1,015)
		<b>23,951</b>	<b>29,471</b>
<b>Expenses</b>			
Operating expenses before the undernoted		29,316	31,912
Costs applicable to closed facilities	3	6,323	—
Depreciation and amortization		3,323	6,656
Exploration		126	557
Equity in losses of affiliate		2,100	700
		<b>41,188</b>	<b>39,825</b>
(Loss) before income taxes and extraordinary item		<b>(17,237)</b>	<b>(10,354)</b>
Deferred income taxes (recovery)	5	—	(1,842)
(Loss) before extraordinary item		<b>(17,237)</b>	<b>(8,512)</b>
Extraordinary item (loss)	4	—	(20,350)
<b>Net (loss)</b>		<b>(17,237)</b>	<b>(28,862)</b>
Retained earnings at beginning of year		11,788	41,222
Share issue expenses		(450)	—
Dividends		—	(572)
<b>Retained earnings (deficit) at end of year</b>		<b>\$ (5,899)</b>	<b>\$ 11,788</b>
<b>Per share</b>			
Net (loss) per common share —			
Before extraordinary item		\$ (1.45)	\$ (1.49)
After extraordinary item		\$ (1.45)	\$ (5.05)
Dividends — paid principally in capital stock		—	\$ 0.10


The attached notes form part of the financial statements.



**Consolidated balance sheet**

<i>at December 31</i>	<i>Note</i>	<b>1986</b>	<b>1985</b>
<i>in thousands (except per share)</i>			
<b>Assets</b>			
Cash and marketable securities		<b>\$ 12,355</b>	\$ —
Accounts receivable		<b>2,448</b>	5,701
Inventories	2, 6	<b>15,598</b>	13,179
Prepaid expenses		<b>131</b>	317
<b>Current assets</b>		<b>30,532</b>	19,197
Investments	7	<b>4,815</b>	6,892
Property, plant, equipment and deferred mineral expenditures, less accumulated depreciation and amortization	2, 8	<b>63,453</b>	19,863
		<b>\$ 98,800</b>	\$ 45,952
<b>Liabilities</b>			
Accounts payable and accrued liabilities		<b>\$ 3,678</b>	\$ 4,396
<b>Current liabilities</b>		<b>3,678</b>	4,396
Long-term debt	9	<b>2,071</b>	13,955
Reserve for reclamation		<b>1,588</b>	1,391
		<b>7,337</b>	19,742
<b>Shareholders' equity</b>			
Capital stock	2, 10	<b>97,362</b>	14,422
Retained earnings (deficit)		<b>(5,899)</b>	11,788
		<b>\$ 98,800</b>	\$ 45,952

Approved by the Board of Directors


W.D. Lenton  
Director

D.A. Berlis  
Director

The attached notes form part of the financial statements.



## Consolidated statement of changes in financial position

<i>for the years ended December 31</i>	1986	1985
		<i>in thousands</i>
<b>Operating activities</b>		
Sales less operating expenses, excluding depreciation, amortization, exploration and interest	\$ (5,926)	\$ (1,426)
Adjustment for non-cash charges	3,777	409
	<u>(2,149)</u>	<u>(1,017)</u>
Costs applicable to closed facilities	(6,323)	—
Interest income (expense), net	561	(1,015)
Net change, related to operations, in receivables, inventories and payables	9,839	(1,559)
<i>Cash provided by (used in) operating activities</i>	<u>1,928</u>	<u>(3,591)</u>
<b>Financing activities</b>		
Common shares issued, less expenses	82,490	262
(Decrease) increase in long-term debt	(11,884)	4,510
Asset disposals, at book value	38	19
Cash portion of dividends paid	—	(39)
	<u>70,644</u>	<u>4,752</u>
<b>Investment activities</b>		
Acquisition of Amax's tungsten interests	(60,000)	—
Additions to property, plant and equipment	(68)	(604)
Exploration	(126)	(557)
Other	(23)	—
	<u>(60,217)</u>	<u>(1,161)</u>
<b>Increase in cash and marketable securities and cash and marketable securities, December 31, 1986</b>	<u>\$ 12,355</u>	<u>\$ —</u>



# Notes to consolidated financial statements

(in thousands of dollars except where indicated)

## 1. Summary of significant accounting policies

### *Accounting standards*

The accounting policies of the Company conform in all material respects to international accounting standards and with generally accepted accounting principles in Canada.

### *Consolidation*

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries, Amax Northwest Mining Company Limited and Tungsten, Inc.

### *Inventories*

Inventories of concentrates, ores and upgraded products are valued at the lower of cost or net realizable value. Cost is determined on the moving average basis and does not include depreciation or amortization. Materials and supplies are valued at the lower of cost and replacement cost.

### *Investments*

The investment in Queenstake Resources Ltd. is accounted for by the equity method after providing for a loss in value. The excess of the cost of this investment, as reduced by the provision for loss in value, over the Company's share in the underlying book values at dates of acquisition, is being amortized over the lives of the related assets.

Oil and gas investments are considered to be distinct from mining operations and are valued at cost reduced by related income tax benefits.

Other investments are valued at cost.

### *Property, plant, equipment and deferred mineral expenditures*

Property, plant and equipment are carried at cost less amounts written-off. Repairs and maintenance are charged to operating expenses as incurred. Replacements and major improvements are capitalized.

Depreciation is computed primarily on the unit of production method. Accumulated depreciation includes amounts provided as a consequence of an extraordinary reduction in ore reserves in 1985.

Acquisition costs of major mining and petroleum properties are deferred until a property is abandoned or placed into production.

Costs of exploring for new ore occurrences are charged against earnings as incurred. Costs incurred on indicated economically recoverable reserves are deferred.

Preproduction development and acquisition costs are deferred and amortized on the unit of production basis over the estimated economic life of the relative mine. Accumulated amortization includes amounts provided as a consequence of an extraordinary reduction in ore reserves in 1985.

### *Reserve for reclamation*

Commencing in 1983, the Company began providing for reclamation costs to be incurred on the eventual depletion of its mine at Tungsten, NWT. The amount provided is determined on a unit of production basis over the estimated remaining economic life of the mine. The reserve includes amounts provided as a consequence of an extraordinary reduction of ore reserves in 1985.

### *Income taxes*

The tax allocation method is followed. Deferred income taxes, when provided, relate primarily to depreciation of property, plant and equipment and amortization of deferred costs.

### *Foreign currencies*

All items in foreign currencies have been translated using the temporal method. Monetary assets and liabilities in foreign currencies are translated into Canadian dollars at the year-end rates of exchange. Other foreign currency balance sheet items are translated at rates prevailing at the relative transaction dates, except that depreciation and amortization are translated at the same rates as the related assets. Foreign currency revenue and expense items are translated into Canadian dollars at the average rates prevailing during the year except for the cost of inventories sold, depreciation and amortization which are translated at rates prevailing when the related assets were acquired. Exchange gains and losses, including those arising on translation, are included in determining current earnings.

### *Earnings per share*

Earnings (loss) per common share for each period are determined using the weighted average number of common shares outstanding during the period.

## 2. Changes in assets and capital stock

A private placement of special warrants was completed on March 27, 1986 for gross proceeds of \$36,000,000 and these special warrants were converted to 4,500,000 shares and 2,250,000 common share purchase warrants



on May 26, 1986. By transactions concluded on May 26 and June 30, 1986, the Company acquired substantially all of the tungsten interests of Amax Inc. and certain of its subsidiaries for a purchase price of \$60,000,000 that was settled by a payment of \$12,000,000 in cash and by the issuance of 6,000,000 common shares of the Company. Amax Inc., through a wholly-owned subsidiary, controls 57% of the Company's shares, the same percentage as before these transactions were effected. The assets acquired by the Company from Amax Inc. comprise the undernoted:

- i. a 20-year leasehold interest, at a nominal rent, in the ammonium paratungstate plant located at Fort Madison, Iowa, U.S.A.,
- ii. inventories of tungsten concentrates, ammonium paratungstate and other upgraded tungsten products with a book value of U.S. \$9,000,000,
- iii. all the shares of Amax Northwest Mining Company Limited, which company owns the Mactung tungsten project located at the boundary of the Northwest Territories and the Yukon Territory, and
- iv. an option to acquire, for a nominal amount, all the shares of companies that together own the Hemerdon property, a tungsten-tin project located at Hemerdon Ball, near Plymouth, England.

As part of the changes, a sales agreement and an exclusive sales agency agreement between the Company and a wholly-owned subsidiary of Amax Inc. were terminated.

### 3. Suspensions of operations

Production at the Company's Tungsten, NWT mine ceased on May 20, 1986 due to a strike. On August 12, 1986, following further declines in the world market price for tungsten, the Company announced that the mine will remain closed until further notice and that market prices will have to increase before the mine is re-opened. In order to reduce inventories, operations of the ammonium paratungstate (APT) plant at Fort Madison, Iowa were suspended from the date of acquisition to September 21, 1986. With effect from March 2, 1987 the Company will temporarily suspend operations of the Fort Madison APT plant due to poor market conditions and high levels of finished product inventories.

### 4. Future operations and extraordinary item

Resumption of operations at the Tungsten, NWT mine and the Fort Madison APT plant will depend on future

market conditions and will require higher prices and improved operating margins.

In 1985, it was determined that approximately one-half of the Company's previously calculated ore reserves must be considered non-recoverable. Consequently, in that year, the Company provided \$20,350,000 for additional depreciation and amortization and as an increase in the amount provided for reclamation costs. In order to recover the remaining net book values of property, plant, equipment and deferred mineral expenditures, the Company must achieve profitable operations.

### 5. Income taxes

The rate of income tax expense (recovery) on earnings before income taxes varies from the combined statutory federal, provincial and territorial rates as follows:

	1986	1985
Earnings (loss) before income taxes and extraordinary item	\$ (17,237)	\$(10,354)
Adjust for items excluded when computing income taxes - equity earnings (losses), non-deductible interest, exploration and other	2,100	963
As adjusted	(15,137)	(9,391)
Income taxes at statutory rate (48%)	(7,265)	(4,508)
Adjust to limit recovery to accumulated deferred taxes of prior years	7,265	2,666
Income taxes (recovery)	\$ -	\$ (1,842)
Effective rate (recovery) on earnings (loss) before income taxes and extraordinary item		(18%)

### 6. Inventories

	1986	1985
Concentrates and ores	\$ 3,154	\$ 9,870
Ammonium paratungstate and other upgraded products	9,023	-
Materials and supplies	3,421	3,309
	\$ 15,598	\$ 13,179



## 7. Investments

	1986	1985
Investment carried on the equity basis – Queenstake Resources Ltd. (32% owned; 1985 – 38%)	\$ 4,191	\$ 6,291
Oil and gas investments, at cost less related tax deferrals –		
1% net profit interest in Beaufort Sea properties	5,000	5,000
Tax deferrals	(4,466)	(4,466)
	534	534
Other investments at cost	90	67
	<u>\$ 4,815</u>	<u>\$ 6,892</u>

Tax benefits from exploration expenses, frontier allowance and depletion on oil and gas investments were not applied to reduce income taxes in the statements of earnings in the years they were claimed. Instead, they have been classified as tax deferrals and deducted from the costs of the investments.

The quoted market value at December 31, 1986 of the investment in Queenstake Resources Ltd. was \$3.0 million (1985 – \$4.0 million). This quoted value is not necessarily indicative of realizable value.

## 8. Property, plant, equipment and deferred mineral expenditures

	1986	1985
Land	\$ 545	\$ 545
Buildings, plant and equipment (note 3)	93,493	73,316
Deferred preproduction and development	8,590	8,590
Undeveloped mining properties	26,024	–
	128,652	82,451
Accumulated depreciation and amortization	(65,199)	(62,588)
	<u>\$ 63,453</u>	<u>\$ 19,863</u>

## 9. Long-term debt

A long-term revolving credit agreement, with a credit limit of \$15 million in Canadian or U.S. funds, is available until at least October, 1988. Another similar agreement, with a credit limit of \$15 million in Canadian or the equivalent in U.S. funds, was converted to a term facility that extends for a further 4 years, from September 1986, during which the initial credit limit of \$15 million will be reduced by \$3.7 million at the end of each year. Of the borrowings outstanding at December 31, borrowings made in U.S. dollars totalled U.S. \$1.5 million (1985 – U.S. \$8.2 million). The average interest rate on the debt outstanding at December 31, 1986 was 6.9% (1985 – 9.2%).

## 10. Capital stock, warrants and stock options

Authorized –

An unlimited number of special shares

An unlimited number of common shares without par value

Common shares issued and fully paid –

	Number of common shares	
As at December 31, 1985	5,760,720	\$ 14,422
Issued for assets acquired (note 2)	6,000,000	48,000
Issued in exchange for special warrants (note 2), less applicable commissions	4,500,000	34,940
As at December 31, 1986	<u>16,260,720</u>	<u>\$ 97,362</u>

Common share purchase warrants outstanding –

	Number of warrants
Issued in 1986 in exchange for special warrants (note 2)	<u>2,250,000</u>



Each common share purchase warrant entitles the holder to purchase one common share of the Company for \$10.00 per share at any time prior to March 25, 1991. At December 31, 1986 2,250,000 authorized unissued common shares are held in reserve for future exercise of the warrants.

Of the authorized common shares unissued at December 31, 1986, 350,000 were reserved for issuance under a share option plan for key Company personnel. Outstanding options granted to senior officers and other employees permit the purchase of up to 6,000 common shares. These options are exercisable at a price of \$14.50 per common share as to 20% of each optionholder's entitlement in each year of the five years ending August 10, 1989. Such rights of exercise are cumulative over the five year period. No options have been exercised.

In April 1986, pursuant to a Special Resolution of the Company's shareholders, the existing shares were redesignated as common shares and the authorized capital of the Company was increased to an unlimited number of common shares and an unlimited number of special shares. No special shares have been issued.

### 11. Related party transactions

During 1986, the Company acquired assets from Amax Inc. and certain of its subsidiaries and cancelled a sales agreement and an exclusive sales agency agreement with a subsidiary of Amax Inc., as described in note 2. In addition, the Company's wholly-owned subsidiary, Tungsten, Inc., the lessee of the Fort Madison ammonium paratungstate plant from Amax Inc., entered into an operating agreement under which Amax Inc. will operate the plant on behalf of Tungsten, Inc. for a period of 20 years. Amax Inc. has continued to provide services as requested to support the Company's sales of its products. Sales to, and amounts paid or payable to Amax Inc. and its subsidiaries (AMAX) relative to these arrangements, were as follows:

	1986	1985
	<i>(millions of dollars)</i>	
Sales to AMAX pursuant to sales agreement	\$ 5.6	\$ 11.2
Paid or payable to AMAX— for commissions and sales support services for operation of the Fort Madison plant	\$ 0.9	\$ 0.9
	\$ 2.5	—

### 12. Segmented information

Substantially all of the operations of the Company are in the tungsten business, involved in the mining of tungsten ores and the production of upgraded tungsten products. However, a small Canadian gold segment is reported separately below. Sales other than gold are primarily export sales and include products upgraded in the United States under a tolling arrangement with the Company's United States subsidiary, Tungsten, Inc. The operations of that subsidiary are closely integrated with the Canadian mining operations and no sales are effected by it. Products sold are primarily scheelite concentrates, ammonium paratungstate, ammonium metatungstate and tungstic blue oxide. The gold segment comprises the Company's Dublin Gulch, Yukon placer gold mine and its equity-accounted investment in Queenstake Resources Ltd.

The undernoted analyses show sales by geographic destination, allocate the operating loss (sales less expenses other than losses on the equity-accounted investment, income taxes, interest and the extraordinary item) between Canadian and United States operations and identify the assets employed in the Canadian and U.S. operations. Except for the gold segment, all data relate to the Company's tungsten business.

	1986	1985
	<i>(millions of dollars)</i>	
Sales—		
U.S.A.	\$ 10.2	\$ 11.2
Western Europe	8.2	13.2
Other destinations	3.6	4.9
Gold sold in Canada	1.4	1.2
	\$ 23.4	\$ 30.5
Operating earnings (loss)—		
Canadian operations	\$ (11.4)	\$ (8.5)
U.S.A. operations	(4.8)	—
Canadian gold operation	0.5	(0.1)
	\$ (15.7)	\$ (8.6)
Identifiable assets—		
Canadian operations	\$ 64.5	\$ 39.3
U.S.A. operations	30.1	—
Canadian gold operations and investment	4.2	6.7
	\$ 98.8	\$ 46.0



### 13. Commitments

Minimum commitments under various operating leases and supply agreements, which are principally for office premises, mining equipment and communications services, are as follows:

1987 – \$0.5 million; 1988 – \$0.3 million; 1989 – \$0.1 million.

### 14. Subsequent events

- i. At a special meeting of shareholders held on January 29, 1987, a special resolution was passed authorizing the Company to declare and pay dividends out of the funds derived from the operations of the Company and reducing the stated capital for the common shares of the Company by \$20,000,000. Thereafter, a dividend of eighteen cents per share, totalling \$2,926,900, was declared and paid in common shares of the Company.
- ii. In January, 1987 it was announced that operation of the Fort Madison ammonium paratungstate plant will be suspended temporarily as from March 2, 1987 due to poor market conditions and high levels of finished product inventories.

## Quarterly data

(unaudited)

Quarter	Sales	Operating margin (loss)*	(Costs) of closed facilities	Net (loss)	Net (loss) per share**	Stock prices per common share	
						High	Low
<i>in thousands (except per share)</i>							
1986–							
First	\$ 7,882	\$ (746)	\$ —	\$ (2,786)	\$ (0.48)	\$ 8¼	\$ 7
Second	5,689	(798)	(1,312)	(2,819)	(0.31)	12	7¼
Third	5,413	(518)	(4,103)	(5,077)	(0.31)	9	6¼
Fourth	4,406	(3,864)	(908)	(6,555)	(0.40)	7	5¼
	<u>\$ 23,390</u>	<u>\$ (5,926)</u>	<u>\$ (6,323)</u>	<u>\$ (17,237)</u>	<u>\$ (1.45)</u>		
1985–							
First	\$ 7,846	\$ (26)	\$ —	\$ (1,188)	\$ (0.21)	\$ 16½	\$ 14
Second	8,970	(518)	—	(1,531)	(0.27)	14¼	12
Third	6,181	(564)	—	(2,504)	(0.44)	14¼	10½
Fourth	7,489	(318)	—	(3,289)	(0.57)	12¼	8
	<u>30,486</u>	<u>(1,426)</u>	<u>—</u>	<u>(8,512)</u>	<u>(1.49)</u>		
Extraordinary item	—	—	—	(20,350)	(3.56)		
	<u>\$ 30,486</u>	<u>\$ (1,426)</u>	<u>\$ —</u>	<u>\$ (28,862)</u>	<u>\$ (5.05)</u>		

\* Before expenditures on closed facilities, depreciation, amortization, exploration and interest but after provisions of \$700,000 and \$2,880,000 in the third and fourth quarters respectively of 1986 to reduce inventories to market values.

\*\* Net earnings (loss) per common share for each period are determined using the weighted average number of common shares outstanding during the period.



# Eight year record

(unaudited)

	1986(1)	1985	1984	1983(2)	1982	1981(3)	1980(3)	1979
<i>dollars in millions (except where indicated)</i>								
<b>For the year</b>								
Sales	\$ 23.4	\$ 30.5	\$ 32.1	\$ 15.2	\$ 38.1	\$ 31.3	\$ 72.3	\$48.4
Net earnings (loss) before extraordinary item	(17.2)	(8.5)	(5.6)	(12.1)	(8.5)	2.8	23.0	16.5
Net earnings (loss)	(17.2)	(28.9)	(5.6)	(12.1)	(8.5)	2.8	23.0	16.5
Dividends declared	—(5)	0.6	0.3	—	2.2	6.0	6.0	5.0
Acquisition of Amax's tungsten interests	60.0	—	—	—	—	—	—	—
Other capital expenditures and investments	0.1	0.6	0.4	0.7	5.7	12.2	14.6	19.8
Exploration charged to operations	0.1	0.6	1.0	1.5	1.8	2.8	4.3	2.0
Dollars per share —								
Net earnings (loss), before extraordinary item	\$(1.45)	\$(1.49)	\$(1.10)	\$(2.43)	\$(1.70)	\$ 0.56	\$ 4.60	\$ 3.31
Net earnings (loss)	(1.45)	(5.05)	(1.10)	(2.43)	(1.70)	0.56	4.60	3.31
Dividends declared	—(5)	0.10	0.05	—	0.45	1.20	1.20	1.00
Mine production —								
Ore milled — tons 000	151	381	339	40	361	234	349	272(4)
Grade — % WO <sub>3</sub>	1.56	1.35	1.43	1.30	1.38	1.49	1.55	1.62
Recovery — % WO <sub>3</sub>	83.2	79.7	79.6	75.0	79.4	79.2	81.6	81.7
Concentrates produced — STU* 000	197	410	386	39	395	277	442	361
APT production STU 000(6)	55	—	—	—	—	—	—	—
MB average wolframite price US \$/STU(7)	\$ 43	\$ 61	\$ 74	\$ 73	\$ 96	\$ 130	\$ 131	\$ 126
MB average scheelite price US \$/STU(7)	\$ 50	\$ 67	\$ 84	—	—	—	—	—
<b>At year-end</b>								
Cash	\$ 12.4	\$ —	\$ —	\$ —	\$ —	\$ 1.5	\$ 26.0	\$ 5.6
Total working capital	26.9	14.8	13.2	7.8	16.4	16.3	29.4	21.3
Total assets	98.8	46.0	70.8	71.4	81.1	90.6	100.2	80.0
Long-term debt	2.1	14.0	9.4	13.5	4.9	—	—	—
Shareholders' equity	91.5	26.2	54.8	51.0	63.1	73.8	77.0	60.0
Book value — \$/share	\$ 5.62	\$ 4.55	\$ 9.61	\$10.22	\$12.65	\$14.80	\$15.43	\$12.03
Quoted market value — \$/share	\$ 5.75	\$ 8.25	\$14.00	\$16.00	\$14.00	\$25.00	\$41.00	\$21.75
Number of shareholders	670	674	720	759	874	927	957	1,015

(1) Mine production was suspended from May 1986.

(2) Production in 1983 was suspended by the suspension of operations from January through November.

(3) Production was affected by a strike from November 1980 to May 1981.

(4) An expansion program was completed in mid-1979.

(5) A dividend of \$0.18/share was declared in January, 1987.

(6) The lease of the APT facility commenced on July 1, 1986. Operations were suspended until September, 1986 to control inventories.

(7) The company sells scheelite, and realizes prices per STU which differ from the average quoted price of wolframite. A scheelite price quotation was introduced by the Metal Bulletin (MB) in May 1984 and the 1984 average stated is since that date; prior to that time, MB quotations were for wolframite only.

\* The STU is the short ton unit of 20 pounds avoirdupois of tungsten trioxide (WO<sub>3</sub>). Each STU contains 15.86 pounds avoirdupois of tungsten (W).



# Corporate data

## Directors

Douglas A. Berlis, Q.C.\*  
*Counsel, Aird & Berlis*

Allen Born  
*President and C.E.O.  
AMAX Inc.*

John J. Crowhurst  
*President  
Crowhurst Engineering  
Ltd.*

Wayne D. Lenton  
*President and C.E.O.  
Canada Tungsten  
Mining Corporation  
Limited*

George B. McKeen\*  
*Chairman, McKeen &  
Wilson*

Thomas A. McKeever  
*Executive Vice President  
AMAX Inc.*

Charles E. Stott, Jr.\*  
*Vice President, AMAX Inc.  
President AMAX Mineral  
Resources Company*

## Directors emeriti

J.M. Richard Corbet  
James B. Redpath

\*Member of Audit  
Committee

## Officers

Douglas A. Berlis, Q.C.  
*Chairman of the Board*

Wayne D. Lenton  
*President  
Chief Executive Officer*

Bryce M.A. Porter  
*Vice-President Finance  
and Administration  
Chief Financial Officer*

John C. Devitt  
*Operations Manager*

Elaine L. Rickards  
*Secretary*

Dorothy I. Chisholm  
*Assistant Secretary*

Udo. E. von Doehren  
*Assistant Secretary*

## Company offices

Executive office  
*Suite 1600  
Oceanic Plaza  
1066 West Hastings Street  
Vancouver, B.C. V6E 3X1*

Registered office†  
*15th Floor  
145 King Street West  
Toronto, Ontario M5H 2J3*

† Please direct all  
communications to the  
Executive office

## Auditors

Coopers & Lybrand  
*Vancouver, British  
Columbia*

## Bankers

Canadian Imperial  
Bank of Commerce  
*Main Branch  
Vancouver, British  
Columbia*

The Royal Bank  
of Canada  
*Main Branch  
Vancouver, British  
Columbia*

## Shares listed

Toronto Stock Exchange

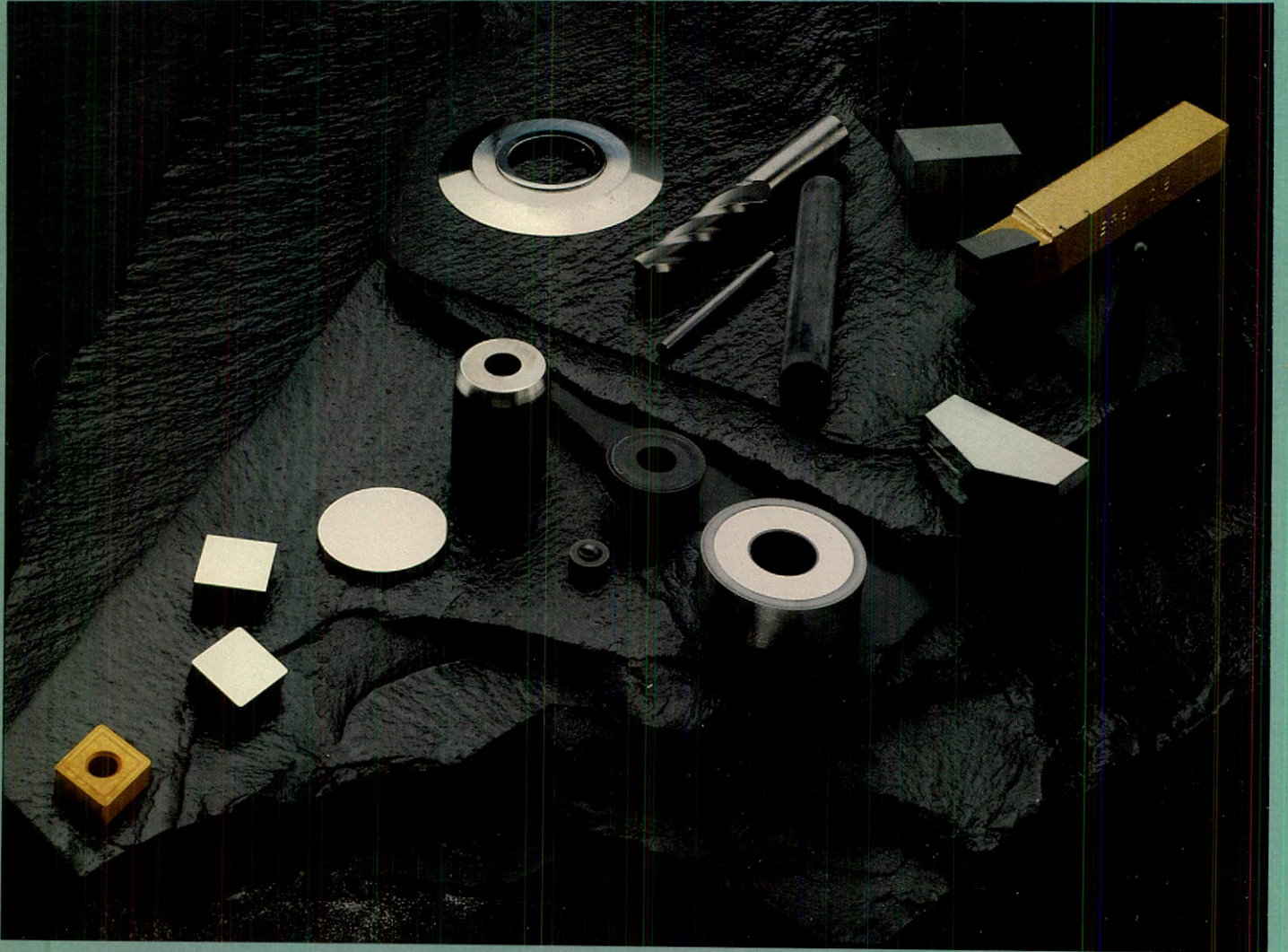
## Registrar and transfer agent

Montreal Trust Company  
of Canada  
*Vancouver - Toronto -  
Montreal*

## Annual meeting

The Annual General  
Meeting of the Share-  
holders of Canada  
Tungsten Mining Cor-  
poration Limited will  
be held on Friday, May 8,  
1987 at 10:00 a.m. in the  
Manitoba Room, Royal  
York Hotel, Toronto,  
Ontario.





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