

Cassiar Asbestos Corporation Limited Annual Report 1978



Cassiar Asbestos Corporation Limited

Officers

J.D. Little, *President and Chief Executive Officer*
A.T. Kana, *Vice-President, Finance and Administration, and Secretary*
B.G. Pewsey, *Vice-President, Operations*
G.E. Carter, *Assistant Secretary*

Directors

W.D.H. Gardiner, *Toronto, Ontario*
* P.W.C. Griffith, *Manchester, England*
A.P. Higgins, *Sydney, Australia*
J.D. Little, *Vancouver, British Columbia*
* P. Malozemoff, *New York, New York*
† H.E. McArthur, *Vancouver, British Columbia*
C.W. Newton, *Manchester, England*
P.M. Reynolds, *Vancouver, British Columbia*
* W.S. Simpson, *Trumbull, Connecticut*
† D.D. Thomas, *Toronto, Ontario*
J.E. Thompson, *New York, New York*

* *Members of Committee of Directors*

† *Members of Audit Committee*

Transfer Agents and Registrars

Crown Trust Company, *Toronto, Ontario;*
Vancouver, British Columbia; Calgary, Alberta

Bankers

The Royal Bank of Canada

Solicitors

Bourne, Lyall, Davenport & Herbert, *Vancouver, British Columbia*
Day, Wilson, Campbell, *Toronto, Ontario*
Lawrence & Shaw, *Vancouver, British Columbia*

Auditors

Price Waterhouse & Co.

Head Office

Twentieth Floor, 1055 West Hastings Street, Vancouver, British Columbia

Mines

Cassiar, *British Columbia*
Clinton Creek, *Yukon Territory (ceased operation August 1978)*



Enterprising manufacturers and asbestos miners shape the world of asbestos. Together they produce some three thousand products that serve mankind in a variety of ways. The supportive role asbestos and the asbestos industry plays in our industrial and domestic lives is the theme of this year's annual report.

The Year in Brief

Financial	1978	1977
Asbestos sales	\$80,774,633	\$115,077,217
Waste removal expenditure	10,853,401	16,806,736
Capital expenditures (net)	14,236,218	13,118,983
Salaries and wages	20,403,520	24,817,283
Provision for taxes	4,550,000	11,605,451
Net earnings	11,825,204	19,565,945
Average price of asbestos per ton	618.00	541.00
Net income per share	2.15	3.56
Operational		
<i>Cassiar mine</i>		
Ore mined, tons	828,072	1,321,065
Fibre produced, tons	75,135	107,060
Waste removed, cubic yards	5,080,948	6,874,033
<i>Clinton Creek mine</i>		
Ore mined, tons	778,499	1,978,318
Fibre produced, tons	57,655	105,224
Waste removed, cubic yards	274,986	778,484



Every year Cassiar Asbestos Corporation Limited produces over one hundred and five thousand short tons of Chrysotile asbestos fibre which is regarded among the best obtainable anywhere in the world. The mine is located at Cassiar, B.C. and is western Canada's only asbestos mining and milling operation.

Directors' Report to the Shareholders

Financial

A substantial reduction in sales took place as a result of a strike by Cassiar employees. The strike stopped production at the mine and prevented the sale of fibre from inventory in Vancouver.

The net income was reduced from \$19,565,945 or \$3.56 per share in 1977 to \$11,825,204 or \$2.15 per share for 1978.

Net capital, waste removal and development costs for 1978 in the amount of \$25,865,757 are summarized as follows:

	<i>Cassiar Mine</i>	<i>Clinton Mine</i>	<i>Vancouver, Whitehorse and Stewart</i>
Plant and Equipment	\$14,401,111	\$(1,211,181)	\$ 1,046,288
Waste Removal	10,374,869	478,532	—
Development	776,138	—	—
	\$25,552,118	\$(732,649)	\$ 1,046,288

Major capital expenditures at the Cassiar Mine were: \$1,547,000 to complete the mill air building, \$1,099,287 for water and central sewage systems, \$2,406,260 on conveyor replacements, \$3,017,078 on a fibre storage building and \$1,265,388 for single personnel accommodation. A barge facility and tank farm, at a capital cost of \$2,171,964, were constructed at Stewart, B.C.

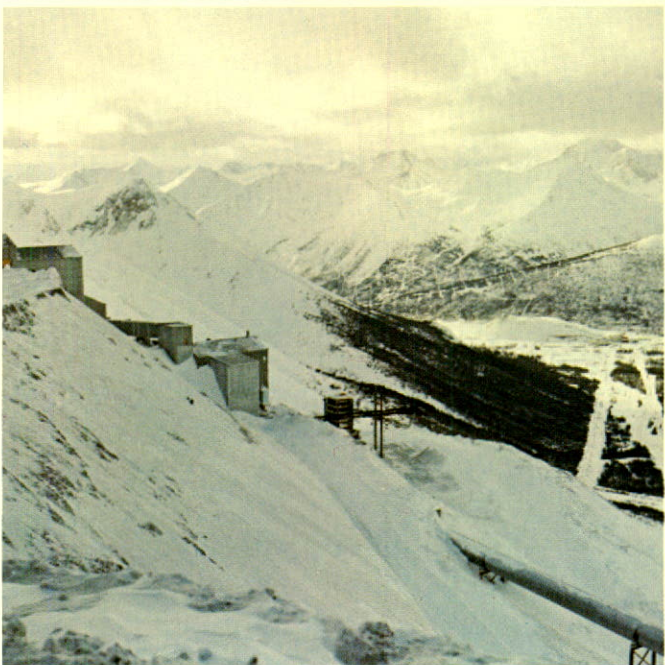
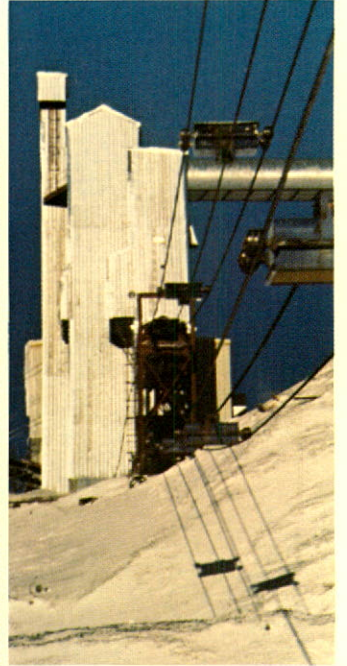
In addition to the expenditures summarized above, \$3,025,000 was paid in dividends during the year.

The bank loan increased by \$1,713,312 to \$6,901,718 as a net result of the cost of operations, capital expenditures, waste removal costs and dividends paid.

The following table summarizes the relationship between net profit, cash generated, money spent and bank indebtedness:

<i>(In millions of dollars)</i>	<i>1974</i>	<i>1975</i>	<i>1976</i>	<i>1977</i>	<i>1978</i>
Net Profit:	1.4*	8.3	11.8	19.6	11.8
Cash flow:					
Cash Generated from Sales	51.6	84.9	82.7	116.2	95.5
Cash Required for:					
(i) Capital Expenditure and Waste Removal	21.6	29.0	31.0	31.7	25.9
(ii) Operating and Other	37.4	51.8	58.7	66.7	68.3
(iii) Dividends	.8	—	—	3.0	3.0
Total Cash Required	59.8	80.8	89.7	101.4	97.2
Bank Indebtedness	17.1	13.0	20.0	5.2	6.9

*Before extraordinary adjustment



Cassiar's asbestos mine is accessible from the townsite by a seven mile road up the western slope of McDame mountain. Asbestos ore is transported from the mine to the mill below by a 4,685 metre tramline that travels 183 metres per minute and delivers 300 tons of ore per hour.



Marketing and Sales

A summary of sales is as follows:

	1978		1977	
	<i>Tons</i>	<i>\$000</i>	<i>Tons</i>	<i>\$000</i>
Cassiar fibre	82,140	55,721	103,513	61,321
Clinton fibre	48,575	25,054	109,198	53,756
	130,715	80,775	212,711	115,077

During the first nine months of 1978 sales reached anticipated levels. However, due to the effect of the Cassiar strike on operations at Asbestos Wharf, only 12,188 tons were sold during the last three months of the year, compared to 50,044 tons during the equivalent period in 1977. Fibre inventory at the end of 1978 remained approximately the same as at the end of 1977.

Fibre Transportation

Plans announced in 1977, for the transportation of containerized Cassiar fibre to Vancouver via Stewart, B.C., were initiated in August, 1978.

Cassiar Mine

Ore Mined — 828,072 tons of ore were delivered to the concentrator during 1978; 24% was rejected as waste leaving 626,573 tons of concentrated ore for processing. The recoverable mine grade for 1978 was 9.07% compared with 8.18% for 1977.

Fibre Production — 75,135 tons of fibre were produced from 626,805 tons of concentrate processed.

Waste Removal — The waste removal program was continued at a rate sufficient to release ore for mining in phase with the requirements of long range planning. During the year 5,080,948 cubic yards of waste were removed at a cost of \$10,374,869, or \$2.04 per cubic yard compared to unit cost of \$2.23 per cubic yard for 1977. The total waste removal cost charged to operations during 1978 was \$7,866,684 using an amortization rate of \$9.50 per ton of ore mined.

Ore Reserves — At December 31, 1978 ore reserves mineable by open pit methods were calculated at 15,315,000 tons. In addition to ore mined during the year, the reserves were reduced by 133,928 tons based on geological interpretation of the results of diamond drilling and other information developed.

Environment — The new mill air system came on stream in May, 1978 and the additional process and environmental air available has contributed to a marked reduction in airborne fibre counts in the working environment. A program of maintenance and modification is being continued with the objective of achieving a 2-fibre per cubic centimeter level of airborne asbestos in the working environment.

The Environmental Committees established at the mine and in Victoria operated effectively through 1978.

Clinton Creek Mine

Ore Mined — 451,981 tons of ore were mined. This tonnage was supplemented by 326,518 tons obtained from a small orebody near Clinton Creek. 593,092 tons of concentrate were obtained from all the ore mined.

Fibre Production — 57,655 tons of fibre were produced from 769,116 tons of concentrate. This concentrate includes inventory as at December 31, 1977.

Waste Removal — 274,986 cubic yards of waste were removed at a cost of \$478,532 or \$1.74 per cubic yard. Waste amortization charges were \$951,032 or \$2.10 per ton of ore mined from the Clinton orebodies.

Ore Reserves — The mineable reserves of the Clinton orebodies were exhausted in 1978. 318,019 tons were unavailable because of pit wall instability.

Clinton Creek and Transport Division Closure

The closing of the Clinton Creek mine in August 1978 also resulted in the shutting down of Cassiar's Transport Division based at Whitehorse, Yukon.

A comprehensive program for the purpose of training and relocating displaced Clinton employees was developed between the Corporation, the Canadian Mine Workers Union, and the Canadian Employment and Immigration Commission. This program, combined with a severance allowance plan, has assisted those whose employment was terminated as a result of the closure of the mine and many employees have accepted employment at Cassiar, B.C.

In September, surplus assets at Whitehorse and Clinton Creek were sold by auction, the net proceeds of which were \$1,740,000.

Exploration

During 1978 \$1,242,671 was spent on exploration:

Kutcho Creek: The diamond drilling program begun in 1977 on this asbestos prospect in northern British Columbia was continued through the summer of 1978. The results confirm a substantial tonnage of asbestos fibre mineralization, but under the present day economic conditions does not warrant further development. The mining claims will be maintained in good standing.

Grand Forks Uranium Project – B.C.: This project was a joint venture entered into in 1977 between Cassiar, Chinook Construction Ltd., and Consolidated Boundary Exploration Limited. A percussion drilling and sampling program was carried out in the summer of 1978 on the anomalies delineated in 1977. The results from sampling a grid pattern of 27 percussion drill holes were discouraging and the option on this property has been dropped.

CUB Joint Venture: This joint venture formed early in 1978 between Cassiar, Union Carbide and Highland Crow (Teck Corporation) with the consulting firm of Archer-Cathro & Associates acting as manager, carried out an exploration program for tungsten in a 100,000 square mile area in the Yukon and Northwest Territories. As a result four properties were staked. The program will be extended into 1979 with more detailed work on the claims.

General Exploration: During the summer, occurrences of chrysotile asbestos in the Clinton/Dawson City area were re-examined. Nothing of any economic consequence was found.

Labour Relations

Employees of the Cassiar Mine commenced strike action on September 15 after unsuccessful attempts to negotiate new labour contracts. The work stoppage was

extended by secondary picketing at Asbestos Wharf, North Vancouver, on October 5, 1978. Settlement was reached on January 15, 1979 with the new Collective Agreements expiring on June 30, 1981. Production employees represented by Local 6536 will receive weighted average pay increases totalling 21.4% over the term of the new agreement, while Office and Technical employees represented by Local 8449 will receive weighted average pay increases totalling 15.1% over the same term.

At year end negotiations continued with the Registered Nurses Association and with the International Longshoremen and Warehousemen's Union.

Litigation

Personal injury actions are continuing in the United States naming Cassiar Asbestos Corporation Limited and others as defendants.

The Plaintiffs are asbestos workers or members of their families who claim substantial damages for alleged injury to health by reason of the inhalation or ingestion of asbestos fibres or dust. Neither the existence of liability nor the extent of possible damages has been determined at this time. Product liability insurance was carried until 1975 but has been unavailable since then. Current sales agreements provide that Cassiar's customers shall warn their employees, agents and customers of the possible dangers involved in handling asbestos and shall provide them with safeguards against those dangers.

Management, Staff and Employees

Appointments — Following the resignation of Mr. Peter Steen, Mr. J.D. Little was appointed President and Chief Executive Officer, effective January 1, 1979. Mr. Steen's contribution has been most appreciated by the Board.

In December 1978, Mr. A.T. Kana, formerly Secretary-Treasurer, was appointed Vice-President, Finance and Administration, and Mr. B.G. Pewsey, formerly General Manager, became Vice-President, Operations.

In Memoriam

The Board of Directors records with sadness the death on April 14, 1979 of Nicholas Gritzuk. Mr. Gritzuk was associated with Cassiar in its early development and served as Manager of Operations from 1961 to 1965. He rejoined the Company as Chairman of the Board in April 1976.

Acknowledgements

The Directors and management wish to acknowledge their appreciation of the efforts of the employees during 1978.

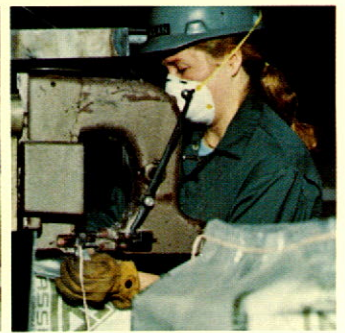
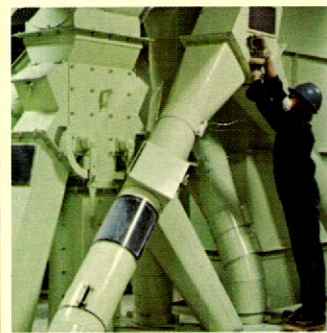
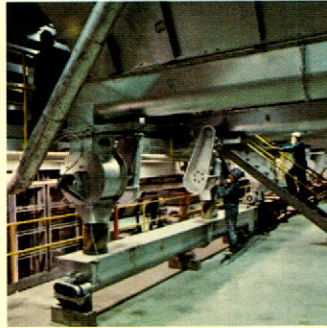
On behalf of the Board,



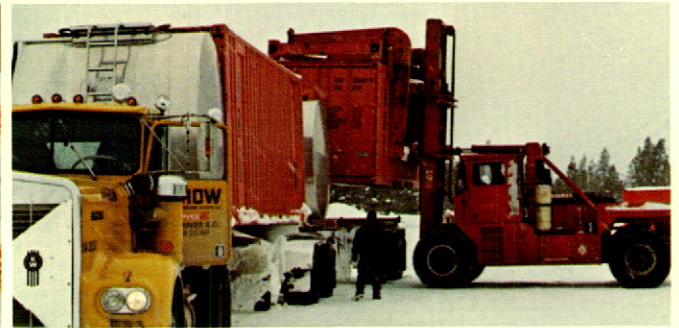
J. Douglas Little,
President

April 30, 1979

Cassiar Asbestos Corporation Limited



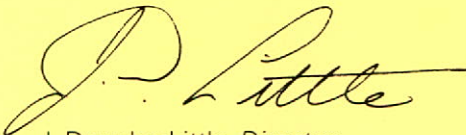

During the milling process ore is concentrated, dried and milled into nine separate fibre classifications. The finished product is then packaged in 100 lb bags, sealed and palletized into one ton units. These are transported to Vancouver for shipment to manufacturers in over 45 countries in the western world.



Consolidated Balance Sheet *as at December 31*

Assets	1978	1977*
<i>Current assets:</i>		
Accounts receivable	\$ 2,220,217	\$ 16,928,337
Taxes recoverable	1,786,886	—
Asbestos fibre	15,136,943	14,354,675
Ore stockpiled	785,703	1,103,746
Inventory of supplies	5,748,870	6,004,417
Prepaid expenses	592,823	519,792
	<u>26,271,442</u>	<u>38,910,967</u>
Investments, at cost which approximates market	75,862	75,862
Employees' home purchase agreements	2,506,770	2,711,693
<i>Fixed assets, at cost:</i>		
Mine plant and equipment	85,120,518	81,975,407
Automotive equipment	7,735,272	11,753,460
Transportation facilities	3,536,787	1,374,939
Whitehorse — buildings and equipment	761,184	788,238
Leasehold improvements, office furniture and equipment	533,008	305,794
Roads	1,009,194	1,009,194
	<u>98,695,963</u>	<u>97,207,032</u>
Less: Accumulated depreciation	40,013,090	49,605,434
	<u>58,682,873</u>	<u>47,601,598</u>
Land and mining claims	535,945	587,855
	<u>59,218,818</u>	<u>48,189,453</u>
<i>Deferred charges, at cost less amounts amortized:</i>		
Exploration and development	3,099,416	1,783,984
Waste removal	43,497,075	41,461,390
	<u>46,596,491</u>	<u>43,245,374</u>
	<u>\$134,669,383</u>	<u>\$133,133,349</u>

*Certain amounts have been reclassified for comparative purposes.

Liabilities	1978	1977
<i>Current liabilities:</i>		
Bank indebtedness (Note 2)	\$ 6,901,718	\$ 5,188,406
Accounts payable and accrued liabilities	5,842,736	10,240,031
Taxes payable	—	8,380,187
Dividends payable	1,375,000	1,375,000
	<u>14,119,454</u>	<u>25,183,624</u>
Taxes deferred	29,464,000	25,664,000
 Shareholders' Equity:		
Share capital:		
Authorized —		
5,500,000 shares without nominal or par value		
Issued —		
5,500,000 shares	28,903,473	28,903,473
Retained earnings	62,182,456	53,382,252
	<u>91,085,929</u>	<u>82,285,725</u>
 Approved by the Board:		
		
J. Douglas Little, <i>Director</i>		
		
H.E. McArthur, <i>Director</i>		
	<u>\$134,669,383</u>	<u>\$133,133,349</u>

Consolidated Statements of Operations and Retained Earnings *for the year ended December 31*

Operations	1978	1977
<i>Revenue:</i>		
Asbestos fibre sales	\$ 80,774,633	\$115,077,217
<i>Expenses:</i>		
Cost of sales (Note 3)	47,998,134	63,153,448
Transportation and warehousing	10,689,304	14,832,870
Administration, selling and general	4,408,566	4,601,143
Exploration	547,120	404,942
Interest on borrowings — current	756,305	552,549
— long-term	—	360,869
	64,399,429	83,905,821
Income before taxes	16,375,204	31,171,396
<i>Taxes:</i>		
Current	750,000	9,042,451
Deferred	3,800,000	2,563,000
	4,550,000	11,605,451
Net income for the year	\$ 11,825,204	\$ 19,565,945
Net income per share	\$2.15	\$3.56
Retained Earnings		
Balance at beginning of year	\$ 53,382,252	\$ 36,841,307
Net income for the year	11,825,204	19,565,945
	65,207,456	56,407,252
Dividends, \$0.55 per share	3,025,000	3,025,000
Balance at end of year	\$ 62,182,456	\$ 53,382,252

Consolidated Statement of Changes in Financial Position *for the year ended December 31*

	1978	1977*
<i>Source of working capital:</i>		
Operations —		
Net income for the year	\$11,825,204	\$19,565,945
Add (deduct) items not involving a current flow of working capital:		
Waste removal costs amortized	8,817,716	18,745,169
Depreciation	6,785,619	6,355,747
Exploration and development costs amortized	478,622	1,145,039
Disposals of surplus assets (Note 3)	(3,578,766)	—
Deferred taxes	3,800,000	2,563,000
Working capital provided by operations	28,128,395	48,374,900
Proceeds from disposals of fixed assets	3,793,717	974,748
	31,922,112	49,349,648
<i>Application of working capital:</i>		
Plant and equipment, Cassiar Mine	15,275,880	13,390,087
Transportation facilities	2,171,964	—
Other	582,091	567,139
Waste removal costs —		
Cassiar Mine	10,374,869	15,358,965
Clinton Mine	478,532	1,447,771
Dividends	3,025,000	3,025,000
Exploration and development	1,794,054	647,141
Employees' home purchase agreements	(204,923)	1,109,695
Investments	—	25,812
Reduction in term bank loan	—	5,000,000
	33,497,467	40,571,610
Increase (decrease) in working capital during year	(1,575,355)	8,778,038
Working capital at beginning of year	13,727,343	4,949,305
Working capital at end of year	\$12,151,988	\$13,727,343

*Certain amounts have been reclassified for comparative purposes.

Notes to Consolidated Financial Statements *December 31, 1978*

1. Accounting Policies:

Principles of consolidation —

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries, Kutcho Creek Asbestos Company Limited and Territorial Supply Company Limited.

Inventories —

Inventories of asbestos fibre and ore stockpiled are valued at the lower of cost and net realizable value; cost is determined on a first-in, first-out basis. Supplies are valued at the lower of cost and replacement cost; cost is determined principally on a moving-average basis.

Fixed assets —

The basis of depreciation, except for Clinton Creek Mine noted below, is as follows:

Buildings — straight-line at 5%

Equipment — straight-line at 10%

Leasehold improvements — straight-line over the seven-year lease period.

Automotive equipment — charged to operations on a unit of use basis.

At Clinton Creek Mine, the undepreciated costs of remaining surplus equipment and buildings have been adjusted to reflect their estimated net realizable values as at December 31, 1978 of \$1,988,263. (See also Note 3.)

Deferred charges —

The basis of amortization and write-off is as follows:

Waste removal —

Waste removal costs are charged to production on a per ton of ore mined basis, the rate being determined by dividing the sum of the projected cost of waste to be removed and the unamortized balance of costs incurred, by the estimated ore reserves.

Exploration and development —

General exploration expenditures are charged to operations during the year incurred. The direct cost of acquisition of mining properties and exploration expenditures thereon are initially capitalized. When disposal or abandonment of an area is effected or considered probable, the resulting net gain or loss is reflected in the consolidated statement of operations. Development costs are amortized on a per ton of ore mined basis, the rate being determined by dividing the costs accumulated by the estimated ore reserves.

Taxes —

The Company follows the tax allocation method of accounting for all differences in the timing of deductions for tax and accounting purposes arising with respect to mining claims and land, depreciation and waste removal, exploration, development and preproduction costs. Taxes deferred of \$29,464,000 have arisen to date from claiming such items for tax purposes in excess of the amounts recorded in the accounts.

2. Bank Indebtedness:

The Company's bank indebtedness is secured by a general assignment of accounts receivable and inventories of asbestos fibre, ore stockpiled and supplies, together with a first floating charge on its assets and undertakings.

3. Mine Closure:

The Company's asbestos mine at Clinton Creek ceased production in August, 1978. Additionally, as a result of this mine closure and the commencement of transportation of Cassiar mine fibre through Stewart, B.C., the Transport Division and related facilities were also closed.

Certain of the assets at Clinton Creek, usable at the Cassiar mine, have been retained. Assets considered surplus to the Company's operations either have been sold, written off or will be disposed of subsequently. The remaining surplus assets are included in the consolidated balance sheet at their estimated net realizable values.

Included in Cost of sales, as a net reduction, are the following amounts relating to the closure of the Clinton Creek mine and the Transport Division and related facilities —

Proceeds from sales of surplus assets . . .	\$2,916,787
Net credit adjustment to carrying value of surplus assets	661,979
Disposal of surplus assets	3,578,766
Less: Severance pay and other costs of closure	1,474,000
	<u>\$2,104,766</u>

In the opinion of Management, the Company will not incur significant additional net costs to complete the shutdown of the Clinton Creek mine.

Auditors' Report

4. Remuneration of Officers and Directors:

The Company and its subsidiaries paid aggregate direct remuneration as follows —

	Year ended December 31	
	1978	1977
To the twelve directors	\$ 28,775	\$ 20,900
To the five officers of whom three are directors . . .	<u>362,775</u>	<u>299,879</u>
	<u>\$391,550</u>	<u>\$320,779</u>

5. Pension Plan:

As at December 31, 1978 the unfunded portion of past service benefits is approximately \$1,017,000 which is being funded and charged to operations by annual payments of \$139,000.

6. Commitments:

The Company is committed to a leasing programme for mining equipment. At December 31, 1978 the minimum lease payments aggregated \$7,378,000 of which \$2,151,000 will be payable in 1979.

7. Legal Actions:

The Company, as well as others, is continuing to be named as a defendant in product liability suits in the United States in which substantial damages are claimed for alleged injuries to the health of asbestos workers or members of their families by reason of the inhalation and ingestion of asbestos fibres or dust. The Company is contesting or defending such suits. Neither the existence of liability nor the extent of any possible damages can be determined at this time. Thus no provision for such liability, if any, has been made in the accompanying consolidated financial statements.

To the Shareholders of

Cassiar Asbestos Corporation Limited:

We have examined the consolidated balance sheet of Cassiar Asbestos Corporation Limited as at December 31, 1978 and the consolidated statements of operations 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, subject to the outcome of the legal actions referred to in Note 7, these consolidated financial statements present fairly the financial position of the Company as at December 31, 1978 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.

PRICE WATERHOUSE & CO.
Chartered Accountants
March 14, 1979

Ten Year Review

	1978	1977	1976
		(restated)	
Ore mined (tons)	1,606,571	3,299,383	2,790,170
Ore and concentrate milled (tons)	1,395,921	2,324,542	2,078,179
Waste removed (cubic yards)	5,355,934	7,652,517	7,306,653
Fibre produced (tons)	132,790	212,284	191,417
Fibre sold (tons)	130,715	212,711	175,461
Fibre sales	\$ 80,774,633	\$ 115,077,217	\$ 78,285,544
Profit before deducting the following	\$ 32,457,161	\$ 57,417,351	\$ 36,089,210
Depreciation	6,785,619	6,355,747	6,097,270
Exploration and development written off	9,296,338	19,890,208	12,996,520
Net earnings (loss) before taxes	16,375,204	31,171,396	16,995,420
Provision for current taxes	750,000	9,042,451	1,791,864
Provision for deferred taxes	3,800,000	2,563,000	3,364,000
Net income (loss)	\$ 11,825,204	\$ 19,565,945	\$ 11,839,556
Net income (loss) per share	\$2.15	\$3.56	\$2.15
Dividends declared per share	55¢	55¢	—
Capital Expenditures:			
Land, plant and equipment (net)	\$ 14,236,218	\$ 13,118,983	\$ 10,870,960
Mine development — Cassiar	11,151,006	15,544,910	19,516,786
— Clinton	478,532	1,447,771	897,080
Exploration	1,242,671	475,195	15,070
Balance Sheet — at end of fiscal period			
Net working capital and investments	\$ 14,734,620	\$ 16,514,898	\$ 6,601,353
Plant and equipment	98,695,963	97,207,032	87,523,516
Mining claims and land	535,945	587,855	961,732
Deferred development	46,596,491	43,245,374	45,307,827
Total	160,563,019	157,555,159	140,394,428
Deduct — Term bank loan	—	—	5,000,000
— Taxes deferred	29,464,000	25,664,000	23,101,000
— Accumulated depreciation	40,013,090	49,605,434	46,548,648
— Minority interest in subsidiary	—	—	—
Shareholders' equity	\$ 91,085,929	\$ 82,285,725	\$ 65,744,780
Shares of capital stock issued at end of period	5,500,000	5,500,000	5,500,000

*Included as subsidiary

	1975	1974	1973	1972	1971	1970	1969
			(restated)	(restated)	(restated)	(restated)	(restated)
	2,881,832	3,237,808	2,872,605	2,904,478	2,715,039	2,398,155	1,729,053
	2,183,797	2,301,660	2,116,032	2,022,367	2,187,817	2,024,475	1,565,703
	7,439,164	6,855,202	7,383,001	7,958,384	6,770,107	3,913,795	2,926,212
	197,432	184,101	208,626	209,252	180,206	190,256	167,411
	199,404	183,982	218,121	202,296	182,077	196,387	171,493
	\$ 79,491,557	\$ 53,187,426	\$ 49,611,809	\$ 45,034,633	\$ 40,563,996	\$ 41,321,623	\$ 37,188,930
	\$ 36,173,163	\$ 20,427,368	\$ 17,803,606	\$ 17,951,374	\$ 15,102,173	\$ 16,471,450	\$ 14,997,704
	5,056,745	9,706,587	4,768,177	4,589,820	4,096,354	3,939,274	3,436,982
	13,328,582	12,906,561	8,606,955	6,363,396	4,437,673	4,211,864	3,307,799
	17,787,836	(2,185,780)	4,428,474	6,998,158	6,568,146	8,320,312	8,252,923
	5,681,000	500,000	125,000	200,000	(130,000)	760,000	2,165,000
	3,817,000	(540,000)	1,435,000	2,655,000	2,250,000	600,000	(395,000)
	\$ 8,289,836	\$ (2,145,780)	\$ 2,868,474	\$ 4,143,158	\$ 4,448,146	\$ 6,960,312	\$ 6,482,923
	\$1.51	(39¢)	52¢	75¢	81¢	\$1.27	\$1.23
	—	15¢	60¢	70¢	80¢	80¢	60¢
	\$ 9,091,078	\$ 10,043,871	\$ 3,567,310	\$ 2,785,573	\$ 4,580,199	\$ 9,901,130	\$ 3,008,666
	16,636,966	6,016,374	4,439,946	3,622,077	3,707,584	3,516,559	2,555,898
	3,328,185	5,615,064	5,150,517	5,636,806	4,629,078	2,073,600	1,396,342
	8,000	321,436	465,139	162,939	181,465	334,584	182,760
	\$ 5,477,451	\$ (1,173,159)	\$ 2,721,222	\$ 2,965,525	\$ 2,567,925	\$ (118,637)	\$ (576,669)
	77,661,047	69,404,320	60,705,869	58,439,174	57,975,526	54,454,456	45,643,198
	1,175,768	1,374,669	1,598,289	1,799,189	2,006,238	2,208,919	2,368,372
	37,674,874	30,830,457	31,560,522	29,911,875	26,653,449	22,372,995	20,459,700
	121,989,140	100,436,287	96,585,902	93,115,763	89,203,138	78,917,683	67,894,601
	7,000,000	2,000,000	3,000,000	4,000,000	5,000,000	—	—
	19,737,000	15,920,000	16,460,000	15,025,000	12,370,000	10,120,000	9,520,000
	41,346,916	36,900,899	28,539,734	25,073,069	22,819,281	19,821,513	16,972,111
	—	—	—	—	289,321*	299,780*	236,412*
	\$ 53,905,224	\$ 45,615,388	\$ 48,586,168	\$ 49,017,694	\$ 48,724,536	\$ 48,676,390	\$ 41,166,078
	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000	5,252,500

Summary of Consolidated Operations *for the year ended December 31*

1978

	Total	Cassiar Mine	Clinton Mine	Subsidiary Company
Revenue:				
Asbestos fibre sales	\$ 80,774,633	\$55,720,559	\$25,054,074	
Expenses:				
Cost of sales	47,998,134	36,935,668	12,054,273	\$ (991,807)
Transportation to Vancouver and warehousing	10,689,304	5,974,971	4,714,333	
Administration, interest, selling and general	5,164,871	3,021,027	2,248,532	(104,688)
Exploration	547,120	482,017	65,103	
	64,399,429	46,413,683	19,082,241	(1,096,495)
Income before income taxes	\$ 16,375,204	\$ 9,306,876	\$ 5,971,833	\$ 1,096,495

1977

	Total	Cassiar Mine	Clinton Mine	Subsidiary Company
Revenue:				
Asbestos fibre sales	\$115,077,217	\$61,320,554	\$53,756,663	
Expenses:				
Cost of sales	63,153,448	38,685,876	24,467,572	
Transportation to Vancouver and warehousing	14,832,870	6,545,081	8,287,789	
Administration, interest, selling and general	5,514,561	3,062,058	2,801,174	\$ (348,671)
Exploration	404,942	204,789	200,153	
	83,905,821	48,497,804	35,756,688	(348,671)
Income before income taxes	\$ 31,171,396	\$12,822,750	\$17,999,975	\$ 348,671

Cassiar Asbestos and Modern Living



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Asbestos and its exceptional qualities have been known for more than two thousand years, but its universal use in the service of mankind had its beginning only one hundred years or so ago. During this relatively short period of time asbestos has emerged as one of the world's most useful minerals with applications ranging from pottery to space craft, flooring to welding rods, fire hoses to paint.

Down through history asbestos has served society in a myriad of ways. The Greeks had a name for it four hundred years before the birth of Christ. They called it *Amianthus*, meaning that it remained undefiled in fire. They wove it into wicks for their temple lamps because it would not burn, thus providing an "everlasting light." Marco Polo was astounded when China's Great Khan tossed a piece of asbestos cloth into a fire and withdrew it unharmed. In the summer of 1725 Benjamin Franklin wrote to Sir Hans Sloane of London advising him that he had acquired "a purse made of the stone asbestos," and, in 1800, Prince Eugene, Viceroy of Italy, received from his lady a pair of asbestos gloves which she had woven for him with her own hands — as a mark of her enduring affection. Today it transports people and freight, builds towers, helps power the nation and serves mankind and his machines here on earth and in the boundless reaches of outer space.

Cassiar Asbestos Corporation is part of this great industry — the asbestos industry. Every year Cassiar produces over 105,000 tons of milled asbestos fibre regarded as among the finest obtainable anywhere in the world. The wide acceptance of Cassiar's asbestos by manufacturers in more than forty-five countries is the result of an exceptionally high quality of ore, coupled with the application of extensive research and quality control.

During the year Cassiar's representatives visit the world's principal market areas to maintain contact with their customers and agents concerning product development, transportation, environmental control and market trends. Cassiar's sales agents provide customers with technical assistance, customs information, expedite shipments and maintain a continuing communications link between producer and manufacturer of high grade asbestos products. Ingenious and enterprising manufacturers have shaped the world of asbestos into products of such variety and consequence that few consumers are fully aware of the important role asbestos plays in their lives.

Asbestos — the Wonder Material

Like all minerals, asbestos is a product of nature. Its qualities are unique. It will neither burn nor decay and it is impervious to water. Technically, the term "asbestos" is the generic name given to a group of hydrated silicate minerals that can be separated into fibres which have great tensile strength. In fact the term can be said to apply to all minerals that can be separated in the form of fibre from their parent rock.

There are six major groups of asbestos which are classified under two headings — Serpentine and Amphibole. The type of asbestos mined at Cassiar is *Chrysotile*, the lone member of the Serpentine class and the only type of asbestos mined in Canada.



Cassiar Asbestos and Modern Living

The remaining five principal types are members of the Amphibole class and include *Crocidolite*, *Amosite*, *Anthophyllite*, *Tremolite* and *Actinolite* — these last two having little commercial significance. Each of these six types of asbestos has distinct chemical and physical properties. To add to the complexity, Chrysotile asbestos from one Canadian mine will have different chemical and physical properties than Chrysotile from any other Canadian mine.

It was not until 1873 that science and industry began to seriously examine the unique properties of asbestos and apply its virtues to the service of mankind. Today, many different products in use throughout the world contain a portion of asbestos. It can be spun into thread and woven into cloth. Some grades can be made into paper. It withstands high temperatures and pressures. It resists weather, corrosion, vermin and fungi. It insulates and filters, binds and fills. Its many applications have saved countless lives and have prevented billions of dollars of property damage.

An Industry is Born

The first factory to produce asbestos products was established in Russia during the reign of Peter the Great. While the enterprise was not an outstanding success, it did produce an assortment of asbestos gloves, handbags and socks.

Today, Italy is recognized as the "Cradle of the Asbestos Industry" because it was there, in the 19th century, that the mining and milling of asbestos and the manufacture of asbestos products began on an industrial scale. During the next fifty years the technology required to produce asbestos thread, fabrics, paper, and other industrial and domestic products, slowly emerged. In 1878 a variety of asbestos products were displayed at the Universal Exposition in Paris, an event which gave wide publicity to asbestos and its growing importance as a servant of mankind. This event was followed by a period of intensive development of both asbestos products and the technology required to produce them.

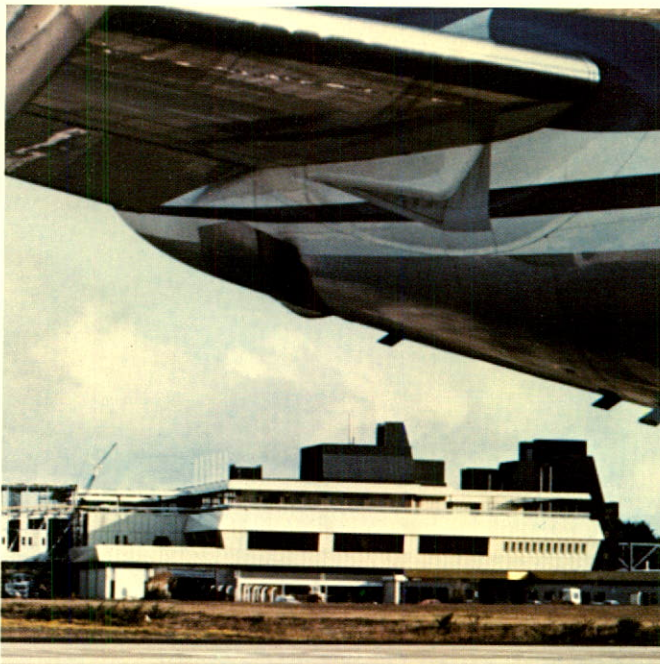
Early commercial asbestos applications mainly involved asbestos textiles from which fireproof coats, shoes, gloves and helmets were produced. These were followed by the development of life saving theatre equipment, including fireproof curtains and drapes. Late in the 19th century the emergence of the automotive industry generated an unprecedented demand for asbestos products, in the form of brake linings, gaskets, and clutch plates, which have become so much the part of our everyday living that little thought is given to the indispensable support asbestos continues to provide modern transportation.

Through those early years, the range of asbestos products continued to expand. The unique qualities of asbestos fibre offered manufacturers endless opportunities to fabricate new products, spin new yarns, weave new fabrics, mould new materials. It is estimated that today some 3,000 industrial and domestic products containing asbestos are produced by manufacturers throughout the world.

Asbestos in an Expanding World

In 1890 an Austrian, Ludwig Hatschek, invented the asbestos-cement shingle which led to the development of a variety of flat and corrugated asbestos-cement sheets and related products. These products offered architects and designers a series of new building materials with an extremely wide application. During the last few years, over one-half of the asbestos consumed in the United States has been used in asbestos-cement sheets, pipes and floor tiles — products that lend themselves to the efficient construction of houses, public buildings, industrial warehouses, factories and plants.

In chemical plants asbestos roofing resists fire and corroding fumes. Braided or woven asbestos tubing used as sleeving for electrical leads, cables and other electrical conductors, provides fire protection and resistance to abrasion. Power plant engineers keep asbestos wick close to hand for emergency packing. Non-woven asbestos felts are used as a reinforcement in high and low pressure plastics. Asbestos tapes are available for primary and secondary insulation in high temperature resistant wire and cable. Colour and structural design enhances the use of decorative asbestos-cement products. Men, machines and buildings are protected by the fire retardent qualities of asbestos fabrics.

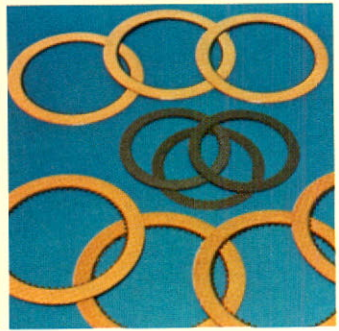


Just over 100 years ago asbestos and its exceptional qualities were virtually unknown, but since 1900 it has proved to be one of mankind's most useful minerals. Today, Cassiar's quality fibre is used in asbestos-cement building panels, industrial products, pipe and many kinds of fire retardent fabrics.





Products made from asbestos have saved many lives and billions of dollars of loss by fire. They protect workers, stop cars, seal joints and insulate electrical equipment. Asbestos has no natural or synthetic counterpart. This accounts for its universal influence on modern life and living.



Many thousands of miles of asbestos-cement pipe have been laid to provide normal industrial and domestic services, carrying fresh water, sea water, sewage, natural and manufactured gases, service piping and electrical cables. It is used in mining, agriculture, and countless manufacturing processes. In many applications, asbestos-cement pipe has replaced metal and ceramic piping. This is due to the unique qualities of asbestos-cement; a product which resists corrosion, is not affected by electrolytic attack when buried in the earth, is lightweight, strong, flexible, resistant to tension and compression, and is economical.

Asbestos paper products have a variety of uses in the manufacture of electrical components. Through the use of asbestos paper a weight reduction of as much as thirty percent has been realized in the manufacture of some types of electrical transformers. Its application as an electrical insulator in conjunction with such synthetic fibres as glass — or alone as a highly purified asbestos product — has been a boon to the development of more efficient electrical apparatus.

Asbestos is contained in items that affect us all. It helps us fly, drive, cook and keep warm. It protects us from fire, beautifies our buildings and, depending on our needs, is moulded into a thousand shapes. Combined with a variety of resins we find asbestos in laminated boards, heat insulator coatings, structural tiles, wood veneer panels, and



Asbestos beautifies our buildings, stops our elevators and assists in numerous manufacturing processes. In the service of industry it is spun into fabrics and moulded into a thousand different shapes. Through the year Cassiar maintains ongoing contact with customers regarding new product development.



Cassiar Asbestos and Modern Living

acid-proof coatings. Asbestos, in a variety of applications will be found in motion picture screens, medical test apparatus, and even in our pianos. It plays a role in the curing of hay and provides a padding for prison cells. It helps to produce mailbags, rugs, gun grips, cartridges and caskets. When we ride in elevators asbestos brake shoes bring us to a stop at our selected floor.

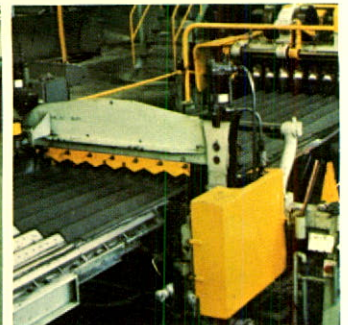
Many a valuable document engulfed in a blaze has been protected by a fireproof safe. Asbestos padded floorboards, firewalls and engine hoods are there to protect drivers and passengers should an engine burst into flames. It is employed in lubricants, sealers, filters and roads. Indeed, the uses of asbestos throughout the spectrum of human activity leave one wondering what the world would be like without it.

Asbestos is defensive in nature. It protects, muffles and insulates. It preserves, conserves and safeguards. It shields, screens and cushions. It secures, guards and saves. It helps to shape and beautify a thousand things, including our homes, our world and our lives.

It is, indeed, the wonder mineral.



Because of its incredible range of uses asbestos is regarded as one of mankind's greatest treasures. Its utilitarian qualities benefit society in countless ways. A world without fire-proof fabrics or reliable brake shoes is hard to imagine. Indeed, whenever it is properly used asbestos makes it safe.



Management and Operating Personnel

Head Office

President & Chief Executive Officer:

J. Douglas Little, B.A.Sc., P.Eng.

Vice-President, Finance & Administration,

and Secretary: Anthony T. Kana, B.Sc., C.A.

Assistant to the Chairman and President: J.G. Berry, B.Sc.

Assistant Secretary: G.E. Carter

Marketing Manager: J.W. Oughtred

Engineering Manager: E.L. Alexander, B.Sc., P.Eng.

Industrial Relations and Personnel Manager: R.F. Langford

Systems Manager: John Gunn, C.A.

Purchasing Manager: Jim S. Giles

Operating Divisions

CASSIAR MINE, Cassiar, B.C.

Vice-President, Operations: B.G. Pewsey, A.C.S.M., P.Eng.

Production Superintendent: P.C. Jones, D.Eng.

General Mill Superintendent: G.L. Leathley, H.N.C.

Mine Superintendent: E. Komperdo, B.Sc., M.Sc.

Manager Fibre Development & Technical Control:
D.C. Cook, B.Sc.

Chief Engineer: F.G. Hewett, B.Sc., P.Eng.

Office Manager: C.F. MacQuarrie

Personnel Manager: L.G. Vujanich, B.A.

Townsite Administrator: F.J. Buckley

Assist. Plant Superintendent (Tramline): F. Cousins

Assist. Plant Superintendent (Mechanical): B. Chandler, B.Sc.

Assist. Mill Superintendent (Production): S. Kuchcinski

Assist. Mill Superintendent (Maintenance): J.J. Forbes

Assist. Mill Superintendent (Shipping): E. Thirlwell

WHITEHORSE, Yukon Territory

Chief Geologist: D.R. Budinski, B.Sc.

ASBESTOS WHARF, North Vancouver, B.C.

Superintendent, Shipping: D. Carlsen

CREDITS

Product photos

James Hardie Asbestos Limited

Asbestos Information Centre Limited

Turner & Newall Limited

Raybestos-Manhattan Inc.

Dansk Eternit-Fabrik A/S

Garlock of Canada Ltd.

Photography Jerold Green

Design Tabletop Studio Inc.

Typography POLA/graphics Ltd.

Printer Western Miner Press Ltd.

