

26-205-
c.3

Published by Authority of the Rt. Hon. C. D. Howe, M.P.
Minister of Trade and Commerce

DOMINION BUREAU
OF STATISTICS

APR 26 1948

A26-7-4-48

Price -
25 cents

Department of Trade and Commerce
Dominion Bureau of Statistics
Census of Industry and Merchandising
Mining, Metallurgical and Chemical Statistics
Ottawa - Canada

PROPERTY OF THE
LIBRARY

Dominion Statistician:	Herbert Marshall
Director - Division of Census of Industry and Merchandising:	W. H. Losee
Chief - Mining, Metallurgical and Chemical Statistics:	H. McLeod

THE ASBESTOS MINING INDUSTRY IN CANADA, 1946

Asbestos production (shipments) in Canada during 1946 totalled 558,181 short tons valued at \$25,240,562, compared with 466,896 tons worth \$22,805,157 in 1945. Except for a few tons from Ontario, all the production came from Quebec.

The 11 firms engaged in asbestos mining during 1946 employed 4,547 persons who were paid \$7,771,921 in wages and salaries. Expenditures for fuel and electricity amounted to \$1,759,462, and process supplies, plus containers, cost \$3,236,430. In addition, the industry paid \$3,283,055 in taxes in 1946 and spent \$2,279,382 on new equipment or plant extensions.

Shipments of asbestos in 1946 included 742 tons of crude at \$335,204; 228,234 tons of fibres worth \$17,181,400 and 329,205 tons of shorts valued at \$7,724,237.

The major portion of the Canadian production was exported. During the year under review, the exports included 639 tons of crude valued at \$293,901, 215,233 tons of milled fibres worth \$16,215,579, and 304,312 tons of refuse and shorts valued at \$7,329,708.

The following statement concerning asbestos mining in Canada has been abstracted from a review prepared by the Bureau of Mines, Ottawa:

"Asbestos of commerce consists mostly of the three varieties known as chrysotile, amosite, and crocidolite or blue asbestos, chrysotile being by far the most important and most widely used. Three other varieties, namely fibrous actinolite, fibrous tremolite, and anthophyllite, have only a limited field of usefulness.

"The asbestos produced in Canada is practically all of the chrysotile variety and comes almost entirely from areas of serpentized rock in the Eastern Townships, Quebec, where the producing centres are Thetford Mines, Black Lake, East Broughton, Vimy Ridge, Asbestos and St. Remi de Tingwick. The Canadian deposits are the largest known in the world.

"Small deposits of chrysotile asbestos are known in other parts of Quebec and also in Ontario and British Columbia, and several of them have been worked from time to time. The asbestos from some of these deposits has a very low content of iron and is entirely free from magnesite, and should be suitable for use in making insulation for electrical machinery.

Note: This report was prepared by A. R. Deir, Mining Statistician.

"No amosite or crocidolite has been found in Canada, but there are numerous deposits of fibrous tremolite, fibrous actinolite, and anthophyllite, which varieties are commercially termed amphibole asbestos. The fibres of these varieties are harsher and weaker than those of chrysotile and there is little demand for them at present. None of these deposits is being worked, although formerly fibrous actinolite was quarried near the village of Actinolite, Hastings County, Ontario, for use in the making of roofing materials. Asbestos deposits reported as having been found in recent years in Manitoba and in northern and western Ontario are of the amphibole varieties. The amphibole fibres are too harsh and brittle to be spun, but they have a higher resistance to acids than has chrysotile, and it is possible that material from some of the deposits is suitable for use in acid filters and for other purposes where long harsh fibres are required.

"Production has been continuous from the Thetford area since 1878 and reserves of asbestos-bearing rock are huge. Core-drilling to depths greater than 1,700 feet has revealed the presence of fibre comparable in quantity and quality with that in the present workings. Most of the output consists of vein fibre obtained from veins $\frac{1}{4}$ to $\frac{1}{2}$ inch in width, though veins exceeding 5 inches in width occur. The fibres run crosswise of the vein and thus the width of the vein determines the length of fibre. Slip fibre, occurring in fault planes, is obtained largely in the East Broughton area.

"The asbestos-bearing rock is mined in open pits and underground. The block-caving method of underground mining is coming into general use. This method was put into operation at the King mine of Asbestos Corporation in 1934. Johnson's Company is now using the same method, and Bell Asbestos Mines and Canadian Johns-Manville are sinking shafts preparatory to recovering rock by block-caving operations.

"Asbestos is used for a great variety of purposes, the principal products being: cloth, brake linings, clutch facings, packings, insulation, mill-board, siding, shingles, roofing, tile and pipes."

Price quotations, November 1946, on asbestos show variations depending on grade: crude No. 1, \$800 per ton; crude No. 2 and crude run-of-mine, \$275 to \$495; spinning or textile fibre, \$155 to \$286; shingle fibre, \$75 to \$102; paper fibre, \$52 to \$59; waste, stucco or plaster, \$39; refuse or shorts, \$17 to \$34.

Table 1 - PRINCIPAL STATISTICS OF THE ASBESTOS MINING INDUSTRY IN CANADA, 1944-1946

	1944	1945	1946
Number of firms	9	11	11
Number of employees: Administrative..	354	429	465
Workmen	3,696	3,808	4,082
Total	4,050	4,237	4,547
Salaries and wages: Salaries	\$ 805,330	820,164	998,539
Wages	\$ 5,595,855	5,859,721	6,773,382
Total	\$ 6,401,185	6,679,885	7,771,921
Selling value of products (a)	\$ 21,836,376	24,092,799	25,245,579
Cost of purchased fuel and electricity \$	1,635,829	1,684,017	1,759,462
Cost of process supplies (b)	\$ 1,166,909	1,267,960	1,670,496
Cost of containers	\$ 1,213,321	1,283,748	1,545,934
Net value of sales	\$ 17,820,317	19,857,074	20,269,687

(a) Includes value of sand and gravel.

(b) Explosives, drill steel, etc.

Asbestos

- 3 -

Table 2 - SHIPMENTS OF ASBESTOS BY CANADIAN MINES, BY GRADES, 1944-1946

	1 9 4 4		1 9 4 5		1 9 4 6	
	Tons	\$	Tons	\$	Tons	\$
Crudes	1,547	621,956	981	415,203	742	335,204
Fibres	190,233	14,305,966	219,767	16,628,467	228,234	17,181,400
Shorts	227,485	5,691,594	246,148	5,761,487	329,205	7,724,237
	419,265	20,619,516	466,896	22,805,157	558,181	25,240,562
Sand, gravel and stone (waste rock only) (*)	4,521	3,539	5,109	3,894	6,337	5,017

(*) This production is included under the Sand and Gravel Industry.

Table 3 - SHIPMENTS OF ASBESTOS BY CANADIAN MINES, 1927-1946

Year	Tons	Selling value at works \$	Year	Tons	Selling value at works \$
1927	274,778	10,621,013	1937	410,026	14,505,791
1928	273,033	11,238,360	1938	289,793	12,890,195
1929	306,055	13,172,581	1939	364,472	15,859,212
1930	242,114	8,390,163	1940	346,805	15,619,865
1931	164,296	4,812,886	1941	477,846	21,468,840
1932	122,977	3,039,721	1942	439,459	22,663,283
1933	158,367	5,211,177	1943	467,196	23,169,505
1934	155,980	4,936,326	1944	419,265	20,619,516
1935	210,467	7,054,614	1945	466,896	22,805,157
1936	301,287	9,958,183	1946	558,181	25,240,562

Table 4 - TONNAGE OF ASBESTOS ROCK MINED AND MILLED, 1944-1946

	1 9 4 4	1 9 4 5	1 9 4 6
		(Tons)	
Rock mined	7,778,805	8,765,370	9,127,859
Rock milled	6,587,740	6,459,813	7,027,483

Table 5 - SHIPMENTS OF ASBESTOS BY CANADIAN MINES, BY MONTHS, 1946

Month	Short tons	Month	Short tons
January	36,576	August	53,783
February	29,666	September ...	51,182
March	36,369	October	55,769
April	47,685	November	52,400
May	52,927	December	48,573
June	47,437		
July	45,814	TOTAL	558,181

Asbestos

- 4 -

Table 6 - NUMBER OF WORKMEN, BY MONTHS, 1945 and 1946 (Administration and Office Employees Not Included)

Month	M i n e			M i l l	
	Surface		Underground	Male	Female
	Male	Female	Male		
<u>1 9 4 5</u>					
January	1,550	32	447	1,696	2
February	1,538	31	465	1,671	2
March	1,528	30	468	1,675	2
April	1,525	29	471	1,666	2
May	1,558	32	459	1,687	2
June	1,585	31	442	1,666	2
July	1,670	34	450	1,684	2
August	1,704	25	440	1,690	2
September	1,709	33	486	1,670	2
October	1,754	30	484	1,685	2
November	1,803	27	456	1,721	2
December	1,759	28	420	1,682	2
Average	1,643	31	457	1,675	2
<u>1 9 4 6</u>					
January	1,718	25	458	1,688	2
February	1,684	19	461	1,729	2
March	1,755	26	448	1,755	2
April	1,856	26	453	1,766	2
May	1,948	23	433	1,749	2
June	1,944	24	439	1,761	2
July	1,863	26	452	1,795	2
August	1,893	27	438	1,836	2
September	1,823	20	428	1,855	2
October	1,836	27	412	1,865	2
November	1,823	29	414	1,892	2
December	1,771	25	396	1,845	2
Average	1,826	25	435	1,794	2

Table 7 - FUEL AND ELECTRICITY USED, 1945 and 1946

Kind	Unit of measure	1 9 4 5		1 9 4 6	
		Quantity	Value	Quantity	Value
			\$		\$
Bituminous coal -					
From Canadian mines..	short ton	1,087	9,907	585	5,286
Imported	short ton	29,062	294,672	30,779	314,687
Anthracite coal -					
From United States ..	short ton	20,836	188,735	19,898	180,281
Gasoline	Imp.gal.	143,838	43,116	200,053	60,250
Kerosene or coal oil ..	Imp.gal.	7,309	1,229	5,929	995
Fuel oil and diesel oil	Imp.gal.	147,721	26,205	147,871	27,062
Electricity purchased, including service charges	K.W.H.	145,001,820	1,120,153	154,652,815	1,170,901
TOTAL .....	...	...	1,684,017	...	1,759,462

Table 8 - POWER EQUIPMENT, 1946

Description	Ordinarily in Use		In Reserve or Idle	
	Number of units	Total horse power	Number of units	Total horse power
Steam engines	6	210	...	...
Steam turbines	1	120	...	...
Diesel engines	6	584	...	...
Gasoline, gas and oil engines, other than Diesel engines ...	20	1,488	7	77
Electric motors--Operated by purchased power	1,332	59,759	85	4,659
TOTAL	1,365	62,161	92	4,736
Stationary boilers	14	3,257	1	50
Motor-generator sets .....	...	...	2	310

Table 9 - TAXES PAID BY THE ASBESTOS MINING INDUSTRY, 1945 and 1946

	1 9 4 5	1 9 4 6
	\$	\$
Dominion income tax, including tax on non-operating revenue	1,361,816	1,677,219
Dominion excess profits tax	1,602,577	1,039,846
Provincial taxes -		
Mining taxes paid on net profits from production, including portion paid to municipality	288,303	374,992
Corporation income tax where levied in addition to mining tax .....	...	...
Taxes paid on capital and places of business	2,557	193
Acreage taxes	372	133
Total Provincial	291,232	375,318
Municipal taxes -		
Based on property valuation	198,270	190,651
Based on non-operating revenue .....	...	21
Total Municipal	198,270	190,672
GRAND TOTAL TAXES PAID	3,453,895	3,283,055

Table 10 - SPECIFIED MISCELLANEOUS EXPENDITURES BY THE ASBESTOS MINING INDUSTRY,
1944-1946

	1 9 4 4	1 9 4 5	1 9 4 6
	\$	\$	\$
Workmen's compensation	305,290	384,536	450,248
Unemployment insurance	63,917	51,254	55,237
Aggregate cost of all supplies purchased..	3,271,141	4,076,750	4,557,898
Aggregate cost of plant and equipment pur- chased	294,889	934,294	2,279,382
Cost of buildings, machinery and equipment erected or installed during the year ...	553,273	1,361,763	2,635,758

Table 11 - DIVIDENDS PAID BY SPECIFIED ASBESTOS MINING COMPANIES

Firm	Dividends paid in 1946	Total dividends paid to December 31, 1946
Asbestos Corporation Ltd.	840,000	8,333,199
Bell Asbestos Mines Ltd.	327,000	3,109,164
Canadian Johns-Manville Co. Ltd.	2,110,000	(*)
Johnson's Company	600,000	(*)
Quebec Asbestos Corp. Ltd.	280,000	1,004,600

(*) Not reported.

Table 12 - IMPORTS INTO CANADA AND EXPORTS OF ASBESTOS AND ASBESTOS PRODUCTS,
1945 and 1946

	1 9 4 5		1 9 4 6	
	Tons	\$	Tons	\$
<u>Imports</u>				
Asbestos clutch facings for automobiles, motor vehicles and chassis .....	...	316,461	...	179,480
Asbestos brake linings for automobiles, motor vehicles and chassis .....	...	379,038	...	444,409
Asbestos brake linings and clutch facings, n.o.p. ....	...	32,005	...	47,296
Asbestos in any form other than crude, and all manu- factures of, n.o.p. ....	...	1,385,224	...	1,434,680
Asbestos packing	108	101,615	113	124,146
TOTAL .....	...	2,214,343	...	2,230,011
<u>Exports</u>				
Asbestos (crude)	863	366,563	639	293,901
Asbestos milled fibres	209,765	15,857,555	215,233	16,215,579
Asbestos waste, refuse and shorts	229,929	5,618,124	304,312	7,329,708
Asbestos manufactures, including asbestos roofing.	...	341,648	...	634,230
TOTAL .....	...	22,183,890	...	24,473,418

DIRECTORY OF FIRMS IN THE CANADIAN ASBESTOS MINING INDUSTRY, 1946

Name of Firm	Head Office or General Office	Location of Mine
Asbestos Corporation Ltd.	Thetford Mines, Quebec	Thetford Mines, Quebec Black Lake, Quebec Coleraine, Quebec
Asbestos Crude & Fibre Mines Ltd. (*)	1410 Stanley St., Montreal, Quebec	Coleraine, Quebec
Bell Asbestos Mines Ltd.	Thetford Mines, Quebec	Thetford Tp., Quebec
Canadian Johns-Manville Co. Ltd.	Sun Life Bldg., Montreal, Quebec	Asbestos, Quebec
Conwest Exploration Co. Ltd. (*)	85 Richmond St., Toronto, Ontario	Coleraine Tp., Quebec
Carswell, L. M.	Renfrew, Ontario	Blythfield Tp., Quebec
Flintkote Mines Ltd.	283 Roxborough St. E., Toronto, Ontario	Thetford Mines, Quebec
International Asbestos Co. Ltd. (*)	66 Wellington St. N., Sherbrooke, Quebec	St. Adrien de Ham, Quebec
Johnson's Company	Thetford Mines, Quebec	Thetford Mines, Quebec Coleraine, Quebec
Nicolet Asbestos Mines Ltd.	820 Transportation Bldg., Montreal, Quebec	Norbestos, Quebec
Quebec Asbestos Corp. Ltd.	East Broughton Station, Quebec	East Broughton Station, Quebec

(*) Carried on exploration or development work only.

STATISTICS CANADA LIBRARY
BIBLIOTHEQUE STATISTIQUE CANADA



1010687436