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DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
MINING, METALLURGICAL AND CHEMICAL BRANCH
OTTAWA - CANADA

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ASBESTOS - 1934

Finally revised statistics relating to Canadian asbestos production during the calendar year 1934, as issued by the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics at Ottawa, show an output of 155,980 short tons valued at $4,936,326 as compared with 158,367 short tons worth $5,211,177 in 1933. The figures of shipments for 1934 are lower than for the preceding year, both in tonnage and value, by proportional decreases of 1.5 per cent and 5¼ per cent, respectively. The Bureau of Mines for the province of Quebec, from which province the Dominion's entire output of this mineral comes, states that in the latter half of 1933 there had been a very marked improvement in the asbestos market which had raised hopes that the 1934 figures would greatly exceed those of the preceding year and it was a disappointment to notice the falling-off of the monthly shipments after the first quarter of 1934; this, however, is considered only a temporary setback. It may be added that a large proportion of the year's output was stored as "stocks on hand." The average value per ton for asbestos in 1934 was $31.65 as against $32.90 in 1933, $24.72 in 1932, and $29.29 in 1931. Rock mined in 1934 totalled 2,320,750 tons as compared with 1,566,919 tons in 1933; the tonnage milled in 1934 totalled 1,935,129 while in 1933 the quantity was 1,329,814 tons.

In contrast with the falling-off in production there was an encouraging increase in exports, the tonnage amounting to 83,267 in 1934, representing a 5.8 per cent increase over 1933. Exports of asbestos manufactures including roofing totalled in value $140,826 in 1934, or an increase of 92.8 per cent over 1933; asbestos sand and waste exports amounted to $1,100,305 as compared with a value of $991,417 in the preceding year. Included among the many countries importing Canadian asbestos in 1934, and reflecting the world wide demand for this product of Quebec mines, were the United Kingdom, United States, Australia, Belgium, France, Germany, Italy, Japan, Netherlands and Spain.

A report "Chrysotile Asbestos in Canada" as issued by the Department of Mines, Ottawa, states:- "To be of any commercial value, asbestos needs length, fineness of fibre, combined with infusibility, toughness or tensile strength, and flexibility. It is surprising that sometimes specimens from foreign countries - although very beautiful in appearance - are often wanting in some of these essential physical properties. Qualities like silkiness, length, and flexibility may be determined very easily by the eye and fingers; but tensile strength, and infusibility - those necessary qualities upon which the great value of asbestos depends - can only be determined by systematic tests, made either in a practical way during the course of manufacture or in the laboratory. The Canadian chrysotile asbestos possesses all the above mentioned properties and qualities in a marked degree, the length of the fibre being one of the principal factors determining the grades. Temperatures of 2000° to 3000° F are easily withstood by Canadian asbestos, while with some varities a temperature of

5000° F has apparently produced no visible effect. Specimens of asbestos from the Eastern Townships of Quebec from a depth of 500 feet, and from drill cores to a depth of 1,700 feet are equal in grade to the material produced near the surface."

Both surface and underground methods are utilized in the mining of Quebec asbestos and the milling practices employed in the recovery of the various high grade fibres are considered among the most efficient employed anywhere in the world. Exploration and development on the properties of the operating companies have disclosed reserves of the mineral sufficient for many years to come.

During 1934 research work was continued at the National Research Laboratories, Ottawa, on problems pertaining to the Canadian asbestos industry.

SALES AND SHIPMENTS(x) OF CANADIAN ASBESTOS, 1932, 1933 and 1934.

	1932		1933		1934	
	Tons	$	Tons	$	Tons	$
Crudes	471	119,221	1,306	341,734	1,663	409,853
Fibres	45,323	1,885,841	82,605	3,843,887	77,465	3,456,399
Shorts	77,183	1,034,659	74,456	1,025,556	76,852	1,070,074
TOTAL	122,977	3,039,721	158,367	5,211,177	155,980	4,936,326
Sand, gravel and stone (waste rock only) (a)	3,473	3,369	6,445	3,215	4,672	3,480

(x) All from the province of Quebec.
(a) This production is included under the sand and gravel industry.

	1932	1933	1934
	Tons	Tons	Tons
Quantity of rock mined	1,145,340	1,566,919	2,320,750
Quantity of rock milled	1,029,709	1,329,814	1,935,129
Quantity of tailings retreated	709,094	521,930	...

SALES AND SHIPMENTS OF ASBESTOS, 1925 - 1934.

Year	Tons	$	Year	Tons	$
1925	273,524	8,977,546	1930	242,114	8,390,163
1926	279,403	10,099,423	1931	164,296	4,812,886
1927	274,778	10,621,013	1932	122,977	3,039,721
1928	273,033	11,238,360	1933	158,367	5,211,177
1929	306,055	13,172,581	1934	155,980	4,936,326

IMPORTS INTO CANADA AND EXPORTS OF ASBESTOS, 1933 and 1934.

	1933		1934	
	Quantity	$	Quantity	$
IMPORTS -				
Asbestos brake and clutch lining	...	165,994	...	218,052
Asbestos packing ton	79	54,148	83	64,713
Asbestos in any form other than crude, and all manufactures of, n.o.p.	...	233,966	...	408,020
TOTAL IMPORTS	...	454,108	...	690,785

IMPORTS INTO CANADA AND EXPORTS OF ASBESTOS, 1933 and 1934 (concluded)

		1933		1934	
		Quantity	$	Quantity	$
EXPORTS -					
Asbestos	ton	78,701	3,998,377	83,267	4,029,191
Asbestos sand and waste	ton	70,296	991,417	74,977	1,100,305
Asbestos manufactures, including asbestos roofing	xxx	...	73,044	...	140,826
TOTAL EXPORTS	xxx	...	5,062,838	...	5,270,322

PRINCIPAL STATISTICS OF THE ASBESTOS MINING INDUSTRY IN CANADA, 1933 and 1934.

		1933	1934
Number of firms		7	7
Capital employed	$	21,109,967	21,816,350
Number of employees - On salaries		140	147
On wages		1,489	1,708
Total		1,629	1,855
Salaries and wages - Salaries	$	261,684	281,493
Wages	$	1,017,409	1,327,319
Total	$	1,279,093	1,608,812
Cost of fuel and electricity	$	771,327	855,556
Selling value of products	$	5,214,392	4,939,806

WAGE-EARNERS EMPLOYED, BY MONTHS, in the ASBESTOS MINING INDUSTRY IN CANADA, 1933 and 1934.

Months	1933	1934
January	1,218	1,577
February	1,048	1,587
March	1,016	1,595
April	1,119	1,587
May	1,399	1,780
June	1,392	1,928
July	1,543	1,902
August	1,564	1,806
September	1,920	1,623
October	2,059	1,688
November	1,819	1,762
December	1,754	1,653

FUEL AND ELECTRICITY USED IN THE ASBESTOS MINING INDUSTRY IN CANADA, 1933 and 1934.

		1933		1934	
		Quantity	Value	Quantity	Value
			$		$
Bituminous coal - Canadian	short ton	14,825	99,348	17,900	120,605
Foreign	short ton	110	945	14	193
Anthracite coal	short ton	6,159	41,448	8,269	52,756
Coke	short ton	126	1,502	110	1,309
Gasoline (exclusive of vehicles)	Imp. gal.	18,289	3,201	29,226	5,356
Kerosene	Imp. gal.	3,195	490	3,664	593
Fuel oil	Imp. gal.	6,402	732	6,580	750
Electricity purchased	K.W.H.	53,024,096	623,661	67,564,991	673,994
TOTAL	xxx	...	771,327	...	855,556

PURCHASES OF MINING AND MILLING EQUIPMENT AND GENERAL SUPPLIES, ALSO FREIGHT AND INSURANCE COSTS, ETC., IN THE CANADIAN ASBESTOS MINING INDUSTRY, 1934.

(Preliminary)

	Value f.o.b. plant
	$
Belting of all kinds, including elevator, conveyor, transmission, etc., and fasteners for same	25,197
Bolts, nuts, rivets, studs, washers, coach, set and machine screws, etc.	143,499
Castings:- unfinished iron and steel	13,502
Cars and locomotives and mechanical parts for same	1,464
Track materials:- rails and fittings, switches, spikes, bolts, etc.	4,514
Explosives:- powder, fuse and detonators	132,176
Rock drills and parts	2,490
Drill and tool steels	1,277
Pipe and fittings, plumbing supplies and valves	2,035
Iron and steel bars, sheets, plates, and all structural steel	41,175
Wire rope and fittings	5,001
Safety equipment and apparel:- safety hats, boots, gloves, goggles, respirators, etc.; miners' lamps and accessories and lamp rentals	1,023
Fuel:- coal, coke, charcoal and wood	262,664
Fuel oil, kerosene and gasoline	6,829
Lubricants:- oil, grease and waste	20,258
Lumber and timber of all kinds	18,479
Building materials:- cement, brick, tile, roofing and building paper, insulating material, building hardware, glass, putty, paints, varnishes and brushes, wood screws, nails, screw hooks and eyes, sand, lime and miscellaneous	9,023
Electrical equipment and supplies:- motors, batteries, wire and cable, etc.	10,889
Crushing, grinding and screening machinery and parts: ball and tube mill liners, roll shells, etc.	29,472
Machinery, mill, n.o.p., and parts	15,273
Machinery, mine, n.o.p. and parts:- steel shop equipment, hoists, mine pumps, etc.	3,104
Machinery, miscellaneous, and parts: machine, blacksmith, carpenter shop and general surface equipment	5,217
Motor cars, trucks and accessories	1,553
Tools:- brooms, picks, shovels, hammers, handles, saws, wrenches, machinists' tools, etc.	14,226
Welding and cutting equipment and accessories:- oxygen, acetylene welding, rods, tips, etc.	3,046
Rubber goods, suits, boots, hose and accessories, pump valves, launder linings, etc. (not including belts)	124
Refractories:- brick, cement, fireclay, etc.	105
Hospital equipment and medical supplies	275
Stationery, office equipment and supplies, survey and drafting equipment and supplies	17,819
Miscellaneous materials, n.o.p. Includes all materials not otherwise provided for in any other item	391,960
Power - electric	660,309
Freight (a) incoming - only amounts paid direct to Railway company	44,133
(b) outgoing	24,228
Express (a) Incoming - only amounts paid direct to Express company	777
(b) outgoing	48
Insurance (a) Fire	54,745
(c) Group	25,384
(d) Workmen's compensation	28,513
(f) Other	2,458
TOTAL	2,024,264

THE ASBESTOS PRODUCTS INDUSTRY

Manufactures of asbestos products in Canada during 1933 were valued at $757,626 as compared with $1,067,801 in 1932 and $1,308,183 in 1931.

A total of 11 plants in Canada engaged in this line of manufactures but the 4 Quebec plants, located in the centre of the asbestos mining industry, accounted for 77 per cent of the total production. There were also 5 plants in Ontario and 1 in each of Nova Scotia and British Columbia. Capital employed by these concerns totalled $1,777,975, employees averaged 222 and payments in salaries and wages amounted to $208,580. Purchased materials for manufacturing purposes cost $331,062 and the value added was $426,564.

Products from these plants included asbestos brake linings, packings, boiler and pipe coverings, paper, sponge blox, gaskets, blackboards, clutch facings, shingles, lumber, etc.

MATERIALS USED IN MANUFACTURING ASBESTOS PRODUCTS, 1932 and 1933.

Materials	Unit of measure	1932 Quantity	1932 Cost at works	1933 Quantity	1933 Cost at works
			$		$
Asbestos, crude	lb.	6,036,882	83,095	3,703,800	51,504
Asbestos cloth and strips	lb.	63,772	31,097	57,784	24,285
Asbestos paper, corrugated or plain	lb.	4,240,080	116,867	173,616	8,454
Asbestos yarn	lb.	230,373	72,162	151,128	41,507
Adhesives	lb.	201,435	3,719	160,420	3,984
Asphalt	lb.	4,705,542	34,653	14,582	272
Cement	lb.	401,232	2,315	457,838	2,639
Cotton cloth or yarn	xx	...	12,189	...	16,841
Felt	lb.	20,000	654	190,222	4,741
Hair	lb.	133,451	5,448	133,360	4,497
Rubber	lb.	54,157	4,423	37,413	2,775
Silica sand	lb.	219,659	934	429,251	1,263
Containers, boxes, etc.	xx	...	19,381	...	21,581
All other materials	xx	...	172,736	...	146,719
TOTAL	xx	...	559,673	...	331,062

ASBESTOS PRODUCTS MADE, 1932 and 1933.

Products	Unit of measure	1932 Quantity	1932 Selling value at works	1933 Quantity	1933 Selling value at works
			$		$
Asbestos brake linings	ft.	1,790,664	309,942	1,707,544	316,938
Asbestos boiler and pipe covering	ft.	1,085,346	83,964	827,667	65,725
Asbestos packings	lb.	181,212	87,682	213,752	91,597
All other products (x)	xx	...	586,213	...	283,366
TOTAL	xx	...	1,067,801	...	757,626

(x) Includes data for asbestos paper, asbestos shingles, sponge blox, clutch facings, gaskets, etc., which were reported by only 1 or 2 concerns and so cannot be specified separately.

NOTE - Corresponding data for 1934 together with statistics relating to employment in this industry will be published in a separate bulletin "The Asbestos Products Industry, 1934" as soon as all returns for that year have been received.

WORLD PRODUCTION OF ASBESTOS, 1931-1933.

(Taken from the Imperial Institute's publication "The Mineral Industry of the British Empire and Foreign Countries" 1931-1933).

(Long tons)

Producing country and description	1931	1932	1933
BRITISH EMPIRE			
Southern Rhodesia	21,466	14,077	26,948
Swaziland	...	4	...
Union of South Africa (b)	11,480	7,844	15,185
Canada -			
Chrysotile	141,470	112,902(c)	147,153(c)
Crude	2,202	421	1,166
Spinning fibre	10,115	5,361)	
Shingle fibre	9,782	5,915)	73,754
Paper fibre	33,260	29,191)	
Waste, stucco or plaster	5,650	3,557)	66,479
Refuse or shorts	74,024	65,356)	
Sand and gravel	6,437	3,101	5,754
Actinolite	31	...	...
Cyprus	1,138	1,520	3,494
India	6	90	...
Australia	122	130	279
TOTAL	176,000	137,000	193,000
FOREIGN COUNTRIES			
Brazil	15	...	...
Finland (Amphibole)	572	800	(a)
France	500	300	(a)
Greece	10	8	(a)
Italy	571	1,461	(a)
U.S.S.R. (Russia)	63,653	(a)	(a)
United States (sales) -			
Amphibole	331)	3,178	4,237
Chrysotile	2,551)		
Argentina	...	7	(a)
China (estimated)	500	500	500
Japan (estimated)	1,000	1,000	1,000
"Manchoukuo"	168	118	104
Turkey	4	...	118
Korea	...	...	12
TOTAL	70,000	(a)	(a)
WORLD'S TOTAL	246,000	(a)	(a)

(a) Information not available.

(b) Production is not available by kinds, but sales were as follows:-

	1931 (Long tons)	1932 (Long tons)	1933 (Long tons)
Amosite	1,863	1,242	2,765
Blue	3,259	2,647	2,879
Chrysotile	8,873	6,888	8,546

(c) Sales and shipments.

NOTE - World data for 1934 not complete; for available 1934 statistics see "General Review."

GENERAL REVIEW

UNITED STATES - The United States Bureau of Mines reports that commercial production, imports and apparent consumption of raw asbestos in the United States in 1934 showed gains over 1933. The total quantity of asbestos commercially produced in the United States in 1934 was 5,087 short tons valued at $158,347, compared with 4,745 short tons valued at $130,677 in 1933. It was practically all chrysotile from Arizona and Vermont, by far the larger part originating in Vermont. Amphibole was mined in Maryland, Montana and Washington. In 1934 Canada contributed 93.9 per cent in quantity and 89.6 per cent in value of the total imports of asbestos into the United States. The U.S.S.R. (Russia in Europe) was the second largest source of raw asbestos imported into the United States in 1934. The Russian total of 2,595 short tons valued at $89,439 was 2.2 per cent in quantity and 2.6 per cent in value of all imports of asbestos into the United States. An interesting development in the import situation is the rise of Malta, Gozo, and Cyprus Islands to third place in 1934 in the rank of countries exporting asbestos to the United States. Africa ranked fourth among sources of raw asbestos imported into the United States in 1934, the material consisted wholly of high-grade crudes with an average value per ton of $110.63.

RHODESIA - Asbestos production in Rhodesia during 1934 totalled 32,213.51 tons valued at £402,745; the average number of Europeans employed in asbestos mining was 182 and the number of natives totalled 3,955.

The Government Mining Engineer for Southern Rhodesia reports that the asbestos industry is now gradually recovering from the effects of the "slump." The output of asbestos reached its peak in 1929 when the amount exported and sold was valued at £892,717. This dropped considerably during 1930-1932, when the output was worth only £248,513. Since then it has gradually recovered and in 1934 £391,636 was exported.

Rhodesian asbestos is mostly mined in the Shabani and Mashaba districts where the deposits are very large, and the grade exceedingly good, the long fibre being of the very best quality and the output second only to Canada. At the present most of the Rhodesian asbestos is quarried, the occurrences being about 250 feet thick, but as they dip away under the overlying serpentine, undeground mining is being resorted to and experiments are being made as to the best method of mining.

UNION OF SOUTH AFRICA - The Department of Mines for the Union reports that although the average number of persons in service on asbestos mining in the Cape was 102 more during 1934 than during 1933, the quantity of fibre sold dropped from 3,224.656 tons to 2,810.7 tons, and the value from £60,306 to £51,673. This tonnage is less than half what it was during the peak year 1929. The decrease in production is due to curtailment of operations by some of the larger companies, one of which has produced no fibre during the last two years. The reason given for the curtailment is that the market for blue asbestos is weak. Some of the larger companies function as buyers as well as producers, and they also hold leases over large areas of Crown Land at low rental, which leases are subject to cancellation unless the lease areas are worked in a fair and bona fide manner and to the satisfaction of the Inspector. In regard to the sales of asbestos in the Union during 1934 the relative figures for each class of mineral are as follows:-

	1934	
	Tons (2,000 lb.)	Value £
Amosite (Transvaal only)	3,756,420	37,104
Chrysotile (Transvaal only)	11,025,300	114,241
Blue (mainly Cape)	2,812,143	51,688
TOTAL	17,593,863	203,033

The largest asbestos mines in the Union of South Africa are those producing chrysotile in the Barberton district of the Transvaal. The asbestos bearing serpentine occurs in two zones. The belts dip 10 degrees to 20 degrees and underground mining is practised. Amosite of the Lydenburg district of the Transvaal occurs in banded ironstones and underground mining is generally followed. Much of the crocidolite (blue asbestos) of the Cape of Good Hope is obtained from small open pits or from shallow mines worked by natives.

RUSSIA - In Russia the chrysotile asbestos deposits of the Bajanova district have a thin overburden and a paper by the United States Bureau of Mines states that hand methods of removal were first employed, in 1929 two shafts were sunk and connected with a haulage level at a depth of 50 metres. They were designed for glory-hole mining which proved uneconomical. This method was supplemented and largely superseded in 1930 by electric-shovel loading in open pits with transport by locomotives to inclined haulways up which cars were taken by electric hoists. Mining costs are estimated at about 75 cents a metric ton of rock.

The U.S.S.R. Chamber of Commerce, Moscow, reports that the asbestos works of the Yaroslavl Rubber Combinate has started the mass production of pressed asbestos brake linings and it is stated that in 1935, 770,000 metres of asbestos brake lining will be manufactured for motor vehicles of the Gorki and Stalingrad factories. Statistics relating to Russian asbestos production in 1934 are not yet available. According to the American-Russian Chamber of Commerce, New York, exports of asbestos from Soviet Russia in 1934 totalled 33,715 metric tons valued at 3,247,000 roubles as compared with 21,458 metric tons valued at 2,651,000 roubles in 1933. Exports of asbestos articles in 1934 totalled 98 metric tons worth 9,000 roubles.

CYPRUS - In Cyprus chrysotile asbestos occurs on the slopes of Mount Troodos in irregular veins traversing serpentine formed by alteration of olivine. In 1927 approximately 6,000 workers were employed in the quarries and about 1,500,000 tons of rock were broken. Operations have been conducted on a much smaller scale since that year. Production consisted exclusively of short fibre until 1934 when, according to a report, a small quantity of spinning fibre was shipped. (Abstract from a United States Bureau of Mines Paper).

Work Done by the Cyprus and General Asbestos Co. Ltd., Amiandos.
(Imperial Institute)

		Last six months 1934	Last six months 1933
Rock mined	tons	303,851	238,002
Rock treated	tons	68,546	52,958
Finished asbestos produced	tons	4,338	2,277
Finished asbestos exported	tons	4,000	3,388
Average daily labour (quarries only)		580	625
Average daily labour (all operations)		1,036	1,080

The following information has been supplied by "Asbestos", Philadelphia:- "Deposits of asbestos are reported to have been discovered at Hohen Bogen, near Rimbach, in the Bavarian Forest. The deposits are said to be fairly large, and while the asbestos is not of the spinning variety it may find use as micro-asbestos -- Plans have been made to open an asbestos quarry in the Chateau-Ville-Vielle-et-Chateau-Queyras commune in the Guil Valley, France -- What has every prospect of becoming a new mining industry for New Zealand is the discovery of an extensive

deposit of asbestos by a Cromwell asbestos syndicate, the syndicate has, for some time past, been prospecting on what appears to be an extensive deposit on the Kawaray face of Mt. Pisa, results of any tests the mineral may be put to are being awaited with considerable interest ... So far only a few tons of asbestos have been taken from the deposits near Onslow, Western Australia, but the seam has been located and explored and is known to extend for at least eight miles from the present working; an asbestos expert states that the asbestos mined is remarkably clean. Western Australia hopes to obtain valuable trade through the development of her deposits."

USES - The consumption of asbestos in industry is ever growing and its diversified employment steadily expanding throughout the world. Spinning fibre is utilized in the manufacture of theatre curtains, blankets, clothing, conveyor belts for carrying hot materials, tape, rope, gaskets, clutch facings, brake-band linings and a variety of other manufactures.

Large quantities of the non-spinning fibre are consumed in the production of roofing materials and asbestos paper for pipe coverings, heaters, automobile mufflers, etc. Cement and asbestos compressed in sheets is utilized extensively as millboard, floor tile, corrugated sheeting, lumber, and as lining for electric switch boxes, garages, safes, etc. Non-corrosive, acid resisting pipes made of cement and asbestos are being employed extensively for water and gas mains and sewers. A standard European pipe consists of 80 per cent cement and 20 per cent asbestos. Large quantities of short fibres are consumed in the manufacture of plastic fireproof cements used for boiler, pipe and furnace lining. Short fibres are also used in fireproof paints and as a constituent of asphalt-roofing coatings. The use of asbestos in aircraft construction is becoming increasingly important. Ignited asbestos balls soaked in kerosene are now employed in the extermination of the "tent caterpillar;" asbestos buffers are now being used successfully in all types of power plant foundations, with shallow foundations an additional pack of fibre three inches in depth is often placed in the bottom to absorb jar. "Asbestos," Philadelphia, describes the latest factory built house in the United States as being made of cement, asbestos and steel. It is equipped with a heat and air-cooling unit, and can be put up ready for occupancy in two or three weeks. It sells at from $3,800 to $9,900, has a combination living and dining room, two bedrooms, kitchen, store room and bathroom; the asbestos, in the form of panels(asbestos cement board or lumber) is used for the exterior walls, a special aluminium alloy was employed as a trim and the roof was designed for use as a sun deck.

It is interesting to note that an asbestos bearing material which works well under water is reported to have been recently developed; it is tough but readily machined, has a low co-efficient of friction and water is its best lubricant.

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DIRECTORY OF FIRMS IN CANADIAN ASBESTOS MINING INDUSTRY, 1934.

Name of Company	Head Office Address	Location(x) of Plant
Asbestos Corporation Ltd.	Canada Cement Bldg., Montreal, P.Q.	Thetford Mir East Brought Black Lake Coleraine.
Canadian Johns-Manville Co. Ltd.	Montreal, P.Q.	Asbestos
Johnson's Company	Thetford Mines West, P.Q.	Thetford Mir Coleraine
Keasbey & Mattison Company	Ambler, Pa., U.S.A.	Thetford Mir
Nicolet Asbestos Mines, Ltd.	c-o Greenshields & Greenshields, Transportation Bldg.,Montreal, P.Q.	Wotton Tp. Tingwick Tp.
Northern Asbestos Co. Ltd.	Box Bl, Thetford Mines, P.Q.	Thetford Mir
Quebec Asbestos Corp. Ltd.	East Broughton, P.Q.	East Brough

(x) All plants located in the province of Quebec.

In addition to the asbestos producing companies listed above, the Actinolite Mining Company produced actinolite near Kaladar, Ontario.

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