Asbestos

By Oliver Bowles[1] and Flora B. Mentch[2]

TOTAL production of asbestos in Canada, principal source for the United States, was 2 percent less in 1953 than in 1952, but the decline was confined to spinning-, shingle-, and paper-fiber grades. Sales of short fibers increased. Thus the trend was reversed from 1952, when the demand was stronger for mill fibers than for shorts. Rhodesian production of chrysotile increased moderately, but in the Union of South Africa there was a substantial decline in the quantity of all types produced; sales declined 29 percent from the alltime high of 1952.

Domestic sales advanced 1 percent from the alltime high of 1952. Production in Arizona was lower than in 1952.

Imports, consumption, and exports all declined compared to 1952. Imports of low-iron chrysotile of spinning grade from Southern Rhodesia were a little higher than in 1952, but spinning grades from Canadian sources declined about 20 percent.

As the supply of the better grades of asbestos had caught up with demand, the upward trend in prices that had characterized recent years had been checked. Prices were virtually unchanged from 1952.

TABLE 1.—Salient statistics of the asbestos industry in the United States, 1944–48 (average) and 1949–53

	1944–48 (average)	1949	1950	1951	1952	1953
Domestic asbestos:						
Produced.....short tons..	19, 590	42, 918	41, 358	51, 730	53, 888	57, 950
Sold or used.....do....	18, 819	43, 387	42, 434	51, 645	53, 864	54, 456
Value.....	$811, 192	$2, 614, 416	$2, 925, 050	$3, 912, 500	$4, 713, 032	$4, 857, 359
Imports (unmanufactured) short tons..	491, 158	509, 366	705, 458	761, 873	[1] 709, 469	692, 245
Value.....	$24, 285, 424	$33, 939, 582	$47, 284, 205	$58, 521, 046	[1]$61,604,601	$59, 753, 583
Exports (unmanufactured) [2] short tons..	6, 556	20, 045	20, 890	16, 526	10, 724	3, 076
Value.....	$928, 938	$4, 152, 344	$4, 084, 384	$3, 662, 270	$2, 670, 970	$592, 222
Apparent consumption...short tons..	503, 421	532, 708	727, 002	796, 992	[1] 752, 609	743, 625
Exports of asbestos products [2 3].....	$8, 121, 013	$9, 667, 847	$8, 147, 141	$14, 321, 278	$13, 028, 857	$10, 627, 293

[1] Revised figure.
[2] Includes material that has been imported and subsequently exported without change.
[3] 1944–45 figures include value of "Magnesia and manufactures."

DOMESTIC PRODUCTION

As indicated in table 1, domestic sales were 1 percent higher in 1953 than in 1952. Chrysotile was produced in Vermont, Arizona, and California and amphibole in Georgia and North Carolina. So few companies have produced amphibole during recent years that separate figures cannot be published.

Production in Arizona was much lower in 1953 than in the previous year, but the decline was confined to the shorter grades. Sales of the

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Minerals Yearbook: Asbestos Chapters, 1953
ACL Doc 10992 · Page 1 of 12
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better grades increased moderately. The following firms and individuals were active: American Asbestos Cement Corp., 115 West Oak St., Globe; Arizona Asbestos Mining Co., P. O. Box 923, Globe; American Fiber Co., Globe; Ancha Asbestos Co., P. O. Box 1593, Globe; Bear Canyon Mining Co., P. O. Box 1730, Globe; Crown Asbestos Mines, Inc., P. O. Box 1443, Globe; Chemical Sales Corp., Globe; Arthur Enders, P. O. Box 362, Globe; O. W. Guthrie, Globe; Jaquays Mining Corp., 1219 South 19th Ave., Phoenix; Kyle Asbestos Mines of Arizona, P. O. Box 302, Globe; Metate Asbestos Corp., P. O. Box 1506, Globe; Phillips Asbestos Mines, Drawer 71, Globe; Pine Top Asbestos Mine (Grady B. Gulledge), Globe; Sorsen Asbestos Corp., P. O. Box 1431, Globe; Western Chemical Co., 625 So. 5th St., Phoenix.

Materials Branch, Emergency Procurement Service, General Services Administration (formerly DMPA) has established a receiving depot at Globe, Ariz., and is purchasing asbestos for defense and other essential uses. The Government is paying $1,500 a ton for crude No. 1, $900 for crude No. 2, and $400 for crude No. 3. The program will run until October 1, 1957, or until 1,500 tons, grades 1 and 2 combined, have been purchased.

The Mount Shasta Mining Co., P. O. Box 944, Mount Shasta, Calif., mined a small quantity of chrysotile in Shasta County.

W. Zimdars and J. Delmue, 365 Foresthill Ave., Auburn, Calif., shipped a small quantity of tremolite from Placer County.

The Powhatan Mining Co., Woodlawn, Baltimore, Md., reported a small production of amphibole asbestos from Rabun County, Ga.

Mining & Milling Corp. of America, a subsidiary of Mastic Tile Corp. of America, Newburgh, N. Y., operated its mill at Spruce Pine, N. C., during part of 1953, recovering a considerable tonnage of amphibole fiber from rock obtained at the Blue Rock mine, Yancey County. Most of the output was shipped to the west coast. The Powhatan Mining Co. produced amphibole in Transylvania County. The fiber produced by this company is milled at its plant near Baltimore, Md.

The Vermont Asbestos Mines Division of the Ruberoid Co., 500 Fifth Ave., New York 36, N. Y., continued to operate at a high level during 1953 near Hyde Park, Vt. Exploration, partly under Defense Minerals Exploration Administration assistance, was continued, and significant discoveries have extended the company reserves considerably. Mine and mill operations have been described.[3]

CONSUMPTION AND USES

As indicated in table 2, consumption of raw asbestos in the United States decreased slightly in quantity, and increased in value compared with 1952; thus value of consumption reached an alltime high in 1953. As asbestos has a multitude of industrial uses, its consumption follows the trend of industrial production. Asbestos is also employed extensively in building materials, such as asbestos-cement shingles and siding and floor tile, and various heat-insulating products; therefore its consumption is influenced by the volume of new construction. These trends are indicated graphically in figure 1.

[3] Trauffer, Walter E., Ruberoid Company's New Vermont Asbestos Operation Sets New Standards for Industry: Pit and Quarry, vol. 45, No. 8, February 1953, pp. 70–76.

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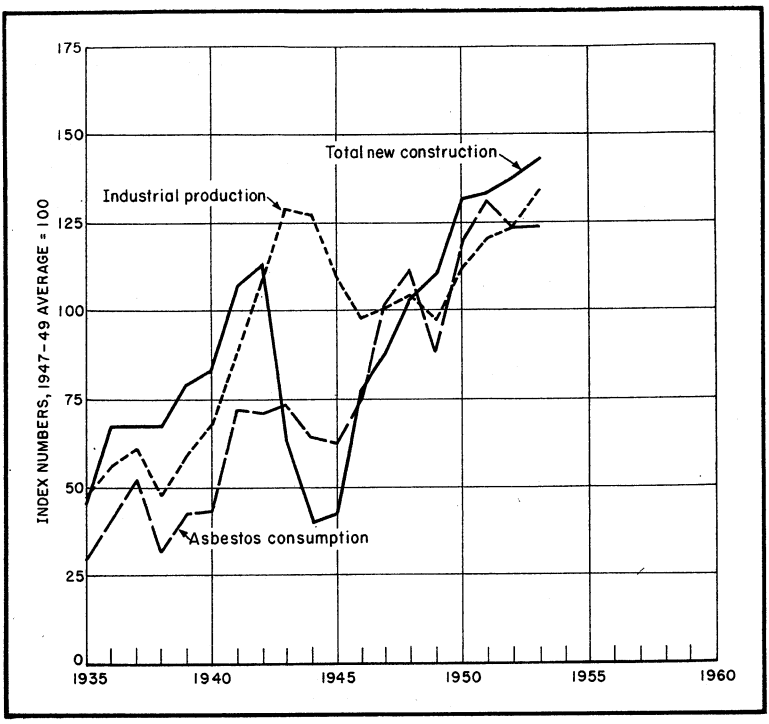


FIGURE 1.—Consumption of asbestos compared with total new construction and industrial production, 1935–53. Statistics on value of construction from Bureau of Foreign and Domestic Commerce and on industrial production from Federal Reserve Board.

TABLE 2.—Apparent consumption of raw asbestos in the United States, 1944–48 (average) and 1949–53

Year	Short tons	Value	Year	Short tons	Value
1944–48 (average)	503, 421	$24, 167, 678	1951	796, 992	$58, 771, 276
1949	532, 708	32, 401, 654	1952 [1]	752, 609	63, 646, 663
1950	727, 002	46, 124, 871	1953	743, 625	64, 018, 720

[1] Revised figure.

PRICES

Prices of asbestos were stable during 1953. No changes occurred in Canadian or Vermont quotations from those recorded in the 1952 chapter. The only change in Arizona quotations was a decline, beginning in April 1953, in the upper limit of filter fiber from $475 to $450 per ton.

There are no market quotations for African asbestos. It is sold by negotiation with individual purchasers. It was reported in the press that South African and Rhodesian prices declined toward the end of 1953.

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FOREIGN TRADE [4]

Imports.—As in 1952, the United States consumed about half of the asbestos produced in the world, but only about 8 percent of its requirements came from domestic sources. It is evident, therefore, that foreign supplies are essential to the asbestos-products industries of the United States. In 1953 imports were 2 percent lower than in 1952. About 94 percent of the total imports originated in Canada, 4 percent in the Union of South Africa, and 1 percent in Southern Rhodesia. On a value basis, however, these percentages were, respectively, 85, 7, and 6. This indicates that imports from overseas consist largely of the higher price fibers because markets are too remote to justify export of low-price asbestos from African countries.

TABLE 3.—Asbestos (unmanufactured) imported for consumption in the United States, 1944–48 (average), 1949–51 (totals), and 1952–53, by countries and classes

[U. S. Department of Commerce]

Country	Crude (including blue fiber)		Mill fibers		Short fibers		Total	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
1944–48 (average)	27,195	$3,670,367	155,743	$12,271,550	308,220	$8,343,507	491,158	$24,285,424
1949	39,272	6,741,789	127,504	14,476,260	342,590	12,721,533	509,366	33,939,582
1950	27,803	5,857,687	177,951	21,381,704	499,704	20,044,814	705,458	47,284,205
1951	35,289	6,618,140	[1] 225,284	[1] 28,844,485	501,300	23,058,421	761,873	58,521,046
1952								
Australia	274	83,353					274	83,353
Bolivia	413	157,289					413	157,289
Canada	555	393,398	[2] 210,333	[2] 30,858,251	458,012	[2] 22,245,162	[2] 668,900	[2] 53,496,811
Italy			11	12,721			11	12,721
Portugal	16	1,323			32	3,584	48	4,907
Southern Rhodesia	607	164,368					607	164,368
Union of South Africa	10,121	3,385,933	422	178,763			10,543	3,564,696
U. S. S. R.	[2 3] 26,650	[2 3] 3,863,069	152	33,611	100	12,699	[2 3] 26,902	[2 3] 3,909,379
United Kingdom			1,761	206,926			1,761	206,926
Venezuela	([2 4])	[2] 102			5	1,815	5	[2] 1,917
			5	2,234			5	2,234
Total	[2] 38,636	[2] 8,048,835	[2] 212,684	[2] 31,292,506	458,149	[2] 22,263,260	[2] 709,469	[2] 61,604,601
1953								
Australia	1,748	615,614			2	1,022	1,750	616,636
Bolivia	828	369,992					828	369,992
Canada	842	423,949	169,096	27,129,703	482,179	23,129,921	652,117	50,683,573
France			([4])	188			([4])	188
Italy	1	1,340	3	6,321			4	7,661
Madagascar	1	371					1	371
Portugal	5	558					5	558
Southern Rhodesia	619	186,116					619	186,116
Southern Rhodesia	9,157	3,155,355	833	247,373			9,990	3,402,728
Union of South Africa	25,778	4,253,838	481	90,592	171	49,195	26,430	4,393,625
U. S. S. R.	108	12,000	217	24,000			325	36,000
United Kingdom	[5] 110	[5] 30,641	10	3,241			120	33,882
Venezuela	4	2,233	52	20,020			56	22,253
Total	39,201	9,052,007	170,692	27,521,438	482,352	23,180,138	692,245	59,753,583

[1] Includes 11 tons ($1,632) classified by U. S. Department of Commerce as amosite crude, reclassified by Bureau of Mines, as mill fibers.
[2] Revised figure.
[3] Includes 105 tons ($15,759) of amosite crude credited by U. S. Department of Commerce to Mozambique.
[4] Less than 1 ton.
[5] Data includes 7 tons of blue (crocidolite) crude, valued at $3,924, believed to have originated in the Union of South Africa or Australia and processed in the United Kingdom.

[4] Figures on imports and exports compiled by Mae B. Price and Elsie D. Page, Division of Foreign Activities, Bureau of Mines, from records of the U. S. Department of Commerce.

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From the standpoint of security the United States is especially interested in supplies of chrysotile of spinning grade. Accordingly, tables 4 and 5 have been introduced to show imports of asbestos from Canada and Southern Rhodesia by grades.

TABLE 4.—Asbestos (chrysotile) imported for consumption in the United States from Canada, by grades, 1944–48 (average) and 1949–53, in short tons

[U. S. Department of Commerce]

	1944–48 (average)	1949	1950	1951	1952	1953
Crude No. 1	269	203	390	126	144	168
Crude No. 2	389	206	260	226	332	207
Other crudes	143	437	1,114	384	79	467
Spinning and textile fiber	19,275	13,738	24,417	22,463	[1] 24,112	19,417
Shingle fiber	70,577	65,544	83,640	104,419	98,577	86,540
Paper fiber	63,657	48,065	69,171	97,888	87,644	63,139
Short fiber	308,212	342,590	499,704	501,264	458,012	482,179
Total	462,522	470,783	678,696	726,770	[1] 668,900	652,117

[1] Revised figure.

TABLE 5.—Asbestos (chrysotile) imported for consumption in the United States from Southern Rhodesia, by grades, 1944–48 (average) and 1949–53, in short tons

[U. S. Department of Commerce]

	1944–48 (average)	1949	1950	1951	1952	1953
Crude No. 1	1,086	1,270	2,124	678	462	1,039
Crude No. 2	3,386	2,905	1,844	1,239	1,363	814
Other crudes	[1] 2,146	9,466	4,940	5,783	8,296	7,304
Spinning and textile fiber	24	81	556	25	177	730
Shingle fiber	45	-------	-------	-------	245	103
Short fiber	6	-------	-------	-------	-------	-------
Total	6,693	13,722	9,464	7,725	10,543	9,990

[1] Includes small amounts credited by the U. S. Department of Commerce, to Mozambique.

Exports.—Exports of raw asbestos declined to approximately one-fourth of the tonnage shipped to foreign countries in 1952. Such decline indicates that the needs of foreign customers are being supplied more readily from other sources.

TECHNOLOGY

Vermont Asbestos Mines Division of the Ruberoid Co. has developed highly refined methods of asbestos prospecting. As the asbestos occurs in massive serpentine, the serpentine areas are first delineated by magnetometer surveys. Core drill holes are then sunk on a 100-foot grid system. The cores are next logged by measurement of the fiber veins intersected. Both the percentage of the total fiber content and the proportion of various fiber lengths are thus determined. The cores are then milled in the laboratory, and the fiber content is determined by grades. The approximate fiber content determined by these 2 methods is checked further by mining bulk samples up to 3,000 tons obtained by sinking shafts 10 feet in diameter around selected drill holes. These samples are treated as

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TABLE 6.—Asbestos and asbestos products exported from the United States, 1944–48 (average) and 1949–53

[U. S. Department of Commerce]

Year	Unmanufactured asbestos				Asbestos products	
	Domestic [1]		Foreign [2]		Domestic [1]	Foreign [2]
	Short tons	Value	Short tons	Value	Value	Value
1944–48 (average)	5, 720	$754, 640	836	$174, 298	$8, 116. 935	$4, 078
1949	17, 621	3, 618, 703	2, 424	533, 641	9, 666, 560	1, 287
1950	18, 980	3, 646, 828	1, 910	437, 556	8, 097, 192	49, 949
1951	14, 298	3, 216, 810	2, 228	445, 460	14, 320, 389	889
1952	10, 265	2, 550, 065	459	120, 905	13, 027, 739	1, 118
1953	2, 780	540, 273	296	51, 949	10, 615, 832	11, 461

[1] Material of domestic origin, or foreign material that has been milled, blended, or otherwise processed in the United States.
[2] Material that has been imported and subsequently exported without change.

TABLE 7.—Asbestos and asbestos products exported from the United States 1952–53, by kinds

[U. S. Department of Commerce]

Product	1952		1953	
	Quantity	Value	Quantity	Value
Unmanufactured asbestos:				
Crude and spinning fibers—short tons	1, 419	$551, 686	752	$252, 748
Nonspinning fibers—do	7, 610	1, 845, 154	1, 260	242, 182
Waste and refuse—do	1, 236	153, 225	768	45, 343
Total unmanufactured—do	10, 265	2, 550, 065	2, 780	540, 273
Asbestos products:				
Brake blocks—do	195	454, 537	217	462, 640
Brake lining:				
Molded and semimolded—do	2, 365	4, 657, 696	1, 959	3, 450, 282
Not molded—linear feet	530, 906	424, 838	447, 598	355, 814
Clutch facing and lining—number	1, 550, 644	996, 080	1, 241, 409	900, 725
Construction materials—short tons	16, 692	2, 822, 802	14, 809	2, 457, 973
Pipe covering and cement—do	2, 324	655, 254	2, 161	592, 054
Textiles, yarn, and packing—do	1, 254	2, 428, 123	1, 006	2, 013, 852
Manufactures, n. e. c	(1)	588, 409	(1)	382, 492
Total products		13, 027, 739		10, 615, 832

[1] Quantity not recorded.

regular mill runs. Large-scale operations at the sites selected have confirmed the accuracy of the three-stage evaluation system.

This company has also developed a pressure bagging system for finished asbestos fiber. Each rectangular paper sack containing 100 pounds occupies about 2 cubic feet. Such sacks are convenient for pallet loading and also conserve storage and shipping space.

A type of equipment new to the African industry, known as the Marchioli mill, has recently been introduced in the Pietersburg area to process blue fiber. Although the mill is still in the pilot-plant stage, it is claimed that it gives a high rate of extraction, reduces grit and

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dust to less than 1 percent, attains a high volume of expansion or "fluffiness," and results in minimum damage to the fibers. It is reported that mills of this type are in successful use at asbestos mines in Italy and Corsica.[5]

A review of the mining, milling and marketing of asbestos recently appeared.[6] The discussion is confined primarily to the Rhodesian asbestos industry.

New equipment for processing fiber has been introduced also at the Lanninhurst mine in Southern Rhodesia. It is claimed that a newly designed cleaning and grading mill will process partly opened, impure asbestos to a clean, well-classified fiber of superior quality. Operation late in 1953 had not passed the pilot-plant stage, but erection of a full-scale plant is in prospect.

A recent report discusses, in some detail, the quantities of the various types of asbestos imported into the United States and the uses to which they are applied. Methods of testing and evaluating the fibers are described. Consignments generally require more or less processing by the consumer before they are in proper condition for use. It is pointed out that the quality of Canadian chrysotile has been maintained at a high level but that the quality of fibers from other countries has declined, in most instances.[7]

As pointed out heretofore, steps are being taken in Africa to improve the classification and preparation of fibers for export trade.

Ordinarily there is no "scrap recovery" of asbestos, but the National Bureau of Standards has developed processes for recovering fiber from discarded asbestos cloth and asbestos-cotton cloth. Contaminating materials consist principally of cement and paint. The former is removed by treatment with a 5-percent hydrochloric acid solution, and the paint is removed by boiling in a 5-percent sodium hydroxide solution. Cotton, a constituent of asbestos fabrics, is burned out in a muffle furnace at temperatures between 400° and 450° C. The temperature must be carefully controlled to avoid damage to the fiber. Recovery from asbestos-glass fabrics and from molded insulation proved to be unsatisfactory.[8]

A publication giving much information on the manufacture and use of asbestos textiles appeared.[9]

WORLD REVIEW

In table 8 world production by countries for 1953 is incomplete, but estimates for unrecorded countries are included in the total. Revisions for previous years have been made as additional information has become available.

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[5] South African Mining and Engineering Journal, The Marchioli Mill Raises Hopes of Brighter Future for Our Asbestos Producers: Vol. 64, pt. 1, June 18, 1953, p. 587.
[6] Sworder, E. H., Preparation and Marketing of Asbestos Fibers: Rhodesian Min. Rev., vol. 18, No. 4, April 1953, pp. 21–26, No. 5, May 1953, pp. 29–35.
[7] Badollet, M. S., Asbestos Fibers; Production and Usage: Canadian Min. and Met. Bull., vol. 56, August 1953, pp. 477–479.
[8] National Bureau of Standards, Reclamation of Asbestos: Tech. News. Bull., vol. 37, No. 9, September 1953, p. 139.
[9] Asbestos Textile Institute, Handbook of Asbestos Textiles: New Brunswick, N. J., 1953, 78 pp.

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TABLE 8.—World production of asbestos by countries,[1] 1944–48 (average) and 1949–53, in metric tons [2]

[Compiled by Helen L. Hunt]

Country [1]	1944–48 (average)	1949	1950	1951	1952	1953
North America:						
Canada (sales) [3]	512,187	521,543	794,095	882,866	843,078	826,303
United States (sold or used by producers)	17,072	39,360	38,495	46,851	48,864	49,401
South America:						
Bolivia (exports)	72	182	166	316	465	735
Brazil	1,705	1,415	844	1,321	[4] 720	[4] 720
Chile	297	291	172	([5])	([5])	([5])
Venezuela	99	192	190	260	394	40
Europe:						
Finland [6]	6,976	10,486	10,949	11,850	6,100	10,929
France	650	1,090	6,080	6,940	6,300	9,300
Greece	[7] 18	9	30	34	25	
Italy		15,877	21,433	22,612	23,938	20,397
Portugal	114	101	257	312	168	([5])
Spain	7	40	41	41	30	([5])
U. S. S. R. (estimate)	100,060	191,000	220,000	220,000	220,000	220,000
Yugoslavia	[8] 529	1,111	958	1,523	2,506	3,748
Asia:						
Cyprus	4,959	12,556	14,989	17,180	16,556	14,484
India	397	148	211	526	694	([5])
Iran						50
Japan	6,800	5,456	5,664	6,139	3,060	4,078
Korea	[9] 1,907	([5])	([5])	([5])	([5])	([5])
Taiwan (Formosa)	286	410	216	35	24	
Turkey	175	250	245	80		
Africa:						
Egypt	606	117	260	1,247	60	([5])
French Morocco	528	402	511	604	576	544
Kenya	397	716	229	379	354	151
Madagascar	1	2	1	17	3	([5])
Southern Rhodesia	53,210	72,246	64,888	70,454	76,960	79,595
Swaziland	26,961	30,814	29,635	31,719	31,542	27,309
Union of South Africa	28,830	64,334	79,300	97,402	121,416	86,016
Oceania:						
Australia	2,094	1,671	1,643	2,599	4,124	5,049
New Zealand	4		42	826	693	([5])
Total (estimate)	781,800	975,000	1,300,000	1,425,000	1,425,000	1,375,000

[1] In addition to countries listed, asbestos is produced in Argentina, China, and Czechoslovakia. Estimates by authors of the chapter are included in the total.
[2] This table incorporates a number of revisions of data published in previous Asbestos chapters.
[3] Exclusive of sand, gravel, and stone (waste rock only), production of which is reported as follows: 1949, 32,015 tons; 1950, 43,551 tons; 1951, 30,628 tons; 1952, 35,982 tons; 1953, 19,158 tons.
[4] Produced in Bahía only (incomplete figure).
[5] Data not available; estimate by authors of chapter included in total.
[6] Includes asbestos flour.
[7] Average for 1946–48.
[8] Average for 1947–48.
[9] Estimate.

CANADA

British Columbia.—Cassiar Asbestos Corp., Ltd., McDame Lake, has continued exploratory work, and its fiber-bearing rock reserves were estimated late in 1953 at more than 7 million tons having a fiber value of approximately $30 per ton of asbestos-bearing rock. An experimental mill was operated, and several hundred tons of 3K and 4K fibers were recovered from the talus accumulation. A new mill having a capacity of 500 tons of rock per day was expected to be completed by June 1954.

Western Asbestos & Development, Ltd., is taking active measures to develop two asbestos properties in southern British Columbia—the Okanagan Falls and the Revelstoke. The former consists prin-

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cipally of anthophyllite. The second property, on Sproat Mountain, only 2½ miles from the Canadian Pacific Railway, is more promising. The asbestos is of the chrysotile variety and occurs in crossfiber veins up to ⅝ inch long, also as slip fiber up to 5 inches long. A program of mapping, trenching, and prospect drilling is planned.

TABLE 9.—Sales of asbestos in Canada, 1952–53, by grades

[Dominion Bureau of Statistics]

	1952			1953		
	Short tons	Value		Short tons	Value	
		Total	Average per ton		Total	Average per ton
Grade:						
Crudes	741	$726, 827	$981	781	$837, 623	$1, 073
Fibers	351, 644	58, 822, 472	167	326, 340	56, 226, 083	172
Shorts	576, 954	29, 705, 614	51	584, 105	28, 989, 189	50
Total	929, 339	89, 254, 913	96	911, 226	86, 052, 895	94
Rock mined	12, 989, 320			13, 912, 839		
Rock milled	10, 915, 938			11, 189, 027		

Newfoundland.—It was reported early in 1953 that equipment for an asbestos mill of 200-ton-a-day capacity was being moved to the property of Newfoundland Asbestos, Ltd., at Port-au-Port Bay on the west coast of Newfoundland. The deposit is situated on a hillside into which a 500-foot adit has been driven.

Ontario.—The Munro mine of the Johns-Manville Corp. near Timmins, Ontario, has been operating almost at maximum capacity. The open pit now worked will meet the present production rate for 3 or 4 years, and plans are being prepared for underground mining. Large reserves are said to exist in other nearby properties owned by the company. The mine has been described in some detail in a recent article.[10]

Quebec.—Shipments of Canadian asbestos declined about 2 percent in quantity and 4 percent in value compared with 1952. The following companies produced asbestos in Quebec in 1953: Canadian Johns-Manville Corp., Ltd.; Asbestos Corp., Ltd.; Johnson's Co.; Quebec Asbestos Corp.; Bell Asbestos Mines; Nicolet Asbestos Mines, Ltd.; Flintkote Mines, Ltd.; and Dominion Asbestos Co.

Canadian Johns-Manville Corp., Ltd., has made substantial progress in new mill construction at the Jeffrey mine, Asbestos, Quebec. When completed the mill will have a capacity of about 600,000 tons of asbestos a year. A second vertical shaft has been sunk to a depth of 1,500 feet, and a new concrete headframe has been constructed, and a new office and other contiguous buildings have been erected.

Construction of the new Normandie mill of Asbestos Corp., Ltd., was well-advanced. The mill was expected to be in operation late in 1954. The Johnson's Co. new mill at Black Lake was completed.

[10] Baker, R. D., Asbestos Production in Ontario: Western Miner and Oil Review (Vancouver, B. C.), vol. 26, No. 12, December 1953, pp. 35–37.

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ACL Doc 10992 · Page 9 of 12
asbestosclaims.law/library/10992/9

It has been reported in the press that Lake Asbestos Co., a subsidiary of the American Smelting & Refining Co., has exercised an option to develop the Black Lake property of United Asbestos Corp. and erect a mill of 5,000 tons daily capacity. Development involves drainage of the lake and removal of a heavy burden of silt. The operations proposed are expected to cost over $15 million. Extensive exploratory work has established the presence of a large body of asbestos-bearing rock.

The Dominion Asbestos Co. mill at St. Adrian made experimental runs during 1953 but suspended operation late in the year for financial readjustment. The National Gypsum Co. financed the operation for a time under option but according to press reports has not exercised its option to purchase the property.

Several asbestos companies are cooperating in an extensive project involving relocation of 8 miles of railway and sections of the residential and commercial areas of Thetford Mines to provide access for development of large, unutilized masses of asbestos-bearing rock.

SOUTHERN AFRICA

Southern Rhodesia.—As indicated in table 10, asbestos production in Southern Rhodesia was nearly 3,000 tons greater in 1953 than in 1952. The sales value, however, was lower. Exports from Rhodesia—71,629 tons—were nearly 12,000 tons less than in 1952 and nearly £500,000 less in value. Although demands for asbestos declined during the latter part of 1953, an increasing interest in purchasing was noted early in 1954.

A new company, Rhodesian Asbestos, Ltd., financed jointly by the Johns-Manville Corp., the British Metal Corp., Ltd., Simon I. Patiño, and Southern Minerals & Marketing Corp. (Pty.), Ltd., has been established to develop several asbestos properties in the Mashaba district. Production on a substantial scale is anticipated in the near future.

Rhodesian Monteleo Asbestos, Ltd., which began operation of its new mill in April 1953, was obliged to suspend activity late in 1953 because of decreasing demand and declining prices.

TABLE 10.—Asbestos produced in Southern Rhodesia, 1949–53

Year	Short tons	Value	Year	Short tons	Value
1949	79, 638	£3, 986, 703	1952	84, 834	£6, 651, 975
1950	71, 527	4, 615, 490	1953	87, 739	6, 542, 731
1951	77, 663	5, 452, 108			

Union of South Africa.—The remarkable increases in asbestos production in the Union that characterized recent years were succeeded by an abrupt decline in 1953, when sales were 33 percent lower in quantity and 40 percent lower in value than in 1952. As indicated in table 12, the recession was shared by every variety. Amosite production declined 40 percent, chrysotile 25, Transvaal blue 17, and Cape blue 15.

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The asbestos situation changed considerably during 1953. Supply caught up with demand to such an extent that buyers became more selective in their requirements, and prices declined. Accordingly, some high-cost mines were shut down, and some of the smaller companies that had inadequate milling equipment faced difficulty in meeting buyers' specifications. As a step toward improving the situation, the South African Bureau of Standards appointed a special subcommittee to study ways of establishing an official Government grading system for South African fibers. It was believed that more uniform grading would increase confidence in the quality of the asbestos in the minds of overseas consumers.

Noteworthy studies have been made of South African fibers. Research involving X-ray and differential thermal analysis has been applied to the amphibole varieties—anthophyllite, tremolite, actinolite, amosite, and crocidolite. Amosite was found to be a member of the cummingtonite-grunerite series. The composition, character, and origin of the fibers were described.[11]

A detailed discussion of the various asbestiform minerals in the Union of South Africa has recently appeared.[12] The first section of the report deals with the nature and identification of the asbestos minerals: Chrysotile, anthophyllite, tremolite-actinolite, crocidolite, and amosite-montasite. The second part relates to the nature of the impurities, their removal, and the grading of the processed fibers.

TABLE 11.—Asbestos produced in and exported from the Union of South Africa, 1949–53

Year	Production (short tons)			Exports	
	Transvaal	Cape Province	Total	Short tons	Value
1949	58,918	11,999	70,917	63,428	£2,600,323
1950	72,203	15,211	87,414	70,609	3,475,200
1951	89,290	18,078	107,368	89,735	5,056,143
1952	109,398	24,441	133,839	106,576	6,899,086
1953	73,934	20,883	94,817	71,791	4,158,476

TABLE 12.—Asbestos produced in the Union of South Africa, 1949–53, by varieties and sources, in short tons

Variety and source	1949	1950	1951	1952	1953
Amosite (Transvaal)	41,974	42,393	54,053	63,280	38,258
Chrysotile (Transvaal)	7,609	14,334	19,509	24,970	18,840
Blue (Transvaal)	9,181	15,387	15,581	20,294	16,824
Blue (Cape)	11,999	15,211	18,078	24,441	20,883
Anthophyllite (Transvaal)	154	89	147	854	12
Total	70,917	87,414	107,368	133,839	94,817

[11] Vermaas, F. H. S., The Amphibole Asbestos of South Africa: Trans. Geol. Soc. South Africa, 1953.
[12] Frankel, J. J., South African Asbestos Fibers: Min. Mag. (London), vol. 89, No. 2, August 1953, pp. 73–83; No. 3, September 1953, pp. 142–149.

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OTHER COUNTRIES

Australia.—Australian Blue Asbestos, Ltd., has increased production at its Hamersley Range crocidolite property in Western Australia. It produces long and medium grades for spinning and shorter grades for use in asbestos-cement products.

Finland.—Finland is the largest producer of anthophyllite asbestos in the world. The fibers have high chemical and fire-resisting qualities. The principal domestic use is for making so-called asbestos-wood slates for siding on house walls. The fibers are also used in flooring, in bitumen compositions, and in other fireproof products. Substantial quantities are exported.[13]

[13] Bureau of Mines, Mineral Trade Notes: Vol. 37, No. 6, December 1953, pp. 35–36.

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