

Stone

Oliver Vagt

*The author is with the Minerals and Metals Sector, Natural Resources Canada.
Telephone: (613) 992-2667
Email: ovagt@nrcan.gc.ca*

The volume of all types of stone shipped in Canada in 2001 was approximately 120 Mt based on preliminary figures. This amount is about 1% higher than in 2000. The reported value of total shipments in 2001 was about \$884 million, essentially the same as the previous year. Shipments served a very wide range of uses related to dimension stone, chemical and metallurgical grades of stone, pulverized stone, and crushed stone, as shown in Table 2, which follows the trade data summarized in Table 1.

Shipments of crushed stone (mainly chemical-grade limestone) for producing cement, as well as lime, are essentially accounted for in separate chapters entitled "Cement" and "Lime." Additional detailed information on regular aggregates, including crushed stone and sand and gravel, as well as on lightweight aggregates, is included in a separate chapter entitled "Mineral Aggregates." The lightweight aggregates included are: expanded shales/clays, perlite, vermiculite, pumice, and expanded ferrous slags or granules.

Dimension or ornamental stone relates to a variety of rock types that can be cut, shaped or simply selected for a broad range of construction/engineering, architectural or monumental requirements. The types of stone available are dependent on local geology, but mainly include granite, limestone, marble, sandstone and slate, as summarized in Tables 3 to 8 inclusive. The term "granite," as commercially applied, includes true granite, granodiorite, gneiss, and other medium- to coarse-grained igneous rocks. However, "black granite" includes anorthosite and other dark-coloured igneous rocks. Limestone and marble are often confused, marble being the metamorphosed equivalent of the former and usually including both dolomitic and calcitic varieties. As an industrial term, "marble" refers to recrystallized calcareous rock capable of taking a polish.

Recent developments in the dimension stone industry in Canada include: 1) the start-up of a \$20 million

gang saw processing plant for granite in Argentina, Newfoundland and Labrador; 2) construction of a dimension stone plant to produce monuments and custom products in Hopedale, Labrador; and 3) continued expansion in shipments of processed granite, particularly from British Columbia.

Plant modernizations by several stone producers across Canada have increased the availability of high-quality finished products at competitive prices. Major trends in exports of dimension stone during the period 1997-2001 have been: 1) an approximately 50% increase in the value of exports of rough granite and worked building and monumental granite combined from Quebec (about \$97 million in 2001); 2) a doubling in the value of exports of equivalent dimension stone products from British Columbia (nearly \$9 million in 2001); and a near doubling in the value of exports of rough and worked stone products from Ontario, mainly relating to calcareous stone, granite, and other worked stone (about \$21 million in 2001).

It is expected that growth in the use of dimension stone in Canada will moderate in 2002, based mainly on a slowdown in non-residential construction, including office buildings. Similarly, exports of rough stone and fabricated stone products are expected to be weaker based on a slowdown in building construction in U.S. markets. Slate is becoming more important in world markets for its natural unpolished appearance, its non-slippery and multi-coloured durable surfaces, and its relatively low price.

Additional information on the Canadian stone industry can be found at provincial government web sites relating to natural resources (accessible through Natural Resources Canada's Internet site at www.nrcan.gc.ca/mms/prov-e.htm).

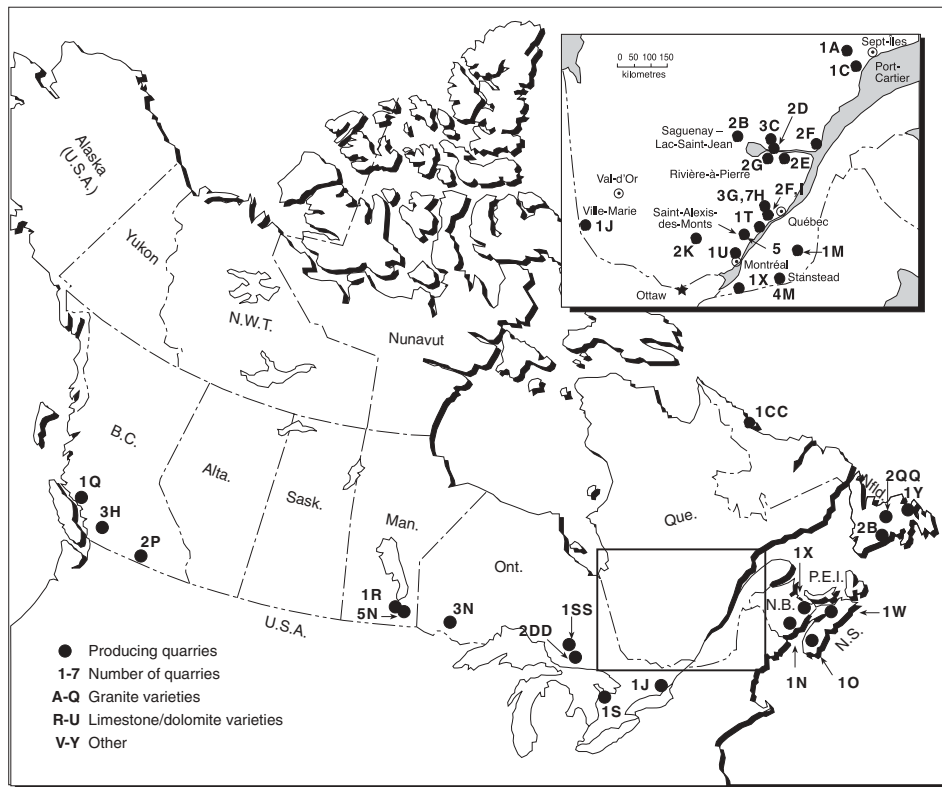
Also, the commercial names related to many rough and finished stone products can be found at the Canadian Stone Association's (CSA) web site at www.stone.ca.

Notes: (1) For definitions and valuation of mineral production, shipments and trade, please refer to Chapter 64. (2) Information in this review was current as of February 1, 2002. (3) This and other reviews, including previous editions, are available on the Internet at www.nrcan.gc.ca/mms/cmy/index_e.html.

NOTE TO READERS

The intent of this document is to provide general information and to elicit discussion. It is not intended as a reference, guide or suggestion to be used in trading, investment, or other commercial activities. The author and Natural Resources Canada make no warranty of any kind with respect to the content and accept no liability, either incidental, consequential, financial or otherwise, arising from the use of this document.

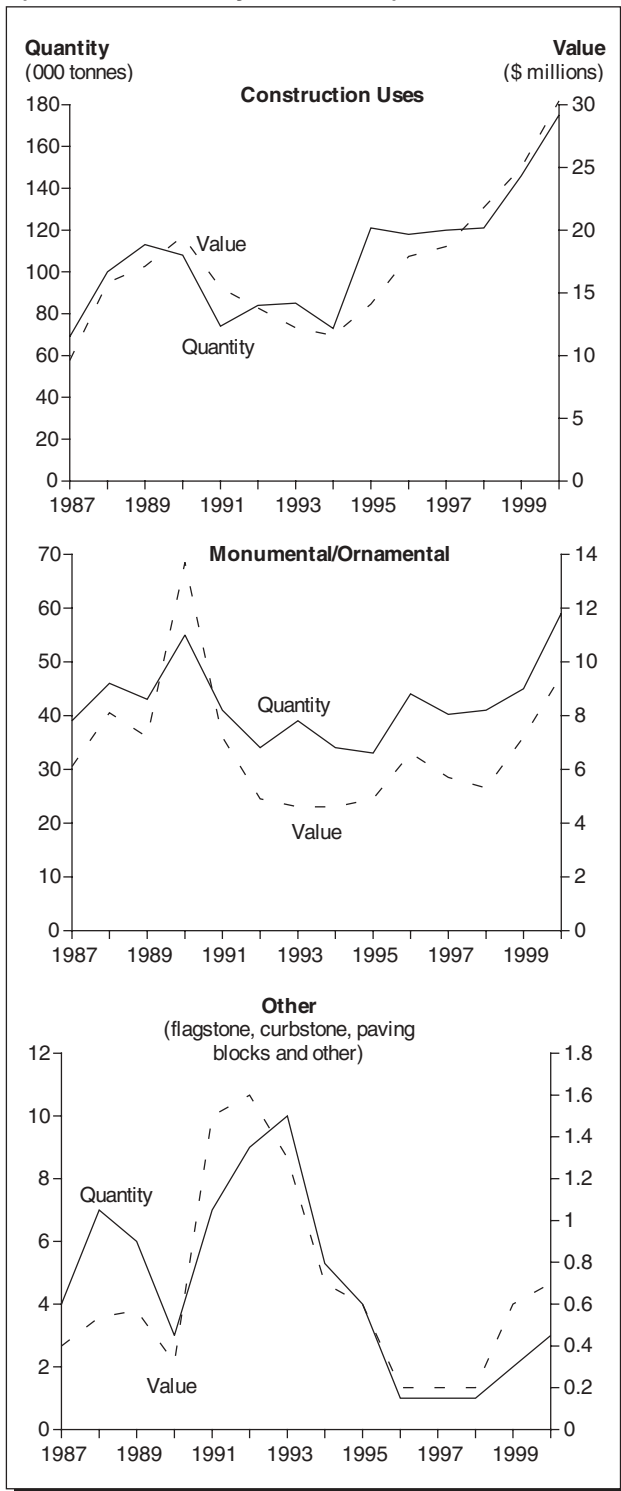
Figure 1
Canada, Architectural and Monumental/Ornamental Stone-Producing Centres, 2000



- | | | | |
|----|--|----|---|
| A | Fine-grained pinkish-grey banded gneiss | O | Fine-grained blue-grey granite |
| B | Medium-grained pink granite | P | Coarse coral pink granite |
| C | Coarse-grained black anorthosite | Q | Medium-grained blue-grey granite |
| CC | Medium-grained "Reflect blue" anorthosite | QQ | Medium-grained gabbro |
| D | Medium-grained black gabbroic anorthosite | R | Light-coloured mottled dolomitic limestone (Tyndall) |
| DD | Blue-grey, and black and white anorthosite | S | Fine-medium crystalline blue-grey to buff marble/dolostone (Arriscraft) |
| E | Medium-grained pinkish-grey quartz monzonite | SS | Fine-grained, multicoloured pre-Cambrian marble |
| F | Fine-grained pink granitic gneiss | T | Medium-grained light brownish-grey limestone (Deschambault) |
| G | Coarse-grained green charnockite | U | Medium-grained blue-grey limestone (Chazy) |
| H | Coarse-grained pink-grey or brown-grey granite | V | Medium-grained olive sandstone |
| I | Medium-grained grey dioritic gneiss | W | Fine-medium-grained olive-brown and blue-grey sandstone |
| J | Medium-grained red granite | X | Fine-medium-grained white to buff sandstone (Potsdam) |
| K | Fine-grained pink aplite | Y | Very fine-grained varicoloured slate |
| L | Coarse-grained brown or red quartz monzonite | | |
| M | Medium-grained grey granite | | |
| N | Medium-grained pink, brown or gold granites | | |

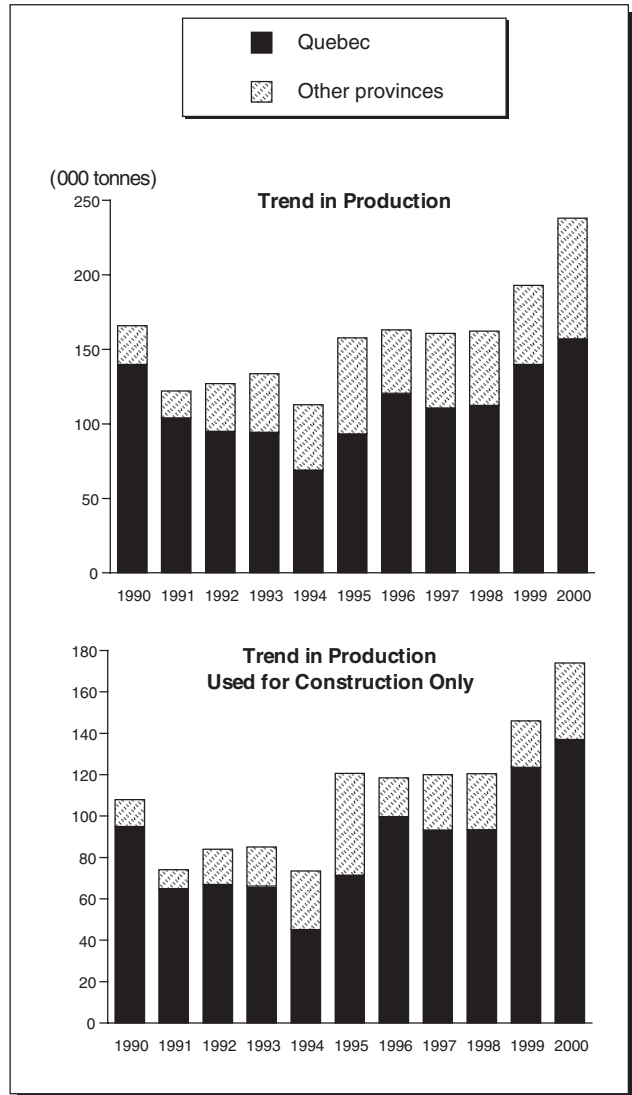
Source: Mainly provincial departments of Mines and Energy.

Figure 2
Canada, Production of Rough Granite
(Sold and Used by Producers), 1987-2000



Sources: Natural Resources Canada; Statistics Canada.

Figure 3
Canada, Trends in Production of Rough
Dimensional Granite for Construction,
Monumental/Ornamental and Other Uses,
1990-2000



Sources: Natural Resources Canada; Quebec Ministry of Natural Resources.

TARIFFS

Item No.	Description	Canada			United States
		MFN	GPT	USA	Canada
2514.00	Slate, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape				
2514.00.10	Merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape	3.50%	Free	Free	Free
2514.00.90	Other	Free	Free	Free	Free
25.15	Marble, travertine, ecaussine and other calcareous monumental or building stone of an apparent specific gravity of 2.5 or more, and alabaster, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape				
2515.11.00	Marble and travertine: Crude or roughly trimmed	Free	Free	Free	Free
2515.12.00	Merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape	Free	Free	Free	Free
2515.20	Ecaussine and other calcareous monumental or building stone; alabaster				
2515.20.10	Crude or roughly trimmed	Free	Free	Free	Free
2515.20.20	Merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape	3.5%	Free	Free	Free
25.16	Granite, porphyry, basalt, sandstone and other monumental or building stone, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape				
2516.11.00	Granite: Crude or roughly trimmed	Free	Free	Free	Free
2516.12	Merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape	Free-3.5%	Free	Free	Free
2516.21.00	Sandstone: Crude or roughly trimmed	Free	Free	Free	Free
2516.22.00	Merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape	3.5%	Free	Free	Free
2516.90	Other monumental or building stone				
2516.90.10	Crude or roughly trimmed	Free	Free	Free	Free
2516.90.20	Merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape	3.5%	Free	Free	Free
25.17	Pebbles, gravel, broken or crushed stone, of a kind commonly used for concrete aggregates, for road metalling or for railway or other ballast, shingle and flint, whether or not heat-treated; macadam of slag, dross or similar industrial waste, whether or not incorporating the materials cited in the first part of the heading; tarred macadam, granules, chippings and powder, of stones of heading nos. 25.15 or 25.16, whether or not heat-treated				
2517.10.00	Pebbles, gravel, broken or crushed stone, of a kind commonly used for concrete aggregates for road metalling or for railway or other ballast, shingle and flint, whether or not heat-treated	Free	Free	Free	Free

TARIFFS (cont'd)

Item No.	Description	Canada			United States
		MFN	GPT	USA	Canada
2517.20.00	Macadam of slag, dross or similar industrial waste, whether or not incorporating the materials cited in subheading no. 2517.10	Free	Free	Free	Free
2517.30.00	Tarred macadam	6.5%	Free	Free	Free
	Granules, chippings and powder, of stones of heading nos. 25.15 or 25.16, whether or not heat-treated:				
2517.41.00	Of marble	Free	Free	Free	Free
2517.49	Other				
2517.49.10	Limestone, roofing granules	Free	Free	Free	Free
2517.49.90	Other	Free	Free	Free	Free
6801.00	Setts, curbstones and flagstones of natural stone (except slate)	3.5%	Free	Free	Free
68.02	Worked monumental or building stone (except slate) and articles thereof, other than goods of heading no. 68.01; mosaic cubes and the like, of natural stone (including slate), whether or not on a backing; artificially coloured granules, chippings and powder, of natural stone (including slate)				
6802.10	Tiles, cubes and similar articles, whether or not rectangular (including square), the largest surface area of which is capable of being enclosed in a square that is less than 7 cm; artificially coloured granules, chippings and powder				
6802.10.10	Roofing granules, artificially coloured	Free	Free	Free	Free
6802.10.90	Other	8%	5%	Free	Free
	Other monumental or building stone and articles thereof, simply cut or sawn, with a flat or even surface:				
6802.21.00	Marble, travertine and alabaster	3.5%	Free	Free	Free
6802.22.00	Other calcareous stone	5%	Free	Free	Free
6802.23.00	Granite	3.5%	Free	Free	Free
6802.29.00	Other stone	5%	Free	Free	Free
	Other:				
6802.91.00	Marble, travertine and alabaster	6%	Free	Free	Free
6802.92.00	Other calcareous stone	6.5%	3%	Free	Free
6802.93.00	Granite	6.5%	6.5%	Free	Free
6802.99.00	Other stone	6.5%	6.5%	Free	Free
6803.00	Worked slate and articles of slate or of agglomerated slate				
6803.00.10	Roofing slate; slate for use in the manufacture of billard tables	Free	Free	Free	Free
6803.00.90	Other	6.5%	6.5%	Free	Free
68.04	Millstones, grindstones, grinding wheels and the like, without frameworks, for grinding, sharpening, polishing, trueing or cutting, hand sharpening or polishing stones, and parts thereof, of natural stone, of agglomerated natural or artificial abrasives, or of ceramics, with or without parts of other				
6804.10.00	Millstones and grindstones for milling, grinding or pulping	6.5%	Free	Free	Free
6804.23.00	Of natural stone	6.5%	Free	Free	Free

Sources: *Customs Tariff*, effective January 2002, Canada Customs and Revenue Agency; *Harmonized Tariff Schedule of the United States*, 2002.

TABLE 1. CANADA, STONE EXPORTS AND IMPORTS, 1999-2001

Item No.		1999		2000		2001 (p)	
		(t)	(\$000)	(t)	(\$000)	(t)	(\$000)
EXPORTS							
2514.00	Slate, whether or not roughly trimmed or merely cut, etc.	84	129	271	137	357	252
2515.11	Marble and travertine, crude or roughly trimmed	60	43	4	4	5	14
2515.12	Marble and travertine, merely cut, by sawing or otherwise, into blocks, etc.	403	193	633	440	604	358
		(cubic metres)		(cubic metres)		(cubic metres)	
2516.11	Granite, crude or roughly trimmed	25 763	14 056	28 260	13 163	31 527	13 156
		(tonnes)		(tonnes)		(tonnes)	
2516.12	Granite, merely cut, by sawing or otherwise, into blocks, etc.	4 126	2 431	19 379	6 248	25 592	6 832
		(cubic metres)		(cubic metres)		(cubic metres)	
2516.21	Sandstone, crude or roughly trimmed	30	4	15	13	45	91
		(tonnes)		(tonnes)		(tonnes)	
2516.22	Sandstone, merely cut, by sawing or otherwise, into blocks, etc.	96	56	118	56	338	194
2516.90	Monumental or building stone, n.e.s.	4 467	1 091	3 151	806	3 176	1 067
2517.10	Pebbles, gravel, broken or crushed stone used for aggregates, etc.	3 358 128	35 245	3 776 891	35 450	4 911 787	49 130
2517.41	Marble granules, chipping and powder of 25.15 or 25.16, heat-treated or not	267 194	37 958	347 873	56 015	49 078	8 983
2517.49	Granules, chippings and powder, n.e.s. of 25.15 or 25.16, heat-treated or not	41 155	1 139	100 853	6 103	35 520	1 269
6801.00	Setts, curbstones and flagstones of natural stone (except slate)	..	1 467	..	1 631	..	2 496
6802.10	Tiles, etc., rectangular or square not more than 7 cm, etc., artificially coloured	..	5 541	..	35 739	..	41 932
6802.21	Monumental or building stone, cut or sawn, flat or even, marble, travertine and alabaster	..	171	..	39	..	687
6802.22	Monumental or building stone, cut or sawn, flat or even, other calcareous stone	..	102	..	73	..	647
6802.23	Monumental or building stone, cut or sawn, flat or even, granite	..	3 099	..	1 903	..	4 145
6802.29	Monumental or building stone, cut or sawn, flat or even, n.e.s.	..	2 089	..	901	..	1 169
6802.91	Worked monumental or building stone, n.e.s., marble, travertine or alabaster	..	2 330	..	1 403	..	2 051
6802.92	Worked monumental or building stone, n.e.s., calcareous stone, n.e.s.	..	1 649	..	4 196	..	8 948
6802.93.10	Worked building stone of granite	..	21 338	..	26 407	..	20 585
6802.93.90	Worked monumental or building stone, n.e.s., granite	..	35 672	..	38 690	..	43 692
6802.99	Worked monumental or building stone, n.e.s.	..	33 542	..	31 566	..	40 048
6803.00	Worked slate and articles of slate or agglomerated slate	..	7 840	..	11 148	..	6 371
6804.1	Millstones and grindstones for milling, grinding or pulping	..	4 927	..	4 292	..	5 233
6804.23	Millstones, grindstones, etc., of natural stone	..	1 104	..	538	..	438
	Total exports	..	213 216	..	277 242	..	259 788

TABLE 1 (cont'd)

Item No.		1999		2000		2001 (p)	
		(t)	(\$000)	(t)	(\$000)	(t)	(\$000)
IMPORTS							
2514.00	Slate, whether or not roughly trimmed or merely cut, etc.	2 731	1 279	4 298	2 080	6 353	3 388
2515.11	Marble and travertine, crude or roughly trimmed	1 760	851	1 627	810	2 157	927
2515.12	Marble and travertine, merely cut, by sawing or otherwise, into blocks, etc.	1 293	866	1 432	978	1 278	1 060
2516.11	Granite, crude or roughly trimmed	64 938	20 044	62 018	18 336	81 433	24 144
2516.12	Granite, merely cut, by sawing or otherwise, into blocks, etc.	3 833	3 106	3 961	3 468	4 034	3 719
2516.21	Sandstone, crude or roughly trimmed	7 184	803	6 002	625	11 847	1 573
2516.22	Sandstone, merely cut, by sawing or otherwise, into blocks, etc.	5 306	1 671	5 268	1 749	5 010	1 758
2516.90	Monumental or building stone, n.e.s.	5 440	1 555	98 879	3 108	8 539	3 520
2517.10	Pebbles, gravel, broken or crushed stone used for aggregates, etc.	3 188 098	17 887	3 125 368	17 315	3 164 978	17 061
2517.41	Marble granules, chipping and powder of 25.15 or 25.16, heat-treated or not	88 644	15 250	59 153	10 424	73 414	15 562
2517.49	Granules, chippings and powder, n.e.s. of 25.15 or 25.16, heat-treated or not	26 569	1 399	29 944	1 724	27 859	1 691
6801.00	Setts, curbstones and flagstones of natural stone (except slate)	..	392	..	436	..	713
6802.10	Tiles, etc., rectangular or square not more than 7 cm, etc., artificially coloured granules, chippings and powder	..	642	..	795	..	557
6802.21	Monumental or building stone, cut or sawn, flat or even, marble, travertine and alabaster	..	10 737	..	11 248	..	11 877
6802.22	Monumental or building stone, cut or sawn, flat or even, other calcareous stone	..	349	..	252	..	637
6802.23.00.10	Granite, cut or sawn flat or even, building stone	4 713	5 903	5 550	6 692	5 691	7 090
6802.23.00.20	Granite, cut or sawn flat or even, monumental	481	405	629	769	693	759
6802.23.00.90	Granite, cut or sawn flat or even, granite other	7 759	12 140	10 256	14 317	10 964	16 317
6802.29	Monumental or building stone, cut or sawn, flat or even, n.e.s.	..	2 094	..	2 381	..	2 661
6802.91	Worked monumental or building stone, n.e.s., marble, travertine or alabaster	..	19 945	..	20 367	..	25 927
6802.92	Worked monumental or building stone, n.e.s., calcareous stone, n.e.s.	..	1 493	..	2 530	..	5 299
6802.93.00.10	Worked building stone of granite	1 878	3 257	1 357	2 028	1 383	2 402
6802.93.00.20	Worked monumental stone of granite, monuments, bases and markets finished	2 014	2 769	2 269	3 601	3 606	5 509
6802.93.00.90	Worked monumental or building stone, n.e.s., granite	5 055	7 098	5 510	8 501	6 402	9 941
6802.99	Worked monumental or building stone, n.e.s.	..	2 755	..	3 223	..	3 170
6803.00	Worked slate and articles of slate or agglomerated slate	..	6 278	..	8 000	..	8 199
6804.10	Millstones and grindstones for milling, grinding or pulping	..	2 068	..	2 492	..	2 608
6804.23	Millstones, grindstones, etc., of natural stone	..	1 041	..	842	..	1 106
	Total imports	..	144 026	..	149 423	..	179 175

Source: Statistics Canada.

.. Not available or not applicable; n.e.s. Not elsewhere specified; (p) Preliminary.

TABLE 2. CANADA, TOTAL PRODUCTION OF STONE, 1999-2001

Item No.	1999		2000		2001 (p)	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
BY PROVINCE/TERRITORY (1)						
Newfoundland and Labrador	3 091	20 206	4 505	27 859	3 794	27 677
Nova Scotia	7 881	48 064	8 379	51 246	8 413	51 949
New Brunswick	4 388	23 141	3 294	19 429	4 003	17 201
Quebec	30 269	218 744	31 550	229 984	32 508	240 411
Ontario	51 258	385 675	58 704	474 155	59 861	471 779
Manitoba	4 314	20 089	4 007	19 688	3 424	17 092
Saskatchewan	—	—	x	x	x	x
Alberta	465	4 623	x	x	x	x
British Columbia	7 440	54 505	6 636	49 172	6 663	47 923
Northwest Territories	78	452	186	2 952	187	2 535
Total	109 184	775 499	118 222	881 260	119 805	884 081
BY USE (2)						
Stone (Dimension)						
Dimension stone						
Rough	315	41 031	360	50 388	..	..
Monumental and ornamental stone (n.f.)	88	7 939	111	10 598	..	..
Other (flagstone, curbstone, paving blocks, etc.)	104	13 550	105	16 311	..	..
Total dimension stone	507	62 520	576	77 297	..	..
Stone (Crushed)						
Crushed stone for						
Concrete aggregate	20 718	122 299	21 830	131 073	..	..
Asphalt aggregate	11 097	69 608	11 509	72 753	..	..
Road metal	30 663	165 040	36 478	192 907	..	..
Railroad ballast (includes traprock)	1 830	15 437	1 681	14 375	..	..
Other uses	34 873	181 907	36 061	201 603	..	..
Chemical and metallurgical						
Cement plants, Canada	14 082	50 085	14 776	44 570	..	..
Cement plants, foreign	525	1 919	539	2 273	..	..
Flux in iron and steel furnaces	1 295	10 476	680	6 279	..	..
Flux in nonferrous smelters	101	818	100	1 519	..	..
Glass factories	163	2 739	51	738	..	..
Lime plants, Canada	5 261	19 877	3 184	19 513	..	..
Lime plants, foreign	1 229	6 269	1 437	8 586	..	..
Pulp and paper mills	96	1 120	118	1 271	..	..
Sugar refineries	—	—	—	—	..	..
Other chemical uses	1 550	9 360	1 763	12 777	..	..
Miscellaneous stone						
Manufacture of artificial stone	3	120	2	68	..	..
Roofing granules	751	27 309	873	37 348	..	..
Poultry grit	176	1 775	173	1 427	..	..
Stucco dash	25	2 682	23	3 985	..	..
Terrazzo chips	7	303	9	666	..	..
Rock wool	26	424	25	431	..	..
Rubble and riprap	942	4 415	1 257	4 476	..	..
Other uses	1 090	8 506	1 562	8 245	..	..
Pulverized stone						
Whiting	274	9 956	44	3 971	..	..
Asphalt filler	178	247	200	363	..	..
Dusting coal mines	2	145	1	51	..	..
Agricultural purposes and fertilizer plants	1 049	15 377	1 113	18 500	..	..
Other uses	897	58 632	1 064	82 428	..	..
Total crushed stone	128 903	786 848	136 554	872 196	..	..
Total all stone	129 410	849 368	137 130	949 493	..	..

Source: Natural Resources Canada.

— Nil; .. Not available; n.f. Not finished or dressed; (p) Preliminary.

(1) Data exclude stone used in the Canadian cement, lime and clay industries. (2) Data include stone used in the Canadian cement, lime and clay industries.

Note: Numbers may not add to totals due to rounding.

TABLE 3. CANADA, PRODUCTION OF LIMESTONE, 1999-2001

	1999		2000		2001 (p)	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
BY PROVINCE/TERRITORY (1)						
Newfoundland and Labrador	1 965	12 318	2 259	14 580	1 874	10 925
Nova Scotia	172	x	200	x	156	x
New Brunswick	601	x	652	x	481	x
Quebec	21 262	121 681	22 886	131 367	25 057	151 687
Ontario	48 164	287 460	55 355	333 780	55 678	350 106
Manitoba	3 823	15 614	3 548	15 136	2 967	13 967
Saskatchewan	—	—	x	x	x	x
Alberta	449	2 739	x	x	x	x
British Columbia	2 691	27 233	3 025	25 212	3 042	23 917
Northwest Territories	39	x	69	x	49	x
Total	79 165	475 758	88 941	534 596	90 241	563 971
BY USE (2)						
Stone (Dimension)						
Dimension stone						
Rough	84	6 852	81	7 214	..	..
Monumental and ornamental stone (n.f.)	34	512	45	811	..	..
Other (flagstone, curbstone, paving blocks, etc.)	67	4 708	69	6 679	..	..
Total dimension stone	185	12 072	195	14 704	..	..
Stone (Crushed)						
Crushed stone for						
Concrete aggregate	16 313	97 286	18 569	109 303	..	..
Asphalt aggregate	6 268	38 211	6 761	39 980	..	..
Road metal	23 980	129 970	29 433	157 038	..	..
Railroad ballast (includes traprock)	136	969	86	475	..	..
Other uses	25 338	130 307	27 281	148 938	..	..
Chemical and metallurgical						
Cement plants, Canada	13 336	47 054	13 943	41 244	..	..
Cement plants, foreign	467	1 655	482	2 014	..	..
Flux in iron and steel furnaces	1 295	10 476	680	6 279	..	..
Flux in nonferrous smelters	101	818	39	684	..	..
Glass factories	137	1 971	51	738	..	..
Lime plants, Canada	5 261	19 877	3 184	19 513	..	..
Lime plants, foreign	1 229	6 269	1 437	8 586	..	..
Pulp and paper mills	96	1 120	118	1 271	..	..
Sugar refineries	—	—	—	—	..	..
Other chemical uses	522	4 573	928	9 710	..	..
Miscellaneous stone						
Manufacture of artificial stone	—	—	—	—	..	..
Roofing granules	130	764	103	623	..	..
Poultry grit	175	1 679	172	1 351	..	..
Stucco dash	24	2 604	22	3 822	..	..
Rock wool	3	19	2	11	..	..
Rubble and riprap	533	2 184	725	2 341	..	..
Other uses	805	6 610	752	6 013	..	..
Pulverized stone						
Whiting	271	9 878	44	3 971	..	..
Asphalt filler	50	185	68	299	..	..
Dusting, coal mines	2	145	1	51	..	..
Agricultural purposes and fertilizer plants	972	13 162	1 046	16 152	..	..
Other uses	133	2 829	78	1 477	..	..
Total crushed stone	97 577	530 617	106 007	581 883	..	..
Total all stone	97 762	542 689	106 202	596 587	..	..

Source: Natural Resources Canada.

— Nil; .. Not available; n.f. Not finished or dressed; (p) Preliminary; x Confidential.

(1) Data exclude stone used in the Canadian cement and lime industries. (2) Data include stone used in the Canadian cement and lime industries.

Note: Numbers may not add to totals due to rounding.

TABLE 4. CANADA, PRODUCTION OF MARBLE, ⁽¹⁾ 1999-2001

	1999		2000		2001 (p)	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
BY PROVINCE						
Quebec	605	x	612	x	493	x
Ontario	683	x	757	x	714	x
British Columbia	–	–	1	x	–	–
Total	1 288	66 358	1 370	93 217	1 207	72 378
BY USE						
Stone (Dimension)						
Dimension stone						
Rough	15	543	19	1 071	..	..
Monumental and ornamental stone (n.f.)	–	–	1	104	..	..
Other (flagstone, curbstone, paving, blocks, etc.)	13	1 740	11	1 738	..	..
Total dimension stone	28	2 283	31	2 913	..	..
Stone (Crushed)						
Crushed stone for						
Concrete aggregate	164	1 826	202	2 134	..	..
Asphalt aggregate	23	137	3	18	..	..
Road metal	34	162	62	295	..	..
Other uses	141	1 391	124	3 112	..	..
Chemical process stone						
Flux in nonferrous smelters	–	–	4	131	..	..
Glass factories	27	768	–	–	..	..
Miscellaneous stone						
Manufacture of artificial stone	2	60	2	68	..	..
Roofing granules	28	756	30	804	..	..
Poultry grit	...	3	–	–	..	..
Stucco dash	1	23	1	100	..	..
Terrazzo chips	7	303	9	666	..	..
Rock wool	–	–	–	–	..	..
Rubble and riprap	–	–	–	–	..	..
Other uses	11	717	11	694	..	..
Pulverized stone						
Agricultural purposes and fertilizer plants	77	2 215	67	2 349	..	..
Other uses	746	55 715	802	79 742	..	..
Total crushed stone	1 260	64 075	1 317	90 113	..	..
Total all stone	1 288	66 358	1 348	93 026	..	..

Source: Natural Resources Canada.

– Nil; .. Not available; ... Amount too small to be expressed; n.f. Not finished or dressed; (p) Preliminary; x Confidential.

(1) Marble refers to a commercial definition that may also include limestone, travertine and greenstone (serpentinite or amphibole).

Note: Numbers may not add to totals due to rounding.

TABLE 5. CANADA, PRODUCTION OF GRANITE, 1999-2001

	1999		2000		2001 (p)	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
BY PROVINCE/TERRITORY						
Newfoundland and Labrador	326	4 516	1 053	8 753	1 103	10 511
Nova Scotia	6 506	38 796	6 736	40 356	6 808	41 000
New Brunswick	3 450	15 655	2 279	9 967	3 359	11 221
Quebec	5 560	55 314	5 486	57 404	5 357	52 965
Ontario	2 389	x	2 546	x	3 435	x
Manitoba	344	x	326	x	288	x
British Columbia	4 673	x	3 544	x	3 550	x
Northwest Territories	29	x	84	x	122	x
Total	23 276	191 334	22 054	204 794	24 024	205 107
BY USE						
Stone (Dimension)						
Dimension stone						
Rough	146	24 977	175	30 252	..	..
Monumental and ornamental stone (n.f.)	45	7 232	59	9 509	..	..
Other (flagstone, curbstone, paving blocks, etc.)	2	595	3	721	..	..
Total dimension stone	193	32 804	238	40 481	..	..
Stone (Crushed)						
Crushed stone for						
Concrete aggregate	3 813	21 159	2 818	18 245	..	..
Asphalt aggregate	4 334	27 670	4 310	29 692	..	..
Road metal	4 594	25 717	5 190	28 091	..	..
Railroad ballast (includes traprock)	1 553	13 883	1 510	13 582	..	..
Other uses	7 586	40 932	6 093	35 456	..	..
Chemical process stone						
Cements plants, Canada	-	-	30	210		
Miscellaneous stone						
Manufacture of artificial stone	1	60	-	-	..	..
Roofing granules	594	25 789	730	35 803	..	..
Poultry grit	1	93	1	75	..	..
Stucco dash	...	56	...	63	..	..
Rock wool	23	404	23	421	..	..
Rubble and riprap	299	1 798	288	1 533	..	..
Other uses	139	817	703	1 236	..	..
Pulverized stone						
Asphalt filler	128	62	132	64	..	..
Other uses	18	89	18	90	..	..
Total crushed stone	23 083	158 530	21 846	164 562	..	..
Total all stone	23 276	191 334	22 084	205 043	..	..

Source: Natural Resources Canada.

- Nil; .. Not available; ... Amount too small to be expressed; n.f. Not finished or dressed; (p) Preliminary; x Confidential.

Notes: Numbers may not add to totals due to rounding. Data include shipments by producers regardless of industrial classification. Granite may include other igneous rocks (e.g., basaltic roofing granules).

TABLE 6. CANADA, PRODUCTION OF SANDSTONE, 1999-2001

	1999		2000		2001 (p)	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
BY PROVINCE (1)						
Newfoundland and Labrador	794	3 349	1 035	4 036	726	2 959
Nova Scotia	1 179	6 338	1 418	7 732	1 428	7 903
New Brunswick	...	x	68	x	65	x
Quebec	2 171	15 606	2 351	18 860	1 384	13 384
Ontario	14	2 287	18	2 451	24	2 408
Manitoba	1	x	1	x	—	—
British Columbia	—	—	18	x	18	x
Total	4 160	27 591	4 910	34 150	3 646	27 078
BY USE (2)						
Stone (Dimension)						
Dimension stone						
Rough	47	5 880	58	8 535	..	..
Monumental and ornamental stone (n.f.)	8	196	6	174	..	..
Other (flagstone, curbstone, paving blocks, etc.)	10	695	7	532	..	..
Total dimension stone	65	6 771	72	9 241	..	..
Stone (Crushed)						
Crushed stone for						
Concrete aggregate	428	2 028	241	1 391	..	..
Asphalt aggregate	471	3 590	425	3 043	..	..
Road metal	1 441	6 614	1 486	6 647	..	..
Railroad ballast (includes traprock)	141	585	85	318	..	..
Other uses	1 298	6 414	2 073	10 717	..	..
Chemical process stone						
Cement plants, Canada	217	1 251	141	816	..	..
Cement plants, foreign	—	—	18	98	..	..
Flux in nonferrous smelters	—	—	56	704	..	..
Other chemical uses	145	880	—	—	..	..
Miscellaneous stone						
Manufacture of artificial stone	—	—	—	—	..	..
Roofing granules	—	—	10	118	..	..
Rubble and riprap	110	432	242	600	..	..
Other uses	58	200	36	154	..	..
Pulverized stone						
Whiting	3	78	—	—	..	..
Other uses	—	—	165	1 119	..	..
Total crushed stone	4 312	22 071	4 979	25 725	..	..
Total all stone	4 377	28 842	5 051	34 965	..	..

Source: Natural Resources Canada.

— Nil; .. Not available; ... Amount too small to be expressed; n.f. Not finished or dressed; (p) Preliminary; x Confidential.

(1) Data exclude stone used in the Canadian cement industry. (2) Data include stone used in the Canadian cement industry.

Note: Numbers may not add to totals due to rounding.

TABLE 7. CANADA, PRODUCTION OF SHALE,⁽¹⁾ 1999-2001

	1999		2000		2001 (p)	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
BY PROVINCE/TERRITORY (2)						
Newfoundland and Labrador	6	24	158	490	91	3 281
Nova Scotia	24	x	24	x	20	x
New Brunswick	336	x	295	x	97	x
Quebec	671	x	214	x	217	x
Ontario	7	896	28	1 279	9	937
Manitoba	147	99	132	79	168	112
Alberta	16	x	15	x	16	x
British Columbia	76	464	48	313	53	410
Northwest Territories	10	x	33	x	16	x
Total	1 294	14 457	948	14 504	687	15 548
BY USE (3)						
Stone (Dimension)						
Dimension stone						
Rough	23	2 780	26	3 317	..	..
Other (flagstone, curbstone, paving blocks, etc.)	11	5 812	15	6 641	..	..
Total dimension stone	34	8 592	41	9 958	..	..
Stone (Crushed)						
Crushed stone for						
Concrete aggregate	-	-	-	-	..	..
Asphalt aggregate	-	-	10	20	..	..
Road metal	614	2 577	308	836	..	..
Other uses	510	2 863	490	3 381	..	..
Chemical process stone						
Cement plants, Canada	529	1 781	662	2 301	..	..
Cement plants, foreign	59	264	38	160	..	..
Other chemical uses	883	3 907	835	3 067	..	..
Miscellaneous stone						
Rubble and riprap	-	-	1	1	..	..
Other uses	77	162	60	148	..	..
Total crushed stone	2 673	11 552	2 404	9 914	..	..
Total all stone	2 707	20 144	2 445	19 872	..	..

Source: Natural Resources Canada.

- Nil; .. Not available; (p) Preliminary; x Confidential.

(1) May include slate. (2) Data exclude stone used in the Canadian cement and clay industries. (3) Data include stone used in the Canadian cement and clay industries.

Note: Numbers may not add to totals due to rounding.

TABLE 8. CANADA, PRODUCTION OF STONE BY TYPE,⁽¹⁾ 1985, 1990 AND 1999-2001

	1985		1990		1999		2000		2001 (p)	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
Granite	17 219	95 424	19 524	147 048	23 276	191 334	22 054	204 794	24 024	205 107
Limestone	77 874	317 862	86 519	470 649	79 165	475 758	88 941	534 596	90 241	563 971
Marble	571	13 966	771	19 555	1 288	66 358	1 370	93 217	1 207	72 378
Sandstone	3 011	15 310	2 975	20 534	4 160	27 591	4 910	34 150	3 646	27 078
Shale (2)	1 561	3 059	1 566	5 169	1 294	14 457	948	14 504	687	15 548
Total	100 236	445 622	111 355	663 254	109 184	775 499	118 222	881 260	119 805	884 081

Source: Natural Resources Canada.

(p) Preliminary.

(1) Data exclude stone used in the Canadian cement, lime and clay industries. (2) May include slate.

Note: Numbers may not add to totals due to rounding.

TABLE 9. CANADA, ROUGH GRANITE, SUMMARY OF PRODUCTION AND TRADE, 1985-2001

	Quantity		Production (1)	Imports (2)	Exports (2)
	Value				
1985	t		104 000	34 468	(a) 12 511
	\$ millions		12.8	6.2	1.7
1986	t		121 000	33 994	(a) 18 450
	\$ millions		15.7	6.6	2.7
1987	t		112 000	46 370	(a) 37 450
	\$ millions		16.1	7.9	6.0
1988	t		153 000	46 282	86 940
	\$ millions		24.4	11.2	(r) 16.2
1989	t		162 000	52 337	107 105
	\$ millions		24.8	11.7	17.3
1990	t		166 000	46 149	(r) 79 640
	\$ millions		33.6	11.2	(r) 19.8
1991	t		122 000	35 038	(r) 91 630
	\$ millions		24.0	8.5	22.6
1992	t		127 000	44 951	(r) 94 530
	\$ millions		20.3	10.5	21.4
1993	t		134 000	41 484	(r) 88 830
	\$ millions		18.1	10.8	20.3
1994	t		112 000	35 619	(r) 95 000
	\$ millions		16.9	10.1	20.0
1995	t		158 000	41 099	(r) 94 200
	\$ millions		19.6	11.4	17.9
1996	t		163 000	53 543	(r) 97 700
	\$ millions		24.6	15.4	20.9
1997	t		161 000	54 639	(r) 80 194
	\$ millions		24.5	16.0	16.4
1998	t		163 000	75 186	(r) 69 937
	\$ millions		27.3	23.0	15.1
1999	t		193 000	68 770	(r) 73 687
	\$ millions		32.8	23.2	16.5
2000	t		238 000	65 979	(r) 95 680
	\$ millions		40.5	21.8	19.4
2001	t		(e) 250 000	85 467	(r) 110 715
	\$ millions		42.0	27.9	20.0

Sources: Natural Resources Canada; Statistics Canada.

(e) Estimated; (r) Assumes a factor of 2.7 for converting cubic metres to tonnes.

(a) Coded as building stone, rough (90% is considered to be granite).

(1) Includes rough stone for construction, monumental/ornamental and other uses.

(2) Includes codes 2516.11 (roughly trimmed block) and 2516.12 (cut block by sawing or otherwise). Some re-exports to the United States may also be involved.