

Stone

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The volume of all types of stone shipped in Canada in 1998 was approximately 96 Mt based on preliminary figures. This amount is about 3% lower than in 1997. The reported value of total shipments in 1998 was about \$646 million, marginally higher than 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.

Shipments of limestone for producing cement and lime are reported separately in chapters on *Cement* and *Lime*. Also, additional detailed information on regular aggregates, including crushed stone and sand and gravel, as well as lightweight aggregates, including expanded shales/clays, perlite, vermiculite and pumice, is included in a separate chapter entitled *Mineral Aggregates*.

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 is used for recrystallized calcareous rock capable of taking a polish.

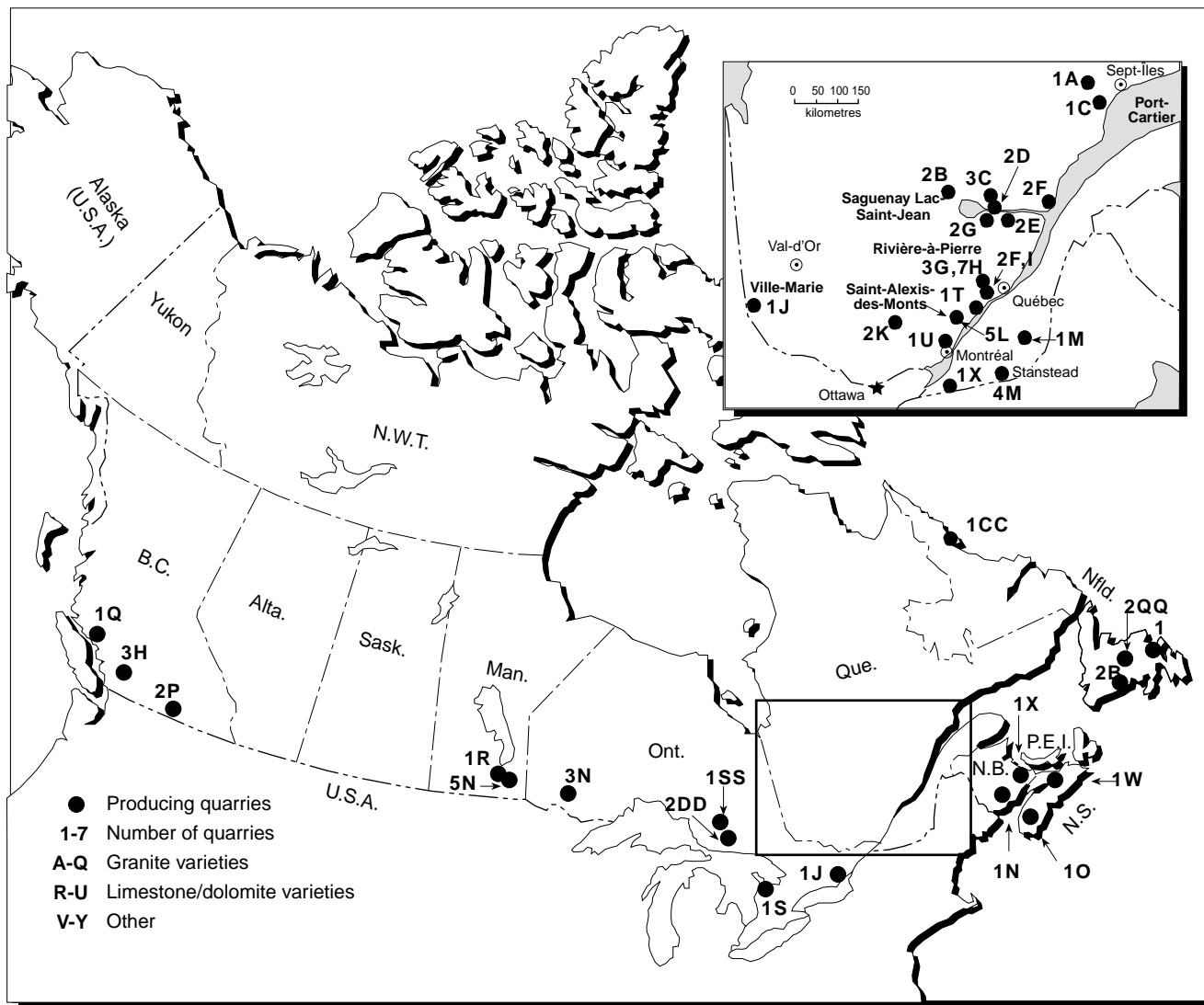
The value of exports of rough granite declined to \$14.7 million in 1998 (Table 1), a 30% decrease since

1996. However, exports of value-added worked granite for building and monumental needs, mainly to the United States, increased to nearly \$50 million, representing nearly a twofold increase since 1996. Plant modernizations by several stone producers across Canada have increased the availability of high-quality finished products at competitive prices. The value of output of all worked construction- and monument-related granite (f.o.b. manufacturing plant) serving both domestic and international markets is expected to be maintained at about \$120 million annually.

It is expected that growth in the use of dimension stone in Canada will continue in 1999/2000, mainly based on the positive outlook for all construction, including new expenditures for office buildings. Growth in exports of worked granite and other stone products is expected based on the continued expansion of U.S. markets. Shipments and exports of rough granite are also expected to increase as economies improve in Southeast Asia. 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.

Notes: (1) For definitions and valuation of mineral production, shipments and trade, please refer to Chapter 65. (2) Information in this review was current as of February 1, 1999.

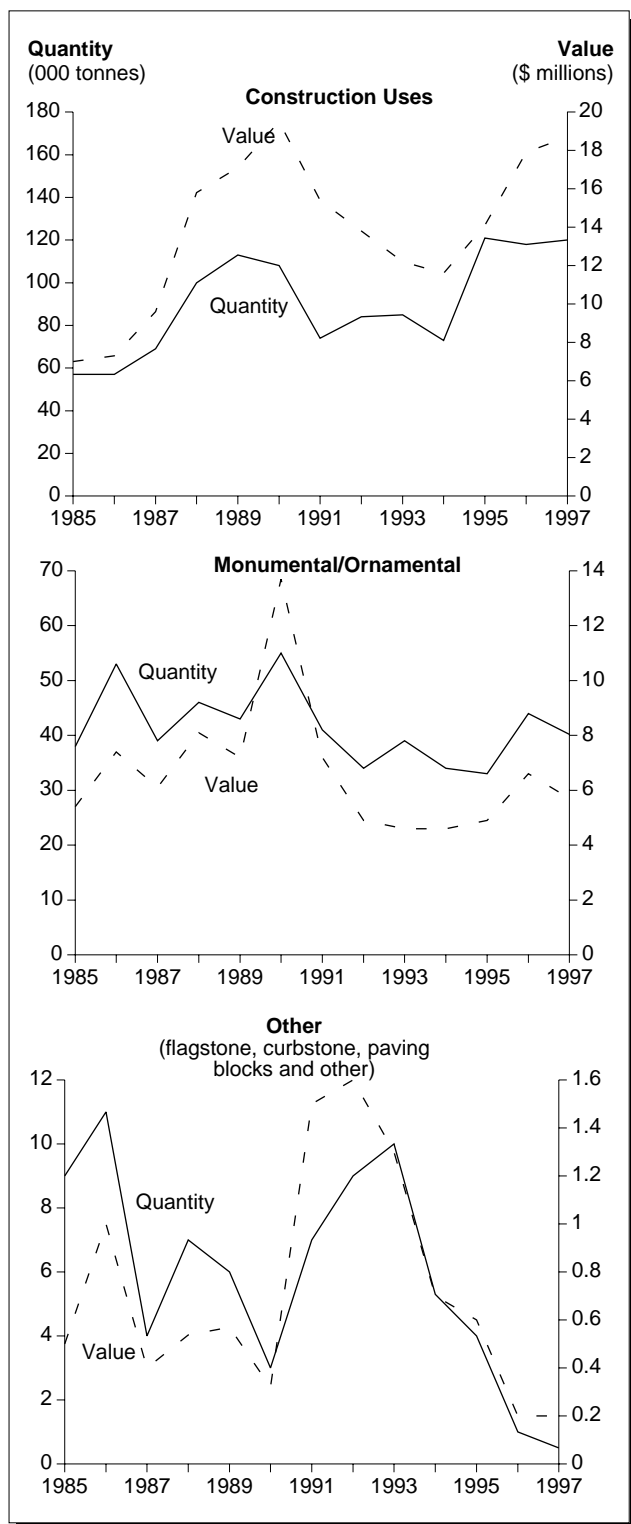
Figure 1
Canada, Architectural and Monumental/Ornamental Stone-Producing Centres, 1997



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

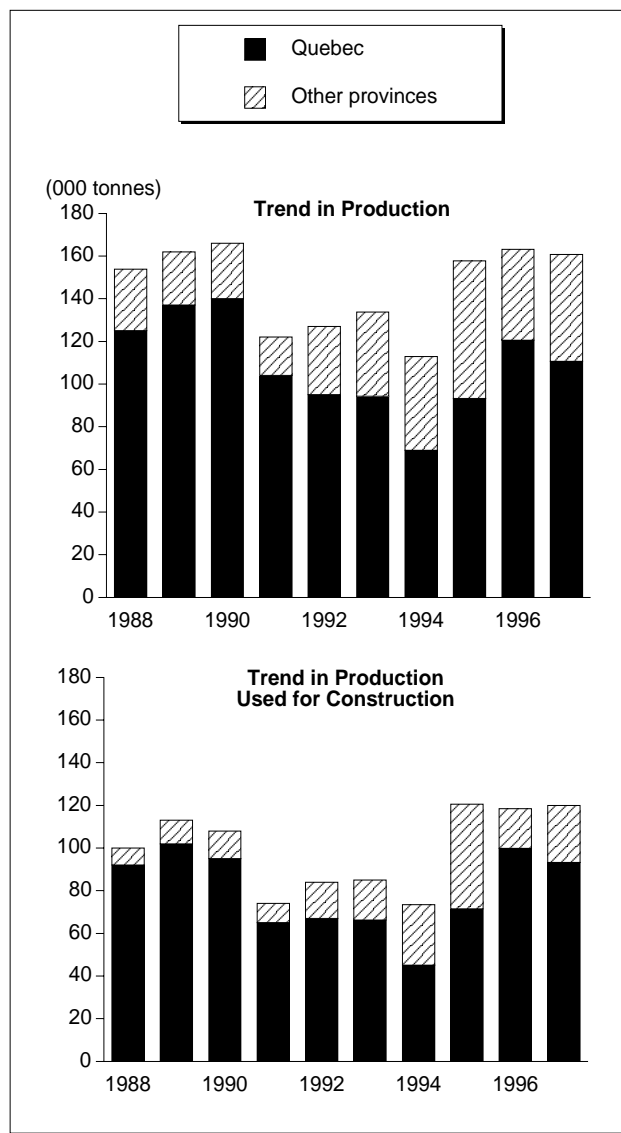
Source: Mainly provincial departments of Mines and Energy.

Figure 2
Canada, Production of Rough Granite
(Sold and Used by Producers), 1985-97



Sources: Natural Resources Canada; Statistics Canada.

Figure 3
Canada, Trends in Production of Rough Granite,
1988-97



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	3.5%	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
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

TARIFFS (cont'd)

Item No.	Description	Canada			United States
		MFN	GPT	USA	Canada
2517.41.00	Granules, chippings and powder, of stones of heading nos. 25.15 or 25.16, whether or not heat-treated:				
	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
6801.00.00	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 which 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 billiard 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 materials				
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 1999, Revenue Canada; Harmonized Tariff Schedule of the United States, 1999.

TABLE 1. CANADA, STONE EXPORTS AND IMPORTS, 1996-98

Item No.		1996		1997		1998P	
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
EXPORTS							
2514.00	Slate, whether or not roughly trimmed or merely cut, etc.	145	143	145	236	173	209
2515.11	Marble and travertine, crude or roughly trimmed	635	332	125	59	474	377
2515.12	Marble and travertine, merely cut, by sawing or otherwise, into blocks, etc.	51	34	77	55	1 029	554
		(cubic metres)		(cubic metres)		(cubic metres)	
2516.11	Granite, crude or roughly trimmed	36 397	19 627	40 714	14 794	23 755	12 910
		(tonnes)		(tonnes)		(tonnes)	
2516.12	Granite, merely cut, by sawing or otherwise, into blocks, etc.	3 765	1 321	6 214	1 600	5 323	1 830
		(cubic metres)		(cubic metres)		(cubic metres)	
2516.21	Sandstone, crude or roughly trimmed	10	3	957	145	4	20
		(tonnes)		(tonnes)		(tonnes)	
2516.22	Sandstone, merely cut, by sawing or otherwise, into blocks, etc.	27	40	150	54	208	214
2516.90	Monumental or building stone, n.e.s.	7 442	1 370	8 556	1 760	8 349	2 140
2517.10	Pebbles, gravel, broken or crushed stone used for aggregates, etc.	2 745 623	20 079	3 229 012	25 716	3 194 913	29 310
2517.41	Marble granules, chipping and powder of 25.15 or 25.16, heat-treated or not	31 778	3 556	135 366	18 275	244 573	27 275
2517.49	Granules, chippings and powder, n.e.s. of 25.15 or 25.16, heat-treated or not	113 179	697	1 465	138	1 732	206
6801.00	Setts, curbstones and flagstones of natural stone (except slate)	..	289	..	446	..	686
6802.10	Tiles, etc., rectangular or square not more than 7 cm, etc., artificially coloured granules, chippings and powder	..	1 749	..	1 705	..	3 667
6802.21	Monumental or building stone, cut or sawn, flat or even, marble, travertine and alabaster	..	17	..	134	..	383
6802.22	Monumental or building stone, cut or sawn, flat or even, other calcareous stone	..	318	..	129	..	191
6802.23	Monumental or building stone, cut or sawn, flat or even, granite	..	2 373	..	2 684	..	3 446
6802.29	Monumental or building stone, cut or sawn, flat or even, n.e.s.	..	359	..	758	..	1 204
6802.91	Worked monumental or building stone, n.e.s., marble, travertine or alabaster	..	1 411	..	1 615	..	1 437
6802.92	Worked monumental or building stone, n.e.s., calcareous stone, n.e.s.	..	305	..	860	..	2 078
6802.93.10	Worked building stone of granite	..	3 977	..	15 376	..	16 257
6802.93.90	Worked monumental or building stone, n.e.s., granite	..	23 100	..	30 578	..	33 187
6802.99	Worked monumental or building stone, n.e.s.	..	11 345	..	15 040	..	23 844
6803.00	Worked slate and articles of slate or agglomerated slate	..	4 341	..	4 755	..	4 720
6804.10	Millstones and grindstones for milling, grinding or pulping	..	5 939	..	4 969	..	5 027
6804.23	Millstones, grindstones, etc., of natural stone	..	1 366	..	3 271	..	2 159

TABLE 1 (cont'd)

Item No.		1996		1997		1998P	
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
IMPORTS							
2514.00	Slate, whether or not roughly trimmed or merely cut, etc.	3 849	839	3 539	1 258	3 074	1 317
2515.11	Marble and travertine, crude or roughly trimmed	2 465	606	1 572	640	1 461	760
2515.12	Marble and travertine, merely cut, by sawing or otherwise, into blocks, etc.						
2516.11	Granite, crude or roughly trimmed	46 627	12 889	50 318	14 489	70 554	20 080
2516.12	Granite, merely cut, by sawing or otherwise, into blocks, etc.	6 868	2 429	4 321	1 546	4 632	2 924
2516.21	Sandstone, crude or roughly trimmed	6 414	946	5 021	700	3 484	442
2516.22	Sandstone, merely cut, by sawing or otherwise, into blocks, etc.	5 125	1 180	4 953	1 367	5 397	1 634
2516.90	Monumental or building stone, n.e.s.	9 034	1 608	5 592	1 342	5 918	1 832
2517.10	Pebbles, gravel, broken or crushed stone used for aggregates, etc.	3 325 867	16 616	3 293 202	17 386	3 240 164	18 985
2517.41	Marble granules, chipping and powder of 25.15 or 25.16, heat-treated or not	68 470	9 729	79 104	12 715	104 178	17 170
2517.49	Granules, chippings and powder, n.e.s. of 25.15 or 25.16, heat-treated or not	215 304	2 952	77 997	1 986	40 576	1 744
6801.00	Setts, curbstones and flagstones of natural stone (except slate)	..	472	..	692	..	631
6802.10	Tiles, etc., rectangular or square not more than 7 cm, etc., artificially coloured granules, chippings and powder	..	319	..	275	..	587
6802.21	Monumental or building stone, cut or sawn, flat or even, marble, travertine and alabaster	..	6 323	..	7 675	..	9 390
6802.22	Monumental or building stone, cut or sawn, flat or even, other calcareous stone	..	354	..	238	..	176
6802.23.10	Granite, cut or sawn flat or even, bulding stone	1 877	2 011	2 200	2 948	2 901	4 109
6802.23.20	Granite, cut or sawn flat or even, monumental	347	526	451	554	652	577
6802.23.90	Granite, cut or sawn flat or even, granite other	5 388	6 160	4 527	6 193	6 065	9 321
6802.29	Monumental or building stone, cut or sawn, flat or even, n.e.s.	..	312	..	497	..	786
6802.91	Worked monumental or building stone, n.e.s., marble, travertine or alabaster	..	14 320	..	16 137	..	19 374
6802.92	Worked monumental or building stone, n.e.s., calcareous stone, n.e.s.	..	602	..	1 398	..	1 551
6802.93.10	Worked building stone of granite	1 718	2 520	1 406	2 150	1 876	3 458
6802.93.20	Worked monumental stone of granite, monuments, bases and markets finished	971	1 110	993	1 219	1 925	2 725
6802.93.90	Worked monumental or building stone, n.e.s., granite	4 940	7 299	4 311	6 538	4 530	8 181
6802.99	Worked monumental or building stone, n.e.s.	..	1 519	..	2 792	..	2 460
6803.00	Worked slate and articles of slate or agglomerated slate	..	4 764	..	7 442	..	7 794
6804.10	Millstones and grindstones for milling, grinding or pulping	..	1 976	..	1 859	..	2 449
6804.23	Millstones, grindstones, etc., of natural stone	..	1 574	..	859	..	1 003

Source: Statistics Canada.

.. Not available or not applicable; n.e.s. Not elsewhere specified; P Preliminary.

TABLE 2. CANADA, TOTAL PRODUCTION OF STONE, 1996-98

	1996		1997		1998P	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
BY PROVINCE¹						
Newfoundland	1 652 ^r	15 442 ^r	2 336	20 974	2 056	17 361
Nova Scotia	6 260	35 726	7 764	45 523	5 768	34 556
New Brunswick	4 691	23 539	3 934	20 293	3 175	19 256
Quebec	30 008 ^r	188 855 ^r	29 043	187 544	28 609	192 871
Ontario	39 620	267 710	44 839	299 792	45 304	307 677
Manitoba	3 298	14 422	4 249	18 718	4 181	19 983
Alberta	549	6 174	591	6 698	537	6 274
British Columbia	6 050	39 483	6 266	43 497	6 125	47 086
Northwest Territories and Yukon	203	1 195	243	1 123	244	1 132
Total	92 331^r	592 547^r	99 265	644 162	95 998	646 198
BY USE²						
Dimensional stone						
Rough	232	28 853	285	30 799	..	..
Monumental and ornamental stone (n.f.)	53	7 111	54	6 356	..	..
Other (flagstone, curbstone, paving blocks, etc.)	39	3 327	54	6 186	..	..
Lining open-hearth furnaces	-	-	-	-	..	..
Chemical and metallurgical						
Cement plants, Canada	14 390	44 589	14 731	45 065	..	..
Cement plants, foreign	1 725	7 477	1 747	8 234	..	..
Flux in iron and steel furnaces	297	2 178	332	2 154	..	..
Flux in nonferrous smelters	164	915	158	1 046	..	..
Glass factories	146	2 700	181	2 850	..	..
Lime plants, Canada	4 828	27 045	4 285	26 276	..	..
Lime plants, foreign	115	700	447	2 503	..	..
Pulp and paper mills	134	1 558	117	1 216	..	..
Sugar refineries	16	68	-	1	..	..
Other chemical uses	1 570	9 638	1 902	11 854	..	..
Pulverized stone						
Whiting	40	2 879	44	3 250	..	..
Asphalt filler	139	198	164	226	..	..
Dusting coal mines	4	233	4	286	..	..
Agricultural purposes and fertilizer plants	946	15 545	1 078	15 617	..	..
Other uses	847	26 949	875	32 838	..	..
Miscellaneous stone						
Manufacture of artificial stone	465	2 182	8	291	..	..
Roofing granules	487	22 609	450	21 290	..	..
Poultry grit	133	1 595	167	1 848	..	..
Stucco dash	19	3 201	20	2 355	..	..
Terrazzo chips	4	365	4	179	..	..
Rock wool	4	29	34	571	..	..
Rubble and riprap	1 163	6 057	693	3 032	..	..
Other uses	1 416	11 443	1 869	16 489	..	..
Crushed stone for						
Concrete aggregate	9 803	56 521	12 631	72 511	..	..
Asphalt aggregate	10 681	60 754	12 559	75 803	..	..
Road metal	36 480	189 602	35 137	180 657	..	..
Railroad ballast (includes traprock)	1 393	11 090	1 563	13 783	..	..
Other uses	24 675	119 843	27 674	133 230	..	..
Total	112 409	667 254	119 267	718 792	..	..

Sources: Natural Resources Canada; Statistics Canada.
 - Nil; . . Not available; n.f. Not finished or dressed; P Preliminary.

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 3. CANADA, PRODUCTION OF LIMESTONE, 1996-98

	1996		1997		1998p	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
BY PROVINCE¹						
Newfoundland	1 066	6 950	1 660	12 542	1 813	13 204
Nova Scotia	189	3 707	253	4 797	186	3 412
New Brunswick	490	6 568	467	6 830	518	7 980
Quebec	20 997	112 106	20 633	111 452	19 939	111 066
Ontario	37 805	213 842	42 515	240 206	42 587	245 747
Manitoba	2 846	11 315	3 867	15 487	3 520	13 984
Alberta	503	5 429	535	5 631	492	5 231
British Columbia	2 960	21 094	2 843	21 854	2 561	24 211
Northwest Territories and Yukon	18	50	109	523	109	526
Total	66 875	381 059	72 882	419 322	71 726	425 359
BY USE²						
Dimensional stone						
Rough	50	2 371	87	3 766	..	..
Monumental and ornamental stone (n.f.)	7	521	13	577	..	..
Other (flagstone, curbstone, paving blocks, etc.)	28	2 567	37	3 008	..	..
Lining, open-hearth furnaces	-	-	-	-	..	..
Chemical and metallurgical						
Cement plants, Canada	14 127	43 856	14 417	44 219	..	..
Cement plants, foreign	1 725	7 477	1 747	8 234	..	..
Flux in iron and steel furnaces	297	2 178	332	2 154	..	..
Flux in nonferrous smelters	164	915	158	1 046	..	..
Glass factories	146	2 700	181	2 850	..	..
Lime plants, Canada	4 828	27 045	4 285	26 276	..	..
Lime plants, foreign	115	700	447	2 503	..	..
Pulp and paper mills	134	1 558	117	1 216	..	..
Sugar refineries	16	68	..	1	..	..
Other chemical uses	711	6 564	915	8 564	..	..
Pulverized stone						
Whiting	40	2 879	44	3 250	..	..
Asphalt filler	36	140	54	164	..	..
Dusting, coal mines	4	233	4	286	..	..
Agricultural purposes and fertilizer plants	942	15 463	1 071	15 475	..	..
Other uses	162	3 847	162	4 051	..	..
Miscellaneous stone						
Manufacture of artificial stone	461	2 095	-	-	..	..
Roofing granules	117	898	124	987	..	..
Poultry grit	132	1 488	166	1 754	..	..
Stucco dash	18	3 158	20	2 301	..	..
Rock wool	4	29	5	42	..	..
Rubble and riprap	601	3 898	287	1 469	..	..
Other uses	1 196	10 316	1 579	15 117	..	..
Crushed stone for						
Concrete aggregate	7 552	42 657	9 442	52 803	..	..
Asphalt aggregate	5 845	30 027	7 466	44 003	..	..
Road metal	28 554	150 707	29 039	150 024	..	..
Railroad ballast	133	745	205	1 573	..	..
Other uses	17 687	84 860	19 180	92 106	..	..
Total	85 830	451 959	91 583	489 817	..	..

Sources: Natural Resources Canada; Statistics Canada.

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

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 1996-98

	1996		1997		1998 ^p	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
BY PROVINCE						
Quebec	502	9 844	477	10 860	570	12 948
Ontario	416	17 909	458	22 229	553	19 153
British Columbia	—	—	7	132	—	—
Total	918	27 753	941	33 222	1 123	32 101
BY USE						
Dimensional stone						
Rough	14	1 003	23	1 013	..	..
Monumental and ornamental stone (n.f.)	—	—	—	—	..	..
Other (flagstone, curbstone, paving, blocks, etc.)	—	—	—	—	..	..
Chemical process stone						
Glass factories	—	—	—	—	..	..
Pulverized stone						
Agricultural purposes and fertilizer plants	4	82	8	143	..	..
Other uses	499	21 958	535	27 723	..	..
Miscellaneous stone						
Artificial stone	—	—	2	44	..	..
Roofing granules	—	—	—	—	..	..
Poultry grit	...	5	...	3	..	..
Stucco dash	—	—	1	31	..	..
Terrazzo chips	4	365	4	179	..	..
Rock wool	—	—	1	14	..	..
Rubble and riprap	...	9	—	—	..	..
Other uses	13	642	23	769	..	..
Crushed stone for						
Concrete aggregate	140	1 603	150	1 697	..	..
Asphalt aggregate	51	307	20	114	..	..
Road metal	47	285	29	188	..	..
Other uses	145	1 495	145	1 305	..	..
Total	918	27 753	941	33 222	..	..

Sources: Natural Resources Canada; Statistics Canada.

— Nil; .. Not available; ... Amount too small to be expressed; n.f. Not finished or dressed; ^p Preliminary.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, 1996-98

	1996		1997		1998p	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
BY PROVINCE						
Newfoundland	487	4 975	222	4 433	53	3 406
Nova Scotia	4 963	25 866	6 152	33 473	4 355	23 667
New Brunswick	4 137	16 623	3 424	13 324	2 596	10 947
Quebec	6 283	52 534	5 982	49 988	6 384	53 873
Ontario	1 390	34 565	1 855	35 987	2 151	41 080
Manitoba	287	2 993	202	3 106	519	5 918
British Columbia	3 080	18 286	3 397	21 338	3 544	22 702
Northwest Territories and Yukon	156	1 083	79	526	79	531
Total	20 782	156 925	21 314	162 174	19 681	162 123
BY USE						
Dimensional stone						
Rough	118	17 880	120	18 687	..	..
Monumental and ornamental stone (n.f.)	44	6 559	40	5 689	..	..
Other (flagstone, curbstone, paving blocks, etc.)	1	170	1	138	..	..
Chemical and metallurgical						
Cement plants, Canadian	-	-	-	-	..	..
Pulverized stone						
Asphalt filler	103	58	111	62	..	..
Agricultural purposes and fertilizer plants	-	-	-	-	..	..
Other	46	230	15	86	..	..
Miscellaneous stone						
Artificial stone	-	-	3	184	..	..
Roofing granules	370	21 711	326	20 303	..	..
Poultry grit	1	102	1	91	..	..
Stucco dash	1	43	..	23	..	..
Terrazzo chips	-	-	-	-	..	..
Rock wool	-	-	27	516	..	..
Rubble and riprap	490	1 946	205	1 163	..	..
Other uses	32	322	25	212	..	..
Crushed stone for						
Concrete aggregate	1 944	11 402	2 842	16 945	..	..
Asphalt aggregate	4 182	26 802	4 735	29 693	..	..
Road metal	7 005	33 858	4 893	24 587	..	..
Railroad ballast (includes traprock)	1 215	10 169	1 315	12 055	..	..
Other uses	5 231	25 672	6 655	31 742	..	..
Total	20 782	156 925	21 314	162 174	..	..

Sources: Natural Resources Canada; Statistics Canada.

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

Notes: Numbers may not add to totals due to rounding. Data include shipments by producers regardless of industrial classification. Granite includes all igneous rock.

TABLE 6. CANADA, PRODUCTION OF SANDSTONE, 1996-98

	1996		1997		1998P	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
BY PROVINCE¹						
Newfoundland	96	517	319	1 239	188	742
Nova Scotia	1 092	6 061	1 335	7 174	1 201	7 359
New Brunswick	..	29	—	—	—	—
Quebec	1 776	12 055	1 516	10 523	1 506	10 886
Ontario	8	1 395	11	1 369	13	1 698
Manitoba	—	—	1	2	1	1
Alberta	5	677	8	987	8	981
Total	2 978	20 734	3 190	21 293	2 917	21 668
BY USE²						
Dimensional stone						
Rough	46	4 599	53	4 915	..	..
Monumental and ornamental stone (n.f.)	3	30	1	91	..	..
Other (flagstone, curbstone, paving blocks, etc.)	10	591	9	407	..	..
Chemical process stone						
Cement plants, Canadian	18	84	39	166	..	..
Pulverized stone						
Other	141	914	163	978	..	..
Miscellaneous stone						
Artificial stone	4	87	3	63	..	..
Roofing granules	—	—	..	..	..	..
Rubble and riprap	41	128	133	291	..	..
Other	10	49	52	186	..	..
Crushed stone for						
Concrete aggregate	164	838	197	1 067	..	..
Asphalt aggregate	511	3 202	245	1 613	..	..
Road metal	679	3 653	968	4 836	..	..
Railroad ballast	45	177	42	155	..	..
Other uses	1 323	6 468	1 323	6 691	..	..
Total	2 996	20 819	3 228	21 459	..	..

Sources: Natural Resources Canada; Statistics Canada.

— Nil; .. Not available; . . . Amount too small to be expressed; n.f. Not finished or dressed; P Preliminary.

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 1996-98

	1996		1997		1998 ^p	
	(000 t)	(\$000)	(000 t)	(\$000)	(000 t)	(\$000)
BY PROVINCE²						
Newfoundland	3	3 000	135	2 760	2	11
Nova Scotia	16	93	23	78	26	118
New Brunswick	64	320	42	140	60	330
Quebec	449	2 316	435	4 720	210	4 098
Manitoba	165	114	180	123	142	80
Alberta	41	69	48	81	37	63
British Columbia	11	103	19	174	19	174
Northwest Territories and Yukon	28	62	55	75	55	75
Total	778	6 076	938	8 151	552	4 948
BY USE³						
Dimensional stone						
Rough	3	3 000	2	2 418	..	..
Other (flagstone, curbstone, paving blocks, etc.)	—	—	7	2 632	..	..
Chemical and metallurgical						
Cement plants, Canadian	245	649	275	680	..	..
Other chemical uses	859	3 074	987	3 289	..	..
Miscellaneous stone						
Roofing granules	—	—	—	—	..	..
Rubble and riprap	31	76	68	108	..	..
Other uses	165	114	191	205	..	..
Crushed stone for						
Concrete aggregate	3	21	—	—	..	..
Asphalt aggregate	93	417	92	380	..	..
Road metal	194	1 099	208	1 022	..	..
Railway ballast	—	—	—	—	..	..
Other uses	289	1 349	370	1 385	..	..
Total	1 882	9 798	2 200	12 119	..	..

Sources: Natural Resources Canada; Statistics Canada.

— Nil; . . Not available; ^p Preliminary.¹ May include slate. ² Data exclude stone used in the Canadian cement industry. ³ Data include stone used in the Canadian cement industry.

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

TABLE 8. CANADA, PRODUCTION OF STONE BY TYPES,¹ 1985, 1990 AND 1996-98

	1985		1990		1996		1997		1998 ^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	20 782	156 925	21 314	162 174	19 681	162 123
Limestone	77 874	317 862	86 519	470 649	66 875 ^r	381 059 ^r	72 882	419 322	71 726	425 359
Marble	571	13 966	771	19 555	918	27 753	941	33 222	1 123	32 101
Sandstone	3 011	15 310	2 975	20 534	2 978	20 734	3 190	21 293	2 917	21 668
Shale ²	1 561	3 059	1 566	5 169	778	6 076	938	8 151	552	4 948
Total	100 236	445 622	111 355	663 254	92 331 ^r	592 547 ^r	99 265	644 162	95 998	646 198

Sources: Natural Resources Canada; Statistics Canada.

^p Preliminary.¹ Data exclude stone used in the Canadian cement and lime 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, 1980 AND 1985-98

	Quantity Value	Production ¹	Imports ²	Exports ²
1980	t	81 000	24 130	5 019 ^a
	\$ millions	5.6	1.9	0.7
1985	t	104 000	34 468	12 511 ^a
	\$ millions	12.8	6.2	1.7
1986	t	121 000	33 994	18 450 ^a
	\$ millions	15.7	6.6	2.7
1987	t	112 000	46 370	37 450 ^a
	\$ millions	16.1	7.9	6.0
1988	t	153 000	46 282	86 940
	\$ millions	24.4	11.2	16.2 ^r
1989	t	162 000	52 337	107 105
	\$ millions	24.8	11.7	17.3
1990	t	166 000	46 149	79 640 ^r
	\$ millions	33.6	11.2	19.8 ^r
1991	t	122 000	35 038	91 630 ^r
	\$ millions	24.0	8.5	22.6
1992	t	127 000	44 951	94 530 ^r
	\$ millions	20.3	10.5	21.4
1993	t	134 000	41 484	88 830 ^r
	\$ millions	18.1	10.8	20.3
1994	t	112 000	35 619	95 000 ^r
	\$ millions	16.9	10.1	20.0
1995	t	158 000	41 099	94 200 ^r
	\$ millions	19.6	11.4	17.9
1996	t	163 000	53 543	97 700 ^r
	\$ millions	24.6	15.4	20.9
1997	t	161 000	54 639	80 194 ^r
	\$ millions	24.5	16.0	16.4
1998	t	145 000 ^e	75 186	69 462
	\$ millions	22.1	23.0	14.7

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.