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2005 Minerals Yearbook

MAINE

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U.S. Geological Survey

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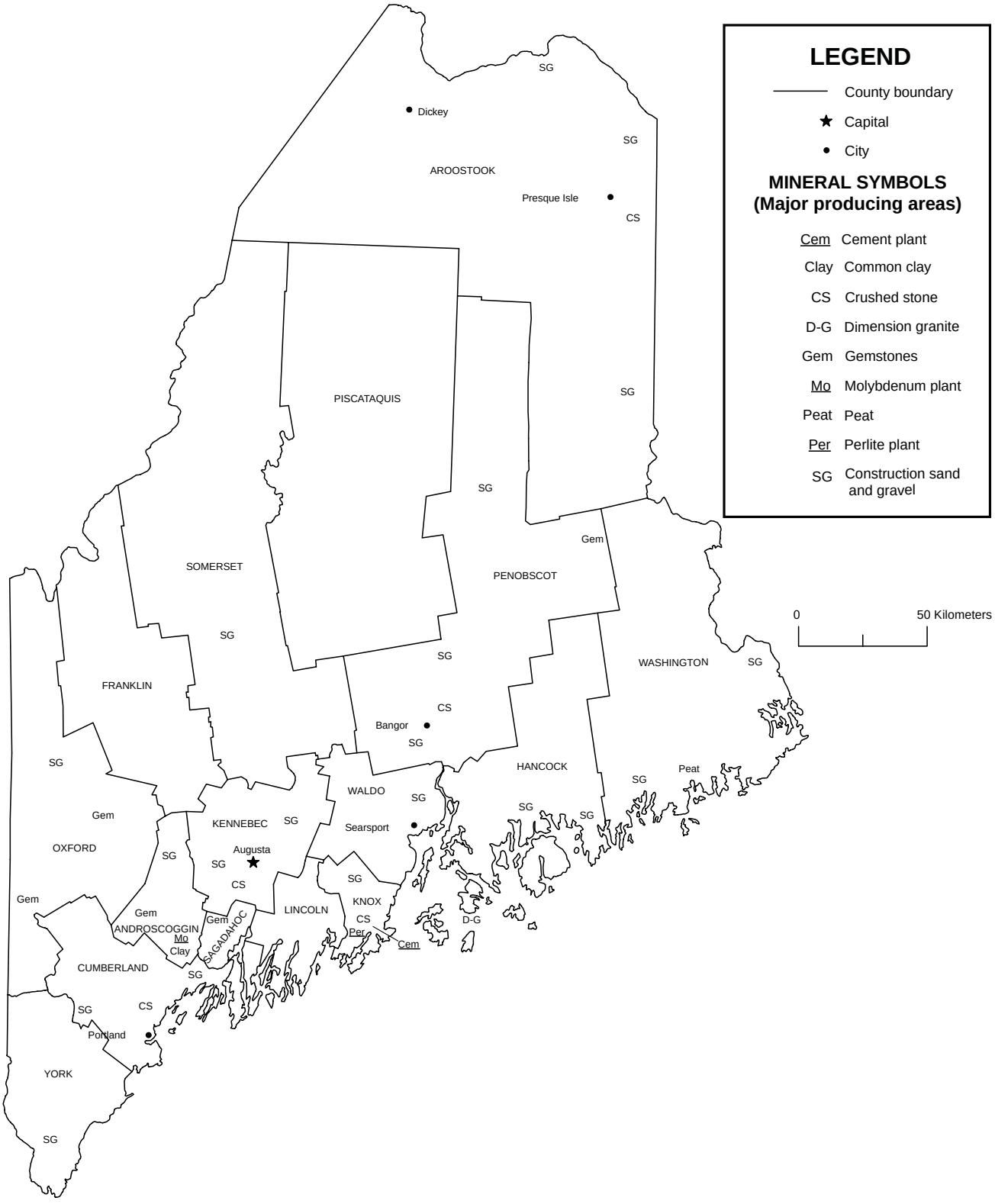
MAINE



Source: Maine Geological Survey/U.S. Geological Survey (2005)

The Mineral Industry of Maine

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the Maine Geological Survey for collecting information on all nonfuel minerals.

In 2005, Maine's nonfuel raw mineral production was valued[1] at $141 million, based upon annual U.S. Geological Survey data. This was a nearly 20% increase from that of 2004, which was up more than 10% from 2003. The large majority of the State's nonfuel mineral production resulted from the mining and production of construction minerals and materials—construction sand and gravel, portland cement, crushed stone, and dimension granite (descending order of value).

Construction sand and gravel and crushed stone accounted for nearly 63% of Maine's total nonfuel raw mineral production value in 2005. Increases in the values of portland cement and construction sand and gravel (up $8.3 million) led the State's increase in total value for the year (table 1).

In 2005, Maine remained 12th in the production of gemstones (based upon value) and significant quantities of construction sand and gravel were produced in the State. Modest increases took place in the production of most of the State's nonfuel mineral commodities.

The following narrative information was provided by the Maine Geological Survey[2] (MGS).

Exploration Activities

Freewest Resources Canada, Inc. optioned their Golden Ridge property to First Narrows Resources Corp. in 2002. Under this agreement, First Narrows completed a significant amount of drilling in 2004 on the New Brunswick side of the border, including gold intersections. The Golden Ridge property extends across the United States/Canada border into the Maine towns of Amity and Orient, south of Houlton. Because of increasing metal prices, the MGS received inquiries from mining companies for information and status of known mineral deposits in the State.

The only activity on State-owned land took place regarding a metal deposit claim held by International Paper in Somerset County in northwestern Maine. A 1-year renewal (7/2005-6/2006) was granted on the company's exploration claim at the 105-acre Alder Pond, beneath which extends a portion of a copper-lead-zinc-silver sulfide deposit. The renewal is for the purpose of allowing additional exploration activity. The deposit was estimated to be about 3.1 million metric tons. Exploration of the Alder Pond area has intermittently taken place since 1982, the first significant metal deposits of zinc and copper having been discovered in 1985 by BHP-Utah International Inc., a subsidiary of the Broken Hill Proprietary Co. Ltd. of Melbourne, Australia (Harrison, Anderson, and Foley, 1991, p. 228). Exploratory work from a 1996-98 drilling program done by Prospectors Alliance Corporation of Toronto, Ontario, Canada, in joint venture with International Larder Minerals, Inc., revealed that the orebody's main zone of about 508,000 metric tons of ore averaged 2.2% copper, 0.5% lead, 9% zinc, and 93 grams per metric ton silver. Within the main zone, there is a higher grade core of more than 165,000 metric tons (Maine Geological Survey, 2005§[3]). Development of the area has not as yet taken place based upon projected economic viability and estimated profitability of this potential project, yet interest in it is repeatedly fueled during periods of higher metal prices.

Commodity Review

Industrial Minerals

Gemstones.—The Mount Mica Mine in Paris was operated for gem tourmaline. This famous pegmatite deposit was discovered in 1820 and has been worked intermittently ever since. In 2005, it was yielding multicolored tourmalines, including gemstock and crystal specimens for collectors. Other pegmatite minerals also were recovered during the mining operation, such as quartz crystals, lapidary-grade masses of purple lepidolite mica, and occasional beryl crystals.

Other pegmatite deposits worked for gemstock and mineral specimens in 2005 included the Deer Hill amethyst mines in Stow (gemstock and specimens); Emmons Quarry and Noyes Mountain quarries in Greenwood (various collectible minerals); Fuller Mountain Quarry in Phippsburg (beryl crystals); Georgetown tourmaline mine; and Mount Marie Quarry in Paris (tourmaline etc.). Production from these and other Maine pegmatites was generally small and sporadic, primarily for mineral collectors and lapidaries.

Government Programs

In 2005, the MGS upgraded its Web site, adding an interactive map-based publications search capability to its online Bibliography of Maine Geology. Out-of-print maps and reports from all sources are included in the reference list returned to the user. This has greatly improved the ability to research literature on economic mineral deposits in Maine. The Web site also included links to Maine's mining rules, regulations, and statutes.

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[1]The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending upon the mineral products. Production may be measured by mine shipments, mineral commodity sales, or marketable production (including consumption by producers) as is applicable to the individual mineral commodity.

All 2005 USGS mineral production data published in this chapter are those available as of December 2006. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at URL http://minerals.usgs.gov/minerals.

[2]Robert G. Marvinney, Director and State Geologist, authored the text of the State mineral industry information provided by the Maine Geological Survey.

[3]A reference that includes a section mark (§) is found in the Internet Reference Cited section.

Reference Cited

Harrison, D.K., Anderson, Walter, and Foley, M.E., 1991, The mineral industry of Maine, *in* Area Reports—Domestic: U.S. Bureau of Mines Minerals Yearbook 1989, v. II, p. 225-230.

Internet Reference Cited

Maine Geological Survey, 2005, Alder Pond massive sulfide deposit—Will mining return to Maine???, accessed May 10, 2007, at URL http://www.maine.gov/doc/nrimc/mgs/explore/mining/sites/nov05.htm.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN MAINE[1, 2]

(Thousand metric tons and thousand dollars)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays, common	49 e	125 e	49	W	50	W
Gemstones	NA	262	NA	268	NA	272
Sand and gravel, construction	10,400	47,600	10,800	49,100	11,100	57,400
Stone, crushed	3,530	22,500	4,370	29,500	4,490	30,700
Combined values of cement (masonry [2003-04], portland), peat, stone (dimension granite), and values indicated by symbol W	XX	36,700	XX	39,300	XX	52,400
Total	XX	107,000	XX	118,000	XX	141,000

[e]Estimated. NA Not available. W Withheld to avoid disclosing company proprietary data. Withheld values included in "Combined values" data.
XX Not applicable.
[1]Production as measured by mine shipments, sales, or marketable production (including consumption by producers).
[2]Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 2
MAINE: CRUSHED STONE SOLD OR USED, BY KIND[1]

Kind	2004			2005		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Limestone	4	1,680	$10,300	5	1,940	$12,500
Granite	6	1,980	14,300	6	1,730	12,400
Traprock	--	--	--	(2)	W	W
Quartzite	2	W	W	2	520	3,470
Slate	1	W	W	1	25	168
Miscellaneous stone	2	W	W	2	W	W
Total	XX	4,370	29,500	XX	4,490	30,700

W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable. -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Sales/distribution yards.

TABLE 3
MAINE: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2005, BY USE[1, 2]

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Riprap and jetty stone	45	382
Filter stone	W	W
Other coarse aggregate	29	302
Total	74	684
Coarse aggregate, graded:		
Concrete aggregate, coarse	163	962
Bituminous aggregate, coarse	(3)	(3)
Railroad ballast	(3)	(3)
Total	344	2,280
Fine aggregate (-⅜ inch):		
Stone sand, concrete	54	355
Stone sand, bituminous mix or seal	(4)	(4)
Other fine aggregate	45	389
Total	99	744
Coarse and fine aggregates:		
Graded road base or subbase	(5)	(5)
Other coarse and fine aggregates	1,890	13,400
Chemical and metallurgical:		
Cement manufacture	(3)	(3)
Lime manufacture	(3)	(3)
Total	804	4,600
Unspecified:[6]		
Reported	181	1,220
Estimated	1,100	7,800
Total	1,280	9,030
Grand total	4,490	30,700

W Withheld to avoid disclosing company proprietary data; included with "Other coarse aggregate."
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]To avoid disclosing company proprietary data, no district tables were produced for 2005.
[3]Withheld to avoid disclosing company proprietary data; included in "Total."
[4]Withheld to avoid disclosing company proprietary data; included with "Other fine aggregate."
[5]Withheld to avoid disclosing company proprietary data; included with "Other coarse and fine aggregates."
[6]Reported and estimated production without a breakdown by end use.

TABLE 4
MAINE: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2005,
BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	873	$4,930	$5.64
Concrete products (blocks, bricks, pipe, decorative, etc.)	104	671	6.45
Asphaltic concrete aggregates and other bituminous mixtures	1,080	7,020	6.53
Road base and coverings	2,330	12,800	5.47
Road and other stabilization (cement and lime)	136	501	3.69
Fill	1,000	3,800	3.80
Snow and ice control	474	2,570	5.41
Other miscellaneous uses[2]	14	135	9.55
Unspecified:[3]			
Reported	760	3,680	4.85
Estimated	4,370	21,400	4.89
Total or average	11,100	57,400	5.16

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes filtration and railroad ballast.
[3]Reported and estimated production without a breakdown by end use.