

THE MINERAL INDUSTRY OF MAINE

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

In 1994, Maine ranked 45th in the Nation in total nonfuel mineral value¹ for the second year in a row, following 15 consecutive years as 46th, according to the U.S. Bureau of Mines (USBM). The estimated value for 1994 was \$58 million, a 4% decrease from that of 1993. This followed a 7.5% increase in 1993 from that of 1992. The State accounted for somewhat less than 0.5% of the U.S. total value. During 1994, increases in the value of construction sand and gravel and crushed stone moderated decreases in gemstones, dimension stone, and portland cement, all of which resulted in a net decrease in mineral value for the State. In 1993, increases in gemstones, portland cement, and dimension stone were responsible for the notable increase in value, in addition to offsetting a significant drop in value for construction sand and gravel. Compared with 1993, mineral commodity values in 1994 increased for construction sand and gravel and crushed stone. Decreases occurred for portland cement, peat, dimension stone, and gemstones.

Based on a comparison of USBM estimated quantities of minerals produced in the United States during 1994, Maine remained third among the 50 States in the production of peat; the State's mines also produced significant quantities of construction sand and gravel. Because of the difficulty in establishing a common physical unit that properly measures the quantity of gemstones produced, gemstone production is measured in dollars. While gemstone production in 1994 slowed down significantly to more typically average values for the State, this followed an exceptional prior year's production. During 1993, newly discovered tourmaline, as well as other one-time beryl and amethyst discoveries, were mined,

thereby elevating Maine from a mineral value ranking of lower than 20th to 2d in the Nation in gemstone production. The combination of the nature of gemstone deposits in Maine, primarily pegmatites, and the high unit value of the materials mined, mostly beryls and tourmalines, result in wide swings in the value of production. (Pegmatites are exceptionally coarse-grained and interlocking, crystalline igneous rocks found grouped together in veins or other irregular geologic structures or "pockets.") The discovery of a single pegmatite pocket of high quality beryl or tourmaline can result in a 100% to 500% increase in the value of production.

The Maine Geological Survey reported that mineral exploration, principally for base metals, continued throughout the year. During the year, however, the number of projects, both to evaluate known deposits and to prospect for new ones, decreased, primarily due to the economics of the various projects. Several mining companies continued baseline studies to monitor the potential effects on surface and underground water and air from possible future mining of several known mineral deposits. BHP Minerals International, Inc., after suspending its copper and zinc ore sampling project at Alder Pond in northern Somerset County, was negotiating the sale of the property to Rio Algom Ltd.; completion of the transaction was scheduled for early 1995. Rio Algom planned to begin an extensive sampling program on the Alder Pond property during the summer of 1995. Aur Resources, Inc., which had conducted mapping exercises, geophysical and geochemical surveys, and drilling in search of base metals in northern Maine during the last several years, decided to discontinue all of its exploration efforts in

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN MAINE¹

Mineral	1992		1993		1994 ^p	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Gemstones	NA	\$108	NA	\$9,685	NA	W
Sand and gravel (construction)						
thousand metric tons	6,081	26,932	^q 4,400	^q 18,900	5,800	\$25,800
Stone (crushed) do.	^r 1,724	^r 11,400	1,832	10,359	^r 2,100	^r 12,300
Combined value of cement, clays (common), peat, stone (dimension), and value indicated by symbol W	XX	17,479	XX	21,184	XX	19,400
Total	XX	55,919	XX	60,128	XX	^s 57,500

^qEstimated. ^pPreliminary. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined value" data. XX Not applicable.

¹Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

²Data do not add to total shown because of independent rounding.

the State. Black Hawk Resources, Inc. purchased the mid-State Bald Mountain property, a copper and zinc sulfide ore body topped by a small cap of oxide rock bearing relatively high gold values. Rangeley Minerals Resources Co., a subsidiary of The Pittston Co., released its lease on a garnet deposit in Franklin County, to the property's owners, Rangeley Mining Co., Inc., for economic reasons. Discoveries of exceptional quality gem minerals in the past several years have sparked a renewed interest in gem prospecting and collecting, especially in pegmatite

rocks in western Maine. However, no major discoveries were reported during 1994. The recent finds were expected to have the continuing effect of increasing the number of rock enthusiasts, mineral collectors, and tourists entering the State and thus beneficially affect Maine's economy.

¹The term value, referring throughout this document to that of nonfuel minerals, here addresses the total monetary value as represented by either mine shipments, mineral commodity sales, or marketable production as is applicable to the individual mineral commodities.

TABLE 2
MAINE: CRUSHED STONE¹ SOLD OR USED BY PRODUCERS IN 1993, BY USE

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Riprap and jetty stone	15	\$36	\$2.40
Filter stone	W	W	2.25
Coarse aggregate, graded:			
Concrete aggregate, coarse	W	W	4.49
Bituminous aggregate, coarse	W	W	4.96
Railroad ballast	27	169	6.26
Other graded coarse aggregate	163	1,080	6.63
Fine aggregate (-3/8 inch):			
Stone sand, concrete	W	W	4.90
Stone sand, bituminous mix or seal	W	W	4.67
Coarse and fine aggregate:			
Graded road base or subbase	75	102	1.36
Other construction materials	449	2,034	4.53
Agricultural: Other agricultural uses	(²)	(²)	11.02
Chemical and metallurgical:			
Cement manufacture	(²)	(²)	4.80
Lime manufacture	(²)	(²)	4.79
Special: Other fillers or extenders	(²)	(²)	6.61
Unspecified:³			
Actual	277	1,962	7.08
Estimated	290	2,315	7.98
Total ⁴	1,832	10,359	5.65
Total ^{5 6}	2,019	10,359	5.13

W Withheld to avoid disclosing company proprietary data; included with "Other construction materials."

¹Includes calcareous marl, granite, limestone, miscellaneous stone, quartzite, and traprock.

²Withheld to avoid disclosing company proprietary data; included with "Total."

³Includes production reported without a breakdown by use and estimates for nonrespondents.

⁴Data may not add to totals shown because of independent rounding.

⁵One short ton is equal to 907 kilograms or 2,000 pounds. To convert metric tons to short tons, divide metric tons by 0.907185.

⁶Total shown in thousand short tons and thousand dollars.

TABLE 3
MAINE: CRUSHED STONE SOLD OR USED, BY KIND

Kind	1991				1993			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	4	760	\$4,348	\$5.72	6	1,425	\$8,577	\$6.02
Calcareous marl	—	—	—	—	1	W	W	10.50
Granite	3	W	W	6.58	2	W	W	3.95
Traprock	1	W	W	2.87	1	W	W	1.30
Quartzite	1	W	W	10.10	—	—	—	—
Miscellaneous stone	1	W	W	6.72	1	W	W	6.54
Total ¹	XX	1,548	9,899	6.39	XX	1,832	10,359	5.65
Total ^{2 3}	XX	1,706	9,899	5.80	XX	2,019	10,359	5.13

W Withheld to avoid disclosing company proprietary data; included with "Total." XX Not applicable.

¹Data may not add to totals shown because of independent rounding.

²One short ton is equal to 907 kilograms or 2,000 pounds. To convert metric tons to short tons, divide metric tons by 0.907185.

³Total shown in thousand short tons and thousand dollars.