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2007 Minerals Yearbook

MAINE [ADVANCE RELEASE]

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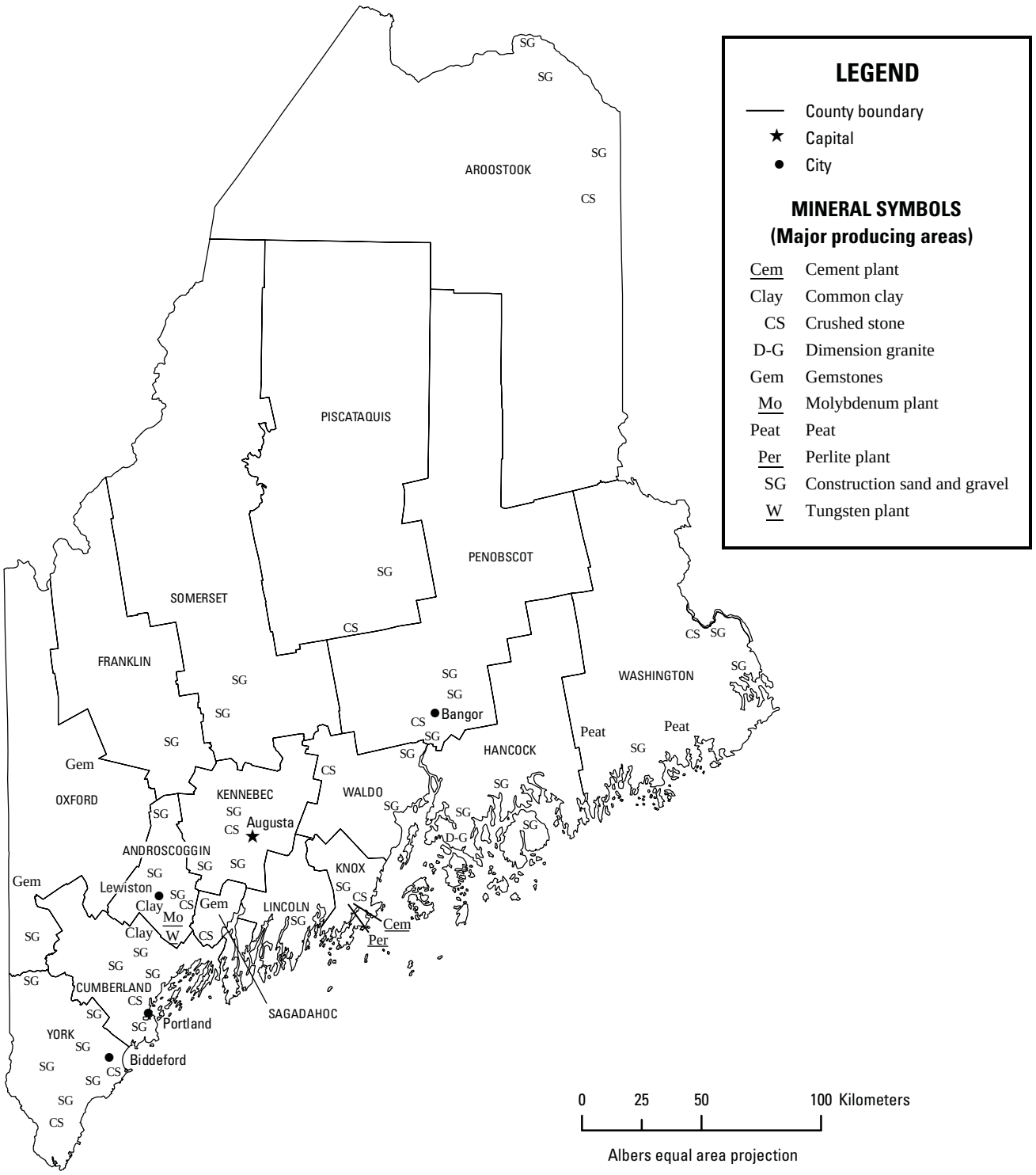
MAINE



Source: Maine Geological Survey/ U.S. Geological Survey (2007).

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 2007, Maine's nonfuel raw mineral production[1] was valued at $188 million, based upon annual U.S. Geological Survey data. This was a $26 million, or 16%, increase from that of 2006, which was up nearly 15% from that of 2005. 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 more than 70% of Maine's total nonfuel raw mineral production value in 2007. Construction sand and gravel led the State with a $31.5 million, or more than 50%, increase in nonfuel mineral production value, in part the result of a 1.9-million-metric-ton, or nearly 18%, increase in production for the year. Also increasing in value were common clays and gemstones (up slightly). These were offset somewhat by decreases that took place in the values of production of crushed stone (down by $3.2 million), portland cement, masonry cement, and peat (table 1).

In 2007, Maine continued to be 5th in the quantities of peat produced, and the State rose to 10th from 11th in the production of gemstones (based upon value), each having a small increase in its production. Additionally, significant quantities of construction sand and gravel were produced in the State.

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

Exploration

During 2007, a private party from Toronto, Ontario, Canada, continued its lease of a claim staked in 2006 from the State for mineral rights beneath Alder Pond in Somerset County, in west-central Maine. In 2006, following more than 7 years of exploration work, International Paper Co. had allowed its claim on the 42-hectare (105-acre) Alder Pond prospect in Somerset County, northwestern Maine, to lapse. Discovered in 1985, the Alder Pond copper-lead-zinc-silver sulfide deposit extends beneath the pond/property and was estimated to hold about 3.1 million metric tons (Mt) of resources. In a 2007 review of previous exploration activity, the geologist for the new lessor concluded that previous efforts had not fully considered the southern end of the so-called South Zone of the deposit. The availability of ore-processing facilities just beyond the U.S. border in Canada was considered beneficial to plans to develop the property. Not having to construct and operate a new ore-processing facility helped to reduce environmental concerns about the project, while making productive use of an existing processing facility (Earls, 2008).

In 2007, Golden Hope Mines Ltd. of Toronto, Ontario, Canada, proceeded with exploration activities at its Big Hill deposit and in the vicinity of Pembroke, in eastern Maine's Washington County (the company had acquired the surface rights since commencing with the project in 2004). The Big Hill prospect, a polymetallic sulfide deposit, was primarily regarded as a silver and zinc project, but if further exploration showed the project to be amenable to low-cost mechanized mass-mining techniques, Golden Hope would probably make use of the full mineral potential of the deposit by also recovering the deposit's copper, gold, and lead values (Holmes, 2007). Because of uncertainties regarding the ownership of the subject mineral rights, among other reasons, the option to acquire the underlying mineral rights originally had not been exercised previously in 2004, but left for future consideration.

In the spring of 2007, Golden Hope Mines commissioned an airborne geophysical survey of the Big Hill deposit area and in the vicinity of Pembroke, including the use of helicopters equipped with magnetometers. According to the company, the survey demonstrated "great potential for numerous mineralized zones in the region." The company actively sought to acquire additional mineral properties in the vicinity of its Pembroke project and mobilized a diamond drill contractor to test these defined targets (Golden Hope Mines Ltd., 2007). Guided by the geophysical survey and previous investigations of the area, through the fall of 2007, Golden Hope drilled about 3,050 meters (about 10,000 feet) of new core in prospective areas. In the drilling, the company encountered a complex sequence of volcanic rock and interbedded sedimentary rocks with carbonate and sphalerite veins. Previous exploration work included 36,000 meters of diamond drilling, which defined a potential 28-Mt mineral resource containing copper, gold, silver, and zinc (Holmes, 2007). The company planned additional drilling for 2008.

The Big Hill deposit had been known since the 1960s and 1970s when a drilling program identified several high-grade silver intercepts. The copper-lead-zinc-silver mineralization was hosted in the mixed volcanic rocks of the Silurian Leighton Formation, which included rhyolitic and dacitic lapilli tuffs and basalt flows.

Commodity Review

Gemstones

During 2007, Coromoto Minerals continued mining at the Mount Mica Mine, which in total amounted to hundreds of

[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 2007 USGS mineral production data published in this chapter are those available as of June 2009. 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.

meters (many hundreds of feet) of underground workings. Numerous gem pockets were opened during this effort, yielding many gem-quality tourmaline specimens, including many deep green specimens with ruby red terminations. This famous pegmatite deposit was discovered in 1820 and has been worked intermittently ever since. Other pegmatite minerals are also recovered during the mining operation, such as quartz crystals, lapidary-grade masses of purple lepidolite mica, and occasionally beryl crystals (Coromoto Minerals, 2007).

Other pegmatite deposits worked for gemstock and mineral specimens in 2007 included the Georgetown tourmaline mine, Emmons Quarry and Noyes Mountain quarries in Greenwood (various collectible minerals), Mount Marie Quarry in Paris (tourmaline, etc.), Fuller Mountain Quarry in Phippsburg (beryl crystals), and Deer Hill amethyst mines in Stow (gemstock and specimens). Production from these and other Maine pegmatites was generally small and sporadic, primarily for mineral collectors and lapidaries.

References Cited

Coromoto Minerals, 2007, Mining in 2007—Descending time line: Paris, ME, Coromoto Minerals, 2007 report series, 24 p. (Accessed April 27, 2010, at http://www.coromotominerals.com.)

Earls, A.R., 2008, Prospecting opportunity—As metals prices rebound, interest again builds in mining Maine's rich deposits: The Boston [MA] Globe, December 11, 2 p. (Accessed April 26, 2010, at http://www.boston.com/business/articles/2008/12/11/prospecting_opportunity/.)

Golden Hope Mines Ltd., 2007, Golden Hope Mines provides exploration update: Toronto, Ontario, Canada, Golden Hope Mines Ltd. news release, 3 p. (Accessed April 27, 2010, at http://www.goldenhopemines.com/uploadfiles/September 17, 2007-Golden Hope Mines Provides Exploration Update.pdf.)

Holmes, M.J., 2007, Is there gold in them thar hills?: The Quoddy Tides [Eastport, ME], November 9, 2 p. (Accessed April 27, 2010, at http://quoddytides.com/gold11-9-07.html.)

TABLE 1

NONFUEL RAW MINERAL PRODUCTION IN MAINE[1, 2]

(Thousand metric tons and thousand dollars)

Mineral	2005		2006		2007	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays, common	50	W	W	W	W	W
Gemstones, naturals	NA	272	NA	275	NA	277
Sand and gravel, construction	11,100	57,400	10,400	62,400	12,300	93,900
Stone, crushed	4,450	30,800	5,340 r	41,500 r	4,710	38,300
Combined values of cement [masonry (2006–07), portland], peat, stone (dimension granite), and values indicated by symbol W	XX	52,400	XX	57,400	XX	55,100
Total	XX	141,000	XX	162,000 r	XX	188,000

rRevised. 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 TYPE[1]

Type	2006			2007		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Limestone	5	1,850	$12,900	5	1,780	$12,100
Granite	6 r	2,030 r	16,500 r	6	1,810	17,100
Slate	1	16	124	--	--	--
Miscellaneous stone	11 r	1,440 r	12,000 r	10	1,110	9,180
Total	XX	5,340 r	41,500 r	XX	4,710	38,300

rRevised. XX Not applicable. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 3

MAINE: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2007, BY USE[1]

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Riprap and jetty stone	18	277
Filter stone	W	W
Other coarse aggregate	11	51
Coarse aggregate, graded:		
Concrete aggregate, coarse	W	W
Other graded coarse aggregate	111	583
Fine aggregate (-⅜ inch):		
Stone sand, concrete	W	W
Screening, undesignated	W	W
Other fine aggregate	8	40
Coarse and fine aggregates:		
Graded road base or subbase	114	903
Crusher run or fill or waste	W	W
Other coarse and fine aggregates	1,560	14,400
Chemical and metallurgical, cement manufacture	W	W
Unspecified:[2]		
Reported	484	4,900
Estimated	1,500	12,000
Total	4,710	38,300

W Withheld to avoid disclosing company proprietary data; included in "Total."

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Reported and estimated production without a breakdown by end use.

TABLE 4

MAINE: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2007,
BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	708	$4,340	$6.12
Concrete products (blocks, bricks, pipe, decorative, etc.)	1	16	14.18
Asphaltic concrete aggregates and other bituminous mixtures	875	12,600	14.43
Road base and coverings[2]	2,550	18,500	7.24
Fill	597	2,690	4.51
Snow and ice control	219	1,240	5.67
Other miscellaneous uses[3]	72	549	7.60
Unspecified:[4]			
Reported	383	2,310	6.02
Estimated	6,910	51,700	7.48
Total or average	12,300	93,900	7.63

[1]Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

[2]Includes road base and other stabilization (lime).

[3]Includes railroad ballast.

[4]Reported and estimated production without a breakdown by end use.