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Mineral Industry Surveys

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MAGNESIUM IN THE THIRD QUARTER 1998

U.S. primary magnesium production in the third quarter of 1998 was 23,200 metric tons, 21% lower than production in the second quarter, according to the U.S. Geological Survey. Producers' shipments in the second quarter of 1998 were 26,200 tons, and inventories decreased to 15,300 tons.

One of the reasons for the sharp decline in third quarter magnesium production was weather-related problems at Dow Magnesium's Freeport, TX, plant that led to the company declaring a partial *force majeure* on September 28. The plant was hit by lightning in June and flooded by Hurricane Frances and other rainstorms that hit the Texas coast in August and September (Platt's Metals Week, 1998c). Partially as a result of this damage, Dow announced on November 20 that it was shutting its 65,000-ton-per-year plant, beginning immediately. The company had been producing magnesium since 1916, when it was the first U.S. firm to extract and produce magnesium. The company operated the Freeport plant since 1941, and with Dow's closure, only two U.S. magnesium producers remain (Dow Chemical Co., Dow to exit magnesium business, accessed November 20, 1998, at URL http://www.dow.com/pr_business/mag.html). Dow had been trying to sell its magnesium operation for about 1 year, but because of the magnesium production plant's integration with other Dow facilities in Freeport, selling the individual operation was difficult.

Magnesium exports through August were about 4% lower than those in the same period of 1997. Imports of magnesium were 30% higher than those in the first 8 months of 1997.

Quoted prices of primary magnesium continued to decline. Prices are shown in the following table.

	Units	Beginning of quarter	End of quarter
Metals Week U.S. spot Western	Dollars per pound	$1.55-$1.65	$1.52-$1.62
Metals Week U.S. spot dealer import	do.	1.39-1.43	1.27-1.33
Metals Week European free market	Dollars per metric ton	2,400-2,550	2,200-2,450
Metal Bulletin free market	do.	2,000-2,400	1,900-2,000

In addition to the problems at Dow's plant, production at Magnesium Corp. of America's (MagCorp) Rowley, UT, plant is expected to be lower in the fourth quarter because of electrolytic cell upgrades at the plant. Although some capacity is expected to be off-line during the 2-year upgrade program, MagCorp plans to supply its customers through inventory drawdown (Platt's Metals Week, 1998d).

The Court of International Trade has upheld a remand decision by the U.S. International Trade Commission (ITC) that the U.S. magnesium industry is not injured by imports of magnesium from Ukraine. In 1995, the ITC issued antidumping duties ranging from 79.87% to 104.27% ad valorem on pure magnesium from Ukraine. These duties were appealed to the Court of International Trade in 1997, and the Court's decision was a result of the 1997 appeal. If there are no further appeals by December 20, the duties should be revoked (Platt's Metals Week, 1998e).

In August, the International Trade Administration (ITA) published the final results of the countervailing duty review for calendar year 1996 for pure and alloy magnesium from Canada. The duty was established at 2.78% ad valorem for the specified period for Norsk Hydro Canada Inc. (U.S. Department of Commerce, 1998). The ITA also is beginning its investigation on countervailing duties for pure and alloy magnesium from Canada for calender year 1997. ITA has extended the time limit for completing the investigation of antidumping duties on pure magnesium from Canada for the period August 1, 1996, to July 31, 1997. The investigation now is scheduled to be completed by March 31, 1999.

The latest entrant in the announcement of new magnesium plants

is Australia's Crest Magnesium, a unit of Crest Resources Australia NL. The company has completed a prefeasibility study for a 95,000-ton-per-year magnesium plant in Tasmania. The results of the prefeasibility study indicate that the project is economically feasible with an operating cost of 65 cents per pound of magnesium produced. A final feasibility study will be conducted by Canada's Hatch Associates Ltd. and Australia's BHP Engineering, and construction of the plant is expected to begin in the first quarter of 2000. Plant completion is scheduled for 2003 (Metal Bulletin, 1998). If all the proposed plants are constructed, by 2005, there would be 155,000 tons of new capacity in Australia, 58,000 tons of new capacity in Congo (Brazzaville), 108,000 tons of new capacity in Canada, 50,000 tons of new capacity in Iceland, and perhaps 45,000 tons of new capacity in the Netherlands. In addition, expansions of capacity at existing plants could add at least 31,000 tons to total world capacity.

In China, the Guangshui Magnesium Metal Plant In Hubei Province announced plans to build a 2,000-ton-per-year magnesium alloy production line if the company can find outside investors. The company currently has the capacity to produce 2,000 tons per year of pure magnesium (Platt's Metals Week, 1998a). The Wenxi Yinguang Magnesium Industry Group plans to acquire more local magnesium plants because small-scale producers have difficulty operating with low magnesium prices, and therefore, are willing to sell the plants. Wenxi Yinguang has purchased five local plants, doubling the company's total capacity to 9,600 tons per year (Platt's Metals Week, 1998f).

China's new National Magnesium Products Export Coordination Committee has set minimum export prices for magnesium for 1998 and 1999. For the rest of 1998, the f.o.b. floor price was set at $1,950 per ton; this price rises to $2,320 beginning in 1999. Because of low magnesium prices, however, traders have reported that many suppliers are ignoring the floor price, and selling material at below $1,900 per ton in the export market (Platt's Metals Week, 1998b).

With new and expanding applications for magnesium parts, the 1999 models of North American-produced automobiles are expected to average about 3.2 kilograms of die-cast magnesium per vehicle, a 7% to 8% increase from the 1998 models. Some of the new parts include transfer case castings, and instrument panel and pedal support brackets in General Motors Corp.'s (GM) redesigned Chevrolet Silverado and GMC Sierra pickup trucks, cam cover castings for Chrysler Corp.'s 4.7-liter V-8 truck engines, steering column support brackets in GM's Oldsmobile Alero and Pontiac Grand Am cars, Cam covers and baffles in the PV-6 engines of GM's Oldsmobile Intrigue cars, steering wheel armatures in Chrysler's LHS and 300M automobiles, and cylinder head covers in 4-cylinder engines that Toyota Motor Manufacturing USA Inc. will begin manufacturing in its new Buffalo, WV, plant (Wrigley, 1998b).

Chrysler approved the use of 100% recycled magnesium for die-cast components purchased from its parts suppliers. Both Ford Motor Corp. and GM have used parts made from recycled magnesium for several years. Chrysler approved alloys AZ91D and AM60B, which are processed from die-cast scrap, that the company purchases from MagReTech in Bellevue, OH. Chrysler also is evaluating AM60A from the same firm. the use of recycled magnesium can reduce the cost of the final die-cast component (Wrigley, 1998a).

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TABLE 1
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF MAGNESIUM 1/

(Metric tons)

		1998				
	1997	Jan.-May	June	July	August	Jan.-Aug.
Imports:						
Metal	19,700	12,100	2,590	1,870	1,250	17,900
Waste and scrap	3,990	2,830	585	469	461	4,340
Alloys (magnesium content)	41,000	18,100	3,220	2,330	4,560	28,200
Sheet, tubing, ribbons, wire, powder, and other (magnesium content)	509	268	52	73	134	527
Total	65,100	33,300	6,450	4,750	6,400	50,900
Exports:						
Metal	17,100	6,550	1,300	807	793	9,450
Waste and scrap	11,200	5,230	933	438	1,110	7,710
Alloys (gross weight)	9,180	5,820	833	548	479	7,680
Sheet, tubing, ribbons, wire, powder, and other (gross weight)	2,960	541	116	121	122	900
Total	40,500	18,100	3,180	1,910	2,510	25,700

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.