

Mineral Industry Surveys

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MOLYBDENUM IN FEBRUARY 2006

Domestic production of molybdenum in concentrate in February 2006 was about 5% less than that of the previous month but was about 2% more than that of February 2005, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 7,700 metric tons (t) at the beginning of 2005 and about 7,390 t at the end of February.

According to Ryan's Notes (2006), the February monthly average prices for U.S. ferromolybdenum (FeMo) ranged from \$26.063 to \$27.063 per pound of molybdenum content, as compared with \$24.139 to \$25.222 in January. European FeMo monthly averages ranged from \$55.188 to \$57.188 per kilogram (kg) of molybdenum content in February, as compared with \$54.444 to \$56.500 per kg in January. In February, worldwide molybdenum oxide (MoO₃) prices ranged from \$23.375 to \$24.438 per pound versus \$22.778 to \$23.833 per pound in January.

Molybdenum production in Chile is expected to increase to about 53,000 t (117 million pounds) in 2006, about a 6% increase over that of 2005. Falconbridge Ltd.'s (Toronto, Ontario, Canada) Collahuasi copper mine was expected to produce about 4,000 t (8.8 million pounds) of molybdenum in concentrate in 2006. BHP Billiton's Escondida copper mine in

Chile submitted an environmental impact assessment for construction of a molybdenum concentrate processing plant at the terminal of the Puerto Coloso copper concentrate pipeline. The plant was planned to have a 20-metric-ton-per-day production capacity of molybdenum in concentrate. Molybdenum production in Mexico and Peru was forecast to be about 18,000 t and 3,600 t (40 million pounds and 8 million pounds, respectively). Molybdenum production in Peru was forecast to increase in 2007, owing to an \$850 million expansion of Phelps Dodge Corp.'s Cerro Verde copper mine. Output of molybdenum in concentrate from the mine was expected to be 3,650 t (8 million pounds) in 2007 (Metal Bulletin, 2006).

Included in this Mineral Industry Surveys are U.S. production and shipments of molybdenum concentrates and materials, U.S. consumption by end use, and stocks of molybdenum material in January and February 2006. Trade data for December 2005 and January 2006 are also included.

References Cited

- Metal Bulletin, 2006, Chile forecast to increase molybdenum production in 2006: Metal Bulletin, no. 8930, February 6, p. 10.
Ryan's Notes, 2006, [untitled]: Ryan's Notes, v. 12, no. 10, March 6, p. 10.

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS¹

(Metric tons, contained molybdenum)

	2005		2006		
	January- December ^p	January- February	January	February	January- February
Production	58,200	8,690	4,860	4,620	9,480
Shipments: ²					
Domestic	38,600	5,610	3,090 ^r	3,250	6,330
Export	19,300	2,840	1,430 ^r	1,800	3,230

^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits.

²As reported by producers.

TABLE 2
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM
PRODUCTS¹

(Metric tons, contained molybdenum)

	2005		2006		
	January- December ^p	January- February	January	February	January- February
Gross production	79,400	13,200	7,180	6,800	14,000
Internal consumption ²	49,400	8,330	4,350	4,250	8,600
Gross shipments	47,000	8,090	4,470	3,930	8,400

^pPreliminary.

¹Data are rounded to no more than three significant digits.

²Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 3
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS¹

(Kilograms, contained molybdenum)

End use	Molybdic oxides	Ferro molybdenum ²	Ammonium and sodium molybdate	Molybdenum scrap	Other	Total
2006, January:						
Steel:						
Carbon	13,000 ^r	W	--	--	W	13,000 ^r
High-strength low-alloy	36,900 ^r	10,300	--	--	11,300	58,600 ^r
Stainless and heat-resisting	160,000 ^r	70,400 ^r	--	W	6,510	237,000 ^r
Full alloy	161,000	212,000	--	--	1,510	374,000
Tool	43,900	W	--	--	--	43,900
Total	415,000 ^r	292,000	--	W	19,400	727,000 ^r
Cast irons (gray, malleable, and ductile iron)	W	7,320	--	--	763	8,090
Superalloys	89,200	W	--	(3)	131,000	220,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	98	1,220	--	--	--	1,310
Mill products made from metal powder ⁴	--	--	--	--	94,100	94,100
Cemented carbides and related products ⁵	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	900	900
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,900	10,900
Other	1,090	39,700 ^r	72,900	1,840	16,800	132,000 ^r
Grand total	583,000 ^r	341,000 ^r	72,900	1,840	274,000	1,270,000 ^r
Stocks, January 31, 2006	495,000 ^r	207,000 ^r	2,690	38,400	852,000	1,590,000 ^r
2006, February:						
Steel:						
Carbon	11,900	W	--	--	W	11,900
High-strength low-alloy	37,100	8,980	--	--	11,300	57,400
Stainless and heat-resisting	174,000	67,800	--	W	6,510	248,000
Full alloy	168,000	220,000	--	--	1,510	389,000
Tool	55,800	W	--	--	--	55,800
Total	447,000	297,000	--	W	19,400	763,000
Cast irons (gray, malleable, and ductile iron)	W	7,710	--	--	763	8,480
Superalloys	93,600	W	--	(3)	136,000	230,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	122	2,790	--	--	--	2,910
Mill products made from metal powder ⁴	--	--	--	--	99,100	99,100
Cemented carbides and related products ⁵	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	1,190	1,190
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,900	10,900
Other	1,090	29,600	72,700	1,840	16,800	122,000
Grand total	619,000	337,000	72,700	1,840	284,000	1,310,000
Stocks, February 28, 2006	412,000	202,000	2,590	28,300	850,000	1,490,000

^rRevised. W Withheld to avoid disclosing company proprietary data; included in "Other" of the "Miscellaneous and unspecified uses" category. -- Zero.

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

²Includes calcium molybdate.

³Included in "Other" of the "Superalloys" category.

⁴Includes ingot, wire, rod, and sheet.

⁵Includes construction, mining, oil and gas, metalworking machinery.

TABLE 4
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES
(including roasted concentrate), BY COUNTRY¹

(Kilograms, contained molybdenum)

Country	2005			2006 January
	January- December ²	January	December	
Australia	110,000	36,900	--	--
Austria	3,230	--	--	--
Belgium	9,430,000	37,400	785,000	521,000
Brazil	66,700	1,410	--	--
Canada	3,840,000	232,000	190,000	201,000
Chile	177,000	1,200	66,000	--
China	4,390,000	57,100	78,600	43,100
Costa Rica	3,810	1,230	--	--
India	41,100	--	1,570	1,440
Italy	35,100	35,100	--	--
Japan	2,050,000	96,000	177,000	108,000
Korea, Republic of	11,700	1,300	272	--
Mexico	3,130,000	587,000	482,000	377,000
Netherlands	15,000,000	1,080,000	729,000	1,240,000
Taiwan	3,600	--	--	--
United Kingdom	7,310,000	1,140,000	664,000	578,000
Other	767,000	1,710	12,700	--
Total	46,400,000	3,300,000	3,190,000	3,070,000

-- Zero.

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

²May have been revised.

Source: U.S. Census Bureau.

TABLE 5
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY¹

(Kilograms, contained molybdenum)

Country	2005			2006 January
	January- December	January	December	
Austria	11,400	--	--	--
Brazil	17,200	--	--	--
Canada	1,930,000	204,000	105,000	18,900
Indonesia	5,930	163	--	--
Mexico	88,700	--	--	9,240
Netherlands	33,300	33,300	--	--
Total	2,090,000	237,000	105,000	28,100

-- Zero.

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

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS¹

(Kilograms, unless otherwise specified)

Material	January-December 2005			January 2006		
	Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)
Ore and concentrates roasted	8,570,000	5,380,000	\$306,000	1,060,000	646,000	\$19,700
Ore and concentrates other	13,800,000	6,480,000	440,000	986,000	490,000	28,600
Molybdenum chemicals:						
Oxides and hydroxides	1,240,000	NA	42,500	108,000	NA	4,370
Molybdates of ammonium	4,220,000	2,730,000	53,600	216,000	133,000	1,830
Molybdates (all others)	101,000	24,800	1,250	26,900	1,070	284
Molybdenum orange	983,000	NA	4,780	48,700	NA	305
Ferromolybdenum	6,340,000	4,040,000	278,000	870,000	548,000	25,900
Molybdenum powders	92,900	78,500	7,740	9,810	7,790	894
Molybdenum unwrought	99,000	98,800	5,740	18,600	18,600	1,070
Molybdenum waste and scrap	503,000	480,000	35,600	56,700	56,300	4,210
Molybdenum wire	21,300	NA	3,160	977	NA	139
Molybdenum other	163,000	NA	20,700	4,290	NA	780
Total	36,200,000	19,300,000	1,200,000	3,410,000	1,900,000	88,100

NA Not available.

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

²Customs value.

Source: U.S. Census Bureau.