

Mineral Industry Surveys

For information, contact:

Michael J. Magyar, Molybdenum Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4964, Fax: (703) 648-7757
E-mail: mmagyar@usgs.gov

Cindy C. Chen (Data)
Telephone: (703) 648-7991
Fax: (703) 648-7792
E-mail: cchen1@usgs.gov

Internet: <http://minerals.usgs.gov/minerals>

MOLYBDENUM IN MARCH 2006

Domestic production of molybdenum in concentrate in March 2006 was about 15% more than that of the previous month and about 13% more than that of March 2005, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 7,570 metric tons (t) at the beginning of 2006 and about 7,170 t at the end of March.

According to Ryan's Notes (2006c), the March monthly average prices for U.S. ferromolybdenum (FeMo) ranged from \$25.056 to \$25.944 per pound of molybdenum content, as compared with \$26.063 to \$27.063 in February. European FeMo monthly averages ranged from \$53.722 to \$55.056 per kilogram (kg) of molybdenum content in March, as compared with \$55.188 to \$57.188 per kg in February. In March, worldwide molybdenum oxide (MoO₃) prices ranged from \$22.722 to \$23.389 per pound versus \$23.375 to \$24.438 per pound in February.

Production of molybdenum in China by government-authorized mines reportedly increased about 4% over 2004 levels to about 66,500 t in 2005. Environmental health and safety violations and tax fraud allegations caused production in the Huludao region of Liaoning Province to decrease about 35% from 2004 levels to about 3,780 t and production in Henan Province to decrease about 8.6% from 2004 levels to about 19,100 t in 2005. However, increased production in other regions offset these reductions. Production in Shaanxi Province, led by Jinduicheng Molybdenum Mining Co., China's leading producer, increased 2.4% over 2004 levels to about 29,900 t in

2005. In addition, production in Jiangxi Province increased 161% over 2004 levels to about 2,520 t, and production in Hunan Province increased 223% over 2004 levels to about 3,320 t in 2005 (Ryan's Notes, 2006b).

Blue Pearl Mining Ltd. (Toronto, Ontario, Canada) signed a Memorandum of Understanding (MOU) with Endako Mines (Fraser Lake, British Columbia, Canada) to allow ore from Blue Pearl's Davidson Project to be processed at Endako. Blue Pearl will construct a mill with a 2,000-metric-ton-per-day capacity at the Endako site and will pay a fee to Endako Mines to operate the mill. Ore will be trucked from the Davidson Project to Endako for processing. In addition, provisions were included in the MOU for possible future roasting of the molybdenum concentrates and marketing of the molybdenum oxide, assuming the ore is compatible with Endako ore (Ryan's Notes, 2006a).

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 February and March 2006. Trade data for January and February 2006 are also included.

References Cited

- Ryan's Notes, 2006a, Blue Pearl/Endako sign MOU on mill: Ryan's Notes, v. 12, no. 11, March 13, p. 4.
Ryan's Notes, 2006b, Chinese moly production from state authorized mines rose: Ryan's Notes, v. 12, no. 12, March 20, p. 3.
Ryan's Notes, 2006c, [untitled]: Ryan's Notes, v. 12, no. 14, April 3, p. 10.

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS¹

(Metric tons, contained molybdenum)

	2005		2006		
	January- December ^{p, r}	January- March	February	March	January- March
Production	57,900	13,400	4,620	5,340	15,000
Shipments: ²					
Domestic	38,200	8,670	3,270 ^r	3,390	9,820
Export	19,400	4,630	1,800	2,190	5,470

^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- March	February ^r	March	January- March
Gross production	79,400	19,700	6,790	6,820	20,800
Internal consumption ²	49,400	12,500	4,120	4,090	12,500
Gross shipments	47,000	12,300	4,060	4,240	12,800

^pPreliminary. ^rRevised.

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	Molybdc oxides	Ferro molyb- denum ²	Ammonium and sodium molybdate	Molyb- denum scrap	Other	Total
2006, February:						
Steel:						
Carbon	12,200 ^r	W	--	--	W	12,200 ^r
High-strength low-alloy	43,700 ^r	8,900 ^r	--	--	11,300	64,000 ^r
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	453,000 ^r	297,000	--	W	19,400	770,000 ^r
Cast irons (gray, malleable, and ductile iron)	W	7,710	--	--	763	8,480
Superalloys	93,600	W	--	(3)	134,000 ^r	228,000 ^r
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	122	3,470 ^r	--	--	--	3,590 ^r
Mill products made from metal powder ⁴	--	--	--	--	186,000 ^r	186,000 ^r
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	29,700 ^r	72,700	1,840	16,800	122,000
Grand total	626,000 ^r	338,000 ^r	72,700	1,840	369,000 ^r	1,410,000 ^r
Stocks, February 28, 2006	414,000 ^r	201,000 ^r	2,590	28,300	849,000 ^r	1,500,000 ^r
2006, March:						
Steel:						
Carbon	12,500	W	--	--	W	12,500
High-strength low-alloy	44,900	8,520	--	--	11,300	64,700
Stainless and heat-resisting	165,000	66,600	--	W	6,510	238,000
Full alloy	167,000	237,000	--	--	1,510	406,000
Tool	36,700	W	--	--	--	36,700
Total	426,000	312,000	--	W	19,400	758,000
Cast irons (gray, malleable, and ductile iron)	W	7,980	--	--	763	8,740
Superalloys	72,000	W	--	(3)	137,000	209,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	62	4,610	--	--	--	4,680
Mill products made from metal powder ⁴	--	--	--	--	217,000	217,000
Cemented carbides and related products ⁵	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	678	678
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,900	10,900
Other	1,090	30,500	72,700	1,840	16,800	123,000
Grand total	577,000	355,000	72,700	1,840	402,000	1,410,000
Stocks, March 31, 2006	462,000	197,000	2,580	27,600	850,000	1,540,000

^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- December	January- February	January	February	January- February
Australia	110,000	82,200	--	7,350	7,350
Austria	3,230	2,590	--	--	--
Belgium	9,430,000	101,000	521,000	615,000	1,140,000
Brazil	66,700	4,070	--	--	--
Canada	3,840,000	409,000	201,000	297,000	499,000
Chile	177,000	110,000	--	23,100	23,100
China	4,390,000	57,100	43,100	265,000	308,000
Costa Rica	3,810	1,230	--	--	--
India	41,100	1,480	1,440	727	2,170
Italy	35,100	35,100	--	--	--
Japan	2,050,000	281,000	108,000	188,000	296,000
Korea, Republic of	11,700	4,030	--	--	--
Mexico	3,130,000	713,000	377,000	308,000	685,000
Netherlands	15,000,000	2,070,000	1,240,000	730,000	1,970,000
Taiwan	3,600	2,820	--	--	--
United Kingdom	7,310,000	1,980,000	578,000	521,000	1,100,000
Other	767,000	8,020	--	9,140	9,140
Total	46,400,000	5,860,000	3,070,000	2,960,000	6,040,000

-- Zero.

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

Source: U.S. Census Bureau.

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

(Kilograms, contained molybdenum)

Country	2005		2006		
	January- December	January- February	January	February	January- February
Austria	11,400	--	--	--	--
Brazil	17,200	--	--	--	--
Canada	1,930,000	332,000	18,900	145,000	164,000
India	--	--	--	166	166
Indonesia	5,930	163	--	--	--
Mexico	88,700	4,130	9,240	25,600	34,900
Netherlands	33,300	33,300	--	--	--
Switzerland	--	--	--	12,000	12,000
Total	2,090,000	370,000	28,100	183,000	211,000

-- 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			February 2006			January-February 2006		
	Gross weight	Contained molybdenum	Value ² (thousands)	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	703,000	429,000	\$9,480	1,760,000	1,070,000	\$29,200
Ore and concentrates other	13,800,000	6,480,000	440,000	1,410,000	593,000	25,100	2,390,000	1,080,000	53,700
Molybdenum chemicals:									
Oxides and hydroxides	1,240,000	NA	42,500	78,900	NA	2,740	187,000	NA	7,100
Molybdates of ammonium	4,220,000	2,730,000	53,600	152,000	89,800	2,210	368,000	223,000	4,040
Molybdates (all others)	101,000	24,800	1,250	22,500	6,140	237	49,400	7,220	521
Molybdenum orange	983,000	NA	4,780	74,200	NA	567	123,000	NA	871
Ferromolybdenum	6,340,000	4,040,000	278,000	296,000	190,000	10,000	1,170,000	739,000	35,900
Molybdenum powders	92,900	78,500	7,740	5,340	4,560	552	15,100	12,400	1,450
Molybdenum unwrought	99,000	98,800	5,740	23,000	23,000	1,260	41,600	41,500	2,330
Molybdenum waste and scrap	503,000	480,000	35,600	27,700	27,600	1,750	84,400	84,000	5,960
Molybdenum wire	21,300	NA	3,160	1,580	NA	236	2,560	NA	376
Molybdenum other	163,000	NA	20,700	18,300	NA	1,910	22,500	NA	2,690
Total	36,200,000	19,300,000	1,200,000	2,810,000	1,360,000	56,000	6,220,000	3,270,000	144,000

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.