

Mineral Industry Surveys

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MOLYBDENUM IN MAY 2011

Domestic production of molybdenum (Mo) in concentrate in May 2011 was 4% more than the revised output of the previous month and 43% more than that of May 2010, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 8,150 metric tons (t) at the beginning of 2011 and about 4,040 t at the end of May.

According to Ryan's Notes, the May monthly average price range for U.S. ferromolybdenum (FeMo) was \$18.511 to \$18.783 per pound (lb) of molybdenum content, compared with \$18.889 to \$19.189 per lb in April. European FeMo monthly averages ranged from \$39.467 to \$39.906 per kilogram (kg) of molybdenum content in May compared with \$41.061 to \$41.389 per kg in April. In May, worldwide molybdenum oxide (MoO₃) prices ranged from \$16.694 to \$16.933 per lb compared with \$16.967 to \$17.178 per lb in April.

Freeport-McMoRan Copper & Gold Inc. announced that construction activities at its Climax molybdenum mine in Leadville, CO, were approximately 60% complete. The

company has spent one-half of the \$700 million dedicated to the project. Construction and mine preparation activities were expected to continue throughout 2011 and were expected to be completed in early 2012. The company indicated that the startup decision for the Climax Mine was dependent on an analysis of market conditions. According to the company, once the decision was made to start production, rampup to 50% capacity was expected to take place in the first year, and full capacity was expected to be reached in the second year (Ryan's Notes, 2011).

Included in this Mineral Industry Surveys are U.S. production and shipments of molybdenum concentrates and materials, U.S. consumption by end use, and consumer stocks of molybdenum material in April and May 2011. Export data for March and April 2011 and import data for April 2011 are also included.

Reference Cited

Ryan's Notes, 2011, Completion, not start, date set for Climax: Ryan's Notes, v. 17, no. 17, April 25, p. 1.

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS¹

(Metric tons, contained molybdenum)

	2010 [Ⓐ]		2011		
	January– December	January– May	April	May	January– May
Production	59,600	23,300 [Ⓡ]	6,240 [Ⓡ]	6,480	29,300
Shipments: ²					
Domestic	14,000	5,150 [Ⓡ]	1,490 [Ⓡ]	1,680	6,720
Export	W	W	W	W	W

[Ⓐ]Preliminary. [Ⓡ]Revised. W Withheld to avoid disclosing company proprietary data.

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)

	2010 ^{Ⓐ, Ⓟ}		2011		
	January– December	January– May	April	May	January– May
Gross production	68,600	21,600 [Ⓡ]	6,190	7,160	33,500
Internal consumption ²	W	W	W	W	W
Gross shipments	51,100	16,500 [Ⓡ]	4,130	5,150	24,100

[Ⓐ]Preliminary. [Ⓡ]Revised. W Withheld to avoid disclosing company proprietary data.

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
2011, April:						
Steel:						
Carbon	34,900	W	--	--	W	34,900
High-strength low-alloy	55,700	7,320	--	--	--	63,000
Stainless and heat-resisting	178,000	59,900	--	(5)	6,510	244,000
Full alloy	255,000	314,000	--	--	W	569,000
Tool	W	W	--	--	--	W
Total	524,000	381,000	--	--	6,510	911,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	(5)	W	--	(5)	102,000 ^r	102,000 ^r
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	152	W	--	--	--	152
Mill products made from metal powder ³	--	--	--	--	W	W
Cemented carbides and related products ⁴	--	--	--	--	6	6
Chemical and ceramic uses:						
Pigments	--	--	(6)	--	--	--
Catalysts	77,300	--	(6)	--	W	77,300
Other chemicals	--	--	--	--	W	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	(6)	54,000	--	--	284,000	337,000
Grand total	601,000	435,000	--	--	403,000 ^r	1,440,000
Stocks, April 30, 2011	448,000	305,000	2,070	(7)	(7)	1,630,000
2011, May:						
Steel:						
Carbon	34,700	W	--	--	W	34,700
High-strength low-alloy	52,900	8,230	--	--	--	61,200
Stainless and heat-resisting	173,000	67,100	--	(6)	6,510	246,000
Full alloy	264,000	295,000	--	--	W	559,000
Tool	W	W	--	--	--	W
Total	525,000	370,000	--	--	6,510	901,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	(6)	W	--	(6)	91,000	91,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	64	W	--	--	--	64
Mill products made from metal powder ³	--	--	--	--	W	W
Cemented carbides and related products ⁴	--	--	--	--	6	6
Chemical and ceramic uses:						
Pigments	--	--	(5)	--	--	--
Catalysts	77,300	--	(5)	--	W	77,300
Other chemicals	--	--	--	--	W	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	(6)	55,200	--	--	294,000	349,000
Grand total	602,000	425,000	--	--	402,000	1,430,000
Stocks, May 31, 2011	509,000	307,000	2,060	(7)	(7)	1,740,000

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

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

²Includes calcium molybdate.

³Includes ingot, wire, rod, and sheet.

⁴Includes construction, mining, oil and gas, metalworking machinery.

⁵Withheld to avoid disclosing company proprietary data.

⁶Withheld to avoid disclosing company proprietary data; included in "Miscellaneous and unspecified uses: Other" of the "Other" category.

⁷Withheld to avoid disclosing company proprietary data; included in "Total."

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

(Kilograms, contained molybdenum)

Country	2010			2011		
	January– December	April	January– April	March	April	January– April
Argentina	17,200	--	--	--	--	--
Australia	--	--	--	--	--	800
Austria	440,000	3,630	13,800	16,100	47,900	209,000
Belgium	9,610,000	760,000	2,670,000	744,000	830,000	3,590,000
Brazil	310,000	24,500	46,200	35,500	44,400	133,000
Canada	1,150,000	131,000	318,000	140,000	208,000	617,000
Chile	--	--	--	--	499,000	499,000
China	5,280,000	530,000	2,180,000	143,000	130,000	963,000
El Salvador	--	--	--	--	--	881
Finland	--	--	--	12,000	11,800	95,500
France	16,600	--	4,410	23,900	11,900	60,100
Germany	143,000	--	19,900	6,130	49,900	80,100
Hong Kong	1,140	--	--	--	--	--
India	924,000	89,000	187,000	100,000	101,000	481,000
Italy	13,200	--	--	11,900	1,910	25,500
Japan	2,630,000	176,000	552,000	219,000	336,000	1,170,000
Korea, Republic of	805,000	68,700	253,000	142,000	171,000	663,000
Luxembourg	11,500	--	--	12,300	--	24,800
Mexico	5,040,000	507,000	1,820,000	558,000	648,000	2,450,000
Netherlands	8,210,000	663,000	2,660,000	986,000	959,000	3,050,000
New Caledonia	1,050	--	--	--	--	--
Panama	2,360	--	--	--	--	--
Poland	194	--	--	--	--	--
Slovenia	24,600	--	12,400	--	--	--
South Africa	520,000	--	100,000	--	--	--
Spain	24,600	12,300	12,300	--	--	--
Sweden	12,100	--	--	23,300	7,600	61,900
Taiwan	67,900	--	--	--	22,800	40,500
Thailand	19,200	--	9,620	--	7,260	7,260
United Arab Emirates	154,000	12,300	12,300	--	--	12,600
United Kingdom	5,000,000	171,000	1,230,000	734,000	827,000	2,810,000
Venezuela	940	--	940	--	--	--
Vietnam	149,000	18,400	28,000	5,030	878	20,900
Total	40,600,000	3,170,000	12,100,000	3,910,000	4,920,000	17,100,000

-- 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	2010			2011		
	January– December	April	January– April	March	April	January– April
Argentina	13,300	--	--	--	--	--
Australia	628	175	350	--	--	--
Canada	677,000	66,500	253,000	89,700	93,600	294,000
Colombia	1,170	--	620	--	--	--
Denmark	372	--	--	--	--	--
India	36,600	--	10,900	--	--	--
Japan	12,700	--	--	--	--	--
Korea, Republic of	11,200	--	--	--	--	--
Mexico	12,900	--	2,800	--	952	7,610
Netherlands	196,000	--	--	38,400	25,700	152,000
Philippines	939	--	939	--	--	--
Singapore	14,300	--	--	--	--	--
Turkey	103	--	--	11,400	13,200	49,100
Total	978,000	66,700	268,000	139,000	133,000	502,000

-- 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 2010			April 2011			January–April 2011		
	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	10,300,000	6,340,000	\$112,000	873,000	544,000	\$10,400	3,690,000	2,270,000	\$45,500
Ore and concentrates other	13,500,000	6,610,000	202,000	1,440,000	429,000	42,400	5,510,000	1,960,000	107,000
Molybdenum chemicals:									
Oxides and hydroxides	508,000	NA	12,200	--	--	--	24,800	--	684
Molybdates of ammonium	1,590,000	905,000	28,600	120,000	67,600	2,830	401,000	246,000	9,620
Molybdates (all others)	62,600	23,300	1,510	1,800	891	97	15,000	6,350	677
Molybdenum orange	349,000	NA	2,730	20,600	NA	214	105,000	NA	965
Ferromolybdenum	5,330,000	3,560,000	130,000	275,000	185,000	7,130	1,640,000	1,100,000	42,000
Molybdenum powders	232,000	221,000	10,100	36,100	35,900	1,790	142,000	141,000	6,780
Molybdenum unwrought	307,000	301,000	10,200	17,200	16,500	673	110,000	104,000	4,090
Molybdenum waste and scrap	703,000	682,000	26,900	42,000	41,500	1,940	228,000	206,000	8,670
Molybdenum wire	19,300	NA	3,030	1,140	NA	328	6,110	NA	1,140
Molybdenum other	582,000	NA	37,500	65,800	NA	5,140	232,000	NA	19,000
Total	33,500,000	XX	576,000	2,900,000	XX	73,000	12,100,000	XX	247,000

NA Not available. XX Not applicable. -- Zero.

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

²Customs value.

Source: U.S. Census Bureau.