

Mineral Industry Surveys

For information, contact:

Désirée E. Polyak, Molybdenum Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4909, Fax: (703) 648-7757
E-mail: dpolyak@usgs.gov

Raymond I. Eldridge III (Data)
Telephone: (703) 648-7982
Fax: (703) 648-7975
E-mail: reldridge@usgs.gov

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

MOLYBDENUM IN MAY 2012

Domestic production of molybdenum (Mo) in concentrate in May 2012 was slightly less than the revised output of the previous month and 25% less than that of May 2011. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 8,900 metric tons (t) at the beginning of 2012 and about 9,740 t at the end of May.

According to Ryan's Notes, the May monthly average price range for U.S. ferromolybdenum (FeMo) was \$15.722 to \$15.944 per pound (lb) of molybdenum content, compared with \$15.881 to \$16.200 per lb in April. European FeMo monthly averages ranged from \$33.289 to \$33.656 per kilogram (kg) of molybdenum content in May compared with \$34.100 to \$34.488 per kg in April. In May, worldwide molybdenum oxide (MoO₃) prices ranged from \$13.800 to \$13.983 per lb compared with \$14.088 to \$14.288 per lb in April.

In the first quarter, Freeport-McMoRan Copper & Gold Inc. (FCX) began commercial operations at its Climax molybdenum mine, near Leadville, CO, after a 17-year hiatus. With a new mill and refurbished mining facilities and equipment, the first

molybdenum concentrate, amounting to approximately 10 t, was shipped May 10. The mine was expected to ramp up to a rate of 9,100 tons per year (t/yr) of molybdenum during 2013, with a potential of increasing to 13,600 t/yr of molybdenum. FCX expected to operate both its Climax and Henderson mines in a flexible manner to meet necessary market requirements (Climax Molybdenum Co., 2012).

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 2012. Export data for April and May 2012 and import data for May 2012 are also included.

Reference Cited

Climax Molybdenum Co., 2012, Climax restarts—Molybdenum mine starts commercial production: Phoenix, AZ, Climax Molybdenum Co., May 10. (Accessed June 20, 2012, at <http://www.climaxmolybdenum.com/News/pdfs/051012.pdf>.)

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS¹

(Metric tons, contained molybdenum)

	2011 ^p		2012		
	January– December	January– May	April	May	January– May
Production	62,700	29,300	4,850 ^r	4,770	24,600
Shipments: ²					
Domestic	18,300	6,740 ^r	1,500	1,490	7,620
Export	W	W	W	W	W

^pPreliminary. ^rRevised. 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)

	2011 ^p		2012		
	January– December	January– May	April	May	January– May
Gross production	W	W	W	W	W
Internal consumption ²	W	W	W	W	W
Gross shipments	W	25,000 ^r	3,790	3,640	19,400

^pPreliminary. ^rRevised. 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
2012:						
April:						
Steel:						
Carbon	34,900	W	--	--	W	34,900
High-strength low-alloy	52,900	7,680	--	--	--	60,600
Stainless and heat-resisting	164,000	59,600	--	(3)	6,510	230,000
Full alloy	258,000 ^r	311,000 ^r	--	--	W	569,000 ^r
Tool	W	W	--	--	--	W
Total	510,000 ^r	378,000 ^r	--	--	6,510	894,000 ^r
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	(4)	(4)	--	(4)	96,700	96,700
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	419	W	--	--	--	419
Mill products made from metal powder ⁵	--	--	--	--	W	W
Cemented carbides and related products ⁶	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	--
Catalysts	77,300	--	(3)	--	W	77,300
Other chemicals	--	--	--	--	--	--
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	51,900	55,400	--	--	273,000 ^r	380,000 ^r
Grand total	639,000 ^r	434,000 ^r	--	--	387,000 ^r	1,460,000
Stocks, April 30, 2012	421,000	314,000	2,160	(7)	(7)	1,640,000
May:						
Steel:						
Carbon	34,700	W	--	--	W	34,700
High-strength low-alloy	54,800	7,320	--	--	--	62,100
Stainless and heat-resisting	164,000	59,400	--	(3)	6,510	229,000
Full alloy	250,000	275,000	--	--	W	524,000
Tool	W	W	--	--	--	W
Total	503,000	341,000	--	--	6,510	851,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	(4)	(4)	--	(4)	95,700	95,700
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	216	W	--	--	--	216
Mill products made from metal powder ⁵	--	--	--	--	W	W
Cemented carbides and related products ⁶	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	--
Catalysts	77,300	--	(3)	--	W	77,300
Other chemicals	--	--	--	--	--	--
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	52,200	56,400	218	--	273,000	382,000
Grand total	632,000	398,000	218	--	386,000	1,420,000
Stocks, May 31, 2012	409,000	317,000	1,940	(7)	(7)	1,630,000

See footnote at end of table.

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

- ¹Revised. 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.
³Withheld to avoid disclosing company proprietary data; included in "Other, Miscellaneous and unspecified uses: Other" category.
⁴Withheld to avoid disclosing company proprietary data.
⁵Includes ingot, wire, rod, and sheet.
⁶Includes construction, mining, oil and gas, metalworking machinery.
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	2011			2012		
	January– December	May	January– May	April	May	January– May
Australia	800	--	800	--	--	--
Austria	278,000	--	209,000	11,200	20,400	65,200
Azerbaijan	9,370	--	--	--	--	--
Belgium	6,620,000	544,000	4,140,000	652,000	495,000	3,100,000
Brazil	374,000	40,300	173,000	69,500	58,100	146,000
Canada	1,400,000	124,000	741,000	154,000	206,000	977,000
Chile	3,220,000	439,000	938,000	--	--	--
China	2,570,000	305,000	1,270,000	77,800	185,000	1,060,000
Czech Republic	31	--	--	--	--	--
El Salvador	881	--	881	--	--	--
Finland	283,000	47,900	143,000	--	--	--
France	121,000	24,400	84,500	--	--	--
Germany	133,000	39,200	119,000	--	--	24,300
Hungary	--	--	--	997	--	997
India	901,000	47,100	528,000	62,800	1,450	209,000
Italy	37,300	11,700	37,300	--	--	--
Japan	4,150,000	475,000	1,640,000	302,000	347,000	1,340,000
Korea, Republic of	1,460,000	131,000	794,000	13,400	31,700	158,000
Luxembourg	24,800	--	24,800	--	--	--
Mexico	7,270,000	768,000	3,220,000	650,000	672,000	3,410,000
Netherlands	11,500,000	1,110,000	4,160,000	1,430,000	1,160,000	5,590,000
Peru	--	--	--	--	--	543
Philippines	--	--	--	--	--	8,170
South Africa	--	--	--	180,000	--	180,000
Spain	330	99	99	--	--	--
Sweden	145,000	24,000	85,900	--	--	--
Taiwan	40,500	--	40,500	--	4,700	5,700
Thailand	7,260	--	7,260	--	7,260	22,700
United Arab Emirates	12,600	--	12,600	--	--	--
United Kingdom	6,210,000	629,000	3,440,000	490,000	396,000	2,090,000
Venezuela	838	--	--	--	--	--
Vietnam	301,000	641	21,500	102	5,900	7,890
Total	47,100,000	4,760,000	21,800,000	4,100,000	3,590,000	18,400,000

-- 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	2011			2012		
	January– December	May	January– May	April	May	January– May
Australia	497	--	--	--	--	223
Canada	871,000	67,600	361,000	51,100	81,800	355,000
Colombia	119	--	--	--	--	--
Denmark	501	330	330	--	173	323
Mexico	47,800	--	7,610	318	--	20,500
Netherlands	293,000	25,600	177,000	13,700	13,700	51,300
Turkey	116,000	13,300	62,400	--	--	--
Total	1,330,000	107,000	609,000	65,100	95,700	427,000

-- 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 2011			2012					
	Gross weight	Contained molybdenum	Value ² (thousands)	May			January–May		
				Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)
Ore and concentrates roasted	11,700,000	7,080,000	\$136,000	1,030,000	613,000	\$11,000	4,970,000	3,010,000	\$54,300
Ore and concentrates other	18,700,000	7,570,000	323,000	1,330,000	661,000	24,100	5,120,000	2,550,000	90,700
Molybdenum chemicals:									
Oxides and hydroxides	146,000	NA	3,820	210,000	NA	4,060	263,000	NA	5,240
Molybdates of ammonium	982,000	578,000	21,400	79,900	45,000	1,580	302,000	170,000	5,970
Molybdates (all others)	22,300	9,840	1,120	2,370	998	146	18,100	7,010	303
Molybdenum orange	328,000	NA	2,790	36,400	NA	259	223,000	NA	1,620
Ferromolybdenum	4,800,000	3,210,000	119,000	872,000	582,000	20,000	3,210,000	2,130,000	72,200
Molybdenum powders	281,000	264,000	13,600	26,600	23,400	1,070	190,000	165,000	7,820
Molybdenum unwrought	566,000	545,000	20,800	80,900	80,400	2,580	389,000	376,000	11,100
Molybdenum waste and scrap	748,000	700,000	27,400	65,900	65,000	2,330	442,000	412,000	14,700
Molybdenum wire	21,300	NA	3,230	1,400	NA	215	6,340	NA	979
Molybdenum other	903,000	NA	63,200	59,000	NA	3,210	239,000	NA	14,900
Total	39,200,000	XX	736,000	3,790,000	XX	70,500	15,400,000	XX	280,000

NA Not available. XX Not applicable.

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

²Customs value.

Source: U.S. Census Bureau.