

# Mineral Industry Surveys

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## MOLYBDENUM IN JULY 2012

Domestic production of molybdenum (Mo) in concentrate in July 2012 was 13% more than the output of the previous month and slightly more than that of July 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 10,500 t at the end of July.

According to Ryan's Notes, the July monthly average price range for U.S. ferromolybdenum (FeMo) was \$14.767 to \$14.983 per pound (lb) of molybdenum content, compared with \$15.278 to \$15.478 in June. European FeMo monthly averages ranged from \$29.989 to \$30.478 per kilogram (kg) of molybdenum content in July compared with \$31.478 to \$31.944 per kg in June. In July, worldwide molybdenum oxide (MoO<sub>3</sub>) prices ranged from \$12.378 to \$12.567 per pound, compared with \$13.244 to \$13.389 per pound in June.

Molybdenum production at the Bingham Canyon Mine (operated by Kennecott Utah Copper Corp.) decreased by 39% to 2,600 t molybdenum in the second quarter, compared with 4,300 t molybdenum in the second quarter of 2011. Production in the first half of 2012 was down by 27% to 5,800 t molybdenum compared with 7,900 t molybdenum in the first half of 2011 (Ryan's Notes, 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 June and July 2012. Export data for June and July 2012 and import data for June 2012 are also included.

### Reference Cited

Ryan's Notes, 2012, Ferroalloy notes: Ryan's Notes, v. 18, no. 30, July 23, p. 2-3.

TABLE 1  
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS<sup>1</sup>

(Metric tons, contained molybdenum)

	2011 <sup>P</sup>		2012		
	January– December	January– July	June	July	January– July
Production	63,700	39,900 <sup>r</sup>	4,370	4,940	33,900
Shipments: <sup>2</sup>					
Domestic	18,300	11,000 <sup>r</sup>	1,410	1,400	10,400
Export	W	W	W	W	W

<sup>P</sup>Preliminary. <sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data.

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>As reported by producers.

TABLE 2  
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM  
PRODUCTS<sup>1</sup>

(Metric tons, contained molybdenum)

	2011 <sup>P</sup>		2012		
	January– December	January– July	June	July	January– July
Gross production	W	W	6,250	W	W
Internal consumption <sup>2</sup>	W	W	W	W	W
Gross shipments	W	W	4,210	4,020	27,600

<sup>P</sup>Preliminary. W Withheld to avoid disclosing company proprietary data.

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 3  
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS<sup>1</sup>

(Kilograms, contained molybdenum)

End use	Molybdic oxides	Ferro molybdenum <sup>2</sup>	Ammonium and sodium molybdate	Molybdenum scrap	Other	Total
2012:						
June:						
Steel:						
Carbon	33,800	W	--	--	W	33,800
High-strength low-alloy	W	7,320	--	--	--	7,320
Stainless and heat-resisting	162,000	59,300	--	(3)	6,510	228,000
Full alloy	246,000	269,000	--	--	W	514,000
Tool	W	W	--	--	--	W
Total	442,000	335,000	--	--	6,510	783,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	(4)	(4)	--	(4)	95,300	95,300
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 <sup>5</sup>	--	--	--	--	W	W
Cemented carbides and related products <sup>6</sup>	--	--	--	--	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	93,400	62,900	218	--	283,000 <sup>†</sup>	439,000 <sup>†</sup>
Grand total	612,000	398,000	218	--	395,000 <sup>†</sup>	1,410,000 <sup>†</sup>
Stocks, June 30, 2012	425,000	313,000	1,940	(7)	(7)	1,640,000
July:						
Steel:						
Carbon	34,400	W	--	--	W	34,400
High-strength low-alloy	W	7,320	--	--	--	7,320
Stainless and heat-resisting	162,000	59,300	--	(3)	6,510	228,000
Full alloy	247,000	236,000	--	--	W	483,000
Tool	W	W	--	--	--	W
Total	444,000	302,000	--	--	6,510	753,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	(4)	(4)	--	(4)	94,300	94,300
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	90	W	--	--	--	90
Mill products made from metal powder <sup>5</sup>	--	--	--	--	W	W
Cemented carbides and related products <sup>6</sup>	--	--	--	--	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	95,200	64,800	218	--	293,000	453,000
Grand total	616,000	367,000	218	--	404,000	1,390,000
Stocks, July 31, 2012	426,000	323,000	1,940	(7)	(7)	1,650,000

See footnote at end of table.

TABLE 3—Continued  
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS<sup>1</sup>

<sup>1</sup>Revised. W Withheld to avoid disclosing company proprietary data; included in "Miscellaneous and unspecified uses: Other" category. -- Zero.

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

<sup>2</sup>Includes calcium molybdate.

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included in "Other, Miscellaneous and unspecified uses: Other" category.

<sup>4</sup>Withheld to avoid disclosing company proprietary data.

<sup>5</sup>Includes ingot, wire, rod, and sheet.

<sup>6</sup>Includes construction, mining, oil and gas, metalworking machinery.

<sup>7</sup>Withheld to avoid disclosing company proprietary data; included in "Total."

TABLE 4  
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES  
(including roasted concentrate), BY COUNTRY<sup>1</sup>

(Kilograms, contained molybdenum)

Country	2011			2012		
	January– December	July	January– July	June	July	January– July
Australia	800	--	800	--	--	--
Austria	278,000	--	267,000	11,200	11,200	87,600
Azerbaijan	9,370	--	--	--	--	--
Belgium	6,620,000	--	4,560,000	534,000	554,000	4,190,000
Brazil	374,000	38,900	284,000	63,800	37,000	247,000
Canada	1,400,000	82,900	1,040,000	256,000	236,000	1,470,000
Chile	3,220,000	910,000	2,330,000	--	--	--
China	2,570,000	202,000	1,720,000	291,000	57,700	1,410,000
Colombia	--	--	--	7,190	--	7,190
Czech Republic	31	--	--	--	--	--
El Salvador	881	--	881	--	--	--
Finland	283,000	23,500	190,000	--	--	--
France	121,000	12,300	121,000	--	--	--
Germany	133,000	--	119,000	12,200	--	36,500
Hungary	--	--	--	--	--	997
India	901,000	48,100	686,000	29,600	36,400	275,000
Italy	37,300	--	37,300	--	--	--
Japan	4,150,000	348,000	2,390,000	386,000	275,000	2,000,000
Korea, Republic of	1,460,000	147,000	1,070,000	29,600	40,800	228,000
Luxembourg	24,800	--	24,800	--	--	--
Mexico	7,270,000	682,000	4,280,000	643,000	765,000	4,820,000
Netherlands	11,500,000	1,250,000	6,450,000	835,000	1,220,000	7,650,000
Peru	--	--	--	181	--	724
Philippines	--	--	--	--	--	8,170
South Africa	--	--	--	--	12,000	192,000
Spain	330	--	330	--	--	--
Sweden	145,000	12,000	110,000	--	--	--
Taiwan	40,500	--	40,500	--	--	5,700
Thailand	7,260	--	7,260	--	7,260	29,900
United Arab Emirates	12,600	--	12,600	--	--	--
United Kingdom	6,210,000	244,000	4,040,000	326,000	682,000	3,100,000
Venezuela	838	--	--	--	--	--
Vietnam	301,000	--	21,500	2,970	--	10,900
Total	47,100,000	4,000,000	29,800,000	3,430,000	3,940,000	25,800,000

-- Zero.

<sup>1</sup>Data 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 COUNTRY<sup>1</sup>

(Kilograms, contained molybdenum)

Country	2011			2012		
	January– December	July	January– July	June	July	January– July
Australia	497	241	241	--	--	223
Canada	871,000	59,300	530,000	59,500	32,100	447,000
Colombia	119	--	--	--	--	--
Denmark	501	--	330	--	--	323
Mexico	47,800	3,200	10,800	318	121	20,900
Netherlands	293,000	--	190,000	13,300	12,000	76,600
Turkey	116,000	13,300	88,900	--	--	--
Total	1,330,000	76,000	820,000	73,100	44,200	545,000

-- Zero.

<sup>1</sup>Data 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 PRODUCTS<sup>1</sup>

(Kilograms, unless otherwise specified)

Material	January–December 2011			2012					
	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	July			January–July		
				Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)
Ore and concentrates roasted	11,700,000	7,080,000	\$136,000	765,000	466,000	\$5,460	6,760,000	4,110,000	\$72,200
Ore and concentrates other	18,700,000	7,570,000	323,000	730,000	345,000	13,500	6,960,000	3,430,000	124,000
Molybdenum chemicals:									
Oxides and hydroxides	146,000	NA	3,820	7,290	NA	166	291,000	NA	5,870
Molybdates of ammonium	982,000	578,000	21,400	20,300	11,400	386	384,000	216,000	7,610
Molybdates (all others)	22,300	9,840	1,120	20,500	8,100	262	38,600	15,100	565
Molybdenum orange	328,000	NA	2,790	23,400	NA	222	268,000	NA	2,080
Ferromolybdenum	4,800,000	3,210,000	119,000	302,000	204,000	6,940	4,190,000	2,790,000	94,100
Molybdenum powders	281,000	264,000	13,600	21,000	18,900	896	249,000	216,000	10,400
Molybdenum unwrought	566,000	545,000	20,800	97,700	95,900	2,940	574,000	559,000	16,800
Molybdenum waste and scrap	748,000	700,000	27,400	65,500	64,100	1,490	583,000	549,000	18,700
Molybdenum wire	21,300	NA	3,230	2,190	NA	280	11,100	NA	1,600
Molybdenum other	903,000	NA	63,200	14,300	NA	1,570	316,000	NA	19,700
Total	39,200,000	XX	736,000	2,070,000	XX	34,200	20,600,000	XX	374,000

NA Not available. XX Not applicable.

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

<sup>2</sup>Customs value.

Source: U.S. Census Bureau.