

Mineral Industry Surveys

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MOLYBDENUM IN JULY 2011

Domestic production of molybdenum (Mo) in concentrate in July 2011 was 16% less than the output of the previous month and slightly less than that of July 2010. 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 9,180 t at the end of July.

According to Ryan's Notes, the July monthly average price range for U.S. ferromolybdenum (FeMo) was \$16.939 to \$17.178 per pound (lb) of molybdenum content, compared with \$18.050 to \$18.388 in June. European FeMo monthly averages ranged from \$36.311 to \$36.761 per kilogram (kg) of molybdenum content in July compared with \$37.894 to \$38.488 per kg in June. In July, worldwide molybdenum oxide (MoO₃) prices ranged from \$14.600 to \$14.811 per pound compared with \$15.944 to \$16.238 per pound in June.

Roca Mines Inc. (Vancouver, British Columbia, Canada) announced that its mill and concentrator recommenced operations at the MAX molybdenum mine, southeast of Revelstoke, British Columbia, Canada. The mill was expected to initially process surface stockpiled material at a reduced production rate until the mine commenced full production from underground (Roca Mines Inc., 2011). Rehabilitation work at the mine began in November 2010, following a sill pillar

collapse in late September 2010. The incident caused damage to temporary ventilation bulkheads and landings, although no damage was done to permanent bulkheads or other infrastructure. The company, which began production at the MAX Mine in 2008, was targeting annual molybdenum production of 2,300 metric tons per year of molybdenum over a 10-year mine life (Metal-Pages, 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 June and July 2011. Export data for May and June 2011 and import data for June 2011 are also included.

References Cited

- Metal-Pages, 2011, Canada molybdenum mill restarts output: Metal-Pages, July 28. (Accessed December 9, 2011, via <http://www.metal-pages.com/>)
- Roca Mines Inc., 2011, Roca's MAX molybdenum mill restarts: Vancouver, British Columbia, Canada, Roca Mines Inc., July 27, 1 p. (Accessed December 9, 2011, at http://www.rocamines.com/s/NewsReleases.asp?ReportID=468904&_Type=News-Releases&_Title=ROCA's-MAX-Molybdenum-Mill-Restarts.)

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS¹

(Metric tons, contained molybdenum)

	2010 ^P		2011		
	January– December	January– July	June	July	January– July
Production	58,500	32,100 ^r	5,730	4,840	39,800
Shipments: ²					
Domestic	14,000	7,740 ^r	W	1,150	10,900
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)

	2010 ^P		2011		
	January– December	January– July	June	July	January– July
Gross production	68,600	37,700	W	W	W
Internal consumption ²	W	W	W	W	W
Gross shipments	51,100	28,900	W	W	W

^PPreliminary. 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, June:						
Steel:						
Carbon	33,300	W	--	--	W	33,300
High-strength low-alloy	61,100	7,320	--	--	--	68,400
Stainless and heat-resisting	171,000	66,900	--	(3)	6,510	244,000
Full alloy	284,000	318,000	--	--	W	602,000
Tool	W	W	--	--	--	W
Total	549,000	392,000	--	--	6,510	948,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	(4)	W	--	(4)	97,100	97,100
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	81	W	--	--	--	81
Mill products made from metal powder ⁵	--	--	--	--	W	W
Cemented carbides and related products ⁶	--	--	--	--	6	6
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	--
Catalysts	77,300	--	(3)	--	W	77,300
Other chemicals	--	--	--	--	W	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	47,100	58,500	--	--	281,000	387,000
Grand total	674,000	450,000	--	--	396,000	1,520,000
Stocks, June 30, 2011	450,000	307,000	2,060	(7)	(7)	1,680,000
2011, July:						
Steel:						
Carbon	34,500	W	--	--	W	34,500
High-strength low-alloy	48,400	7,320	--	--	--	55,700
Stainless and heat-resisting	168,000	59,500	--	(3)	6,510	234,000
Full alloy	283,000	353,000	--	--	W	636,000
Tool	W	W	--	--	--	W
Total	533,000	420,000	--	--	6,510	960,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	(4)	W	--	(4)	91,900	91,900
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	170	W	--	--	--	170
Mill products made from metal powder ⁵	--	--	--	--	W	W
Cemented carbides and related products ⁶	--	--	--	--	6	6
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	--
Catalysts	77,300	--	(3)	--	W	77,300
Other chemicals	--	--	--	--	W	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	47,100	52,100	--	--	287,000	386,000
Grand total	658,000	472,000	--	--	396,000	1,530,000
Stocks, July 31, 2011	446,000	309,000	2,060	(7)	(7)	1,650,000

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	2010			2011		
	January– December	June	January– June	May	June	January– June
Argentina	17,200	--	--	--	--	--
Australia	--	--	--	--	--	800
Austria	440,000	--	13,800	--	58,500	267,000
Belgium	9,610,000	750,000	4,200,000	544,000	424,000	4,560,000
Brazil	310,000	37,800	116,000	40,300	71,600	245,000
Canada	1,150,000	82,800	551,000	124,000	218,000	959,000
Chile	--	--	--	439,000	482,000	1,420,000
China	5,280,000	304,000	2,890,000	305,000	253,000	1,520,000
El Salvador	--	--	--	--	--	881
Finland	--	--	--	47,900	23,500	167,000
France	16,600	--	4,410	24,400	24,000	109,000
Germany	143,000	62,100	82,000	39,200	--	119,000
Hong Kong	1,140	--	--	--	--	--
India	924,000	51,300	284,000	47,100	110,000	638,000
Italy	13,200	--	--	11,700	--	37,300
Japan	2,630,000	195,000	917,000	475,000	401,000	2,050,000
Korea, Republic of	805,000	68,000	388,000	131,000	130,000	924,000
Luxembourg	11,500	--	--	--	--	24,800
Mexico	5,040,000	347,000	2,540,000	768,000	382,000	3,600,000
Netherlands	8,210,000	814,000	4,250,000	1,110,000	1,040,000	5,200,000
New Caledonia	1,050	1,050	1,050	--	--	--
Panama	2,360	--	--	--	--	--
Poland	194	--	194	--	--	--
Slovenia	24,600	--	12,400	--	--	--
South Africa	520,000	80,000	204,000	--	--	--
Spain	24,600	--	24,600	99	231	330
Sweden	12,100	--	--	24,000	11,700	97,600
Taiwan	67,900	--	--	--	--	40,500
Thailand	19,200	9,620	19,200	--	--	7,260
United Arab Emirates	154,000	12,300	24,600	--	--	12,600
United Kingdom	5,000,000	514,000	2,200,000	629,000	356,000	3,790,000
Venezuela	940	--	940	--	--	--
Vietnam	149,000	--	30,800	641	--	21,500
Total	40,600,000	3,330,000	18,800,000	4,760,000	3,980,000	25,800,000

-- 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	June	January– June	May	June	January– June
Argentina	13,300	--	--	--	--	--
Australia	628	--	628	--	--	--
Canada	677,000	36,900	336,000	67,600	109,000	470,000
Colombia	1,170	--	620	--	--	--
Denmark	372	172	172	330	--	330
India	36,600	--	10,900	--	--	--
Japan	12,700	--	--	--	--	--
Korea, Republic of	11,200	--	--	--	--	--
Mexico	12,900	2,720	5,510	--	--	7,610
Netherlands	196,000	12,700	12,700	25,600	13,200	190,000
Philippines	939	--	939	--	--	--
Singapore	14,300	--	7,380	--	--	--
Turkey	103	--	--	13,300	13,200	75,500
Total	978,000	52,600	375,000	107,000	135,000	744,000

-- 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 PRODUCTS ¹

(Kilograms, unless otherwise specified)

Material	January–December 2010			June 2011			January–June 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	1,200,000	729,000	\$13,700	5,460,000	3,360,000	\$65,600
Ore and concentrates other	13,500,000	6,610,000	202,000	1,060,000	742,000	19,200	8,230,000	3,030,000	158,000
Molybdenum chemicals:									
Oxides and hydroxides	508,000	NA	12,200	20,500	NA	569	45,200	NA	1,250
Molybdates of ammonium	1,590,000	905,000	28,600	140,000	78,900	3,180	543,000	327,000	12,800
Molybdates (all others)	62,600	23,300	1,510	975	464	56	17,900	7,700	842
Molybdenum orange	349,000	NA	2,730	11,800	NA	114	147,000	NA	1,330
Ferromolybdenum	5,330,000	3,560,000	130,000	254,000	169,000	6,860	2,220,000	1,480,000	57,300
Molybdenum powders	232,000	221,000	10,100	17,500	15,000	927	167,000	163,000	8,180
Molybdenum unwrought	307,000	301,000	10,200	70,900	61,200	2,390	227,000	210,000	8,340
Molybdenum waste and scrap	703,000	682,000	26,900	34,500	34,300	1,440	331,000	309,000	12,900
Molybdenum wire	19,300	NA	3,030	3,420	NA	393	10,900	NA	1,750
Molybdenum other	582,000	NA	37,500	59,000	NA	4,380	413,000	NA	30,700
Total	33,500,000	XX	576,000	2,870,000	XX	53,200	17,800,000	XX	359,000

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.