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Mineral Industry Surveys

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MOLYBDENUM IN JULY 2008

Domestic production of molybdenum (Mo) in concentrate in July 2008 was about 36% more than the output of the previous month and about 9% more than that of July 2007, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 5,770 metric tons (t) at the beginning of 2008 and about 5,790 t at the end of July.

According to Ryan's Notes (2008), the July monthly average price range for U.S. ferromolybdenum (FeMo) was from $35.431 to $35.813 per pound of molybdenum content, compared with $35.406 to $35.906 in June. European FeMo monthly averages ranged from $79.538 to $79.913 per kilogram (kg) of molybdenum content in July compared with $78.750 to $79.288 per kg in June. In July, worldwide molybdenum oxide (MoO_3) prices ranged from $33.581 to $33.869 per pound compared with $32.963 to $33.475 per pound in June.

Rio Tinto plc, the parent company of Kennecott Utah Copper Corp., was expected to invest $270 million in the construction of a 250,000-square-foot Molybdenum Autoclave Process (MAP) facility at its Kennecott Bingham Canyon operation in Salt Lake City, Utah (Metal Pages, 2008). The MAP was expected to enable lower-grade concentrate to be processed more efficiently than in conventional roasters, allow improved molybdenum recovery, and enable production of chemical grade molybdenum products. The new facility was expected to produce 30 million pounds (14,000 t) of molybdenum per year. Construction of the new facility was expected to begin in the third quarter of 2008 and was scheduled to begin operation in the third quarter of 2010 (Metals Place, 2008).

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 2008. Export data for May and June 2008 and import data for June 2008 are also included.

References Cited

Metal Pages, 2008, Rio Tinto to invest $270 million in moly, rhenium, June 11. (Accessed July 24, 2009, via http://www.metal-pages.com/news.)
Metals Place, 2008, Kennecott to invest $270 million in molybdenum processing facility: Metals Place, July 21. (Accessed June 24, 2009, via http://metalsplace.com/news/articles.)
Ryan's Notes, 2008, [untitled]: Ryan's Notes, v. 14, no. 31, August 4, p. 10.

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS[1]

(Metric tons, contained molybdenum)

	2007		2008		
	January-December	January-July	June	July	January-July
Production	57,000	34,500 r	3,880	5,300	33,800
Shipments: [2]					
Domestic	40,600	24,100 r	3,280	3,890	25,800
Export	16,400	10,200	637	1,240	8,010

rRevised.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]As reported by producers.

TABLE 2
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM PRODUCTS[1]

(Metric tons, contained molybdenum)

	2007		2008		
	January-December	January-July[r]	June	July	January-July
Gross production	72,800	44,200	6,120	6,460	43,700
Internal consumption[2]	41,700	26,200	2,950	3,490	24,000
Gross shipments	48,700	28,200	4,440	4,190	30,500

rRevised.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]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[1]

(Kilograms, contained molybdenum)

End use	Molybdic oxides	Ferro molyb-denum[2]	Ammonium and sodium molybdate	Molyb-denum scrap	Other	Total
2008, June:						
Steel:						
Carbon	30,700	W	--	--	W	30,700
High-strength low-alloy	70,800	9,070	--	--	11,300	91,300
Stainless and heat-resisting	172,000	64,600	--	W	6,510	243,000
Full alloy	246,000	333,000	--	--	1,510	581,000
Tool	W	W	--	--	--	W
Total	520,000	407,000	--	W	19,400	946,000
Cast irons (gray, malleable, and ductile iron)	W	20,800	--	--	763	21,500
Superalloys	62,600	W	--	W	90,300	153,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	W	5,460	--	--	--	5,460
Mill products made from metal powder[3]	--	--	--	--	176,000	176,000
Cemented carbides and related products[4]	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	827	827
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	16,500	32,700	72,800	78,700	16,800	217,000
Grand total	676,000	466,000	72,800	78,700	315,000	1,610,000
Stocks, June 30, 2008	307,000	343,000	3,370	5,080	845,000	1,500,000
2008, July:						
Steel:						
Carbon	30,600	W	--	--	W	30,600
High-strength low-alloy	60,000	13,400	--	--	11,300	84,700
Stainless and heat-resisting	225,000	71,200	--	W	6,510	303,000
Full alloy	256,000	323,000	--	--	1,510	580,000
Tool	W	W	--	--	--	W
Total	571,000	407,000	--	W	19,400	998,000
Cast irons (gray, malleable, and ductile iron)	W	20,800	--	--	763	21,500
Superalloys	65,200	W	--	W	79,100	144,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	W	6,300	--	--	--	6,300
Mill products made from metal powder[3]	--	--	--	--	172,000	172,000
Cemented carbides and related products[4]	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	287	287
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	16,700	45,600	74,900	84,600	16,800	239,000
Grand total	731,000	480,000	74,900	84,600	299,000	1,670,000
Stocks, July 31, 2008	404,000	333,000	3,120	13,300	851,000	1,600,000

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

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

[2]Includes calcium molybdate.

[3]Includes ingot, wire, rod, and sheet.

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

TABLE 4
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES
(including roasted concentrate), BY COUNTRY[1]

(Kilograms, contained molybdenum)

	2007			2008		
Country	January-December	June	January-June	May	June	January-June
Argentina	--	--	--	13,200	19,300	121,000
Belgium	6,730,000	495,000	3,070,000	212,000	568,000	3,900,000
Brazil	119,000	--	90,800	--	--	1,290
Canada	2,580,000	181,000	1,570,000	81,400	104,000	1,230,000
Chile	1,270,000	270,000	1,270,000	174,000	39,300	213,000
China	71,500	--	71,400	--	--	242,000
Finland	38,000	--	--	--	--	--
India	119,000	23,700	93,900	10,800	--	22,200
Italy	19,000	--	--	--	--	12,000
Japan	2,230,000	94,700	782,000	168,000	209,000	984,000
Korea, Republic of	232,000	--	24,700	88,200	89,800	392,000
Mexico	4,760,000	510,000	2,610,000	373,000	214,000	2,030,000
Netherlands	9,660,000	563,000	5,750,000	790,000	797,000	4,790,000
Pakistan	75,600	--	75,600	--	--	--
Switzerland	1,630	--	1,630	--	--	--
Taiwan	17,900	--	413	--	--	--
Thailand	9,620	--	9,620	--	--	--
United Kingdom	5,800,000	406,000	2,600,000	611,000	281,000	2,490,000
Vietnam	4,990	--	4,130	--	19,300	22,600
Other	80,800	539	3,830	--	--	33,800
Total	33,800,000	2,540,000	18,000,000	2,520,000	2,340,000	16,500,000

[1]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[1]

(Kilograms, contained molybdenum)

	2007			2008		
Country	January-December	June	January-June	May	June	January-June
Australia	25,000	--	11,200	--	--	--
Canada	838,000	120,000	430,000	103,000	79,400	600,000
Denmark	394	--	394	--	--	--
India	1,090	207	417	280	--	563
Mexico	23,700	--	19,100	--	700	13,700
Netherlands	145,000	--	145,000	--	14,000	112,000
Philippines	735	--	--	--	700	700
Saudi Arabia	149,000	--	45,500	--	--	--
South Africa	13,500	--	13,500	--	--	--
United Kingdom	24,900	--	24,900	--	--	--
Total	1,220,000	120,000	689,000	103,000	94,800	727,000

-- Zero.

[1]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[1]

(Kilograms, unless otherwise specified)

Material	January-December 2007			June 2008			January-June 2008		
	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	8,680,000	5,430,000	$181,000	805,000	506,000	$25,800	4,760,000	2,960,000	$115,000
Ore and concentrates other	15,000,000	6,960,000	372,000	178,000	86,900	5,840	5,870,000	2,710,000	169,000
Molybdenum chemicals:									
Oxides and hydroxides	211,000	NA	8,020	115	NA	6	118,000	NA	5,070
Molybdates of ammonium	915,000	515,000	30,400	20,100	11,400	820	228,000	129,000	8,610
Molybdates (all others)	179,000	51,400	2,190	3,360	894	50	71,300	25,200	804
Molybdenum orange	600,000	NA	4,040	35,100	NA	296	221,000	NA	1,740
Ferromolybdenum	6,360,000	4,100,000	270,000	241,000	164,000	12,000	1,980,000	1,320,000	96,400
Molybdenum powders	72,900	60,800	4,990	8,750	7,930	888	36,100	31,100	3,270
Molybdenum unwrought	117,000	117,000	7,460	27,300	27,200	1,920	87,900	87,700	5,830
Molybdenum waste and scrap	574,000	554,000	34,800	95,800	85,700	5,340	392,000	369,000	21,500
Molybdenum wire	17,900	NA	2,740	1,780	NA	269	9,530	NA	1,580
Molybdenum other	164,000	NA	20,900	54,800	NA	4,830	227,000	NA	22,700
Total	32,900,000	XX	938,000	1,470,000	XX	58,100	14,000,000	XX	452,000

NA Not available. XX Not applicable.

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

[2]Customs value.

Source: U.S. Census Bureau.