

Mineral Industry Surveys

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ZINC IN JULY 2023

Domestic mine production (recoverable) of zinc in July 2023 was 69,400 metric tons (t) (tables 1, 2). Mine production (recoverable) for the year through July was 436,000 t, slightly less than that in the same period in 2022. Average daily (recoverable) mine production in July was 2,240 t, 3% less than the revised amount in the previous month but essentially unchanged compared with that in July 2022 (fig. 1, table 2).

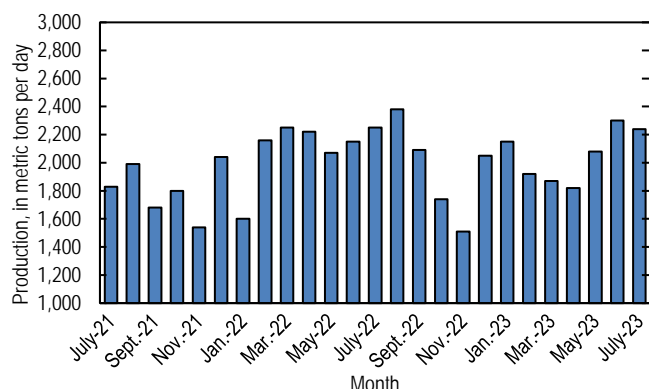


Figure 1. Average daily domestic zinc mine production (recoverable) from July 2021 through July 2023.

Stocks and Prices

There were no London Metal Exchange Ltd. (LME) stocks of Special High Grade (SHG) zinc held in U.S. warehouses at the end of July 2023, unchanged since the end of January 2023 and down from 5,250 t at the end of July 2022. Global LME stocks were 99,350 t at the end of July 2023, 24% more compared with stocks at the end of June 2023 and 42% more than those at the end of July 2022 (fig. 2, table 9). Reported off-warrant stocks of SHG zinc in LME-approved warehouses at the end of July 2023 increased to 18,980 t from 12,411 t at the end of June 2023; of which 88% were held in Asia and 12% in Europe (London Metal Exchange Ltd., 2023).

The monthly average S&P Global Platts Metals Week North American SHG zinc price in July 2023 was 139 cents per pound, unchanged from that in the previous month and 21% less than that in July 2022. The July 2023 average LME cash price for SHG zinc was \$2,395.99 per metric ton (109 cents per

pound), essentially unchanged from that in the previous month and 23% less than that in July 2022 (fig. 3, table 8).

The North American premium to the LME cash price in July 2023 averaged 31 cents per pound, 4% less than that in the previous month and 13% less compared with that in July 2022 (fig. 3, table 8).

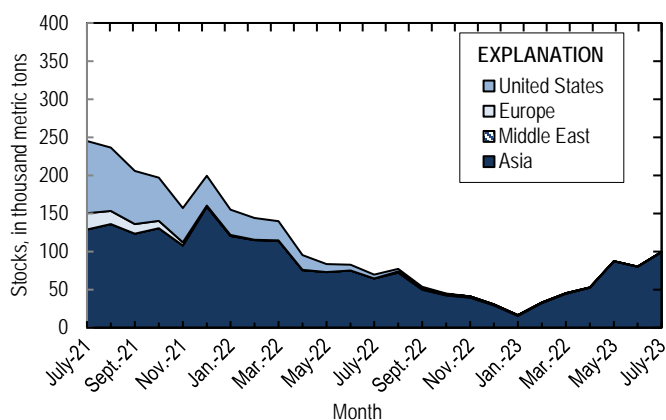


Figure 2. Global LME stocks of Special High Grade zinc, end of month, from July 2021 through July 2023. Source: London Metal Exchange Ltd.

Government and Legislative Programs

On July 20, the U.S. Department of the Treasury's Office of Foreign Assets Control placed sanctions on Ural Mining and Metallurgical Co. JSC (UMMC) and two subsidiaries to limit Russia's revenue from its extractive industries (U.S. Department of the Treasury, 2023). UMMC owned several zinc-producing mines and the Chelyabinsk zinc smelter.

World News

Aurora Metals Ltd. (Australia) entered the Australian voluntary administration process citing an unsuccessful initial public offering and low zinc prices. The company owned several zinc mines and projects, including the King Vol, Mungana, and Mt. Garnet mines in Queensland State, which were all placed on care-and-maintenance status (Fulton, 2023).

The Government of Indonesia raised the export tax on copper, lead, and zinc concentrates, effective July 17, to encourage

companies to invest in metal processing in Indonesia. The export tax for zinc concentrate would range between 2.5% and 7.5%, based on the progress of the company's smelter construction, and would rise again on January 1, 2024, to between 5% and 10%. PT Kapuas Prima Coal Tbk operated the only zinc-producing mine in Indonesia and was in the process of constructing a zinc smelter in the country. The Dairi Mine in North Sumatra was a large lead-zinc project under development. However, in late July, an Indonesian court revoked environmental approval for the Dairi project that was granted in 2022 (Business & Human Rights Resource Centre, 2023; Zhang and Zhao, 2023).

According to news sources, Newmont Corp. (Denver, CO) announced a force majeure on the delivery of certain products from its Peñasquito polymetallic mine in Mexico in June owing to an ongoing labor strike at the mine that began earlier in the month. In 2022, the Peñasquito Mine was the leading zinc-producing mine in Mexico, producing 171,000 t of payable zinc (Newmont Corp., 2023, p. 48; Desai and Denina, 2023).

Al Masane Al Kobra Mining Co. (Saudi Arabia) announced that a new processing plant at its Al Masane copper-zinc mine in Saudi Arabia was in the final stages of construction and was expected to begin commercial production in the first quarter of 2024. The plant would process ore from the recently developed Moyoath orebody and would increase the zinc production rate of the Al Masane Mine by up to 80%. In 2022, the mine produced 41,200 t of zinc concentrate (Al Masane Al Kobra Mining Co., 2022, 2023; Mining Technology, 2023).

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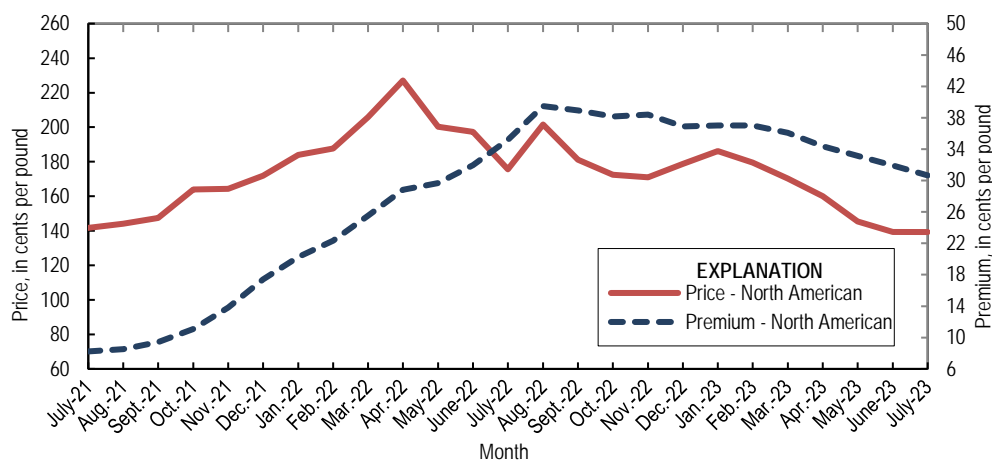


Figure 3. Average monthly North American price and premium for Special High Grade zinc from July 2021 through July 2023. The North American price is based on the London Metal Exchange cash price plus the North American premium. Source: S&P Global Platts Metals Week.

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TABLE 1
SALIENT ZINC STATISTICS¹

(Metric tons, unless otherwise specified)

	2022	2023		
	January– December ^p	June	July	January– July ²
Production:				
Mine, zinc content of concentrate ³	761,000	70,700 ^r	71,500	447,000
Mine, recoverable zinc ³	744,000	69,100 ^r	69,400	436,000
Smelter, refined zinc ^{e,4}	220,000	18,000	18,000	126,000
Consumption of refined zinc, apparent ⁵	974,000	62,100	79,400	584,000
Imports for consumption:				
Ore and concentrate (zinc content)	4,870	2,010	542	14,800
Refined zinc	762,000	44,100	63,300	462,000
Exports:				
Ore and concentrate (zinc content)	644,000	14,300	163,000	230,000
Refined zinc	8,070	84	1,880	3,450
Price: ⁶				
London Metal Exchange cash, average, dollars per metric ton	3,484.42	2,367.64	2,395.99	2,771.42
North American, ⁷ average, cents per pound	190.19	139.33	139.33	160.03

^eEstimated. ^pPreliminary. ^rRevised.

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

²May include revisions to previously published data.

³Reported zinc content in both zinc and lead concentrates.

⁴Monthly and annual smelter production data are estimated to avoid disclosing company proprietary data and do not reflect actual production reported to the U.S. Geological Survey.

⁵Smelter production plus imports for consumption minus domestic exports. Apparent consumption may not reflect actual consumption owing to significant changes in unreported stocks.

⁶Special High Grade Zinc.

⁷S&P Global Platts Metals Week.

TABLE 2
MINE AND SMELTER PRODUCTION OF ZINC
IN THE UNITED STATES¹

(Metric tons)

Period	Mine ²		Smelter ^{e, 3}
	Zinc content	Recoverable	
2022:			
July	71,500	69,900	18,000
August	75,400	73,800	18,000
September	64,100	62,700	18,000
October	55,300	54,000	18,000
November	46,400	45,400	18,000
December	64,900	63,500	18,000
January–December	761,000	744,000	220,000
2023:			
January	68,300	66,800	18,000
February	55,200	53,900	18,000
March	59,500	58,100	18,000
April	55,900 ^r	54,600 ^r	18,000
May	65,900 ^r	64,500 ^r	18,000
June	70,700 ^r	69,100 ^r	18,000
July	71,500	69,400	18,000
January–July	447,000	436,000	126,000

^eEstimated. ^rRevised.

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

²Includes the zinc content in both lead and zinc concentrates.

³Monthly and annual smelter production data are estimated to avoid disclosing company proprietary data and do not reflect actual production reported to the U.S. Geological Survey.

TABLE 3
U.S. SHIPMENTS OF
GALVANIZED STEEL SHEET AND STRIP¹

Period	Quantity (metric tons)
2022:	
July	1,320,000
August	1,370,000
September	1,310,000
October	1,350,000
November	1,320,000
December	1,250,000
January–July	9,750,000
January–December	16,300,000
2023:	
January	1,290,000
February	1,280,000
March	1,380,000
April	1,410,000
May	1,440,000
June	1,410,000
July	1,360,000
January–July	9,550,000

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

Source: American Iron and Steel Institute.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF ZINC¹

(Gross weight, unless otherwise specified)

Material	2022		2023			
	Quantity (metric tons)	Value (thousands)	July		January-July ²	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Ore and concentrate (zinc content)	4,870	\$9,880	542	\$510	14,800	\$16,000
Unwrought:						
Refined zinc	762,000	2,710,000	63,300	177,000	462,000	1,520,000
Zinc alloys	3,770	15,200	432	1,470	2,880	10,600
Wrought:						
Bars, rods, profiles, wire	3,500	16,200	316	1,220	2,390	9,950
Plates, sheets, strip, foil	1,680	9,840	121	671	837	4,910
Ash and residues: ³						
Hard zinc spelter	--	--	--	--	(4)	22
Zinc dross and skimmings	4,370	8,550	969	720	4,150	6,670
Other (zinc content)	5,610	12,000	34	67	1,570	1,050
Other:						
Powders, flakes, dust	19,800	92,600	1,210	5,100	9,670	43,800
Waste and scrap	10,900	23,300	1,100	1,950	6,310	13,500
Chemicals:						
Lithopone	1,110	4,520	29	173	191	676
Zinc chloride	419	2,830	3	24	337	1,730
Zinc oxide	104,000	371,000	8,230	24,600	57,000	191,000
Zinc sulfate	95,200	124,000	4,990	4,730	35,100	34,000
Zinc sulfide	1,930	9,710	271	1,430	1,290	7,260

-- Zero.

¹Data are rounded to no more than three significant digits.

²May include revisions to previously published data.

³Other than from the manufacture of iron and steel; containing mainly zinc.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY OR LOCALITY¹

(Metric tons, gross weight, unless otherwise specified)

Material and country or locality	General imports			Imports for consumption		
	2022	2023		2022	2023	
		July	January–July ²		July	January–July ²
Ore and concentrate (zinc content):						
Canada	1,610	542	996	1,610	542	996
China	358	--	--	358	--	--
Korea, Republic of	--	--	3,860	--	--	3,860
Peru	2,670	--	--	2,670	--	--
Turkey	--	--	9,950	--	--	9,950
Other	232	--	9	232	--	9
Total	4,870	542	14,800	4,870	542	14,800
Refined zinc:						
Australia	69,000	--	39,700	74,000	--	39,700
Belgium	--	58	168	1,800	58	168
Brazil	--	1,500	14,900	10	1,500	14,900
Bulgaria	--	--	43	--	--	43
Canada	378,000	33,100	199,000	378,000	33,100	199,000
China	(3)	84	1,870	502	84	1,870
Denmark	(3)	--	--	(3)	--	--
Germany	983	--	--	983	--	--
India	--	--	4,920	--	--	4,920
Italy	3	--	1	3	--	1
Japan	2	1	1,690	2	1	1,690
Kazakhstan	17,700	15,000	39,400	17,700	15,000	39,400
Korea, Republic of	88,600	722	44,600	94,000	722	44,600
Luxembourg	--	--	75	--	--	75
Mexico	108,000	9,640	66,900	108,000	9,640	66,900
Netherlands	--	--	--	1,240	--	--
Nigeria	320	--	--	320	--	--
Peru	52,900	3,260	45,800	52,900	3,260	45,800
Poland	241	--	780	241	--	780
Singapore	21	--	25	21	--	25
Spain	5,500	--	--	31,600	--	--
Taiwan	21	--	9	21	--	9
Thailand	(3)	--	--	(3)	--	--
United Kingdom	20	--	1,640	20	--	1,640
Total	722,000	63,300	462,000	762,000	63,300	462,000
Oxide:						
Australia	197	--	235	148	--	259
Canada	44,200	2,780	21,400	44,200	2,780	21,400
China	800	15	109	800	--	81
Germany	1,870	22	272	1,870	22	272
Greece	375	190	411	375	190	411
Japan	1,210	32	342	1,210	32	342
Korea, Republic of	428	78	215	428	78	215
Mexico	41,300	4,380	28,800	41,300	4,380	28,800
Netherlands	6,900	148	1,760	6,900	148	1,760
Peru	5,850	574	3,310	5,850	574	3,310
Other	494	18	162	494	18	162
Total	104,000	8,240	57,000	104,000	8,230	57,000

-- Zero.

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

²May include revisions to previously published data.

³Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6
U.S. EXPORTS OF ZINC¹

(Gross weight, unless otherwise specified)

Material	2022		2023			
	Quantity (metric tons)	Value (thousands)	July		January-July ²	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Ore and concentrate (zinc content)	644,000	\$1,530,000	163,000	\$237,000	230,000	\$338,000
Unwrought:						
Refined zinc	8,070	28,300	1,880	4,780	3,450	10,600
Zinc alloys	44,300	124,000	2,670	8,880	22,400	69,500
Wrought:						
Bars, rods, profiles, wire	3,220	21,200	167	1,120	1,240	6,290
Plates, sheets, strip, foil	5,830	24,800	689	2,540	2,880	11,800
Ash and residues: ³						
Hard zinc spelter	12,300	29,300	1,650	2,960	7,140	14,100
Other (zinc content)	26,900	52,900	2,150	3,190	13,000	22,100
Other:						
Powders, flakes, dust	10,600	51,700	582	2,640	4,330	21,600
Waste and scrap	190,000	183,000	2,780	3,260	29,600	34,900
Chemicals:						
Lithopone	510	1,900	16	126	242	846
Zinc chloride	1,250	1,550	8	27	711	1,110
Zinc oxide	71,400	137,000	3,750	5,760	44,400	68,000
Zinc sulfate	808	769	33	28	415	349
Zinc sulfide	2,400	14,500	256	886	1,300	8,180

¹Data are rounded to no more than three significant digits.

²May include revisions to previously published data.

³Other than from the manufacture of iron and steel; containing mainly zinc.

Source: U.S. Census Bureau.

TABLE 7
U.S. EXPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY OR LOCALITY¹

(Metric tons, gross weight, unless otherwise specified)

Material and country or locality	2022	2023	
		July	January–July ²
Ore and concentrate (zinc content):			
Australia	19,300	42,200	42,200
Belgium	45,200	23,800	32,600
Canada	241,000	6,660	43,600
China	49,400	10,500	10,500
Finland	23,300	23,900	23,900
Japan	63,400	5,250	13,300
Korea, Republic of	120,000	34,500	45,600
Netherlands	3,080	--	--
Spain	79,500	15,900	15,900
Other	43	6	2,830
Total	644,000	163,000	230,000
Refined zinc:			
Belgium	758	--	--
Brazil	--	1,800	1,880
Canada	1,460	55	551
Italy	2,470	--	1
Mexico	2,840	12	994
Other	543 ^r	14	27
Total	8,070	1,880	3,450
Oxide:			
Belgium	387	34	221
Brazil	285	1	129
Canada	3,710	148	889
Colombia	275	(3)	129
Finland	797	100	515
India	828	171	940
Italy	108	--	174
Japan	38	184	345
Mexico	63,500	3,010	40,100
United Kingdom	145	43	137
Other	1,260 ^r	51	901
Total	71,300	3,750	44,400

^rRevised. -- Zero.

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

²May include revisions to previously published data.

³Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8
AVERAGE PRICES FOR SPECIAL HIGH GRADE ZINC

Period	North American		London Metal Exchange	
	Premium	Price ¹	cash ²	
	¢/lb.	¢/lb.	¢/lb.	\$/t
2022:				
July	35.2	175.63	140.46	3,096.58
August	39.5	201.52	162.03	3,572.13
September	39.0	181.18	142.23	3,135.72
October	38.2	172.40	134.22	2,959.05
November	38.4	170.98	132.58	2,922.97
December	36.9	178.75	141.86	3,127.50
January–December	32.1	190.19	158.05	3,484.42
2023:				
January	37.0	186.20	149.17	3,288.55
February	37.0	179.60	142.57	3,143.04
March	36.1	170.16	134.06	2,955.59
April	34.4	160.11	125.74	2,772.06
May	33.1	145.49	112.36	2,477.10
June	31.9	139.33	107.39	2,367.64
July	30.7	139.33	108.68	2,395.99
January–July	34.3	160.03	125.71	2,771.42

¹S&P Global Platts Metals Week North American price. Based on the London Metal Exchange cash price plus the North American premium.

²Average of the cash buyer price and the cash seller and settlement price.

Source: S&P Global Platts Metals Week.

TABLE 9
LONDON METAL EXCHANGE (LME) STOCKS OF SPECIAL HIGH GRADE ZINC, END OF PERIOD

(Metric tons)

Period	United States			Asia	Europe	Middle East	Total LME
	Baltimore, MD	New Orleans, LA	Total				
2022:							
July	1,300	3,950	5,250	64,450	25	--	69,725
August	1,000	2,150	3,150	72,025	25	1,950	77,150
September	975	750	1,725	49,925	25	1,950	53,625
October	650	--	650	42,450	25	1,700	44,825
November	350	--	350	39,550	25	1,300	41,225
December	25	--	25	29,425	25	1,000	30,475
2023:							
January	--	--	--	15,475	--	1,000	16,475
February	--	--	--	32,225	--	1,000	33,225
March	--	--	--	44,300	--	750	45,050
April	--	--	--	52,525	--	400	52,925
May	--	--	--	87,400	--	50	87,450
June	--	--	--	80,225	--	50	80,275
July	--	--	--	99,300	--	50	99,350
-- Zero.							

-- Zero.

Source: London Metal Exchange, Ltd.