

Mineral Industry Surveys

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ZINC IN MAY 2023

Domestic mine production (recoverable) of zinc in May 2023 was 64,100 metric tons (t) (tables 1, 2). Mine production (recoverable) for the year through May was 297,000 t, 4% less than that in the same period in 2022. Average daily (recoverable) mine production in May was 2,070 t, 14% more than that in the previous month but unchanged compared with that in May 2022 (fig. 1, table 2).

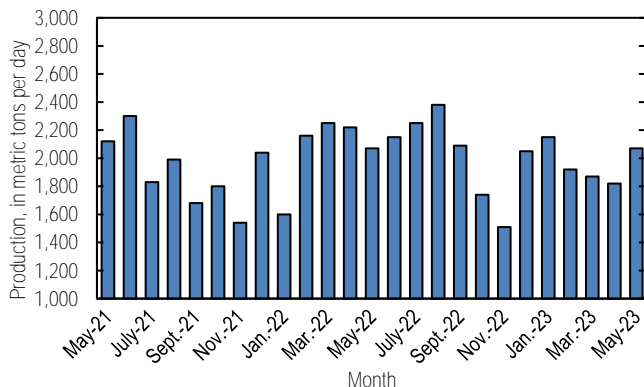


Figure 1. Average daily domestic zinc mine production (recoverable) from May 2021 through May 2023.

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 May 2023, unchanged since the end of January 2023 and down from 10,675 t at the end of May 2022. Global LME stocks were 87,450 t at the end of May 2023, 65% more compared with stocks at the end of April 2023 and 5% more than those at the end of May 2022 (fig. 2, table 9). Reported off-warrant stocks of SHG zinc in LME-approved warehouses at the end of May 2023 decreased to 11,366 t from 15,671 t at the end of April 2023; all of which were held in Asia (London Metal Exchange Ltd., 2023).

The monthly average S&P Global Platts Metals Week North American SHG zinc price in May 2023 was 145 cents per pound, 9% less than that in the previous month and 27% less than that in May 2022. The May 2023 average LME cash price for SHG zinc was \$2,477.10 per metric ton (112 cents per

pound), 11% less than that in the previous month and 34% less than that in May 2022 (fig. 3, table 8).

The North American premium to the LME cash price in May 2023 averaged 33 cents per pound, 4% less than that in the previous month but 12% more than that in May 2022 (fig. 3, table 8).

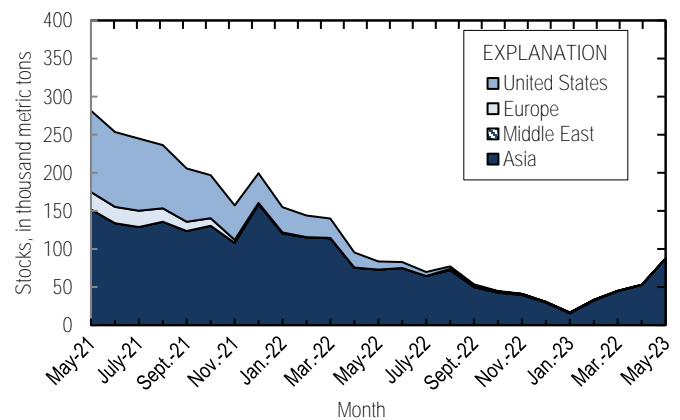


Figure 2. Global LME stocks of Special High Grade zinc, end of month, from May 2021 through May 2023. Source: London Metal Exchange Ltd.

Legislation and Government Programs

Recently, two large-scale, high-voltage transmission projects that would supply renewable-generated electricity throughout the West neared closer to construction. In May, the U.S. Bureau of Land Management (BLM) announced that a Record of Decision was completed for the SunZia Southwest Transmission Project, which was one of the final steps needed before development could begin. The project included two 500-kilovolt transmission lines spanning 520 miles (837 kilometers) from New Mexico to Arizona. Last month, BLM authorized construction of the 732-mile (1,180-kilometer) TransWest Express transmission line extending from Wyoming to Nevada. The line would carry electricity generated from the Chokeycherry and Sierra Madre wind energy project in Wyoming. Transmission poles and lattice towers are commonly made from galvanized steel, and transmission substations contain large quantities of galvanized steel parts (American Galvanizers

Association, undated; U.S. Bureau of Land Management, 2023; U.S. Department of the Interior, 2023).

Domestic News

The Federal Permitting Improvement Steering Council announced that South 32 Ltd.'s (Australia) Hermosa project in Santa Cruz County, AZ, was added to the Federal FAST-41 process. Signed into law in 2015, FAST-41 refers to Title 41 of the Fixing America's Surface Transportation Act and facilitates the Federal review and authorization process for approved large-scale critical projects, including mining projects. The \$1.7-billion Hermosa project included the zinc-lead-silver Taylor sulfide deposit and the zinc-manganese-silver Clark oxide deposit. The project was the first critical minerals project to be covered under FAST-41 (Permitting Council Press Office, 2023; South 32 Ltd., 2023).

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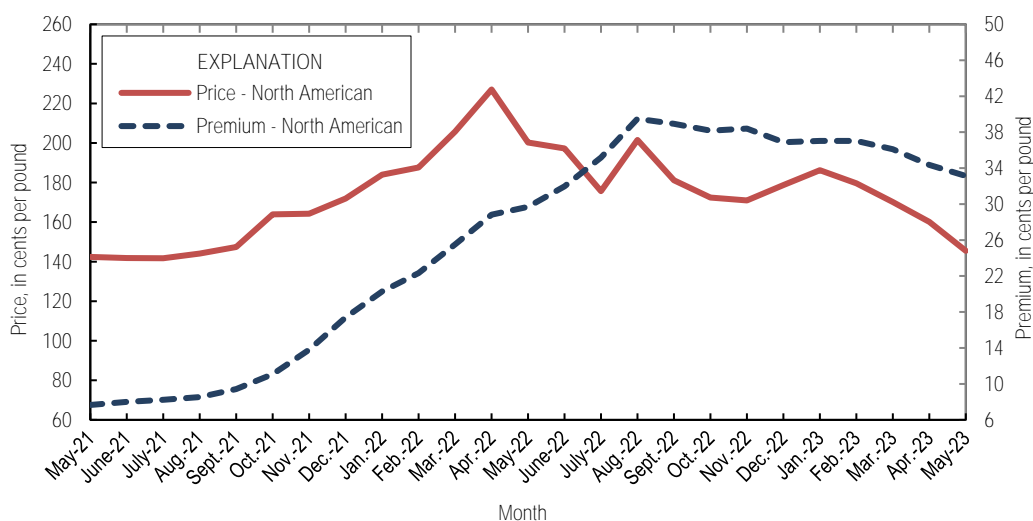


Figure 3. Average monthly North American price and premium for Special High Grade zinc from May 2021 through May 2023. The North American price is based on the London Metal Exchange cash price plus the North American premium. Source: S&P Global Platts Metals Week.

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TABLE 1
SALIENT ZINC STATISTICS¹

(Metric tons, unless otherwise specified)

	2022	2023		
	January– December ^p	April	May	January– May ²
Production:				
Mine, zinc content of concentrate ³	761,000	55,800	65,600	304,000
Mine, recoverable zinc ³	744,000	54,500	64,100	297,000
Smelter, refined zinc ^{6,4}	220,000	18,000	18,000	90,000
Consumption of refined zinc, apparent ⁵	974,000	78,900	66,700	443,000
Imports for consumption:				
Ore and concentrate (zinc content)	4,870	1,400	17	12,300
Refined zinc	762,000	61,000	49,200	354,000
Exports:				
Ore and concentrate (zinc content)	644,000	14,700	8,870	53,300
Refined zinc	8,070	141	564	1,490
Price:⁶				
London Metal Exchange cash, average, dollars per metric ton	3,484.42	2,772.06	2,477.10	2,927.27
North American, ⁷ average, cents per pound	190.19	160.11	145.49	168.31

⁶Estimated. ^pPreliminary.

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 ³
	Zinc content	Recoverable	
2022:			
May	65,500	64,100	18,000
June	65,900	64,400	18,000
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	55,800	54,500	18,000
May	65,600	64,100	18,000
January–May	304,000	297,000	90,000

^cEstimated.

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:	
May	1,440,000
June	1,360,000
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–May	7,060,000
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
January–May	6,790,000

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)	May		January–May ²	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Ore and concentrate (zinc content)	4,870	\$9,880	17	\$44	12,300	\$13,700
Unwrought:						
Refined zinc	762,000	2,710,000	49,200	158,000	354,000	1,210,000
Zinc alloys	3,770	15,200	386	1,290	2,280	8,460
Wrought:						
Bars, rods, profiles, wire	3,500	16,200	434	1,820	1,590	6,980
Plates, sheets, strip, foil	1,680	9,840	176	1,010	617	3,600
Ash and residues: ³						
Hard zinc spelter	--	--	--	--	(4)	22
Zinc dross and skimmings	4,370	8,550	348	731	2,160	5,150
Other (zinc content)	5,610	12,000	392	228	1,500	940
Other:						
Powders, flakes, dust	19,800	92,600	1,470	6,560	7,310	33,700
Waste and scrap	10,900	23,300	697	1,670	4,470	9,930
Chemicals:						
Lithopone	1,110	4,520	19	9	138	315
Zinc chloride	419	2,830	90	401	320	1,570
Zinc oxide	104,000	371,000	7,800	26,500	41,700	143,000
Zinc sulfate	95,200	124,000	4,770	4,430	27,200	26,500
Zinc sulfide	1,930	9,710	208	1,320	986	5,380

-- 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	
		May	January–May ²		May	January–May ²
Ore and concentrate (zinc content):						
Canada	1,610	16	16	1,610	16	16
China	358	--	--	358	--	--
Korea, Republic of	--	--	2,290	--	--	2,290
Peru	2,670	--	--	2,670	--	--
Turkey	--	--	9,950	--	--	9,950
Other	232	1	9	232	1	9
Total	4,870	17	12,300	4,870	17	12,300
Refined zinc:						
Australia	69,000	894	39,700	74,000	894	39,700
Belgium	--	110	110	1,800	110	110
Brazil	--	1,050	11,400	10	1,050	11,400
Bulgaria	--	--	43	--	--	43
Canada	378,000	29,800	138,000	378,000	29,800	138,000
China	(3)	--	1,790	502	--	1,790
Denmark	(3)	--	--	(3)	--	--
Germany	983	--	--	983	--	--
India	--	--	4,920	--	--	4,920
Italy	3	--	1	3	--	1
Japan	2	399	1,690	2	399	1,690
Kazakhstan	17,700	--	24,400	17,700	--	24,400
Korea, Republic of	88,600	251	42,800	94,000	251	42,800
Luxembourg	--	--	75	--	--	75
Mexico	108,000	11,200	49,000	108,000	11,200	49,000
Netherlands	--	--	--	1,240	--	--
Nigeria	320	--	--	320	--	--
Peru	52,900	5,300	37,900	52,900	5,300	37,900
Poland	241	292	780	241	292	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	49,200	354,000	762,000	49,200	354,000
Oxide:						
Australia	197	--	162	148	--	187
Canada	44,200	3,250	15,800	44,200	3,250	15,800
China	800	--	94	800	--	81
Germany	1,870	15	239	1,870	15	239
Greece	375	76	203	375	76	203
Japan	1,210	52	278	1,210	52	278
Korea, Republic of	428	--	107	428	--	107
Mexico	41,300	3,490	21,100	41,300	3,490	21,100
Netherlands	6,900	283	1,490	6,900	283	1,490
Peru	5,850	572	2,080	5,850	572	2,080
Other	494	61	110	494	61	110
Total	104,000	7,800	41,700	104,000	7,800	41,700

-- 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)	May		January-May ²	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Ore and concentrate (zinc content)	644,000	\$1,530,000	8,870	\$12,800	53,300	\$75,900
Unwrought:						
Refined zinc	8,070	28,300	564	1,880	1,490	5,560
Zinc alloys	44,300	124,000	3,400	11,000	17,000	51,400
Wrought:						
Bars, rods, profiles, wire	3,220	21,200	209	974	1,040	4,890
Plates, sheets, strip, foil	5,830	24,800	293	1,210	1,680	6,990
Ash and residues: ³						
Hard zinc spelter	12,300	29,300	973	1,740	4,140	8,430
Other (zinc content)	26,900	52,900	1,770	3,120	8,890	16,000
Other:						
Powders, flakes, dust	10,600	51,700	604	2,960	3,140	15,700
Waste and scrap	190,000	183,000	4,240	5,610	22,900	27,400
Chemicals:						
Lithopone	510	1,900	7	33	205	566
Zinc chloride	1,250	1,550	56	136	613	991
Zinc oxide	71,400	137,000	4,990	7,650	32,000	51,800
Zinc sulfate	808	769	12	13	322	239
Zinc sulfide	2,400	14,500	70	928	951	6,260

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	
		May	January–May ²
Ore and concentrate (zinc content):			
Australia	19,300	--	--
Belgium	45,200	--	5,930
Canada	241,000	6,070	31,100
China	49,400	--	--
Finland	23,300	--	--
Japan	63,400	--	6,670
Korea, Republic of	120,000	--	6,740
Netherlands	3,080	--	--
Spain	79,500	--	--
Other	43	2,810	2,820
Total	644,000	8,870	53,300
Refined zinc:			
Belgium	758	--	--
Canada	1,460	86	422
Italy	2,470	1	1
Mexico	2,840	400	973
Spain	250	--	--
Other	293	78	91
Total	8,070	564	1,490
Oxide:			
Australia	187	8	35
Belgium	387	93	148
Brazil	285	1	108
Canada	3,710	205	634
Colombia	275	(3)	81
Finland	797	100	315
France	57	121	182
India	828	241	759
Italy	108	1	174
Mexico	63,500	4,110	28,800
Other	1,200 ^r	114	745
Total	71,400 ^r	4,990	32,000

^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:				
May	29.7	200.19	170.50	3,758.77
June	32.0	197.24	165.26	3,643.29
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
January–May	35.5	168.31	132.78	2,927.27

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:							
May	1,800	8,875	10,675	72,875	25	--	83,575
June	1,650	6,075	7,725	75,050	25	--	82,800
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

-- Zero.

Source: London Metal Exchange, Ltd.