

Mineral Industry Surveys

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ZINC IN AUGUST 2023

Domestic mine production (recoverable) of zinc in August 2023 was 50,100 metric tons (t) (tables 1, 2). Mine production (recoverable) for the year through August was 487,000 t, 6% less than that in the same period in 2022. Average daily (recoverable) mine production in August was 1,620 t, 28% less than that in the previous month and 32% less compared with that in August 2022 (fig. 1, table 2).

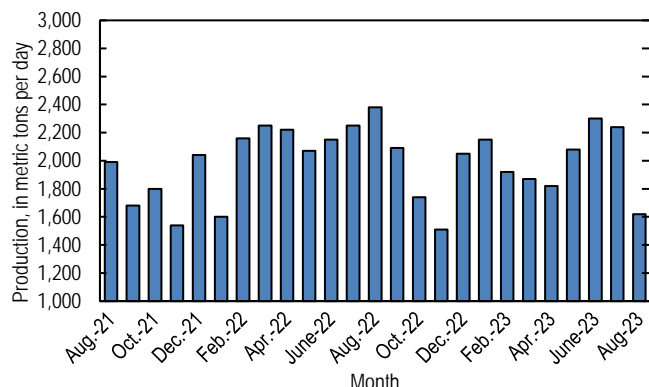


Figure 1. Average daily domestic zinc mine production (recoverable) from August 2021 through August 2023.

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 August 2023, unchanged since the end of January 2023 and down from 3,150 t at the end of August 2022. Global LME stocks were 153,575 t at the end of August 2023, 55% more compared with stocks at the end of July 2023 and almost twice more than those at the end of August 2022 (fig. 2, table 9). Reported off-warrant stocks of SHG zinc in LME-approved warehouses at the end of August 2023 decreased to 14,840 t from 18,980 t at the end of July 2023; of which 85% were held in Asia and 15% in Europe (London Metal Exchange Ltd., 2023).

The monthly average S&P Global Platts Metals Week North American SHG zinc price in August 2023 was 138 cents per pound, essentially unchanged compared with that in the previous month and 31% less than that in August 2022. The

August 2023 average LME cash price for SHG zinc was \$2,400.48 per metric ton (109 cents per pound), unchanged from that in the previous month and 33% less than that in August 2022 (fig. 3, table 8).

The North American premium to the LME cash price in August 2023 averaged 29 cents per pound, 4% less than that in the previous month and 26% less compared with that in August 2022 (fig. 3, table 8).

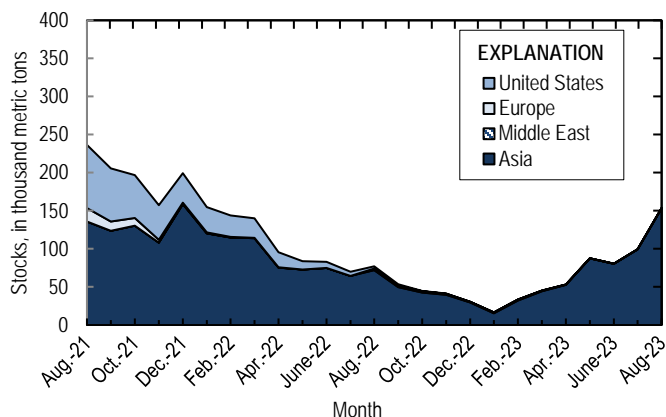


Figure 2. Global LME stocks of Special High Grade zinc, end of month, from August 2021 through August 2023. Source: London Metal Exchange Ltd.

Government and Legislative Programs

The U.S. Department of Energy's Loan Programs Office announced that it would provide conditional financing of up to \$398.6 million to Eos Energy Enterprises Inc. (Edison, NJ) to build four zinc-bromine battery production lines at its manufacturing facility in Turtle Creek, PA. The batteries were designed for long-duration, grid-scale renewable energy storage, and the company expected to source battery materials domestically. The loan was provided through Title 17 of the Clean Energy Financing Program (U.S. Department of Energy, 2023).

Domestic News

Hecla Mining Co. (Coeur d'Alene, ID) announced that a ground fall occurred within a secondary egress at the Lucky

Friday silver-lead-zinc mine in Idaho. No personnel were in the mine at the time of the incident. The ground fall was determined to have been caused by a fire, which was extinguished. Hecla anticipated that production at Lucky Friday would be suspended for the remainder of 2023 while it developed a new secondary egress to bypass the damaged area. Hecla produced 11,300 t of zinc in concentrate at Lucky Friday in 2022 (Hecla Mining Co., 2023a, p. 45; 2023b; 2023c).

Nevada Zinc Corp. (Canada) entered into an agreement with BelZinc srl (Belgium) that would allow Nevada Zinc to use BelZinc's technology to produce zinc oxide from ore at its Lone Mountain zinc deposit near Eureka, NV. The company planned to release a prefeasibility study on the project in late 2024 (Nevada Zinc Corp., 2023).

References Cited

London Metal Exchange Ltd., 2023, Off-warrant stock reporting: London, United Kingdom, London Metal Exchange Ltd. (Accessed October 19, 2023, via <https://www.lme.com/en/Market-data/Reports-and-data/Warehouse-and-stocks-reports/Off-warrant-stock-reporting>.)

Hecla Mining Co., 2023a, Form 10-K—2022: U.S. Securities and Exchange Commission, 96 p. (Accessed October 23, 2023, at <https://www.sec.gov/ix?doc=/Archives/edgar/data/719413/000095017023003174/hl-20221231.htm>.)

Hecla Mining Co., 2023b, Hecla announces Lucky Friday update: Coeur d'Alene, Idaho, Hecla Mining Co. press release, August 21. (Accessed August 21, 2023, at <https://ir.hecla.com/News--Media/news-releases/news-details/2023/Hecla-Announces-Lucky-Friday-Update/default.aspx>.)

Hecla Mining Co., 2023c, Hecla announces Lucky Friday update: Coeur d'Alene, Idaho, Hecla Mining Co. press release, September 18. (Accessed September 18, 2023, at <https://ir.hecla.com/News--Media/news-releases/news-details/2023/Hecla-Announces-Lucky-Friday-Update-32da68785/default.aspx>.)

Nevada Zinc Corp., 2023, Nevada Zinc announces intention to enter into strategic partnership to produce zinc oxide: Toronto, Ontario, Canada, Nevada Zinc Corp. press release, August 10. (Accessed August 10, 2023, at <https://www.globenewswire.com/news-release/2023/08/10/2722791/0/en/Nevada-Zinc-Announces-Intention-To-Enter-Into-Strategic-Partnership-To-Produce-Zinc-Oxide.html>.)

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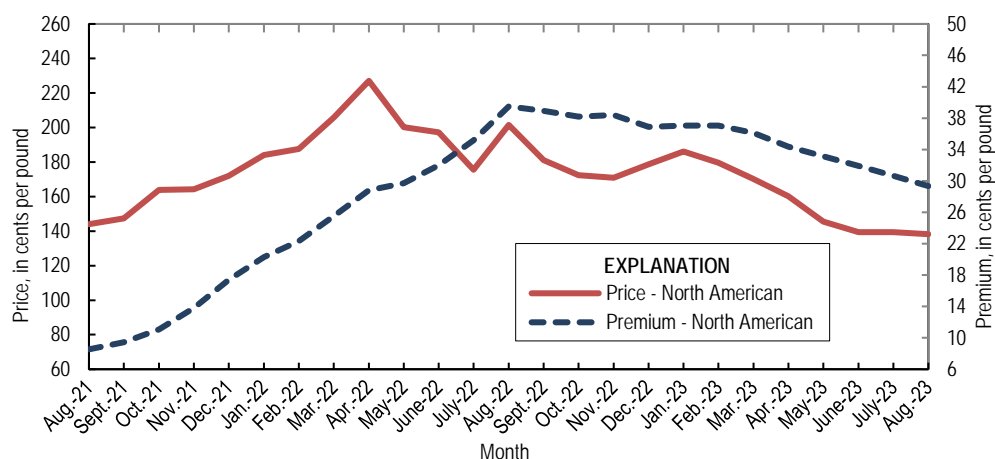


Figure 3. Average monthly North American price and premium for Special High Grade zinc from August 2021 through August 2023. The North American price is based on the London Metal Exchange cash price plus the North American premium. Source: S&P Global Platts Metals Week.

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TABLE 1
SALIENT ZINC STATISTICS¹

(Metric tons, unless otherwise specified)

	2022	2023		
	January– December ^p	July	August	January– August ²
Production:				
Mine, zinc content of concentrate ³	761,000	71,500	51,300	498,000
Mine, recoverable zinc ³	744,000	69,400	50,100	487,000
Smelter, refined zinc ^{e,4}	220,000	18,000	18,000	144,000
Consumption of refined zinc, apparent ⁵	974,000	79,400	67,200	651,000
Imports for consumption:				
Ore and concentrate (zinc content)	4,870	542	413	15,200
Refined zinc	762,000	63,300	49,300	511,000
Exports:				
Ore and concentrate (zinc content)	644,000	163,000	187,000	417,000
Refined zinc	8,070	1,880	108	3,560
Price: ⁶				
London Metal Exchange cash, average, dollars per metric ton	3,484.42	2,395.99	2,400.48	2,725.05
North American, ⁷ average, cents per pound	190.19	139.33	138.23	157.30

^eEstimated. ^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 ^{e, 3}
	Zinc content	Recoverable	
2022:			
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	54,600	18,000
May	65,900	64,500	18,000
June	70,700	69,100	18,000
July	71,500	69,400	18,000
August	51,300	50,100	18,000
January–August	498,000	487,000	144,000

^eEstimated.

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:	
August	1,370,000
September	1,310,000
October	1,350,000
November	1,320,000
December	1,250,000
January–August	11,100,000
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
August	1,410,000
January–August	11,000,000

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)	August		January–August ²	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Ore and concentrate (zinc content)	4,870	\$9,880	413	\$461	15,200	\$16,400
Unwrought:						
Refined zinc	762,000	2,710,000	49,300	143,000	511,000	1,670,000
Zinc alloys	3,770	15,200	287	830	3,160	11,500
Wrought:						
Bars, rods, profiles, wire	3,500	16,200	348	1,340	2,740	11,300
Plates, sheets, strip, foil	1,680	9,840	146	760	983	5,670
Ash and residues: ³						
Hard zinc spelter	--	--	--	--	(4)	22
Zinc dross and skimmings	4,370	8,550	197	363	4,350	7,030
Other (zinc content)	5,610	12,000	13	44	1,590	1,100
Other:						
Powders, flakes, dust	19,800	92,600	1,210	4,980	10,900	48,800
Waste and scrap	10,900	23,300	1,150	1,970	7,460	15,400
Chemicals:						
Lithopone	1,110	4,520	7	128	198	804
Zinc chloride	419	2,830	50	272	387	2,010
Zinc oxide	104,000	371,000	8,550	24,700	65,500	215,000
Zinc sulfate	95,200	124,000	6,840	6,200	42,000	40,200
Zinc sulfide	1,930	9,710	227	1,520	1,520	8,780

-- 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	
		August	January–August ²		August	January–August ²
Ore and concentrate (zinc content):						
Canada	1,610	413	1,410	1,610	413	1,410
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	413	15,200	4,870	413	15,200
Refined zinc:						
Australia	69,000	--	39,700	74,000	--	39,700
Belgium	--	--	168	1,800	--	168
Brazil	--	3,990	18,900	10	3,990	18,900
Bulgaria	--	--	43	--	--	43
Canada	378,000	32,200	231,000	378,000	32,200	231,000
China	(3)	28	1,900	502	28	1,900
Denmark	(3)	--	--	(3)	--	--
Germany	983	10	10	983	10	10
India	--	--	4,920	--	--	4,920
Italy	3	1	2	3	1	2
Japan	2	1	1,690	2	1	1,690
Kazakhstan	17,700	--	39,400	17,700	--	39,400
Korea, Republic of	88,600	899	45,500	94,000	899	45,500
Luxembourg	--	--	75	--	--	75
Mexico	108,000	9,490	76,400	108,000	9,490	76,400
Netherlands	--	--	--	1,240	--	--
Nigeria	320	--	--	320	--	--
Peru	52,900	2,740	48,500	52,900	2,740	48,500
Poland	241	--	780	241	--	780
Singapore	21	(3)	25	21	(3)	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	49,300	511,000	762,000	49,300	511,000
Oxide:						
Australia	197	43	278	148	43	302
Canada	44,200	3,020	24,400	44,200	3,020	24,400
China	800	11	120	800	13	94
Germany	1,870	24	295	1,870	24	295
Greece	375	133	544	375	133	544
Japan	1,210	50	392	1,210	50	392
Korea, Republic of	428	6	221	428	6	221
Mexico	41,300	4,280	33,100	41,300	4,280	33,100
Netherlands	6,900	77	1,840	6,900	77	1,840
Peru	5,850	623	3,940	5,850	623	3,940
Other	494	278	440	494	278	440
Total	104,000	8,540	65,500	104,000	8,550	65,500

-- 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)	August		January–August ²	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Ore and concentrate (zinc content)	644,000	\$1,530,000	187,000	\$285,000	417,000	\$622,000
Unwrought:						
Refined zinc	8,070	28,300	108	419	3,560	11,100
Zinc alloys	44,300	124,000	3,130	10,300	25,600	79,800
Wrought:						
Bars, rods, profiles, wire	3,220	21,200	136	624	1,380	6,920
Plates, sheets, strip, foil	5,830	24,800	532	2,100	3,410	13,900
Ash and residues: ³						
Hard zinc spelter	12,300	29,300	1,140	2,000	8,280	16,100
Other (zinc content)	26,900	52,900	2,820	3,800	15,800	25,900
Other:						
Powders, flakes, dust	10,600	51,700	593	2,800	4,920	24,400
Waste and scrap	190,000	183,000	3,200	3,810	32,800	38,700
Chemicals:						
Lithopone	510	1,900	31	112	274	958
Zinc chloride	1,250	1,550	115	286	826	1,390
Zinc oxide	71,400	137,000	3,660	5,160	48,100	73,200
Zinc sulfate	808	769	12	9	426	358
Zinc sulfide	2,400	14,500	221	1,110	1,520	9,300

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	
		August	January–August ²
Ore and concentrate (zinc content):			
Australia	19,300	21,300	63,500
Belgium	45,200	13,300	45,900
Canada	241,000	76,300	120,000
China	49,400	10,700	21,200
Finland	23,300	--	23,900
Japan	63,400	12,400	25,600
Korea, Republic of	120,000	36,800	82,400
Netherlands	3,080	--	--
Spain	79,500	16,000	31,800
Other	43	4	2,830
Total	644,000	187,000	417,000
Refined zinc:			
Belgium	758	--	--
Brazil	--	--	1,880
Canada	1,460	71	622
Italy	2,470	(3)	1
Mexico	2,840	37	1,030
Other	543	--	27
Total	8,070	108	3,560
Oxide:			
Belgium	387	17	238
Brazil	285	--	129
Canada	3,710	169	1,060
Colombia	275	(3)	130
Finland	797	100	615
India	828	36	976
Italy	108	--	174
Japan	38	4	348
Mexico	63,500	3,100	43,200
United Kingdom	145	88	225
Other	1,260	138	1,040
Total	71,300	3,660	48,100

-- 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:				
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
August	29.4	138.23	108.88	2,400.48
January–August	33.7	157.31	123.61	2,725.06

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:							
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
August	--	--	--	153,525	--	50	153,575
-- Zero.							

-- Zero.

Source: London Metal Exchange, Ltd.