

Mineral Industry Surveys

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LEAD IN FEBRUARY 2023

Domestic mine production (recoverable) of lead in February was 22,100 metric tons (t). Average daily mine production in February was 789 t, 15% more than the production in the previous month and essentially unchanged from that in February 2022.

Secondary refined lead production in February 2023 was 78,400 t, unchanged from the production in the previous month and 3% more than that in February 2022 (fig. 1; tables 1, 2).

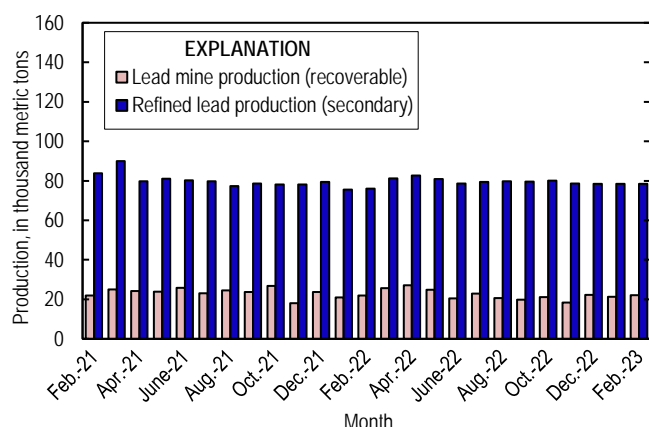


Figure 1. U.S. production of lead from February 2021 through February 2023.

The United States is a significant exporter of lead concentrates. U.S. exports of lead in ores and concentrates through February 2023 were 32,500 t, almost 2 times more than that for the same period in 2022. The main destinations in February were China (52%) and Canada (48%) (table 8). U.S. imports of unwrought lead through February were 87,800 t, 20% less than those for the same period in 2022. Leading import sources in February 2023 were Canada (46%), the Republic of Korea (35%), and Mexico (16%) (table 10).

Prices and Stocks

The average London Metal Exchange, Ltd. (LME) cash price for lead in February was 95.2 cents per pound, 5% less than that in the previous month and 9% less than that in February 2022 (table 3). The S&P Global Platts Metals Week (Platts) average

North American Market price for lead in February 2023 was \$1.15 per pound, 4% less than that in the previous month and 7% less than that in February 2022.

The North American premium to the LME cash price in February 2023 averaged 20 cents per pound, slightly more than that in January 2023 and unchanged from that in February 2022 (fig. 2, table 3).

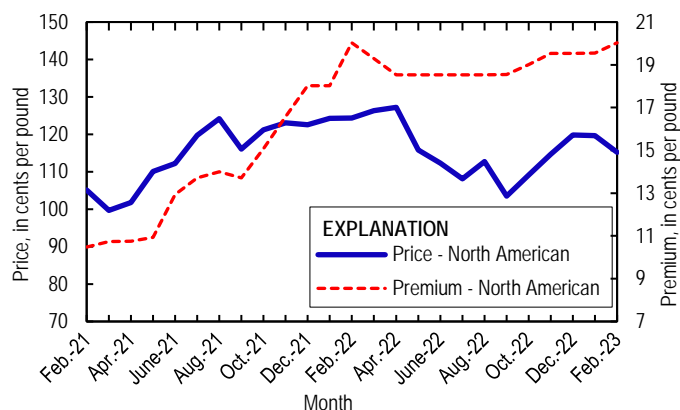


Figure 2. Average monthly North American price and premium for refined lead metal from February 2021 through February 2023. Source: S&P Global Platts Metals Week.

The Platts average U.S. used lead-acid batteries (Midwest) price in February 2023 was 18.5 cents per pound, 3% less than that in January 2023 and 24% less than that in February 2022 (table 3). Most secondary lead is recovered from used lead-acid batteries.

Global LME lead stocks at the end of February 2023 were 25,100 t, 20% more than those at the end of January 2023 and 43% less than those at the end of February 2022 (table 11).

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TABLE 1
SALIENT LEAD STATISTICS IN THE UNITED STATES¹

(Metric tons, lead content, unless otherwise specified)

	2022 ²		2023		
	January– December	January– February	January	February	January– February
Production:					
Mine (recoverable)	266,000	42,900 ^r	21,300	22,100	43,400
Secondary refinery, reported by smelters/refineries	951,000	152,000	78,400	78,400	157,000
Consumption of refined lead, apparent ^{e, 3}	1,580,000	274,000	134,000	107,000	241,000
Imports for consumption:					
Ore and concentrate	38	3	--	(4)	(4)
Bullion	--	--	--	--	--
Unwrought	652,000	125,000	57,200	30,600	87,800
Exports:					
Ore and concentrate	258,000	16,700	18,600	13,800	32,500
Bullion (gross weight)	1,550	374	71	--	71
Unwrought (gross weight)	25,800	3,240	1,570	1,630	3,200
S&P Global Platts Metals Week North American Market price (cents per pound)	116.53	124.29	119.69	115.21	117.45

^eEstimated. ^rRevised. -- Zero.

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.

³Secondary refinery production plus imports for consumption of unwrought lead minus domestic exports of unwrought lead.

⁴Less than ½ unit.

TABLE 2
MINE AND SECONDARY REFINERY PRODUCTION OF LEAD
IN THE UNITED STATES¹

(Metric tons)

Period	Mine		Secondary refinery ^c
	Lead in concentrate	Recoverable	
2022:			
January	21,500	20,900	75,500
February	22,600	22,000	76,100
March	26,400	25,700	81,200
April	27,800	27,100	82,700
May	25,500	24,800	80,900
June	21,000	20,400	78,600
July	23,500	22,900	79,500
August	22,500	20,700	79,800
September	20,300	19,800	79,600
October	21,800	21,200	80,100
November	19,000	18,400	78,600
December	22,900	22,200	78,400
January–December	275,000	266,000	951,000
2023:			
January	21,900	21,300	78,400
February	22,700	22,100	78,400
January–February	44,700	43,400	157,000

^cEstimated.

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

TABLE 3
MONTHLY AVERAGE LEAD PRICES

	North American Market ¹	London Metal Exchange (LME) cash		Used lead-acid batteries ²
	¢/lb	¢/lb	\$/t	¢/lb
2022:				
January	124.26	106.23	2,341.99	24.63
February	124.32	104.29	2,299.16	24.50
March	126.29	106.99	2,358.79	24.40
April	127.21	108.68	2,396.05	24.50
May	115.80	97.27	2,144.48	24.90
June	112.28	93.75	2,066.73	24.50
July	108.14	89.61	1,975.54	23.75
August	112.75	94.22	2,077.24	22.70
September	103.52	84.99	1,873.66	21.56
October	109.16	90.14	1,987.32	20.00
November	114.73	95.19	2,098.65	19.30
December	119.86	100.33	2,211.80	18.50
January–December	116.53	97.64	2,152.62	22.77
2023:				
January	119.69	100.13	2,207.50	19.00
February	115.21	95.18	2,098.29	18.50
January–February	117.45	97.65	2,152.90	18.75

¹S&P Global Platts Metals Week North American Market price. Reflects the LME lead cash price plus the Platts premium for 99.97% lead.

²S&P Global Platts Metals Week assessment for used lead-acid automotive batteries (50% lead) picked up in U.S. Midwest, suitable for delivery to secondary smelters within 30 days.

Source: S&P Global Platts Metals Week.

TABLE 4
CONSUMPTION OF PURCHASED LEAD-BASE SCRAP IN FEBRUARY 2023¹

(Metric tons, gross weight)

Item	Stocks January 31, 2023	Net receipts	Consumption	Stocks February 28, 2023
Battery-lead	W	62,400	62,400	W
Other ²	W	5,690	5,690	W
Total	11,100	68,100	68,100	11,100
Percent change from preceding month ³	XX	0.0	0.0	0.0

W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

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

²Includes soft lead, solder, drosses and residues, common babbitt, antimonial lead, cable covering, type metals, and other lead-base scrap.

³Based on unrounded data; preceding monthly data may have been revised.

TABLE 5
LEAD, TIN, AND ANTIMONY RECOVERED FROM
LEAD-BASE SCRAP IN FEBRUARY 2023¹

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	66,000	W	--
Remelt lead	W	--	--
Antimonial lead	11,900	W	W
Other ²	W	--	--
Total lead-base	78,400	174	W

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

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

²Includes cable lead, lead-base babbitt, solder, type metals, and other products.

TABLE 6
U.S. APPARENT CONSUMPTION OF LEAD¹

(Metric tons)

Period	Production ^c	Imports ^{2, 3}	Exports ^{2, 3}	Apparent consumption ⁴
2022: ^p				
January	75,500	72,100	1,700	146,000
February	76,100	53,300	1,530	128,000
March	81,200	55,900	1,730	135,000
April	82,700	37,400	1,590	119,000
May	80,900	59,000	3,730	136,000
June	78,600	74,300	1,910	151,000
July	79,500	35,300	1,920	113,000
August	79,800	77,900	3,270	154,000
September	79,600	45,100	2,400	122,000
October	80,100	44,500	1,920	123,000
November	78,600	29,900	1,960	107,000
December	78,400	67,000	2,180	143,000
January–December	951,000	652,000	25,800	1,580,000
2023:				
January	78,400	57,200	1,570	134,000
February	78,400	30,600	1,630	107,000
January–February	157,000	87,800	3,200	241,000

^cEstimated. ^pPreliminary.

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

²Import and export data are for Harmonized Tariff Schedule of the United States (HTS) codes 7801.10.0000, 7801.91.0000, 7801.99.9030, 7801.99.9050.

³Source: U.S. Census Bureau.

⁴Smelter production plus imports for consumption minus domestic exports.

TABLE 7
U.S. EXPORTS OF LEAD, BY CLASS¹

(Metric tons, gross weight, unless otherwise specified)

Class	2022 ²		2023		
	January– December	January– February	January	February	January– February
Ores and concentrate (lead content)	258,000	16,700	18,600	13,800	32,500
Bullion	1,550	374	71	--	71
Unwrought:					
Refined lead	4,270	98	262	510	772
Refined lead containing antimony as the principal alloying element	1,640	81	100	53	153
Lead alloys	16,900	2,870	1,180	1,030	2,210
Other	2,980	191	31	38	68
Total	25,800	3,240	1,570	1,630	3,200
Wrought:					
Bars, rods, profiles, and wire	910	107	41	55	96
Pipes and tubes, including fittings	23	9	7	8	15
Plates, sheets, strip, foil	6,160	778	1,190	679	1,870
Other	3,400	462	167	146	313
Total	10,500	1,360	1,400	888	2,290
Powders and flakes	330	61	51	25	75
Tetraethyl lead and tetramethyl lead	409	68	8	1	9
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	31,000,000	6,460,000	2,420,000	2,010,000	4,430,000
Lead waste and scrap obtained from lead-acid storage batteries	6,320	--	3,000	2,620	5,620
Other lead waste and scrap	36,400	6,080	3,230	3,350	6,580

-- Zero.

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

²May include revisions to previously published data.

Source: U.S. Census Bureau.

TABLE 8
U.S. EXPORTS OF LEAD ORES AND CONCENTRATES, BY COUNTRY OR LOCALITY¹

(Metric tons, lead content)

Country or locality	2022 ²		2023		
	January– December	January– February	January	February	January– February
Canada	35,800	4,160	3,510	6,610	10,100
China	107,000	3,620	7,780	7,200	15,000
Germany	7,980	--	--	--	--
Italy	7,640	--	--	--	--
Japan	27,300	--	--	--	--
Korea, Republic of	46,900	8,360	3,240	--	3,240
Malaysia	122	--	--	--	--
Mexico	16,800	88	4,090	28	4,110
Netherlands	7,960	--	--	--	--
Vietnam	1,190	516	--	--	--
Total	258,000	16,700	18,600	13,800	32,500

-- Zero.

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

²May include revisions to previously published data.

Source: U.S. Census Bureau.

TABLE 9
U.S. IMPORTS FOR CONSUMPTION OF LEAD, BY CLASS¹

(Metric tons, gross weight, unless otherwise specified)

Class	2022 ²		2023		
	January– December	January– February	January	February	January– February
Ores and concentrate (lead content)	38	3	--	(3)	(3)
Bullion (lead content)	--	--	--	--	--
Unwrought:					
Refined lead	538,000	110,000	49,200	23,800	72,900
Refined lead containing antimony as the principal alloying element (lead content)	50,800	7,290	2,070	2,090	4,160
Lead alloys (lead content)	22,100	3,520	1,880	1,920	3,800
Other (lead content)	41,000	4,740	4,130	2,800	6,930
Total	652,000	125,000	57,200	30,600	87,800
Wrought:					
Bars, rods, profiles, and wire	5,940	1,630	346	291	637
Pipes and tubes, including fittings	19	5	4	4	9
Plates, sheets, strip, foil	1,020	80	101	54	155
Other	5,590	596	275	146	421
Total	12,600	2,310	727	496	1,220
Powders and flakes	45	(3)	--	1	1
Tetraethyl lead and tetramethyl lead	165	57	17	--	17
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	621,000	127,000	44,700	172,000	216,000
Lead waste and scrap obtained from lead-acid storage batteries (lead content)	1,640	273	118	196	314
Other lead waste and scrap (lead content)	3,630	288	355	365	720

-- 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 10
U.S. IMPORTS FOR CONSUMPTION OF UNWROUGHT LEAD, BY COUNTRY OR LOCALITY^{1, 2}

(Metric tons, lead content)

Country or locality of origin	2022 ³		2023		
	January– December	January– February	January	February	January– February
Argentina	274	--	--	--	--
Australia	106,000	5,720	--	--	--
Brazil	3,960	--	965	302	1,270
Cambodia	101	--	--	--	--
Canada	172,000	17,500	13,100	14,100	27,200
China	64,500	20,000	2,010	--	2,010
Colombia	201	--	--	--	--
Congo (Kinshasa)	1,160	502	--	--	--
Ecuador	9,070	850	745	550	1,290
Ghana	6,880	951	--	--	--
Hungary	62	--	--	--	--
India	2,330	--	37	--	37
Indonesia	407	--	--	--	--
Kazakhstan	11,400	--	21,300	--	21,300
Korea, Republic of	120,000	38,300	12,100	10,600	22,700
Mexico	87,800	16,500	6,170	4,900	11,100
Nigeria	26,000	5,360	25	--	25
Norway	(4)	--	--	--	--
Pakistan	14,300	--	--	--	--
Panama	300	--	--	--	--
Peru	1,530	50	--	72	72
Russia	8,900	3,100	--	--	--
Singapore	(4)	--	--	--	--
South Africa	945	298	--	--	--
Spain	675	675	--	--	--
Sweden	(4)	--	3	--	3
Taiwan	423	--	748	--	748
Turkey	--	--	18	--	18
United Kingdom	11,200	--	--	--	--
Venezuela	136	--	--	27	27
Total	652,000	110,000	57,200	30,600	87,800

-- Zero.

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

²Includes refined lead (Quantity 1) of Harmonized Tariff Schedule of the United States (HTS) code 7801.10.0000 and the lead content (Quantity 2) of HTS codes 7801.91.0000, 7801.99.9030, 7801.99.9050. Excludes bullion.

³May include revisions to previously published data.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 11
LONDON METAL EXCHANGE (LME) STOCKS OF LEAD, END OF PERIOD

(Metric tons)

Period	Asia	Europe	Total
2022:			
January	47,150	5,325	52,475
February	40,000	4,300	44,300
March	34,525	4,200	38,725
April	34,025	4,100	38,125
May	35,100	3,700	38,800
June	36,700	2,800	39,500
July	36,300	2,575	38,875
August	35,200	2,300	37,500
September	30,050	2,225	32,275
October	25,400	2,225	27,625
November	21,725	2,025	23,750
December	23,200	1,950	25,150
2023:			
January	18,700	1,525	20,225
February	23,700	1,400	25,100

Source: London Metal Exchange, Ltd.