

Mineral Industry Surveys

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LEAD IN JULY 2023

Domestic mine production (recoverable) of lead in July was 23,900 metric tons (t). Average daily mine production in July was 772 t, 7% less than the production in the previous month and 8% more than that in July 2022. Secondary refined lead production in July 2023 was 77,900 t, unchanged from the production in the previous month and slightly less than that in July 2022 (fig. 1; tables 1, 2).

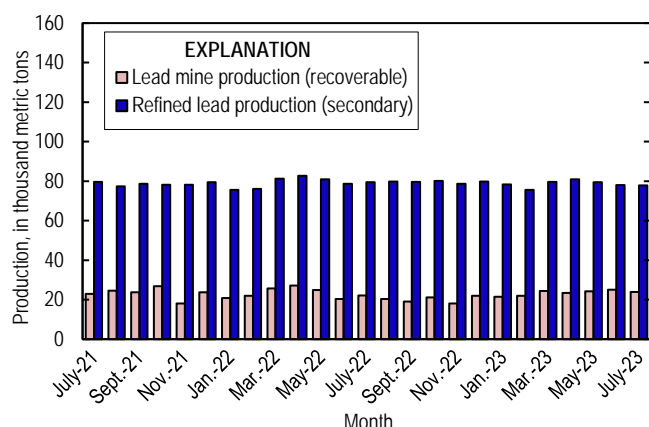


Figure 1. U.S. production of lead from July 2021 through July 2023.

The United States is a significant exporter of lead concentrates. U.S. exports of lead in ores and concentrates through July 2023 were 134,000 t, essentially unchanged from that for the same period in 2022. The main destinations in July were China (55%), Japan (20%), and Germany (19%) (table 8). U.S. imports of unwrought lead through July were 323,000 t, 17% less than those for the same period in 2022. Leading import sources in July 2023 were Australia (36%), Kazakhstan (18%), and Canada (17%) (table 10).

Prices and Stocks

The average London Metal Exchange, Ltd. (LME) cash price for lead in July was 95.5 cents per pound, essentially unchanged from that in the previous month and 7% more than that in July 2022 (table 3). The S&P Global Platts Metals Week (Platts) average North American Market price for lead in July 2023 was

\$1.13 per pound, essentially unchanged from that in the previous month and 5% more than that in July 2022.

The North American premium to the LME cash price in July 2023 averaged 17.6 cents per pound, 3% less than that in June 2023 and 5% less than that in July 2022 (fig. 2, table 3).

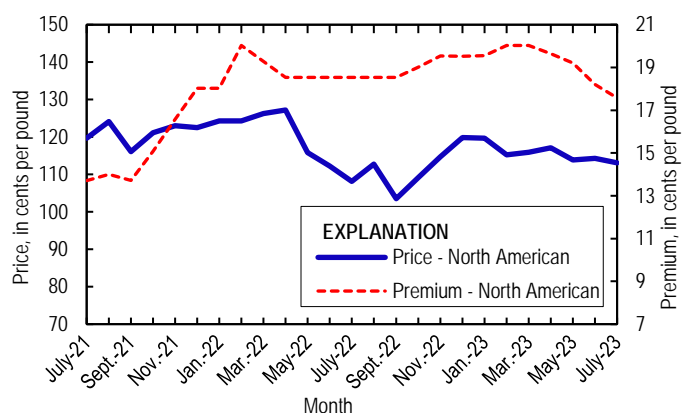


Figure 2. Average monthly North American price and premium for refined lead metal from July 2021 through July 2023. Source: S&P Global Platts Metals Week.

The Platts average U.S. used lead-acid batteries (Midwest) price in July 2023 was 21 cents per pound, slightly more than that in June 2023 and 12% less than that in July 2022 (table 3). Most secondary lead is recovered from used lead-acid batteries.

Global LME lead stocks at the end of July 2023 were 55,075 t, 33% more than those at the end of June 2023 and 42% more than those at the end of July 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– July	June	July	January– July
Production:					
Mine (recoverable)	264,000	163,000	25,000	23,900	164,000
Secondary refinery, reported by smelters/refineries	960,000	562,000	78,000 ^r	77,900	550,000
Consumption of refined lead, apparent ^{e, 3}	1,590,000	935,000	102,000 ^r	135,000	858,000
Imports for consumption:					
Ore and concentrate	38	38	14	15	30
Bullion	--	--	--	--	--
Unwrought	651,000	387,000	27,600	59,300	323,000
Exports:					
Ore and concentrate	255,000	133,000	15,300	41,100	134,000
Bullion (gross weight)	1,550	1,350	34	20	222
Unwrought (gross weight)	25,800	14,100	3,300	1,830	14,900
S&P Global Platts Metals Week North American Market price (cents per pound)	116.53	119.76	114.27	113.11	115.59

^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.

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:			
July	22,800	22,200	79,500
August	22,100	20,300	79,800
September	19,600	19,100	79,600
October	21,700	21,200	80,100
November	18,700	18,100	78,600
December	22,600	22,000	79,800
January–December	272,000	264,000	960,000
2023:			
January	22,100	21,500	78,400
February	22,500	21,900	75,600
March	25,100	24,400	79,600
April	24,100	23,400	80,900
May	24,900	24,200	79,400 ^r
June	25,700	25,000	78,000 ^r
July	24,600	23,900	77,900
January–July	169,000	164,000	550,000

^cEstimated. ^rRevised.

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 ¢/lb	London Metal Exchange (LME) cash		Used lead-acid batteries ² ¢/lb
		¢/lb	\$/t	
2022:				
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
March	115.93	95.89	2,114.08	19.75
April	117.10	97.45	2,148.31	20.25
May	113.86	94.66	2,086.84	20.50
June	114.27	96.05	2,117.64	20.50
July	113.11	95.53	2,106.13	21.00
January–July	115.60	96.41	2,125.54	19.93

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 JULY 2023¹

(Metric tons, gross weight)

Item	Stocks June 30, 2023	Net receipts	Consumption	Stocks July 31, 2023
Battery-lead	W	61,300	61,200	W
Other ²	W	5,500	5,810	W
Total	7,290 ¹	66,800	67,000	7,180
Percent change from preceding month ³	XX	-8.0	-5.8	-1.5

¹Revised. 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 JULY 2023¹

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	67,300	W	--
Remelt lead	W	--	--
Antimonial lead	9,780	W	W
Other ²	W	--	--
Total lead-base	77,900	166	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 ^e	Imports ^{2, 3}	Exports ^{2, 3}	Apparent consumption ⁴
2022: ^p				
July	79,500	35,300	1,920	113,000
August	79,800	77,900	3,270	154,000
September	79,600	45,100	2,380	122,000
October	80,100	44,500	1,920	123,000
November	78,600	29,600	1,960	106,000
December	79,800	67,000	2,180	145,000
January–December	960,000	651,000	25,800	1,590,000
2023:				
January	78,400	57,200	1,570	134,000
February	75,600	30,600	1,630	105,000
March	79,600	35,600	2,220	113,000
April	80,900	75,500	1,740	155,000
May	79,400 ^r	37,000	2,580	114,000 ^r
June	78,000 ^r	27,600	3,300	102,000 ^r
July	77,900	59,300	1,830	135,000
January–July	550,000	323,000	14,900	858,000

^eEstimated. ^rRevised. ^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– July	June	July	January– July
Ores and concentrate (lead content)	255,000	133,000	15,300	41,100	134,000
Bullion	1,550	1,350	34	20	222
Unwrought:					
Refined lead	4,250	1,950	1,660	367	4,750
Refined lead containing antimony as the principal alloying element	1,640	436	72	54	592
Lead alloys	16,900	9,580	1,550	1,410	9,330
Other	2,980	2,160	8	--	195
Total	25,800	14,100	3,300	1,830	14,900
Wrought:					
Bars, rods, profiles, and wire	910	542	135	87	630
Pipes and tubes, including fittings	23	21	--	12	39
Plates, sheets, strip, foil	6,150	2,890	1,300	649	7,280
Other	3,400	2,020	583	336	1,910
Total	10,500	5,480	2,020	1,080	9,870
Powders and flakes	330	155	2	35	283
Tetraethyl lead and tetramethyl lead	409	157	21	5	100
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	30,900,000	19,600,000	2,410,000	1,980,000	15,500,000
Lead waste and scrap obtained from lead-acid storage batteries	6,360	2,450	2,110	3,420	16,400
Other lead waste and scrap	36,400	21,000	2,940	3,410	23,100

-- Zero.

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

²May include revisions to previously published data.

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– July	June	July	January– July
Canada	35,800	19,400	3,090	2,750	25,400
China	103,000	48,100	4,890	22,600	43,700
Germany	7,980	7,980	--	7,660	21,900
Italy	7,640	7,640	--	--	--
Japan	27,400	15,300	--	8,010	11,600
Korea, Republic of	46,900	25,200	3,680	--	12,700
Malaysia	243	--	--	--	--
Mexico	16,800	8,210	3,620	--	15,200
Netherlands	7,960	--	--	--	--
Switzerland	--	--	--	--	3,560
Vietnam	1,180	663	--	--	--
Total	255,000	133,000	15,300	41,100	134,000

-- Zero.

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

²May include revisions to previously published data.

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– July	June	July	January– July
Ores and concentrate (lead content)	38	38	14	15	30
Bullion (lead content)	--	--	--	--	--
Unwrought:					
Refined lead	538,000	308,000	23,100	54,800	281,000
Refined lead containing antimony as the principal alloying element (lead content)	50,800	39,600	1,170	2,070	14,100
Lead alloys (lead content)	22,000	13,400	968	1,180	8,620
Other (lead content)	41,000	26,000	2,380	1,340	19,200
Total	651,000	387,000	27,600	59,300	323,000
Wrought:					
Bars, rods, profiles, and wire	5,930	4,220	93	92	1,980
Pipes and tubes, including fittings	19	12	4	(3)	23
Plates, sheets, strip, foil	1,040	489	104	199	845
Other	5,590	3,130	274	219	1,480
Total	12,600	7,850	476	510	4,330
Powders and flakes	45	41	--	(3)	15
Tetraethyl lead and tetramethyl lead	165	100	112	7	177
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	621,000	308,000	33,600	60,000	574,000
Lead waste and scrap obtained from lead-acid storage batteries (lead content)	1,640	1,030	165	136	1,000
Other lead waste and scrap (lead content)	3,630	1,840	604	510	3,610

-- 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– July	June	July	January– July
Argentina	274	274	--	--	--
Australia	106,000	49,800	--	21,100	43,400
Brazil	3,960	3,960	--	539	3,010
Cambodia	101	101	--	--	--
Canada	172,000	119,000	13,300	10,300	91,700
China	64,500	34,500	--	--	5,070
Colombia	201	201	--	--	--
Congo (Brazzaville)	--	--	--	175	374
Congo (Kinshasa)	1,160	1,160	--	--	--
Ecuador	9,070	5,830	300	548	3,830
Ghana	6,880	3,080	1,430	742	5,420
Hungary	62	29	--	--	--
India	2,330	2,280	60	197	1,030
Indonesia	407	--	--	--	--
Kazakhstan	11,500	8,640	--	10,900	38,600
Korea, Republic of	120,000	59,600	4,200	3,200	70,900
Mexico	87,800	51,100	5,980	6,020	39,400
Netherlands	--	--	--	5	5
Nigeria	26,000	17,300	2,020	4,820	13,400
Norway	(4)	--	--	--	--
Pakistan	14,300	9,190	--	--	--
Panama	300	300	--	--	--
Peru	1,530	818	36	--	145
Russia	8,750	8,750	--	--	--
Singapore	(4)	(4)	--	--	--
South Africa	945	298	20	--	40
Spain	675	675	--	--	--
Sweden	(4)	(4)	--	--	3
Taiwan	423	--	--	--	748
Thailand	--	--	184	92	460
Turkey	--	--	--	--	18
United Kingdom	11,200	10,600	--	547	4,990
Venezuela	136	82	54	110	216
Total	651,000	387,000	27,600	59,300	323,000

-- 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:			
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
March	25,050	1,325	26,375
April	31,025	1,275	32,300
May	35,225	1,225	36,450
June	40,175	1,200	41,375
July	53,925	1,150	55,075

Source: London Metal Exchange, Ltd.