

Mineral Industry Surveys

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LEAD IN DECEMBER 2019

Domestic mine production (recoverable) of lead in December was 21,700 metric tons (t). Average daily mine production in December was 701 t, slightly less than that in the previous month and 9% less than that in December 2018. Recoverable lead mine production in 2019 was 266,000 t, slightly less than that in 2018.

Total secondary refined lead production in December was 100,000 t, 3% more than that in the previous month and 4% more than that in December 2018. Secondary refined lead production in 2019 was 1,170,000 t, 3% more than that in 2018 (fig. 1; tables 1, 2).

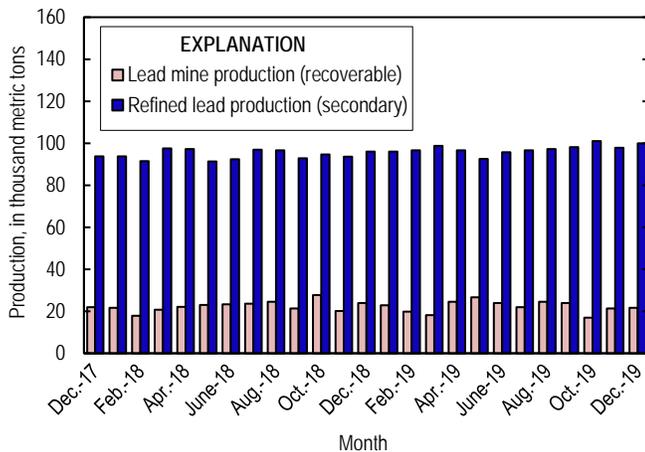


Figure 1. U.S. production of lead from December 2017 through December 2019. Source: U.S. Geological Survey.

The United States is a significant exporter of lead concentrates. U.S. exports of lead in ores and concentrates in 2019 were 259,000 t, 3% more than those in 2018. Leading destinations in 2019 were China (24%), Canada (20%), the Republic of Korea (20%), Japan (10%), and Netherlands (10%) (table 8).

Prices and Stocks

The average London Metal Exchange, Ltd. (LME) cash price for lead in December was 86.1 cents per pound, 7% less than that in the previous month and 3% less than that in December 2018 (table 3). The average yearend LME cash price in 2019 was 90.6 cents per pound, 11% less than that in 2018.

The Platts Metals Week average North American Market price for lead in December 2019 was 95.7 cents per pound, 6% less than that in the previous month and 3% less than that in December 2018. The average yearend North American Market price in 2019 was 99.9 cents per pound, 10% less than that in 2018.

The North American premium to the LME cash price in December 2019 averaged 9.53 cents per pound, essentially unchanged from that in November 2019 and 4% more than that in December 2018 (fig. 2, table 3).

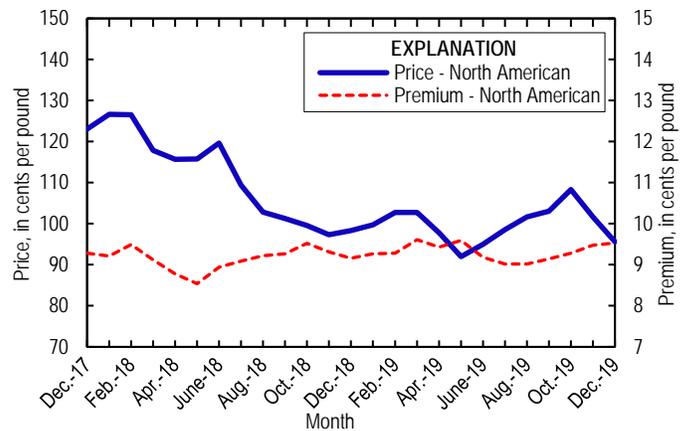


Figure 2. Average monthly North American price and premium for refined lead metal from December 2017 through December 2019. Source: Platts Metals Week.

The Platts average U.S. used lead-acid batteries (Midwest) price in December 2019 was 35.9 cents per pound, slightly more than that in November and 17% more than that in December

2018 (table 3). Most secondary lead is recovered from used lead-acid batteries.

Global LME lead stocks at the end of December 2019 were 66,200 t, slightly less than those at the end of November 2019 and 38% less than those at the end of December 2018 (table 11).

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TABLE 1
SALIENT LEAD STATISTICS IN THE UNITED STATES¹

(Metric tons, lead content, unless otherwise specified)

	2018 ²		2019	
	January– December	November	December	January– December
Production:				
Mine (recoverable)	271,000	21,300 ^r	21,700	266,000
Secondary refinery, reported by smelters/refineries	1,140,000	97,800	100,000	1,170,000
Consumption of refined lead, apparent ^{e,3}	1,630,000	125,000	140,000	1,640,000
Imports for consumption:				
Ore and concentrate	--	--	--	8
Bullion	789	--	--	75
Unwrought	563,000	28,700	40,200	501,000
Exports:				
Ore and concentrate	251,000	18,300	22,800	259,000
Bullion (gross weight)	2,060	248	98	1,230
Unwrought (gross weight)	67,200	1,460	805	25,600
Platts Metals Week North American Market				
price (cents per pound)	110.89	101.63	95.65	99.91

^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.

³Smelter production plus imports for consumption minus domestic exports.

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

(Metric tons)

Period	Mine		Secondary refinery ^e
	Lead in concentrate	Recoverable	
2018:			
December	24,700	24,000	96,000
January–December	280,000	271,000	1,140,000
2019:			
January	23,500	22,800	96,100
February	20,300	19,800	96,600
March	18,600	18,100	98,700
April	25,200	24,500	96,600
May	27,400	26,700	92,600
June	24,500 ^f	23,900 ^f	95,800
July	22,600 ^f	21,900 ^f	96,600
August	25,300 ^f	24,600 ^f	97,200
September	24,700	24,000	98,200
October	17,400 ^f	17,000 ^f	101,000
November	21,900 ^f	21,300 ^f	97,800
December	22,300	21,700	100,000
January–December	274,000	266,000	1,170,000

^eEstimated. ^fRevised.

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

TABLE 3
MONTHLY AVERAGE LEAD PRICES

	North	London Metal Exchange		Used lead-acid
	American Market ¹	cash		batteries ²
	¢/lb	¢/lb	\$/t	¢/lb
2018:				
December	98.29	89.13	1,965.07	30.63
January–December	110.89	101.76	2,243.35	39.10
2019:				
January	99.70	90.43	1,993.73	30.95
February	102.78	93.51	2,061.45	29.94
March	102.78	93.17	2,054.14	31.34
April	97.80	88.37	1,948.26	33.65
May	91.99	82.40	1,816.64	32.25
June	94.96	85.78	1,891.04	31.38
July	98.54	89.52	1,973.50	33.65
August	101.68	92.66	2,042.70	33.75
September	103.05	93.91	2,070.29	34.22
October	108.33	99.05	2,183.67	34.95
November	101.63	92.15	2,031.46	35.47
December	95.65	86.12	1,898.68	35.85
January–December	99.91	90.59	1,997.13	33.12

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

²Platts 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: Platts Metals Week.

TABLE 4
CONSUMPTION OF PURCHASED LEAD-BASE SCRAP IN DECEMBER 2019¹

(Metric tons, gross weight)

Item	Stocks		Consumption	Stocks
	November 30 2019	Net receipts		December 31 2019
Battery-lead	W	68,200	67,600	W
Other ²	W	5,960	6,020	W
Total	7,220	74,100	73,600	7,750
Percent change from preceding month ³	XX	-8.2	-8.9	7.3

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 DECEMBER 2019¹

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	82,800	--	--
Remelt lead	W	--	--
Antimonial lead	16,900	W	W
Other ²	W	W	--
Total lead-base	100,000	189	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	Imports ^{2,3}	Exports ^{2,3}	Apparent consumption ⁴
2018: ^p				
December	96,000	38,000	6,360	128,000
January–December	1,140,000	563,000	67,200	1,630,000
2019:				
January	96,100	54,000	9,490	141,000
February	96,600	37,200	1,380	132,000
March	98,700	38,100	1,820	135,000
April	96,600	55,100	918	151,000
May	92,600	34,900	1,320	126,000
June	95,800	41,400	1,860	135,000
July	96,600	32,000	1,770	127,000
August	97,200	58,500	1,130	155,000
September	98,200	45,300	1,290	142,000
October	101,000	35,500	2,360	134,000
November	97,800	28,700	1,460	125,000
December	100,000	40,200	805	139,000
January–December	1,170,000	501,000	25,600	1,650,000

^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)

	2018		2019	
	January– December ²	November	December	January– December
Ores and concentrate (lead content)	251,000	18,300	22,800	259,000
Bullion	2,060	248	98	1,230
Unwrought:				
Refined lead	49,300	35	--	9,590
Refined lead containing antimony as the principal alloying element	654	26	53	651
Lead alloys	14,400	1,260	702	13,700
Other	2,850	136	50	1,620
Total	67,200	1,460	805	25,600
Wrought:				
Bars, rods, profiles, and wire	886	84	30	615
Pipes and tubes, including fittings	116	40	20	167
Plates, sheets, strip, foil	3,180	164	338	3,460
Other	1,770	340	245	2,360
Total	5,960	628	633	6,600
Powders and flakes	372	10	2	297
Tetraethyl lead and tetramethyl lead	502	24	18	507
Waste and scrap:				
Spent lead-acid storage batteries for starting engines (units)	26,800,000	2,330,000	2,040,000	27,300,000
Lead waste and scrap obtained from lead-acid storage batteries	9,200	--	--	--
Other lead waste and scrap	40,300	2,420	3,710	39,500

--Zero.

¹Data are rounded to 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)

	2018	2019		
	January– December ²	November	December	January– December
Australia	7,310	--	--	--
Canada	51,200	8,440	833	52,400
China	73,600	3,050	--	62,300
Dominican Republic	--	--	5	34
Germany	15,100	--	--	--
Indonesia	--	5	--	5
Italy	7,170	--	--	23,400
Japan	19,100	--	1,550	25,100
Korea, Republic of	48,700	3,980	5,130	51,300
Laos	--	--	--	11
Mexico	19,100	108	7,990	24,700
Netherlands	7,100	--	5,660	15,000
Saudi Arabia	27	--	--	--
Thailand	2,520	2,120	513	3,390
Vietnam	--	570	1,140	1,760
Total	251,000	18,300	22,800	259,000

-- 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)

	2018		2019	
	January– December ²	November	December	January– December
Ores and concentrate (lead content)	--	--	--	8
Bullion (lead content)	789	--	--	75
Unwrought:				
Refined lead	448,000	22,300	32,900	406,000
Refined lead containing antimony as the principal alloying element (lead content)	45,200	2,260	2,300	27,000
Lead alloys (lead content)	18,600	2,090	1,090	23,200
Other (lead content)	50,800	2,070	3,860	44,000
Total	563,000	28,700	40,200	501,000
Wrought:				
Bars, rods, profiles, and wire	1,020	1,200	235	3,420
Pipes and tubes, including fittings	29	1	5	77
Plates, sheets, strip, foil	1,740	191	122	1,770
Other	4,090	331	103	2,770
Total	6,890	1,720	464	8,030
Powders and flakes	203	(³)	49	315
Tetraethyl lead and tetramethyl lead	716	14	12	139
Waste and scrap:				
Spent lead-acid storage batteries for starting engines (units)	1,050,000	38,000	91,300	528,000
Lead waste and scrap obtained from lead-acid storage batteries (lead content)	1,660	336	383	2,320
Other lead waste and scrap (lead content)	2,450	97	464	2,100

-- Zero.

¹Data are rounded to 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 LOCALITY¹

(Metric tons, lead content)

Material and country or locality of origin	2018		2019	
	January– December ²	November	December	January– December
Refined lead:				
Argentina	6,050	377	376	4,300
Australia	2,780	--	--	--
Brazil	15,500	656	2,950	9,920
Burma	100	100	--	1,400
Canada	148,000	11,200	15,200	159,000
Chile	100	--	--	--
China	--	--	--	101
Colombia	491	--	--	801
Dominican Republic	250	--	--	50
Ecuador	10,900	1,700	1,830	19,800
Germany	--	--	--	50
Honduras	199	--	--	--
Hong Kong	--	--	--	200
India	23,200	99	447	4,090
Israel	1,820	95	--	2,200
Kazakhstan	5,130	645	--	17,800
Korea, Republic of	106,000	--	2,520	76,000
Mexico	107,000	6,190	7,060	96,700
Nigeria	47	200	397	994
Panama	125	--	--	400
Peru	3,350	400	475	3,030
Russia	6,460	319	1,180	6,070
South Africa	174	--	--	20
Sri Lanka	625	--	--	--
Thailand	7,500	91	--	1,250
United Kingdom	485	--	98	404
Venezuela	2,460	200	400	2,080
Total	448,000	22,300	32,900	406,000
Other unwrought lead:³				
Argentina	1,920	104	282	2,080
Bolivia	--	--	--	183
Brazil	--	--	149	276
Canada	93,100	5,970	6,600	86,800
Chile	1,780	--	--	--
China	--	--	--	2
Colombia	1,040	--	--	--
Costa Rica	4,470	--	--	19
Ecuador	125	--	45	378
Germany	--	--	--	1
Honduras	2,490	--	--	--
India	93	117	37	321
Korea, Republic of	--	--	--	14
Mexico	8,150	183	39	2,700
Panama	199	--	--	--
Paraguay	--	--	49	49
Peru	50	--	--	221
Russia	209	--	--	(4)
South Africa	95	--	--	--
Sweden	--	--	--	11
Taiwan	--	--	--	(4)
United Kingdom	--	--	--	1,040
Venezuela	885	52	52	185
Total	115,000	6,420	7,250	94,300
Grand total	563,000	28,700	40,200	501,000

-- Zero.

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

²May include revisions to previously published data.

³Includes the lead content (Quantity 2) of Harmonized Tariff Schedule of the United States (HTS) codes 7801.91.0000, 7801.99.9030, 7801.99.9050. Excludes bullion.

⁴Less than ½ unit.

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

(Metric tons)

Period	United States	Asia	Europe	Total
2018:				
December	44,167	20,725	86,650	107,375
2019:				
January	--	19,275	53,175	72,450
February	--	22,625	54,250	76,875
March	--	22,225	56,525	78,750
April	--	22,075	52,350	74,425
May	--	20,600	48,800	69,400
June	--	19,050	46,700	65,750
July	--	27,850	50,650	78,500
August	--	30,875	46,650	77,525
September	--	27,425	42,075	69,500
October	--	27,400	42,675	70,075
November	--	26,250	40,875	67,125
December	--	26,050	40,150	66,200

-- Zero.

Source: London Metal Exchange, Ltd.