

Mineral Industry Surveys

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LEAD IN OCTOBER 2019

Domestic mine production (recoverable) of lead in October was 17,200 metric tons (t). Average daily mine production in October was 554 t, 31% less than that in the previous month and 38% less than that in October 2018. Total secondary refined lead production in October was 101,000 t, 3% more than that in the previous month and 7% more than that in October 2018 (fig. 1; tables 1, 2).

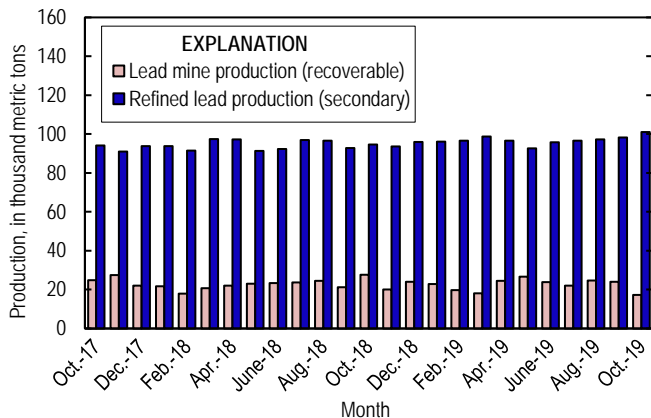


Figure 1. U.S. production of lead from October 2017 through October 2019. Source: U.S. Geological Survey.

The United States is a significant exporter of lead concentrates. U.S. exports of lead in ores and concentrates for the year through October were 218,000 t, 3% less than that for the same period in 2018. Leading destinations in October were China (41%), the Republic of Korea (29%), Japan (22%), and Canada (6%) (table 8).

Prices and Stocks

The average London Metal Exchange, Ltd. (LME) cash price for lead in October was 99.1 cents per pound, 5% more than that in the previous month and 10% more than that in October 2018 (table 3). The Platts Metals Week average North American Market price for lead in October 2019 was 108.3 cents per

pound, 5% more than that in the previous month and 9% more than that in October 2018. The North American premium to the LME cash price in October 2019 averaged 9.28 cents per pound, slightly more than that in September 2019 and slightly less than that in October 2018 (fig. 2, table 3).

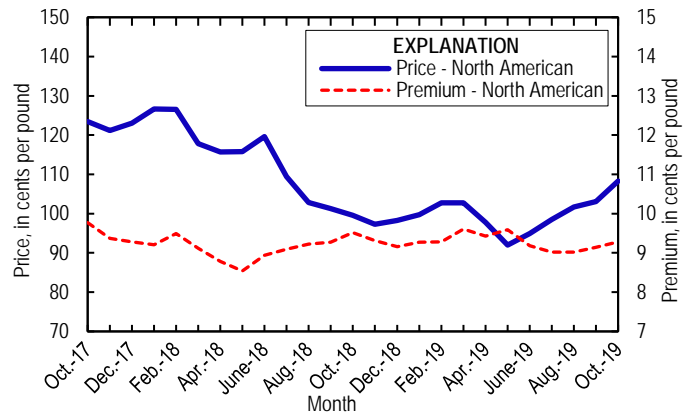


Figure 2. Average monthly North American price and premium for refined lead metal from October 2017 through October 2019. Source: Platts Metals Week.

The Platts average U.S. used lead-acid batteries (Midwest) price in October 2019 was 34.95 cents per pound, slightly more than that in September and 6% more than that in October 2018 (table 3). Most secondary lead is recovered from used lead-acid batteries.

Global LME lead stocks at the end of October 2019 were 70,075 t, essentially unchanged from those at the end of September 2019 and 38% less than those at the end of October 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	January– October	September	October	January– October
Production:					
Mine (recoverable)	271,000	226,000	24,000	17,200	224,000
Secondary refinery, reported by smelters/refineries	1,140,000	946,000	98,200	101,000	969,000
Consumption of refined lead, apparent ^{e, 3}	1,630,000	1,380,000	142,000	134,000	1,380,000
Imports for consumption:					
Ore and concentrate	--	--	--	--	8
Bullion	789	739	--	--	75
Unwrought	563,000	479,000	45,300	35,500	432,000
Exports:					
Ore and concentrate	251,000	226,000	52,000	32,400	218,000
Bullion (gross weight)	2,060	1,860	76	97	881
Unwrought (gross weight)	67,200	46,800	1,290	2,360	23,300
Platts Metals Week North American Market					
price (cents per pound)	110.89	113.51	103.05	108.33	100.16

^eEstimated. -- 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 ^c
	Lead in concentrate	Recoverable	
2018:			
October	28,500	27,700	94,600
November	20,600	20,100	93,600
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	24,400	23,800	95,800
July	22,700	22,100	96,600
August	25,400	24,700	97,200
September	24,700	24,000	98,200
October	17,600	17,200	101,000
January–October	230,000	224,000	969,000

^cEstimated.

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

TABLE 3
MONTHLY AVERAGE LEAD PRICES

	North	London Metal Exchange		Used lead-acid
	American Market ¹	cash		batteries ²
	¢/lb	¢/lb	\$/t	¢/lb
2018:				
October	99.53	90.02	1,984.58	33.00
November	97.29	87.98	1,939.65	31.25
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
January–October	100.16	90.88	2,003.54	32.61

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 OCTOBER 2019¹

(Metric tons, gross weight)

Item	Stocks September 30, 2019	Net receipts	Consumption	Stocks October 31 2019
Battery-lead	W	80,900	81,500	W
Other ²	W	6,060	5,800	W
Total	7,600	87,000	87,300	7,270
Percent change from preceding month ³	XX	6.6	5.8	-4.3

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 OCTOBER 2019¹

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	83,400	--	--
Remelt lead	W	--	--
Antimonial lead	16,800	W	W
Other ²	W	W	--
Total lead-base	101,000	188	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				
October	94,600	38,500	12,300	121,000
November	93,600	46,100	14,000	126,000
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	154,000
September	98,200	45,300	1,290	142,000
October	101,000	35,500	2,360	134,000
January–October	969,000	432,000	23,300	1,380,000

^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 ²		2019		
	January– December	January– October	September	October	January– October
Ores and concentrate (lead content)	251,000	226,000	52,000	32,400	218,000
Bullion	2,060	1,860	76	97	881
Unwrought:					
Refined lead	49,300	30,400	24	32	9,550
Refined lead containing antimony as the principal alloying element	654	606	39	136	572
Lead alloys	14,400	13,100	1,180	2,100	11,800
Other	2,850	2,690	47	100	1,430
Total	67,200	46,800	1,290	2,360	23,300
Wrought:					
Bars, rods, profiles, and wire	886	728	59	26	501
Pipes and tubes, including fittings	116	107	1	65	107
Plates, sheets, strip, foil	3,180	2,730	220	331	2,960
Other	1,770	1,500	194	387	1,770
Total	5,960	5,070	473	810	5,340
Powders and flakes	372	301	21	48	285
Tetraethyl lead and tetramethyl lead	502	424	47	17	466
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	26,800,000	22,900,000	2,230,000	2,750,000	22,900,000
Lead waste and scrap obtained from lead-acid storage batteries	9,200	9,200	--	--	--
Other lead waste and scrap	40,300	33,400	2,780	3,850	33,300

--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 ²		2019		
	January– December	January– October	September	October	January– October
Australia	7,310	7,310	--	--	--
Canada	51,200	45,400	6,250	1,790	43,200
China	73,600	69,600	19,900	13,300	59,200
Dominican Republic	--	--	--	--	29
Germany	15,100	7,200	--	--	--
Italy	7,170	7,170	7,900	--	23,400
Japan	19,100	18,800	6,950	7,060	23,600
Korea, Republic of	48,700	41,800	6,990	9,370	42,100
Laos	--	--	--	--	11
Mexico	19,100	18,700	32	39	16,600
Netherlands	7,100	7,100	3,980	--	9,320
Saudi Arabia	27	27	--	--	--
Thailand	2,520	2,520	--	750	750
Vietnam	--	--	9	11	53
Total	251,000	226,000	52,000	32,400	218,000

-- 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 ²		2019		
	January– December	January– October	September	October	January– October
Ores and concentrate (lead content)	--	--	--	--	8
Bullion (lead content)	789	739	--	--	75
Unwrought:					
Refined lead	448,000	385,000	36,100	26,800	351,000
Refined lead containing antimony as the principal alloying element (lead content)	45,200	38,100	2,120	2,390	22,500
Lead alloys (lead content)	18,600	14,600	2,920	2,630	20,000
Other (lead content)	50,800	40,700	4,130	3,670	38,100
Total	563,000	479,000	45,300	35,500	432,000
Wrought:					
Bars, rods, profiles, and wire	1,020	766	62	286	1,980
Pipes and tubes, including fittings	29	24	1	--	71
Plates, sheets, strip, foil	1,740	1,450	137	178	1,450
Other	4,090	2,780	219	153	2,340
Total	6,890	5,020	418	618	5,850
Powders and flakes	203	168	31	25	266
Tetraethyl lead and tetramethyl lead	716	698	13	12	113
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	1,050,000	977,000	18,600	39,400	399,000
Lead waste and scrap obtained from lead-acid storage batteries (lead content)	1,660	1,370	138	249	1,610
Other lead waste and scrap (lead content)	2,450	2,110	160	125	1,540

-- 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 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 ²		2019		
	January– December	January– October	September	October	January– October
Refined lead:					
Argentina	6,050	4,890	300	525	3,550
Australia	2,780	1,770	--	--	--
Brazil	15,500	12,700	702	1,100	6,310
Burma	100	100	100	450	1,300
Canada	148,000	123,000	12,200	12,900	132,000
Chile	100	100	--	--	--
China	--	--	100	--	101
Colombia	491	491	--	--	801
Dominican Republic	250	250	--	--	50
Ecuador	10,900	8,560	750	600	16,300
Germany	--	--	--	--	50
Honduras	199	199	--	--	--
Hong Kong	--	--	100	--	200
India	23,200	22,300	--	--	3,540
Israel	1,820	1,820	--	457	2,110
Kazakhstan	5,130	5,130	--	583	17,100
Korea, Republic of	106,000	92,300	14,100	1	73,500
Mexico	107,000	93,300	7,230	8,440	83,500
Nigeria	47	--	--	--	397
Panama	125	125	--	--	400
Peru	3,350	2,250	100	700	2,150
Russia	6,460	6,460	470	395	4,570
South Africa	174	174	--	--	20
Sri Lanka	625	625	--	--	--
Thailand	7,500	6,550	--	--	1,160
United Kingdom	485	388	--	96	307
Venezuela	2,460	2,160	--	548	1,480
Total	448,000	385,000	36,100	26,800	351,000
Other unwrought lead:³					
Argentina	1,920	1,920	132	--	1,690
Bolivia	--	--	--	59	183
Brazil	--	--	--	127	127
Canada	93,100	75,200	8,950	8,430	74,200
Chile	1,780	1,780	--	--	--
Colombia	1,040	1,040	--	--	--
Costa Rica	4,470	3,750	--	--	19
Ecuador	125	125	--	--	334
Honduras	2,490	2,490	--	--	--
India	93	18	--	18	167
Korea, Republic of	--	--	--	8	14
Mexico	8,150	5,810	88	48	2,480
Panama	199	199	--	--	--
Peru	50	50	--	--	221
Russia	209	172	--	--	(4)
South Africa	95	95	--	--	--
Sweden	--	--	--	--	11
United Kingdom	--	--	--	--	1,040
Venezuela	885	831	--	--	81
Other	--	--	--	--	3
Total	115,000	93,500	9,170	8,690	80,600
Grand total	563,000	479,000	45,300	35,500	432,000

-- 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:				
October	--	23,600	90,000	114,000
November	--	21,100	84,100	105,000
December	--	20,700	86,700	107,000
2019:				
January	--	19,300	53,200	72,500
February	--	22,600	54,300	76,900
March	--	22,200	56,500	78,800
April	--	22,100	52,400	74,400
May	--	20,600	48,800	69,400
June	--	19,100	46,700	65,800
July	--	27,900	50,700	78,500
August	--	30,900	46,700	77,500
September	--	27,400	42,100	69,500
October	--	27,400	42,700	70,100

-- Zero.

Source: London Metal Exchange, Ltd.