

Mineral Industry Surveys

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LEAD IN JULY 2016

Domestic mine production (recoverable) of lead in July was 24,800 metric tons (t). Average daily mine production in July was 798 t, 16% less than that in the previous month. Lead mine production during the first 7 months of 2016 was 7% less than that during the same period in 2015 owing primarily to decreased production in Missouri. Secondary refinery production of lead in July was 3% less than that in the previous month, and year-to-date production was slightly less than that in the same period in 2015 (fig. 1, table 1).

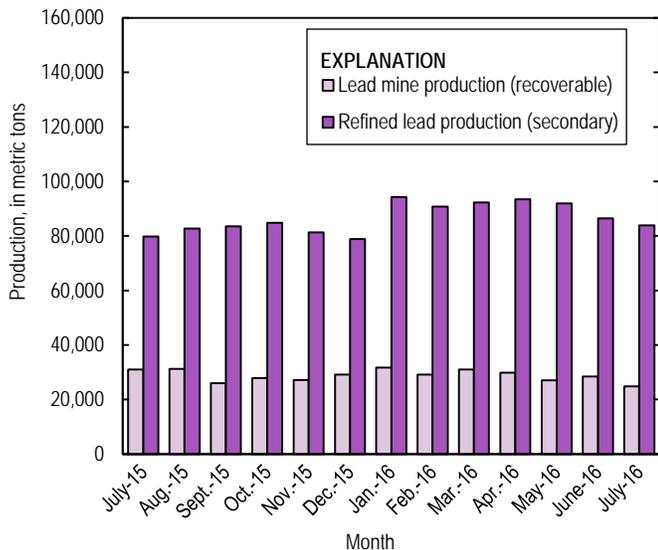


Figure 1. U.S. production of lead from July 2015 through July 2016. Source: U.S. Geological Survey.

Total imports of lead for consumption in July 2016 were 11% more than those in the previous month and during the first 7 months of 2016 were essentially unchanged from those during the same period of 2015. Year to date, Canada (49%), the Republic of Korea (22%), and Mexico (12%) accounted for the majority of imports of wrought and unwrought lead (fig. 2, table 7). During the first 7 months of 2016, imports of wrought and unwrought lead from the Republic Korea more than doubled from those in the same period of the previous year, partially

owing to increased production at Korea Zinc Co., Ltd.'s Onsan refinery in Ulsan. In late 2015, the company completed an expansion project at the plant that increased refined lead production capacity to about 430,000 metric tons per year (t/yr) from 300,000 t/yr (Yong-bum, 2016).

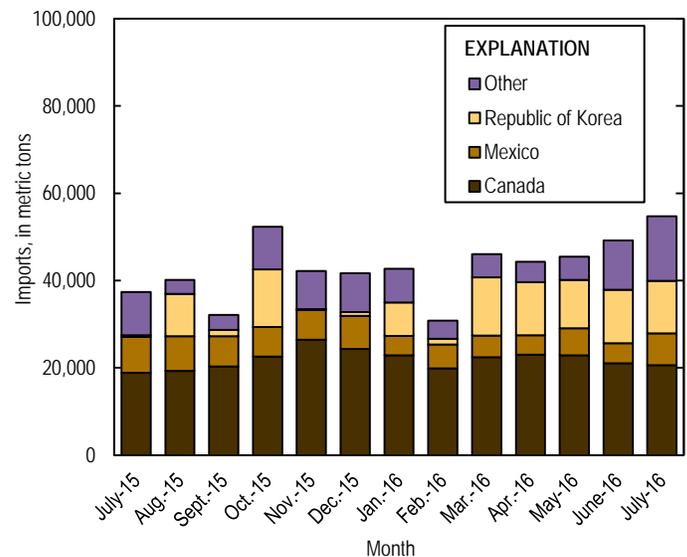


Figure 2. U.S. imports of wrought and unwrought lead from July 2015 through July 2016. Source: U.S. Census Bureau.

Total exports of lead, exclusive of scrap, during the first 7 months of 2016 were 17% greater than those in the same period of 2015 owing to increased exports of lead in ore and concentrates. China (41%), the Republic of Korea (19%), and Canada (14%) were the leading destinations for ore and concentrates during the first 7 months of 2016 (fig. 3, table 6). Exports of used lead-acid batteries for starting engines (in units) during the first 7 months of 2016 were 39% less than those during the same period of 2015 and were at the lowest year-to-date level since 2010. Exports to Mexico, the destination for about 87% of exported used lead-acid batteries during the first 7

months of 2016, declined by 40% from those during the same period of 2015.

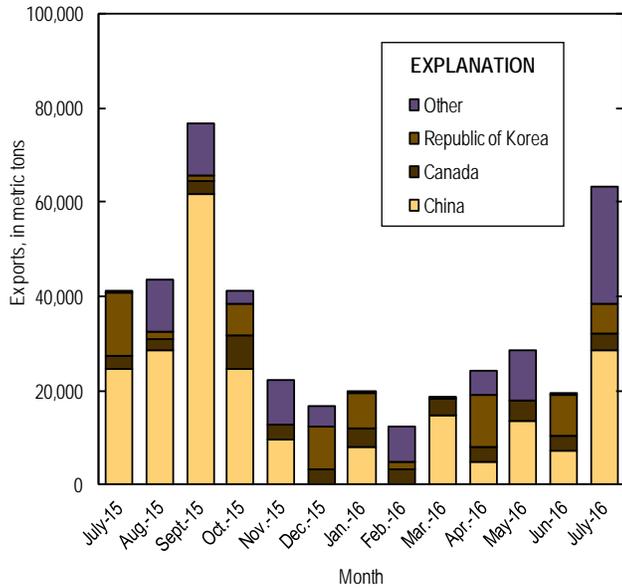


Figure 3. U.S. exports of lead in ore and concentrates from July 2015 through July 2016. Source: U.S. Census Bureau.

The Platts Metals Week average North American Market price for lead in July 2016 was \$0.93 per pound, and the London Metal Exchange, Ltd. (LME) cash price was \$0.83 per pound, 6% and 7% more, respectively, than those in the previous month and 4% and 7% greater than those in July 2015 (fig. 4). The Platts average U.S. used lead-acid batteries (Midwest) price in July 2016 increased for the sixth consecutive month to \$0.34 per pound, slightly more than that in the previous month and 4% more than that in July 2015 (table 2). The majority of secondary lead is produced from used lead-acid batteries.

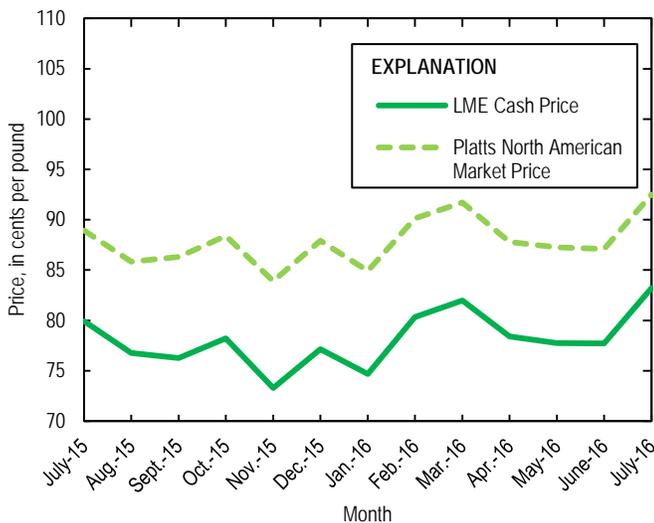


Figure 4. Average monthly prices for refined lead metal from July 2015 through July 2016. Source: Platts Metals Week.

Global LME lead stocks at the end of July 2016 were 187,075 t, slightly more than stocks at the end of June 2016 but 14% less than those at the end of July 2015 (fig. 5).

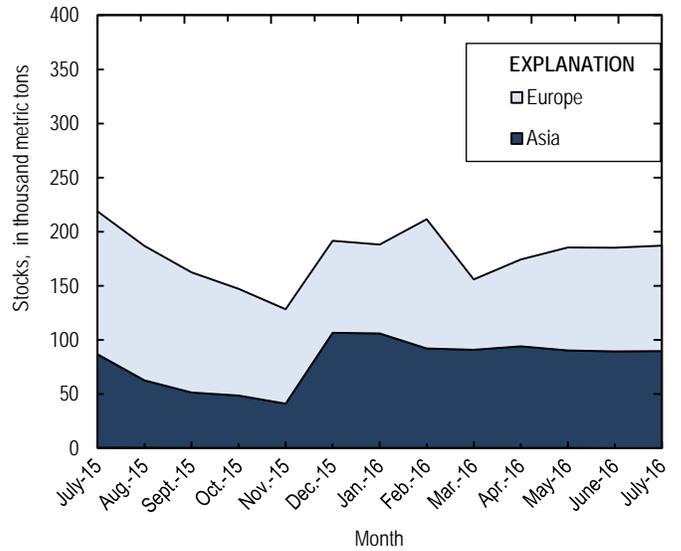


Figure 5. Global LME stocks of lead from July 2015 through July 2016. Source: London Metal Exchange, Ltd.

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Reference Cited

Yong-bum, Park, 2016, Korea Zinc to become world's largest lead refinery: Pulse by Maeil Business News Korea, January 25. (Accessed October 18, 2016, at <http://pulsenews.co.kr/view.php?year=2016&no=68230>.)

TABLE 1
SALIENT LEAD STATISTICS IN THE UNITED STATES¹

(Metric tons, lead content, unless otherwise specified)

	2015 ^p		2016		
	January– December	January– July ²	June	July	January– July ²
Production:					
Mine (recoverable)	358,000	217,000	28,400	24,800	202,000
Secondary refinery:					
Reported by smelters/refineries	1,030,000	635,000	84,400	81,800	618,000
Estimated	9,740	6,420	852	826	6,250
Recovered from copper-base scrap ⁶	15,000	8,750	1,250	1,250	8,750
Total secondary	1,050,000	650,000	86,500	83,900	633,000
Consumption of refined lead, apparent ^{6,3}	1,520,000 ^r	945,000	133,000 ^r	137,000	917,000
Stocks, end of period, consumers and secondary smelters	63,600	60,800	67,100 ^r	63,900	63,900
Imports for consumption:					
Bullion	342 ^r	342	138	99	237
Wrought and unwrought	521,000 ^r	312,000	49,200 ^r	54,700	313,000
Exports:					
Ore and concentrate	349,000	149,000	19,200 ^r	63,300	185,000
Bullion	596	313	(4)	--	577
Wrought and unwrought	56,200 ^r	30,100	3,070 ^r	5,110	24,200
TEL/TML preparations, based on lead compounds	383 ^r	292	33 ^r	21	157
Scrap (gross weight)	46,200	29,800	1,020 ^r	1,060	9,770
Platts Metals Week North American Market price (cents per pound)	91.20	94.57	87.11	92.51	88.77

⁶Estimated. ^pPreliminary. ^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 plus stock change.

⁴Less than ½ unit.

TABLE 2
MONTHLY AVERAGE LEAD PRICES

	North	London Metal Exchange		Used lead-acid
	American Market ¹	cash		batteries ²
	¢/lb	¢/lb	\$/t	¢/lb
2015:				
July	88.94	79.92	1,762.00	32.88
August	85.83	76.77	1,692.49	31.13
September	86.32	76.27	1,681.56	30.30
October	88.41	78.21	1,724.18	31.00
November	83.92	73.28	1,615.54	29.63
December	87.92	77.15	1,700.87	28.00
January–December	91.20	81.02	1,786.08	31.48
2016:				
January	84.91	74.69	1,646.54	28.00
February	90.12	80.34	1,771.20	29.00
March	91.70	81.99	1,807.48	29.60
April	87.79	78.40	1,728.41	31.38
May	87.27	77.75	1,714.05	33.25
June	87.11	77.73	1,713.60	33.75
July	92.51	83.21	1,834.36	34.13
January–July	88.77	79.16	1,745.09	31.30

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 3
CONSUMPTION OF PURCHASED LEAD-BASE SCRAP IN JULY 2016¹

(Metric tons, gross weight)

Item	Stocks	Net	Consumption	Stocks
	June 30, 2016	receipts		July 31, 2016
Battery-lead	48,500 ^r	73,100	74,400	47,200
Other ²	4,070 ^r	1,800	1,800	4,070
Total	52,600 ^r	74,900	76,200	51,200
Percent change from preceding month ³	XX	-11.3	-1.3	-2.6

^rRevised. 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 4
LEAD, TIN, AND ANTIMONY RECOVERED FROM
LEAD-BASE SCRAP IN JULY 2016¹

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	62,100	--	--
Remelt lead	2,760	--	W
Antimonial lead	16,000	W	W
Other ²	1,020	W	--
Total lead-base	81,800	160	246

W Withheld to avoid disclosing company proprietary data; included in "Other." -- 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 5
U.S. APPARENT CONSUMPTION OF LEAD¹

(Metric tons)

Period	Production	Imports ^{2,3}	Exports ^{2,3}	Stock change during period	Apparent consumption ⁴
2015:^p					
July	79,800	37,400 ^r	3,720 ^r	(1,460)	115,000 ^r
August	82,700	40,100 ^r	4,420 ^r	6,200	112,000 ^r
September	83,600	32,100 ^r	4,270 ^r	2,430	109,000 ^r
October	84,800	52,400 ^r	6,460 ^r	(959)	132,000 ^r
November	81,300	42,200 ^r	5,010	(704)	119,000 ^r
December	78,900	41,700 ^r	5,970	(3,450)	118,000 ^r
January–December	1,050,000	521,000 ^r	56,200 ^r	(2,070)	1,520,000 ^r
2016:					
January	94,300	42,700 ^r	1,440 ^r	3,470	132,000 ^r
February	90,800	30,800	2,980	(1,070)	120,000 ^r
March	92,300	46,000 ^r	3,510 ^r	(671)	135,000 ^r
April	93,500	44,300 ^r	2,560 ^r	2,350	133,000 ^r
May	91,900	45,500 ^r	5,560 ^r	4,540	127,000 ^r
June	86,500	49,200 ^r	3,070 ^r	(41)	133,000 ^r
July	83,900	54,700	5,110	(3,190)	137,000
January–July	633,000	313,000	24,200	5,390	917,000

^pPreliminary. ^rRevised.

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 plus stock change.

TABLE 6
U.S. EXPORTS OF LEAD, BY CLASS¹

(Metric tons unless otherwise specified)

	2015		2016		
	Year	January–July ²	June	July	January–July ²
Lead content:					
Ore and concentrates	349,000	149,000	19,200 ^r	63,300	185,000
Bullion	596	313	(³)	--	577
Wrought and unwrought	56,200 ^r	30,100	3,070 ^r	5,110	24,200
TEL/TML preparations, based on lead compounds	383 ^r	292	33 ^r	21	157
Total	406,000 ^r	179,000	22,300 ^r	68,400	210,000
Gross weight, scrap	46,200	29,800	1,020 ^r	1,060	9,770
Spent lead-acid batteries, used for starting engines (units)	26,000,000 ^r	17,200,000	1,650,000	1,310,000	10,500,000

^rRevised. -- 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 7
U.S. IMPORTS FOR CONSUMPTION BY TYPE OF MATERIALS AND BY
COUNTRY OF ORIGIN¹

(Metric tons, lead content)

Material and country of origin	2015		2016		
	Year	January– July ²	June	July	January– July ²
Bullion:					
Mexico	202 ^r	202	--	--	--
Venezuela	46	46	--	--	--
Other	94	94	138	99	237
Total	342 ^r	342	138	99	237
Wrought and unwrought:					
Australia	4,720 ^r	4,590	--	--	2,480
Brazil	--	--	203	--	3,750
Canada	249,000 ^r	137,000	21,000 ^r	20,600	152,000
Chile	981 ^r	--	70 ^r	--	730
China	1,230 ^r	414	--	--	273
Dominican Republic	50	50	--	--	--
Ecuador	12,300 ^r	6,590	1,040 ^r	900	4,240
France	79	--	--	--	--
Germany	9,630	6,930	--	--	1,230
India	21,700	11,300	1,360	1,240	9,810
Indonesia	1,050	1,050	--	--	--
Israel	1,180	1,180	--	--	--
Kazakhstan	22,900	15,100	--	10,000	10,600
Korea, Republic of	57,200 ^r	31,900	12,300	12,000	69,700
Mexico	110,000 ^r	74,700	4,570 ^r	7,280	37,200
Netherlands	6,020	5,310	--	--	--
Nigeria	522	522	--	215	215
Panama	842 ^r	397	--	--	297
Russia	10,700	8,960	3,010	1,660	10,700
Spain	1,620 ^r	484	--	--	619
Sri Lanka	1,290	794	100	300	1,250
Ukraine	275	275	--	--	--
United Kingdom	2,560	1,940	--	--	191
Venezuela	3,910 ^r	2,860	582	417	1,420
Other	261 ^r	414	4,970 ^r	--	6,610
Total	521,000 ^r	312,000	49,200 ^r	54,700	313,000
Grand total	521,000 ^r	313,000	49,300 ^r	54,800	313,000

^rRevised. -- 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.