

Mineral Industry Surveys

For information, contact:

Jozef Plachy, Zinc Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4982, Fax: (703) 648-7757
E-mail: jplachy@usgs.gov

Aaron J. Poyer (Data)
Telephone: (703) 648-4998
Fax: (703) 648-7975
E-mail: apoyer@usgs.gov
MINES FaxBack: (703) 648-4999
Internet: <http://minerals.usgs.gov/minerals>

ZINC IN AUGUST 2001

Domestic mine production in August, at 70,300 metric tons (t), was about 3% more than in July and about 7% less than in August 2000. Smelter production, at 19,800 t, was about 5% more than in July but was about 30% less than a year before. Apparent consumption, at 76,600 t was about 27% lower than in July and about 32% lower than in August 2000.

The Platts Metals Week average monthly composite price for North American Special High Grade zinc declined by nearly 3%, to 41.31 cents per pound in August. It was the 9th consecutive monthly decline this year. Compared with August 2000, the decrease was about 28%. In the past 6 months the London Metal Exchange (LME) zinc prices have fallen by 20% to 14-year lows of around \$840/t. Rising stocks—on August 15, LME stocks reached 340,000 t, an increase of 145,000 t since the end of 2000—are putting additional downward pressure on zinc prices.

Hecla Mining Co. has reached an agreement in principle with the U.S. Government and the State of Idaho for damages and cleanup costs from mining contamination of the Coeur d'Alene basin in northern Idaho. Under the terms of the agreement, Hecla will pay \$5 million for each of the first 2 years and \$6 million in each of the next 8 years for cleanup of the basin, along with other properties, including the Bunker Hill site, the Grouse Creek Mine, and the Stibnite site in central Idaho. In addition, during the following 20 years, Hecla has committed to payments and/or work totaling \$4 million annually (American Metal Market, 2001).

A consortium of mining interests is considering construction of a hydrometallurgical zinc refinery on the site of the old Bunker Hill lead and zinc smelters in Kellogg, ID. The refinery would benefit area mining companies, which include Coeur d'Alene Mines, Hecla Mining, and New Bunker Hill Mining. Since the 1981 closure of the old refinery and subsequent closure of rail lines to the area, the mining companies had to transport concentrate to distant smelters by trucks. Transporting zinc metal instead of concentrate would lower shipping costs by about \$100/t. Output of the new

refinery would be about 75,000 metric tons per year (t/yr) at an operating cost of about 18 cents per pound of metal. Byproducts would include iron oxide, lead concentrate, elemental sulfur, and steam, negating the need for environmental permits. Given the current low price of zinc, caused by a supply/demand imbalance, new production will most likely make it more difficult to raise needed capital, estimated to be \$280 million (Platts Metals Week, 2001a).

Australia's MIM Ltd. no longer regards its two loss-making zinc smelting operations at Avonmouth in the United Kingdom and Duisburg in Germany as part of its core holdings and will investigate all options for exiting the European smelting business. The main reason why MIM bought into the Avonmouth and Duisburg smelters was to use them for processing concentrates from the inefficient operation at MIM's McArthur River Mine in Australia. The mining operation at McArthur improved to such an extent that it is now competitive and can sell concentrate on the world market. Avonmouth produced just over 78,400 t of zinc last year and Duisburg produced about 90,000 t. To be competitive on today's tight market, both smelters would need upgrading that could cost up to \$100 million and take 4 to 5 years to complete. Although no suitors or price tag was set, selling is clearly one of the options. But it may prove to be difficult in today's tight market, not only because of needed improvements, but also because the smelters have small capacities (Metal Bulletin, 2001b).

Brazil's second largest zinc producer, Cia Paraibuna de Metais, is producing zinc at half its capacity owing to power restrictions imposed by the Brazilian Government. The company has decided to stop buying electricity from the national grid, and start selling part of its self-generated power on the open market. In June, Paraibuna originally reduced its zinc production to 81,000 t/yr from its full capacity of 94,000 t/yr, when power rationing was decreed by the Government. The electricity rationing was imposed in response to low water levels in the country's hydroelectric generating plants, the

source of most power in Brazil. Rationing is expected to last until at least December 2001. The decision to sell surplus energy was also based on low world zinc prices. Paraibuna will import 12,000 t of zinc to meet domestic market commitments during production cutbacks (Metal Bulletin, 2001d).

Production at Ivernia West plc's Lisheen underground mine in Ireland was below expectations in June and July as poor ground conditions required additional safety measures. Combined ore production for 2 months was about 100,000 t less than planned. Production for 2001 is expected to be 210,000 t of concentrate, 120,000 t below the target. The Lisheen Mine is owned by the Lisheen Joint Venture and managed jointly by Ivernia and Anglo American plc (Platts Metals Week, 2001d).

Controversy about its ownership is impeding the re-start of the Trepca metallurgical complex in Kosovo that would give employment opportunities to about 20,000 people in a region that faces massive unemployment and a struggle to rebuild the local economy ravaged by years of warfare. Trepca was privatized in 1992 after the ethnic Albanian staff was replaced with Serbs. According to the ethnic Albanians, Trepca was unlawfully privatized and should revert to public ownership. While disagreement about the ownership is unresolved, no private investor will risk funds to upgrade the facility. The zinc refinery is in a state of disrepair following years of neglect and an arson attack in 2000. The surrounding mines are unsafe by international standards and need significant investment in equipment and training of personnel before they can reopen. Funds also are needed to upgrade concentrators, mechanical and electrical plants, and flotation operations (Metal Bulletin, 2001c).

Korea Zinc Co. Ltd. expects to reach 500,000 t/yr capacity at its Onsan, South Korea, refinery by 2005 by increasing capacity by at least 20,000 t/yr in the next few years through upgrades on production lines. The Onsan refinery has a capacity of 400,000 t/yr, but is expected to reach 420,000 t/yr in 2002. Production in 2001 should be equal to capacity, which would be about 14% higher than in 2000. The company, however, has decided to suspend plans to expand its Townsville zinc refinery in Queensland, Australia, due to excess zinc on the world market. Capacity at Townsville is 200,000 t/yr, with output expected to be 190,000 t in 2001. Korea Zinc also has another 110,000 t/yr refinery in Sauget, IL, which has targeted full output for 2001 (Platts Metals Week, 2001b).

India's Binani Zinc Ltd. is considering selling a 49% interest in the company to Korea Zinc Co. Ltd. Binani recently teamed up with Korea Zinc to bid for a stake in state-owned Hindustan Zinc Ltd. Binani Zinc may need to bring in a partner if it intends to proceed with plans to expand its zinc smelter capacity to 100,000 t/yr from 30,000 t/yr currently. Partnership with Korea Zinc would be logical because Binani already shares technology with Korea Zinc and a strategic alliance with an international producer would help raise necessary funds for expansion, strengthen its bid for Hindustan

Zinc, and help penetrate world markets. The expansion, however, may not be realized given current low zinc prices, recent cost increases in electric power, and Binani's dependence on imported concentrates, which also increased costs owing to the steep fall of the rupee against the dollar (Metal Bulletin, 2001a).

Update

Pasminco Ltd. of Australia delayed the release of its annual report by 2 weeks in order to further review the implications of its planned restructuring. When it was finally published, the report indicated a net loss of \$368 million for the fiscal year (FY) ending on June 30, compared to a \$12 million profit in FY 2000. Pasminco requested its bankers to sign a 6-month standstill agreement in order to help avoid a distress sale of the company's Australian mining assets. To bolster its bargaining position, Pasminco announced that the company had already received a bid for its Broken Hill zinc-lead mine, and that it had completed an information memorandum for the company's flagship Century Mine and had sent it to a number of pre-qualified potential purchasers (Platts Metals Week, 2001c).

Sable Zinc Inc., the new owners of the closed Kabwe Mine in Zambia, began preparing to leach zinc from old mine dumps lying dormant at the mine. An investment of \$3 million had already been secured from the Commonwealth Africa Investment Fund and Barclays Bank; all that remained was the first trial leaching to take place in September. The company expects to produce about 5,000 t of zinc and create employment for about 100 workers, without any underground activities. The Kabwe lead and zinc mine was closed in the mid 1990s when Zambia Consolidated Copper Mines determined the plant was no longer viable (FinancialMail, September 11-17, 2001, Sable starts leaching zinc from dumps in Kabwe, accessed September 13, at URL <http://www.daily-mail.co.zm/finmail/finbank/finance02.html>).

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- 2001b, Onsan zinc targets 500,000 mt by 2001: Platts Metals Week, v. 72, no. 37, September 10, p. 10.
- 2001c, Pasminco at the mercy of its bankers after hefty loss: Platts Metals Week, v. 72, no. 38, September 17, p. 14.
- 2001d, Support problems limit production at Lisheen: Platts Metals Week, v. 72, no. 36, September 3, p. 3.

TABLE 1
SALIENT ZINC STATISTICS 1/

(Metric tons, unless otherwise specified)

	2000	2001			
	January- December	June	July	August	January- August
Production:					
Mine, zinc content of concentrate	837,000 r/	68,900 r/	68,100 r/	70,300	544,000
Mine, recoverable zinc	814,000 r/	66,100 r/	66,700 r/	67,600	524,000
Smelter, refined zinc	363,000	22,600	18,900	19,800	215,000
Oxide (gross weight)	107,000	2,440	605	1,360	52,900
Consumption:					
Refined zinc, reported	640,000	38,200 r/	31,000 r/	33,100	317,000
Ores e/ (zinc content)	225	19	19	19	152
Zinc-base scrap e/ (zinc content)	223,000	18,600	18,600	18,600	149,000
Copper-base scrap e/ (zinc content)	211,000	17,600	17,600	17,600	141,000
Aluminum- and magnesium-base scrap e/ (zinc content)	1,360	113	113	113	904
Total e/	1,080,000	74,500 r/	67,400	69,500	607,000
Apparent consumption, metal 2/	1,330,000 r/	106,000	105,000 r/	76,600 3/	778,000
Stocks of refined (slab) zinc, end of period:					
Producer 4/	7,890	8,580	7,340	6,580	XX
Consumer 5/	58,300	58,900	59,300	60,600	XX
Merchant	10,500	8,320 r/	10,300 r/	10,300	XX
Total	76,600	75,800 r/	76,900 r/	77,500	XX
Shipments of zinc metal from Government stockpile	38,800	771	2,570	3,340	16,100
Imports for consumption:					
Refined (slab) zinc	915,000	84,500	54,200	NA	484,000 6/
Oxide (gross weight)	71,000	5,940	6,020	NA	42,900 6/
Ore and concentrate (zinc content)	52,800	8,690	9,400	NA	38,500 6/
Exports:					
Refined (slab) zinc	2,770	85	155	NA	733 6/
Oxide (gross weight)	7,080	852	891	NA	6,290 6/
Ore and concentrate (zinc content)	523,000	1,380	120,000	NA	188,000 6/
Waste and scrap (gross weight)	36,100	3,400	4,220	NA	26,600 6/
Price:					
London Metal Exchange, average, dollars per metric ton	\$1,127.73	\$894.57	\$852.06	\$827.68	\$942.37
Platts Metals Week North American Special High Grade, average, cents per pound	55.61	44.34	42.42	41.31	46.70

e/ Estimated. r/ Revised. NA Not available. XX Not applicable.

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

2/ Smelter production plus imports minus exports plus shipments from Government stockpile plus stock change.

3/ Data based on reported consumption, stocks and estimated trade data.

4/ Data from U.S. Geological Survey and American Bureau of Metal Statistics.

5/ Includes an estimate for companies that report annually.

6/ Includes data through July only.

TABLE 2
REFINED ZINC PRODUCED IN THE UNITED STATES 1/

(Metric tons)

Month	Beginning stocks 2/	Production	Shipments	Ending stocks 2/
2000:				
August	8,820	28,300	29,200	7,860
September	7,860	27,500	27,900	7,470
October	7,470	28,500	28,100	7,900
November	7,900	28,500	28,500	7,890
December	7,890	28,500	28,500	7,890
Year	XX	363,000	365,000	XX
2001:				
January	7,890	31,400	29,400	9,900
February	9,900	31,300	30,200	11,000
March	11,000	30,600	30,200	11,500
April	11,500	32,000	32,800	10,700
May	10,700	28,800	30,500	9,000
June	9,000	22,600	23,000	8,580
July	8,580	18,900	20,100	7,340
August	7,340	19,800	20,600	6,580
January-August	XX	215,000	217,000	XX

XX Not applicable.

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

2/ Includes stocks held at locations other than smelters.

Sources: U.S. Geological Survey and American Bureau of Metal Statistics.

TABLE 3
ZINC OXIDE PRODUCED IN THE UNITED STATES 1/ 2/

(Metric tons, gross weight)

Period	Beginning stocks	Production	Shipments	Ending stocks
2000:				
August	3,570	8,310	8,490	3,390
September	3,390	8,310	8,310	3,390
October	3,390	8,440	8,410	3,420
November	3,420	8,320	8,320	3,420
December	3,420	8,320	8,320	3,420
Year	XX	107,000	107,000	XX
2001:				
January	3,420	9,410	9,010	3,820
February	3,820	9,800	9,360	4,260
March	4,260	10,300	10,200	4,340
April	4,340	10,200	10,100	4,410
May	4,410	8,870	10,200	3,090
June	3,090	2,440	4,100	1,430
July	1,430	605	1,190 r/	844 r/
August	844	1,360	70	2,140
January-August	XX	52,900	54,200	XX

r/ Revised. XX Not applicable.

1/ Excludes impure zinc oxide produced from other processes.

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

TABLE 4
ESTIMATED DISTRIBUTION OF ZINC OXIDE SHIPMENTS BY INDUSTRY 1/ 2/ 3/

(Metric tons, gross weight)

Industry	2000	2001			January- August
	January- December	June	July	August	
Agriculture	1,600	93	11	1	1,120
Ceramics	5,400	158	33	2	2,560
Chemicals	23,300	962	290	19	12,000
Paints	3,790	155	22	2	1,830
Photocopying	2,930	129	43	3	1,550
Rubber	68,700	2,420	656	41	34,100
Other	1,490	180	138 r/	2	979
Total	107,000	4,100	1,190 r/	70	54,200

r/ Revised.

1/ Distribution of U.S. producers only. Imports excluded because distribution by industry cannot be distinguished.

2/ May include in-house consumption.

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

TABLE 5
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING TO
INDUSTRY USE AND PRODUCT 1/

(Metric tons)

Industry and product	2000	2001			January- August
	January- December	June	July r/	August 2/	
Galvanizing:					
Sheet and strip	517,000	43,800 r/	45,500	34,500	319,000
Other	190,000	16,300 r/	17,400	11,200	113,000
Total	707,000	60,100	62,900	45,700	432,000
Brass and bronze	184,000	15,400	15,200	10,700	108,000
Zinc-base alloy	246,000	20,900	18,300	12,400	138,000
Other uses 3/	181,000	9,300	8,500	7,800	101,000
Grand total	1,320,000	106,000	105,000	76,600	778,000

r/ Revised.

1/ Data are rounded to no more than three significant digits; may not add to totals shown
2/ Data based on reported consumption, stocks and estimated trade data.

3/ Includes zinc used in making zinc dust, desilvering lead, powder, alloys, anodes, chemicals, castings, light metal alloys, rolled zinc, and miscellaneous uses not elsewhere specified.

TABLE 6
AVERAGE MONTHLY ZINC PRICES 1/

Period	North	LME cash	
	American ¢/lb.	¢/lb.	\$/t
2000:			
August	57.56	53.04	1,169.36
September	60.04	55.52	1,223.93
October	54.21	49.69	1,095.44
November	52.54	48.02	1,058.67
December	52.57	48.05	1,059.40
Year	55.61	51.15	1,127.73
2001:			
January	51.28	46.86	1,033.06
February	50.39	46.29	1,020.51
March	49.52	45.56	1,004.41
April	48.01	43.96	969.08
May	46.34	42.53	937.62
June	44.34	40.58	894.57
July	42.42	38.65	852.06
August	41.31	37.54	827.68
January-August	46.70	42.75	942.37

1/ Special High Grade.

Source: Platts Metals Week.

TABLE 7
U.S. EXPORTS OF ZINC 1/

Material	2001 2/					
	2000		July		Year to date	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	2,770	\$3,380	155	\$152	733	\$807
Ore and concentrate (zinc content)	523,000	298,000	120,000	51,200	188,000	73,200
Waste and scrap (gross weight)	36,100	21,600	4,220	2,170	26,600	14,000
Powders, flakes, dust (zinc content)	4,830	9,030	223	372	2,510	4,050
Oxide (gross weight)	7,080	12,400	891	1,390	6,290	9,460
Chloride (gross weight)	3,290	2,440	90	104	1,040	1,030
Sulfate (gross weight)	5,430	3,350	275	171	3,120	1,860
Compounds, other (gross weight)	447	1,030	66	57	162	335

1/ Data are rounded to no more than three significant digits.

2/ Data for August 2001 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF ZINC 1/

Material	2001 2/					
	2000		July		Year to date	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	915,000	\$1,100,000	54,200	\$50,300	484,000	\$496,000
Ore and concentrate (zinc content)	52,800	26,900	9,400	3,820	38,500	16,000
Waste and scrap (gross weight)	36,500	16,200	3,690	847	26,100	7,140
Powders, flakes, dust (zinc content)	23,000	45,700	2,340	3,890	14,400	24,900
Oxide (gross weight)	71,000	74,200	6,020	5,550	42,900	41,700
Chloride (gross weight)	1,110	1,240	81	78	675	677
Sulfate (gross weight)	13,700	6,800	1,200	593	9,400	4,210
Compounds, other (gross weight)	1,670	1,710	202	156	1,030	930

1/ Data are rounded to no more than three significant digits.

2/ Data for August 2001 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 9
SHIPMENTS OF ZINC METAL FROM THE NATIONAL
DEFENSE STOCKPILE 1/

(Metric tons)

Period	Beginning inventory	Shipments	Ending inventory
2000:			
August	157,000	7,070	150,000
September	150,000	5,690	144,000
October	144,000	--	144,000
November	144,000	5,400	139,000
December	139,000	995	138,000
Year	XX	38,800	XX
2001:			
January	138,000	1,790	136,000
February	136,000	2,080	134,000
March	134,000	1,800	132,000
April	132,000	2,020	130,000
May	130,000	1,710	129,000
June	129,000	771	128,000
July	128,000	2,570	125,000
August	125,000	3,340	122,000
January-August	XX	16,100	XX

XX Not applicable. -- Zero.

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

Source: Defense Logistics Agency.

TABLE 10
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY 1/

(Metric tons)

Material and country	General imports			Imports for consumption		
	2000	2001 2/		2000	2001 2/	
		July	Year to date		July	Year to date
Ore and concentrate (zinc content):						
Australia	20,200	4,770	17,200	20,200	4,770	17,200
Mexico	7,490	1,850	7,130	6,930	1,850	7,130
Netherlands	10,100	--	--	10,100	--	--
Peru	20,300	2,780	13,000	15,400	2,780	13,000
Other	379	1	1,120	68	1	1,120
Total	58,600	9,400	38,500	52,800	9,400	38,500
Blocks, pigs, or slab:						
Australia	45,900	--	16,500	45,900	--	16,500
Brazil	9,270	3,750	14,000	9,270	3,750	14,000
Canada	534,000	34,000	274,000	534,000	34,000	274,000
China	24,500	3,350	16,000	25,900	382	6,040
Kazakhstan	65,500	--	54,600	65,500	--	54,600
Korea, Republic of	48,100	2,500	22,600	48,100	--	10,800
Mexico	90,800	13,800	71,500	90,800	13,800	71,500
Peru	56,300	1,230	22,700	56,300	1,230	22,700
Russia	24,200	--	5,620	24,200	--	5,620
Other	15,100	998	7,480	15,100	998	7,480
Total	913,000	59,600	505,000	915,000	54,200	484,000
Dross, ashes, fume (zinc content)						
	15,500	907	6,300	15,500	907	6,300
Grand total	987,000	69,900	550,000	983,000	64,500	528,000
Oxide (gross weight):						
Canada	44,100	4,140	28,100	44,100	4,140	28,100
China	1,170	6	161	1,170	6	161
Germany	1,100	13	167	1,100	13	167
Japan	1,110	109	630	1,110	109	630
Mexico	19,500	1,340	11,100	19,500	1,340	11,100
Netherlands	2,430	399	1,780	2,430	399	1,780
Other	1,670	13	910	1,670	13	910
Total	71,000	6,020	42,900	71,000	6,020	42,900
Other (gross weight):						
Waste and scrap	36,500	3,690	26,100	36,500	3,690	26,100
Sheets	9,380	669	3,850	9,380	669	3,850
Powders, flakes, dust (zinc content)	23,000	2,340	14,400	23,000	2,340	14,400

-- Zero.

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

2/ Data for August 2001 were not available at time of publication.

Source: U.S. Census Bureau.