

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

Internet: <http://minerals.usgs.gov/minerals>

ZINC IN JUNE 2002

Domestic mine production in June, at 65,900 metric tons (t), was the same as in May, but was about 4% less than in June 2001. Smelter production, at 17,900 t, was about 1% less than in May and was nearly 21% less than a year before. Apparent consumption, at 65,100 t, was about 1% lower than during the previous month and was nearly 13% less than in June 2001.

The Platts Metals Week average monthly composite price for North American Special High Grade zinc declined by 0.31 cents per pound in June to 38.04 cents per pound.

December 6, 2002, is the date when a new set of effluent regulations for the Canadian mining industry is to be implemented. Some of the changes in the new Metal Mining Effluent Regulations, announced by Environment Canada in June 2002, include: 1) The regulations will apply to all mines in Canada, not only to those that began operating after 1977 as required by the old regulations; 2) the limit for total suspended solids has been reduced to 15 milligrams per liter (mg/l), from 25 mg/l for monthly mean concentrations; 3) effluent pH must be maintained in the range of 6.0 to 9.5; and, 4) mines are required to conduct an Environmental Effects Monitoring (EEM) program. The objective of the EEM program will be to evaluate the effects of mining effluent on the aquatic environment with special attention to effects on fish, fish habitat, and the use of fisheries resources. The frequency and nature of the EEM monitoring will vary at each site depending on the outcome of test results. The cost to the Canadian mining industry to implement the proposed changes are estimated to be between \$200 million and \$400 million over a 15-year period (International Lead Zinc Research Organization, Inc., 2002).

According to its interim report for the first half of 2002, Teck Cominco Ltd.'s net earnings for the second quarter were \$8 million, up from \$2 million in the first quarter. Compared with \$23 million in the second quarter of 2001, the lower earnings this year were mainly due to the absence of substantial profits from the sale of electric power and, to a lesser degree, lower zinc prices. During the second quarter, Trail smelter

(British Columbia) produced 71,500 t of zinc, compared with 53,400 t in the same period of last year. The large difference in zinc production was caused by curtailment of production in 2001 due to power sales. The Red Dog Mine (AK) produced 136,300 t of zinc in concentrate during the second quarter, compared with 130,100 t during the second quarter of 2001. Despite higher production, the mine recorded an operating loss of \$4 million in the second quarter compared with an a \$3 million profit last year. The decline in profit was mainly due to a 14% decline in zinc prices. Construction at the Pend Oreille project in Washington State is continuing with the shaft and hoist installation expected to be completed in September of this year. Underground development is proceeding, and construction of the processing facilities is expected to start in 2003. The final cost of the development is expected to be about \$74 million (Teck Cominco Ltd., 2002).

Arcon International Resources plc plans to increase production at its Galmoy Mine in southern Ireland to 750,000 metric tons per year (t/yr) of ore by the end of 2003 from a current production rate of 650,000 t/yr. The increase will be gained by accessing two additional ore bodies adjacent to the CW2 deposit currently being mined. In order to process additional ore, the capacity of the concentrator plant will be increased by enlarging the plant's grinding and flotation circuits. The expansion should improve the mine's operating cost by lowering its unit cost. Most of current production, which amounts to 135,000 t/yr of zinc in concentrate, is being shipped to Asturiana de Zinc S.A.'s Aviles smelter in northern Spain (Platts Metals Week, 2002a).

After weeks of rumors, Metaleurop SA announced that it will switch from primary to secondary zinc production at its Noyelles-Godault plant in northern France. Low zinc prices and a concentrate deficit were cited as deciding factors in the conversion to secondary production. The plant has a capacity of 90,000 t/yr of primary zinc and recently has been producing at close to its capacity. After converting to secondary zinc production, the output is likely to decrease by between 20,000

t/yr and 30,000 t/yr, and about 250 positions are expected to be eliminated, leaving a workforce of about 450 (Metal Bulletin, 2002). The conversion to secondary production should be completed by yearend 2003. According to some zinc experts, the conversion and consequent production cutback will have only minimal impact on the world zinc market. Metaleurop is 40% owned by Glencore International AG of Switzerland. Lost production will likely be compensated for by production at another Glencore unit (Platts Metals Week, 2002c). In related news, Metaleurop and Norzinco are to merge their zinc oxide operations into a single business. The venture will have a combined capacity of 30,000 t/yr and will comprise about 15% of the European zinc oxide market (Platts Metals Week, 2002b).

According to the financial administrators of Pasminco Ltd., the Australian company could be restructured and floated after a debt-for-equity exchange as early as November 2002, if the proposed restructuring is accepted by creditors. The proposal stipulates that all unsecured creditors that are owed more than \$55,000 will receive shares and cash in lieu of their debt, employee entitlements will be protected, and the great majority of the company's 3,500 employees will be retained. About 50% of Pasminco's shares are to be sold, enabling an early repayment of creditors. According to the restructuring proposal, the new Pasminco would retain the Century and Rosebery zinc mines, and the Budel, Hobart, and Port Pirie smelters. The fate of U.S. operations, the Elura Mine, and the Cockle Creek smelter remains undecided. The administrators intend Pasminco to emerge with substantially reduced debt and a world-class asset base underpinned by the Century zinc mine in Queensland, a new board of directors, and an improved operating structure (Platts Metals Week, 2002d).

Despite smelter cutbacks, amounting to about 275,000 t, the Chinese concentrate market is still in deficit, and smelters are compelled to import large quantities of zinc concentrates. During the first half of 2002, China imported nearly 300,000 t of zinc concentrate, of which about 200,000 t came from Western countries, mainly Australia. Smelters that benefitted the most from imported concentrates were those located close to the coast because the added cost of transportation placed smelters located further inland at a disadvantage. Zinc smelter operators, not only in China, are becoming increasingly concerned about the future availability of concentrates as stocks continue to diminish. During the first half of 2002, the worldwide concentrate deficit was mostly dealt with by accumulated stocks. Consequently, smelters were not forced

to cut production despite lower concentrate output. Cutbacks implemented by some smelters, and a traditional slowdown of zinc production during the summer months, most likely will ease the pressure on concentrate supply during the third quarter. The arrival of Alaskan and Canadian concentrates (from the Red Dog, Nanisivik, and Polaris mines) will further alleviate shortages during the late summer and early fall. By late December and early January, however, the zinc concentrate shortage may become more consequential. This could place smelter operators at a disadvantage in their negotiations with miners for treatment charges. The charges currently stand between \$150 per metric ton and \$155 per metric ton, based on an LME price of \$1,000 per metric ton of zinc metal (CRU International Limited, 2002).

Sterlite Industries Ltd. is contemplating an increase in the capacity of its newly acquired Hindustan Zinc Ltd. (HZL) mining and smelting complex. The plan, in which the current capacity of 169,000 t/y would be nearly doubled, is a long-term objective and no formal decision has been made. The expansion plan is in response to a growing Indian zinc metal supply deficit, which is expected to grow in the next several years. Sterlite spent \$91 million to purchase the Indian Government's 26% equity in HZL with the Government retaining just under 50% of the shares. HZL is fully integrated from mining to metal production. It is also well diversified geographically, with six mines and four smelters spread across five States (Mining Journal, 2002).

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TABLE 1
SALIENT ZINC STATISTICS 1/

(Metric tons, unless otherwise specified)

	2002				
	2001	April	May	June	January- June
Production:					
Mine, zinc content of concentrate	842,000 r/	57,400	65,900 r/	65,900	387,000
Mine, recoverable zinc	799,000 r/	55,200	63,400 r/	63,400	372,000
Smelter, refined zinc	299,000	17,600	18,100	17,900	109,000
Consumption:					
Refined zinc, reported	543,000 r/	33,100	34,900	34,400	161,000
Ores e/ (zinc content)	727 r/	61 r/	61 r/	61	363
Zinc-base scrap e/ (zinc content)	191,000 r/	15,900 r/	15,900 r/	15,900	95,300
Copper-base scrap e/ (zinc content)	176,000 r/	14,700 r/	14,700 r/	14,700	88,000
Aluminum- and magnesium-base scrap e/ (zinc content)	1,430 r/	120 r/	120 r/	120	717
Total e/	912,000 r/	63,900 r/	65,700 r/	65,100	345,000
Apparent consumption, metal 2/	1,140,000 r/	97,100	127,000	84,000 3/	574,000
Stocks of refined (slab) zinc, end of period:					
Producer 4/	7,380	9,420	7,470	6,670	XX
Consumer 5/	57,100	59,000	55,200	57,400	XX
Merchant	10,300	10,600	9,920	9,400	XX
Total	74,700	79,000	72,600	73,500	XX
Shipments of zinc metal from Government stockpile	17,900	197	1,220	741	2,580
Imports for consumption:					
Refined (slab) zinc	813,000	101,000	66,400	NA	381,000 6/
Oxide (gross weight)	72,000	5,560	6,180	NA	28,100 6/
Ore and concentrate (zinc content)	84,000	15,200	9,650	NA	54,200 6/
Exports:					
Refined (slab) zinc	1,180	65	124	NA	474 6/
Oxide (gross weight)	11,300	1,050	1,180	NA	4,800 6/
Ore and concentrate (zinc content)	696,000	9,840	18,900	NA	63,000 6/
Waste and scrap (gross weight)	44,000	3,470	3,580	NA	18,600 6/
Price:					
London Metal Exchange, average, dollars per metric ton	\$885.43	\$807.80	\$769.19	\$766.75	\$787.74
Platts Metals Week North American Special High Grade, average, cents per pound	43.96	39.89	38.16	38.04	38.97

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 May 1 only.

TABLE 2
REFINED ZINC PRODUCED IN THE UNITED STATES 1/

(Metric tons)

Month	Beginning stocks 2/	Production	Shipments	Ending stocks 2/
2001:				
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	6,540
September	6,540	24,800	24,500	6,760
October	6,760	19,900	19,900	6,750
November	6,750	20,000	19,500	7,210
December	7,210	18,400	18,200	7,380
Year	XX	299,000	299,000	XX
2002:				
January	7,380	18,800	15,400	10,800
February	10,800	19,800	19,600	11,000
March	11,000	16,900	18,200	9,760
April	9,760	17,600	18,000	9,420
May	9,420	18,100	20,000	7,470
June	7,470	17,900	18,700	6,670
January-June	XX	109,000	110,000	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
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING TO
INDUSTRY USE AND PRODUCT 1/

(Metric tons)

Industry and product	2002				January-June
	2001	April	May	June 2/	
Galvanizing:					
Sheet and strip	432,000	40,800	51,600 r/	34,700	241,000
Other	146,000	15,300	21,200	12,200	90,000
Total	578,000	56,100	72,700	47,000	330,000
Brass and bronze	148,000	16,000	22,500	13,100	95,900
Zinc-base alloy	190,000	19,100	23,900	18,100	111,000
Other uses 3/	226,000 r/	6,000	8,000	5,900	36,000
Grand total	1,140,000 r/	97,100	127,000	84,000	574,000

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 4
AVERAGE MONTHLY ZINC PRICES 1/

Period	North	LME cash	
	American ¢/lb.	¢/lb.	\$/t
2001:			
June	44.34	40.58	894.57
July	42.42	38.65	852.06
August	41.31	37.54	827.68
September	39.97	36.21	798.21
October	38.04	34.52	761.14
November	38.39	35.04	772.49
December	37.48	34.21	754.28
Year	43.96	40.16	885.43
2002:			
January	39.23	35.96	792.86
February	38.23	34.97	770.86
March	40.30	37.15	818.96
April	39.89	36.64	807.80
May	38.16	34.89	769.19
June	38.04	34.78	766.75
January-June	38.97	35.73	787.74

1/ Special High Grade.

Source: Platts Metals Week.

TABLE 5
U.S. EXPORTS OF ZINC 1/

Material	2001		2002 2/			
	Quantity (metric tons)	Value (thousands)	May		Year to date	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	1,180	\$1,290	124	\$111	474	\$437
Ore and concentrate (zinc content)	696,000	285,000	18,900	5,920	63,000	21,300
Waste and scrap (gross weight)	44,000	22,800	3,580	1,850	18,600	9,400
Powders, flakes, dust (zinc content)	4,690	7,230	588	915	2,220	3,370
Oxide (gross weight)	11,300	17,600	1,180	2,050	4,800	7,050
Chloride (gross weight)	1,730	1,630	131	160	760	852
Sulfate (gross weight)	4,780	2,900	472	276	1,400	836
Compounds, other (gross weight)	227	499	46	137	75	224

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

2/ Data for June 2002 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF ZINC 1/

Material	2001		2002 2/			
	Quantity (metric tons)	Value (thousands)	May		Year to date	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Refined (slab) zinc	813,000	\$773,000	66,400	\$56,200	381,000	\$315,000
Ore and concentrate (zinc content)	84,000	31,600	9,650	3,800	54,200	20,200
Waste and scrap (gross weight)	39,300	11,600	2,160	608	11,200	3,500
Powders, flakes, dust (zinc content)	26,700	45,000	2,390	3,920	12,500	19,600
Oxide (gross weight)	72,000	66,200	6,180	5,100	28,100	23,200
Chloride (gross weight)	946	1,020	67	76	294	282
Sulfate (gross weight)	16,200	7,330	1,520	809	9,150	4,950
Compounds, other (gross weight)	1,400	1,360	70	39	473	466

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

2/ Data for June 2002 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 7
SHIPMENTS OF ZINC METAL FROM THE NATIONAL DEFENSE
STOCKPILE 1/

(Metric tons)

Period	Beginning inventory	Shipments	Ending inventory
<u>2001:</u>			
June	129,000	771	128,000
July	128,000	2,570	125,000
August	125,000	3,340	122,000
September	122,000	1,680	120,000
October	120,000	--	120,000
November	120,000	--	120,000
December	120,000	100	120,000
Year	XX	17,900	XX
<u>2002:</u>			
January	120,000	220	120,000
February	120,000	--	120,000
March	120,000	202	120,000
April	120,000	197	119,000
May	119,000	1,220	118,000
June	118,000	741	118,000
January-June	XX	2,580	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 8
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY 1/ 2/

(Metric tons)

Material and country	General imports			Imports for consumption		
	2001	2002 2/		2001	2002 2/	
		May	Year to date		May	Year to date
Ore and concentrate (zinc content):						
Australia	17,200	--	22,600	17,200	--	22,600
Mexico	10,700	--	6,640	10,700	--	6,640
Peru	54,900	9,650	24,900	54,900	9,650	24,900
Other	1,150	--	88	1,150	--	88
Total	84,000	9,650	54,200	84,000	9,650	54,200
Blocks, pigs, or slab:						
Argentina	1,270	1,500	5,310	1,270	1,500	5,310
Australia	55,700	--	28,000	29,700	--	21,000
Brazil	17,900	--	8,610	17,900	--	8,610
Canada	442,000	39,300	213,000	438,000	39,300	213,000
China	31,800	3,000	21,800	7,260	5	18
Japan	7,280	8,510	8,510	274	--	--
Kazakhstan	88,900	5,010	45,600	88,900	5,010	45,600
Korea, Republic of	30,600	--	16,000	10,800	--	13
Mexico	141,000	13,200	61,900	140,000	13,200	61,600
Norway	--	6,880	6,880	--	--	--
Peru	48,800	4,390	16,400	47,600	3,390	14,400
Poland	8,530	2,400	5,890	8,530	2,400	5,890
Russia	14,400	--	1,260	14,400	--	1,260
South Africa	7,030	1,470	2,970	7,030	1,470	2,970
Other	7,790 r/	195	782	1,730 r/	196	1,050
Total	903,000	85,800	443,000	813,000	66,400	381,000
Dross, ashes, fume (zinc content)						
	12,000	1,470	6,080	12,000	1,470	6,080
Grand total	999,000	96,900	503,000	909,000	77,500	441,000
Oxide (gross weight):						
Canada	47,500	3,940	17,900	47,500	3,940	17,900
China	227	185	420	227	185	420
Japan	1,110	43	276	1,110	43	276
Mexico	18,900	1,620	8,100	18,900	1,620	8,100
Netherlands	2,820	362	1,190	2,820	362	1,190
Other	1,390 r/	34	218	1,390 r/	34	218
Total	72,000	6,180	28,100	72,000	6,180	28,100
Other (gross weight):						
Waste and scrap	39,300	2,160	11,200	39,300	2,160	11,200
Sheets	7,240	195	543	7,240	195	543
Powders, flakes, dust (zinc content)	26,700	2,390	12,500	26,700	2,390	12,500

r/ Revised. -- Zero.

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

2/ Data for June 2002 were not available at time of publication.

Source: U.S. Census Bureau.