

ZINC INDUSTRY IN THE UNITED STATES IN 1958 *

From U. S. B. M. Mineral Market Report No. 2871

The zinc industry in 1958 was characterized by low demand, drastic declines in mine and smelter production, large imports and mounting producer stocks, according to the Bureau of Mines, United States Department of the Interior. On September 22, 1958, the President acting on the Tariff Commissions' recommendation of April 24, proclaimed the imposition of import quotas on zinc (and lead) effective October 1. This action combined with improved demand caused zinc prices to rise from the 10.0-cent price effective for the first nine months to 11.50 cents by November 10, at which level it held the remainder of the year.

Combined smelter production (828,900 short tons) and imports of slab zinc (195,200 tons) totaled 1,024,100 tons in 1958. Consumption of slab zinc in the same period was 821,000 tons.

Production. - Mine production of zinc in the United States fell 24 percent below the 1957 total and was the lowest yearly rate since 1933. In the West Central States of Kansas, Missouri and Oklahoma, mine production of 8,400 tons of recoverable zinc was only one-fourth the total produced in 1957. States East of the Mississippi River contributed 45 percent of the United State's total mine production. Tennessee output of 58,500 tons made that state the leading zinc producer. New York was second in rank with a total output of 53,500 tons. Idaho, Utah, and Colorado ranked first, second and third, respectively in the Western States group and accounted for 59 percent of the 213,300 tons produced there.

Output of slab zinc at United States smelters fell 22 percent below 1957 to 828,900 tons. In January, 82,300 tons of slab zinc was produced but by March output had dropped to 72,100 tons and by June only 67,000 tons were produced. During the second half of the year output reached the low of 62,900 tons in August. Thereafter monthly production rose to 75,500 tons in December. Of the total produced, 781,700 tons were primary slab zinc and 47,200 tons were re-distilled slab. Data on which to base percentages of slab zinc derived from domestic and foreign ores are not yet available.

The quantity of zinc contained in pigments and salts produced directly from domestic and foreign ores and in ores used directly in galvanizing is estimated to be 88,200 tons. In 1957, 110,300 tons was used directly in pigments and galvanizing.

Zinc reduction plants. Sixteen primary zinc reduction plants produced slab zinc in 1958. Of this total, 5 were electrolytic zinc plants, 7 horizontal retort plants, and 4 vertical retort plants. Of the vertical retorts, one is wholly electrothermic, one partly electrothermic, and 2 are externally gas-fired. The slab zinc unit of the Herculaneum lead smelter in Missouri electrothermically produced slab zinc from zinc-bearing slag during part of the year. The 5 electrolytic plants produced 326,400 tons or 39 percent of total slab zinc.

Zinc plant output was curtailed during the year owing to low demand and price. Early in the year Matthiessen and Hegeler Zinc Co. announced that effective February 15 production at the Meadowbrook, West Virginia smelter would be cut by

* For an exhaustive study of the zinc industry and its outlook, the reader is referred to the American Metal Market of March 14, 1959, Section 3, pp 26-29.

about 25 percent. St. Joseph Lead Co. reduced output at the Josephtown smelter by about 30 percent by March 1. During February the American Zinc, Lead and Smelting Co. announced a 3-week closing of its Monsanto plant to complete necessary repairs, and in October the plant was closed 4 weeks by a labor strike. At mid-year the New Jersey Zinc Co. announced an additional 20 percent cut-back bringing the output of Palmerton and Depue smelters to 50 percent of capacity. Effective July 1, the production of Prime Western grade slab zinc at the Amarillo smelter was curtailed 12 percent. The electrolytic zinc plant of the Bunker Hill Co. reduced zinc output 25 percent on August 1, following a 20-percent cut effective January 1, 1958.

Improved demand and optimism generated by quotas on zinc imports led to the announced December reopening of the Henryetta smelter (closed in July), and of the resumption of the 5-day week at Bunker Hill's Kellogg smelter.

Consumption. The quantity of slab zinc available to consumers (exclusive of old stocks) was 953,500 tons. Reported consumption, including an estimated consumption of 10,800 tons by consumers reporting on an annual basis only, was 820,700 tons - a 12-percent decline from the 1957 total of 935,600 tons.

Stocks. Producers' stocks of slab zinc continued the general upward trend until July 31 when they reached the 1958 peak of 257,900 tons. By the end of the year stocks had declined to 190,200 tons. Consumers' stocks of slab zinc were 90,100 at the year's end, about a 6-weeks' supply.

Prices. The quoted price of Prime Western slab zinc, East St. Louis, was 10.00 cents from January 1 through October 1, when the quotation rose to 10.50 cents. Two additional $\frac{1}{2}$ -cent increases on October 8 and November 10 brought the price to 11.50 cents where it remained for the balance of the year. Average sales during the year are estimated to have been at 10.3 cents a pound.

Average monthly quotations on the London Metal Exchange were £62.568 per long ton in January (equivalent to 7.82 cents a pound computed at an exchange rate of \$2.80 to the pound sterling), fell to a low of £61.854 per long ton in May (7.73 cents a pound) and rose to £75.275 per long tons in December (9.41 cents a pound). The average for the year was £65.905 per long tons (8.24 cents a pound).

Foreign trade. General imports of zinc in ores and concentrates for 1958 were 462,900 tons, 12 percent below 1957. Mexico supplied 158,600 tons, Canada 155,900 tons and Peru 103,000 tons. The remaining 10 percent came chiefly from the Union of South Africa, Bolivia, Guatemala, Australia and Honduras. Imports for consumption of zinc in ores and concentrates totaled 542,300 tons.

General imports of slab zinc fell to 195,200 tons, a decline of 27 percent from 1957. Canada, Mexico, Belgium-Luxembourg and Belgian Congo supplied nearly 82 percent of these imports. Most of the remainder came from Peru, Italy, Yugoslavia, West Germany, Netherlands, Australia and Japan. Imports for consumption of slab zinc were 185,700 tons.

Meetings under the sponsorship of the United Nations were held in London (September) and Geneva (November) to study the world problems of the zinc and lead industries.

On September 22, 1958 the President announced the imposition of import quotas

on zinc in ores and concentrates and metal beginning October 1. The quotas were based on 80 percent of the average dutiable imports into the United States during the base period, 1953-57. Imports entered duty-free for Government account and barter were excluded from these averages.

Tariff. The duty on slab zinc remained at 0.7 cents per pound, and that on zinc in ore and concentrate at 0.6 cents per pound.

ZINC INDUSTRY IN ARIZONA IN 1958

Preliminary Report from U.S.B.M. Area Report D-82

Zinc production in Arizona in 1958 declined 18 percent from 1957's production. Most of this drop resulted from the inactivity of the Old Dick mine which was the second highest producer of zinc in the State in 1957. Cyprus Mines Corp. suspended all exploration work at the Old Dick mine near Bagdad about the middle of July. The company acquired this mine in 1955, conducted an extensive development program, and built on the property a 200-ton-per-day mill which was operated from May, 1957 to January 25, 1958. Since the shutdown the company employed a small crew on exploration drifting work and diamond drilling.

Arizona is estimated to have produced 28,500 tons of zinc in 1958, as compared with 33,905 tons in 1957. Most of this tonnage was produced by the Shattuck Denn Mining Corp. at Humboldt. According to preliminary reports, Arizona ranked fifth in zinc production among the Western States.

Arizona Department of Mineral Resources

March, 1959

TABLE I

SALIENT STATISTICS OF THE U. S. ZINC INDUSTRY
ARIZONA AND WORLD MINE PRODUCTION OF RECOVERABLE ZINC
YEARS 1956, 1957 & 1958

Source: U. S. B. M.

Unit: Short Tons

	Year 1956	Year 1957	Preliminary 1958
Producers' Stocks, Beginning of Period	39,264	68,622	166,655
U. S. Mine Production, Recoverable Zinc	542,340	531,735	402,919
Imports-Ores & Concs., Zinc Content	525,350	525,730	462,901
Imports-Zinc Metal	244,978	269,034	195,195
Redistilled Secondary	72,127	72,481	47,238
TOTAL SUPPLY	1,424,059	1,467,602	1,274,908
Producers' Stocks, End of Period	68,622	166,655	190,200
Exports - Slabs, Pigs, Blocks	8,813	10,785	1,734
Exports - Ore, Sheets, Plates, Scrap-Dust	20,591	10,127	3,468
SUB-TOTAL	98,026	187,567	195,402
APPARENT CONSUMPTION	1,326,033	1,280,035	1,079,506
REPORTED CONSUMPTION-SLAB ZINC	1,008,790	935,620	820,700
CONSUMED DIRECTLY IN ORES	116,040	110,300	88,200
TOTAL REPORTED ZINC CONSUMPTION	1,124,830	1,045,920	908,900
UNACCOUNTED FOR (Stkpiles & Smelter Ores)	201,203	234,115	170,606
Production of Primary Slab Zinc:			
By Sources: From Domestic Ores	470,093	539,692	N.A.
From Foreign Ores	513,517	446,104	N.A.
By Methods: Electrolytic	410,417	409,483	326,361
Distilled	573,193	576,313	455,303
ARIZONA MINE PRODUCTION	25,580	33,905	28,500
WORLD MINE PRODUCTION	3,360,000	3,420,000	N.A.
U.S. Mine Prod.-% of Reported Consumption	48.22%	50.84%	44.33%
Avg. Price of Zinc, E. St. Louis (E. & M. J.)	13.49¢	11.39¢	10.30¢

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TABLE II

SLAB ZINC AVAILABLE TO CONSUMERS

YEARS 1956, 1957 AND 1958

Source: U.S.B.M.

Unit: Short Tons

	Year 1956	Year 1957	Preliminary 1958
SUPPLY:			
Stocks at Primary Smelters Jan.1st.	37,322	64,794	153,338
Stocks at Secondary Plants Jan.1st.	1,942	2,081	2,495
Production - Primary	983,610	985,796	781,693
Secondary	72,127	72,481	47,238
Imports of Slab Zinc	244,978	269,034	195,195
TOTAL AVAILABLE	1,339,979	1,394,186	1,179,959
WITHDRAWN:			
Exports of Slab Zinc	8,813	10,785	1,734
Shipments to Government Account 1/	157,014	179,466	34,488
Stocks at Primary Smelters-End of Period	64,794	153,338	188,326
Stocks at Secondary Plants- " " "	2,081	2,495	1,911
TOTAL WITHDRAWN	232,702	346,084	226,459
Available to Consumers	1,107,277	1,048,102	953,500
REPORTED CONSUMPTION	1,008,790	935,620	820,700

1/ As reported by the American Zinc Institute.

U. S. CONSUMPTION OF SLAB ZINC

GALVANIZERS	439,146	367,757	370,711
DIE CASTERS	360,507	376,039	273,990
BRASS PRODUCTS	124,004	112,390	99,503
ROLLED ZINC	47,359	41,269	38,640
ZINC OXIDE & OTHER	37,774	38,165	37,860
TOTAL SLAB ZINC CONSUMPTION	1,008,790	935,620	820,704

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TABLE III

WORLD USE OF ZINC

In Thousands of Short Tons

Source: American Metal Market of March 14, 1959, Section 3, page 27

	Aver. 1940-45	Aver. 1946-50	Aver. 1951-55	1956	1957	Prel. 1958
U. S. A.* (1)	928	944	1,069	1,108	1,019	910
Latin America	18	27	48	60	51	
British Commonwealth						
U. K. *	254	343	331	357	354	335
Canada	73	49	55	59	51	56
Australia - N. Z.	60	48	66	79	90	82
India	31	31	29	40	53	76
So. Africa	9	10	16	27	27	26
Total Br.Com'wlth	427	481	497	562	575	575
Western Europe (2)	400	401	598	671	745	
U.S.S.R. & Satellites	130	177	355	510	555	
Japan & Other Far East	55	49	99	131	148	
TOTAL WORLD	1,958	2,079	2,666	3,042	3,093	

* U. S. A. and U. K. figures include secondary.

- (1) Including recoverable zinc in concentrates going directly into manufacture of oxides.
- (2) Note tremendous increase in use of zinc in Western Europe, corresponding to similar industrial growth shown by lead and copper.

TABLE IV

QUARTERLY IMPORT QUOTA MAXIMUMS

In Pounds

	Zinc Ores	Zinc Blocks, etc.
Canada	66,480,000	37,840,000
Mexico	70,480,000	6,320,000
Peru	35,120,000	3,760,000
All other foreign countries	17,840,000	-
Belgian Congo	-	5,440,000
Belgium & Luxembourg	-	7,520,000
Italy	-	3,600,000
All other foreign countries	-	6,080,000

TABLE V

GENERAL IMPORTS OF ZINC INTO UNITED STATESExports From United StatesYears 1957 and 1958

Compiled From Records of the U. S. Dept. of Commerce.

Unit: Short Tons

	<u>1957</u>	<u>1958</u>
Ores (Zinc content)		
Australia	8,756	4,698
Bolivia	7,633	8,220
Canada	158,220	155,925
Chile	1,400	978
Cuba	1,209	222
Guatemala	9,262	6,483
Honduras	2,589	1,436
Malta, Gozo and Cyprus	1,116	-
Mexico	192,519	158,607
Peru	118,771	103,002
Philippines	777	94
Union of So. Africa	21,048	21,699
United Kingdom	191	-
Other Countries	2,239	1,537
Total - Ores	<u>525,730</u>	<u>462,901</u>
Blocks, Pigs and Slabs:		
Australia	9,523	2,240
Austria	1,020	110
Belgian Congo	33,007	20,991
Belgium-Luxembourg	34,191	21,707
Canada	103,964	93,473
Germany; West	8,772	2,671
Italy	10,010	6,164
Japan	2,887	2,039
Mexico	23,536	23,256
Mozambique	1,230	-
Netherlands	2,504	2,520
Peru	22,947	9,734
Rhodesia & Nyasaland	2,744	1,064
United Kingdom	1,790	672
Yugoslavia	10,909	5,779
Other Countries	-	2,775
Total- Blocks, Pigs and Slabs	<u>269,034</u>	<u>195,195</u>
TOTAL IMPORTS	<u>794,764</u>	<u>658,096</u>
TOTAL EXPORTS	<u>10,785</u>	<u>1,734</u>

TABLE VI

SHOWING TONNAGE OF UNNEEDED IMPORTS OF ZINCINTO UNITED STATES

	1953	1954	1955	1956	1957	Prel. 1958
U. S. Mine Production <u>1/</u>	429,000	378,000	398,000	426,000	421,000	315,000
Secondary	53,000	68,000	66,000	72,000	72,000	47,000
Imports	748,000	611,000	686,000	770,000	795,000	658,000
Changes in Stocks	94,000*	57,000**	84,000**	29,000*	98,000*	34,000*
Available Supply	1,136,000	1,114,000	1,234,000	1,239,000	1,190,000	986,000
Consumed & Exported	950,000	930,000	1,163,000	979,000	957,000	816,000
Unneeded Imports	186,000	184,000	71,000	260,000	233,000	170,000

Net unneeded imports for six years = 1,104,000 tons = 184,000 tons per year.

As the government stockpiles took a great deal of zinc during this six-year period, it is natural to assume that such disposal left room for the importation of enormous tonnages of zinc for the domestic market.

* Denotes increase in stocks.

** Denotes decrease in stocks.

1/ Less zinc used for pigments.