

LEAD AND ZINC INDUSTRY

STATISTICS FOR 1961 COMPARED WITH

OTHER YEARS

ARIZONA, UNITED STATES AND FREE WORLD

COMPILED BY

ARIZONA DEPARTMENT OF MINERAL RESOURCES
FAIRGROUNDS,
PHOENIX 7, ARIZONA

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August, 1962

L E A D I N D U S T R Y

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LEAD

PHYSICAL PROPERTIES *

Lead is one of the most important industrial nonferrous metals used in substantial quantities in the metallic form; it is also important for the properties it imparts to its alloys.

Is the softest and heaviest of the common metals. It can be rolled to a foil of less than 0.0005 inches in thickness but is not ductile enough to be drawn into fine wire. Very malleable. Lead cannot be hardened except by alloying.

Some of the physical properties of lead are as follows:

Symbol - Pb. Atomic Weight - 207.21. Spec. Gravity - 11.34

Melting Point - 327.35°C (621.2°F). Boiling Point 1,740°C (3164°F)

Specific Resistance (20°- 40°C) (68°- 104°F) - Microhm 20.65

Hardness (Mohs' scale) - 1.5. Tensile Strength #/sq.in. - 3,000

Crystal Structure - Face-centred cubic. Valences - +4 & +2

* U.S.B.M.'s "MATERIALS SURVEY" - September, 1952

METAL DUTIES ON LEAD

According to the Tariff Act of 1930 amended.
Published by American Metal Market, "Metal Statistics, 1962", page 253.

Following rates in effect on January 1, 1962.

LEAD - Ore, on lead contained.	+ 3/4 c. lb.
In bullion or base bullion, pigs, bars, dross, reclaimed lead, *scrap lead, antimonial lead, * antimonial scrap lead, type metal, babbitt metal, solder and alloys not specially provided for on lead therein.	+ 1 1/16 c. lb.
Sheets, pipe, shot and wire.	1 5/16 c. lb.
White lead (Par. 72).	1.05 c. lb.
Litharge.	1 1/4 c. lb.
Red Lead.	1 7/8 c. lb.
Orange mineral.	2 c. lb.

* Import tax suspension expired June 30, 1958.

+ Duty suspended, effective Feb. 12, 1952; reimposed on June 26, 1952.

LEAD INDUSTRY IN 1961

Mineral Market Report MMS No. 3442

Prepared July 24, 1962 by Richard N. Spencer, Edith E. den Hartog, and Mary E. Graves, under the supervision of P. F. Yopes, Chief, Branch of Nonferrous Metals, Division of Minerals.

Mine output of recoverable lead increased 6 percent and production of lead at primary refineries increased substantially in 1961, but production by secondary smelters declined, according to the Bureau of Mines, United States Department of the Interior. Consumption of lead in battery uses and in leaded gasoline additives each increased 4 percent; most other items of lead consumption declined slightly to moderately. Import quotas remained in effect during the entire year. Some barter transactions were negotiated for lead from two foreign countries, and partial deliveries were received. The price of common grade lead (New York market) remained at 11 cents a pound until November 1 when it declined to 10.5 cents. It dropped again, to 10 cents, on November 13; on November 28 a small gain brought the price to 10.25 cents where it held for the remainder of the year.

A bill to subsidize small lead-zinc mines became Public Law 87-347 on October 3, 1961 after being passed by both Houses of Congress and approved by President Kennedy. No funds had been appropriated by yearend to implement this program.

The International Lead-Zinc Study Group met for its third session in Mexico City, Mexico from March 20 to 24, 1961 and for its fourth session in Geneva, Switzerland from October 18 to 24. The Study Group continued its efforts to find generally acceptable means to bring free-world production and consumption more nearly into balance. Surplus agricultural barter contracts for lead were negotiated with Canada (55,000 tons of lead) and Australia (50,000 tons), by the U. S. Department of Agriculture, Commodity Credit Corporation, to obtain agreements for reduced lead production in 1961. In the third session, delegations from several countries announced the intention of curtailing lead production during 1961 by definite quantities. At yearend, it was evident that few of the announced reductions in lead production were effected.

Production. - Mines in the United States produced 262,000 short tons of recoverable lead in 1961, 8,000 tons less than in 1900. Since 1900 only in 1959 and 1960 was mine production less than that of 1961. Production increased considerably during the first and second quarters, then decreased in both the third and fourth quarters. Production in 1961 was 6 percent more than in 1960. Mine output was not materially affected by labor strikes during the year.

The four largest producing States were Missouri, 98,800 short tons; Idaho, 71,500 tons; Utah, 40,900 tons; and Colorado, 17,800 tons. Mines in these four States produced 229,000 tons or 87 percent of the total United States output. The remaining 13 percent came from 16 States. The major producers in these minor producing States with a combined total of 26,100 tons and representing about 10 percent of total output, were mines in Washington, Arizona, Virginia, Illinois, Montana, and New Mexico. California, Nevada, Kansas, and Oklahoma

produced a total of 4,300 tons or about 2 percent of the U. S. output. The 4 percent of U. S. lead output from States east of the Mississippi River, was recovered largely as a byproduct of zinc mining.

Missouri remained the major lead-producing State; the output of mines of the Southeast Missouri Lead Belt was 38 percent of the U. S. total. Missouri production was 12 percent less than that of 1960. Idaho again placed second as a lead-producing State. Mine output increased substantially over that of 1960 as production was uninterrupted by strikes. Lead output of Utah was slightly more than in 1960. Deposits of lead ore, mainly in the Tintic and Park City districts, were being explored. The output of lead from mines in Colorado remained nearly the same as in 1960, and Montana lead production remained at a low level throughout the year, largely because of the continued inactivity of The Anaconda Co. zinc mines in Butte.

The 25 leading lead-producing mines in the United States in 1961 accounted for 92 percent of total domestic output; the 10 leading mines yielded 75 percent and the 4 largest mines, 47 percent.

Domestic primary lead smelters and refineries produced 451,100 tons of refined lead and 33,200 tons of lead in antimonial lead. Lead content of primary raw materials consumed for this production was 503,800 tons and that of scrap was 8,800 tons. Domestic ores were the source of 64 percent of the refined lead produced from primary sources; foreign ores and bullion supplied the remainder. Primary lead smelters also produced 1,569 tons of refined lead from scrap, and secondary smelters 139,100 tons of lead metal from scrap. Refined and remelt lead produced from all sources was 590,200 tons.

Antimonial lead production at primary and secondary smelters was 245,300 tons with a lead content of 230,500 tons; 33,200 tons (lead content) from primary smelters, and 197,300 tons from secondary smelters. Scrap was the source of 25 percent of primary smelter output (mostly battery-lead plates); 39 percent came from domestic ores and 36 percent from foreign ores.

Lead-base and tin-base scrap were the source from which most of the 452,800 tons of secondary lead was recovered. Secondary lead smelters recovered 91 percent of the total in 230 plants, primary lead smelters 2 percent in 4 plants, and manufacturers, foundries, and secondary copper smelters as a group, 7 percent.

Of the 587,300 tons of lead-base scrap processed during the year, 61 percent was battery-lead plates and the major product was secondary antimony lead. Average recovery from all lead-base scrap consumed was 73 percent.

Secondary lead was again the largest source of United States lead supply, accounting for 40 percent of the total. Imports furnished 37 percent and domestic mine production 23 percent.

Consumption. - The imbalance between production and consumption of lead continued in 1961 with total production increasing 8 percent over 1960 and consumption up less than 1 percent. In 15 of the 25 major uses tabulated by the Bureau of Mines, consumption decreased but gains were reported in the automotive field -- batteries by 4 percent and tetraethyl lead 4 percent. This industry alone took 53 percent of all lead consumed.

Soft lead, primary and secondary, accounted for 65 percent of the total consumed; 26 percent was lead content of antimonial lead; 4 percent was lead in alloys; 1 percent was lead in copper-base scrap; 3.5 percent was lead content of scrap which went directly to an end product and 0.5 percent was lead recovered from ore in the production of leaded zinc oxide and other pigments. Consumption varied greatly in the first 7 months, from a low of 72,300 tons in July to a high of 89,700 tons in May, with no distinguishable trend. Consumption in the last 5 months was unusually constant, varying only from a low of 89,700 tons in September to a high of 93,500 in October.

Nine States accounted for 73 percent of the total lead consumed (excluding scrap), as follows: New Jersey 15 percent, Louisiana and Texas together 13 percent, California 10 percent, Illinois 10 percent, Indiana 9 percent, Pennsylvania 6 percent, Missouri 5 percent, and New York 5 percent.

Stocks. - Stocks of refined lead at primary producing plants increased substantially through April, then a decline began which continued from May through August. An increase in stocks began in September that continued through the remainder of the year, and the net increase of refined lead stocks at year-end amounted to 46,800 tons. Total yearend stocks, representing physical inventories at plants and irrespective of ownership, but not including material in process or in transit, were 262,100 tons compared with 250,100 at the close of 1960. Consumer and secondary smelter stocks of lead decreased from 97,300 tons on December 31, 1960, to 94,800 tons on March 31, increased to 106,400 tons on June 30, to 107,700 tons on September 30, and dropped to 99,100 tons on December 31, 1961. The 1961 yearend stocks were 2 percent more than in 1960.

Prices. - The quoted New York price for common lead was 11 cents a pound on January 1. This price held firm until November 1 when the price dropped to 10.5 cents per pound, then on November 13 dropped again to 10 cents, and on November 28 made a small gain to 10.25 cents, a price which remained in effect the remainder of the year. The average sales price for lead in the United States during the year was 10.3 cents per pound.

Quotations on the London Metal Exchange ranged from a high of £ 68.25 per long ton on May 9 (equivalent to 8.51 cents per pound U. S. currency -- computed on the average monthly rate of exchange) to a low of £ 57.50 (7.23 cents per pound) on November 14. The quotation on December 29 was £ 60.25 per long ton (7.56 cents per pound), and the year average was £ 64.21 (8.03 cents per pound).

Imports. - General imports of lead were 14 percent over 1960. Imports for consumption were 391,200 tons, an increase of 9 percent over 1960. Import quotas were filled for both ore and concentrate, and for pigs, bars, and base bullion. Pigs and bars accounted for 63 percent of imports for consumption, ores and concentrates 35 percent, and scrap and bullion 2 percent. Mexico, Australia, Canada, Yugoslavia, Peru, and Spain, in that order, were the major suppliers of lead metal. The major suppliers of ores and concentrates were Peru, Canada, Union of South Africa, Australia, Bolivia, and Guatemala.

Exports. - Total lead exported was more than double that of 1960, and amounted to 11,700 tons. All classes of exports increased substantially with scrap about double and ore, matte, and base bullion about three times that of 1960.

Tariff. - Import duties on pig lead and lead content of ores and concentrates remained unchanged at 1 1/16 cents and 3/4 cent a pound, respectively. Duties on scrap were the same as on pig lead.

World production. - World mine production increased 2 percent over that of 1960. World smelter production was estimated to be 2.7 million short tons compared to 2.6 million short tons in 1960, while free-world consumption was estimated at 2.5 million short tons.

TABLE I

SALIENT U. S. LEAD STATISTICS FOR 1959, 1960 AND 1961

ARIZONA, UNITED STATES AND WORLD MINE PRODUCTION OF RECOVERABLE LEAD

Source: U. S. B. M.	Unit: Short Tons		
	Year 1959	Year 1960	Year 1961
Producers' Stocks Beginning of Period	234,290	171,079	250,142
U.S. Mine Production Recoverable Lead	255,586	246,669	261,921
Secondary Lead Recovered From Old & New Scrap ...	451,387	469,903	452,792
Imported Lead in Ore & Matte, Base Bullion	139,396	146,246	147,608
Imported Lead in Pigs, Bars	263,412	206,033	256,852
Imported Lead in Reclaimed Scrap, etc.	8,279	7,641	4,942
TOTAL SUPPLY	1,352,350	1,247,571	1,374,257
Producers' Stocks at End of Period	171,079	250,142	262,102
Exported Lead in Ore, Matte & Base Bullion	224	1,297	4,437
Exported Lead in Pigs and Bars	2,756	1,967	2,133
Exported Lead in Scrap	1,141	2,579	5,163
SUB-TOTAL	175,200	255,985	273,835
NET APPARENT CONSUMPTION	1,177,150	991,586	1,100,422
REPORTED CONSUMPTION	1,091,149	1,021,172	1,027,216
UNACCOUNTED FOR (Stockpiles, etc.)	86,001	29,586	73,206
PRODUCTION OF REFINED PRIMARY LEAD:			
From Domestic Ores & Base Bullion	225,270	228,899	288,078
From Foreign Ores & Base Bullion	115,661	153,537	161,487
ARIZONA MINE PRODUCTION	9,999	8,495	5,937
WORLD MINE PRODUCTION	2,530,000	2,560,000	2,660,000
U.S. MINE PRODUCTION AS % OF REPORTED CONSUMPTION	23.42%	24.16%	25.50%
MINE PRODUCTION & SECONDARY AS % OF " "	64.79%	70.17%	69.58%
AVG. PRICE OF LEAD - N. Y. (E. & M.J.)	12.211¢	11.948¢	10.871¢
AVG. PRICE OF LEAD - LONDON	8.88¢	9.04¢	8.03¢

TABLE II

MINE PRODUCTION OF RECOVERABLE LEAD IN THE UNITED STATES, BY STATES

Short Tons
Years 1952-56 Average, 1957, 1958, 1959, 1960, 1961

Source: U.S.B.M.

State	1952-1956 (average)	1957	1958	1959	1960	1961
Arizona	11,230	12,441	11,890	9,999	8,495	5,937
Arkansas	1/ 4	-	-	38	-	-
California	8,019	3,458	140	227	440	103
Colorado	21,061	21,003	14,112	12,907	18,080	17,755
Idaho	69,223	71,637	53,603	62,395	42,907	71,476
Illinois	3,852	2,970	1,610	2,570	3,000	3,430
Kansas	5,286	4,257	1,299	481	781	1,449
Kentucky	84	411	516	409	558	656
Missouri	125,917	126,345	113,123	105,165	111,948	98,785
Montana	18,344	13,300	8,434	7,672	4,879	2,643
Nevada	4,775	5,979	4,150	1,357	987	1,791
New Mexico	4,038	5,294	1,117	829	1,996	2,332
New York	1,277	1,667	579	481	775	879
North Carolina	3	9	-	-	424	318
Oklahoma	13,024	7,183	3,692	601	936	980
Utah	47,342	44,471	40,355	36,630	39,398	40,894
Virginia	3,387	3,143	2,934	2,770	2,152	3,733
Washington	10,949	12,734	9,020	10,310	7,725	8,053
Wisconsin	1,977	1,900	800	745	1,165	680
Other States	26	14	3	-	23	27
TOTAL	349,815	338,216	267,377	255,586	246,669	261,921

1/ 1952 only.

Arizona Department of Mineral Resources

August, 1962

TABLE III

WORLD MINE PRODUCTION OF RECOVERABLE LEAD, BY COUNTRIESIN THOUSAND SHORT TONS

Source: U.S.B.M.

Year	U.S.	Mexico	Canada	Peru	Australia	Rest of Free World	Total Free World	Communist Controlled Countries	Total World (Estimated)
1956	353	220	189	142	335	682	1,921	569	2,490
1957	338	237	181	151	373	728	2,008	602	2,610
1958	267	223	186	148	366	728	1,918	642	2,560
1959	256	210	187	127	354	707	1,841	689	2,530
1960	247	210	205	142	341	708	1,853	707	2,560
1961	262	200	233	148	300	708	1,851	809	2,660

TABLE IV

TOTAL LEAD IMPORTED INTO THE UNITED STATES, AND EXPORTED FROM U. S.

Source: Bureau of The Census

In Short Tons

	<u>IMPORTS</u>	<u>EXPORTS</u>	<u>NET IMPORTS</u>
Avg. 1948-1952	434,909	3,500	431,409
1953	552,278	4,547	547,731
1954	443,243	4,592	438,651
1955	462,208	4,720	457,488
1956	479,875	7,819	472,056
1957	532,055	6,130	525,925
1958	577,110	3,386	573,724
1959	411,087	4,121	406,966
1960	359,656	5,843	353,813
1961	409,402	11,733	397,669

TABLE V

CONSUMPTION OF LEAD IN UNITED STATES

Source: U. S. B. M.

Year	Metal Products	Storage Batteries	Pigments	Tetra- ethyl Lead	Other Uses	Total
1950	515,527	398,409	166,387	113,846	43,329	1,237,981
1951	500,009	375,384	139,504	128,407	41,489	1,184,793
1952	476,542	350,930	122,299	146,723	34,301	1,130,795
1953	501,482	367,575	129,590	162,443	40,514	1,201,604
1954	442,384	337,272	116,409	160,436	38,370	1,094,871
1955	495,320	380,033	131,435	165,133	40,723	1,212,644
1956	489,586	370,771	120,370	191,990	37,000	1,209,717
1957	448,948	361,015	115,361	177,001	35,790	1,138,115
1958	382,822	312,725	95,901	159,412	35,527	986,387
1959	407,520	380,732	103,671	160,020	39,206	1,091,149
1960	369,731	353,196	98,541	163,826	35,878	1,021,172
1961	359,302	367,998	94,824	169,802	35,290	1,027,216

Arizona Department of Mineral Resources

TABLE VI

U. S. LEAD CONSUMPTION - YEARS 1959, 1960 & 1961

Source: U. S. B. M.

	1959	1960	1961
Metal Products:			
Ammunition	45,328	43,577	45,837
Bearing metals	23,298	20,717	17,757
Brass and bronze	24,264	20,485	20,114
Cable covering	61,626	60,350	57,458
Calking lead	80,091	66,527	67,379
Casting metals	8,395	7,023	6,873
Collapsible tubes	9,442	8,705	11,220
Foil	3,745	3,684	2,968
Pipes, traps and bends	24,825	22,119	19,098
Sheet lead	28,158	26,607	28,102
Solder	68,871	60,013	54,838
Storage battery grids, posts, etc.	187,284	175,458	186,028
Storage battery oxides	193,448	177,738	181,970
Terne metal	1,511	1,765	965
Type metal	27,966	28,159	26,693
Total	788,252	722,927	727,300
Pigments:			
White lead	10,955	8,432	7,615
Red lead and litharge	74,116	74,901	72,022
Pigment colors	13,827	11,445	11,273
Other <u>1/</u>	4,773	3,763	3,914
Total	103,671	98,541	94,824
Chemicals:			
Tetraethyl lead	160,020	163,826	169,802
Miscellaneous chemicals	4,485	2,806	2,588
Total	164,505	166,632	172,390
Miscellaneous Uses:			
Annealing	5,129	5,153	5,066
Galvanizing	1,184	1,383	1,444
Lead Plating	302	218	243
Weights and ballast	8,748	9,045	8,890
Total	15,363	15,799	15,643
Other uses, unclassified	19,358	17,273	17,059
Total Reported <u>2/</u>	1,091,149	1,021,172	1,027,216

1/ Includes lead content of leaded zinc oxide production.2/ Includes lead content of scrap used directly in fabricated products.

TABLE VII

QUARTERLY IMPORTS AND EXPORTS OF LEAD INTO AND FROM UNITED STATES

YEAR 1961

Short Tons

Source: U.S. Dept. of Commerce

Country of Origin	1st Qtr. 1961	2nd qtr. 1961	3rd qtr. 1961	4th qtr. 1961	YEAR 1961
Ore, Matte, etc. (Lead Content)	37,367	33,232	39,551	37,036	147,186
Canada	7,500	8,834	10,930	7,097	34,361
Mexico	329	291	226	320	1,166
Guatemala	4,686	1,466	192	3,473	9,817
Honduras	1,028	1,815	1,271	1,398	5,512
Colombia	216	180	194	132	722
Peru	6,310	8,596	5,941	8,123	28,970
Bolivia	3,250	3,661	2,079	2,380	11,370
Chile	8	602	-	-	610
Portugal	60	84	42	54	240
Philippines	87	23	10	118	238
Republic of So. Africa	9,215	3,360	11,757	9,757	34,089
Australia	4,678	4,320	6,909	4,124	20,031
Other Countries	-	-	-	60	60

Pigs & Bars (Lead Content)	52,727	57,890	65,049	81,186	256,852
Canada	6,396	6,609	10,024	31,688	54,717
Mexico	17,459	23,467	27,815	12,587	81,328
Peru	6,920	6,429	6,108	6,738	26,195
W. Germany	2	-	-	840	842
Spain	2,361	1,546	2,345	2,277	8,529
Yugoslavia	7,969	7,996	7,355	7,027	30,347
Australia	11,620	11,841	11,401	20,029	54,891
Other Countries	-	2	1	-	3
Base Bullion:	16	304	96	6	422
Peru	14	10	30	6	60
Mexico	2	294	66	-	362
Reclaimed, Scrap, etc.	1,386	931	1,044	1,581	4,942
GRAND TOTAL	91,496	92,357	105,740	119,809	409,402
TOTAL EXPORTS	1,223	3,046	4,649	2,815	11,733

SUMMARY OF U. S. LEAD IMPORTS & EXPORTS

	1955	1956	1957	1958	1959	1960	1961
Total Lead Imports	462,208	479,875	531,441	577,110	411,087	359,656	409,402
Total Lead Exports	4,720	7,819	6,130	3,386	4,121	5,843	11,733
Excess Lead Imports	457,488	472,056	525,311	573,724	406,966	353,813	397,669

Z I N C I N D U S T R Y

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Z I N C

PHYSICAL PROPERTIES *

Zinc is a bluish white, hard, brittle metal with a microscopic crystalline structure when broken. The commercial metal is now known in the U. S. as slab zinc, rather than by the older term spelter.

The commercial importance of zinc is based largely upon its properties as a corrosion inhibitor especially as a protective coating on steel in galvanized products and upon its use in alloys. On account of low strength and brittleness, the pure metal, when used alone, has few uses except as sheet metal and other rolled forms.

Zinc compounds are important as pigments, fillers, and chemicals, with a wide range of end uses.

Symbol - Zn. Atomic Weight - 65.38. Specific Gravity - 7.13

Melting Point - °F - 787.03. Boiling Point, °F - 1,663

Electrical Resistivity - Microhm per c.c. - 5.916

Tensile Strength, cast, lb. per sq. in. - 9,000. Rolled - 21,000

Crystal Structure - close packed hexagonal. Valence - 2

* U.S.B.M.'s "MATERIALS SURVEY" - September, 1952

METAL DUTIES ON ZINC

According to the Tariff Act of 1930, Amended.

Published by American Metal Market, "Metal Statistics, 1962" page 254.

Following rates in effect on January 1, 1962:

<u>ZINC</u> - Zinc-bearing ores, except pyrites with not over 3% zinc	* 0.6 c lb.
Slabs, blocks, pigs and zinc dust	* 0.7 c lb.
Sheets	1 c lb.
Sheets coated with other metals, except precious.	1 1/8 c lb.
Old, fit only for remanufacture	0.75 c lb.
Oxide, (dry powder)	0.6 c lb.
Oxide, (with oil or water)	1 c lb.
Die -Casting alloys (P.397 of T.C. 1958)	19%

ZINC INDUSTRY IN 1961

Zinc Industry, Annual 1961. Prepared August 6, 1962, by H. J. Schroeder and Esther B. Miller, under the supervision of P. F. Yopes, Chief, Branch of Nonferrous Metals, Division of Minerals.

The domestic zinc industry in 1961 recorded a 6-percent increase in slab zinc consumption, a 4-percent increase in slab zinc production and a 7-percent greater mine output, according to the Bureau of Mines, United States Department of the Interior. Smelter output was curtailed from February through September, however, increased consumption after April finally led to significantly stepped up production in the last three months of the year. Producer stocks declined 40,000 tons to 145,000 tons and consumer stocks increased 25,000 tons to 93,800 tons. Prices decreased from 12.0 to 11.5 cents per pound, East St. Louis, in early January and remained at this level until December 1 when the price rose to 12.0 cents.

Import quotas remained in effect and general imports decreased 6 percent to 543,300 tons for ores and metal combined. Exports of zinc metal decreased 33 percent to 50,100 tons.

The International Lead-Zinc Study Group held meetings at Mexico City during March 20-24 and at Geneva during October 18-24. Worldwide statistics showed record zinc consumption in 1960 and an indicated increase for 1961. At the October meeting it was estimated there would be an excess of 66,000 tons of metal supply over consumption for 1961. No specific action was undertaken to curtail further increases in zinc stocks. A special working group was established to study the causes and possible solution of the instability in lead-zinc markets.

Production. - Mines in the United States produced 464,400 tons of recoverable zinc, an increase of 7 percent, and the third successive year of an increase in output. The year was almost free of labor strikes and there were no pronounced monthly variations in production. States east of the Mississippi River accounted for 50 percent of total output; Western States, 48 percent; and West Central States 2 percent.

Tennessee continued to be the leading zinc-producing State, although marketing conditions caused curtailments in operations leading to an 11-percent decline from the 1960 output. Output of recoverable zinc in Idaho increased 58 percent to 58,300 tons, the largest quantity mined since 1954, and sufficient to place Idaho as the leading producer in the Western States and second in the Nation. New York ranked third in the Nation despite a 17-percent decrease in zinc output. Production was resumed in New Jersey in December as The New Hersey Zinc Co. began operation of its Sterling mine after being maintained on a standby basis since 1958.

Output of zinc in the West Central States of Kansas, Oklahoma, and Missouri increased from 7,300 to 11,500 tons. Part of the increase was due to additional mining in the Tri-State district. However, a significant portion of the output represents recovery of byproduct zinc from lead mining in southeast Missouri.

Domestic smelter output of slab zinc increased 4 percent over 1960. Included

in the 902,000 tons of slab zinc production was molten zinc used directly in alloying operations. Of the output, 846,800 tons was primary metal and 55,200 tons redistilled secondary zinc. Primary production was 50 percent from domestic ores and 50 percent from foreign ores; 38 percent was electrolytic, and 62 percent was distilled slab zinc. Primary smelters produced 64 percent of the redistilled secondary slab zinc; the remainder was obtained from secondary smelters.

Consumption. - Slab zinc consumption, as reported by 650 plants, increased 6 percent to 931,200 tons. Slab zinc used in galvanizing steel products increased 3 percent and was again the leading industry use, accounting for 41 percent of the total slab zinc consumed. Die castings and zinc-base alloys used 1 percent more zinc than in 1960 and accounted for 37 percent of the total. Zinc used in brass products increased 30 percent to 128,500 tons and represented 14 percent of the total. The remaining 8 percent was used in rolled zinc, zinc oxide, slush castings, wet batteries, zinc dust, chemicals, bronze powders, desilverizing lead, light-metal alloys, and zinc used for cathodic protection.

Stocks. - Smelter stocks of slab zinc began the year at 185,900 tons and rose to 222,900 tons by the end of March. Thereafter a steady decline began and by the end of 1961 totaled 145,500 tons. Stocks of slab zinc at consumer plants were 68,900 tons at the beginning of the year. During the first four months of the year, inventories declined to 57,000 tons followed by an upward trend to 93,800 tons by the end of 1961. An additional 7,800 tons of slab zinc was in transit to consumer plants. At the average monthly rate of consumption, total consumer stocks plus metal in transit represented about a 6-weeks' supply.

Inventories of zinc at yearend in the strategic stockpile was 1,256,000 tons and in the supplementary stockpile 324,000 tons, making a combined total of 1,580,000.

Prices. - The quoted price for Prime Western zinc at East St. Louis was 12.00 cents per pound at the beginning of the year. Early in January the quotation fell to 11.50 cents per pound where it remained until December 1 when the price returned to 12.00 cents for the rest of the year.

The average monthly zinc quotation on the London Metal Exchange was £78.123 a long ton (equivalent to 9.78 cents per pound computed at the exchange rate recorded by the Federal Reserve Board). The average price for January was £78.452 (9.81 cents per pound). By April the quotation was £83.849 (10.48 cents per pound) but continued to decline thereafter until a low of £70.688 (8.91 cents per pound) was reached in November. By December the monthly average quotation was £72.434 (9.05 cents per pound).

Foreign trade. - Import quotas on zinc metal and ore, effective October 1, 1958, were in effect throughout 1961. The quotas were set at 80 percent of the United States average annual competitive import rate from 1953 through 1957 -- 379,840 tons of zinc in ore and 141,120 tons of zinc in pigs, slabs and certain other forms.

General imports (imports for immediate consumption plus entries into bonded warehouses) show all physical entries of unmanufactured zinc into the United States. General imports declined 9 percent to 415,700 tons for ores and concentrates. Zinc metal imports increased 6 percent. Mexico, Canada, Peru and

Guatemala supplied most of the zinc imported in ores and concentrates and Canada, Belgium-Luxembourg, Republic of the Congo and Mexico supplied most of the metal imported.

Exports of slab zinc declined from 75,100 tons in 1960 to 50,100 tons in 1961. The United Kingdom, India, Japan and Brazil received most of these exports.

Tariff. - The duty on slab zinc remained at 0.7 cent a pound, that on zinc contained in ore and concentrate at 0.6 cent a pound, and that on zinc scrap at 0.75 cent a pound throughout 1961.

World production. - World mine production of zinc increased to 3,720,000 tons. Of the major producing countries, the United States, U.S.S.R., Canada, Mexico and Japan recorded increased mine output whereas Australia, Peru, Poland and the Republic of the Congo showed decreased production.

World smelter output increased 8 percent to an estimated total of 3,550,000 tons. The United States accounted for 24 percent of the total world production.

TABLE I

SALIENT STATISTICS OF THE U. S. ZINC INDUSTRY
ARIZONA AND WORLD MINE PRODUCTION OF RECOVERABLE ZINC
YEARS 1959, 1960 & 1961

Source: U.S.B.M.

Unit: Short Tons

	Year 1959	Year 1960	Year 1961
Producers' Stocks, Beginning of Period	184,025	156,210	185,882
U.S.Mine Production, Recoverable Zinc	425,303	435,427	464,390
Imports-Ores & Concts., Zinc Content	496,381	456,221	415,485
Imports-Zinc Metal	156,860	120,767	127,508
Redistilled Secondary	57,818	68,731	55,237
TOTAL SUPPLY	1,320,387	1,237,356	1,248,502
Producers' Stocks, End of Period	156,457	187,981	145,540
Exports - Slabs, Pigs, Blocks	11,636	75,144	50,054
SUB-TOTAL	168,093	263,125	195,594
APPARENT CONSUMPTION	1,152,294	974,231	1,052,908
REPORTED CONSUMPTION-SLAB ZINC	956,197	877,884	931,213
CONSUMED DIRECTLY IN ORES	108,100	88,275	93,000
TOTAL REPORTED ZINC CONSUMPTION ...	1,064,297	966,159	1,024,213
Production of Primary Slab Zinc			
By Sources: From Domestic Ores	348,443	336,875	419,206
From Foreign Ores	450,223	466,845	427,589
By Methods: Electrolytic	280,813	319,777	324,399
Distilled	517,853	483,943	522,396
ARIZONA MINE PRODUCTION	37,325	35,811	29,585
WORLD MINE PRODUCTION	3,390,000	3,510,000	3,720,000
U.S.MINE PROD.-% OF REPORTED CONSUMPTION ..	39.96%	45.07%	45.34%
AVG. PRICE OF ZINC,E.ST.LOUIS (E.& M.J.) ..	11.448¢	12.946¢	11.542¢

Arizona Department of Mineral Resources

August, 1962

TABLE II

MINE PRODUCTION OF RECOVERABLE ZINC, BY STATES, IN 1960-1961

Source: U.S.B.M.

(Short tons)

State	1959	1960	1961
Arizona	37,325	35,811	29,585
Arkansas	49	50	37
California	78	465	304
Colorado	35,388	31,278	42,647
Idaho	55,699	36,801	58,295
Illinois	26,815	29,550	26,795
Kansas	1,017	2,117	2,446
Kentucky	673	869	1,147
Missouri	92	2,821	5,847
Montana	27,848	12,551	10,262
Nevada	217	420	453
New Jersey	---	---	112
New Mexico	4,636	13,770	22,900
New York	43,464	66,364	54,763
Oklahoma	1,049	2,332	3,148
Pennsylvania	16,718	13,746	23,428
Tennessee	89,932	91,394	81,734
Utah	35,223	35,476	37,239
Virginia	20,334	19,885	29,163
Washington	17,111	21,317	20,217
Wisconsin	11,635	18,410	13,865
Oregon	---	---	3
Total	425,303	435,427	464,390

Arizona Department of Mineral Resources

August, 1962

TABLE III

WORLD MINE PRODUCTION OF RECOVERABLE ZINC, BY COUNTRIES

In Thousand Short Tons - Source: U. S. B. M.

	U.S.	CANADA	MEXICO	PERU	ITALY	AUSTRALIA	REST OF FREE WORLD	TOTAL FREE WORLD	COMMUNIST CONTROLLED COUNTRIES*	TOTAL WORLD ESTIMATED
AVG.										
1949-1953	622	343	228	117	106	225	569	2,210	390	2,600
1954	473	377	246	175	130	283	620	2,434	496	2,930
1955	515	433	297	183	132	287	776	2,623	587	3,210
1956	542	423	274	193	135	312	865	2,744	676	3,420
1957	532	414	268	170	145	326	917	2,772	738	3,510
1958	412	424	247	142	151	295	904	2,575	775	3,350
1959	425	396	291	158	145	279	880	2,574	786	3,360
1960	435	406	289	149	141	325	938	2,683	827	3,510
1961	464	416	296	194	146	323	947	2,786	934	3,720

* Communist Controlled Countries: U.S.S.R., Bulgaria, E. Germany, Poland, N. Korea, China.

TABLE IV

TOTAL ZINC IMPORTED INTO UNITED STATES, AND EXPORTED FROM U.S.

Source: Bureau of Census - In Short Tons

	I M P O R T S			EX P O R T S	NET IMPORTS
	Ores	Blocks, Pigs or Slabs	TOTAL	Slabs, Pigs or Blocks	
1948-1952	307,274	115,976	423,250	46,277	376,973
1953	513,724	234,576	748,300	17,969	730,331
1954	455,427	156,858	612,285	24,994	587,291
1955	478,044	195,696	673,740	18,069	655,671
1956	525,350	244,978	770,328	8,813	761,515
1957	526,014	269,007	795,021	10,785	784,236
1958	462,008	195,199	657,207	1,736	655,471
1959	496,381	156,860	653,241	11,636	641,605
1960	456,221	120,767	576,988	75,144	501,844
1961	415,485	127,508	542,993	50,054	492,939

Arizona Department of Mineral Resources

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TABLE V

CONSUMPTION OF SLAB ZINC IN UNITED STATES

Source: U.S.B.M. - Short Tons

	Galvan- izing	Brass Products	Zinc Base Alloy	Rolled Zinc	Zinc Oxide	Other Uses	Total Con- sumption
1950	441,686	139,373	289,527	68,444	18,187	9,917	967,134
1951	400,279	143,292	296,434	64,085	18,223	11,658	933,971
1952	377,688	155,608	236,689	51,318	17,205	14,275	852,783
1953	406,988	178,182	307,445	54,649	20,675	17,988	985,927
1954	403,463	108,268	290,846	47,486	18,701	15,535	884,299
1955	451,141	146,243	430,807	51,589	22,433	17,599	1,119,812
1956	439,146	124,004	360,507	47,359	19,160	18,614	1,008,790
1957	367,757	112,390	376,039	41,269	20,428	17,737	935,620
1958	381,229	101,375	316,830	40,616	13,331	14,946	868,327
1959	361,027	129,278	389,331	42,949	18,248	15,364	956,197
1960	371,589	99,023	338,373	38,696	15,593	14,610	877,884
1961	382,077	128,523	341,766	41,204	18,137	19,506	931,213

Arizona Department of Mineral Resources

August, 1962

TABLE VI

SLAB ZINC AVAILABLE TO CONSUMERS

YEARS 1959, 1960 AND 1961

Source: U. S. B. M.		Units: Short Tons		
		Year 1959	Year 1960	Year 1961
<u>SUPPLY:</u>				
Stocks at Primary Smelters Jan. 1st.....		182,111	152,657	178,209
Stocks at Secondary Plants Jan. 1st.....		1,914	3,800	7,673
Production - Primary		798,666	803,720	846,795
- Secondary		57,818	68,731	55,237
Imports of Slab Zinc		156,860	120,767	127,508
TOTAL AVAILABLE		1,197,369	1,149,675	1,215,422
<u>WITHDRAWN:</u>				
Exports of Slab Zinc		11,636	75,144	50,054
Shipments to Gov't Account 1/		3,000	-	-
Stocks at Primary Smelters - End of Period		152,657	180,308	142,147
Stocks at Secondary Smelters-End of Period		3,800	7,673	3,393
TOTAL WITHDRAWN		171,093	263,125	195,594
AVAILABLE TO CONSUMERS		1,026,276	886,550	1,019,828
REPORTED CONSUMPTION		956,197	877,884	931,213

1/ As reported by the American Zinc Institute.

U. S. CONSUMPTION OF SLAB ZINC

	1959	1960	1961
GALVANIZERS	361,027	371,589	382,077
DIE CASTERS	389,331	338,373	341,766
BRASS PRODUCTS	129,278	99,023	128,523
ROLLED ZINC	42,949	38,696	41,204
ZINC OXIDE & OTHER	33,612	30,203	37,643
TOTAL SLAB ZINC CONSUMPTION.	956,197	877,884	931,213

TABLE VII

QUARTERLY IMPORTS AND EXPORTS OF ZINC INTO AND FROM UNITED STATES

YEAR 1961

Source: A.B.M.S. and Bureau of Census

Unit: Short Tons

Country of Origin	1st Qtr. 1961	2nd Qtr. 1961	3rd Qtr. 1961	4th Qtr. 1961	YEAR 1961
Ores (Zinc Content)	99,056	100,604	95,188	120,637	415,485
Australia	1,077	472	1,076	892	3,517
Bolivia	23	269	116	163	571
Canada	25,107	28,448	26,097	39,747	119,399
Guatemala	6,113	1,373	1,744	3,889	13,119
Honduras	1,718	1,296	2,132	1,711	6,857
Mexico	43,853	46,415	48,434	47,480	186,182
Peru	19,173	18,254	12,399	25,494	75,320
Philippines	1,466	1,343	377	14	3,200
Republic of So.Africa	476	2,685	2,762	1,222	7,145
Other Countries	50	49	51	25	175
Blocks, Pigs, or Slabs	30,317	29,115	32,147	35,929	127,508
Australia	187	156	134	552	1,029
Belgian Congo	2,609	2,939	2,885	2,986	11,419
Belgium-Luxembourg	3,366	2,013	3,241	4,235	12,855
Canada	16,512	17,347	18,304	18,405	70,568
West Germany	33	25	21	699	778
Italy	993	-	827	-	1,820
Mexico	1,740	1,165	2,691	3,001	8,597
Netherlands	-	1,008	-	120	1,128
Peru	1,880	1,880	1,879	1,879	7,518
Federation of Rhodesia & Nyasaland	671	168	-	560	1,399
Spain	810	1,394	1,393	3,160	6,757
Yugoslavia	1,434	662	772	331	3,199
Other Countries	82	358	-	1	441
TOTAL IMPORTS	129,373	129,719	127,335	156,566	542,993
EXPORTS (Slab Zinc)	21,652	8,787	12,154	7,461	50,054
EXCESS IMPORTS	107,721	120,932	115,181	149,105	492,939

SUMMARY OF U.S. ZINC IMPORTS & EXPORTS

	1957	1958	1959	1960	1961
TOTAL ZINC IMPORTS	794,764	657,207	653,241	576,988	542,993
TOTAL ZINC EXPORTS	10,785	1,736	11,636	75,144	50,054
EXCESS ZINC IMPORTS	783,979	655,471	664,877	501,844	492,939

ARIZONA LEAD AND ZINC PRODUCTION IN 1961

Source: U.S.B.M.

The Iron King mine operated by Shattuck Denn Mining Corp., was the State's largest producer of zinc, followed by the Old Dick (Cyprus Mines Corp.), Johnson Camp (McFarland & Hullinger), Atlas (B.S. & K. Mining Co.), and the Flux (Nash & McFarland). Cumulatively, these mines accounted for 97 percent of the State output of zinc.

Exploration and development of the mineralized zone near and parallel to the main ore-vein system of the Iron King mine was continued by the Shattuck Denn Mining Corp. The company obtained the right to explore, develop and mine the area north of and adjoining the Iron King mine. Exploration in this area was to be conducted from the lower mine levels. Metallurgical research by the company included developing new products utilizing the iron and sulfur content of mill tailings. One product, "Superferrite," an agricultural soil supplement, was developed. The new product was to be produced at a pilot plant constructed to test the process commercially.

See U.S.B.M.'s Table VII, next page, showing details of Arizona's production of lead and zinc in 1961.

TABLE VII

MINE PRODUCTION OF GOLD, SILVER, COPPER, LEAD AND ZINC IN ARIZONA IN THE YEAR 1961
BY CLASS OF ORE IN TERMS OF RECOVERABLE METALS

Source: U.S.B.M. Final Figures

Source	Number of mines ^{1/}	Material sold or treated (short tons)	Gold (troy ounces)	Silver (troy ounces)	Copper (pounds)	Lead (pounds)	Zinc (pounds)
Lode ore:							
Dry gold -----	16	30,450	610	4,901	336,400	6,300	8,300
Dry gold-silver -----	5	104,447	277	13,197	1,969,600	-----	-----
Dry silver -----	11	15,456	13	16,339	67,500	-----	-----
Total -----	32	150,353	900	34,437	2,373,500	6,300	8,300
Copper -----	43	71,918,991	129,184	4,380,455	1,092,360,900	1,000	449,600
Copper-zinc -----	4	156,824	95	52,431	9,044,400	5,600	19,183,400
Lead -----	6	1,250	34	6,367	3,900	148,700	9,800
Lead-zinc -----	10	260,547	14,731	627,644	634,600	11,701,200	35,095,900
Zinc -----	2	15,059	-----	654	46,600	-----	4,419,100
Total -----	64	72,352,671	144,044	5,067,551	1,102,090,400	11,856,500	59,157,800
Other "lode" material:							
Gold mill cleanup -----	(2/)	(3/)	197	113	-----	-----	-----
Gold-silver and silver tailings -----	4	29,217	599	10,241	92,000	900	-----
Copper cleanup -----	(2/)	763	6	955	198,700	-----	1,800
Copper smelter cleanup ---	(2/)	2,180	105	4,423	275,400	2,700	1,300
Copper precipitates -----	11	46,861	-----	-----	68,698,300	-----	-----
Copper tailings -----	1	1,982	-----	481	23,200	-----	-----
Lead cleanup -----	(2/)	6	-----	1	-----	4,100	-----
Lead smelter cleanup -----	(2/)	2	-----	4	-----	3,400	-----
Uranium ore -----	-----	-----	-----	1,798	354,500	100	800
Total -----	16	81,011	907	18,016	69,642,100	11,200	3,900
Total "lode" material --	100	72,584,035	145,851	5,120,004	1,174,106,000	11,874,000	59,170,000
Gravel (placer operations) --	4	-----	108	3	-----	-----	-----
Total, all sources -----	104	72,584,035	145,959	5,120,007	1,174,106,000	11,874,000	59,170,000

^{1/} Detail will not necessarily add to totals because same mines produce more than 1 class of material

^{2/} From properties not classed as mines.

^{3/} Less than 0.5 ton.

TREMENDOUS LOSSES SUFFERED BY LEAD-ZINC INDUSTRY SINCE 1952

The following table (Table I) indicates the tremendous losses suffered by the U. S. lead-zinc industry during the past nine years, and it is not surprising that the U. S. Tariff Commission found, in three separate findings, "serious injury" to the industry due to excessive imports.

During the six-year period (1947-1952) lead production averaged 398,960 tons per year with a value of \$126,422,000, and an average price of 15.844 cents per pound. For the nine-year period (1953-1961) the average annual lead production was only 303,187 tons with a value of \$82,384,000 and an average price of 13.586 cents per pound. This was an annual loss of \$44,038,000, a drop in price of 2.258 cents per pound, and a loss in annual production of 95,773 tons.

For the six-year period (1947-1952), zinc production averaged 638,559 tons per year with a value of \$180,546,000, and an average price of 14.137 cents per pound. For the nine-year period (1953-1961) the average annual zinc production was 482,975 tons with a value of \$112,938,000 and an average price of 11.692 cents per pound. The result an annual loss of \$67,608,000, a drop in price of almost 2½ cents per pound, and a loss in annual production of 155,584 tons of zinc.

This combined annual loss of 251,357 tons of lead-zinc worth \$111,646,000 would never have happened if the lead-zinc industry had been given sufficient protection against excessive imports of lead and zinc. The combined price of lead and zinc should be at least 30 cents per pound and the annual production of lead should be at least 400,000 tons, and of zinc 650,000 tons, and the tariff should be high enough to accomplish this. A tariff of 4 cents per pound of metal and 2.8 cents per pound of lead or zinc in ores and concentrates should be sufficient to offset the wage and grade differentials of foreign ores, and the devaluation of foreign currencies. Our first aim should be to save the strategic metals of our domestic industry before "pouring our substance all over the world in futile tribute to mercurial friends". Why should our State Department be so heedless of the depression that has fallen upon our domestic lead-zinc industry, and oblivious to the devaluation in foreign currencies which has been a principal cause of depression?

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AVG. PRICE OF ZINC,E.ST.LOUIS (E.& M.J.) ..	11.448¢	12.946¢	11.542¢

Arizona Department of Mineral Resources

August, 1962

RESOLUTION APPROVED BY WESTERN GOVERNORS AT ANCHORAGE,

ALASKA, MAY 2-5, 1962

LEAD AND ZINC

Adequate import controls should be established (either tariff or quotas, or a continuation of the two) to be effective only if and when unneeded imports depress the United States market prices below a reasonable legislated peril point level required for the maintenance of a healthy domestic industry.

EMERGENCY LEAD-ZINC COMMITTEE WARNS AGAINST

MANY FEATURES OF TRADE EXPANSION BILL

Clark Wilson, Chairman of Emergency Lead-Zinc Committee, has written to many Congressmen and Senators, stating that the proposed Trade Expansion Bill, if enacted under H.R. 11970, will create additional problems for the domestic lead-zinc mines that are continuing to deteriorate because of excessive, unneeded foreign imports of these two metals.

Briefly, he emphasizes the following points:

1. The lead-zinc mining industry is the outstanding example of an industry injured by imports, that has attempted, under all procedures of the Trade Agreements Act, to obtain sufficient protection to maintain an essential minimum production from our mines on a long-term and stable basis. Ours is the only industry with two unanimous findings of injury and recommendations for added import protection. Due to Presidential prerogatives, these recommendations received only partial acceptance. We have only an ineffective quota system, much less restrictive than the Tariff Commission recommended.
2. Our experience over the past decade indicates the need for an escape clause procedure that provides not only for finding of injury and recommendation for correction, but for acceptance by the President.
3. Contrasted with the partially effective provisions of present law, it appears that our industry could obtain no relief under terms proposed in H. R. 11970.
 - a. Under the broad definition of an "industry," and by including as a proof of injury, "the inability to make a profit," the lead-zinc mining industry would not qualify for an escape clause proceeding, even though ours is presently an outstanding example of an injured industry, continuing to deteriorate.

- b. The proposed adjustment assistance would not apply to mines already closed and to workers who lost jobs prior to enactment of the legislation. Those still operating at a loss could only get technical assistance, loans, and a tax carry back. These are worthless to our industry. The net result would be no effective assistance to the lead-zinc miner.
4. We propose that the present escape clause provisions be maintained and further strengthened by requiring the President to accept and impose the more restrictive findings of the Tariff Commission under an escape clause action, unless either House of Congress approves by a majority vote a modification proposed by the President--or unless either House of Congress by a majority vote determines that the recommendation shall not be effective.
5. We also propose that the present peril point procedures be maintained and further strengthened by limiting tariff reductions to the levels set by the Tariff Commission.
6. Further, the present "Purtell Amendment" should be retained in any new legislation, as this permits the Tariff Commission to convert 1934 tariffs to an ad valorem rate and extend this percentage protection, or a portion of it, to industries found to be injured, as determined by an escape clause proceeding.

The E.L.Z. Committee appreciates the importance of world trade, and our industry is not opposed to the general goals the Administration wants to attain. However, we do insist that natural recourses must not be sacrificed to further free trade policies, particularly since these industries cannot be considered as businesses subject to relocation, retraining, or development along new-product lines.

Mr. Wilson, as Chairman of the Emergency Lead-Zinc Committee, has submitted a statement (August 8, 1962) before the Senate Finance Committee, covering in detail the above points, and submitting the recommendations of the E.L.Z. wherein the latter Committee supports the bill H. R. 8850. "OUR INDUSTRY REQUESTS YOUR EARNEST CONSIDERATION OF THESE CONSTRUCTIVE PROVISIONS TO BE INCLUDED IN ANY TRADE AGREEMENTS LEGISLATION RECOMMENDED BY THIS COMMITTEE. THEY WILL PROVIDE THE PRACTICAL MEANS TO ASSURE CONTINUATION AND STRENGTHENING OF INDUSTRIES SUCH AS OURS THAT ARE ESSENTIAL TO THE UNITED STATES ONLY THROUGH CONTINUED DEVELOPMENT AND PRODUCTION OF OUR PARTICULAR PRODUCTS AND ARE NOT TO BE CONSIDERED AS POTENTIAL CASES FOR REDEVELOPMENT AND ADJUSTMENT ASSISTANCE. WE HAVE FAITH IN THE FUTURE OF UNITED STATES LEAD-ZINC MINING, BASED ON PAST AND PRESENT EXPERIENCE AND KNOWLEDGE. WE NOW LOOK TO THE CONGRESS FOR COOPERATION IN PROVIDING A BUSINESS CLIMATE THAT WILL ENCOURAGE THIS IMPORTANT INDUSTRY."