LEAD AND ZINC INDUSTRY

fine 1

STATISTICS FOR 1965 COMPARED WITH

OTHER YEARS

ARIZONA, UNITED STATES AND FREE WORLD

COMPILED BY

ARIZONA DEPARTMENT OF MINERAL RESOURCES MINERAL BUILDING, FAIRGROUNDS, PHOENIX 85007 ARIZONA

FRANK P. KNIGHT, DIRECTOR FRANK J. TUCK, STATISTICAL CONSULTANT

NOVEMBER, 1966

LEAD INDUSTRY

CONTENTS

		Page
Physical Properties of Lead		1
Metal Duties on Lead, in effect January 1, 1962		2
Lead Industry in 1965		3-5
Salient U.S. Lead Statistics 1963, 1964 & 1965	TABLE I	6
Mine Production of Recoverable Lead in the United States, by States 1962, 1964 & 1965	TABLE II	7
World Mine Production of Recoverable by Countries 1956 - 1965	TABLE III	8
Lead Imports & Exports - U.S. 1948-1965	TABLE IV	8
U. S. Lead Consumption - By Uses 1953-1965	TABLE V	8
U. S. Lead Consumption - 1963, 1964, 1965	TABLE VI	9
Imports & Exports of Lead in 1963, 1964, 1965	TABLE VII	10

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 - $327.35^{\circ}C$ (621.2°F). Boiling Point 1,740°C (3164°F) Specific Resistance ($20^{\circ}-40^{\circ}C$) (68° - $104^{\circ}F$) - 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

Arizona Department of Mineral Resources

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	. 1b	•
	In bullion or base bullion reclaimed lead, *scrap lea *antimonial scrap lead, ty metal, solder and alloys n	, nd, pe	pi a n	ig: ant net	s, tin tal	ba nor	ars ba ba	al abl	d l bi	ro ea t	ss d,	2					
	vided for on lead therein				•	•	•	•	•	•	•		+	1	1/10	ic.	1b.
	Sheets, pipe, shot and wi	re			•	•	•	•	•	•	•			1	5/10	5 c.	1Ъ.
	White Lead (Par. 72)	•	•	•	•	•	•	•		•	•			1	.05	c.	1b.
	Litharge	•	•	•	•	•	•	•	•	•	•			1	1/4	c.	lb.
	Red Lead	•	•	•		•	•	•	•	•				1	7/8	c.	1b.
	Orange Mineral	•	•	•	•	•	•	•	•	•	•			2	c.	1Ъ.	

* Import tax suspension expired June 30, 1958.

x

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

LEAD INDUSTRY IN 1965

"Reprinted from METAL STATISTICS 1966" *

Lead in 1965 recorded gains in production, consumption and continued to maintain the price of 16.00¢ per pound reached in December, 1964.

The year, however, saw the termination of import quotas by Presidential Proclamation on Oct. 22 for ores and concentrates and Nov. 21 for pigs and bars.

But imports under quota limitations for the first three quarters were 5,700 tons under for ores and concentrates and 9,100 tons less for unmanufactured metal. Under the "All Other" category, countries failed to fill the quota for ores and metal.

Mine production at 293,000 tons of recoverable lead was a gain of about 7,000 tons over 1964, according to the Bureau of Mines' statistics. But primary refinery production decreased about six percent because of the decline in the import of ores and concentrates and reserves of feed materials were considered at the minimum working level.

With the exception of a seasonal drop in July, the year's consumption rate was at a high level. The first nine months of the year averaged 100,000 tons a month and the daily average of 3,300 tons compared with 3,200 tons for the same period in 1964.

CONSUMPTION

The total consumption of 1,224,738 tons was about a 1,000-ton-a-month improvement over 1964, but the figure was short of the estimated 1.23 million tons anticipated for the year.

Batteries and anti-knock compounds continued to be the top consumers with an increase noted for ammunition requirements compared to recent years.

The other traditional uses of lead-type solder, casting, plumbing and bearing metals - continued to decline. Metal products, for instance, accounted for 835,871 tons of lead in 1964 as compared with 832,161 tons in 1965. But increases in pigments and chemicals were enough to offset the difference to make for the consumption increase in 1965.

A rising world consumption level maintained a competitive market for concentrates at prices above those in 1964.

STOCKPILES

During 1965, the General Services Administration offered 60,000 tons of lead. The April offering resulted in 19,600 tons sold, leaving a balance of more than 40,000 tons. In October, however, the government decided to offer the balance on a one-week, once-a-month basis. By the end of the year, the balance had been pared to 23,096 short tons.

3

The year was also distinguished by the number of new lead mines and facilities in Missouri's Lead Belt. St. Joseph Lead Co. expanded its Herculaneum smelter and developed its Fletcher mine; American Metal Climax Inc. and Homestake Mining Co. started work on a mine-mill-smelter complex as well as Cominco American Inc. and Magnet Cove Barium Corp.; National Lead Co. and Bunker Hill, and Kennecott Copper Corp. and its subsidiary, Ozark Lead Co.

Most of this production will not be in evidence much before 1967, with the exception of the St. Joseph Lead project.

LEAD INDUSTRY HIGHLIGHTS 1965 * "Reprinted from METAL STATISTICS 1966"

January - Legislation was initiated to move lead and zinc from the government stockpiles. A bill sponsored by Rep. James A Byrne (D. Pa), sought release of 150,000 tons of lead. In 1963, the Office of Emergency Planning decided to declare surplus more than one million tons of lead.

February - Consolidated Mining & Smelting Co. of Canada, Ltd. and Dresser Industries Inc., announced they would have a 70,000-ton a year lead mine in production by 1967-68 in Missouri's new Lead Belt.

March - Current marketing developments indicated lead would remain in tight supply through the mid-year despite future stockpile releases by the GSA. At the same time, experts felt, any lead release would be undersubscribed.

April - Australia's Mt. Isa ll-month strike ended but full production would take "months," officials said. Cerro Corp. announced new lead output record and planned new projects to increase production even more.

May - The House Interior Committee approved and forwarded for passage extension of the Lead-Zinc Small Producers Act of 1961. The bill would keep the government subsidy up to 14.50¢ per pound. However during 1964 few small producers had applied for aid.

June - The U. S. Tariff Commission told President Johnson he could terminate the lead-zinc quotas without hurting U. S. producers. The Commission said producers had improved their competitive position in the last six years. In the past, the commission had upheld the quota system, initiated in 1958, against change.

July - Resurrection Mining Co. started extensive exploratory development work for lead, zinc and silver in the Leadville, Colo. mining district. The company is 50 percent owned by the American Smelting & Refining Co. and Newmont Mining Co.

August - Domestic lead production at 41,274 tons in June topped the 39,231 reported for May and was considered the best production total for the first six months of the year.

September - Lead was discounted as a health hazard in air pollution or bloodstream by Don. G. Fowler, director of health and safety, Lead Industries Assn. Mr. Fowler cited medical data and U. S. Public Health Service surveys to back his stand. October - The Lead and Zinc Development Assn. of London said lead producers would face a challenge of increasing consumption to meet the production which will result when new finds now under development are in operation.

November - Foreign delegates at the Ninth International Lead and Zinc Study Group welcomed quota termination (October) by the U.S. but urged caution on the part of the U.S. government in disposing of lead and zinc stockpiles in a manner which might disrupt the market for both metals.

December - American Metal Climax and Homestake Mining Co. undertook a \$35 million lead mine, mill and smelter venture in Southeast Missouri. Kennecott Copper Corp. also said it would bring into production a major lead mine at a cost of \$33 million.

^{*} METAL STATISTICS 1966, published annually, containing statistical data on metal production, shipments, prices, etc. is available at \$5 per copy from the publishers at 525 West 42nd Street, New York, N. Y. 10036.

TABLE I

SALIENT U. S. LEAD STATISTICS FOR 1963, 1964 and 1965

ARIZONA, UNITED STATES AND WORLD MINE PRODUCTION OF RECOVERABLE LEAD

SOURCE: U.S.B.M.

UNIT: SHORT TONS

	Year	Year	Year
	1963	1964	1965
Producers' Stocks Beginning of Period	196,661	120,838	84,398
U.S. Mine Production Recoverable Lead	253,369	286,010	301,147
Secondary Lead Recovered from Old & New Scray	p 493,471	541,582	575,819
Imported Lead in Ore & Matte, Base Bullion	153,179	128,095	123,227
Imported Lead in Pigs, Bars	227,027	207,844)_	224 942
Imported Lead in Reclaimed Scrap, etc.	8,875	5,054)	
TOTAL SUPPLY	1,332,582	1,289,421	1,309,533
Producers' Stocks at End of Period	120,836	84,398	83,443
Exported Lead in Ore, Matte & Base Bullion	4	19	N.A.*
Exported Lead in Pigs and Bars	1,088	10,1/5	/,811
Exported Lead in Scrap	2,421	13,148	3,792
SUB-TOTAL	124,349	107,740	95,046
NET APPARENT CONSUMPTION	1,208,233	1,181,681	1,214,487
REPORTED CONSUMPTION	1,163,358	1,202,138	1,241,482
UNACCOUNTED FOR (Stockpiles, etc.)	+44,875	-20,457	-26,995
PRODUCTION OF REFINED PRIMARY LEAD:	Providencial and a speer of address of a speech south of the		
From Domestic Ores & Base Bullion	239,660	294,254	305,007
From Foreign Ores & Base Bullion	155,072	155,175	113,242
ARIZONA MINE PRODUCTION	5,815	6,147	5,913
WORLD MINE PRODUCTION	2,805,000	2,735,000	2,975,000
U.S. MINE PRODUCTION AS %			01. 0.67
OF REPORTED CONSUMPTION	21.78%	23.79%	24,26%
MINE PRODUCTION & SECONDARY AS %		60 01 M	70 61.0
OF REPORTED CONSUMPTION	64.20%	69 <u>84%</u>	10.64%
Avg. Price of Lead - N. Y. (E&MJ)	11.14¢	13.62¢	16.00¢
Avg. Price of Lead - London	7,93¢	12.59¢	14.37¢

* Not Available

Arizona Department of Mineral Resources

TABLE II

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

Short Tons					ns				Source: U.S. 1962,1964 ar	.B.M. 1965	
STATE									1962	1964	1965
Arizona Arkansas California Colorado Idaho	•	•	•	•	•	•	•	•	6,966 455 17,411 84,058	6,147 1,546 20,563 71,312	5,913 1,810 22,495 66,606
Illinois Kansas Kentucky Missouri Montana	• • •	•	• • • •	•	• • • •	•	•	•	3,610 970 743 60,982 6,121	2,180 1,185 858 120,148 4,538	3,005 1,644 756 133,521 6,981
Nevada New Mexico New York North Carol Oklahoma	ina	•	•	• • • •	• • • •	• • • •	• • • •	• • •	771 1,134 1,603 219 2,710	809 1,626 732 2,781	2,277 3,387 601 2,813
Utah Virginia Washington Wisconsin Other State	• • • S •	•	•	• • • •	• • • •		•	• • • • •	38,199 4,059 6,033 1,394 58	40,249 3,857 5,231 1,742 6	37,700 3,651 6,328 1,645 14
	T	JT.	AI	4					236,956	286,010	301,147

Arizona Department of Mineral Resources

5

TABLE III

WORLD MINE PRODUCTION OF RECOVERABLE LEAD, BY COUNTRIES

IN 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	
1962	237	213	211	147	414	705	1,927	838	2,765	
1963	253	209	199	163	459	672	1,955	845	2.800	
1964	286	187	206	165	420	727	1,991	744	2,735	
1965	301	187	3 03	162	398	708	2,059	916	2,975	

TABLE IV

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

-mail in succession in the second		Source:	Bureau of	the Census	Short Tons.	
		IMPOR	IS	EXPORTS		NET IMPORTS
Avg.	1948-1952	434,90	09	3,500	nin makimut uningan naturik araadika kalaadan nyin	431,409
	1953	552,22	78	4,547		547,731
	1954	443,24	+3	4,592		438,651
	1955	462,20	08	4,720		457,488
	1956	479,87	75	7,819		472,056
	1957	532,05	55	6,130		525,925
	1958	577,11	10	3,386		573,724
	1959	411,08	37	4,121		406,966
	1960	359,65	56	5,843		353,813
	1961	409,40)2	11,733		397,669
	1962	403,02	27	7,467		395,560
	1963	389,08	31	3,513		385,568
	1964	340,99	3	23,342		317,651

TABLE V

CONSUMPTION OF LEAD IN UNITED STATES Source: U. S. B. M.

Anna-Abayley, differences and	Metal	Storage	na de la comunitario de la completa	Tetra-	Other	949-0-0-946-946-949-0-949-0-097-0-949-0-949-0-949-0-949-0-949-0-949-0-949-0-949-0-949-0-949-0-949-0-949-0-949-0
Year	Products	Batteries	Pigments	Lead	Uses	Total
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
1962	380,623	419,906	102,968	168,926	37,212	1,109,635
1963	396,797	439,081	99,075	192,811	35,594	1,163,358
1964	363,952	429,898	99,946	223,466	84,876	1,202,138
1965	410,344	455,347	108,883	225,203	41,705	1,241,482

TABLE VI

U. S. LEAD CONSUMPTION - YEARS 1963, 1964 & 1965

Source: U.S.B.M.

	1963	1964	1965
Metal Products:		aan yn meeting ar heffin yn ar gynffan gerffan yn ar heffin af friedd yn de far yn ar fernan yn ar fernan yn a Fernan	**************************************
Ammunition	49,894	56,493	57,322
Bearing Metals	21,713	22,754	21,600
Brass and Bronze	21,943	23,328	23,699
Cable Covering	57,707	56,225	59,645
Calking Lead	76,308	73,628	66,584
Casting Metals	7,856	6,961	5,046
Collapsible Tubes	14,832	14,904	10,893
Foil	3,952	3,976	4,805
Pipes, traps and bends	20,100	20,480	19,837
Sheet Lead	26,495	29,605	27,569
Solder	67,945	71,186	77,819
Storage Battery Grids, Posts, etc	222,286	221,594	235,641
Storage Battery Oxides	216,795	207,754	219,706
Terne Metal	1,983	1,609	2,109
Type Metal	26,069	25,374	33,416
TOTAL	835,878	835,871	865,691
Pigments:		n a fear de la de la construction de la fear anna a ser anna a ser a	en en la la desta de la de
White Lead	8,846	8,802	8,414
Red Lead & Litharge	70,649	74,802	79,853
Pigment Colors	11,767	11,921	12,553
Other 1/	7,813	8,111	8,063
TOTAL	99,075	103,636	108,883
Chemicals:	102 011	223 466	225 203
	192,011	223,400	223,203
Miscellaneous	032	451	540
TOTAL	193,443	223,917	225,549
Miscellaneous Uses:	Seculo dana dan seten endo a Brin Brin Brin Anglin - A	1944 - 1957 - 1 Barlin Barlin, Barlin Arris, 1990 - 1990 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 199 1	######################################
Annealing	4,847	5,699	5,719
Galvanizing	1,631	1,592	1,775
Lead Plating	220	179	240
Weights & Ballast	12,207	12,760	14,135
TOTAL	18,905	20,230	21,869
Other Uses, Unclassified	16,057	18,484	19,490
Total Reported <u>2</u> /	1,163,358	1,202,138	1,241,482

1/ Includes lead content of leaded zinc oxide production.

2/ Includes lead content of scrap used directly in fabricated products.

Arizona Department of Mineral Resources

TABLE VII

 IMPORTS AND EXPORTS OF LEAD INTO AND FROM UNITED STATES

 YEARS 1963, 1964 & 1965
 SHORT TONS

~		-		-	
Source:	U.	S.	Dept.	o£	Commerce

Country of Origin	1963	1964	1965
Ore, Matte, etc.	۲۹۹۵ / ۲۹۹۵ / ۲۹۹۹ / ۲۹۹۹ / ۲۹۹۹ / ۲۹۹۹ / ۲۹۹۹ / ۲۹۹۹ / ۲۹۹۹ / ۲۹۹۹ / ۲۹۹۹ / ۲۹۹۹ / ۲۹۹۹ / ۲۹۹۹ / ۲۹۹۹ / ۲۹۹۹ /	an in a stand and a stand of the	alaniy - statege angle angle di Ansteine al sagalan di angle ang
(Lead Content)	147,742	123,257	122,661
Canada	23,634	27,951	43,622
Mexico	1,071	1,069	760
Guatemala	305	5	18
Honduras	6,809	6,375	8,712
Colombia	9		677
Peru	43,950	28,243	26,419
Bolivia	9,791	6,073	5,096
Republic of South Africa	34,273	34,080	10,570
Australia	27,633	19,286	26,658
Other Countries	267	175	129
Base Bullion	5,437	4,838	566
Australia - Oceania	1,937	2,786	448
South America	2,647	603	25
North America	851	1,449	93
Europe	2		444 444 444
Pigs and Bars		an the state of the	ng Sanadin Alifan dan generik mili na dirak ana pinakang kang
(Lead Content)	227,027	207,844	220,672
Canada	29,619	30,728	31,697
Mexico	74,466	71,728	73,546
Peru	23,486	24,510	26,132
Belgium-Luxembourg	11,235		197
West Germany	277	5,017	1,653
Spain	7,694	949	-
Yugoslavia	31,063	30,544	28,640
Australia	45,596	42,158	51,105
Other Countries	3,591	2,210	7,702
Reclaimed Scrap, etc.	8,875	5,054	4,270
GRAND TOTAL IMPORTS	389.081	340,993	348, 169
GRAND TOTAL EXPORTS	3,513	23,342	11,604
EXCESS IMPORTS	385,468	317,651	336,565

Arizona Department of Mineral Resources

ZINC INDUSTRY

CONTENTS

		Page
Physical Properties of Zinc		1
Metal Duties in Effect Jan. 1, 1962		2
Zinc Industry in 1965		3-5
Salient Statistics 1963, 1964 and 1965	TABLE I	6
Mine Production of Recoverable Zinc By States 1963, 1964 and 1965	TABLE II	7
World Mine Production of Recoverable Zinc By Countries	TABLE III	8
Total Zinc Imports & Exports United States	TABLE IV	8
Consumption of Slab Zinc in United States 1950 to 1965	TABLE V	9
Slab Zinc Available to Consumers 1963, 1964 and 1965	TABLE VI	10
Imports & Exports of Zinc into and From the United States	TABLE VII	11

ZINC

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 <u>slab zinc</u>, 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 - ^oF - 787.03. Boiling Point, ^oF - 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

Arizona Department of Mineral Resources

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:

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

* Duty suspended, effective Feb. 12, 1952 reimposed July 24, 1952.

ZINC INDUSTRY IN 1965

"Reprinted from METAL STATISTICS 1966" *

For the U.S. zinc industry, the year 1965 was one of records.

Slab zinc consumption rose to 1,340,000 tons or 11 percent better than 1964's record 1,207,268 tons.

Domestic smelter production was up five percent at 1,070,000 tons, for the best year output since the 1957 record.

Mine production of recoverable zinc at 610,000 tons was a six percent increase over 1964 and was the largest tonnage mined since 1952. Yielding 50 percent of the total were the four leading producing states: Tennessee, New York, Idaho and Colorado.

PRODUCTION

The production figure is especially of significance after the recent tight supply.

Stocks, however, which started the year with 32,000 tons at the producer plants, dropped to 14,000 tons by April, the lowest total in 14 years. By the end of November stocks were up at 27,000 tons.

Consumer plant stocks followed the same pattern. After starting the year with 103,000 tons, stocks were at 78,000 tons in April and by fall were at 129,000 tons.

STOCKPILE RELEASES

Credited with picking up the slack in stocks were the several General Services Administration stockpile releases which helped reverse the down trend of stocks by the second half of the year. A total of 350,000 tons was offered for sale; the final 200,000 tons was not taken up entirely and was carried over into 1966.

In October a Presidential Proclamation terminated import quotas on zinc ores, concentrates and metal. The President's decision was made on the basis of a Tariff Commission report in June which said in effect the domestic industry would not be adversely affected if the import controls were lifted.

PRICE STABILITY

Throughout 1965, the quoted price of Prime Western grade zinc held at 14.50¢ per pound, East St. Louis, and 15.00¢ delivered. And demand during the year precluded any downward change in price.

- 3 -

Credited with contributing to the record consumption in 1965, was an outstanding automotive production and sales year. The auto industry consumed almost one-third of all slab zinc used during the year. Much of this tonnage was in the form of die castings, coating on hot dip and electro-galvanized steel sheet, as oxide in rubber, and as an alloying element in brass.

ZINC INDUSTRY HIGHLIGHTS 1965

"Reprinted from METAL STATISTICS 1966" *

January - Congressional members said they would introduce a flexible leadzinc import quota bill as a substitute for the quotas established in 1958.

February - The American Zinc Institute reported 1965 cars were rolling off the assembly line carrying a record tonnage of zinc. The high production models were utilizing large die cast zinc components previously made of aluminum or steel in the 1964 models.

March - Hot dip galvanizers, at their annual meeting, predicted the industry would use 50 percent more zinc over the next four years. Zinc consumption since the start of the year was up 14 percent.

April - The zinc stockpile offer was oversubscribed and the zinc mine output for February was up about nine percent. New Jersey Zinc Co. boosted its zinc smelter capacity with efficient vertical retorts.

May - Zinc consumer appetite was expected to rise in the second half of the year even more than the 18 percent increase posted during the first quarter. Japan announced it was an exporter of zinc as a result of a decline in domestic demand after production curtailment of galvanized sheets.

June - The lead-zinc industry was reserving comment on how it felt about terminating lead-zinc quotas. The President, however, was scheduled to meet with industry leaders before making a decision.

July - The General Services Administration announced another 75,000 tons off the shelf zinc stockpile sale. This was the second half of the 150,000 tons authorized earlier in the year by Congress.

August - Congresssmen Bill Broomfield (Michigan) and Winfield Denton (Indiana) sponsored a zinc bill asking 300,000 tons of the metal to be released from the stockpile to meet "continuing shortages of zinc."

September - Gulf & Western Industries Inc. announced a plan to control New Jersey Zinc. Co. through purchase of 55 percent of the company's outstanding stock. The purchase was contingent on Gulf & Western's ability to buy no less than 1,340,000 shares by Oct. 4.

October - The merger of Gulf & Western with New Jersey Zinc was approved by directors of both companies pending stockholder approval. Under the merger, New Jersey Zinc would be a subsidiary but retaining its own name.

November - The General Services Administration said it would release the first lot of the 200,000-ton stockpile zinc authorized to ease the shortage. The first lot, 75,000 tons, was up for bid Nov. 17.

December - For the zinc die casting industry, 1965 proved to be an excellent year translating into a 21.6 percent increase in production over 1964. And 1966 was expected to bring about a 10 percent increase in zinc die casting tonnages.

* METAL STATISTICS 1966, published annually, containing data on metal production, shipments, prices, etc. is available at \$5 per copy from the publishers at 525 West 42nd Street, New York, N. Y. 10036.

TABLE I

SALIENT STATISTICS OF THE U. S. ZINC INDUSTRY

ARIZONA AND WORLD MINE PRODUCTION OF RECOVERABLE ZINC

YEARS 1963, 1964 & 1965

Source: U.S.B.M.

Unit: Short Tons

	Year 1963	Year 1964	Year 1965
Producers' Stocks, Beginning of Period U. S. Mine Production, Recoverable Zinc Imports-Ore & Concts., Zinc Content Imports-zinc Metal Redistilled Secondary	144,746 529,254 372,769 144,757 60,303	47,910 574,858 357,145 118,340 71,596	31,178 611,153 428,040 152,992 83,619
TOTAL SUPPLY	1,251,829	1,169,849	1,306,982
Producers' Stocks, End of Period Exports - Slabs, Pigs, Blocks	47,110 33,853	31,178 26,515	28,622 5,939
SUB-TOTAL	80,963	57,693	34,561
APPARENT CONSUMPTION	1,170,866	1,112,156	1,272,421
REPORTED CONSUMPTION-SLAB ZINC Consumed Directly in Ores	1,105,113 99,600	1,207,268 105,948	1,354,092 151,873
TOTAL REPORTED ZINC CONSUMPTION	1,204,713	1,313,216	1,505,965
Production of Primary Slab Zinc By Sources: From Domestic Ores From Foreign Ores	474;007 418,577	531,967 422,117	551,215 443,187
By Methods: Electrolytic Distilled	358,093 534,491	389,383 564,701	565,247 429,155
ARIZONA MINE PRODUCTION	25,419	24,690	21,757
WORLD MINE PRODUCTION	3,970,000	4,425,000	4,750,000
U. S. Mine Production - % of Reported Consumption	45.83%	43.77%	40.58%
AVG. PRICE OF ZINC, E. ST. LOUIS (E&MJ)	11.997¢	13 . 5684¢	14.500¢

Arizona Department of Mineral Resources

т	A	B	L	E	II
and the second s	-				

MINE PRODUCTION OF RECOVERABLE ZINC, BY STATES, IN 1963-1965

Source: U.S.B.M.

Short Tons

STATE		1963	1964	1965
Arizona		25,419	24,690	21,757
Arkansas	• • • • • • • •			
California		101	143	225
Colorado	• • • • • • • •	48,109	53,682	53,870
Idaho		63,267	59,298	58,034
Illinois		20,337	13,800	18,314
Kansas	• • • • • • • •	3,508	4,665	6,508
Kentucky	• • • • • • • • •	1,461	2,063	5,654
Missouri		321	1,501	4,312
Montana	• • • • • • • •	32,941	29,059	33,786
Nevada		571	582	3,858
New Jersey		32,738	32,926	38,297
New Mexico		12,938	29,833	36,460
New York		53,495	60,754	69,880
North Caroli	na	13		
Oklahoma		13,245	12,159	12,715
Pennsylvania		27,389	30,754	27,635
Tennessee		95,847	115,943	122,387
Utah		36,179	31,428	27,747
Virginia		23,988	21,004	20,491
Washington		22,270	24,296	22,230
Wisconsin		15,114	26,278	26,993
Oregon	• • • • • • • •	3		
	TOTAL	529,254	574,858	611,153

Arizona Department of Mineral Resources

TABLE III

WORLD MINE PRODUCTION OF RECOVERABLE ZINC, BY COUNTRIES

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

VEADO	11 0	CANA DA					REST	Total	COMMUNIST	TOTAL
LEAKO	0.5.	CANADA	WEX1CO	PERU	ITALY	AUSTRALIA	OF FREE	Free	CONTROLLED	WORLD
			······				WORLD	WORLD	COUNTRIES*	ESTIMATED
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
19 59	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
1962	505	502	276	183	146	342	946	2 900	970	3,720
1963	529	497	266	200	118	394	996	3,000	970	3,070
1964	575	730	261	255	128	387	1.007	3.343	1 052	5,970 4 305
1905	611	911	248	286	127	387	1,199	3.769	· 981	4,750

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

Hungary, Algeria. ŧ

ţ

TABLE IV

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

In	[n
I	ĺ

In	Short	Tons

		IMPORTS	1999 - Garagen y Hallan in a dhalad kan (fran de kan garagen e de danatina a faar e danada dan kan ya may may m	EXPORTS	
		Blocks, Pigs	والمحمد والمتالك المرمان مارين المائية والمتكارية المتعرية المتكارية المتعرية مترافعات معاملة المتكارك فلتعم	Slabs, Pigs	NET IMPORTS
YEARS	ORES	or Slabs	TOTAL	or Blocks	internet and the second s
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 8//
1961	415,485	127,508	542,993	50 054	//02 030
1962	469,152	141,959	611,111	36,102	575 000
1963	372,769	144,757	517 526	33 853	193 673
1964	357,145	118,340	475 485	26 515	403,073
1965	428,040	152,990	581 030	20,313	440,970
a designed a strategy of the state of the st	a desident media a cara angan sakan ta angan sa pangan sa saga sa sa sa sa		501,030	5,939	575,091

Arizona Department of Mineral Resources

TABLE V

CONSUMPTION OF SLAB ZINC IN UNITED STATES

Source: U.S.B.M.

.

Short Tons

	Galvan-	Brass	Zinc	Rolled	Zinc	Other	Total
Year	izing	Products	Allov	Zinc	Oxide	Uses	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	1 7,9 88	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	1 9, 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
1962	388,570	129,805	423,608	42,233	18,517	29,088	1,031,821
1963	420,287	128,237	468,619	42,166	16,037	29,767	1,105,113
1964	456,336	135,095	524,582	44,181	19,991	27,083	1,207,268
1965	482,421	126,848	637,970	45,882	25,781	35,190	1,354,092

Arizona Department of Mineral Resources

TABLE VI

SLAB ZINC AVAILABLE TO CONSUMERS

YEARS 1963, 1964 and 1965

Source: U.S.B.M.

Unit: Short Tons

*****	Year	Year	Year
	1963	1964	1965
SUPPLY:			
Stocks at Primary Smelters Jan. 1st.	142,059	46,374) _	30,680
Stocks at Secondary Plants Jan. 1st.	2,687	1,536)	
Production - Primary	892,584	954,084	994,402
- Secondary	60,303	71,596	83,619
Import of Slab Zinc	144,757	118,340	152,992
TOTAL AVAILABLE	1,242,390	1,191,930	1,261,693
WITHDRAWN:	0		
Exports Slab Zinc	33,853	26,515	5,939
Shipments to Gov't Account 1/ Stocks at Primary Smelters			
End of Period	46,374	30,680)	20 622
Stocks at Secondary Smelters	1,536	498)	20,022
TOTAL WITHDRAWN	81,763	57,693	34,561
AVAILABLE TO CONSUMERS	1,160,627	1,134,237	1,227,132
REPORTED CONSUMPTION	1,105,113	1,207,268	1,354,092

1/ As reported by the American Zinc Institute.

U. S. CONSUMPTION OF SLAB ZINC

	1963	1964	1965
GALVANIZERS	420,287	456,336	482,421
DIE CASTERS	468,619	524,582	637,970
BRASS PRODUCT	128,237	135,095	126,848
ROLLED ZINC	42,166	44,181	45,882
ZINC OXIDE & OTHER	45,804	47,074	60,971
TOTAL SLAB ZINC CONSUMPTION	1,105,113	1,207,268	1,354,092

Arizona Department of Mineral Resources

TABLE VII

IMPORTS AND EXPORTS OF ZINC INTO AND FROM UNITED STATES YEARS 1963, 1964 and 1965

Source: A.B.M.S. U. S. Dept. of Commerce

Country of Origin	Year 1963	Year 1964	Year 1965
Ores (Zinc Content)	372,769	357,145	428,040
Australia Bolivia Canada Guatemala Honduras Mexico Peru Spain Republic of South Africa Other Countries	3,724 4,395 134,303 1,430 8,234 138,185 73,788 8,614 96	3,238 3,540 156,385 3 7,709 103,879 62,864 	2,667 4,093 201,353 4 6;786 117,354 73,721 11;267 10,795
Blocks, Pigs or Slabs	144,757	118,340	152,990
Australia Belgian Congo Belgium-Luxembourg Canada West Germany Italy Mexico Peru Phodesia-Nyasaland Yugoslavia Other Countries	583 9,590 21,904 73,817 6,103 907 13,219 7,574 1,982 1,185 7,893	385 10,878 5,807 75,712 265 12,791 7,569 62 441 4,430	1,120 12,614 8,889 88,554 230 2,129 12,787 10,323
TOTAL IMPORTS	517,526	475,485	581,030
TOTAL EXPORTS (Slab Zinc)	33,953	26,515	5,939
EXCESS IMPORTS	483,673	448,970	575,091

Arizona Department of Mineral Resources

LEAD-ZINC

PAY DIRT OF OCTOBER 21, 1966 QUOTES CLARK L. WILSON, CHAIRMAN, LEAD-ZINC PRODUCERS COMMITTEE, ON LEAD-ZINC SITUATION

AT ANNUAL SESSION OF AMERICAN MINING CONGRESS, SEPT. 12-17, 1966

"Clark L. Wilson, chairman, Lead-Zinc Producers Committee, told the session that while consumption of lead and zinc has continued to climb steadily in recent years, domestic and world production has risen at an even greater rate.

The guideposts Wilson suggested for a national lead-zinc minerals policy were to maintain a necessary segment of the domestic industry and encourage exploration and development of new mineral reserves; provide domestic consumers with adequate metal supplies to encourage development of new uses for these metals; allow reasonable quantities of imports to meet domestic smelter needs since U. S. production is far from fulfilling domestic consumption.

When President Johnson terminated the Quota Proclamation in October of 1965, the lead-zinc industry was faced with a re-evaluation of the over-all conditions, Wilson said, and as a result submitted a simplified and liberalized legislative proposal. Highlights of this plan, now pending in Congress, included the following: (a) term of the legislation is for five years, awaiting a minerals policy from the Executive Department; (b) quota restrictions on lead or zinc or both will be effective only if producers' stocks reach excessive levels; (c) these quotas would be calculated at 80 percent of imports during the most recent 10 quarters; (d) the ratio of ore to metal would be specified at levels to maintain supplies for the U. S. custom smelting industry; and (e) a guarantee of a minimum quota, providing the importer a continuing share of the U.S. markets and providing domestic smelters with the necessary feed materials.

'This is considered the most liberal plan for limits on imports that has been proposed by domestic industry, and if placed on the books now, it will effectively serve as the necessary deterent to prevent a surge of unnecessary and excessive imports such as we experienced in 1957 and 1958,' Wilson said."

> NEAR-FUTURE LEAD-ZINC PRICES LOOK FIRM By Michael Jensen In American Metal Market, Sept. 16, 1966

'The present strong demand for lead and zinc means prices should remain firm for the short term, but lead might soften over the long term because of added production.

This is the conclusion that can be drawn from remarks by Francis Cameron, president of St. Joseph Lead Co., who spoke yesterday at the New York Society of Security Analysts.

Mr. Cameron said producer and consumer inventories of both pig lead and zinc metal are at minimum working levels, and the volume of imports in the first half of 1966, far from helping U.S. consumers build up their stocks, has merely replaced the tonnage that was withdrawn last year from the government stockpile.

"Earlier this year a widening differential between overseas and domestic prices led to a one cent reduction in U.S. lead prices.

The St. Joe executive noted that total current annual production of lead in the United States estimated at about 1,030,000 tons is short of domestic consumption by 260,000 tons.

He also pointed out that the increase in domestic lead smelting capacity resulting from new facilities is estimated at 250,000 to 300,000 tons by 1970.

'Assuming the same production rate from existing facilities and from secondary plants,' he said, 'the U.S. could have sufficient production capacity by the end of the decade to meet projected domestic requirements.'

He said the total lead available to the free world will also increase, reflecting Missouri's and other, principally foreign, additions.

'Broadly, as supply and demand come into balance,' he said, 'the possibility of surplus production becomes greater and at a point about 1970, we do see a potential for a degree of excess production capacity.'

Turning to the long-range outlook for zinc, Mr. Cameron said he saw a different picture.

'Slab zinc projections,' he said, 'do not indicate a comparable development.' He noted that domestic consumption, currently at the annual rate of 1,450,000 tons, should increase to 1,600,000 tons in 1968 and to 1,775,000 tons in 1970.

But he said additions to the total domestic productive capacity of this metal will be 'relatively modest.'

Summing it up, Mr. Cameron said, 'it is safe to predict that the near future will see strong continued demand for both lead and zinc, with consequent retention of reasonable and profitable price levels.'

Mr. Cameron said he strongly supports legislation recently introduced in the Congress calling for a flexible quota system for lead and zinc. The domestic market has been more directly affected by foreign market action since elimination of lead-zinc quotas in 1965 during a period of shortage.

The St. Joe official said he was confident the markets for lead would have substantial growth in leaded acoustical material and in the construction industry.

And in addition to his prepared remarks he added (the price of) 'copper being what it is.'

Touching briefly on the copper shortage, he noted that St. Joe is now operating copper flotation circuits at two plants to recover copper concentrates which heretofore were not separately recovered."

LEAD-ZINC TRADE NEGLECT CHARGED IN HOUSE

By Freeman Bishop

In AMERICAN METAL MARKET, Sept. 22, 1966

'The Tariff Commission came under fire before Congress this week for allegedly failing to take an active role in carrying out the intent of the Trade Agreement Act of 1962.

Under that act, which was hailed as the great accomplishment of the Kennedy Administration, if an industry could show it was being harmed by imports - or workers could show they'd lost their jobs because of imports - they were entitled to compensation.

The Tariff Commission ruled against the lead-zinc industry in several instances. Clark L. Wilson, chairman of the Lead-Zinc producers committee, charged yesterday, even though the finding had showed injury.

Mr. Wilson gave the House Labor Sub-committee headed by Rep. John Dent (D. Pa) this outline of the lead-zinc industry's position:

'Many years of excessive imports of unneeded supplies of lead and zinc ores and metal resulted in closed mines, lost jobs and loss of profits and capital;

'Repeated efforts by the industry through Tariff Commission hearings and legislative proposals have failed to attain a reasonable, long range minerals policy that would assure maintenance of a necessary segment of our domestic mine and smelter operations;

'The 1958 proclamation of import quotas on lead and zinc represented acceptance by the President of only a small part of an earlier Tariff Commission recommendation following a finding of import injury to the domestic industry.'

However, world and domestic consumption of lead and zinc has risen steadily in the last few years, taking the domestic industry off the hook.

But there's a kicker threatening the domestic industry - the stockpile of about one million tons each of lead and zinc.

Mr. Wilson told METAL MARKET the industry right now is able to cope with the imports of lead and zinc but pointed out that two conditions could swiftly hurt the American industry:

'Government sales of lead and zinc on open markets from the stockpile; 'Cutbacks in consumption of lead and zinc."

He warned the Dent subcommittee that jobs would be lost in the lead-zinc industry unless imports are curbed within the near future.

Legislation is currently pending in Congress - with no chance of action this year - to establish flexible lead-zinc import quotas based on domestic consumption.

LEAD PRICE SLASH SHAKES CONGRESS

By FREEMAN BISHOP In AMERICAN METAL MARKET, OCT 12, 1966

"Fourteen cent lead sent a shiver through Congress this week, bringing back memories of lead-zinc prices so low it wasn't much worthwhile to process the ore less than five years ago.

Most lead-zinc experts here pointed to the Johnson Administration's dropping altogether of the lead-zinc quota system which until last October prevented imports over a historic 80 percent of normal shipments.

The import quotas were abandoned by the Administration at a time when both metals had been in short supply. The bigger producers pointed out that new deposits would swiftly hike U. S. production of both metals by this year.

In addition members of Congress declared the existence of stockpiles of lead and zinc of more than a million tons each also offered a strong market depressant.

The stockpiles of lead and zinc are no longer believed essential to the nation's defense production in wartime. All of the lead-zinc has been declared surplus to national defense.

This makes this material available for sale whenever Congress chooses to authorize additional releases. As of now, the General Services Administration has 72,990 tons of lead and 93,818 tons of zinc for sale from previous authorizations made by Congress. This was as of the end of August.

SHORTAGE

The shortage in zinc has been more acute than lead, but the use of lead and zinc has been falling off in other countries, which is feeding back metal and ores to U.S. producers and smelters.

Meantime, the metals industry has been aware that new deposits opening up in the U.S. would create a larger than normal supply of domestic lead outside imports that are smelted here.

DIFFERENTIAL

Hence spokesmen here did not express great surprise at this fall-off in prices. They pointed to the four-cent differential which has existed recently between the London Metal Exchange price and the U.S. domestic price.

With London quoting from 10 to 11 cents, lead at 15 cents obviously would make it worthwhile for foreign producers to ship to U.S. markets.

The drop of the price on lead to 14 cents was stimulated by the desire to hold off a sudden shift of lead from overseas markets to U.S. consumers.

While Congress won't get very excited over 14-cent lead, spokesmen from states with large lead-zinc production warned that action would be sought early next year if imports show a high rise into domestic markets."

TABLE I

U. S. AND ARIZONA MINE PRODUCTION OF RECOVERABLE LEAD

VALUE OF PRODUCTION BY YEARS FROM 1947 to 1965 INCLUSIVE

LEAD

	Avg.Price	U. S. 1	Mine Production	Arizona	Mine Production
Year	cts./1b	Tons	Value	Tons	Value
1947	14.673	384,221	\$ 112,750,000	28,566	\$ 8,383,000
1948	18.043	390,476	140,907,000	29.899	10 789 000
1949	15.364	409,908	125,957,000	33 568	10 315 000
1950	13.296	430,827	114,566,000	26 383	7 016 000
1951	17.500	388,164	135,857,000	17 394	6 088 000
1952	16.467	390,162	128,496,000	16,520	5,441,000
	an gananan giligi a manyaka di garanya akina mana				- ; ;
TOTAL		2,393,758	\$ 758,533,000	152,330	\$ 48,032,000
6 YR. AVG.	15.844	398,960	\$ 126,422,000	25,388	\$ 8,005,000
1953	13.489	342,644	\$ 92 438 000	0 400	¢ 0 540 000
1954	14.054	325,419	91 470 000	9,428	\$ 2,543,000
1955	15.138	338.025	102 3/10 000	0,303	2,357,000
1956	16,013	352,826	112 996 000	9,817	2,972,000
1957	14,658	338 216	99 151 000	11,999	3,843,000
1958	12.109	267 377	6/1 753 000	12,441	3,647,000
1959	12.211	255 586	62 / 10 000	11,890	2,880,000
1960	11.948	246 669	58 9/1/ 000	9,999	2,442,000
1961	10.871	261 921	56 947 000	8,495	2,030,000
1962	9,631	236 956	15 642 000	5,937	1,291,000
1963	11,137	253 369	55 125 000	6,966	1,342,000
1964	13.596	286,010	77, 772, 000	5,815	1,295,000
1965	16,000	301,147	96 367 000	6,147	1,611,000
TOTAL	1964	2 505 010	, , , , , , , , , , , , , , , , , , ,	5,913	1,892,000
TT OTT A T	1965	3,505,018	\$ 921,307,000	107,319	\$ 28,253,000
TOTAL	an a dia famin'ny fizika dia fanana amin'ny districtana amin'ny districtana amin'ny districtana dia fanina dia	3,806,155	\$1,017,674,000	113,232	\$ 30,145,000
13 Yr. AVG.					
	13,369	292,782	\$ 78,283,000	8.710	\$ 2.319.000
1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.					φ 1,017,000
Annual	Loss			nan manana ang ang ang ang ang ang ang ang an	un milligen for an de an de fanon en eine sin heftigen verkenstellen. An geschanzeligt eine ave
13 Yr.	Period	÷			
		106,178	\$ 48,139,000	16,678	\$ 5,686,000

Arizona Department of Mineral Resources

,

.

TABLE II

U. S. AND ARIZONA MINE PRODUCTION OF RECOVERABLE ZINC

VALUE OF PRODUCTION BY YEARS FROM 1947 to 1965 INCLUSIVE

ZINC

	Avg. Price	U. S. Mine Production		Arizona Mine Production		
Year	cts./lb	Tons	Value	Tons	Value	
1947	10.500	637,608	\$ 133,898,000	54,644	\$ 11,475,000	
1948	13,589	629,977	171,215,000	54,478	14,806,000	
1949	12.144	593,203	144,077,000	70,658	17,161,000	
1950	13.866	623,375	172,874,000	60,480	16,772,000	
1951	18,000	681,189	245,228,000	52,999	19,080,000	
1952	16.215	666,001	215,984,000	47,143	15,288,000	
TOTAL		3,831,353	\$1.083.276.000	340 402	\$ 94 582 000	
6 V.			+=,===,===,===,===	040,402	\$ 94,902,000	
o ir.	14 197	600 P.80				
AVG.	14,137	638,559	\$ 180,546,000	56,734	\$ 15,764,000	
1953	10,855	547,430	\$ 118,847,000	27.530	\$ 5,977,000	
1954	10.681	473,471	101,143,000	21,461	4,584,000	
1955	12.299	514,671	126,599,000	22,684	5,580,000	
1956	13.494	542,340	146,367,000	25,580	6,904,000	
1957	11,399	531,735	121,225,000	33,905	7,730,000	
1958	10.309	412,005	84,947,000	28,532	5,883,000	
1959	11.448	425,303	97,377,000	37,325	8,546,000	
1960	12.946	435,427	112,741,000	35,811	9,272,000	
1961	11.542	464,390	107,200,000	29,585	6,829,000	
1962	11.625	505,648	117,563,000	32,888	7,646,000	
1963	11.997	529,254	126,989,000	25,419	6,099,000	
1964	13,568	574,858	155,993,000	24,690	6.716.000	
1965	14,500	611,153	177,234,000	21,757	6,310,000	
TOTAL						
		6,567,685	\$ 1,594,225,000	367,167	\$ 88,076,000	
13 Yr.					nan an	
AVG.	12,137	505.206	\$ 122.633.000	20 013	¢ 6 775 000	
			and the second		- Dry C. C. Dy UUU	
Annual Lo	SS	#1559-5-5299-5-7-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5	999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1997 - 199	na ministra anna an	nandra an the gran and the second state of the state of	
13 YR. Pe	riod					
		133,353	\$ 57.913,000	27 721	\$ 8,989,000	

Arizona Department of Mineral Resources

Æ

14

ARIZONA LEAD AND ZINC PRODUCTION IN 1965

Source: Director's 27th Annual Report

The price of pig lead, f.o.b. New York, held at 16 cents per pound until May 5 when it fell to 15 cents, after dropping to 12 cents on the London Metal Exchange.

Prime Western Zinc, St. Louis basis, held at $14\frac{1}{2}$ cents per pound through the fiscal year in spite of pressure of foreign metal at 12 cents. Lead-zinc quotas were abandoned in October, 1965. Lead and zinc stockpiles were declared surplus to national defense and releases were authorized.

Lead production in Arizona in 1965 was 5,913 tons, 4 percent below 1964. Zinc production was 21,757 tons, 12 percent below 1964.

Iron King mine of Shattuck-Denn Mining Corporation, in Yavapai County, produced the bulk of the lead and zinc output of the state in the fiscal year. It is one of the Nation's leading producers of lead-zinc, and also of gold and silver.

Continental Exploration, Inc. completed a 1,000 foot shaft at the CWT zinc-copper mine south of Tucson, cut stations at the 800 and 900 levels, started headings, completed a power plant building and progressed with the design of a 500 ton mill.

The Cyprus Mines Corp. started a new 2150 foot, 3 compartment shaft at its Old Dick mine in the Eureka district of Yavapai County, and continued mining operations at a reduced rate. The shaft will also serve its near-by Copper Queen mine.

The Trench mill, long a processor of ores from the Patagonia area, was closed in July, 1965.

Some lead ores from the Globe mine, east of Amado, Pima County, and complex ores from the Indiana mine near Washington Camp, Santa Cruz County and lead-silver ores from the Silver Crown Mine in the Walnut Grove district, Yavapai County, were shipped in the fiscal year.

TABLE I

w

*

`'a

.

PRODUCTION OF LEAD AND ZINC IN ARIZONA

Ye a r	No. of Mines Est. By U.S.B.M.	Tons M at erial Treated	Tons Le a d Produ ce d	Tons Zinc Produced	Value of Lead Produced	Value of Zinc Produced	Average Price Lead	Average Price Zinc
1948	189	797,292	29,899	54,478	\$10,703,842	\$14,491,148	17.9¢	13.3¢
1949	174	968,301	33,568	70,658	\$10,607,488	\$17,523,184	15.8¢	12.4¢
1950	139	888,099	26,383	60,480	\$ 7,123,410	\$17,176,320	13.5¢	14.2¢
1951	136	954,985	17,394	52,999	\$ 6,018,324	\$19,291,636	17.3¢	18.2¢
1952	112	819,752	16,520	47,143	\$ 5,319,440	\$15,651,476	16.1¢	16.6¢
1953	68	452,660	9,428	27,530	\$ 2,470,136	\$ 6,331,900	13.1¢	11.5¢
1954	45	346,313	8,385	21,461	\$ 2,297,490	\$ 4,635,576	13.7¢	10.8¢
1955	46	408,486	9,817	22,684	\$ 2,925,466	\$ 5,580,264	14.9¢	12.3¢
1956	46	452,191	11,999	25,580	\$ 3,767,686	\$ 7,008,920	15.7¢	13.7¢
1957	45	481,327	12,441	33,905	\$ 3,558,126	\$ 7,865,960	14.3¢	11.6¢
195 8	31	388,987	11,890	28,532	\$ 2,782,260	\$ 5,820,528	11 .7 ¢	10.2¢
1959	22	449,166	9,999	37,325	\$ 2,299,770	\$ 8,584,750	11.5¢	11.5¢
1960	22	515,075	8,495	35,811	\$ 1,987,830	\$ 9,239,238	11.7¢	12.9¢
1961	22	433,680	5,937	29,585	\$ 1,291,000	\$ 6,804,550	10.9¢	11.5¢
1962	16	487,115	6,966	32,888	\$ 1,342,000	\$ 7,630,016	9.6¢	11.6¢
1963	17	419,853	5,815	25,419	\$ 1,256,000	\$ 5,846,000	11.1¢	12.0¢
1964 1965	17	447,372	6,147	24,690	\$ 1,611,000	\$ 6,716,000	13.1¢ .	13.6¢
2000	10	425,895	5,913	21,757	\$ 1,892,000	\$ 6,310,000	16.0¢	14.5¢

		B	CLASS OF ORE	IN TERMS OF	RECEVERABLE	METALS		
		Number	Material	annan Gersen Gergerald geregen ger	Shapiya a Shada a shirki waxayo yaqoyin shahada Ayya		te de la company a c	and a survey of the survey survey as a survey survey as
Source		Number	sold or	Gold	Silver			
		or minos 1/	treated	(troy	(troy	Copper	Lead	Zinc
Teda ene		mines 1/	(short tons)	ounces)	ounces)	(pounds)	(pounds)	(pounds)
Lode ore;		-		وهم واعتمال المراجعة والمراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع			i fondigi menti manjati na digi nati mino ke ngini na adi mata di angan di angan di angan di angan di angan di	
Dry gold		3	96	39	. 85	100		
Dry Gold-Silve	21	6	114,793	428	9.519	1.795.300		
Dry Sriver	440 450 450 550 550 550 550	17	23,847	24	31,348	194:300	1 900	900
IOTAL		26	138,736	491	40,952	1 989 700	1 900	900
Copper		40	92,859,535	133 830	5 252 050	1 200 000 700	1,300	900
Copper-zinc		4	85,172	100,000	5,552,850	1,308,809,700	13,200	2,212,200
Lead		7	1,403	8/	21,602	4,332,700	22,500	9,398,000
Lead-Zinc		4	336,557	15 400	2,812	2,900	109,300	8.900
Zinc		1	2,763	15,402	624,807	650,000	11,463,900	30,865,100
Total		56	03 295 /20		8,828	114,400	112,200	995,400
Other "lode" mat	erial.		35,205,450	149,349	6,010,899	1,313,909,700	11,721,100	43,479,600
Gold tailings		1						
Gold-silver Tailings and		1	19	8	2			
silver tailings 2/		1	00.017		*			
Copper cleanup and copper		4	29,815	529	15,213	97,400		
smelter clea	nup 2/	(2Λ)				•		
Copper precipitates		10	807	43	1,061	176,900		
Lead cleanup		(2/)	63,159			89,282,500		-
Lead tailings		(3/)	2			· · ·	1,500	·
Lead-zinc mill	cleanup	(3/)	11,200	1	946	· · · · · · · · · · · · · · · · · · ·	60,900	3,400
Zinc mill cleanup		(3/)	4/ 72	4/2	4/ 26,174	4/ 1.297.800	4/ 40,600	4/ 30,100
Uranium ore		(37)	(4/)	(4/)	(4/)	- (4/)	- (4/)	- (4/)
Total					(4/)	$(\overline{4}/)$		
TOTAL		26	105,074	583	43.396	90,854 600	103 000	33 500
Total "lode" material		0.2	02 520 0/0			, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	103,000	33,500
Placer		2	93,529,240	150,423	6,095,247	1,406,754,000	11,826,000	43,514,000
Total, all sour	rces	9/1	03 520 260	8	1			
1/ Detail will	not necessarily		33, 329, 240	150,431	6,095,248	1,406,754,000	11,826,000	43,514,000

TABLE XIX

MINE PRODUCTION OF GOLD, SILVER, COPPER, LEAD AND ZINC IN ARIZONA IN THE YEAR 1965

necessarily add to totals because some mines produce more than one class of material.

2/ Combined to avoid disclosing individual company confidential data. 3/ From properties not classed as mines. 4/ Lead-zinc mill cleanup, zinc mill cleanup, and uncoming and Lead-zinc mill cleanup, zinc mill cleanup, and uranium ore combined to avoid disclosing individual company