LEAD INDUSTRIES ASSOCIATION
60 EAST 42ND STREET
NEW YORK 17, N. Y.

March 6, 1959

SUBJECT: REPRINT ON LEAD

To Members of the Lead Industries Association:

Enclosed please find a reprint of the article on lead from the annual review issue of "Engineering and Mining Journal," February, 1959.

Extra copies are available as long as our supply lasts.

Very truly yours,

Secretary.

Lead

Robert L. Ziegfeld
Lead Industries Association

. . . *"Last year showed the lowest mine production of lead for any year since around the turn of the century. Quota imposition and improved prices helped the market move up a little in the fall. New uses are extremely interesting."* p 110

Robert L. Ziegfeld
Secretary
Lead Industries Association

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MAJOR METALS

Lead

Robert L. Ziegfeld
Lead Industries Association

THE MARKET DECLINE that started in 1957 continued throughout a good part of 1958 as a result of continued world overproduction, cessation of U.S. Government stockpiling and the general business recession. The New York price tumbled from 13c per lb to a low of 10¼c. The President declined to act on the Tariff Commission's recommendation for higher tariffs but established a quota system to limit lead imports as of Oct. 1 which served, along with some pick-up in consumption, to strengthen the domestic market. As a result the domestic price recovered and closed the year again at 13c.

For several years U.S. Government stockpiling of domestically produced lead had been a strengthening factor in the lead market. Another such factor had been the barter of surplus U.S. agricultural commodities for foreign lead for stockpile. Stockpile purchases of domestic lead ceased in the middle of 1958 after amounting to about 35,000 tons or roughly 6,000 tons in the first half of the year. Likewise, such stringent restrictions were placed on barter deals that, although they amounted to over 40,000 tons or roughly 7,000 tons in the first half of the year, only a few thousand tons were bartered in the remainder of the year. Thus, while shipments to stockpile in both cases totaled some 150,000 tons in 1957, they were reduced to only about 85,000 tons in 1958, most of this being bought in the first six months of the year.

Production. Under the influence of the depressed price, U.S. mine production took a further substantial cut of over 20%. This amounted to an average of about 6,000 tons per month, although at the year end, with better prices, production had recovered somewhat from the low. At 265,000 tons this was the lowest U.S. mine production of lead reported for any year since about the turn of the century. Despite this substantial cut in production, U.S. producers' stocks in all forms continued to increase and at the end of 1958 were a little over 300,000 tons, an increase of nearly 125,000 tons during the year.

At the same time, production in the Free World outside the U.S. showed declined of something less than 5% and refinery stocks outside the U.S. were reduced moderately during the year.

Secondary lead production in this country also underwent a substantial cut (about 15%) and is estimated at 420,000 tons for 1958.

Imports. Foreign lead was again imported into the U.S. in large quantities despite the quota restrictions which applied during the last quarter. Heavy imports earlier in the year anticipated the imposition of some controls. Although imports of lead in ore were off about 14,000 tons to about 184,000 tons, refined metal imports increased about 27,000 tons to a little over 350,000 tons. Total net imports for 1957 and 1958 were about 522,000 and 535,000 tons respectively.

After the imposition of quotas late in the year, offerings of lead products manufactured abroad began to make themselves felt in this country. This came about because the quotas only applied to raw materials and not to manufactured items. With a spread of around 4c a pound between the foreign and domestic price, the items could be offered here substantially under the domestic price for similar articles and thus circumvent the quota restrictions.

Consumption. In the first half of 1958 consumption was running about 20% behind 1957, but improved business in the fall brought the decline down to about 13% for the year. Nevertheless, at an estimated 992,000 tons, consumption was under a million tons for the first time since 1949 and was the lowest since that year. The decline in consumption was distributed pretty generally throughout the major lead products with the exception of calking lead and ammunition, which showed little change. Consumers' stocks of pig lead remained at a moderate level throughout the year and showed little change.

Prices. The following table shows the New York price changes for pig lead during the year as quoted by *Engineering & Mining Journal:*

Lead Price Changes
(Cents per lb N.Y.)

Dec. 2, 1957	13.00
April 1, 1958	12.00
May 14	11.50
June 3	11.00
June 18	11.50
July 2	11.00
Aug. 13	10.75
Sept. 18	11.00
Sept. 30	11.50
Oct. 2	12.00
Oct. 8	12.50
Oct. 14	13.00

After the imposition of quotas the domestic price improved materially, aided by increased consumption. However, the London price remained in the area of 9c plus, resulting in a spread of about 4c per pound, far in excess of normal spread.

Tariffs, subsidies and quotas. With the conditions that prevailed in the domestic lead market during the early part of the year, namely low consumption, high imports and the imminent end of stockpiling, and faced with substantial curtailment of domestic production, domestic producers sought relief in Washington. The Tariff Commission had held hearings late in 1957 on greater protection for domestic producers. On April 24, 1958, it finally reported its findings.

The Commission split equally in its recommendations, three members favoring the full tariff increase permissible under the law, to 2.55c per lb, on pig lead from 1¼c then prevailing, and imposition of import quotas. The other three members favored increasing the duty to the old 1930 rate of 2¼c per lb but no quotas.

A few days later the Secretary of the Interior presented a subsidy plan to a Senate Interior Committee intended to stabilize lead at 14¼c up to 350,000 tons of domestic production. This was followed up in late May by sending a draft bill to Congress providing for a maximum lead subsidy of 3¼c per lb. Various other bills and proposals were also submitted to Congress and on June 19 the President wrote to both Houses that he was deferring action on the Tariff Commission's recommendations pending consideration of Interior Department's subsidy plan. The Senate later passed the bill with some modifications and the House Interior Committee cleared a somewhat similar bill to the Rules Committee. However,

Congress adjourned without having passed this or similar legislation.

In early September an international study group met in London to discuss the problems of the lead and zinc industries. Only a few days later the President in Washington and Interior Secretary Seaton speaking before the American Mining Congress in San Francisco simultaneously announced the imposition of import quotas on Oct. 1 equaling the average imports for the years 1953-1957. This met with severe criticism from foreign producers but has been in effect since.

A second international meeting under United Nations auspices was held in Geneva in November and, while there apparently was general agreement that world overproduction existed, no positive action was taken except that another meeting should be held after further study by individual countries. The next meeting is expected in March 1959.

Research and market development. Meanwhile a group of Free World lead producers had been attacking the problem from a different angle. Realizing that there was one solution which would make everybody happy, namely increased consumption, this group set about planning a greatly expanded program for research to develop new products and markets. This is now a reality and is being supported financially by lead producers in the U. S., Great Britain, Canada, Mexico, South America, Australia and Africa.

During 1958 the market development and research activities of the Lead Industries Association were greatly expanded with further expansion already approved for 1959. Beginning Sept. 1 the expanded research program, and that of the American Zinc Institute as well, was placed under a new research director for both organizations, Dr. Schrade F. Radtke. Already a number of research contracts have been placed with research organizations, universities, private companies and elsewhere. The fact that lead is finding new applications in some of the most modern growth industries like atomics, electronics and thermo-electrics indicates a bright long-term future. The properties of lead are so unique and so useful to modern technology that well-planned and intensive research and market development are certain to open new horizons in time.

Some of the new uses of lead that excite the imagination are cited here as not necessarily implying large consumption in any one development but to give some idea of how lead fits into modern technology. Recent research has shown that treatment with certain lead compounds can materially improve some of the useful properties of cotton. Lead zirconate-titanate is at the heart of some of the much publicized stereophonic sound pick-up devices. A special lead pigment improves movie screens and is also used to produce articles with artificial mother-of-pearl finishes. The properties of lead are being used to control vibration in the most modern laboratories employing extremely sensitive instruments. Lead alloys are finding use as non-sacrificial anodes for corrosion protection.

For the nearby future lead will be more dependent on general business conditions. Judging from the past year when lead consumption showed substantial improvement in the second half, continued improvement in business should bring about a better year for lead in 1959.

If the predicted improvement in sales of new automobiles materializes, consumption of lead in batteries will benefit. Another million cars produced could mean up to another 10,000 tons of lead consumed in batteries. Solder consumption would also benefit. It is likely, too, that after a disappointing 1958, sales of replacement automobile batteries may improve. Accelerated highway construction should continue to require more lead paints, particularly red lead primers and the new lead silico-chromate top coats.

After an unbroken rise in lead consumption since it was introduced in the 1920's, tetraethyl lead has gone through two years of lower consumption. This was largely due to a number of new catalytic cracking plants that produced a larger pool of high grade base stock requiring less TEL per gallon. Sooner or later the demand for high octane gasoline will catch up with this supply and use of tetraethyl lead will again forge ahead. Also, the use of lead for cable sheath is continuing to meet strong competition.

High levels for home building indicate good consumption in that industry but much will also depend on what the chemical processing industries will do toward new plant construction or new equipment. One such new plant now planned will employ some 1,500 tons or more of sheet lead, and two tunnels for the Niagara Power Project, on which construction has started, will require over 500 tons of sheet lead.

U.S. Lead Supply and Demand[1]

(Short tons)

	1958 estimated	1957
Supply:		
Mine production	265,000	318,200
Secondary production	620,000	489,200
Imports:		
Ore, matte, etc.	184,000	197,900
Pigs and bars	351,000	324,300
Total	1,220,000	1,349,600
Changes in stocks at primary smelters and refineries	125,000[2]	57,200[2]
Total	1,095,000	1,292,400
Exports	2,000	5,600
Total available	1,093,000	1,287,200
Demand:		
Industrial consumption	992,000	1,138,100
Est. stockpile shipments	85,000	148,000
Consumers and secondary smelter stocks	0	5,300[2]
Total	1,077,000	1,291,400

[1]American Bureau of Metal Statistics, U. S. Bureau of Mines and Lead Industries Association.

[2]Increase.

U.S. Lead Use*

(Short tons)

	1958 estimated	1957
White lead	12,500	15,700
Red lead and litharge	64,500	78,300
Storage batteries	326,700	361,000
Cable	74,000	108,200
Building	48,900	52,200
Tetraethyl lead	158,000	177,000
Ammunition	41,000	42,500
Foil	5,000	4,900
Bearing metal	21,000	27,000
Solder	58,000	70,700
Type metal	26,000	28,700
Calking lead	65,000	65,200
Other uses	91,400	106,300
	992,000	1,138,200

*Based on U. S. Bureau of Mines statistics.

One product which bears watching, although it consumes less than 2,000 tons of lead a year at present, is leaded steel. It usually contains only 0.15 to 0.35% lead but is now available and is being aggressively merchandised by some 20 steel companies not only in the familiar bar and tube stock for free machining but also as forgings and just recently as sheet and plate. This use definitely has a bright future.

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