

LEAD INDUSTRIES ASSOCIATION

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NOT FOR PUBLICATION

THE SECONDARY LEAD INDUSTRY*

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A month or so ago I attended a high school graduation, and after listening to the commencement speeches, I gathered that the world was in such terrible shape that nothing could save it except the graduating class.

I have been asked to explain some of the problems which face the secondary lead industry. Believe me, it will take more than a graduating class to solve our problems. What we need perhaps is a crystal ball. Of course, theoretically there should be no problems. First, there should be an ample and fairly steady supply of raw material. I say this because almost all lead, except that used in gasoline, wasted ammunition and paint, goes through a cycle, and eventually, after use, comes back into the system in the form of scrap.

The best example of this is battery lead, the largest single source of secondary raw material. We find that as each battery wears out it is replaced by a new one. The average battery has a life of slightly less than two years, and statistics show that over a period of time approximately eighty percent have been returned in the form of scrap to the secondary market. This is done quickly and efficiently by the collector and breaker.

Second, there should be no problem selling secondary lead. At present the United States is importing approximately one third of all the lead it consumes, which last year was some three hundred eighty thousand tons. Secondary lead accounted for about one third of the lead consumed, or approximately four hundred eighty thousand tons, with primary production making up the other one third, or about four hundred four thousand tons. Thus, if the secondary smelter uses proper metallurgy, efficient mechanized equipment, and produces a good product at a competitive price, it stands to reason that he should be able to dispose of his product.

Although the theory makes sense, I am quite sure that many times during the past fifteen months the secondary smelters would have questioned it, and particularly would have asked why they were having so much trouble selling their lead even at large discounts. Let us see what happens to our theory.

Our theory begins to break down as soon as the secondary smelter finds difficulty in selling his output as antimonial lead and finds it necessary to soften part of his production. The secondary smelters are primarily manufacturers of antimonial lead. Their average furnace metal contains antimony, and if they use a large percentage of battery lead it should run about four to four and one half percent. It is much more economical and efficient to add antimony and make specification metal than it is to remove antimony and make soft lead.

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A battery is originally composed of about half antimonial and half soft lead. If the secondary smelter was to soften his metal to this proportion we would find the antimonial lead going back into the battery industry, but the secondary soft lead, grade A or 99.9% which he normally manufactures would not be suitable for reuse in that industry because of minute percentages of silver and copper. These elements can be removed from secondary metal just as simply and efficiently as in primary metal by desilverizing, except that because the impurities are so small, it is not economical. Thus, instead of secondary soft lead going back into the battery industry and completing the cycle, it is usually replaced by primary corroding lead, and the secondary metal has to find another outlet.

At this point our theory weakens even more. When this secondary soft lead has to find another outlet it has to compete with primary lead and usually has to be sold at a discount with freight allowed to destination. Most primary is sold on a delivered basis, while secondary lead is sold on an f.o.b. shipping point basis. If we are going to allow discounts and freight, then we have to buy our raw material cheaper.

We now find other factors affecting our theory, and they become important problems. These problems are as follows:

FIRST: We have a limited supply of scrap material. At the market price the secondary smelter can expect to buy a certain quantity of material in his locality, and this area is limited by the cost of the freight. If the secondary smelter desires to increase his production to meet unusually large customers' orders he has to buy the additional scrap from a greater distance. From these points he has to compensate the sellers for the additional freight, and in many instances ends up by having to pay more for the material in his own locality as well. His competitor may also be in the same position, with the result that before long the two smelters are vying with each other to get the available supply of material. In buying it they may raise the price so high that they both sustain a loss.

Price will do most to bring out scrap. This was proven in 1948 when the price of lead was advancing toward the peak of 21½¢ per lb. In this year alone secondary production was over 500,000 tons, and scrap came out of every nook and corner. Because primary producers could not meet the demand, the consumers bid up the price of secondary by offering premiums. This was foolish, for at the premium stage the consumers were actually competing with themselves without getting any additional material. (I am sure you will all remember what I mean.)

SECOND: We have the problem of secondary supplies and their prices having a much wider fluctuation than primary supplies and prices. This is because they are more sensitively influenced by weather conditions, dealer psychology which manifests itself in speculative hoarding or dumping, and also by economic and political influences.

There was much evidence of these fluctuations in the last year or two. In 1948 when the supply was so tight, secondary lead sold at large premiums, while today the situation is exactly the reverse and secondary

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lead is being sold at large discounts. During 1948 when the price was approaching the top we had much speculation and overbuying to build up inventories beyond normal working requirements, and even the Government came into the market at the most critical moment with their stockpiling program. All this was abnormal, and with the mild winters of 1948-49 and the battery industry's declining sales, we suddenly had an about-face. In the third quarter of 1949 lead recovered temporarily, then it eased off again and has been getting easier ever since.

These wide fluctuations in scrap prices and supplies were quickly reflected in the smelting charge of the secondary smelters. They buy their scrap competitively, paying for the lead content at the quoted E. I. M. J. price of lead, less a smelting charge delivered to their plant. The smelting charge includes all expenses of smelting, metal losses, overhead and profit. In addition, it reflects any premiums or discounts on their finished product, and indirectly the smelter's forecast as to the strength or weakness of the market. The smelting charge has varied in the past few years from minus \$10 to plus \$150 per ton of raw material, and it has been the best barometer of the lead price and conditions in the lead industry.

THIRD: We have the problem of maintaining a steady production. Because we have a limited supply of scrap, and because we are exposed to dealer tactics of speculative hoarding and dumping, and because there is less collecting, breaking and movement of batteries in winter, there are times when we have a scarcity of raw material, while at other times a surplus. It is not economical for a smelter to be shut down for lack of material, nor is it practical for him to wait until he gets orders to buy his raw material, as this would take too long. Today, with hand-to-mouth buying the consumer does not want to buy too far in advance and wants his lead shipped promptly. Thus the secondary smelter finds it necessary to carry a stock for his customers and sometimes buy without orders, even when the market looks weak, so that he can maintain the operation of his plant. Of course, these purchases are highly speculative.

FOURTH: We have the problem of market risk and, coinciding with this, the impracticability of hedging on the Commodity Exchange.

On a rising market the consumer usually tries to spot the price, while on a declining market he likes to pay on the average of the month during which he takes delivery. For the most part the secondary smelter buys on a spot price regardless of the market. Since approximately 30 to 45 days elapse between the time of purchase and actual sale, there is quite a speculation if the market changes during that period and very little way in which to get any protection.

This brings us to the possibilities of hedging. It is my opinion that the Lead Commodity Exchange is entirely too inactive to make a good hedge. This is not only true now but was also true before the war until the Exchange closed in 1942.

There are three grades of lead which are acceptable, corroding, common desilverized, and chemical lead. A secondary smelter can and does make these grades and has his brand listed as acceptable. However, I have pointed out before that normally it is not economical for him to make these grades, thus, he avoids using the Exchange.

It seems to me that it would be a lot more sensible to list a grade A lead of 99.9% equivalent which might make the Exchange a much more active and realistic market. Many consumers purchase this grade just as the Navy and Printing Office have for many years. Certainly if the secondary lead business is one-third of all the lead sold in the country and they produce a large quantity of 99.9% lead economically, they should be entitled to have this grade listed.

I spoke to a member of the Commodity Exchange recently and asked if a grade A 99.9% lead could be listed. I suggested the following specifications for this grade of lead:

Ag	Maximum percent	.01
Cu	"	.015
As)	"	
Sn)	"	.01
Sb)	"	
Zn	"	.001
Fe	"	.002
Mn	"	.025

This specification shows a minimum purity of 99.93%. We could also make a chemical lead or copper lead with only minor differences from the ASTM specification. I hope in the near future something can be done on this score.

FIFTH: Let us look now at some of the selling problems. We find a surplus of lead on the market at present accompanied by price cutting and instability caused by the following events. Let us discuss antimonial lead first.

(a) Following the change over from a seller's to a buyer's market a little over a year ago, several months elapsed before very much lead was sold. Stocks accumulated at the smelter. Due to the cautious buying policy of the consumer and his lack of confidence in the market these stocks have not been reduced.

(b) We had two successive mild winters which were not conducive to good battery business. This was particularly true of the replacement battery business which accounts for about 80% of all batteries sold.

(c) During the past year a great deal of antimonial lead was softened because soft lead could be sold principally to the Government with the resulting accumulation of high antimonial lead as a by-product.

(d) Because foreign antimony metal and ores could be purchased far below the domestic price, they were introduced and used rather than the surplus secondary high antimonial lead which had accumulated.

(e) Because the lead-tin-antimony alloy business also was poor during this period, some of this metal was detinned and entered the antimonial lead market.

Now let us look for a moment at soft lead sales.

(a) We have the inability of the secondary smelter to sell 99.9% grade A lead to the Government for stockpile or deliver it on the Exchange against a hedging contract. Thus they have to sell this lead on the open market, particularly in competition with foreign lead.

(b) We have foreign lead underselling our domestic lead. The foreign lead which is flooding the country is doing more to undermine the market and cause price instability than anything else. However, this was largely made possible by the devaluation of the pound. This situation is probably temporary in that the foreign countries are not sufficiently rebuilt to absorb the lead they would normally consume. In the interim, the lead producing countries of the world are shipping to the United States to get dollars. This is hurting the lead producer in this country, as price-wise he is at their mercy. A foreign lead producer has the same costs now as he had before devaluation, but he can sell his product in dollars for considerably more money. On the other hand, a producer in this country is being squeezed between rising costs and a declining price.

Apparently the theory that the secondary lead smelter does not have any problems is proved to be a myth. I have mentioned only five problems and there are still others.

It has been a privilege to have had the opportunity to bring some of our problems to your attention, and especially to the attention of the consumer. The producers, I am sure, are already acquainted with the facts. Some producers even have secondary smelters of their own. It seems to me the consumer should be vitally interested in the problems of the secondary smelter, and it should be to his advantage to have a sound secondary lead industry. I believe that I have already mentioned that secondary lead was one-third of all the lead sold last year and was over one-half of the entire domestic production. Since the "twenties" primary production has been declining in the United States, while secondary production has been increasing. Large imports of foreign lead are only temporary; therefore, it seems that in time the consumer will be more dependent on secondary lead, thus, they should reserve a portion of their purchases for it.

I believe that the consumer should ask himself today, "Can I use secondary lead in my operation? Do I have to use a desilverized lead or a lead with a very low bismuth content?" In many operations these elements are not harmful in the quantities present in Grade A or 99.9% specification lead. Many times I have found consumer's specifications are copied from the primary brand that was originally purchased and happened to be satisfactory.

I am sure that during the lead shortage many consumers found they could use secondary lead, although it was bought at a premium. Today it is being sold at a discount. The consumer is usually interested in three things when buying lead: quality, steady source of supply and reasonable price. I feel certain that many secondary smelters can meet all three of these qualifications.