

LEAD INDUSTRIES ASSOCIATION

420 LEXINGTON AVENUE

NEW YORK 17, N. Y.

May 5, 1954

SUBJECT: L.I.A. ANNUAL MEETING
April 22-23, 1954

To Members of the Lead Industries Association:

In connection with the 26th annual meeting of the Lead Industries Association held at the Drake Hotel, Chicago, Ill., on April 22-23, 1954, we are attaching the following:

1. Copy of a press release which will give you the newly elected officers, Executive Committee, and Board of Directors of the Association, and
2. Copy of a press release giving the synopses of papers delivered at the meeting.

We have received, or expect to receive, the following complete papers, which will be mimeographed. If you wish any or all of these complete papers kindly let us know.

Norman Donald, Jr.	Finding Lead by New Prospecting Methods
Morris Foodin	Secondary Lead and Mixed Metals
George M. Wheatley, M.D.	The Lead Poisoning Problem in Children
Walton R. Smith	Lead-Acid Storage Batteries
B. C. Bricker	Vitreous Enamels for Aluminum
Thomas R. Young and Donald R. Whitlock	Lead in Chemical Construction
S. Cahn	Lead Consumption Abroad

Very truly yours,

Robert L. Zenger
Secretary.



Press Release
FOR IMMEDIATE RELEASE
April 22, 1954

LEAD INDUSTRIES ASSOCIATION
420 Lexington Avenue
New York, 17, N. Y.

Chicago, April 22 -- J. B. Haffner, President of The Bunker Hill & Sullivan Mining & Concentrating Company of Kellogg, Idaho, was today re-elected President of The Lead Industries Association, at its twenty-sixth annual meeting held at The Drake Hotel.

The representatives of the lead mining, smelting and consuming industries attending the meeting of the Association also elected officers for the following year as follows:

K. C. Brownell, Vice-President
J. A. Martino, Vice-President
J. M. Bowlby, Vice-President
R. L. Ziegfeld was reappointed secretary-treasurer.

The Board of Directors was elected as follows:

Jean Vuillequez,	Vice-President	American Metal Co., Ltd.
K. C. Brownell,	President	American Smelting & Refining Co.
Clarence Glass,	Vice-President	Anaconda Sales Co.
S. A. Easton,	Chairman of the Bd.	Bunker Hill & Sullivan Mng. & Concentrating Co.
H. L. Day,	President	Day Mines, Inc.
J. M. Bowlby,	Chairman of the Bd.	Eagle-Picher Co.
J. A. Costello,	Vice-President	Ethyl Corp.
E. L. Newhouse, Jr.	Vice-President	Federated Metals Division of American Smelting & Refining Co.
J. P. Ruth,	Vice-President	The Glidden Company

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J. A. Martino, President
P. H. Hunt, Director
Andrew Fletcher, President
George Mixer, Vice-President

National Lead Company
United Park City Mines Co.
St. Joseph Lead Company
United States Smelting,
Refining & Mining Co.,
Inc.

J. B. Haffner, President

Bunker Hill & Sullivan Min-
ing and Concentrating
Company

The Executive Committee was re-elected as follows: J. B.
Haffner, K. C. Brownell, J. A. Martino, George Mixer, J. M. Bowlby
and Andrew Fletcher.

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PRESS RELEASE
IMMEDIATE
April 22, 1954

Lead Industries Association
420 Lexington Avenue
New York 17, N.Y.

Chicago, April 23 -- Gathered today and yesterday at the Drake Hotel for the Twenty-sixth Annual Meeting of the Lead Industries Association, more than 100 top executives of the lead industry met and discussed the outlook for one of the nation's major basic metals. Those attending included representatives from the lead mining, lead fabricating, and important lead consuming industries.

The two-day sessions were opened by J. B. Haffner, President of the Lead Industries Association and President of the Bunker Hill and Sullivan Mining and Concentrating Co. The first session was under the chairmanship of K. W. Green, purchasing agent, Electric Storage Battery Co.

(Ed. -- Detailed abstracts of all papers follow.)

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Robert H. Ramsey, editor, Engineering & Mining Journal, New York, N.Y. discussed "The Changing World Picture in Lead Reserves".

"New discoveries of lead ore bodies in various quarters of the world give greater prominence to certain countries as potential major sources of lead", said R. H. Ramsey. "Other suppliers, long major sources of the metal, will decline in relative importance."

Mr. Ramsey showed that Canada, South America, Africa and Australia are expected to increase in relative importance as lead producers. The United States and Europe are expected to decline somewhat in the percentage of world output they furnish, even though their actual production will increase.

He estimated that this production can be obtained at a market price of around 13¢ to 15¢ per lb. of lead. Industry opinion in general seems to favor the lower figure.

Considering that new discoveries of lead ore in Canada, Africa, and South America have pushed estimates of world reserves beyond 50 million short tons of lead in ore (as compared with a 1947 estimate of about 45 million tons), it seems clear that consumers need fear no serious interference with supply of lead at a reasonable cost.

"This, of course, is based on the assumption that there is no large-scale governmental interference with normal channels of supply and distribution in the period under discussion," declared Mr. Ramsey.

* * * *

"Finding Lead by New Prospecting Methods"-- Norman Donald, Jr., geologist, Exploration Department, St. Joseph Lead Co., New York, N.Y.

Modern prospecting methods have become a vital part of the

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lead mining industry's effort to locate new lead ore bodies. "Ore bodies that can be found by the old-time prospector with his mule and pick have been pretty much discovered and are either already being operated as mines or have been depleted." "Therefore," declared Norman H. Donald, Jr., geologist of the St. Joseph Lead Company, "it is becoming more and more necessary to apply geological science to guide our search for lead." The role of the geologist seeking minerals is complicated to a considerable extent by the fact that ore bodies are found in more complex geological structures and may be present in a great variety of forms and chemical combinations. This is in direct contrast to the prospector for petroleum whose problems are far less complicated. Mr. Donald discussed in particular the importance of geophysics and geochemistry in assisting the modern geologist. For example, applications of electrical and magnetic measurements to the earth may, under certain conditions, either detect ore bodies or define geological factors that are guides to prospecting for them. Geochemical prospecting includes sampling of soil or vegetation for traces of various metals. "Although the principles involved in these prospecting techniques are by no means new," said Mr. Donald, "their effectiveness has been considerably increased by improved methods of applying them and by advances in the science of geology." He pointed out the advantages of speed in prospecting large areas by airplane and the use of electromagnetic surveying in diamond drill holes. The latter promises to save much diamond drilling by revealing deep ore bodies missed by a matter of a few hundred feet. The effectiveness of geochemical prospecting has been increased many-fold by refinements in the techniques
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of rapid chemical analysis of soil in the field. "Modern day prospecting for lead involves the outlay of considerable capital and the availability of highly trained personnel," said Mr. Donald. "There is much likely ground left in the world to prospect and we feel, given a market which supplies sufficient incentive to risk capital to look for it, that plenty of lead will be found to satisfy the needs of any foreseeable future."

* * *

"Secondary Lead and Mixed Metals"-- Morris Foodim, manager, Metal Purchases, Federated Metals Division, American Smelting & Refining Co., New York, N. Y.

The secondary lead and mixed metals market was discussed by Morris Foodim, manager, Metal Purchases, Federated Metals Division, American Smelting and Refining Company, who said that receipts of secondary lead in 1953 were 49.2% of the total United States consumption of primary and secondary lead. In 1952, this figure was 53.3% with a high in 1948 of 60.5%. "The high primary lead prices bring out the heavy flow of scrap," said Mr. Foodim, "which creates ampler supplies to fill requirements and thus put a brake on primary lead prices. Conversely, low prices for primary lead reduce the tonnage of scrap coming into the market."

While the secondary industry is not a national producer, Mr. Foodim pointed out that nevertheless many believe it to be a very sensitive indicator of market trends. In times of shortage secondary prices quickly reflect the situation in the form of premium prices
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being paid above the primary market for additional supplies. When surplus looms, secondary prices quickly begin to discount decline in primary lead prices. "In other words," said Mr. Foodin, "secondary lead is generally able to immediately translate the market view because, while basing prices on primary quotations, its purchases and sales are made at whatever differential from primary prices will assure business."

"Discussing mixed metals, "Mr. Foodin said, "receipts of tin base and scrap in 1953 were about 25% below those of 1952."

* * *

"The Lead Market" -- Dr. Joseph Zimmerman, editor-in-chief, Daily Metal Reporter, New York, N.Y.

"The lead market seems to have greater buoyancy than it has had for some time," said Dr. Joseph Zimmerman, editor-in-chief of the "Daily Metal Reporter," speaking at the Lead Industries Association meeting on lead markets. This is due in part to the recent government decision to reactivate its stockpiling program which had the effect of bringing domestic consumers into the market and also to the uptrend in the London price which removed for the time being the pressure to sell foreign metal in the domestic market. "How much lead our government plans to buy for its stockpile, what price it will pay and when its purchases will get under way, appear to be secrets that Washington has thus far refused to divulge," said Dr. Zimmerman.

"Our imports of foreign lead have been in excess of our requirements. In 1953 the net imports of lead into the United States

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averaged 45,000 tons a month whereas the actual needs of foreign metal were only for about 35,000 tons since our own mines and scrap supplied approximately 65,000 tons a month and consumption averaged 100,000 tons a month. The excess of 10,000 tons a month at a time when the government was not active in stockpiling the metal, was chiefly responsible for the drop in price last year," he said.

"Knowing that there was an excess supply of lead, domestic consumers bought far less than they actually consumed with the result that their inventories were pared to the bone and are now at the lowest point that they have been since December, 1951, and are equivalent to about three weeks' supply at their current rate of consumption, whereas the refined stocks in producers' hands, which are close to 100,000 tons, are at the highest point that they have been since 1949.

"This situation has brought about its own correctives. Domestic mine output was cut last year by about twelve percent and the curtailment is still in effect. Consumers' inventories reached so low a point, that they had to come into the market to replenish them."

Dr. Zimmerman felt that the prospects for the lead market are better now than they were a few months ago. It is anticipated that lead consumption this year may be ten percent to fifteen percent below last year's total, but this would still constitute a good year for the industry. It is doubtful whether the price will recede to the 12½¢ level that prevailed earlier this year simply because that price is uneconomical for the domestic lead producing industry. "At the present rate of domestic production and consumption, we could use about

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25,000 tons of foreign lead monthly," he said. "The present imports are running in the neighborhood of 30,000 tons a month. Whether they will continue at that rate will depend largely on business abroad and also on what happens to the U. S. import duty on foreign lead."

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"The Lead Poisoning Problem in Children" -- George M. Wheatley, M.D., vice president, Metropolitan Life Insurance Co., New York, N.Y., and chairman, Accident Prevention Committee, American Academy of Pediatrics.

George M. Wheatley, M. D. vice president, Metropolitan Life Ins. Co., New York, and chairman, Accident Prevention Committee, American Academy of Pediatrics, discussed various health aspects of the lead industry.

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Charles R. Ince, vice president, St. Joseph Lead Co., New York, N.Y., was chairman of the Afternoon Session.

* * *

"Lead-Acid Storage Batteries" -- Walton R. Smith, president, States Batteries, Inc., San Francisco, Cal., and president, Association of American Battery Manufacturers, Inc.

An outlook forecast for the storage battery industry, the largest consumer of lead - 31 percent of the total lead consumed last year, was undertaken by Walton R. Smith, president, The Association of American Battery Manufacturers, Inc., and president, State Batteries,

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Inc., San Francisco, Cal. Basing his estimates on a poll of the battery manufacturers and a statistical analysis of past performance, he predicted that there would be approximately one million more replacement batteries manufactured in 1954 than in 1953, based on an average battery life of twenty-six months. He also estimated that export shipments of replacement batteries will be approximately five percent ahead of last year and that miscellaneous requirements, including batteries for farm tractors, approximately five percent below last year. Industrial batteries for material-handling equipment, telephones, etc., will be approximately fifteen percent below last year and government requirements approximately fifty percent below last year. "Requirements for original equipment batteries for new car production," said Mr. Smith, "should be approximately eighteen percent below last year but the lead required to make these batteries will not decline to this extent or approximately fifteen percent of all new cars manufactured during 1954 will be equipped with twelve-volt batteries which require forty-five percent more lead than six-volt batteries." "In future years," declared Mr. Smith, there is no doubt but that the increased use of twelve-volt batteries for automobile manufacturers will greatly increase the lead requirements for the manufacture of storage batteries." For 1954, the outlook for the storage battery industry in terms of lead was given as 363,504 tons. This compares with 362,767 tons used in 1953. "It is our estimate that the lead requirements for the battery industry for 1954 will be approximately the same as for 1953," said Mr. Smith. "The decreased requirements of lead for original

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equipment, government and industrial batteries will be off-set by an increase in the amount of lead required for replacement batteries."

* * *

"Lead for Nuclear Shielding"-- Marvin Fox, chairman, Reactor Department, Brookhaven National Laboratory, Upton, L.I., N.Y.

"The use of lead for shielding in the X-ray region is 10 to 100 times as effective as equal weight of iron and even more effective than other materials," said Dr. Marvin Fox, chairman, Reactor Department, Brookhaven National Laboratories. "As energies increase to about 3 MEV, there is very little distinction between lead and iron," he said. Although the use of lead is more economical in the X-ray regions than at the higher energy levels, he pointed out that lead always has the advantage of greater density and hence is preferable where there are space limitations, such as in Atomic powered submarines or airplanes. Considering economic factors and comparing lead with iron or concrete cost-wise as well as shielding-wise, he said, "at 0.2 MEV, lead is about half the cost of iron and about two times as costly as concrete for equivalent shielding. At 0.5 MEV, iron is about 40% cheaper than lead and concrete about six times cheaper. At 3 MEV, lead is twice as costly as iron and concrete is about 15 times less expensive". According to Dr. Fox, one of the major uses of lead and one that promises to be still greater in the future is in the manufacture of shipping and handling containers for radioisotopes and in laboratories handling these materials. For example, he cited the current requirements for Brookhaven National Laboratories: "We are using about 1,000 tons of lead and add to this 100 additional tons annually, all

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of it used for radioisotopes handling."

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"Vitreous Enamels for Aluminum" -- B.C. Bricker, Ceramic Products Division, Electrochemicals Department, E. I. duPont de Nemours & Co., Inc., Wilmington, Del.

"The successful wedding of glass and aluminum has created new thinking in a product so new that we, in the ceramic industry, have barely scratched the surface in the development of its potential use," said B. C. Bricker, E. I. duPont de Nemours & Co., Inc., Electrical Chemical Department. Some of the ceramic products that are used every day, all of importance, are table and bar glass (30 to 50% lead), container labels (30 to 50% lead), dinner plate (40 to 70% lead), power resistor enamel (50% lead), and the newest field - porcelain enamel for aluminum (30 to 50% lead). "This is a vitreous enamel designed for use on aluminum" said Mr. Bricker, "which combines all the good properties, surface hardness, durability and chemical resistance of glass with the light weight workability and strength of aluminum." The many possible applications for this new material become more apparent upon examination of some of its unusual and outstanding properties. It offers excellent workability, porcelain enamel on aluminum will not chip or flake and can be fabricated much as uncoated aluminum is. It is spall resistant. It can be plunged into cold water from elevated temperatures with no detrimental effects on the coating. The enamel imparts additional flexural strength to aluminum. Porcelain enamel can be applied over welds. Field installations have been in

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service for over six years with no signs of deterioration. Shipping and packaging costs are low. Mr. Bricker pointed out that porcelain enameled aluminum is already finding acceptance in architectural siding, signs and labels, electrical shielding, household appliances, furniture and similar equipment. "The market for vitreous enamels for aluminum," stated Mr. Bricker, "has been estimated by 1970 to reach 200,000,000 lbs. annually; a market representing important volume to the ceramic industry."

* * *

"Lead in Chemical Construction" -- Thomas R. Young, partner, and Donald R. Whitlock, senior engineer, Singmaster & Breyer, New York, N.Y.

The use of lead as a corrosion resistant material of chemical construction was discussed by Donald R. Whitlock, senior engineer of Singmaster & Breyer, New York. Mr. Whitlock emphasized that, in addition to the importance of using properly designed and constructed equipment, it is also more economical in the long run to select the best materials of construction available for the job to be done. "Only where suitable materials are not available or prohibitive in cost will we accept those of limited life or those requiring regular maintenance," said Mr. Whitlock. Describing various fields of application for lead, he pointed out that in the metal recovery field the most lead is used where the processes have been in use for longer periods and far more is known regarding the best materials of construction. "Lead is an old friend and no new construction or repair techniques are required," he said. In wet process metallurgical operations, he stated that lead
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lined and brick and lead lined steel is commonly used. "It has been our experience that equipment in metallurgical plants is generally subject to more mechanical abuse than in a chemical plant," he said. "These are factors which make lead more suitable as a construction material in metallurgical plants than more recently developed materials," he continued. Discussing other factors influencing the selection of construction materials, Mr. Whitlock pointed out that in piping the cost differential between lead and other materials is generally in favor of lead. Plastics are, in general, more sensitive to temperature than lead.

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The morning session of the second day was under the chairmanship of J. Vuillequez, vice president, American Metal Co., Ltd., New York, N.Y.

The session began with the showing of a sound color film entitled "Lead In Building" prepared by the Lead Industries Development Council, London, England. The film, in two parts, showed, first, the mining, smelting and recovery of the metal from Australian sources; and, in part two, showed the prominent role played by lead in architectural and plumbing applications in England. Not only were examples of installation shown, but technical details were given describing the manner and methods of installation.

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"Lead Consumption Abroad"-- S. Cahn, managing director, Goodlass Wall

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and Lead Industries Ltd., London, England, presented by S. D. Strauss, vice president, American Smelting & Refining Co., New York, N.Y.

Mr. S. Cahn, managing director, Goodlass Wall and Lead Industries, Limited, England, discussed the competitive situation as it now exists in Great Britain with regard to lead's use in the chemical industry, building trades and as a cable sheathing material.

"In the chemical trades," said Mr. Cahn, "lead is supreme on account of its unequalled resistance to corrosion by a wide variety of chemicals. In the form of pipes it is widely used as heating coils and for conveyance of corrosive liquids, whilst in the form of sheets it is employed in the construction of plant such as acid chambers and towers and tank linings." Speaking of lead's use by the building trades, Mr. Cahn said, "It may be anticipated that the recent decision of the British government to modernize older dwellings as part of the post-war program will result in an extension of this field for a good many years to come." He felt that an encouraging factor in the use of lead for water pipes may be looked for in the adoption of lead alloys giving much improved creep resistance and enabling pipes of lighter weight to be used. "Savings in cost to be effected may well provide sufficient advantage in favor of lead as against the use of other materials," he said.

Discussing underground water service, Mr. Cahn declared that lead pipe is still the most generally accepted in the British Isles because of easy installation together with its excellent resistance to corrosion by all types of soils. When other materials are used the precaution of wrapping and protection has to be taken and the problem

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of jointing requires a wide range of specialized and expensive fittings.

"Lead always has the strong advantage of easy jointing either by means of the well-known wiped joint or the more modern form of soldered spigot joint which has been devised to save solder and make for more rapid installation," he said.

Discussing the use of lead in cable sheathing, Mr. Cahn pointed out that other materials may have certain advantages, such as weight but that their resistance to corrosion by soils is far inferior to that of lead. The reduced flexibility of other sheaths is a disadvantage for duct systems as used in America, he said.

* * *

"Lead Cable Sheathing" -- C. T. Hatcher, division engineer, Consolidated Edison Co. of New York, New York, N. Y.

"The future requirements for lead as a cable sheathing material" declared C. T. Hatcher, division engineer, Consolidated Edison Company of New York, "will be influenced by two factors, namely: the future requirements for cable and changes in techniques which would affect the use of lead." Basing his observations on the experience of the Consolidated Edison Company, Mr. Hatcher felt there will be a continuing load growth which will necessitate the installation of cable to accommodate such expansion. He forecast electric load growth to continue at approximately the same rate as that experienced in the last several years.

Mr. Hatcher presented data comparing the use of lead to that of copper for the past 20 years in the Consolidated Edison System. The
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demand for lead followed closely that of copper although, during this period, there were several developments which eliminated the use of lead to a considerable extent. It was shown that during the last 5 years there was a tendency for the ratio between the two metals to widen indicating a decrease in the amount of lead required. "It is probable that this trend will continue should aluminum become widely used as a sheathing material," said Mr. Hatcher. "How fast aluminum will be accepted is difficult to predict because of obvious economic factors and present technical shortcomings which will have to be overcome." For example, he pointed out the present difficulties involved in installing aluminum sheath cable in existing underground structures. In addition, there is little assurance that the connection between joint sleeves and the aluminum sheath will remain permanent and leak-proof. The poorer corrosion resistance of aluminum in underground use is a further disadvantage that requires the use of an additional protective sheet of polyethylene or neoprene type plastics.

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The meeting was concluded at a luncheon. Those attending had the honor of hearing John D. Wilson, economic consultant of the Chase National Bank, New York, N.Y. discuss "The Business Outlook."

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