

## LEAD INDUSTRIES ASSOCIATION

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

April 10, 1959

SUBJECT: REPORT OF THE SECRETARY  
AND TREASURER

To Members of the Lead Industries Associations:

Enclosed please find:

1. Report of the Secretary for the year 1958.
2. Report of the Treasurer for the year 1958.
3. Current list of members.

The report of the Secretary-Treasurer will be presented  
at the annual meeting in Chicago.

Very truly yours,

*Robert L. Ziegler*  
Secretary.



ANNUAL REPORT OF THE  
SECRETARY-TREASURER  
FOR THE YEAR 1958

In the past, knowing that you have had my written reports, it has been my practice to report to you verbally as briefly as possible, in order to leave more time to hear from various industry experts. Today, because Association activities have been proceeding at such an exciting pace, I propose to give you a detailed report by word of mouth and help you save your eyes on my written report. So here it is!

The semi-conducting properties of lead telluride are employed to make the much publicized 5-lb. electrical generator, developed for the A.E.C. for rockets and other uses.

Pearlescent lead pigments make possible the sharpest and clearest images on projection screens, and the simulation of mother-of-pearl finishes on a variety of products from toilet seats to buttons and costume jewelry.

Tiny lead zirconate-titanate capsules form the heart of the pick-up devices on many of the best stereophonic hi-fies.

Twenty-five tons of lead slabs are controlling vibration in one of the nation's most modern laboratories devoted to inertial guidance of missiles.

Over 500 tons of sheet lead form lubricating and sealing bases for the hinged-arch construction of two large water tunnels in the Niagara Power Project.

Lead-containing porcelain enamels are providing bright, colorful porcelain enamel finishes on aluminum.

The super-conducting properties of lead are being employed in International Business Machines' most modern computing devices.

More than 500-tons of lead are going into the protective shielding around the reactor of the world's first atomic merchant ship.

Lead-powder-impregnated plastic is being used for sound-proofing on commercial transport planes like the DC-7 and DC-8.

Lead-shielded instruments are in our space rockets to measure radiation in outer space.

These are just a few of the intriguing new developments in lead that the Association is watching. When any of these or others that we encounter appears to have the possibilities of establishing a substantial commercial market for lead, we want to be in a position to help develop that market through technical service, promotion, advertising and publicity. Not all of them by any means will offer such possibilities, but we must be prepared to step in and take the initiative whenever the opportunity arises.

Meanwhile, our research programs, of which you will hear more tomorrow, are tying in with these new developments and with the more established uses of lead. It is also in the latter applications where most but not all of our current promotional activities lie.

We now have several promotional projects dealing with specific products or industries, together with technical service, advertising, publicity and direct mail which cover the broad use of lead in all applications.

For example, "Lead" magazine describes both established and new applications of lead in any form and in any industry. This broad promotion of the use of lead is published quarterly and goes to a mailing list of over 50,000 names. This list includes a variety of people such as architects, builders, utility companies, railroads, ship builders, paint manufacturers, nuclear scientists, corrosion engineers and a lot more. Thus more than 200,000 copies containing an average of six different articles are distributed each year. That is about a million and a quarter detailed messages about lead going to people who are real prospects.

We are just starting a new advertising campaign directed primarily at design engineers. It consists of six one-page ads each in "Materials in Design Engineering" and "Product Engineering" with a combined circulation of about 70,000 per ad or another 400,000 plus messages. Supporting this will be an exhibit emphasizing lead's properties and new applications at the Design Engineering Show next month. This will be the first such exhibit for L.I.A.

Most important of all in the broad promotion of lead is the technical service we are now able to render industry. We have at least four trained men who are constantly contacting industries of all kinds to help them with problems involving lead and to show engineers how they can use lead to advantage.

And, backing up all this is a planned publicity program designed to place feature articles on interesting uses of lead in trade papers which reach the desired audiences. Started a little over a year ago this campaign is beginning to show good results and is being expanded this year.

In addition to these broad activities we are conducting several specific campaigns. Take the construction industry, for example, where upwards of 100,000 tons of lead per year is used. For the second successive year we have two four-page inserts in Sweet's Architectural and Light Construction Catalogs. One insert is on lead for plumbing, the other on roofing and flashing. The combined circulation is over 40,000 architects and builders or a total of 80,000 messages on lead in books that are referred to constantly throughout the year.

For the first time we are devoting six one-page ads in "Engineering News-Record" to construction applications of metallic lead products. The circulation is over 75,000 or a total of 450,000 messages. We are also continuing the issuance of our series of Building Construction Bulletins and a new series of flyers descriptive of various uses of lead in construction, distributed by direct mail to some 20,000 architects and builders. We will mail between 100,000 and 150,000 of these during the year.

In this activity we are maintaining personal contact with architects, construction engineers, contractors and chemical engineers to provide technical service. During the annual international plumbers' apprenticeship contest we provide a judge for the lead work and an instructor to show instructors of lead work how to teach it. We also exhibit annually at the National Home Builders Show, the Plumbing Contractors Show, and the National Chemical Exposition.

Solder consumes about another 50,000 tons or more of lead a year. Our solder committee, under the chairmanship of a member of the staff, has completed writing a Soldering Handbook which is being published by the American Welding Society. Copies will be available to the Association and its members at substantially reduced cost.

For many years we have been promoting red lead primers for steel with considerable success. This work was expanded in the last couple of years to take advantage of the huge government-supported highway building program. This year we will use seven full-page ads in "Engineering News-Record" and also seven pages in "Marine Engineering Log" to intensify our efforts in the field of marine painting. These publications have a combined circulation of 90,000 for a message total during the year of over 600,000.

However, this program is being broadened to include lead paints other than red lead primers. All lead pigments consume over 50,000 tons of lead annually, still a substantial amount despite the decline over the years in the use of white lead. Red lead, lead chromate and white lead, together with newer pigments like the basic silicate, silico chromate and pearlescent pigments, make up this total. We now plan to give them all a boost wherever we can, of which you will hear more this afternoon.

Our familiar Red Lead Technical Letters will be continued as Lead Pigments Technical Letters, circulated to some 12,000 people once or twice a year. We are also providing personal technical service in the field by an experienced paint technologist, to highway engineers, ship builders, railroads, oil companies, water works and other large users of paints.

Ceramics use around 20,000 tons of lead a year in a variety of products that include glass, glazes for various clay products such as china, tile, brick and sewer pipe, porcelain enamels for steel, aluminum, cast iron and other metals, and bodies for electronic and other applications. Following publication of our technical data book "Lead in the Ceramic Industries," two supplements to it have been issued and a third is about to appear. Some 6,000 copies of the book and supplements have been distributed.

We are currently advertising lead in ceramics in general in the American Ceramic Society "Bulletin," "Ceramic Industry," "Ceramic Age," and "Ceramic News," with more specialized advertising in "Brick and Clay Record" and "Metal Product Manufacturing." Six one-page ads per year are being used in each case. Combined circulation is about 30,000 for a total of 180,000 messages per year.

I have not been able to locate any reliable estimate of the amount of lead being used annually for nuclear radiation shielding. From what we know of accounts that go into individual ships and laboratories, I think it would be safe to say that the use of lead for shielding would have to be expressed in five figures. Two men in our organization are "Q" cleared so that they have access to classified information and atomic installations. We have been collecting information on how lead is used and intend shortly to start a series of technical bulletins on this subject for circulation to nuclear scientists.

Industrial storage batteries account for some 40,000 tons of lead consumption per year. They are the type used to power industrial trucks, mine locomotives, and for stand-by or auxiliary power. They meet strong competition from gasoline and propane power in industrial truck applications. We are planning to issue a booklet on the advantages of lead-acid batteries for this kind of service. We are also watching closely efforts to revitalize the battery-powered electric

automobile and delivery truck. Several are already on the market and are getting strong support from public utility companies who visualize a new source of revenue from power to charge the batteries.

Not because charity begins at home but because we believe that many lead products offer definite advantages in industrial applications and that, all other factors being equal, the lead industry should use its own products, we are urging our own members to be sure that they give full and fair consideration to lead products in their own operations. We have been getting up a mailing list of purchasing and engineering personnel in our member companies and we intend to see that they get all informative literature which we publish and to provide them with technical service on lead products.

You may be interested to know that we handled approximately 5,000 inquiries last year as a result of the circulation of our quarterly "Lead." Of course, most of these were routine inquiries for additional literature but many also asked for specific help or more information about the lead products described. I think this is an indication that "Lead" is well read and the importance of the individuals and companies inquiring is often impressive.

Also during the year as a result of our ceramics program we were able to circulate to our interested members the names of more than 1,250 inquirers for literature and over 75 more who asked for specific information or help. This despite the fact that a mailing list of about 6,000 people in the ceramic industry, including all members of the American Ceramic Society, receives our literature automatically. Similarly, nearly 600 inquiries for red lead literature were received despite the fact that some 12,000 paint users and manufacturers receive our literature automatically.

In addition to these market development efforts the Association has continued to perform routine functions relating to statistics, liaison with government agencies, professional societies and trade associations representing our consuming industries, special requests for information or assistance from members, government agencies, banks and the press, and many other functions.

There is, however, one other important activity I would like to emphasize in some detail - our health and safety work. I don't know how many members realize how often toxicity crops up, in one form or another, to hamper the sale of lead products. I would just like to cite a few instances that have occupied much of our time and contributed to our headaches in the past year.

Take television, for example. A highly popular national program shown on NBC and other channels is "Highway Patrol." One episode in this weekly series was shown at least twice on NBC and once on WPIX in New York. This episode depicted a young farm boy making wooden toy pistols and painting them with a lead arsenate-water mixture he found in the barn. Inspector Mathews of the State Highway Patrol happened by and, being a friend, showed the youngster how to paint one of these toy pistols. Not long thereafter both the inspector and the boy allegedly came down with lead poisoning. The source of the lead was traced, after testing water they had drunk and food they had eaten, to the toy pistol. Both showed unrealistic, even ridiculous symptoms of lead poisoning and neither could have contracted it in this way. With advice of counsel we protested to NBC and the producer. NBC has been cooperative and wrote that they would take all possible steps to avoid any repetition. The producer so far has been less cooperative, attempting to protect

his investment of \$35,000 in this episode, but we intend to keep the pressure on him to avoid future showings. Recently we were verbally assured that the film would be changed to eliminate all reference to lead and we are trying to get this commitment in writing.

This is just an example of health problems with which we are faced every day. They include labeling laws and ordinances prohibiting the use of lead paint for certain purposes. We have cooperated with attorneys for the Authority which operates the Philadelphia-Camden bridge in the painting of which with red lead some painters contracted lead poisoning. We are working with the American Water Works Association to protect their red lead paint specifications for water tank interiors which are under attack. It is endless, time consuming work.

We sponsored a highly successful lead hygiene conference right here in this hotel last November. It was attended by some 150 industrial medical men and hygienists, the cream of the crop. Such conferences ease our problems by disseminating accurate information and create a lot of good-will for our industry. The proceedings were recently printed in "Industrial Medicine and Surgery," with a circulation of some 9,000 in the industrial medical profession.

Although Dr. Radtke will give you the complete story of our research programs tomorrow, some reference should be made here to research projects initiated and conducted last year. In ceramics our graduate research fellowships at universities were increased from three to nine at seven different universities. A study of the emissivity of lead compounds was started at New York University. Battelle Memorial Institute was engaged to investigate lead as a cementing material for other substances which might improve the physical properties. A contract was entered into with Armour Research Foundation for a study of improved lead alloys. The architectural and engineering firm of Skidmore, Owings and Merrill studied the possibilities of lead in modern building construction which has resulted in investigation of certain research projects now under consideration, particularly in the field of sound attenuation. Experimental continuous extrusion or casting of the usual lead cable sheathing alloys was undertaken in collaboration with the John Robertson Co.

I have tried to give you the high spots of our activities in this report. As I said, I have not attempted to cover routine activities like our "Information Bulletin," statistics, and liaison with technical societies and associations of customer industries. But I would like quickly to run over a summary of the quarterly reports already circulated to members.

#### SUMMARY

The following briefly summarizes our activities for 1958:

#### GENERAL

1. "Lead" - Four issues of this 8-page publication were mailed to a list of over 50,000 names.
2. Annual Reviews - Annual review articles on lead were prepared for "Engineering & Mining Journal," "Steel," "Industrial & Engineering Chemistry," the "Yearbook" of the American Bureau of Metal Statistics, and "Practical Builder."

3. Addresses - Addresses were presented before the American Institute of Mining, Metallurgical and Petroleum Engineers, the Colorado Mining Association, graduate students of the Newark College of Engineering, the National Association of Corrosion Engineers, the New York Chapter of the Construction Specification Institute, and the New York Section of A.I.M.E.

4. Technical Service - Another technically trained man was added to our staff to provide better technical service to users and potential users of lead and its products.

5. Annual Meeting - The 30th annual meeting of L.I.A. was held in St. Louis in April. As has been customary in recent years, one session was held jointly with the American Zinc Institute.

6. Information Bulletins - These were circulated monthly to members of the Association.

7. Annual Statistical Review - This was printed and circulated to the membership in the Spring.

8. Meetings - Meetings of other organizations in which representatives of L.I.A. participated include A.I.M.E., Atom Fair, A.S.T.M., The Battery Conference sponsored by the Signal Corps., American Ceramic Society, American Mining Congress, American Electrochemical Society, National Metal Congress, Building Research Institute, Porcelain Enamel Institute, Association of American Battery Manufacturers and Atomic Industrial Forum.

9. Solder Handbook - Preparation of this book by our Solder Committee under the chairmanship of a staff member was completed and approved by the American Welding Society for publication in 1959 by that organization. The same staff member, on invitation by that Society, also accepted chairmanship of a committee to revise the soft soldering chapter of the Welding Handbook.

10. Field Work - In addition to technical service work which embraces many areas, we maintained two well-trained men to work in the field in the one case with architects, engineers, builders and plumbers on lead in building construction, and in the other case with highway engineers, oil companies, ship builders and others who use or specify large quantities of metal protective paint.

11. Advertising - This concentrated on lead in metal protective paints and ceramics. Our schedule consisted in the former case of 13 two-color pages in "Engineering News-Record." In ceramics it consisted of 12 black and white pages each in "Bulletin" of the American Ceramic Society, "Ceramic Industry," and "Ceramic 'gc," and six pages in "Ceramic News." The Association had two four-page inserts in Sweet's Catalogs for Architects and Light Construction on lead plumbing and roofing and flashing.

12. Exhibits - L.I.A. exhibited at three national expositions at which a variety of lead products were displayed. These were the Home Builders Show, the Chemical Exposition, and the National Plumbing Exposition.

13. Apprentice Training - L.I.A. supplied a judge and prizes for the international plumbers' apprenticeship contest sponsored annually by the plumbers union and an instructor to train teachers of lead work.

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Annual Report for 1958

14. Publications - In addition to the four issues of "Lead," the following publications were distributed by the Association:

A four-page supplement to "Lead in the Ceramic Industries"  
 "Use Lead to Control Refinery Corrosion," reprint of an article in  
 "Petroleum Refiner" prepared by the Association.  
 Red Lead Technical Letter No. 13, "A Single Red Lead Primer for Rusted,  
 Weathered or New Galvanized Steel."  
 Lead Building Construction Bulletin No. 3, "Lead Laboratory Drainage  
 Systems."

15. Publicity - Feature articles prepared by the Association or its advertising agency appeared in the following publications:

"Air Conditioning, Heating and Ventilating"  
 "National Roofer"  
 "Heating and Plumbing Engineer"  
 "Petroleum Refiner"  
 "Chemical Processing"  
 "Manufacturing and Industrial Engineering"  
 "Building Digest"  
 "Architectural Record"  
 "Southwest Builder and Contractor"  
 "Catholic Building and Maintenance"  
 "American Painter and Decorator"  
 "Concrete Construction"  
 "Plant Engineering"  
 "Civil Engineering"  
 "Science Counselor"  
 "Modern Sanitation and Building Maintenance"  
 "Industrial and Engineering Chemistry"  
 "American Roofer and Siding Contractor"

In addition an 8,000 word article on solder was prepared for publication in a book on "Modern Materials, Advances in Development and Application."

16. Educational Exhibits - Eighteen educational exhibits depicting the use of lead in all forms of ceramics were built and one was presented to each of the leading schools of ceramics in the United States as a permanent display.

17. A.E.C. Clearance - A second member of the staff obtained "Q" clearance providing access to secret atomic energy information.

18. Steel Structures Painting Council - L.I.A. continued support of the Council and was represented on its research committee.

#### RESEARCH

19. Battelle Report - The Technical Steering Committee evaluated the Battelle report of their study of our industry's research needs and recommended a specific research program which was initiated.

20. Skidmore, Owings and Merrill - A survey of lead's use in building construction was made by this leading architectural and engineering firm. Some of its recommendations regarding marketing have been or are being put into effect. Other aspects of the report are being incorporated in the research program.

21. Ceramic Fellowships - Nine graduate research fellowships on various phases of lead in ceramics were awarded for the academic year 1958-59 at seven ceramic schools as follows: Rutgers (2), Illinois (2), Ohio State, Alfred, Penn State, California and Clemson. Subjects of study include ceramic bodies, porcelain enamels for steel and aluminum, glasses for whiteware, sewer pipe, brick and tile, ferroelectrics, glass, and phase diagrams.

22. Cable Sheathing - In May experimental work to produce lead alloy cable sheathing continuously was entered into jointly with the John Robertson Co., extrusion press manufacturer. This project appears to be nearing a successful conclusion.

23. Lead-Cemented Metallic Materials - A six-month contract, which was concluded at the year-end, was made with Battelle Memorial Institute for this approach to the improvement of lead's physical properties. Data developed did not warrant continuation of the contract.

24. Heat Exchanger Studies - These studies are being financed by L.I.A. at New York University and constitute a long-term approach to the use of lead compounds in heating and refrigeration.

25. Lead Alloys - Armour Research Foundation is working on lead alloys under a one-year contract to attempt to develop lead alloys with better physical properties.

26. Reinforced Lead - A similar contract was made with the same organization for a study of lead reinforced with felted metal fibers towards the same objective - improved physicals.

27. Lead Chemicals - Arthur D. Little, Inc., received a one-year contract for a study of the properties and applications of lead compounds with particular emphasis on organo-lead compounds.

28. Lead Chemicals - Negotiations were conducted with Dr. G. J. M. van der Kerk of the Organisch Chemisch Instituut T.N.O. of Utrecht, Holland, for a somewhat similar but more basic study than the one at Little.

29. Other Projects - A number of other projects including studies of sound and vibration attenuation, powder metallurgy, and lead and lead alloy coating were also under investigation.

30. Research Organization - As of September 1, 1958, Dr. Schrade F. Radtke was engaged as Director of Research. He also heads up the research of American Zinc Institute. Dr. Radtke was formerly director of the metallurgical research laboratories of Reynolds Metals Co. at Richmond, Va.

#### HEALTH AND SAFETY

31. Red Lead Paints for Potable Water Tank Interiors - After devoting much time to this problem, it appears that our work to prove the safety of red lead paints for this purpose will be reasonably successful in continuing their use.

32. Warning Labels - Much effort has been expended in seeing that proposed labeling laws are not onerous to our membership and are uniform in their requirements.

33. Threshold Limit for Lead in Air - A 33-1/3 per cent increase in the allowable limit for lead in air, instigated by our Health and Safety Director through an American Standards Association Committee of which he is chairman, received general acceptance as indicated by its publication in a "Hygienic Guide for Lead" issued by the American Industrial Hygiene Association.

34. Lead Hygiene Conference - This Conference, held in Chicago in November, was extremely successful and enlightening, being attended by nearly 150 leading industrial physicians and hygienists.

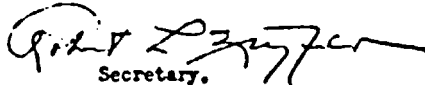
35. Diagnosis of Plumbism - In concert with pediatricians and toxicologists and the National Paint, Varnish and Lacquer Association, a movement has been initiated to establish standardized criteria for diagnosis of plumbism and to seek national acceptance. This is an attempt to eliminate erroneous diagnoses too often made.

36. Health and Safety Bulletins - Four such Bulletins were issued and sent to members during the year.

37. Meetings - Among meetings attended in the interest of our health and safety program were the Academy of Medicine, Congress on Industrial Health of A.M.A., New England Hospital Assembly, a conference on Medical Control of Lead Workers, Industrial Health Conference, American Medical Association, Greater New York Safety Conference, American Industrial Hygiene Association, a conference on Dust Disease, Committee on Toxicology of A.M.A. and the Industrial Hygiene Foundation. Committee work was also important and included, among others, one committee and three subcommittees of American Standards Association.

I would like to conclude this report by thanking the officers and directors, the many active committee members, and the membership at large for their continued support and assistance, and to commend the staff for its loyalty and productivity. Please take the time to look at the literature, publicity clippings and samples on display at the back of this room.

Respectfully submitted,

  
Secretary.

LIA22387

Annual Report  
for the year 1958

The Treasurer respectfully submits the report of the audit of the accounts of the Association as of December 31, 1958, by Haskins & Sells, as follows:

HASKINS & SELLS  
Certified Public Accountants

67 Broad Street  
New York 4

MARCH 11, 1959

### ACCOUNTANTS' OPINION

#### Lead Industries Association:

We have examined the balance sheet of Lead Industries Association as of December 31, 1958 and the related statement of income, expenses, and reserves for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying balance sheet and statement of income, expenses, and reserves present fairly the financial position of the Association at December 31, 1958 and the results of its operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

(Signed) Haskins & Sells

#### LEAD INDUSTRIES ASSOCIATION BALANCE SHEET, DECEMBER 31, 1958

| ASSETS                                                                                    |                     |
|-------------------------------------------------------------------------------------------|---------------------|
| CASH:                                                                                     |                     |
| Pension Fund savings bank deposits .....                                                  | \$109,811.50        |
| Other (including savings bank deposits, \$40,862.77) .....                                | 128,032.94          |
| ACCOUNTS RECEIVABLE .....                                                                 | 536.00              |
| ADVANCES FOR TRAVEL EXPENSES .....                                                        | 2,275.00            |
| AIR TRAVEL DEPOSITS .....                                                                 | 475.00              |
| ADVANCE - American Zinc Institute Inc. ....                                               | 2,339.28            |
| <b>TOTAL .....</b>                                                                        | <b>\$243,429.12</b> |
| LIABILITIES AND RESERVES                                                                  |                     |
| ACCOUNTS PAYABLE .....                                                                    | \$ 1,441.26         |
| RESERVES:                                                                                 |                     |
| Employees Retirement and Pension Plan Fund .....                                          | \$109,811.50        |
| Ordinary Fund .....                                                                       | 87,618.27           |
| Health and Safety Fund .....                                                              | 10,002.27           |
| Metallurgical Products Division Fund .....                                                | 6,622.28            |
| Pigments and Chemicals Division Fund .....                                                | 7,622.70            |
| Industry Development Fund .....                                                           | 60,597.63           |
| Ceramic Fund (including Supplement to "Lead in the Ceramic Industries," \$3,301.00) ..... | 6,323.65            |
| Radiation Shielding Fund .....                                                            | 1,842.12            |
| Expanded Research Program .....                                                           | (17,650.72)         |
| <b>TOTAL .....</b>                                                                        | <b>\$243,429.12</b> |

( ) Denotes red figure

#### NOTES:

- (1) The cost of furniture, fixtures, and equipment has been written off to expense.
- (2) The employees retirement and pension plan fund reserve is based on an actuarial report and covers both past service and current costs.
- (3) Provision for the expanded research program, authorized in 1956, is included in the 1959 budget.

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**LEAD INDUSTRIES ASSOCIATION**  
**STATEMENT OF INCOME, EXPENSES AND RESERVES**  
**FOR THE YEAR ENDED DECEMBER 31, 1954**

|                                                              | TOTAL               | ORDINARY FUND       | HEALTH AND SAFETY FUND | METALLIC LEAD PRODUCTS DIVISION FUND | PIGMENTS AND CHEMICALS DIVISION FUND | INDUSTRY DEVELOPMENT FUND | CERAMIC FUND       | RADIATION SHIELDING FUND | EMPLOYEES RETIREMENT AND PENSION PLAN FUND | EXPANDED RESEARCH PROGRAM |
|--------------------------------------------------------------|---------------------|---------------------|------------------------|--------------------------------------|--------------------------------------|---------------------------|--------------------|--------------------------|--------------------------------------------|---------------------------|
| <b>INCOME:</b>                                               |                     |                     |                        |                                      |                                      |                           |                    |                          |                                            |                           |
| Membership assessments.....                                  | \$370,847.00        | \$46,851.00         |                        |                                      |                                      | \$261,996.00              |                    |                          |                                            |                           |
| Transfers between funds.....                                 | 27,500.00           | (8,140.50)          | \$22,500.00            | \$47,000.00                          | \$47,800.00                          | (157,800.00)              | \$63,000.00        | \$5,000.00               | \$ 8,140.50                                |                           |
| Interest on savings bank deposits.....                       | 4,746.46            | 765.27              | 503.70                 |                                      |                                      |                           |                    |                          |                                            | 3,477.94                  |
| Sales of publications.....                                   | 736.70              | 92.70               |                        | 623.50                               |                                      |                           |                    |                          |                                            |                           |
| <b>Total income.....</b>                                     | <b>\$398,809.66</b> | <b>\$48,568.47</b>  | <b>\$23,003.70</b>     | <b>\$47,623.50</b>                   | <b>\$47,800.00</b>                   | <b>\$124,196.00</b>       | <b>\$63,000.00</b> | <b>\$5,000.00</b>        | <b>\$ 11,618.04</b>                        |                           |
| <b>EXPENSES:</b>                                             |                     |                     |                        |                                      |                                      |                           |                    |                          |                                            |                           |
| Salaries.....                                                | \$113,361.99        | \$50,919.10         | \$17,367.30            | \$13,000.00                          | \$ 8,000.00                          | \$ 10,075.00              | \$ 4,500.00        | \$3,500.00               |                                            | \$ 6,070.59               |
| Social security taxes.....                                   | 1,875.04            | 668.23              | 245.02                 | 281.10                               | 195.60                               | 197.09                    | 128.75             | 99.75                    |                                            |                           |
| Heat and light.....                                          | 14,000.38           | 12,929.02           |                        |                                      |                                      |                           |                    |                          |                                            | 1,071.36                  |
| Office supplies.....                                         | 3,171.97            | 2,067.28            | 604.45                 | 105.75                               | 130.77                               |                           | 72.00              |                          |                                            | 191.72                    |
| Travel.....                                                  | 30,643.41           | 4,600.83            | 3,172.79               | 10,796.29                            | 5,972.60                             | 1,899.69                  | 1,030.69           | 519.02                   |                                            | 2,651.50                  |
| Association dues.....                                        | 855.30              | 211.00              | 227.50                 | 276.00                               | 1.00                                 |                           | 50.00              | 10.00                    |                                            | 79.80                     |
| Entertainment and luncheons.....                             | 2,754.57            | 551.24              | 362.55                 | 1,193.26                             | 258.36                               | 219.96                    | 108.23             | 40.95                    |                                            |                           |
| Meetings (list of fees \$1,645.00).....                      | 2,918.01            | 1,815.65            | 4.00                   | 674.82                               | 232.34                               | 35.00                     | 121.70             | 85.00                    |                                            |                           |
| Telephone and telegraph.....                                 | 2,550.79            | 1,628.24            | 306.78                 | 302.46                               | 63.88                                |                           | 168.02             |                          |                                            | 81.41                     |
| Books and subscriptions.....                                 | 1,174.48            | 212.91              | 560.39                 | 247.65                               | 63.26                                |                           | 39.87              | 37.30                    |                                            | 14.00                     |
| Group life insurance.....                                    | 375.60              | 375.60              |                        |                                      |                                      |                           |                    |                          |                                            |                           |
| Printing - net.....                                          | 1,347.67            | 857.21              | 6.39                   | 425.50                               |                                      |                           |                    | 60.77                    |                                            |                           |
| Mailing.....                                                 | 3,896.66            | 2,808.93            | 357.49                 | 294.37                               | 90.12                                |                           | 118.53             | 92.60                    |                                            | 34.62                     |
| Cost of publications:                                        |                     |                     |                        |                                      |                                      |                           |                    |                          |                                            |                           |
| "Lead".....                                                  | 15,347.29           |                     |                        | 3,500.00                             | 3,700.00                             | 7,347.29                  | 1,200.00           |                          |                                            |                           |
| "Lead in the Ceramic Industries".....                        | 65.61               |                     |                        |                                      |                                      |                           | 765.61             |                          |                                            |                           |
| "Lead in the Ceramic Industries" - Supplement.....           | 907.70              |                     |                        |                                      |                                      |                           | 907.70             |                          |                                            |                           |
| Building construction bulletin.....                          | 907.33              |                     |                        | 907.33                               |                                      |                           |                    |                          |                                            |                           |
| Red lead technical letters.....                              | 1,038.89            |                     |                        |                                      | 1,038.89                             |                           |                    |                          |                                            |                           |
| Sweet's catalogs.....                                        | 7,002.59            |                     |                        | 7,002.59                             |                                      |                           |                    |                          |                                            |                           |
| Advertising space.....                                       | 21,975.79           |                     |                        |                                      | 12,641.33                            |                           | 9,334.46           |                          |                                            |                           |
| Advertising production.....                                  | 4,178.97            |                     |                        |                                      | 1,640.91                             |                           | 2,538.06           |                          |                                            |                           |
| Publicity.....                                               | 6,733.65            | 107.16              |                        | 2,512.44                             | 2,045.21                             |                           | 2,068.84           |                          |                                            |                           |
| Battelle research - lead - permitted metallic materials..... | 12,000.00           |                     |                        |                                      |                                      | 12,000.00                 |                    |                          |                                            |                           |
| Armour research - study of lead - take analysis.....         | 10,257.83           |                     |                        |                                      |                                      | 10,257.83                 |                    |                          |                                            |                           |
| Marine market survey.....                                    | 900.00              |                     |                        |                                      | 900.00                               |                           |                    |                          |                                            |                           |
| Salisbury-Cvings & Merrill - survey.....                     | 17,915.85           |                     |                        |                                      |                                      | 17,915.85                 |                    |                          |                                            |                           |
| John Robertson Co. - cable research.....                     | 12,000.00           |                     |                        |                                      |                                      | 12,000.00                 |                    |                          |                                            |                           |
| Research Fellowships.....                                    | 24,400.00           |                     |                        |                                      |                                      | 24,400.00                 |                    |                          |                                            |                           |
| Conventions and exhibits.....                                | 14,644.33           |                     |                        | 10,579.14                            |                                      | 4,065.19                  | 3,663.52           |                          |                                            |                           |
| Furniture and fixtures.....                                  | 2,485.03            | 1,753.78            |                        |                                      |                                      |                           |                    |                          |                                            | 731.25                    |
| Research and research materials.....                         | 1,800.36            |                     | 671.60                 |                                      | 1,208.76                             |                           |                    |                          |                                            |                           |
| Consultation fees.....                                       | 2,841.94            |                     |                        | 150.00                               | 1,591.00                             |                           | 1,700.00           |                          |                                            | 6,416.96                  |
| Lead hygiene conference.....                                 | 4,906.52            |                     | 4,466.52               |                                      |                                      |                           |                    |                          |                                            |                           |
| Miscellaneous.....                                           | 5,780.11            | 2,423.37            | 740.97                 | 754.71                               | 22.99                                | 1,300.97                  | 140.56             | 34.73                    |                                            | 757.51                    |
| <b>Expenses - net.....</b>                                   | <b>\$249,419.01</b> | <b>\$100,948.43</b> | <b>\$24,000.00</b>     | <b>\$13,000.00</b>                   | <b>\$ 8,000.00</b>                   | <b>\$ 10,075.00</b>       | <b>\$ 4,500.00</b> | <b>\$3,500.00</b>        | <b>\$ 11,618.04</b>                        | <b>\$17,650.72</b>        |
| <b>EXCESS OF INCOME (EXPENSES) FOR THE YEAR.....</b>         | <b>\$149,390.65</b> | <b>\$147,620.04</b> | <b>\$19,003.70</b>     | <b>\$34,623.50</b>                   | <b>\$39,800.00</b>                   | <b>\$114,121.00</b>       | <b>\$58,500.00</b> | <b>\$1,500.00</b>        | <b>\$ 0.00</b>                             | <b>\$0.00</b>             |
| <b>RESERVE, JANUARY 1, 1954.....</b>                         | <b>207,874.24</b>   | <b>50,919.10</b>    | <b>22,500.00</b>       | <b>12,200.00</b>                     | <b>4,324.72</b>                      | <b>12,500.00</b>          | <b>(1,020.61)</b>  | <b>921.70</b>            | <b>8,140.50</b>                            | <b>3,477.94</b>           |
| <b>RESERVE, DECEMBER 31, 1954.....</b>                       | <b>\$257,264.89</b> | <b>\$101,539.14</b> | <b>\$41,503.70</b>     | <b>\$46,823.50</b>                   | <b>\$44,124.72</b>                   | <b>\$126,621.00</b>       | <b>\$57,479.39</b> | <b>\$2,421.70</b>        | <b>\$ 8,140.50</b>                         | <b>\$7,955.88</b>         |

( ) Denotes red figure.

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MEMBERS OF THE LEAD INDUSTRIES ASSOCIATION

|                                                           |                                 |                          |
|-----------------------------------------------------------|---------------------------------|--------------------------|
| Allied Smelting Corp.                                     | 5116 W. Lincoln Ave.            | Milwaukee 11, Wisc.      |
| Alpha Metals, Inc.                                        | Box 34, Bergen Station          | Jersey City 4, N.J.      |
| American Metal Climax, Inc.                               | 61 Broadway                     | New York 6, N.Y.         |
| American Smelting & Refining Co.                          | 120 Broadway                    | New York 5, N.Y.         |
| American Zinc, Lead & Smelting Co.                        | Paul Brown Bldg.                | St. Louis 1, Mo.         |
| The Anaconda Co.                                          | 25 Broadway                     | New York 4, N.Y.         |
| The O.A. Avril Co., Lead Products Div.                    | Langdon Farm Rd. & Seymour Ave. | Cincinnati 12, Ohio      |
| Barr & Co., Inc.                                          | Ashland & Lewis Sts.            | Philadelphia 24, Pa.     |
| *Broken Hill Associated Smelters Proprietary Ltd.         | Collins House                   | Melbourne 01, Aust.      |
| *Broken Hill South, Ltd.                                  | Box 194C, GPO                   | Melbourne, Australia     |
| The Bunker Hill Co.                                       | 660 Market St.                  | San Francisco 4, Cal.    |
| Cambridge Smelting Co.                                    | 100 Pacific St.                 | Cambridge, Mass.         |
| Cerro de Pasco Sales Corp.                                | 300 Park Ave.                   | New York 22, N.Y.        |
| Circle Wire & Cable Co.                                   | 5500 Maspeth Ave.               | Maspeth, L.I., N.Y.      |
| *The Consolidated Mining and Smelting Co. of Canada, Ltd. | Box 1030                        |                          |
| Consolidated Smelting Corp.                               | Place D'Armes                   | Montreal 1, Canada       |
| Day Mines, Inc.                                           | 4700 E. Nevada                  | Detroit 34, Mich.        |
| *Delco-Remy Div., General Motors Corp.                    | 2401 Columbus Ave.              | Wallace, Idaho           |
| Lickson Weatherproof Nail Co.                             | Box 590                         | Anderson, Ind.           |
|                                                           |                                 | Evanston 4, Ill.         |
| The Eagle-Picher Co.                                      | American Bldg.                  | Cincinnati 1, Ohio       |
| The Edlow Lead Co.                                        | P. O. Box 1936                  | Columbus 16, Ohio        |
| The Electric Storage Battery Co.                          | Box 6109                        | Philadelphia 1, Pa.      |
| Ethyl Corp.                                               | 100 Park Ave.                   | New York 17, N.Y.        |
| Evans Lead Div., National Lead Co.                        | Box 1467                        | Charleston 25, W.Va.     |
| Federated Metals Div., American Smelting & Refining Co.   | 120 Broadway                    | New York 5, N.Y.         |
| Karen Ferer and Sons Co.                                  | 101-19 S. 8th St.               | Omaha 8, Neb.            |
| *The Firestone Tire & Rubber Co.                          | Box F, Firestone Pk.            | Akron 17, Ohio           |
| The Flexa Lead Co., Inc.                                  | 52-01 - 31st Pl.                | Long Island City 1, N.Y. |
| Gardiner Metal Co.                                        | 4820 S. Campbell Ave.           | Chicago 32, Ill.         |
| Glaser Lead Co., Inc.                                     | 31 Wyckoff Ave.                 | Brooklyn 27, N.Y.        |
| Goldsmith Bros. Smelting & Refining Co.                   | 111 N. Wabash Ave.              | Chicago 2, Ill.          |
| Hammond Lead Products, Inc.                               | 5231 Hohman Ave.                | Hammond, Ind.            |
| Hecia Mining Co.                                          |                                 | Wallace, Idaho           |

\*Associate Member

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|                                                                    |                       |                          |
|--------------------------------------------------------------------|-----------------------|--------------------------|
| Imperial Type Metal Co.                                            | 3400 Aramingo Ave.    | Philadelphia 34, Pa.     |
| International Smelting & Refining Co. (Anacosta Sales Co., Agents) | 25 Broadway           | New York 4, N.Y.         |
| Knapp Mills, Inc.                                                  | 23-15 Borden Ave.     | Long Island City 1, N.Y. |
| Lead Products Co. Inc.                                             | Box 1341              | Houston 1, Tex.          |
| Lucky Friday Silver-Lead Mines Co.                                 | Box 1131              | Wallace, Idaho           |
| John R. MacGregor Lead Co.                                         | 4520 W. 15 St.        | Chicago 23, Ill.         |
| Mike Horse Mining & Milling Co.                                    | 620 Power Bldg.       | Helena, Mont.            |
| The Murdock Lead Products Co.                                      | Box 5298              | Dallas 2, Tex.           |
| National Lead Co.                                                  | 111 Broadway          | New York 6, N.Y.         |
| Newmont Mining Corp.                                               | 300 Park Ave.         | New York 22, N.Y.        |
| New Park Mining Co.                                                |                       | Keetley, Utah            |
| *North Broken Hill, Ltd.                                           | Box 1903R, GPO        | Melbourne, Australia     |
| The Okonite Co.                                                    |                       | Passaic, N. J.           |
| Olin Mathieson Chemical Corp.                                      |                       | East Alton, Ill.         |
| Fend Oreille Mines & Metals Co.                                    | Old Natl. Bk. Bldg.   | Spokane 8, Wash.         |
| Phelps Dodge Copper Products Corp.                                 | 300 Park Ave.         | New York 22, N.Y.        |
| Revere Copper & Brass Inc., Foil Div.                              | 196 Diamond St.       | Brooklyn 22, N.Y.        |
| River Smelting & Refining Co.                                      | Box 5755              | Cleveland 1, Ohio        |
| Rochester Lead Works, Inc.                                         | 380 Exchange St.      | Rochester 8, N.Y.        |
| John A. Roebling's Sons Corp.                                      | 640 S. Broad St.      | Trenton 2, N. J.         |
| St. Joseph Lead Co.                                                | 250 Park Ave.         | New York 17, N.Y.        |
| Shattuck Denn Mining Corp.                                         | 120 Broadway          | New York 5, N.Y.         |
| *Societe Miniere et Metallurgique de Penarroya                     | 12 Place Vendome      | Paris 1, France          |
| Sunshine Mining Co.                                                | 115 N. Second St.     | Yakima, Wash.            |
| United Park City Mines Co.                                         | Continental Bk. Bldg. | Salt Lake City 1, Utah   |
| United States Smelting Refining and Mining Co.                     | 62 William St.        | New York 5, N.Y.         |
| The Victory White Metal Co.                                        | 6100 Roland Ave.      | Cleveland 27, Ohio       |
| Hyman Wiener & Sons                                                | 5300 Hatcher St.      | Richmond 5, Va.          |
| Vulcan Lead Products Co.                                           | 1545 W. Pierce St.    | Milwaukee 4, Wis.        |
| Western Lead Products Co.                                          | 4530 E. Pacific Way   | Los Angeles 22, Cal.     |
| White Metal Rolling & Stamping Corp.                               | 80 Moultrie St.       | Brooklyn 22, N.Y.        |
| *The Zinc Corp. Ltd.                                               | Box 384D, GPO         | Melbourne, Australia     |

\*Associate Member