

② Southeastern Missouri - Elmer A. Jones, Assistant General Manager,
St. Joseph Lead Company, Bonne Terre, Missouri.

"Total production of pig lead in Southeast Missouri during 1951 was slightly less than 1950. Indications are that the total in 1952 may be about the same as 1951. By the middle of this year, St. Joseph Lead Company's Hayden Creek Mine should be producing and by the end of 1953, their Indian Creek property should be ready to produce. No serious subtraction of present producers seems to be imminent so that long term prospects look good for at least keeping up with present day production. There is every indication that prospecting will continue on about the present scale."

Peru - George P. Sawyer, Vice President, Cerro De Pasco Corporation,
New York, N. Y.

② "Over a period of about twenty-five years the lead production of Peru has expanded from a small quantity of lead ore, mined chiefly for silver values, to a mine production which in 1952 is expected to equal about 80,000 tons of recoverable lead.

"About 65 percent of this will be produced in the form of refined lead by the Cerro de Pasco Corporation which operates the only lead smelter and refinery in Peru. Improvements now under way will increase the capacity of this plant to about 75,000 tons annually. Cerro's product is one of the purest leads produced in the world.

"The lead production of Peru is increasing and in the late 1950's it is expected that annual mine production will reach a figure equivalent to about 100,000 tons of recoverable lead."

② "Complete paper available on request.

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Foreign Operations of American Smelting & Refining Company - L. M. Hart,
Resident Engineer, American Smelting and Refining Company, New York, N. Y.

"New lead mine developments by the American Smelting and Refining Company in foreign fields support the general conclusion that lead output from Company mining properties will be maintained at current levels for a number of years. This applies to Asarco's interests in the three principal lead producing countries of the world, namely, at Mt. Isa in Australia, at Buchans in Newfoundland (Canada), and generally in Mexico.

"Among the new developments, the Nuestra Senora Mine and the old Plomosas Mine in Sinaloa, Mexico, will probably be brought into production within about two years. The Protheroe Mine in West Australia, a new but small unit, was recently brought into production, and this summer it is expected that production will begin at Chilote in Peru. In the more distant future, provided exploration results continue to be encouraging, another operation may be started in Nigeria."

Mexico and Southwest Africa - Thomas G. Moore, Manager, Geological and Exploration Department, The American Metal Company, Ltd., New York, N. Y.

Canada - F. L. Hallam, Assistant Comptroller, Consolidated Mining and Smelting Company of Canada, Ltd., Trail, B.C., Canada.

Argentina and North Africa - Rene Mochin, Vice President, St. Joseph Lead Company, New York, N. Y.

"Mining in Argentina has, in recent years, been greatly handicapped by exchange restrictions, very low unrealistic ceiling prices, inadequate transportation facilities, extremely high "fringe" labor costs, and a generally unfavorable governmental climate.

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"This has been particularly true in the case of locally produced pig lead, the controlled price of which is only three cents per pound at black market rates.

"The country is, however, basically rich in its natural resources, people and climatic conditions, and could quickly recapture its former enviable economic position given proper governmental encouragement.

"In contrast, one of the brightest spots in mining since the war has been in eastern Morocco. The Societe des Mines de Zellidja increased production of lead and zinc some twelve-fold; likewise Royale Asturienne has considerably expanded output and Nord Africaine du Plomb will contribute a sizable production before the end of this year.

"If political unrest does not interfere, this area promises to be one of the major lead and zinc producers in the world."

The Lead Industry in Australia - Frank A. Green, Works Manager, The Broken Hill Associated Smelters Proprietary Limited, Port Pirie, Australia.

The Secondary Lead Situation - P. W. Ruppert, Assistant Manager, Metal Department, National Lead Company, New York, N. Y.

General Chairman of the sessions on lead consumption was J. A. Martino, President, National Lead Company, New York, N. Y.

The Lead Market - Dr. Joseph Zimmerman, Editor-in-Chief, Daily Metal Reporter, New York, N. Y.

Preliminary to discussing the important lead consuming industries, Dr. Zimmerman reviewed significant developments in the lead market over the past year.

"The time has come for the N.P.A. and the O.P.S. to scrap all regulations and price controls relating to lead and give the industry back its complete freedom," said Dr. Zimmerman.

"I have heard it said in Washington that during a national emergency, controls are a necessary evil. I am convinced of the evil but I was never sold on the necessity," he declared.

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The plan of the D.M.P.A. to acquire lead for civilian and defense use in case of another shortage was criticized by Dr. Zimmerman, "even though the plan provides that in case the shortage fails to materialize, the lead is to be transferred to the national stockpile." Such a plan he said would only serve to prolong government control over the industry when lead no longer needs to be controlled.

The lead shortages that gave rise to the controls have disappeared, he said, and the industry now faces a surplus. Instead of trying to build up a big reserve of lead as they did last year, said Dr. Zimmerman, consumers are most likely to let the producers carry the inventory bag for them.

Were it not for the fact that the suspended import duties on lead are to be re-imposed should the domestic average price drop below 18 cents a pound, the market would probably not be as steady as it is, said Dr. Zimmerman.

Leaders in each of the lead consuming fields discussed the outlook for their own products including some new developments under the chairmanship of J. P. Ruth, Vice President, The Glidden Company, Cleveland, Ohio.

Storage Batteries - R. L. Somerville, Assistant General Sales Manager, Electric Storage Battery Company, Philadelphia, Pennsylvania, and President, Association of American Battery Manufacturers.

Tetraethyl Lead - J. A. Costello, Vice President, Ethyl Corporation, New York, N. Y.

Communication Cable - T. O. Stover, Purchasing Agent, Western Electric Company, New York, N. Y.

"The unprecedented demand for telephone cable to satisfy expanding defense and civilian telephone service requirements has imposed a tremendous problem of overcoming shortages in lead and copper. New developments and substitutions have provided considerable relief. To supplement lead jacketed cable, two new types of telephone cable have been introduced; namely, Alpeth and Stalpath, both of

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which utilize poly ethylene plastic sheathing. With regard to the copper shortage, the Western Electric Company recently has been experimenting with aluminum conductors and field tests are now in progress. It is hoped that all cable raw materials will be in more balanced supply in the early future, and also that those materials best suited to cable manufacture ultimately may be selected and used in accordance with their relative suitability and cost. Consequently the knowledge gained from these developments and substitutions should provide the communications industry with more flexibility leading to greater operating and economic advantages."

Ammunition - J. J. Sharkey, Director of Purchases, Olin Industries, Inc., East Alton, Illinois.

"Lead used in the ammunition industry in 1951 totaled 40,185 tons as compared to 38,438 tons in the previous year.

"On a percentage basis the use of lead in the small arms ammunition industry is relatively small, but it may be of some interest to note the average annual consumption of 33,100 tons in the pre-war years 1935 to 1938 inclusive represented approximately 5.52 percent of total consumption, while the annual average use of 34,837 tons in the post-war years 1946 to 1951 inclusive represents only about 3.16 percent of the total consumption. These percentage figures, of course, indicate an increase in consumption by other industries during the post-war years.

"The annual average use in the industry during the war years 1939 to 1945 inclusive was 76,686 tons, or about 7.85 percent of the total consumption in those years. The peak consumption was in the war year of 1943, the total being 178,000 tons or about 16 percent of the total consumption in that year.

"Consumption in 1952 will be influenced by government controls, game laws, and price levels.

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"The Defense Program will probably not require as much lead for small arms ammunition as was used during World War II years because of the changes in types of such ammunition."

Solder - J. A. Stone, Executive Partner, Division Lead Company, Chicago, Illinois.

Bearings - M. J. Turner, Vice President, Magnus Metal Corporation, Chicago, Illinois.

"The railway journal bearing industry constitutes one of the largest volume markets for lead. The lead content of journal bearings purchased or manufactured by American railroads in 1951 exceeded 27,000 tons. While strong efforts are being made by the roller bearing interests to supplant the lead-base solid type bearings on freight cars, operational and economical advantages of the latter actually make for its superior adaptability to rail freight service as practiced in this country."

Type Metal - Lewis S. Somers, Executive Vice President, Imperial Type Metal Company, Philadelphia, Pennsylvania.

"Due to a large number of technological developments in the graphic arts industry, the use of type metal is rapidly becoming obsolete. Photographic composition will soon replace slug and type casting equipment and rapid, wholly mechanical etching of zinc, aluminum and magnesium will replace the use of stereo-type. In this field as well as that of electrotyping, plastics are rapidly taking the place of lead-base alloys."

House Paints - John R. McGregor, President, John R. MacGregor Lead Company, Chicago, Illinois.

Oxides - William Wilke III, Vice President, Hammond Lead Products, Inc., Hammond, Indiana.

"Although the bulk of the 177,000 tons of lead oxides shipped in 1951 went to the battery and ceramic industries, about one-third or 57,000 tons of lead oxides went into paints, chrome colors, oil refining, insecticides and miscellaneous other industries.

"Complete paper available on request."
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"The lack of any unusual developments in the use of lead oxides in these industries would indicate that 1952 shipments will probably follow the general economic trend. However, the recent critical lead shortage has prompted research to find lead substitutes and intensified economy of usage. The effect this trend will have on the market is not yet known.

"One manner in which this market shrinkage can be minimized is the revival of consumer confidence in the reliability of the supply of lead."

Chemical Construction - J. D. Magee, General Manager, Lone Star Lead Construction Company, Houston, Texas.

"It is essential that those selling lead for use as a material of chemical construction reach all potential users of such equipment with information regarding the proper use of lead and its corrosion resistant qualities; information concerning where it should and should not be used," declared Mr. Magee. "For the best interests of our industry we should advise our customers against using lead when it will not give satisfactory service without, however, neglecting the many other installations where lead is very superior to other materials of construction." Mr. Magee ^{said} that "Lead construction prices are still in line with more competitive products and even cheaper than some. In this case our biggest selling point is the low maintenance cost and the high salvage value of lead." "The use of lead in the chemical industry has been steadily increasing since 1940," declared Mr. Magee. "This is due largely to the tremendous expansion of the chemical industry and the very good work being done by the Lead Industries Association. However, we cannot leave it to chance and the work of one organization. It is going to take the concerted efforts of all of us who are interested in seeing the use of lead expand in the chemical industry."

Plumbing - J. J. Flemm, President, The Flemm Lead Company, Inc., Long Island City, N. Y.

"Complete paper available on request.

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Ceramics - J. S. Mordyke, The Eagle-Picher Sales Company, Pittsburgh, Pennsylvania.

"Periodic shortage of lead during recent years has forced many ceramic consumers of lead chemicals and pigments to develop means for use of substitute materials and thus reduce their dependency on lead. Because some of these substitutions will be permanent, consumption of lead by the ceramic industry is not expected to be greater in 1952 than last year, even though the supply is greatly improved. While the immediate outlook is not one of great optimism, the healthy growth of all branches of the ceramic industry along with new developments indicate an improving picture during the years ahead."

Stabilizers - Henry J. Whitson, Assistant to the Sales Manager, National Lead Company, New York, N. Y.

"The use of lead in the form of lead chemicals for the stabilization of polyvinyl chloride plastics is still growing along with the whole vinyl industry. While lead salts will probably continue to represent the most important vinyl stabilizers from a volume standpoint, other metallic salts especially those of cadmium are making some inroads. It is estimated that about 4,000 tons of lead per year are used for this purpose."

The Treatment of Lead Poisoning - Some New Concepts - Elston L. Balknap, M.D., Medical Director, Globe-Union, Inc., Milwaukee, Wisconsin.

Guest speaker at the luncheon was Stanley A. Easton, President, Barker Hill and Sullivan Mining and Concentrating Company, Kellogg, Idaho, who described his experiences of more than one-half a century of lead mining in the Northwest.

*Complete paper available on request.

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