

LEAD INDUSTRIES ASSOCIATION

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FOREIGN LEAD MINE DEVELOPMENT AND RESOURCES OF THE AMERICAN SMELTING AND REFINING COMPANY

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I have been asked to review new mine developments and resources of lead ore in which the American Smelting and Refining Company is interested in Foreign countries. New mine developments are fairly easy to describe, but the question of future resources involves a wide range of guesses and assumptions. Therefore, my comments with reference to resources are based upon a broad assumption that at least an equally favorable economic and political climate will prevail for the time specified as that which exists today. I have not prepared any revised estimate of resources to apply in the event that variations in metal prices, production costs, or other factors change the profit margin, but it is perhaps axiomatic that in the over-all picture, at least, the production rate as well as the life of a resource increases or decreases with the profit margin.

In general, the American Smelting and Refining Co. has continued to be actively engaged in exploration work in both domestic and foreign fields during recent years, and while some of the results of this program may be known to you, perhaps the more recent developments may not be. Except at the Buchans Mine, in Newfoundland, no previously unknown lead deposits of major importance have been found recently by us, but our exploration effort in both domestic and foreign lands has been successful in the discovery and favorable development of several medium-sized ore deposits, some of which are now being prepared for production.

Included in this group are two zinc-lead-silver properties in Mexico. Operations at one of these, the Nuestra Señora Mine, at Cosala¹, Sinaloa, may start in 1953. When this mine attains its full projected production rate, its output should approximate 5500 short tons of lead annually. A second property, the old Plomosas Mine, near Rosario, also in Sinaloa, is being actively explored and developed with a possibility that production will be started in 1954. An estimated normal annual rate of 6,000 short tons may be attained by 1955.

Particularly with the support of the two projects just mentioned, the combined operations of all properties in which American Smelting And Refining Company is interested in Mexico, are expected to continue to produce lead for the next few years at a rate equal to current production.

At the Buchans Mine, in Newfoundland, a small but steadily increasing part of the current production is being derived from the above mentioned recently discovered ore body. This discovery has been described in several published articles and was particularly referred to by Mr. R. F. O'Driscoll, when he addressed this Association in 1949. This ore body has only recently been made accessible



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by completion of the new Rothermere Shaft with connections on the 3rd to 9th levels, inclusive. Some of this work directed toward preparation of the ore body for production has disclosed additional ore not included in earlier reserve estimates which were based solely upon diamond drill results. It is now considered probable that this ore body will support Buchans lead production at the current rate of approximately 19,000 short tons per year for more than ten years.

It is interesting to note that another entirely new ore body is now thought to exist down dip below the important zone just described. This possibility is based upon results obtained in several drill holes 2,500 or more feet in depth. Because of the great cost of further prospect drilling to these depths, the Rothermere Shaft has been sunk to a depth of 2,530 feet and a station established at the 2,325 foot level. From this, a long prospect heading will be continued for a total distance of about 3500 feet to provide a more convenient base from which further exploration of this promising zone may be carried forward by drilling or other means.

For several years, American Smelting And Refining Company has been conducting an exploration program upon a Crown Land Concession, including 6,250 sq. miles in addition to the original A.M.D. Lease, all in the vicinity of Buchans. Although this work has been in progress for several years, last summer 550 sq. miles were explored by five geological field parties. This work has not disclosed any lead showings to date, but the program will be resumed this summer season and continued thereafter until the entire concession has been investigated.

In Australia, Mt. Isa Mines Ltd. has taken an exploration concession covering approximately 76.5 sq. miles, situated north of the Mt. Isa Mine. Within this area at Handlebar Hill, a promising lead bearing zone, geologically similar to the Mt. Isa ore bodies, has been disclosed in preliminary drilling, but, because of incomplete testing, tonnage estimates have not been made to date.

The Mt. Isa Mine, itself, is currently producing about 39,200 short tons of lead per year. The mine is known to have very substantial proven reserves of lead-zinc ore, in addition to copper ore bodies which are generally separated from the lead-zinc ore bodies.

In Western Australia, at the Protheroe Mine, production of lead was begun during the year at a rate of about 4,500 short tons per year. This is a new undertaking on a small but high grade deposit.

In Peru, mill construction at the Chilote Mine will be completed late in the second quarter of this year. Production is expected to be at a rate of 3,600 short tons of lead per year. This is a small zinc-lead-silver property, which was acquired after examination in 1929.

In Nigeria, near Abakaliki, American Smelting And Refining Company has taken over the exploration and development of properties held by Mines Development Syndicate (West Africa) Limited. Exploration to date has been largely by diamond drilling, although work through two or more shafts has been started. The lead-zinc ore occurs in lenses along strong shear zones in shaley rocks.

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A Special Exclusive Prospecting License covering an area exceeding 400 sq. miles in area has been granted to Mines Development Syndicate and to date only a part of this has been explored. This special license applies to a selected portion of a 1200 sq. mile general prospecting concession. The final selection of the special license area was made after a preliminary geological investigation conducted by the Syndicate during a period of about five years. If developments continue to be favorable, the property will probably be put on an operating basis in the near future. While no final plans have been formulated, preliminary thinking has been in terms of a plant which may produce at a rate of 15,000 short tons of lead annually.

Besides the extensive exploration and development work in progress within the United States, The American Smelting and Refining Company is conducting a considerable amount of exploration work on other properties in various other foreign countries, but it is too early to make any predictions now as to the ultimate outcome of any of this work.