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Statistics

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CANADA
DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS

SUMMARY REVIEW
OF
THE SILVER MINING INDUSTRY IN CANADA, 1931
INCLUDING
THE SILVER - COBALT - ARSENIC MINING INDUSTRY
AND
THE SILVER - LEAD - ZINC MINING INDUSTRY

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DOMINION BUREAU OF STATISTICS - CANADA

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[illegible]

THE SILVER MINING INDUSTRY IN CANADA, 1931.

- (a) The Silver-Cobalt Mining Industry.
(b) The Silver-Lead-Zinc Mining Industry.

Definition of the Industry - Silver mining in Canada is not a distinct mining industry as silver generally occurs with other metals; with lead and zinc, with cobalt, nickel and arsenic; with lode and placer gold; in copper-gold ores, and in nickel-copper ores. Silver in lead and zinc ores and in cobalt-nickel-arsenic ores is usually a predominating factor in determining the marketability of such ores. Silver-lead-zinc mining is a very important industry in British Columbia, the Yukon Territory, and to a less extent in Ontario and Quebec, whereas silver-cobalt mining in Canada is restricted to Ontario.

Production of Silver, Lead, Zinc, Cobalt and Arsenic - In 1931 the total production of these metals from all Canadian sources was as follows: silver, 20,562,247 fine ounces valued at \$6,141,943; lead, 267,342,482 pounds worth \$7,260,183; zinc, 237,245,451 pounds worth \$6,059,249; cobalt, 521,051 pounds worth \$651,179; and arsenic worth \$135,170. The arsenic was recovered as white arsenic at the Deloro smelter in Ontario from silver-cobalt ores mined in Northern Ontario.

Among the metals in Canada, lead held fourth place in 1951, silver fifth place, and zinc, sixth place in point of value. In 1951 Canada ranked third among the world's silver producing countries; fourth among those producing lead, and fourth in smelter output of zinc. The Belgian Congo and Canada are the two greatest cobalt producing countries, the production from the former has, during recent years, considerably surpassed that of the Dominion.

Producers of both silver-lead and cobalt-silver ores in Canada during 1931 suffered considerably through the almost unprecedented decline in the price of metals, and it is indeed of great credit to the Canadian miners of these ores that operations were so successfully conducted under such adverse conditions as existed throughout the metal markets of the world.

PRICES, ^(xx) 1929 - 1931

| | <u>1 9 2 9</u> | <u>1 9 3 0</u> | <u>1 9 3 1</u> |
|-------------------------|----------------|----------------|----------------|
| Cobalt | \$ 2.52 | \$ 2.50 | \$ 2.50 |
| Cobalt oxide | 2.10 | 2.00 | 1.75 |
| Lead (London) | 0.05054 | 0.03927 | 0.027101(x) |
| Silver (New York) | 0.52993 | 0.38154 | 0.2987(x) |
| Zinc (London) | 0.05387 | 0.03600 | 0.02554(x) |

(x) In Canadian funds.

(xx) Engineering and Mining Journal.

THE SILVER-COBALT MINING INDUSTRY

The principal producing mining companies in this industry were M. J. O'Brien Ltd., Nipissing Mining Co. Ltd., The Mining Corporation of Canada, Ltd., Keeley Silver Mines, and Castle Tretheway Mines Ltd. Properties were operated in South Lorrain, Cobalt and Gowganda. Some of the older properties in Coleman township were under lease to small operators and yielded various amounts of shipping ore.

Nipissing Mines report that practically all the known ore on the property was mined. An exploration shaft is, however, being sunk on Lot R.L. 402; now that the life of this famous mine is practically over, it is worthy to note that the Nipissing stockholders received from 1906 to 1931 inclusive, thirty million dollars or five times the capital stock of the company. The average price of silver during approximately the whole life of the company or from 1905 to 1931 was 63.402 cents, the high yearly average was 111.121 cents in 1919 and the low was 28.701 in 1931.

The Mining Corporation of Canada state that mining operations at South Lorrain have been discontinued. At Cobalt there still remains a limited tonnage of high-grade silver ore and the company anticipate that profitable operations can be maintained for several months. The mines of the Corporation have produced to December 31, 1931 - 49,019,150 ounces of silver. The O'Brien mine in Cobalt, together with the Miller-Lake O'Brien in Gowganda, continue to mine and ship high grade silver-cobalt ores.

A new cobalt-bearing deposit was investigated at Werner Lake, 40 miles north of Minaki, Ontario, by Kenora Prospectors and Miners, Ltd.; arrangements were made for the testing of these ores as to their economic value. The Deloro Smelting and Refining Co., Deloro, Ont., is, at present, the only company in Canada specializing in the treatment of cobalt-silver arsenic ores.

PRINCIPAL STATISTICS OF THE SILVER-COBALT MINING INDUSTRY IN CANADA, 1927 - 1931.

| Years | Number of active opera- tors | Number of opera- ting mines | Capital employed | Number of em- ployees | Salaries and wages | Cost of fuel and elec- tricity | Net value of bullion, ore, concentrates and residues sold |
|----------|--|---|---------------------|-----------------------------|--------------------------|---|---|
| | | | \$ | | \$ | \$ | \$ |
| 1927 ... | 23 | 26 | 30,123,645 | 1,458 | 2,178,163 | 472,548 | 4,760,546 |
| 1928 ... | 15 | 19 | 22,027,683 | 1,166 | 1,809,466 | 430,683 | 3,938,884 |
| 1929 ... | 27 | 32 | 15,820,435 | 1,149 | 1,532,333 | 407,952 | 3,918,316 |
| 1930 ... | 23 | 28 | 12,268,322 | 1,043 | 1,488,591 | 352,844 | 3,637,181 |
| 1931 ... | 22 | 26 | 9,352,520 | 786 | 1,149,689 | 227,467 | 1,925,593 |

STATISTICS OF THE SILVER-COBALT MINES AND MILL OPERATIONS IN CANADA, 1930 and 1931.

| | 1930 | 1931 |
|--|--------------------|--------------------|
| Number of mines in operation (x) | 28 | 26 |
| Ore mined | 223,432 tons | 200,729 tons |
| Ores treated | 202,565 tons | 97,747 tons |
| Tailings treated | 4 tons | ... |
| Concentrates produced | 3,392 tons | 6,535 tons |
| Quantity of material cyanided | 40,406 tons | 39,173 tons |
| Bullion recovered | 1,544,766 fine oz. | 1,025,015 fine oz. |
| Silver recovered by direct smelting | ... | ... |
| Bullion sold | 1,821,643 fine oz. | 201,662 fine oz. |
| Net value of bullion, ore, concentrates and residues sold | \$ 3,637,181 | \$ 1,925,593 |

(x) All plants of this industry are located in Ontario

PRODUCTION IN CANADA AND EXPORTS OF COBALT, 1930 and 1931.

| | 1 9 3 0 | | 1 9 3 1 | |
|--|---------|-----------|---------|---------|
| | Pounds | \$ | Pounds | \$ |
| <u>PRODUCTION</u> (in terms of metallic cobalt contained in metal and oxides sold and in ores and residues exported) | 694,163 | 144,007 | 521,051 | 651,179 |
| <u>EXPORTS</u> - cobalt alloys, metallic cobalt, cobalt oxides, cobalt salts and cobalt ore | ... | 1,319,870 | ... | 735,225 |

WORLD PRODUCTION OF COBALT, 1929 and 1930.
(Supplied by Imperial Institute)

| Country | 1929 | 1930 |
|---------------------------------------|-----------|-----------|
| | Pounds | Pounds |
| <u>BRITISH EMPIRE</u> | | |
| Union of South Africa (ore) | 336 | ... |
| Canada (c) | 929,415 | 694,163 |
| India (b) | 246,400 | (a) |
| Australia (metal) | 44,800 | 7,840 |
| <u>FOREIGN COUNTRIES</u> | | |
| Belgian Congo (metal and oxide) | 1,560,832 | 1,568,000 |
| Chile | ... | ... |

Note:- Complex ores containing cobalt are also found in Germany and China, but cobalt content is not available.

(a) Information not available.

(b) Estimated cobalt content of nickel-speiss exported to Hamburg.

(c) Metal recovered from smelter products and including cobalt contained in cobalt residues exported.

Note:- Complete data regarding world production for 1931 are not yet available.

THE SILVER-LEAD-ZINC MINING INDUSTRY

Silver-lead-zinc deposits occur in the provinces of Nova Scotia, Quebec, Ontario, British Columbia, and in the Yukon and North West Territories. Zinc is also a constituent of some of the copper-gold ores found in the Rouyn district of North-western Quebec. In Manitoba the Hudson Bay Mining and Smelting Company produce refined zinc from ores mined at Flin Flon. In Nova Scotia the Sterling mine, Richmond county, was inactive in 1931; no silver-lead-zinc ores were produced in the province of Quebec during the year under review. Exploratory work was, however, conducted on mining claims in Gaspé and at the Tetreault mine situated at Montauban les Mines. At Galetta, Ontario, the Kingdon Mining, Smelting and Manufacturing Company operated the Kingdon mine and smelter until August when both mine and smelter were closed down. In the Sudbury area the Treadwell Yukon Company Ltd. limited their operations at the Errington mine to exploration and development; no production was reported.

Low metal prices greatly affected the mining of silver-lead ores in British Columbia. In the Portland Canal section the B.C. Silver Mines suspended development work on May 15th, 1931. Operations at the Premier were practically continuous through-

out the year; the property produced 1,718,376 ounces of silver in 1931 as compared with 2,760,787 in 1930. Both the Prosperity and Porter Idaho mines were closed in April owing largely to the low price of silver. It was reported that the crosscut tunnel at the Atlin Ruffner lead-silver mines, located in the Atlin Lake section, had intersected a vein structure about thirty feet wide with nine feet carrying about 12 per cent combined lead and zinc values and approximately 14 ounces silver per ton. Bell Mines Ltd., in the Greenwood division, operated the Bell and Highland Lass continually throughout the year. The Bell has been in continuous operation since 1916; ore shipped by the company averaged 0.03 oz. gold; silver, 200 oz. per ton; lead, 6 per cent; zinc, 7 per cent. Total shipments in 1931 amounted to 1,800 tons. Others of the more important shippers to the Trail smelter included the Ruth Hope, Silversmith, Wellington, Planet and Ivanhoe. Total production for the year at the Sullivan mine amounted to 1,621,143 tons comprising 9,505 tons of crude lead ore shipped to Tadanac and 1,611,638 tons of lead-zinc ore to the concentrator at Kimberley. This is some 300,000 tons less than the previous year, the general reduction in tonnage was attained by working fewer days per month and retaining as nearly as possible a maximum crew. The average cost per ton of ore delivered at the concentrator bins was reduced approximately 16.3 per cent, and the average milling costs per ton approximately 8.8 per cent below the 1930 figures with a resultant reduction in the per pound cost of recoverable metal of 14.3 per cent; underground development, consistent with production, was maintained throughout the year. At the Monarch mine in the Golden mining division, the Base Metals Mining Corporation carried on operations during the early part of 1931 on both the east and west ore bodies; work later ceased; no ore was shipped during the year. At the silver-lead-zinc prospect of the Witwatersrand Syndicate located on McMurdo Creek in the same mining division, development work was conducted with a crew of sixteen men.

Exploration work was carried out by Eldorado Gold Mines Ltd. on its pitchblende silver deposits at Labine Point on the east side of Great Bear Lake. These were discovered in 1930 and represent the most important discoveries of high-grade native silver ores in Canada during recent years. The Consolidated Mining and Smelting Company report that on their Echo Bay group, in the same area that the Eldorado veins occur, a very promising vein carrying native silver and argentite, associated with manganese, cobalt, copper and lead, has been exposed for a length of 420 feet. Many claims were staked in the district in 1931 and preparations made for extensive development and exploratory programmes for 1932.

The Treadwell Yukon Company, operating Wernecke Mines in the Yukon, state that most of the ore sent to the mill in 1931 came from the Lucky Queen mine. It is expected that the ore reserves of this property will be exhausted about August 1932 when it is intended to obtain ore from the Elsa and Silver King group; the mill operated 94.5 per cent of the possible time and treated 47,793 tons, the estimated operating profit for the year was \$271,151.

In addition to the silver obtained from the silver-lead-zinc and cobalt-silver ores there has, during recent years, been a pronounced increase in the production of this metal from argentiferous copper-gold and nickel-copper ores. Silver, as associated with the copper and nickel-bearing minerals, is recovered as an important by-product in refining operations.

Refined zinc and lead are produced in British Columbia at the Trail plants of the Consolidated Mining and Smelting Company while in Manitoba refined zinc is made by the Hudson Bay Mining and Smelting Company at Flin Flon.

PRINCIPAL STATISTICS OF THE SILVER-LEAD-ZINC MINING INDUSTRY IN CANADA, 1927-1931.

| Year | Number of ac- tive operators | Number of operating plants or mines | Capital employed \$ | Number of employ- ees | Salaries and wages \$ | Cost of fuel and elec- tricity \$ | Net value of ores and concentrates sold \$ |
|----------|---------------------------------------|--|---------------------------|--------------------------------|--------------------------------|---|--|
| 1927 ... | 157 | 173 | 28,036,330 | 3,106 | 4,807,817 | 588,520 | 17,520,130 |
| 1928 ... | 150 | 132 | 38,894,892 | 3,680 | 5,531,634 | 671,564 | 17,123,455 |
| 1929 ... | 149 | 168 | 50,573,661 | 4,153 | 6,482,392 | 793,139 | 22,748,089 |
| 1930 ... | 86 | 95 | 42,053,674 | 2,866 | 4,263,961 | 654,685 | 13,000,415 |
| 1931 ... | 39 | 40 | 31,152,078 | 1,299 | 2,149,921 | 485,106 | 6,351,975 |

ORE MINED AND MILLED IN THE SILVER-LEAD-ZINC MINING INDUSTRY IN CANADA, 1930 and 1931.

| Production | | Ontario and Nova Scotia | British Columbia | Yukon | CANADA |
|---------------------------------|-------------|-------------------------------|---------------------|-----------|-----------|
| <u>1930</u> | | | | | |
| Ore mined | tons | 153,428 | 2,042,926 | 48,616 | 2,244,970 |
| Ore milled | tons | 151,342 | 2,001,173 | 45,571 | 2,198,086 |
| Concentrates produced - Lead .. | tons | 2,455 | 226,939 | 4,210 | 233,604 |
| | Zinc.. tons | 6,092 | 235,852 | ... | 241,944 |
| | Copper tons | 3,691 | ... | ... | 3,691 |
| <u>1931</u> | | | | | |
| | | Ontario and Yukon | British Columbia | CANADA | |
| Ore mined | tons | 65,070 | 1,645,662 | 1,710,732 | |
| Ore milled | tons | 65,044 | 1,614,589 | 1,679,633 | |
| Concentrates produced - Lead .. | tons | 4,524 | 174,506 | 179,030 | |
| | Zinc . tons | ... | 200,099 | 200,099 | |
| | Copper tons | ... | ... | ... | |

DESTINATION OF SHIPMENTS FROM SILVER-LEAD-ZINC MINES OF CANADA, 1930 and 1931.

| Products shipped | Tons shipped | Net value at shipping point | Total metal content as determined by settlement assay: | | | |
|--------------------------------|-----------------|--------------------------------------|---|--------------------|-------------|-------------|
| | | | Gold fine oz. | Silver fine oz. | Lead lb. | Zinc lb. |
| <u>1930</u> | | | | | | |
| To Canadian smelters - | | | | | | |
| Lead ore | 17,949 | 472,086 | 1,105 | 888,687 | 9,764,629 | 1,113,877 |
| Lead concentrates. | 219,972 | 8,310,013 | 3,411 | 5,104,002 | 304,573,617 | 21,720,825 |
| Zinc ore | 561 | 12,250 | 4 | 29,210 | 148,263 | 245,901 |
| Zinc concentrates(x) | 224,806 | 1,828,533 | 34 | 409,729 | 15,002,749 | 223,214,713 |
| Dry ore | 37 | 1,262 | 68 | 44 | ... | ... |
| Total | 463,325 | 10,624,144 | 4,622 | 6,431,672 | 329,489,258 | 246,295,316 |
| To foreign smelters - | | | | | | |
| Lead ore | 6,500 | 460,144 | 186 | 1,066,101 | 2,556,564 | ... |
| Lead concentrates. | 15,209 | 1,782,269 | 573 | 3,112,051 | 20,081,264 | ... |
| Zinc ore | ... | ... | ... | ... | ... | ... |
| Zinc concentrates(x) | 15,719 | 61,950 | ... | ... | ... | 17,411,992 |
| Dry ore | ... | ... | ... | ... | ... | ... |
| Copper concen- trates | 3,445 | 71,908 | 610 | 36,902 | ... | ... |
| Total | 40,873 | 2,376,271 | 1,369 | 4,215,054 | 22,637,828 | 17,411,992 |

DESTINATION OF SHIPMENTS FROM SILVER-LEAD-ZINC MINES OF CANADA, 1930 and 1931 -concluded

| Products shipped | Tons shipped | Net value Total metal content as determined by at settlement assay: | | | | |
|------------------------|--------------|--|----------|-----------|-------------|-------------|
| | | shipping point | Gold | Silver | Lead | Zinc |
| | | | fine oz. | fine oz. | lb. | lb. |
| | | \$ | | | | |
| <u>1931</u> | | | | | | |
| To Canadian smelters - | | | | | | |
| Lead ore | 13,258 | 203,369 | 555 | 677,809 | 6,009,765 | 976,835 |
| Lead concentrates. | 174,574 | 4,135,000 | 118 | 3,981,701 | 243,264,435 | 17,121,994 |
| Zinc ore | 199,949 | 84,578 | ... | 341,870 | 13,558,857 | 197,535,849 |
| Zinc concentrates.(x) | 383,858 | 588,976 | ... | 4,412,839 | 265,369,134 | 215,122,663 |
| Dry ore | 26 | 1,200 | 63 | 1,651 | ... | ... |
| Total | 771,665 | 5,013,623 | 736 | 9,415,870 | 528,202,191 | 430,757,341 |
| To foreign smelters - | | | | | | |
| Lead ore | 1,363 | 111,593 | 50 | 317,615 | 604,935 | ... |
| Lead concentrates. | 4,149 | 1,226,759 | 245 | 3,523,616 | 4,084,131 | ... |
| Zinc ore | ... | ... | ... | ... | ... | ... |
| Zinc concentrates. | ... | ... | ... | ... | ... | ... |
| Dry ore | ... | ... | ... | ... | ... | ... |
| Total | 5,512 | 1,338,352 | 295 | 3,841,231 | 4,689,066 | ... |

To foreign smelters, 1930 - Copper in lead concentrates, 101,137 pounds; copper in copper concentrates, 999,424 pounds; a total of 1,100,561 pounds. 68,660 pounds of copper were contained in lead concentrates and zinc ore shipped to Canadian smelters.

(x) Does not include zinc concentrates produced from copper-gold-zinc ores in Manitoba and Quebec.

PRODUCTION OF SILVER IN CANADA, BY PROVINCES AND BY SOURCES, 1930 and 1931.

| | 1 | 9 | 3 | 0 | | 1 | 9 | 3 | 1 | |
|---|-------------|----|---|---|-----------|-------------|----|---|-----------|-------|
| | Quantity | | | | Value | Quantity | | | | Value |
| | fine ounces | | | | \$ | fine ounces | | | | \$ |
| NOVA SCOTIA - | | | | | | | | | | |
| In gold bullion | | 67 | | | 26 | | 48 | | 14 | |
| QUEBEC - | | | | | | | | | | |
| In gold ores and in blister copper ... | 571,164 | | | | 217,922 | 530,345 | | | 158,414 | |
| ONTARIO - | | | | | | | | | | |
| In silver bullion and nuggets(x) | 8,159,811 | | | | 3,113,294 | 6,100,055 | | | 1,822,086 | |
| In gold bullion | 294,135 | | | | 112,224 | 357,311 | | | 106,729 | |
| In slags exported from gold mines | 5,545 | | | | 2,116 | 6,414 | | | 1,916 | |
| In matte and silver ores and residues.) exported | | | | | | | | | | |
| In blister copper produced in Ontario) and Quebec from Ontario ores | 1,746,192 | | | | 666,242 | 975,171 | | | 291,283 | |
| Total | 10,205,683 | | | | 3,893,876 | 7,438,951 | | | 2,222,014 | |
| MANITOBA - | | | | | | | | | | |
| In gold bullion and blister copper.... | 94,653 | | | | 36,114 | 836,547 | | | 249,877 | |
| ALBERTA - In alluvial gold | ... | | | | ... | 29 | | | 9 | |
| BRITISH COLUMBIA - | | | | | | | | | | |
| In alluvial gold | 1,612 | | | | 615 | 3,091 | | | 923 | |
| In gold bullion | 2,593 | | | | 989 | 6,843 | | | 2,044 | |
| In blister copper | 1,101,045 | | | | 420,093 | 820,715 | | | 245,148 | |
| In base bullion and ores exported... | 10,720,680 | | | | 4,090,368 | 7,250,950 | | | 2,159,885 | |
| Total | 11,825,930 | | | | 4,512,065 | 8,061,599 | | | 2,408,000 | |

PRODUCTION OF SILVER IN CANADA, BY PROVINCES AND BY SOURCES, 1930 and 1931 -
concluded

| | 1930 | 1931 | 1930 | 1931 |
|---|-------------------|-------------------|-------------------|------------------|
| | Quantity | Value | Quantity | Value |
| | fine ounces | \$ | fine ounces | \$ |
| <u>YUKON -</u> | | | | |
| In alluvial gold | 7,911 | 3,018 | 9,914 | 2,961 |
| In ores exported | 3,738,415 | 1,426,355 | 3,684,814 | 1,100,654 |
| Total | 3,746,326 | 1,429,373 | 3,694,728 | 1,103,615 |
| <u>TOTAL CANADA</u> | <u>26,443,823</u> | <u>10,089,376</u> | <u>20,562,247</u> | <u>6,141,943</u> |
| (x) Includes silver in ore shipped to Trail, B.C. | | | | |

SILVER PRODUCTION OF THE WORLD, 1929, 1930 and 1931.(a)
(in fine ounces)

| | 1929 | 1930 | 1931 |
|---------------------------------------|-------------|-------------|--------------|
| <u>NORTH AMERICA:</u> | | | |
| United States | 60,180,000 | 50,234,000 | 31,580,000 |
| Canada | 23,143,261 | 26,443,823 | 20,558,000 |
| Mexico | 108,701,000 | 105,204,000 | 86,066,000 |
| Total North America | 192,024,261 | 181,881,823 | 138,204,000 |
| CENTRAL AMERICA AND WEST INDIES | 2,796,890 | 3,900,000 | 4,500,000 |
| <u>SOUTH AMERICA:</u> | | | |
| Bolivia | 6,214,531 | 7,091,100 | 6,000,000 |
| Chile | 1,570,270 | 760,444 | 750,000 |
| Colombia | 60,000 | 60,000 | (x)50,000 |
| Ecuador | 96,511 | 106,127 | (x)100,000 |
| Peru | 21,495,169 | 15,389,048 | 9,000,000 |
| Other countries | 47,545 | 46,679 | (x)45,000 |
| Total South America | 29,484,026 | 23,453,398 | 15,945,000 |
| <u>EUROPE:</u> | | | |
| France | 445,278 | (x)400,000 | (x)400,000 |
| Czechoslovakia | 722,989 | 890,555 | (x)850,000 |
| Great Britain | 35,976 | 40,955 | (x) 40,000 |
| Germany (b) | 5,513,725 | 5,485,433 | 5,900,000 |
| Greece | 245,000 | 250,000 | (x)200,000 |
| Italy | 518,676 | 631,169 | 716,000 |
| Norway | 282,920 | 340,790 | 305,000 |
| Poland | 376,026 | 558,671 | (x)450,000 |
| Rumania | 90,740 | 142,039 | (x)140,000 |
| Russia | 300,000 | 300,000 | (x)300,000 |
| Jugoslavia | 79,989 | 100,308 | (x)100,000 |
| Spain and Portugal | 2,659,223 | 2,819,169 | (x)2,350,000 |
| Other countries | 85,578 | 85,200 | (x)90,000 |
| Total Europe | 11,356,120 | 12,044,289 | 11,841,000 |
| <u>OCEANIA:</u> | | | |
| New South Wales | 8,455,581 | 8,721,042 | ... |
| Queensland | 52,663 | 69,808 | ... |
| Tasmania | 864,354 | 711,619 | ... |
| Other states | 101,949 | 98,306 | ... |
| New Zealand | 451,545 | 515,263 | ... |
| Total Oceania | 9,926,092 | 10,116,038 | 9,500,000 |

SILVER PRODUCTION OF THE WORLD, 1929, 1930 and 1931.(a) concluded.
(in fine ounces)

| Country | 1929 | 1930 | 1931 |
|----------------------------------|--------------------|--------------------|--------------------|
| ASIA: | | | |
| India | 7,298,327 | 7,072,050 | 6,000,000 |
| China | 50,000 | 50,000 | (x)50,000 |
| Chosen (Korea) | 60,143 | 68,756 | (x)65,000 |
| Dutch East Indies | 1,967,934 | 2,094,251 | (x)2,000,000 |
| Japan | 5,163,419 | 5,000,000 | (x)6,000,000 |
| Turkey | 220,000 | 220,000 | (x)200,000 |
| Other countries | 16,147 | 16,147 | (x)15,000 |
| Total Asia | 14,775,970 | 14,521,204 | 14,330,000 |
| AFRICA: | | | |
| Algeria | 166,955 | 166,955 | (x)100,000 |
| Rhodesia | 89,482 | 73,357 | 77,000 |
| Transvaal, Cape Colony and Natal | 1,031,779 | 1,050,038 | 1,063,000 |
| Other countries | 13,408 | 15,000 | (x)15,000 |
| Total Africa | 1,301,624 | 1,305,350 | 1,255,000 |
| TOTAL FOR WORLD | 261,664,983 | 247,222,102 | 195,575,000 |

(a) The basis of this table is the information published by the Director of the Mint. However, revisions and additions have been made, wherefore the totals do not agree with the Mint figures. For 1931 the figures are based on actual reports or reliable estimates, except where the (x) is used indicating that the figure is conjectural.

PRODUCTION IN CANADA, IMPORTS AND EXPORTS OF LEAD, 1930 and 1931.

| | 1 | 9 | 3 | 0 | 1 | 9 | 3 | 1 |
|----------------------------|-------------|---|---|------------|-------------|---|---|-----------|
| | Pounds | | | | Pounds | | | |
| | Value | | | | Value | | | |
| | \$ | | | | \$ | | | |
| PRODUCTION -- by provinces | | | | | | | | |
| Quebec | ... | | | ... | ... | | | ... |
| Ontario | 2,193,856 | | | 116,034 | 985,633 | | | 41,647 |
| British Columbia | 321,803,725 | | | 12,637,232 | 261,902,236 | | | 7,097,812 |
| Yukon | 8,896,582 | | | 349,369 | 4,454,613 | | | 120,724 |
| TOTAL | 332,894,163 | | | 13,102,635 | 267,342,482 | | | 7,260,183 |

IMPORTS:

| | | | | |
|---------------------------------------|-----------|---------|-----------|---------|
| Old and scrap, pig and block.. | 764,305 | 32,029 | 256,978 | 8,749 |
| Bars and sheets | 1,521,359 | 95,793 | 539,654 | 24,535 |
| Litharge | 2,865,600 | 213,240 | 3,866,100 | 232,280 |
| Acetate and nitrate of lead .. | 323,291 | 26,562 | 205,416 | 15,329 |
| Manufactures, n.o.p. | ... | 244,270 | ... | 162,436 |
| Pipe lead | 369,082 | 23,067 | 127,525 | 5,750 |
| Shot and bullets | 9,043 | 907 | 8,699 | 791 |
| Tea lead | 17,920 | 1,430 | 17,780 | 1,275 |
| Lead pigments -- | | | | |
| Dry white lead | 47,287 | 4,099 | 95,470 | 7,084 |
| White lead, ground in oil .. | 58,662 | 5,894 | 53,119 | 4,736 |
| Dry red lead and orange mineral | 1,352,076 | 110,075 | 1,491,320 | 98,103 |
| TOTAL | ... | 756,933 | ... | 561,068 |

EXPORTS:

| | | | | |
|------------------------------|-------------|-----------|-------------|-----------|
| Lead, contained in ore | 26,323,200 | 1,258,272 | 4,421,700 | 176,964 |
| Pig lead | 205,432,600 | 7,015,308 | 216,425,800 | 4,482,812 |
| TOTAL | 231,755,800 | 8,273,580 | 220,847,500 | 4,659,776 |

WORLD PRODUCTION OF LEAD, 1929, 1930 and 1931 (a)
(In short tons - 2,000 lb.)

| Country | 1929 | 1930 | 1931 |
|-------------------------------|-----------|-----------|-----------|
| United States | 688,000 | 593,129 | 411,336 |
| Canada | 159,162 | 166,017 | 142,605 |
| Mexico | 274,232 | 277,933 | 233,020 |
| Other North America | ... | ... | 9,241 |
| Total North America | 1,121,394 | 1,037,079 | 796,202 |
| Argentina | 9,943 | 9,926 | 8,392 |
| Peru (b) | 21,595 | 16,651 | 4,700 |
| Other South America (b) | 2,500 | 3,400 | 1,900 |
| Total South America | 34,038 | 29,977 | 14,992 |
| Austria | 7,241 | 7,631 | 6,743 |
| Belgium | 68,577 | 69,258 | 68,490 |
| Czechoslovakia | 4,924 | 4,560 | 3,858 |
| France | 22,597 | 23,011 | 21,881 |
| Germany | 107,915 | 122,135 | 112,655 |
| Great Britain | 11,948 | 11,445 | 11,820 |
| Greece | 5,908 | 8,079 | 7,684 |
| Italy | 24,984 | 26,908 | 27,412 |
| Jugoslavia | 9,959 | 11,036 | 8,740 |
| Poland | 39,451 | 44,508 | 34,590 |
| Russia | 6,834 | 11,905 | 21,605 |
| Spain | 146,894 | 135,182 | 120,943 |
| Other Europe | 682 | 1,092 | 1,102 |
| Total Europe | 457,914 | 476,750 | 447,523 |
| Turkey | 7,164 | 6,134 | (x) 2,205 |
| India (Burma) | 89,860 | 89,098 | 83,705 |
| Japan | 3,719 | 3,307 | 4,409 |
| Total Asia | 100,743 | 98,539 | 90,319 |
| Australia | 195,403 | 183,744 | 174,303 |
| Africa | 22,663 | 21,079 | 21,067 |
| GRAND TOTALS | 1,932,155 | 1,847,168 | 1,544,406 |

(a) In general, output is reported in terms of base bullion, allocated as far as possible according to origin of ore. (b) Does not include lead produced from South American ore exported to European countries, principally Belgium and Germany.

PRODUCTION IN CANADA, IMPORTS AND EXPORTS OF ZINC, 1930 and 1931.

| | 1930 | | 1931 | |
|------------------------------------|-------------|-----------|-------------|-----------|
| | Pounds | Value | Pounds | Value |
| | | \$ | | \$ |
| PRODUCTION - by provinces | | | | |
| Quebec | 9,754,160 | 351,150 | ... | ... |
| Ontario | 3,527,894 | 127,004 | ... | ... |
| Manitoba | 3,882,141 | 139,757 | 35,173,749 | 898,338 |
| British Columbia | 250,479,310 | 9,017,255 | 202,071,702 | 5,160,911 |
| TOTAL | 267,643,505 | 9,635,166 | 237,245,451 | 6,059,249 |
| IMPORTS: | | | | |
| Zinc dust | 506,670 | 37,853 | 527,641 | 40,052 |
| Zinc in blocks, pigs, sheets, etc. | 8,613,826 | 534,595 | 4,417,001 | 284,810 |
| Zinc spelter | 1,860,276 | 90,270 | 22,378 | 1,073 |
| Zinc white (80% zn.) | 14,575,729 | 885,580 | 11,483,357 | 641,570 |
| Zinc sulphate and chloride of | 2,685,186 | 96,242 | 2,242,204 | 77,278 |
| Zinc manufactures, n.o.p. | ... | 161,583 | ... | 122,131 |
| TOTAL | ... | 1,806,123 | ... | 1,166,894 |

PRODUCTION IN CANADA, IMPORTS AND EXPORTS OF ZINC, 1930 and 1931 - concluded

| | 1 9 3 0 | | 1 9 3 1 | |
|--------------------|-------------|-----------|-------------|-----------|
| | Pounds | Value | Pounds | Value |
| | | \$ | | \$ |
| EXPORTS: | | | | |
| Zinc in ore | 46,964,100 | 1,014,915 | ... | ... |
| Zinc spelter | 150,964,100 | 5,146,215 | 238,018,000 | 5,554,511 |
| TOTAL | ... | 6,161,130 | ... | 5,554,511 |

WORLD'S PRODUCTION OF ZINC, 1929, 1930 and 1931 (a)
(In short tons - 2,000 lb.)

| Country | 1929 | 1930 | 1931 |
|-------------------------|------------|------------|------------|
| United States | 631,601(c) | 504,463(c) | 300,738 |
| Mexico | 29,954(c) | 41,066(c) | 38,854 |
| Canada | 86,049 | 121,467 | 118,232 |
| Belgium | 218,145 | 194,258 | 152,662(d) |
| Czechoslovakia | 12,604 | 13,904 | 10,129 |
| France | 100,984 | 100,030 | 69,353 |
| Germany | 112,435 | 107,254 | 49,934 |
| Great Britain | 65,294 | 54,427 | 23,790 |
| Italy | 17,421 | 21,235 | 17,916 |
| Jugoslavia | 8,061 | 8,361 | 4,040 |
| Netherlands | 28,342 | 25,634 | 21,290 |
| Norway | 6,080 | 41,054 | 46,305 |
| Poland | 186,324 | 192,598 | 143,960 |
| Russia | 3,789 | 5,181 | 12,566 |
| Spain | 13,035 | 11,790 | 11,114 |
| Sweden | 5,201 | 4,548 | ... |
| Australia | 56,001 | 61,397 | 59,996 |
| Japan | 21,807 | 24,669 | 24,504 |
| French Indo-China | 4,196 | 4,253 | 3,194 |
| Rhodesia | 13,575 | 20,055 | 7,696 |
| Totals | 1,620,898 | 1,557,644 | 1,116,273 |

(a) The statistics in this table are the summaries of production as made by the metallurgical works of the world whose principal business is the reduction of ore. Insofar as they produce slab zinc from secondary material such is included. The quantity of such inclusion is, however, relatively small. Production is not allocated according to the origin of the ore except in the instances of the United States and Mexico beginning 1929. (c) Slab zinc produced in the United States from Mexican ore has been separated and credited to Mexico. Other production from Mexican ore is included in figures of countries where treated. (d) Includes saleable zinc dust.

NOTE:- WORLD PRODUCTION TABLES ON SILVER, LEAD AND ZINC, have been taken from the 1931 YEAR BOOK OF THE AMERICAN BUREAU OF METAL STATISTICS.

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