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## COPPER, 1931.

Finally revised statistics on the production of primary copper in Canada, as reported by the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics at Ottawa, show a production in 1931 of 292,304,390 pounds valued at \$24,114,065 as compared with 303,478,356 pounds worth \$37,948,359 in 1930. This represents decreases of 11,173,966 pounds in volume and \$13,834,294 in value. The 1931 output was, however, greater than that in 1929. Unfortunately, the abnormally low prices for copper existing throughout the year under review resulted in a considerable reduction in valuation as contrasted with 1929. Manitoba was the only province to record an increased copper output in 1931. This especially reflects the first full year's operation of the new Flin Flon smelter of the Hudson Bay Mining and Smelting Company; operating efficiency at the property was greatly improved and costs lowered, the company reports that the 1931 metal production was entirely sold. The copper output of the province was also considerably increased when the first unit of the Sherritt Gordon mill started on March 10th, 1931; by the middle of May the rated capacity of the unit, 600 tons in 24 hours was reached. During the operating period of nine months the mine produced 14,713,387 pounds of copper and \$134,305 of gold and silver from 214,081 tons of ore. Sherritt Gordon concentrates are treated at the Flin Flon smelter. Lower copper outputs for Ontario and Quebec were due largely to reductions in the production of this metal by the International Nickel Company of Canada, Ltd., and Noranda Mines Ltd. In British Columbia the closing of the Copper Mountain mine by the Granby Consolidated Mining and Smelting Company Ltd. was the greatest contributing cause of the lessened production of copper in that province. Both the Britannia mine on Howe Sound, B.C., and the Eustis mine in Quebec were steady producers and shippers of copper concentrates throughout 1931. The products from these properties were exported for smelting in United States plants.

Electrolytically refined copper was produced in 1931 by the Ontario Refining Company Ltd. at Copper Cliff, Ontario, and by the Canadian Copper Refiners Ltd. at Montreal East, P.Q. The former company produce wire bars, ingot bars, V.C. cakes, cathodes, slabs and billets; Canadian Copper Refiners supply ingots to Canada Wire and Cable Co. Ltd., an allied company. These are used in the production of round rods, drawn copper for shaped or round trolley wire, large and small drawn copper wire either plain or tinned, medium or soft, stranded wires and cables and all ranges of weatherproof wires and cables. The copper refinery of the Consolidated Mining and Smelting Co. Ltd., located at Trail, B.C., was inactive throughout 1931. Operating copper refineries in Canada possess a capacity of 195,000 tons of refined copper a year.

The average New York price for electrolytic copper during 1931 was 8.116 cents per pound as compared with 12.982 cents in 1930; using the par of exchange on New York for the first nine months of 1931 and the average monthly rate of exchange for each of the last three months, the average value of copper in Canadian funds for the year was 8.370 cents per pound.

In Rhodesia, Roan Antelope copper mine reports the shipments abroad of concentrates until the early part of December, 1931, when the smelter was blown in and the production of blister copper commenced at Luanshya. During December this smelter produced 4,142 short tons of blister assaying 99.72 per cent at a smelting cost of £2.532 per short ton of blister. It was expected that the new Rhokana smelter under construction at M'Kana, Northern Rhodesia, would commence producing blister copper early in 1932. The Rhokana Corporation Ltd. formerly the Rhodesian Congo Border Concession Ltd. report the company's total indicated ore reserves in Northern Rhodesia at 270,782 000 short tons averaging 4.3 per cent copper and containing 11,783,560 short tons of copper. In view of the relative unimportance of the low grade Bwana M'Kubwa ore and the low price of copper, operations at the mine were terminated; the rich ore from the M'Changa West ore body of the company will be treated at the M'Kana central plant.



The Mount Lyell Mining and Railway Company, Mount Lyell, Tasmania, reports that during the year ending September 30, 1931, a larger tonnage of copper ore was treated and substantial reductions in costs achieved, total output from all mines being 292,830 tons as compared with 244,535 in the preceding year; blister copper output was 10,115 tons, a new high record for the company; output of cathode copper for the year totalled 10,821 tons; refinery capacity is 13,000 tons. Silver slimes produced amounted to 131 tons and contained sixty tons of copper, 168,913 ounces of silver and 3,966 ounces of gold. Ore reserves of the Mount Lyell Company as at September 30, 1931, exclusive of the lower grade ore in the Crown Lyell and Lyell Tharsis mines, are estimated as follows:-

	<u>Tons</u>	<u>Copper</u> %	<u>Silver</u> oz.	<u>Gold</u> oz.
North Mount Lyell Mine...	768,292	5.0	1.0	0.015
Lyell Comstock Mine .....	750,000	3.0	0.25	0.03
Royal Tharsis Mine .....	2,500,000	2.25	0.10	0.02

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

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	Pounds	Value \$	Pounds	Value \$
<u>PRODUCTION:-</u>				
<u>By provinces:-</u>				
Quebec .....	80,310,363	10,425,891	68,376,985	5,723,154
Ontario .....	127,718,871	15,187,259	112,882,625	9,096,463
Manitoba .....	2,087,609	215,018	45,821,432	3,835,254
British Columbia .....	93,318,885	12,114,657	65,223,348	5,459,194
Yukon .....	42,628	5,534	...	...
TOTAL .....	303,478,356	37,948,359	292,304,390	24,114,065
<u>By sources:-</u>				
In blister copper produced	223,890,467	27,965,905	243,805,331	20,434,685
In copper sulphate produced	183,575	23,831	...	...
In ores and copper matte exported .....	67,694,448	8,787,636	35,258,939	2,951,174
In nickel-copper matte exported .....	11,709,866	1,170,987	13,240,120	728,206
TOTAL .....	303,478,356	37,948,359	292,304,390	24,114,065

WORLD'S PRODUCTION OF COPPER (a)  
(In short tons - 2,000 lb.)

Country	1929	1930	1931
<u>NORTH AMERICA:</u>			
United States .....	1,026,348	710,690	524,631
Mexico .....	86,759	75,365	58,124
Canada .....	121,151	151,833	145,632
Cuba .....	15,740	17,963	14,721
Total North America .....	1,249,998	955,851	743,108
<u>SOUTH AMERICA:</u>			
Bolivia .....	7,700	5,400	1,900
Chile .....	349,221	245,283	248,014
Peru .....	59,980	52,476	48,828
Venezuela .....	...	...	500
Total South America .....	416,901	303,159	299,342



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WORLD'S PRODUCTION OF COPPER (a) (continued)  
(In short tons - 2,000 lb.)

	1929	1930	1931
<u>EUROPE:</u>			
Austria .....	4,293	4,493	1,000
France .....	1,534	1,100	...
Germany .....	32,075	29,762	30,864
Jugoslavia .....	22,790	28,064	26,842
Norway .....	16,280	18,369	10,741
Russia .....	40,823	53,643	52,910
Spain and Portugal .....	53,599	46,475	36,788
Sweden .....	3,500	1,081	2,238
Total Europe (b) .....	174,894	182,937	161,383
<u>ASIA:</u>			
Japan .....	83,189	87,924	84,225
Other Asia .....	8,800	13,000	19,000
Total Asia .....	91,989	100,924	103,225
Australasia .....	15,979	17,156	15,096
Africa .....	172,561	181,521	169,332
Other countries (b) .....	5,512	8,000	10,000
GRAND TOTALS .....	2,127,834	1,779,598	1,501,486

(a) So far as possible, these statistics are based on blister copper, referred to countries wherein ore originated, with exclusion of copper derived from junk.  
(b) The figures reported for "Other Countries" include some European production.

COPPER CONSUMPTION OF THE WORLD (a)  
(In metric tons)

Country	1929	1930	1931
United States (b) .....	1,015,500	733,700	545,000
Canada .....	20,600	18,000	15,600
Total America .....	1,036,100	751,700	560,600
Austria .....	17,300	13,500	7,500
Belgium .....	25,000	29,000	27,000
Czechoslovakia .....	14,600	17,000	14,000
France .....	138,200	131,000	111,100
Germany .....	216,400	185,900	160,100
Great Britain .....	149,700	145,400	118,400
Italy .....	55,000	50,900	53,500
Russia .....	58,000	62,000	63,000
Spain .....	14,000	9,300	11,300
Sweden .....	26,500	27,800	30,600
Switzerland .....	13,600	14,900	11,900
Other Europe .....	35,000	30,000	21,000
Total Europe (d) .....	763,300	716,700	629,400
Japan .....	71,200	70,300	70,400
Other Asia (c) .....	8,000	9,000	9,000
Total Asia .....	79,200	79,300	79,400
Africa (c) .....	3,500	3,500	3,000
Australia .....	9,000	5,000	4,000
TOTAL WORLD'S CONSUMPTION ....	1,891,100	1,556,200	1,276,400

(a) As computed by American Bureau of Metal Statistics except where otherwise noted.  
(b) Domestic shipments reported by the American Bureau of Metal Statistics.  
(c) Metallgesellschaft except 1931.  
(d) The consumption herein computed for Europe in 1931 is probably about 40,000 tons too high.

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