

DOMINION BUREAU OF STATISTICS - CANADA  
Dominion Statistician: R. H. Coats, B.A., F.S.S. (Hon.), F.R.S.C.  
Mining, Metallurgical and Chemical Branch  
Chief: S. J. Cook, B.A., A.I.C., F.C.I.C.

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THE GOLD MINING INDUSTRY IN CANADA, 1927.

- Including (a) The Alluvial Gold Mining Industry.  
(b) The Auriferous Quartz Mining Industry.  
(c) The Copper-Gold-Silver Mining Industry.

Definition of the Industry.- Canada's gold mining industry comprises two main divisions: the winning of placer gold, or "The Alluvial Gold Mining Industry," and the recovery of gold from auriferous quartz which falls under the title "The Auriferous Quartz Mining Industry." But as gold is also often associated with other metals, and particularly with copper, a review of "The Copper-Gold-Silver Mining Industry" is also included in this bulletin on Canada's gold mining industry.

Production of gold in 1927 from all sources in Canada amounted to 1,852,785 fine ounces valued at \$38,300,464 as against an output of 1,754,228 fine ounces valued at \$36,263,110 in 1926. This output established a new record. The 1927 production was made up from the following sources: fine gold contained in crude bullion made by gold mines, 1,638,149 ounces; alluvial gold, 38,131 fine ounces; fine gold in blister copper and base bullion made by Canadian smelters, 41,186 ounces; estimated recovery of gold in ores and concentrates exported to foreign smelters, 135,221 fine ounces; and 98 fine ounces from miscellaneous sources.

Six provinces and the Yukon produced gold as follows: Nova Scotia, 3,151 fine ounces; Quebec, 8,331 fine ounces; Ontario, 1,627,050 fine ounces; Manitoba and Alberta, 224 fine ounces; British Columbia, 183,094 fine ounces; Yukon, 30,935 fine ounces.

Part of the Quebec gold was recovered in blister copper at the Noranda smelter and the remainder was contained in concentrates exported from the Tetreault silver-lead-zinc mine. In Ontario, the Porcupine area contributed 1,154,120 fine ounces; Kirkland lake produced 468,008 fine ounces; Sudbury district copper-nickel ores yielded 4,866 fine ounces and 56 ounces were derived from other sources. The output from the Porcupine camp showed a slight gain over the total for 1926 and the Kirkland lake camp produced 35 per cent more gold than in the preceding year. Prospecting and development work in Manitoba was carried on actively during the year and the Central Manitoba mine was brought to the production stage in the closing months. From 1858 to 1892 British Columbia's output of gold was derived exclusively from alluvial deposits; in recent years lode gold has become of much greater importance. In 1927 recoverable gold in ores and concentrates exported from British Columbia amounted to 119,687 fine ounces; gold in blister copper and base bullion produced reached 39,434 fine ounces; gold from free milling ores, 16,620 fine ounces and alluvial gold, 7,353 fine ounces. In the Yukon 30,778 fine ounces were recovered from alluvial deposits and the remainder was contained in ores exported.

In point of value among Canadian mineral products gold holds second place, being surpassed only by coal. Gold output values represent 15.5 per cent of the total mineral production of the Dominion. As a world producer of gold Canada ranks third; the Union of South Africa and the United States occupy first and second places, respectively.

The Alluvial Gold Mining Industry in Canada.- Only 3 large companies were actively engaged in placer mining in the Yukon in 1927 though many individual miners were working on their claims during the year.

In British Columbia nearly all the alluvial gold recovered was obtained from the Atlin and Cariboo districts. In the Atlin district production was normal but a heavy drop took place in the Cariboo output. The Kafue Copper Development Company's dredge produced practically no placer gold during the year as it was engaged in digging its way





from Antler creek to a new area on Cunningham Pass creek. Although production was less in 1927 much exploratory work was carried on, that it is hoped will result in larger outputs in the future.

Records show that in 1927 there were 94 concerns including individual operators, engaged in winning gold from the alluvial deposits of the Yukon Territory and British Columbia. Salaried employees and wage-earners numbered 321 people who received \$472,596 for their services. Gold recoveries amounted to 47,264 crude ounces valued at \$793,073. Of this amount 38,073 crude ounces were produced in the Yukon and 9,191 ounces in British Columbia. In addition, 21 ounces of platinum valued at \$960 were recovered from placer operations on the Tulameen river. The quantity of material handled amounted to 4,892,041 cubic yards of which 2,470,552 yards were handled in British Columbia and 2,421,489 yards in the Yukon.

The Auriferous Quartz Mining Industry.- In 1927 there were 76 auriferous quartz mines operating in Canada and of these 37 produced bullion or shipped ores while 39 carried on development work only. There were 13 mines operating in Nova Scotia, 46 in Ontario, 1 in Manitoba and 16 in British Columbia.

Ore mined totalled 4,605,190 tons of which 4,514,389 tons were milled and 4,310,369 tons were cyanided. Tailings retreated amounted to 53,155 tons. Gold bullion recovered by amalgamation amounted to 158,160 crude ounces and by cyanidation, 2,036,676 crude ounces. Shipments of bullion having a total value of \$33,997,427 amounted to 2,193,569 crude ounces containing 1,638,149 fine ounces of gold and 269,535 fine ounces of silver. Ores, concentrates and high grade slags shipped to the smelters totalled 126,432 tons having a net value (value less freight and treatment charges) of \$3,455,568; these shipments contained 125,588 fine ounces of gold, 3,301,421 fine ounces of silver, 289,382 pounds of copper, and 1,266,790 pounds of arsenic.

Capital employed in this industry in Canada in 1927 amounted to \$118,381,468 as against \$103,945,022 in the previous year. Payments of \$12,935,719 in salaries and wages were made to 8,022 employees. Of these, 487 were on salary, 2,098 were wage-earners working on the surface, 4,668 worked underground and 769 were employed in the concentrators. Of the total number employed, 262 worked in Nova Scotia gold mines, 7,051 in Ontario, 85 in Manitoba, and 624 in British Columbia.

Increased milling capacities, improved mechanical equipment and greater metallurgical knowledge all combined to make 1927 the record year to date of gold production in Canada.

The Copper-Gold-Silver Mining Industry.- The copper-gold-silver mining industry comprises a group of mines producing ore containing copper, gold and silver in which copper values predominate. Most of the producing mines in this class are in British Columbia; Manitoba is known to have big ore reserves of copper and much development work was done in this province in 1927; Ontario properties of this class are still in the prospect stage. In Quebec, the Eustis property produced copper concentrates for export and the Horne mine, after a season of heavy development of the mine and speedy construction of the smelter, began producing about the middle of December. Prospecting and development work was carried on at several other properties in northwestern Quebec, with a view to shipping to the Noranda smelter. The principal mines operating in 1927 were: British Columbia - the Hidden Creek mine which shipped to the Granby Consolidated Mining, Smelting and Power Co., Ltd.; the Britannia mine which exported concentrates to the smelter at Tacoma, Wash.; and the Allenby Copper Company near Princeton, which shipped to the Consolidated Mining and Smelting Company, Ltd., at Trail; Quebec - the Horne mine of the Horne Copper Corporation shipped to the Noranda smelter owned by the same corporation, and the Consolidated Copper and Sulphur Co., Ltd., formerly the Eustis mine, exported concentrates to the United States for treatment.

Production of copper by provinces in 1927 was as follows: Quebec, 3,119,848 pounds; Ontario, principally from the nickel-copper ores of the Sudbury district, 45,341,295 pounds; British Columbia, 91,686,297 pounds; a total of 140,147,440 pounds. Because of interplant relations, companies which mine and smelt their own ore sometimes have difficulty in making a separation of the capital employed at the mine and smelter. The value placed on their own ore at the mine may be nominal and any profit accruing from the operations would appear to be credited to the smelter. For that reason the net value placed on shipments to the smelter may not be the same as a value computed from the metal content as determined by settlement assay.

With these limitations the capital employed in the copper-gold-silver mining industry in Canada in 1927 amounted to \$24,232,169. Salaries and wages paid in the industry amounted to \$5,260,095 and employees numbered 4,083 persons. Fuel used and





electricity purchased amounted to \$596,137, the principal item being \$424,930 for the electricity. Primary power equipment employed numbered 432 units with a total rating of 34,834 h.p., comprising 392 motors operating on purchased power, 12 hydraulic turbines or water wheels, 23 gasoline and oil engines and 5 steam engines. Motors operated by power generated at the mines numbered 44 with a total rating of 450 h.p. The boilers numbered 40 and were rated at 2,427 h.p.

During the year 3,636,759 tons of ore were raised, 3,243,630 tons were milled and 210,029 tons of copper concentrates were produced. Shipments to Canadian smelters consisted of 337,170 tons of copper ore, 83,422 tons of copper concentrates and 16,900 tons of iron pyrites; to United States smelters, 59 tons of ore, 126,006 tons of concentrates and 33,500 tons of iron pyrites.

These shipments totalled to 597,057 tons valued at \$9,822,881 and contained 26,944 fine ounces of gold, 655,998 fine ounces of silver, 95,781,175 pounds of copper and 24,913 tons of sulphur.

#### SUMMARY STATISTICS OF ALLUVIAL GOLD MINING IN CANADA, 1926 and 1927.

Item	YUKON		BRITISH COLUMBIA		CANADA	
	1926	1927	1926	1927	1926	1927
Number of firms and individual operators <sup>x</sup>	80	56	28	38	108	94
Time in operation - months.....	6-8	6-8	6-8	6-8	6-8	6-8
Capital employed.....\$4,189,597	8,524,664	513,211	1,129,059	4,702,808	9,653,723	
Number of employees...	187	154	98	167	285	321
Wages paid.....\$	235,117	310,979	104,724	161,617	339,841	472,596
Fuel and electricity used.....\$	44,085	22,018	397	8,816	44,482	30,834
Electricity generated:						
(a) for own use...k.w.h.	...	2,014,730	...	...	...	2,014,730
(b) for sale....k.w.h.	...	3,814,720	...	...	...	3,814,720
Value of electricity sold.....\$	...	58,294	...	...	...	58,294
Crude gold recovered - crude oz.....	31,680	38,073	20,912	9,191	52,592	47,264
Value of gold and silver.....\$	527,451	640,141	348,177	152,932	875,628	793,073
Platinum recovered - crude oz.....	...	...	50	21	50	21
Value of platinum recovered.....\$	...	...	4,258	960	4,258	960
Quantity of material handled...cu.yds.....	2,501,200	2,421,489	1,237,090	2,470,552	3,738,290	4,892,041
Length of ditches - miles.....	120	67	37	37	157	104
Total value of alluvial gold production.....\$	527,451	640,141	352,435	153,892	879,886	794,033

<sup>x</sup> In addition to the number shown in the table there were many individual operators from whom no returns were obtainable.





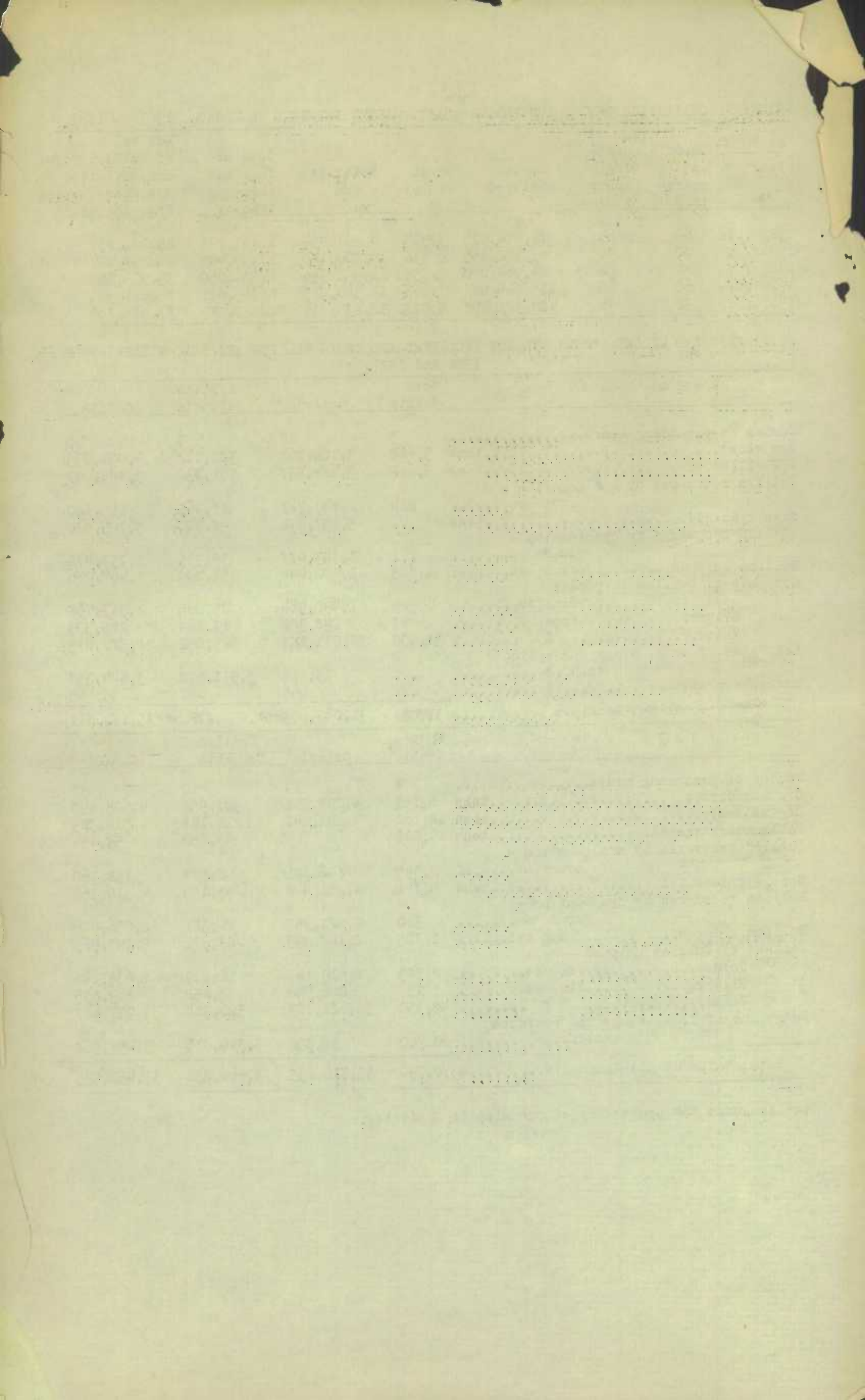
## PRINCIPAL STATISTICS OF THE AURIFEROUS QUARTZ MINING INDUSTRY IN CANADA, 1923 to 1927.

Year	No. of active opera- tors	No. of opera- ting plants or mines	Capital employed \$	No. of employ- ees	Salaries and wages \$	Cost of fuel and elec- tricity \$	Net value of bullion, ore, concentrates, or residues shipped from the mines \$
1923 ...	65	65	77,574,976	5,524	8,961,434	1,497,197	25,021,837
1924 ...	70	70	83,982,765	6,738	10,500,140	1,559,406	31,298,107
1925 ...	52	52	84,964,062	7,052	11,931,948	1,836,050	35,035,361
1926 ...	60	60	103,945,022	7,663	12,340,623	2,083,811	35,171,561
1927 ...	72	76	118,381,468	8,022	12,935,719	2,222,085	37,474,762

## ORES MINED AND MILLED, CRUDE BULLION RECOVERED AND CRUDE BULLION AND CONCENTRATES SHIPPED, 1926 and 1927.

1926	Nova Scotia	Ontario	British Columbia	CANADA
Number of producing mines.....	3	18	9	30
Ore mined.....tons	9,662	3,700,261	321,112	4,031,035
Ore milled.....tons	9,612	3,686,597	191,832	3,888,041
Bullion recovered by amalgamation - crude oz.....	214	147,741	17,165	165,120
Ores cyanided.....tons	...	3,657,078	48,900	3,705,978
Bullion recovered by cyanidation - crude oz.....	...	1,753,477	39,995	1,793,472
Bullion shipped.....crude oz.....	1,625	1,902,442	57,209	1,961,276
Contents of bullion shipped -				
Gold.....fine oz.....	1,529	1,490,964	25,265	1,517,758
Silver.....fine oz.....	77	248,352	17,164	265,593
Value.....\$ .....	31,638	30,971,183	525,052	31,527,873
Net value of ores, slags and residues sold...\$ .....	...	73,115	3,571,218	3,644,333
Exchange premium.....\$ .....	...	645	...	645
Total Net Receipts.....\$	31,638	31,043,653	4,096,270	35,171,561
1927	Nova(x) Scotia	Ontario	British Columbia	CANADA
Number of producing mines.....	8	19	10	37
Ore mined.....tons	6,191	4,291,041	307,958	4,605,190
Ore milled.....tons	12,161	4,291,041	211,187	4,514,389
Tailings retreated.....tons	10,000	5	43,150	53,155
Bullion recovered by amalgamation - crude oz.....	2,395	146,881	8,884	158,160
Ores cyanided.....tons	5,771	4,261,448	43,150	4,310,369
Bullion recovered by cyanidation - crude oz.....	310	2,021,985	14,381	2,036,676
Bullion shipped.....crude oz.....	2,705	2,167,293	23,571	2,193,569
Content of bullion shipped -				
Gold.....fine oz.....	2,383	1,619,147	16,619	1,638,149
Silver.....fine oz.....	137	266,946	2,452	269,535
Value.....\$ .....	49,330	33,621,783	326,314	33,997,427
Net value of ores, slags and residues sold...\$ .....	20,700	94,852	3,340,016	3,455,568
Total Value of all Shipments.....\$	70,030	33,716,635	3,666,330	37,452,995

(x) Includes the operations of one mine in Manitoba.





PRINCIPAL STATISTICS OF THE COPPER-GOLD-SILVER MINING INDUSTRY IN CANADA, 1923-1927.

Year	No. of active opera- tors	No. of opera- ting plants or mines	Capital employed \$	No. of employ- ees	Salaries and wages \$	Cost of fuel and elec- tricity \$	Net value of ores, con- centrates, shipped by mines \$
1923 ...	14	14	19,108,072	1,790	3,004,292	334,696	4,361,486
1924 ...	15	15	19,099,845	2,118	3,292,228	366,153	5,226,859
1925 ...	40	41	23,200,580	2,374	3,555,844	413,767	7,758,990
1926 ...	76	84	27,936,685	3,403	4,546,493	541,914	9,973,049
1927 ...	118	125	24,232,169	4,083	5,260,095	596,137	9,822,881

Note - The large increase in number of mines in 1927 without the corresponding increase in capital employed is due to the increase in development operations carried on in the province of Quebec.

SHIPMENTS FROM COPPER-GOLD-SILVER MINES OF CANADA, 1926 and 1927.

Destination	Quantity tons	Net Value \$	Gold fine oz.	Silver fine oz.	Copper pounds	Sulphur tons
<u>1926</u>						
11 mines shipped to Canadian smelters -						
Ores.....	664,746	2,405,568	14,567	364,564	28,401,619	...
Concentrates.....	51,267	2,378,198	4,406	172,496	23,546,484	...
6 mines shipped to foreign smelters -						
Ores.....	5	671	...	142	6,377	...
Concentrates <sup>x</sup> .....	133,519	5,188,612	21,590	223,261	44,797,857	7,343
TOTAL.....	849,937	9,973,049	40,563	760,463	96,752,337	7,343
<u>1927</u>						
12 mines shipped to Canadian smelters -						
Ores.....	337,170	1,681,808	10,504	189,326	14,002,517	...
Copper concentrates....	83,422	3,219,267	5,220	225,449	34,235,296	...
Pyrite concentrates....	16,900	57,470	...	...	...	8,262
7 mines shipped to foreign smelters -						
Ores.....	59	1,482	31	1,103	9,017	...
Copper concentrates....	126,006	4,728,012	11,189	240,120	47,534,345	...
Pyrite concentrates....	33,500	134,842	...	...	...	16,651
TOTAL.....	597,057	9,822,881	26,944	655,998	95,781,175	24,913

<sup>x</sup> Includes 14,100 tons of pyrites concentrates.

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