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DOMINION BUREAU
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SUMMARY REVIEW
OF
THE GOLD MINING INDUSTRY
IN
CANADA
1933

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DOMINION BUREAU OF STATISTICS - CANADA

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THE GOLD MINING INDUSTRY IN CANADA, 1933.

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

Definition of the Industry - Gold mining in Canada is classified into three principal industries - (a) the recovery of gold from the gravels and sands of stream channels or beaches or what is defined as "The Alluvial Gold Mining Industry"; (b) the recovery of lode gold, which is named "The Auriferous Quartz Mining Industry" and in which industry the gold is usually the most important economic constituent of the ores mined and quartz the predominant gangue mineral; (c) gold is often found in various other mineral deposits, more particularly in those of copper, and for this reason the review of Canada's "Copper-Gold-Silver Mining Industry" is included here to complete a more comprehensive survey of the Canadian gold mining industry.

CANADA - Production of new gold during 1933 from all sources in Canada amounted to 2,949,309 fine ounces valued at \$60,967,626 as compared with an output of 3,044,387 fine ounces worth \$62,933,063 in 1932 and 2,693,892 fine ounces at \$55,687,688 in 1931. (Gold valued at \$20.671834 per fine ounce). The quantity of metal produced in 1933 represents a decrease of 3.1 per cent from 1932. The value, however, estimated to include the exchange equalization, and with gold valued at \$28.60 per ounce (the estimated average price for 1933) realized an increase of 18 per cent above the corresponding value for the preceding year.

The 1933 output originated as follows: gold contained in crude bullion made by gold mines, 2,352,766 fine ounces; alluvial gold, 58,692 fine ounces; gold in blister and anode copper and in base bullion made at Canadian smelters, 440,040 fine ounces; and the estimated recovery of gold in ores, matte, slags, residues and concentrates exported to foreign metallurgical plants, 97,811 fine ounces.

Of the total Dominion output, Nova Scotia contributed 1,382 fine ounces; Quebec, 382,886 fine ounces; Ontario, 2,155,519 fine ounces; Manitoba, 125,310 fine ounces; Saskatchewan, 5,400 fine ounces; Alberta, 324 fine ounces; British Columbia, 238,995 fine ounces, and the Yukon Territory, 39,493 fine ounces.

Practically all of Canada's gold bullion is shipped by the mines to the Royal Canadian Mint at Ottawa. Up until April 19th, 1933, Canada shipped her refined gold to New York accepting payment in United States funds at the coinage value, but after April 19th, on which date the United States went off the gold standard; this gold was shipped to London. While it was the practice to ship gold to New York the mining companies were paid a premium on the net value of their gold at a rate equivalent to the exchange premium in United States funds on the date of deposit of the gold at the Mint. After April 19th, 1933, the Mint paid the producer the standard rate per fine ounce less charges for melting, assaying and refining, and when the gold was sold in a foreign market the difference between the standard rate and the net amount realized was returned to the producer or

shipper. Using the exchange rate until April 19th, 1933, which Canada paid for United States dollars, and taking for the remainder of the year the average price for gold in the London market and transposing it to Canadian funds, the average price for gold during the whole year was \$28.60 per fine ounce. Or, in other words, the value of the 1933 Canadian production of gold amounted to \$84,350,237 in Canadian funds.

While the 1933 Canadian gold production experienced a relatively small decrease in quantity from that of 1932, the total output of the Dominion still continues to rank second among those of the world gold producing countries, a position attained in 1930 and held continuously since that year.

Canadian producers of primary gold, especially those operating on low grade ores, have, in common with those of other countries, benefited greatly since 1931 from the pronounced increase in the price of the precious metal, an increase realized in an era of peculiar economic conditions which were not only complex in nature but international in scope. The more outstanding events associated with the recent rise in price of gold include the suspension of specie payments by Great Britain on September 21, 1931; the direct control and licensing of Canadian gold exports by the Canadian government; the purchase by the Canadian government of all new gold bullion produced in the Dominion with the payment to the miner of equalization exchange; the departure of the United States from the gold standard on April 19, 1933, and the announcement of January 31, 1934, by President Roosevelt that thereafter the United States Treasury would purchase gold from any quarter at not less than \$35 per fine ounce and would be empowered by United States Congress to offer, if necessary, up to \$41.34 an ounce. The weight of the new United States gold dollar is 15 5/21 grains, nine-tenths fine, as compared with the former gold dollar of 25.8 grains, nine-tenths fine. The new dollar contains 1/35 of an ounce of gold, or in other words, the ounce of fine gold is equivalent to \$35.

The Department of Mines, Ottawa, reports that some time will elapse before it will be possible to gauge the full significance of the high gold price in relation to the possibilities for the development of low grade deposits. At present only a few enterprises are operating entirely on low grade ore, but it is reasonable to assume that the number of low grade gold deposits discovered and undiscovered far exceeds the number of medium or high grade deposits, and that eventually many of these will prove worthy of development. Established producers are actively developing low grade sections of their ore bodies and, in addition, there are several base metal deposits, carrying appreciable values in gold, that are presently inactive because of the comparatively low prices of lead, zinc and copper.

NEW DOMINION TAX ON GOLD

In the Budget Speech of April 18, 1934, the Minister of Finance announced a new tax on gold. Attention was drawn to the unusually prosperous condition of the gold mining industry due largely to the rise in the price of gold from \$20.67 per ounce, the prevailing rate obtainable under old gold standard conditions, to a figure affording a return of about \$35.00 per ounce. This increase in price, it was pointed out, finds its origin in the chaotic conditions of world currencies, the revaluation of gold by certain countries, and the depreciation of our dollar in the foreign exchanges. The gains thus accruing to the industry, which result from national and international monetary policies, provide the basis for this newly imposed tax.

Although originally announced as a ten percent tax on the selling price of all gold, the legislation, as passed by the House on June 15, provides for a levy of 25% on the premium value of gold deposited for sale at the Mint produced from ore mined in Canada. That is to say, the Master of the Mint, before making final settlement for gold deposited with him, makes a deduction from the proceeds equal to 25% of the difference between \$20.67 per ounce and the actual selling price of gold in world markets converted into Canadian currency at prevailing rates of exchange. It is provided, however, that the tax shall not operate to reduce the amount received by the depositor for gold below \$30.00 per ounce. This ensures that the tax shall not be levied if the conditions giving rise to it, to a degree, have disappeared.

Provision is also made for collecting the tax on gold produced from ore mined in Canada which is exported from Canada under license issued by the Minister of Finance.

However, only those mines which have paid dividends continuously since 1933 are to be liable to the premium tax on gold deposited at the Mint or exported. This exempts from the levy newly developed properties as well as those mines which because of low-grade ores have not until recently been operated on a profitable basis. Placer gold is also exempted from the tax.

Against the tax collected, producers are to be allowed a deduction of an amount equal to the income tax payable by them for the year 1934, or, in those cases where the mine's fiscal year does not coincide with the calendar year, an amount equal to the income tax attributable to the calendar year 1934. The tax came into effect on April 19, 1934, and is to continue until May 31, 1935.

Moreover, gold which has paid the premium tax is exempt from the handling charge which will continue to be imposed on all other gold deposited for sale at the Mint. This charge is to cover all costs incidental to the handling and disposal of the gold in the world market, including assay and handling charges imposed by countries in which the gold is finally disposed of.

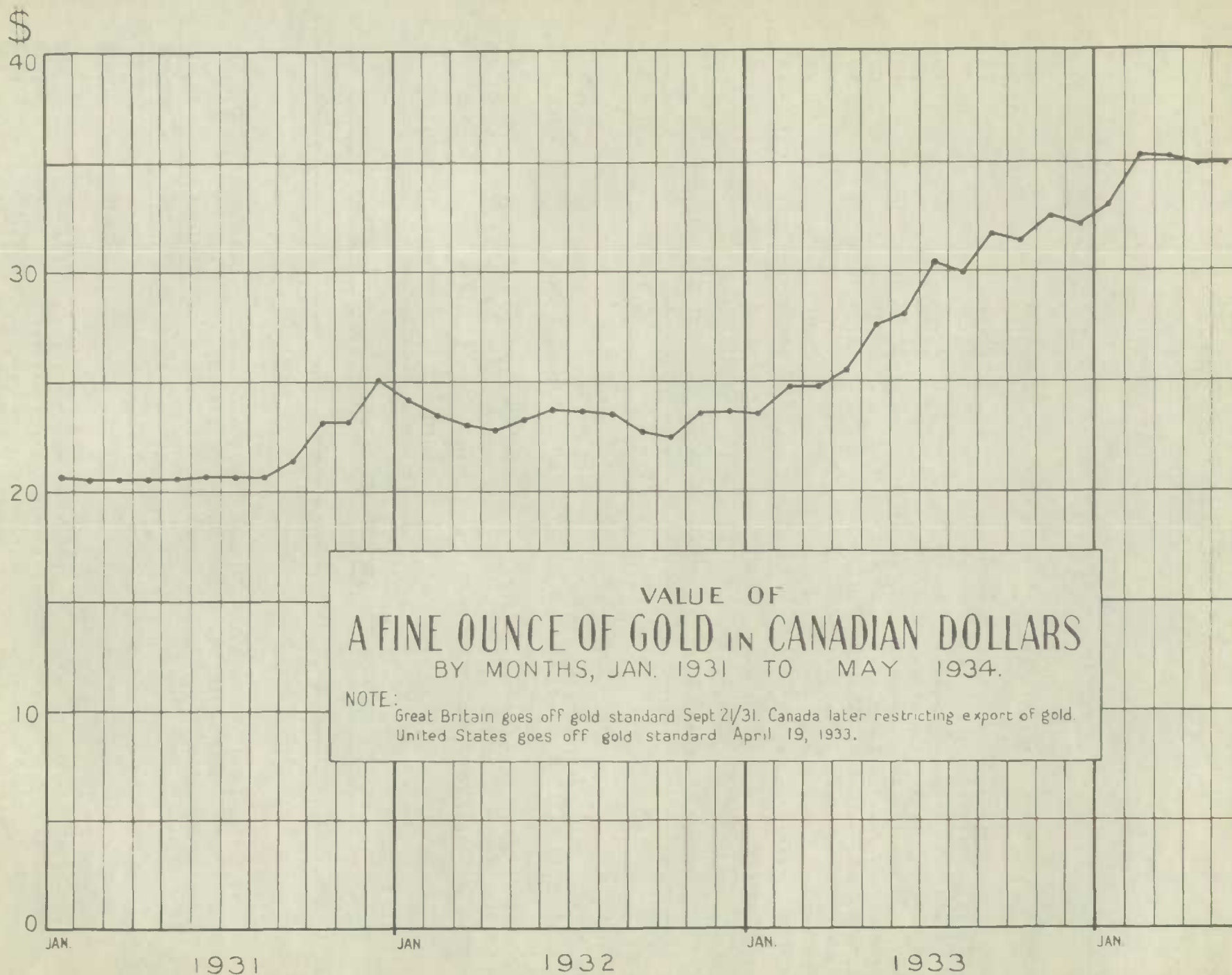
PRODUCTION OF NEW GOLD IN CANADA BY PROVINCES AND SOURCES, 1932 and 1933.
(Gold at \$20.671834 per fine ounce)

	1932		1933	
	Fine oz.	\$	Fine oz.	\$
<u>NOVA SCOTIA -</u>				
In gold bullion	964	19,928	1,382	28,568
Estimated exchange equalization on gold produced	-	2,706	-	10,957
<u>QUEBEC -</u>				
In blister copper, in ores shipped and in gold bullion	401,105	8,291,576	382,886	7,914,956
Estimated exchange equalization on gold produced	-	1,125,996	-	3,035,583
<u>ONTARIO -</u>				
✓ Porcupine area - In gold bullion .	1,036,295	21,422,118	1,046,091	21,624,620
✓ Kirkland Lake - In gold bullion .	1,143,181	23,631,648	1,007,036	20,817,281
Miscellaneous, including North-western Ontario and Sudbury area ..	100,629	2,080,186	102,392	2,116,630
TOTAL	2,280,105	47,133,952	2,155,519	44,558,531
Estimated exchange equalization on gold produced	-	6,400,791	-	17,089,312
✓ Includes relatively small amounts of gold contained in slags, etc.				

PRODUCTION OF NEW GOLD IN CANADA BY PROVINCES AND SOURCES, 1932 and 1933 - Concluded.

(Gold at \$20.671834 per fine ounce)

	1932		1933	
	Fine oz.	\$	Fine oz.	\$
<u>MANITOBA -</u>				
In gold bullion, ores shipped and in blister copper	122,507	2,532,444	125,310	2,590,388
Estimated exchange equalization on gold produced	-	343,906	-	993,478
<u>SASKATCHEWAN -</u>				
In ores shipped to Canadian smelters and crude gold to Royal Canadian Mint	11	227	5,400	111,628
Estimated exchange equalization on gold produced	-	31	-	42,812
<u>ALBERTA -</u>				
In alluvial gold	83	1,716	324	6,698
Estimated exchange equalization on gold produced	-	233	-	2,569
<u>BRITISH COLUMBIA -</u>				
In alluvial gold	16,320	337,364	19,142	395,700
In gold bullion	57,846	1,195,783	122,293	2,528,021
In blister copper	19,013	393,034	8,667	179,163
In base bullion and in matte and ores exported	105,825	2,187,597	88,893	1,837,581
TOTAL	199,004	4,113,778	238,995	4,940,465
Estimated exchange equalization on gold produced	-	558,651	-	1,894,792
<u>YUKON -</u>				
In alluvial gold	40,373	834,584	39,174	809,798
In ores exported	235	4,858	319	6,594
TOTAL	40,608	839,442	39,493	816,392
Estimated exchange equalization on gold produced	-	113,996	-	313,108
TOTAL FOR CANADA	3,044,387	62,933,063	2,949,309	60,967,626
TOTAL ESTIMATED EXCHANGE EQUALIZATION ON GOLD PRODUCED	-	8,546,310	-	23,382,611
GRAND TOTAL VALUE INCLUDING EXCHANGE .	-	71,479,373	-	84,350,237



ESTIMATED AVERAGE MONTHLY VALUE OF AN OUNCE OF FINE GOLD
EXPRESSED IN CANADIAN FUNDS.

	1 9 3 1	1 9 3 2	1 9 3 3
	\$	\$	\$
January	20.71	24.24	23.64
February	20.67	23.67	24.74
March	20.67	23.11	24.78
April	20.68	22.98	25.33
May	20.68	23.38	27.75
June	20.73	23.83	28.24
July	20.74	23.73	30.58
August	20.73	23.61	30.09
September	21.55	22.88	31.79
October	23.22	22.65	31.48
November	23.22	23.73	32.68
December	25.01	23.85	32.14
Yearly Average	21.55	23.47	28.60

Source of Canadian Fine Gold Production by Percentages, 1931-1933.

	1 9 3 1	1 9 3 2	1 9 3 3
	%	%	%
In alluvial gold	2.1	1.8	2.0
In crude gold bullion	80.6	79.3	79.8
In base bullion (from silver-lead ores, etc.)	0.6	1.0	0.7
In blister copper	13.8	15.1	14.2
In ores, matte, slags, etc. exported .	2.9	2.8	3.3
	100.00	100.00	100.00

IMPORTS INTO CANADA AND EXPORTS OF GOLD, 1932 and 1933.

Items	1 9 3 2	1 9 3 3
	\$	\$
<u>IMPORTS -</u>		
Coins and bullion -		
Coins, British and Canadian and foreign gold coins	854,908	810,562
Gold in bars, blocks, ingots, drops, sheets or plates, unmanufactured, n.o.p.	264,863	35,316
Total	1,119,771	845,878
Gold, other -		
Bullion fringe or gold fringe	6,371	4,554
Manufactures of gold and silver -		
Leaf-gold, silver and Dutch or slag metal	63,203	52,790
Sweepings - gold and silver	70	4,119
Manufactures, n.o.p.	19,189	17,729
Electroplated ware and gilt ware, n.o.p.	337,721	260,176
Gold, unmanufactured, for commercial purposes (from April 1, 1933)	-	168,382

IMPORTS INTO CANADA AND EXPORTS OF GOLD, 1932 and 1933 - Concluded.

Items	1932	1933
	\$	\$
<u>EXPORTS -</u>		
Coin and bullion -		
Gold coin -		
Canadian	500	10
Foreign	9,424,691	5,963,594
Gold bullion -		
Canadian, n.o.p. -		
To United Kingdom	-	40,804,715
" United States	50,609,033	15,197,546
" Newfoundland	786,667	-
Total Canadian Bullion	51,395,700	56,002,261
Foreign	4,520	877
Total - Canadian	51,396,200	56,002,271
Foreign	9,429,211	5,964,471
Grand Total coin and fine gold bullion ...	60,825,411	61,966,742
Gold-bearing quartz, dust, nuggets and crude bullion		
obtained direct from mining operations	3,925,729	2,299,650
Jewellers' sweepings (gold, silver and platinum)	290,095	502,506
Total ore sweepings, etc.	4,215,824	2,802,156

GOLD PRODUCTION OF THE WORLD, (in fine ounces) 1931-1933.

Supplied by the "American Bureau of Metal Statistics"

	1931	1932	1933
Union of South Africa	10,877,777	11,558,532	11,013,713
Canada	2,693,892	3,044,387	2,949,309
United States, including Philippines	2,395,878	2,449,032	2,536,913
Russia and Siberia	1,700,000	1,990,000	2,814,000
Australia (including Tasmania)	591,786	707,447	819,569
South America	597,074	682,695	933,752 /
Mexico	628,468	584,487	637,727
Rhodesia	541,447	580,503	645,087
Japan	429,620	396,551	434,000
British India	330,489	329,682	340,000
British West Africa (a)	267,300	292,510	335,000
Chosen (Korea)	274,754	266,000	280,000
Belgian Congo	211,758	242,691	275,000
New Zealand	129,861	166,354	180,000
Other Asia	249,013	231,233 /	240,000 /
Other Oceania	62,455	112,854	157,000
Other Africa	66,585	129,536 /	150,000 /
Other Europe	180,978	230,404 /	282,500 /
Central America and West Indies	67,730	82,238	85,000 /
Sweden	61,632	132,458	247,000
Newfoundland	12,221	17,821	16,000
TOTAL WORLD	22,370,718	24,227,415	25,371,570

1933 figures contain some preliminary data and conjectural figures.

/ Partially estimated.

(a) Includes Gold Coast.

COMPARATIVE FIGURES OF GOLD PRODUCTION FOR THE WORLD SINCE THE DISCOVERY OF AMERICA,
TRANSVAAL, UNITED STATES AND CANADA.

Period	Transvaal Since the Commencement of Fields(b)	^x United States	Canada Since the Recording of Production in 1858	(a) World Since the Discovery of America
	Fine Ounces	Fine Ounces	Fine Ounces	Fine Ounces
1493 - 1600	-	-	-	24,266,820
1601 - 1700	-	-	-	29,330,445
1701 - 1800	-	-	-	61,088,215
1801 - 1840	-	-	-	20,488,552
1841 - 1850	-	1,187,170(c)	-	17,605,018
1851 - 1860	-	-	220,039	64,482,933
1861 - 1870	-	58,279,778(d)	1,477,999	61,098,343
1871 - 1880	-	15,281,264(e)	904,093	55,670,618
1881 - 1890	1,070,651	15,808,339	584,102	51,280,184
1891 - 1895	6,870,158	9,106,834	291,564	39,412,823
1896 - 1900	12,578,869	15,728,572	3,469,791	62,234,698
1901 - 1905	13,632,908	13,393,722	4,592,261	78,033,650
1906	5,792,823	(	556,415	19,471,080
1907	6,450,740	(	405,517	19,977,260
1908	7,056,266	(22,993,218	476,112	21,422,244
1909	7,295,108	(	453,865	21,965,111
1910	7,527,108	(	493,707	22,022,180
1911	8,249,461	4,687,053	473,159	22,397,136
1912	9,107,512	4,520,719	611,885	22,605,068
1913	8,798,336	4,299,784	802,973	22,928,579
1914	8,394,322	4,572,976	773,178	21,875,618
1915	9,093,902	4,887,604	918,056	23,010,348
1916	9,296,618	4,479,057	930,492	22,400,370
1917	9,018,084	4,051,440	738,831	20,457,475
1918	8,418,292	3,320,784	699,681	18,701,294
1919	8,331,294	2,918,628	766,764	17,376,201
1920	8,158,226	2,476,166	765,007	16,130,273
1921	8,128,681	2,422,006	926,329	16,006,695
1922	7,009,767	2,363,075	1,263,364	15,576,270
1923	9,148,771	2,502,632	1,233,341	17,977,807
1924	9,574,918	2,528,900	1,525,382	18,667,063
1925	9,597,573	2,411,987	1,735,735	18,734,102
1926	9,954,762	2,335,042	1,754,228	19,251,794
1927	10,122,459	2,197,125	1,852,785	19,180,231
1928	10,354,157	2,233,251	1,890,592	19,399,124
1929	10,412,326	2,208,386	1,928,308	19,585,536
1930	10,716,349	2,285,603	2,102,068	20,836,318
1931	10,877,708	2,395,878	2,693,892	22,329,525
1932	11,553,564	2,449,032	3,044,387	24,141,486
1933	11,017,495	2,536,913 /	2,943,309	25,371,570 /
TOTAL	283,609,208	228,862,938	46,305,211	1,134,790,057

x Including Philippine Islands production received in United States.

/ Preliminary estimate - American Bureau Metal Statistics.

(a) Supplied by United States Mint.

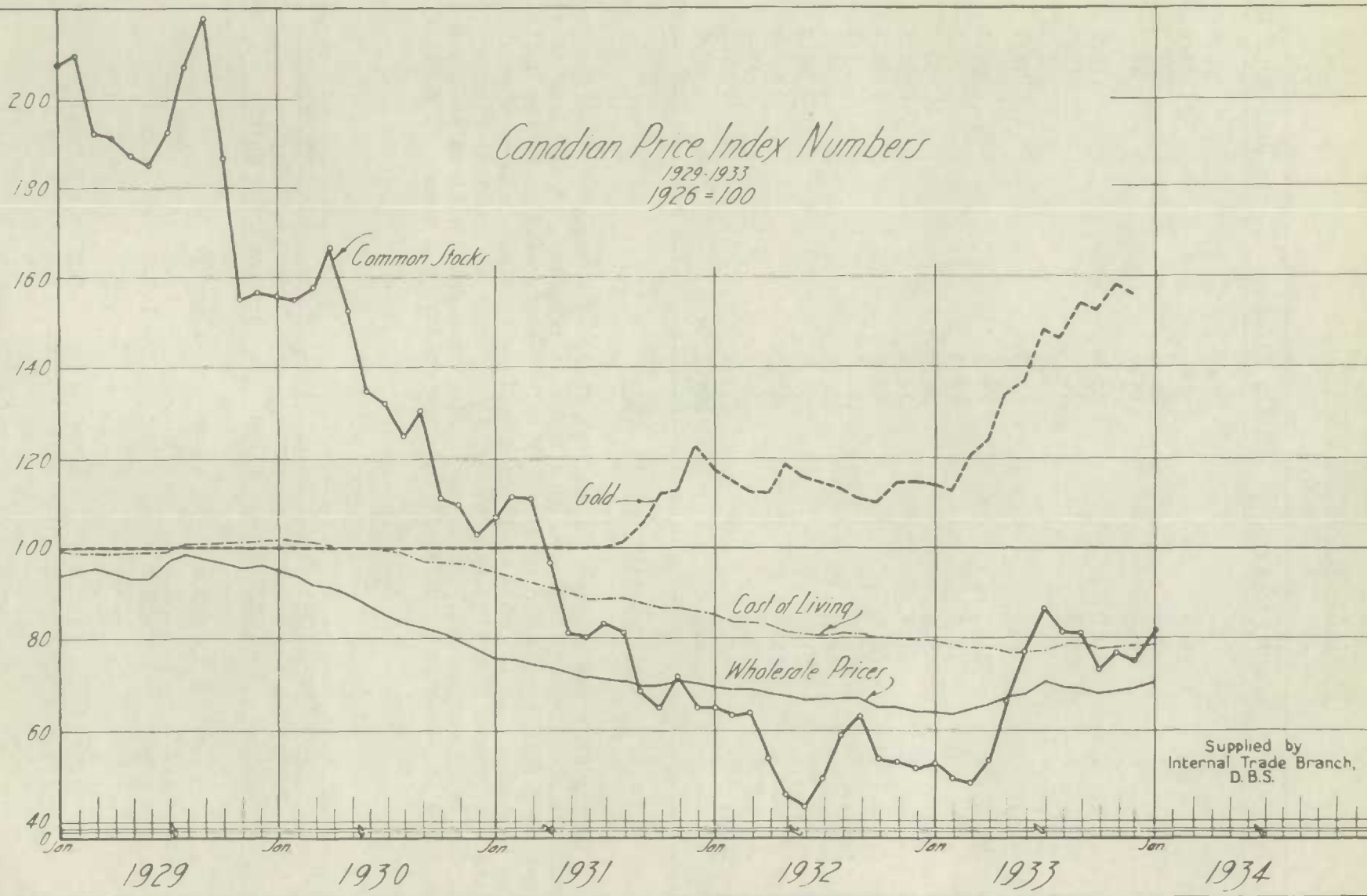
(b) Supplied by Transvaal Chamber of Mines.

(c) 1792 - 1847.

(d) 1848 - 1872.

(e) 1873 - 1880.

Canadian Price Index Numbers
1929-1933
1926 = 100



CANADIAN SECURITY PRICE INDEXES
1926=100.0

	Common Stocks	Mining Stocks	Ontario Bond Yields
1913	-	-	90.6
1920	66.9	-	124.8
1926	100.0	100.0	100.0
1933	68.7	94.5	97.7
1932 January	66.2	59.7	119.8
April	55.3	52.4	111.3
August	60.6	59.7	103.3
December	52.9	63.1	102.7
1933 January	53.2	67.1	99.2
February	49.2	75.3	98.7
March	48.9	68.4	100.0
April	53.8	74.5	101.3
May	66.1	89.6	98.1
June	77.4	104.1	97.1
July	86.5	106.9	96.7
August	81.8	107.4	95.0
September	81.6	113.4	95.8
October	73.3	112.2	94.6
November	76.8	109.4	97.3
December	75.3	105.1	98.5

EXCHANGE RATES, 1933

During 1933 the premium on New York funds at Montreal gradually disappeared, and the discount on sterling was replaced by a moderate premium. As the year closed, however, the Canadian dollar was closer to a normal relationship with these two units than it had been since September, 1931. Gold currencies continued to move almost steadily against the dollar with the result that they were quoted in December at premiums ranging from 50 p.c. to 60 p.c. The Argentine peso, after continuing firm for the first eleven months fell abruptly from 40.7¢ in November to 28.7¢ in December following a change in monetary policy.

EXCHANGE RATES

1926=100.0

	New York Funds		Sterling		French		Francs
	Montreal	Index	Montreal	Index	Montreal	Index	
	Rates	Numbers	Rates	Numbers	Rates	Numbers	
							par=100.0
1913	1.000	100.0	4.867	100.3	-	-	
1920	1.121	112.1	4.101	84.5	.0787	200.7	
1926	1.000	100.0	4.853	100.0	.0325	82.9	
1933	1.092	109.2	4.586	94.5	.0544	139.0	
1932 January	1.173	117.3	4.028	83.0	.0460	117.9	
April	1.112	111.2	4.173	86.0	.0438	112.0	
August	1.142	114.2	3.975	81.9	.0446	113.6	
December ...	1.154	115.4	3.787	78.0	.0451	115.1	

EXCHANGE RATES - Concluded

1926=100.0

	New York Funds		Sterling		French Francs	
	Montreal	Index	Montreal	Index	Montreal	Index
	Rates	Numbers	Rates	Numbers	Rates	Numbers
						par=100.0
1933 January	1.143	114.3	3.847	79.3	.0447	114.1
February ...	1.197	119.7	4.099	84.5	.0471	112.5
March	1.199	119.9	4.134	85.2	.0473	120.7
April	1.179	117.9	4.234	87.2	.0486	124.0
May	1.141	114.1	4.498	92.7	.0526	134.2
June	1.112	111.2	4.615	95.1	.0536	136.8
July	1.058	105.8	4.931	101.6	.0581	148.3
August	1.051	106.1	4.787	98.6	.0572	146.0
September ..	1.038	103.6	4.839	99.7	.0604	154.1
October	1.024	102.4	4.787	98.6	.0597	152.4
November ...	0.990	99.0	5.082	104.7	.0620	158.2
December ...	0.995	99.5	5.096	105.0	.0611	155.9

AVERAGE COMMERCIAL RATIO OF SILVER TO GOLD FOR EACH SPECIFIED YEAR SINCE 1700.

(Supplies by United States Mint)

Year		Year		Year	
1700	11.81	1885	19.41	1915	40.48
1750	11.55	1890	19.75	1920	20.28
1800	15.63	1895	31.60	1925	29.78
1850	15.70	1900	33.33	1930	53.74
1875	16.84	1905	33.87	1931	71.25
1880	18.05	1910	38.22	1932	73.29
				1933/	75.60

/ Estimated on averages in Canadian funds.

WORLD'S MONETARY STOCKS OF GOLD AT THE CLOSE OF 1932 (Subject to Revision)

(Compiled by United States Mint from Available Data)

(Stated in United States Money)

Country	Total Gold Stock		Per Capita
	Value		
	\$		\$
United States	4,513,001,000		36.04
Canada	124,265,000		11.97
Belgium	360,842,000		44.59
Denmark	35,693,000		10.01
France	3,254,247,000		77.78
Germany	209,015,000		3.23
Great Britain	582,950,000		12.62
Italy	307,158,000		7.45
Netherlands	415,101,000		51.69
Norway	38,658,000		13.73
Poland	56,344,000		1.75
Portugal	23,829,000		3.54
Rumania	57,161,000		3.17
Russia (Soviet Union) (a)	367,692,000		2.26

(a) On August 31, 1932.

WORLDS MONETARY STOCKS OF GOLD AT THE CLOSE OF 1932 (Subject to Revision) - Concluded.
(Compiled by United States Mint from Available Data)
(Stated in United States Money)

Country	Total Gold Stock	
	Value \$	Per Capita \$
Spain	435,904,000	18.23
Sweden	55,409,000	9.02
Switzerland	505,890,000	123.84
British India	161,933,000	.45
Japan (including Chosen, Taiwan, Kwantung)(b)	211,953,000	2.34
Netherland East Indies	41,749,000	.68
Egypt	32,936,000	2.22
Australia	42,573,000	6.52
New Zealand	24,600,000	16.17
Other Countries	710,888,000	-
TOTAL	12,569,791,000	6.34 /

(b) Incomplete.

/ World population estimated at 1,981,764,000.

The Ottawa Mint, established as a branch of the Royal Mint under the (Imperial) Coinage Act, 1870, and opened on January 2, 1908 was by 21-22 Geo. V, C.48, constitutes a branch of the Department of Finance and since December 1, 1931, has operated as the Royal Canadian Mint. The great development of the gold mining industry in Canada has resulted in gold refining becoming one of the principal activities of the Mint. Gold coins have never been a popular medium of exchange in Canada and have not been struck since 1919, most of the fine gold produced from the rough shipments from the mines being delivered to the Department of Finance in the form of bars, the rest being sold in convenient form to manufacturers. The fine silver extracted from the rough gold, when not required for coinage, is sold on the New York market or disposed of to local manufacturing firms.

The domestic gold currency of Canada, as at present authorized by the Currency Act, consists of \$20, \$10, \$5 and \$2½ gold pieces, 900 millesimal fineness (only \$10 and \$5 pieces have been issued). Gold was used only to an insignificant extent as a circulating medium in Canada, its monetary use being practically confined to reserves; \$5 and \$10 gold pieces weighing respectively 129 and 258 grains, 9/10ths pure gold by weight, have been coined, the Canadian gold dollar thus containing 23.22 grains of pure gold. The \$5, \$10 and \$20 gold coins of the United States, which contain exactly the same weight of gold as Canadian gold coins of these denominations, are legal tender for their face value only, as are the British sovereigns, which are legal tender for \$4.86 2/3, their equivalent in Canadian gold dollars. Gold consumed in Canada by the Arts and in Industry amounted to \$1,044,424 in 1932 and the preliminary figure for 1933 is given at \$1,005,270.

GOLD HELD BY THE CANADIAN MINISTER OF FINANCE, CALENDAR YEARS, 1919-1933. /

Calendar Year	Gold Reserve Held on Postal Savings Bank Deposits (a)	Gold Held for Redemption of Dominion Notes	Total Gold Held by Minister of Finance
	\$	\$	\$
1919	4,909,675	118,489,692	123,399,367
1920	4,067,897	98,751,773	102,819,670
1921	3,666,009	84,568,064	88,234,073
1922	3,293,287	89,939,108	93,232,395
1923	3,154,358	120,651,627	123,805,985
1924	3,308,575	107,257,428	110,566,003
1925	3,241,490	119,744,819	122,986,309
1926	3,162,930	109,369,550	112,532,480
1927	3,083,440	107,417,631	110,501,071
1928	2,994,001	89,218,454	92,212,455
1929	2,709,169	59,345,233	62,054,402
1930	2,483,959	79,000,297	81,484,256
1931	2,405,030	74,209,510	76,614,540
1932	2,324,246	66,854,214	69,178,460
1933	2,311,866	69,793,861	72,105,727

- / Yearly averages.
(a) In the Savings Bank Act (c.15, R.S.C., 1927) it is provided that the Minister of Finance shall hold 10 per cent gold reserve against postal savings bank deposits.

COMPOSITION OF CANADIAN GOLD RESERVES ON DECEMBER 31, 1923-1933.

December 31st.	British Coin	U.S. Coin	Canadian Coin	Bullion	Total
	\$	\$	\$	\$	\$
1923	27,212,790	41,090,395	3,336,490	46,026,852	117,666,527
1924	26,342,019	77,173,105	3,327,125	34,905,387	141,747,636
1925	29,894,943	67,135,310	3,315,730	37,512,195	137,858,178
1926	32,133,941	72,423,610	3,221,930	23,415,643	131,195,124
1927	28,948,085	51,179,390	3,089,010	47,516,079	130,732,564
1928	34,163,297	31,018,970	2,931,835	25,202,771	93,316,873
1929	32,164,284	10,995,220	2,801,520	17,034,256	62,995,280
1930	30,634,058	28,748,085	2,733,150	34,096,809	96,212,102
1931	17,736,296	4,270,780	2,732,880	42,220,192	66,960,148
1932	17,638,240	4,271,355	2,704,930	48,429,889	73,044,414
1933	17,637,435	4,266,835	2,704,880	47,356,454	71,965,604

THE ALLUVIAL GOLD MINING INDUSTRY IN CANADA, 1933.

Placer gold was reported in Canada as early as 1823 when the metal was discovered on the Chaudiere river, Quebec. Later, in 1855, alluvial gold was found at the mouth of Pend d'Oreille river, B.C., by ex-servants of the Hudson's Bay Company and by 1859 placer miners had penetrated to Cariboo and Quesnel. Later years witnessed many important discoveries of placer gold in both British Columbia and the Yukon, the most outstanding of which was the finding of the sensationally rich Klondike deposits in 1896. At the present time the greater part of the Canadian production of alluvial gold comes from the Yukon Territory and British Columbia; smaller amounts are recovered in Alberta and Quebec.

NOVA SCOTIA - No production of placer gold is reported from this province, however, it is interesting to note that churn test-drilling was reported on the Mullach river, Inverness County, during July, August and September, 1933. The results from these operations were not stated.

QUEBEC - Placer deposits in the Chaudiere basin were mined extensively between 1875 and 1885 and sporadically since. The Canadian Geological Survey state that the source of these placers was undoubtedly the quartz veins of the district, none of which, up to the present time, has been found large enough or rich enough for mining.

In 1933 properties were operated in Beauce and Compton counties. Only one operator reported production, this coming from a deposit located at St. Simon Les Mines, Beauce county. Operations in Compton county were confined to the development of auriferous deposits in Ditton township and included shaft sinking, drifting and surface exploration.

ALBERTA - Placer gold was discovered on the North Saskatchewan river in 1859 or 1860 and mining has been carried on, chiefly by hand methods and partly by the use of dredges, at intervals down to the present time. Placer gold also occurs on several other streams in the province. During 1932 recoveries of small quantities of crude alluvial gold were reported by small operators working on the Peace River or its tributaries. The McLeod River Mining Corporation installed a dredge on the McLeod River in 1932 making small shipments of crude gold in that year. The company reported early in 1934 that its dredge was then inactive. Relatively small shipments of crude gold were made from Alberta to the Royal Canadian Mint, Ottawa, in 1933.

BRITISH COLUMBIA - The production of alluvial fine gold in this province increased from 16,320 fine ounces in 1932 to 19,142 in 1933, an increase of 17.3 per cent. The British Columbia Department of Mines state that "The Atlin and Cariboo camps were responsible for most of this increase, and in both these fields the possibilities are for a continued increase in output for some years to come. In a number of other camps scattered throughout the province large placer operations are expected to reach production in the 1934 season, and this will possibly be reflected in an increased production in 1934.

"Placer-testing and small-scale operations in the past have not been conclusive in many placer properties, and as better technical control and study is brought to bear on this type of mining, the industry is regaining some of its former importance ... Many hundreds of placer prospectors spent the 1933 season in the hills, along the streams and rivers, looking for, and in many instances, earning a grubstake." It is interesting to note that the total value of placer gold produced in British Columbia up to and including 1933 amounted to \$79,634,517. For those interested in placer mining and the opportunities which exist therein in various parts of the province, attention is directed to bulletin No. 1, 1933, "Placer Mining in British Columbia" (25 cents). This book issued by the British Columbia Department of Mines, Victoria, B.C. contains notes on elementary methods

of prospecting and working placer deposits in addition to detailed information respecting the placer possibilities of the various mineral survey districts of the province.

YUKON - Prospecting for placer gold in Yukon Territory was conducted for at least fifteen years prior to the discovery of the Klondike in 1896. The main production of placer gold in Canada has come from this field. Output reached a maximum in 1900 when it exceeded \$22,000,000. The Geological Survey of Canada describes the Klondike district as unglaciated; the gold-bearing gravels are not covered with glacial drift as is generally the case in glaciated districts, and were not disturbed or eroded by over-riding of the ice sheet. Bonanza Creek, one of the most important creeks of Klondike district, proved productive for about 13 miles. The creek flows through a valley flat 300 to 600 feet wide bounded by steep slopes; the valley proved productive for about 13 miles and yielded in the part about mid-length over \$1,000 a running foot of valley. Production from placers in the Yukon totalled 39,174 fine ounces in 1933 which represents a decrease of 3 per cent from the output for the preceding year. The value, however, estimated to include equalization exchange was 18.3 per cent more than in 1932.

The Department of Interior, Ottawa, report that the major portion of the 1933 placer gold production came from the Dawson district, the Glacier district being next in importance, and the remainder was recovered from old abandoned creeks in the Mayo and Whitehorse districts.

The electric dredges of the Yukon Consolidated Gold Corporation Limited operated as follows: Canadian No. 2 commenced digging on May 15 and closed on October 18th. It dredged 1,544,077 cubic yards at a cost of \$99,233 or 6.38 cents per cubic yard. Canadian No. 3 commenced on June 29th and closed October 19th. It dredged 704,037 cubic yards at a cost of \$118,655 or 16.85 cents per cubic yard. Canadian No. 4 commenced on May 7th and closed October 15th. It dredged 1,432,567 cubic yards at a cost of \$101,964 or 7.12 cents per cubic yard. N.N.W. No. 1 commenced May 15th and closed October 18th. It dredged 424,815 cubic yards at a cost of \$83,665 or 19.70 cents per cubic yard. N.N.W. No. 2 commenced on May 16th and closed October 18th. It dredged 549,698 cubic yards at a cost of \$93,376 or 16.98 cents per cubic yard.

Hydraulic operations were carried on by this same company on Crofton and Lovett Hills where 614,613 cubic yards of gravel and bedrock were handled at a cost of 12.03 cents per cubic yard.

Dredging operations were continued on Sixty Mile river by the Holbrook Dredging Company. One dredge, steam driven, was operated during the season and 294,115 cubic yards of material were handled.

The record high price received for gold has been a great stimulus to prospecting in the Yukon. Outlying parts of the Territory have been reached by planes; parties have gone into the Liard, the Alsek and the White River regions by this means of travel. No rich discoveries have been reported but prospecting operations are being continued and many abandoned creeks in the older districts have been re-staked and are now producing.

A communication from the Department of Mines, Ottawa, reports that the Nahanni-Frances River district of the Yukon and Northwest Territories is again receiving widespread attention as a result of recent reports of rich placer gold strikes. The communication states that there is ample evidence to show that gold gravels occur throughout the western portion of the district and also show that this area is worthy of careful, systematic and scientific prospecting.

SUMMARY STATISTICS OF ALLUVIAL GOLD MINING IN CANADA, 1932 and 1933.

	1932			1933		
	British Columbia	Yukon	Quebec and Alberta	British Columbia	Yukon	(a) Quebec and Alberta
Number of firms and individual operators /	112	3	5	65	3	5
Time in operation-months .	6-10	6-8	6-8	6-10	6-8	6-8
Capital employed \$	496,670	6,672,148	125,000	3,854,721	6,539,997	6,187
Number of employees	171	186	16	254	189	11
Salaries and wages paid .. \$	178,833	465,343	21,535	268,119	431,533	4,499
Fuel and electricity used. \$	3,139	35,122	579	17,045	18,101	19
Electricity generated for own use .....K.W.H.	...	12,257,230	...	95,002	11,206,000	...
Crude gold recovered - crude ounce	20,400	50,466	236	23,928	48,967	504
Platinum recovered - crude ounce	59	...	0.25	40	...	...
Value of platinum recovered \$	2,372	...	10	1,400	...	...
Quantity of material handled .....Cu.yds..	1,053,677	6,051,256	12,000	1,326,721	5,605,522	(d)
Length of ditches - miles(b)	117	123	...	84	125	...
Total value of alluvial products (c) \$	349,172	857,922	3,924	408,176	832,439	8,568

/ In addition to the number shown in the table, there were several other small operators from whom no returns were obtainable.

(a) Includes data relating to one property in Nova Scotia.

(b) Owned in 1932; used in 1933.

(c) Value of crude gold based on statutory price of the metal (\$20.67) and estimated at \$17.00 per crude ounce.

(d) Information not available.

THE AURIFEROUS QUARTZ MINING INDUSTRY

Principal Statistics of the Auriferous Quartz Mining Industry in Canada, 1923 and 1928-1933

	No. of active oper- ators	No. of oper- ating plants or mines	Capital employed \$	Number of employ- ees	Salaries and Wages \$	Cost of fuel and electri- city \$	Net value of bullion, ore, concentrates or residues shipped from mines \$
1923	65	65	77,574,976	5,524	8,961,434	1,497,197	25,021,837
1928	98	100	147,693,710	9,066	14,615,990	2,554,657	36,655,330
1929	80	85	135,166,105	8,660	14,258,733	2,579,481	37,275,986
1930	54	56	119,758,057	8,401	14,034,620	2,364,103	39,771,739
1931	68	69	109,933,164	9,636	16,467,165	2,700,326	49,144,578
1932	100	100	58,167,335	10,442	17,686,584	3,031,494	58,645,772
1933	214	216	158,599,931	12,823	20,536,012	3,330,137	69,151,535

Ores Mined and Milled, Crude Bullion Recovered and Crude Bullion and Concentrates
Shipped in the Auriferous Quartz Mining Industry, 1932 and 1933.
Ton = 2,000 lbs.

1932	Nova Scotia Saskatchewan and Manitoba	Quebec	Ontario	British Columbia	Canada
Number of Producing Mines	7	5	26	27	65
Ore Mined .....Tons	93,954	125,093	5,541,969	311,649	6,072,665
Ore Milled .....Tons	80,750	107,990	5,496,731	238,888	5,924,359
Tailings retreated .....Tons	3,140	...	...	...	3,140
Concentrates Produced .....Tons	22	251	174	17,164	17,611
Bullion recovered by amal- gamation .....Crude ounces	2,584	61,751	150,449	24,170	238,954
Bullion recovered by cyani- dation .....Crude ounces	53,516	9,937	2,878,736	43,096	2,985,285
Bullion shipped ....Crude ounces	58,602	72,856	3,028,960	66,189	3,226,607
Content of bullion shipped -					
Gold .....Fine ounces	37,912	63,003	2,254,068	57,846	2,412,829
Silver .....Fine ounces	5,220	5,789	426,703	11,329	449,041
Value\$	785,114	1,303,940	46,709,290	1,199,143	49,997,487
Exchange Premium\$	100,166	165,282	6,165,189	155,029	6,585,666
Net Value of ores, slags and residues sold\$	1,551	4,278	66,725	1,990,065	2,062,619
Total Value of all Shipments ..\$	886,831	1,473,500	52,941,204	3,344,237	58,645,772
1933					
Number of Producing Mines	12	7	28	40	87
Ore Mined .....Tons	117,130	360,041	5,632,869	418,814	6,528,854
Ore Milled .....Tons	106,719	344,747	5,612,199	383,111	6,446,776
Tailings retreated .....Tons	...	...	...	3,658	3,658
Concentrates Produced .....Tons	7	11,428	1	18,812	30,248
Bullion recovered by amal- gamation .....Crude ounces	12,203	80,238	186,365	36,689	315,495
Bullion recovered by cyani- dation .....Crude ounces	37,942	5,564	2,523,309	128,124	2,694,939
Bullion shipped ....Crude ounces	50,538	86,468	2,711,059	164,813	3,012,878
Content of bullion shipped -					
Gold .....Fine ounces	37,305	76,919	2,116,142	122,293	2,352,659
Silver .....Fine ounces	6,070	5,918	404,744	26,579	443,311
Value\$	770,215	1,591,596	43,897,662	2,544,653	48,806,211
Exchange premium\$	293,653	655,973	15,503,709	1,001,456	17,454,791
Net Value of ores, slags and residues sold\$	1,075	554,480	165,088	2,169,890	2,890,533
Total Value of all Shipments ..\$	1,067,028	2,802,049	59,566,459	5,715,999	69,151,535

A report by the Department of Mines, Ottawa, states: "The great part of the gold of Canada comes from the Canadian shield, an immense area of precambrian rocks extending from the Labrador coast westward almost to the mouth of the MacKenzie river. The area of the shield is roughly 1,825,000 square miles, almost half of Canada - the precambrian shield is not only our present greatest reservoir of the precious metal, but in all probabilities the most fruitful region for discovery of new deposits."

NOVA SCOTIA - Production of lode gold in Nova Scotia during 1933 totalled 1,382 ounces as compared with 964 ounces in 1932. This increase in output reflects a stimulated mining activity throughout the gold bearing areas of the province. Quartzites and slates largely comprising the gold-bearing series of Nova Scotia are more than 30,000 feet thick and occupy that half of the province lying along the Atlantic coast and extend the full length of the Nova Scotia peninsula. Fairly important amounts of gold have been produced from more than a score of fields and of these all but four or five occur in the eastern part of the province, east of the great granite mass which comes down to the Atlantic coast at Halifax. The gold occurs in quartz veins, most of which lie in thin slate beds between bands of quartzite. The veins are found near the crests of plunging anticlines, and in many instances pass completely across a crest from one limb to another. Some of the wider beds of slate carry several quartz veins, which may be so small that they cannot profitably be separated from the slate. Such "belts" as they are locally termed, attain widths of 10 to 20 feet. Some of them are reported to be sufficiently rich to be worked as a whole and so constitute large bodies of potential low grade ore.

Prospecting or development of gold properties in 1933 was reported from Wine Harbour, Guysborough County; North Brookfield, Queens County; Montague Gold Mines, Halifax County; Tangier, Halifax County; Central Rawdon, Hants County; Dutch Village, Halifax County; Gold River, Lunenburg County; Goldboro, Guysborough County; and Moose River, Halifax County. Some important operations during the year included those conducted at the Montague, Lacey, Locarno, Higgins and Lawlor (Moose River), Killag (Halifax county), and Seal Harbour Mines.

NEW BRUNSWICK - No production of gold was reported from this province during 1933. Prospecting was carried on near the origin of the Tobique, Nepisiguit and Miramichi rivers. A new vein was opened up on the Serpentine river near the mouth of Gold Brook; this consists of large lenses of quartz occurring in schist and is mineralized with pyrite, pyrrhotite, chalcopyrite and arsenopyrite. The vein is reported as auriferous.

Auriferous quartz was also reported as being discovered at the Guagus stream located about forty miles west of Newcastle.

QUEBEC - The 1933 production of fine gold in Quebec, valued at \$10,950,540 in Canadian funds, is an all time record for Quebec. The quantity for 1932 was slightly in excess of the 1933 figures but the exchange equalization was higher during the latter year.

In Quebec, lode gold in payable amounts has been found; up to 1932, only in the Rouyn-Harricana region, the eastward extension of the Porcupine and Kirkland Lake districts of Ontario. The deposits are of two general types, quartz veins and replacements. The quartz veins are mostly of the high-temperature type, characterized by such minerals as albite and tourmaline. Replacement deposits are of two types - in one the original minerals of the country rock are replaced mainly by carbonates, in the other by silica. The Beattie Gold Mines property in Duparquet township, on which attention is much centred at present, is of the replacement type. A 600 ton flotation mill was completed at this mine in 1933 and started practically at capacity the middle of May. By the end of the year the mill had treated a total of 145,000 tons of ore. The present mill has a capacity of 1,200 tons per day should the production of a lower grade concentrate be desirable. The Average grade of ore milled has varied from \$3.50 to in excess of \$4.00 (gold at \$20.67 per ounce). The main ore body is surrounded by assay walls, as values decrease outward, and arbitrary limits are set according to the grade of ore that can be profitably mined. Thus there is a compact mass roughly 1,100 feet long by 100 feet broad estimated to contain about 5,390,000 tons of ore averaging \$3.07 in gold within 500 feet of the surface and deeper drilling indicates that the ore continues to depth. The mineralization is of the disseminated sulphide replacement type; the deposit is the first of its character to be worked in Quebec and much interest is attracted to its development as success here may have a significant bearing on the possible developments of other low grade gold deposits.

At the Green Stabell mine in Dubuissou township a mill was completed and placed in operation on November 18. This was reported, in February, 1934, to be treating approximately 60 tons per day. The Siscoe Gold mine was in steady operation throughout the year; tonnage milled was reported at 96,347 as compared with 63,998 in 1932. Granada Gold Mines in Rouyn township conducted continuous mining and milling operations in 1933 and considerable development work was completed in addition to extensive diamond drilling. In Boischatel township Arntfield Gold Mines Limited carried on important and continuous surface and underground development operations. The mine and mill of the Bussieres Mining Company, in Louvicourt township, were in steady production during the year while in Cadillac township the property of O'Brien and Fowler Limited was active throughout 1933.

Various other prominent gold mining operations were conducted in the north-western part of the province, some of which included those of Canadian Malartic Gold Mines, Limited, Canadian Pandora Gold Mines, Limited, Lamaque Gold Mines, Limited, McWatters Gold Mines, Limited, Mathews Gold Mine, Limited, Northern Quebec Gold Mines, Limited, Stadacona Rouyn Mines Limited, Stanley Siscoe Extension Gold Mines, Limited, Sullivan Consolidated Mines, Limited, and Thompson Cadillac Mining Company Limited.

ONTARIO - Although Ontario's 1933 gold output at 2,155,519 fine ounces represents a relatively small decrease from 1932, the value of the 1933 production and including equalization exchange totalled \$61,647,843, the highest ever recorded for this province.

Development and exploration of auriferous deposits, together with intensive prospecting were general throughout the gold bearing areas of Ontario during the past year and the results of these activities would indicate a pronounced expansion in the gold mining industry of this already very important gold producing province.

A description by the Geological Survey of Canada of the more salient geology of the Porcupine and Kirkland Lake gold camps is summarized as follows:- The rocks in the Porcupine field include basic altered lavas of Keewatin age, unconformably overlain by conglomerates, greywackes and slates of Temiskaming age, all folded into steeply inclined attitudes and intruded by bodies of grey quartz-feldspar porphyry. The veins of the Hollinger, McIntyre, and nearly all the other producing properties lie in the Keewatin greenstones; those of the Dome mine have been found both in the Keewatin and Temiskaming series. The ore in the Hollinger and McIntyre mines consists of quartz and mineralized schist. The Dome ores also consist of quartz and mineralized schist but the original ore bodies were of irregular shape utterly unlike the more or less regular veins and lodes of the Hollinger and McIntyre mines.

In Kirkland Lake area conditions are quite unlike those at Porcupine. The mines are situated in the middle of a large mass of Temiskaming sediments; where the ore bodies occur the sediments are intruded by two igneous rocks, the older a sort of diorite, the younger a reddish syenite porphyry. The ore has formed in the crushed and shattered zone of a fault. The ore consists mainly of mineralized porphyry with more or less quartz. Gold and gold tellurides are the principal constituents of value.

The following data relating to some of the more important Ontario gold mining operations have been supplied through the courtesy of the various companies:-

Porcupine Camp - During 1933 Dome Mines Limited hoisted 566,400 tons; of this 546,500 tons was ore which was sent to the mill and treated, and 19,900 tons was waste which was dumped on the surface. In addition, 28,500 tons of waste was dumped into old stopes. The ore milled yielded bullion worth \$4,453,166.87 at \$20.67 per ounce, the yield per ton milled being \$8.1485. In addition, there was recovered from the re-treatment of by-products the sum of \$71,140.04. Of the tonnage milled, the stopes yielded 487,600 tons averaging 8.58 dwt. per ton (1 dwt. = 1/20 of an ounce Troy weight), and development work

yielded 58,900 tons averaging 4.58 dwt. per ton. Ore from the stopes wholly in the sedimentary area yielded 160,990 tons averaging 8.77 dwt. per ton while ore from stopes wholly in greenstones and partially in greenstones yielded 326,610 tons, averaging 8.24 dwt. per ton. Operating costs for the year were \$3.729 per ton. The ore reserves of the mine are estimated at 2,025,000 tons. This includes 718,600 tons of broken ore but does not include the 250,000 tons indicated as possible ore on the 24th and 25th levels. Ore in the sediments is estimated at 194,000 tons and the ore in the greenstones is estimated at 1,831,000 tons.

Hollinger Consolidated Gold Mines Limited milled 1,727,102 tons of ore of an average value per ton of \$8.26; the net value of gold recovered totalled \$13,778,683.49 (average value received per ounce of gold, \$28.61). The total yearly average cost per ton of ore mined and milled amounted to \$4.1948. Ore reserves of the company on the 1st of December, 1933, consisted of 6,487,559 tons of a total value of \$48,430,451, having an average value of \$7.47 per ton; these figures compare with 6,049,548 tons on the 31st of December, 1932, of a total value of \$45,492,076, having an average value of \$7.52 per ton. In the calculations dealing with ore reserves, the statutory price of gold, namely, \$20.67 per ounce, has been taken as the basis of value, and the same minimum ore grade as used in former years continued. It is interesting to note that 34 per cent of the ore milled came from above the 800 foot level.

McIntyre Porcupine Mines Limited production statistics for the fiscal year ended March 31, 1934, are as follows:-

Ore treated		776,845 tons
Value per ton (.339 ounces at \$31.50)	\$	10.68
Gross value	\$	8,296,704.60
Bullion recovered -		
Gold, 251,985.231 ounces at \$31.50	\$	7,936,872.10
Silver, 48,967.95 ounces at .418 cents	\$	20,380.44
Total value	\$	<u>7,957,252.54</u>
Recovered, per ton ..... .355 oz. - \$10.24		
Bullion marketing costs	\$	<u>55,970.01</u>
Net value of bullion recovered	\$	7,901,282.53

Ore hoisted totalled 785,135 tons and operating costs were:-

	<u>Cost per ton ore milled</u>
	\$
Mining -	
Exploration .....	.1194
Development .....	.4317
Breaking and stoping	2.6131
Total Mining	<u>3.1642</u>
Milling .....	.7957
Other .....	.2265
Grand Total	<u>4.1864</u>

Ore reserves consisted of 3,064,138 tons of which 2,867,859 tons were estimated; the average gold content of the combined reserves was estimated at .3482 ounces per ton with a value of \$7.20 per ton (gold at \$20.67).

KIRKLAND LAKE CAMP - During the fiscal year ending August 31, 1933, the Teck-Hughes Gold Mines, Limited, treated 474,500 tons of ore. The recovery of bullion and precipitate was the equivalent of 241,041.82 troy ounces of fine gold valued at \$6,139,174.72. After the addition of other income the gross revenue was \$6,246,585.89 or \$13.16 per ton of ore milled.

Following is an analysis of operating costs:-

	Cost per ton of ore treated	Cost per ounce of gold produced
	\$	\$
Development and exploration	1.04	2.04
Mining	2.35	4.62
Milling	0.97	1.91
General expense	0.56	1.12
Examination of new properties	0.03	0.06
Depreciation	0.62	1.22
Total	5.57	10.97

The technical estimate of "positive ore" reserve at September 1st is as follows:-

	Tons	Average grade in pennyweights per ton
Broken ore	274,481	11.06
Blocked ore	405,500	11.03
Total	679,981	11.04

For the twelve months period ending June 30, 1933, Lake Shore Mines Limited produced bullion valued at \$11,406,307.59 from 797,673 dry tons of ore treated in the mill. The recovery per ton of ore milled was \$14.30.

Statement of Lake Shore costs for the year:-

	Cost per ton milled
	\$
Development	1.113
Mining	2.871
Milling and refining	1.256
Marketing bullion .....	.082
General and administrative expense .....	.313
Operating cost	5.635
Depreciation .....	.980
Provision for taxes	1.156
Total Cost	7.771

Broken ore reserves stood at 219,859 tons valued at \$3,847,550. Reserves of blocked ore were increased during the year.

Wright-Hargreaves in 1933 hoisted and milled 285,465 tons of ore. Production was evaluated as follows: value of gold, \$3,662,837; exchange, \$1,283,431; silver, \$9,691.89, a total of \$4,955,960.43. Analysis of operating costs show a total cost of \$7.145 per ton of ore milled.

Macassa Mines Limited, adjoining the Kirkland Lake Gold mine on the west commenced milling on October 13, and by February, 1934, the daily milling rate was 200 tons.

Among the more prominent gold producers in Ontario areas, other than those of Kirkland Lake and Porcupine, are included the Howey Gold Mines and Ashley Gold Mining Corporation. The former company operate a low grade deposit in the Red Lake district; miscellaneous 1933 operating data reported by this company are:-

Tonnage milled and sorted	344,135
Tonnage discarded by sorting	53,170
Tonnage milled	290,965
Value a ton hoisted	\$ 2.73
Value a ton material discarded by sorting	\$ 0.54
Value a ton ore milled	\$ 3.12
Net percentage recovery a ton of ore hoisted	\$ 89.5%

During the year the capacity of the mill was increased from 900 tons to 1,350 tons a day; enough ore was treated at this increase to demonstrate that the total operating cost could be reduced to at least \$1.85 a ton. The broken ore reserves in the mine as of December 31, 1933, amounted to 276,526 tons, unbroken reserves totalled 1,751,755 tons and values are estimated between \$3.50 and \$4.00 a ton at the current price of gold.

Tonnage treated at the Ashley mine totalled 37,975 with an average grade of .456 ounces per ton. From this tonnage there was produced and marketed gold bullion which realized in Canadian funds \$497,969.

Many other important mining operations were conducted throughout various parts of the province, some of the more outstanding of these being those at the Young-Davidson mine in Powell township; McMillan in Mongowin township; Toburn, Barry Hollinger, Kirkland Lake and Sylvanite in the Kirkland Lake area; Lakeland in Maisonville township; Paymaster, Buffalo Ankerite and Coniarum in the Porcupine area, and in the Thunder Bay district and other areas in the western part of Ontario extensive mining work was performed by Little Long Lac Mines, Limited, McKenzie Red Lake Gold Mines Limited, Moss Gold Mines Limited (Ardeen), Minto Gold Mines Limited, Northern Empire Mines Limited, St. Anthony Gold Mines Limited, Kenty Gold Mines Limited, Casey Summit Gold Mines, Limited, Parkhill Gold Mines Limited, and others.

MANITOBA - Gold production in Manitoba totalled 125,310 ounces as compared with 122,507 in 1932 and the Department of Mines and Natural Resources for this province reports that in 1933 gold mining experienced great activity both in prospecting and in the development of new properties; new production and development programmes announced during the year should result in further increases in the production of gold in the near future.

The San Antonio and Central Manitoba mines treating gold quartz ores produced about 29 per cent of the gold. Small production of gold, totalling a few hundred ounces was reported by the following - Oro Grande Development Company Limited, North British Mining and Milling Company Limited; Hanson, McIlvaine and Rogers; I. G. Warren; Walsh Bros.; Tom Hanna; Capital Interests Limited; Vanson Gold Mines Limited and others.

One of the most interesting of the new gold mining developments is that at God's Lake; in this area shaft sinking was commenced in October, 1933, by God's Lake Gold Mines, Limited. Extensive diamond drilling conducted by this company is reported to have yielded very encouraging results. Extensive exploratory and development operations were also conducted at Island Lake by Island Lake Mines Limited.

The Geological Survey of Canada states in a report issued in 1932 that throughout the whole of eastern Manitoba and the adjacent part of Ontario, the gold deposits have the same genetic relations as in the Lake of the Woods district. In eastern Manitoba the rocks consist of lavas and interbedded sediments intruded by ... a later granite. The gold deposits are quartz veins associated with the later granite. Similar conditions occur in that part of the northern Manitoba field extending from Amisk lake to Wekusko lake. The greater part of the gold is free; accompanying sulphides, in most of the known properties, carry a minor percentage of the values.

SASKATCHEWAN - The gold output of this province consists almost entirely of the precious metal estimated as contained in ores extracted from that part of the Flin Flon copper deposit lying on the Saskatchewan side of the boundary.

The Saskatchewan Department of Labour, Railways and Industries at Regina, reports that during 1933 a considerable number of mining claims were staked in close proximity to the Hudson Bay Mining and Smelting Company's mine at Flin Flon. Many of the claims are in Saskatchewan in the neighbourhood of Phantom, Douglas and Bootleg lakes. In addition to these newly staked claims, some activity is anticipated at Beaver Lake on the Graham claims and on the Amisk Lake Gold Mining Syndicate, the latter properties now being in litigation.

ALBERTA - Production from Alberta represents shipments made to the Royal Canadian Mint, Ottawa, and is assumed to be of alluvial origin.

BRITISH COLUMBIA - Gold production in British Columbia amounted to 238,995 ounces as compared with 199,004 in 1932. Of the output during the last calendar year 122,293 ounces were contained in gold bullion produced from lode mining and 19,142 ounces in crude placer gold, the remainder was contained in blister copper and base bullion made and in ores exported.

In British Columbia practically all of the known lode gold deposits are in mesozoic rocks and are considered to be genetically related to the great intrusion of granodiorite known as the coast range batholith, or to batholiths, approximately contemporaneous with it.

Deposits mined wholly or largely for their gold content have been, until recently, comparatively few. The mines of Bridge River and Sheep creek districts, the Hadley deposits, the Surf Inlet mine and the Engineer mine, are those in which gold is or was almost the only constituent of value. In the Rossland deposits and the Premier mine, gold was the principal constituent, but there are others of great value. Some gold is recovered from sulphide bodies of more or less complex composition, which are mined mainly to recover other metals (copper-gold-silver and silver-lead ores).

The Department of Mines of British Columbia states that in 1933 as in 1932, gold mining activity was the brightest phase of British Columbia's mining industry. During the year activity was general throughout the province, with particular attention being devoted to the Bridge River, Cariboo and Nelson-Salmo areas. In 1934 it was indicated that increased activity in the Bridge River, Nelson-Salmo, and Penticton-Rock Creek-Greenwood areas will take place. In these, as well as in many other mining camps scattered throughout the province, prospecting and scouting engineers are re-examining old

properties and new discoveries in the light of recent price developments for gold, and many new developments have been planned for 1934.

During 1933 the Bralorne mill capacity was increased from 120 to 200 tons per day. The old motherlode mill, acquired by the Reno Gold Mines, was reconstructed and brought into full production on a 75 ton per day basis. The small pilot mill at the Vidette mine was reconstructed, also a 30 ton per day mill was constructed at the Surf Point mine and production commenced. At the Second Relief mine near Nelson the milling plant was reconstructed and increased to handle 40 tons per day. Small milling plants of a few tons per day capacity were under construction at various places in British Columbia.

In 1934 it is expected that several mills for gold mines will be built, including one at the Wayside in the Bridge river district and one for the Dentonia Mining Company near Greenwood, both of 100 tons daily capacity.

At the Premier mine in the Salmon river section exploration which included 6,045 feet of diamond drilling has been continued adjacent to the producing areas but no new ore of importance has been located. The total tonnage produced in 1933 amounted to 185,421 dry tons. Total output for the year amounted to 49,469 ounces of gold and 1,002,487 ounces of silver. The Big Missouri mine in the same area resumed exploratory operations.

The sequence of events, which may without exaggeration be termed "the second Cariboo Gold Rush" illustrates very pointedly the far reaching beneficial effect of the growth of the mining industry. Locally, that effect was very marked, states the British Columbia Department of Mines. The old towns of Barkerville, Quesnel and Stanley were transformed and rapidly expanded both in size and population; a new town named Wells, after Fred. Wells, appeared on the map. Employment was found for hundreds.

The output of the Cariboo Gold Quartz Mining Company Limited, for 1933 totalled \$228,908, a distinctly satisfactory result in view of the fact that this property, which commenced milling operations on January 2, 1933, was experiencing its first year of productive life.

During 1933 Pioneer Gold Mines Limited, operating in the Bridge river area, mined and milled 100,159 tons of ore producing 82,519 ounces of fine gold. The mill has been steadily treating over 300 tons of ore per day. Development on the lower levels, below the tenth, on the main vein at the shaft has exposed fine ore bodies, the bottom of the fourteenth level is reported as exceptionally promising. In the same area Bralorne Mines Limited reported the very encouraging development of a good grade of milling ore; some 6,000 feet of development work was done during the year on the Nos. 6, 7, 8 and 10 levels, mainly developing the King vein.

Other gold developments in the province, include those at the Engineer, Dunwell, Windpass, Nicola, Union, Grandoro, Home, Morning Star, Midway, Meridian, Monarch, Kootenay Belle, Venus-Juno, Queen, Enid Julie, Wayside, etc., these are described in detail in the 1933 annual report of the British Columbia Department of Mines, Victoria, B.C.

YUKON - The following information relating to auriferous quartz mining in the Yukon is from the report on mining lands in the Yukon Territory by the Department of the Interior for the fiscal year ending March 31, 1934:-

"Prospecting has continued in the Carmacks district with very satisfactory results on what is known as the Langham group of claims on Mount Free Gold. W.J. Langham ran a 65 foot tunnel on the border of the Goose and Fish Hook claims; several open cuts were also made and the finding of good ore is claimed. No further development was done

during the year on the Lone Star group near Dawson. Thirty-seven quartz grants were issued in the Dawson district during the year."

SOME EVENTS OF INTEREST RELATED TO CANADIAN GOLD PRODUCTION

- 1654 - Louis XIV of France granted a concession to Nicholas Denys to mine gold, silver, copper and other minerals on Cape Breton Island.
- 1823 - Gold discovered on Chaudiere river, Quebec, by a woman.
- 1843 - Geological Survey of Canada instituted under Sir Wm. Logan.
- 1852 - Free gold discovered in quartz at Mitchell harbour, Queen Charlotte Islands, B.C. First gold rush in British Columbia.
- 1855 - Placer gold found at mouth of Pend d'Oreille river, B.C.
- 1858 - Discovery of placer gold in lower reaches of Fraser river, B.C.
- 1859 - Passage of Goldfields Act in British Columbia. Placer miners penetrate to Cariboo and Quesnel, B.C.
- 1860 - John Pulsiver discovered gold in Tangier district, Halifax county, N.S. Pete Toy bar discovered at the Parsnip and Findlay rivers, British Columbia.
- 1862 - Gold discovered in Lawrencetown, Isaacs Harbour and Renfrew districts, N.S.
- 1866 - First discovery of gold in the Canadian Pre-Cambrian shield near Madoc, Hastings County, Ontario, made by a Dutch prospector named Powell.
- 1869 - Gold discovered in Yukon river.
- 1871 - Huronian mine, Northwest Ontario, located by Peter McKellar.
- 1873 - Dease Lake areas, B.C., staked for placer gold. First staker - W. H. Smith.
- 1885 - Cayoosh Creek placers staked in British Columbia.
- 1887 - R. W. McArthur and Wm. Forest discovered cyanide process for gold extraction, Glasgow, Scotland.
- 1889 - Rossland Camp, B.C., opened by staking of Lily May by Joe Bourjouis.
- 1891 - First shipments from Rossland, B.C., go to Butte, Montana. Sultana mine, Lake of Woods district, Ontario, opened.
- 1893 - Mikado mine, Lake of Woods district, Ontario, discovered.
- 1896 - British Columbia Smelting & Refining Company started smelting Rossland ores at Trail, B.C. Discovery of placer gold in Klondike, Yukon Territory.
- 1897 - Pioneer mine, British Columbia, located by Wm. Allen.
- 1898 - Atlin Goldfields, British Columbia, discovered. Britannia mine, British Columbia, discovered by Oliver Furry.

SOME EVENTS OF INTEREST RELATED TO CANADIAN GOLD PRODUCTION - Continued.

- 1900 - Klondike gold production reaches maximum. Granby Consolidated Mining, Smelting and Power Company incorporated.
- 1903 - St. Anthony mine, Sturgeon Lake, Ontario, commenced production. First mining at Hedley, British Columbia.
- 1904 - Copper-gold ores discovered in Chibougamou district, Quebec.
- 1906 - Ollier and Renault discover gold on Lake Fortune, Quebec. Gold discovered at Larder Lake, Ontario.
- 1908 - H. F. Hunter discovers gold in Porcupine area, Ontario. Branch of Royal Mint established at Ottawa.
- 1909 - Hollinger gold veins discovered in Porcupine area by Benjamin Hollinger, John Miller and Alex. Gillies. McIntyre mine veins, Porcupine, discovered by Alex. McIntyre. Dome Mine ores, Porcupine, discovered by John Wilson and associates.
- 1910 - Premier mine, British Columbia, discovered by Bunting Bros. and Wm. Dilsworth.
- 1911 - First gold discovery in vicinity of Kirkland Lake, Ontario, made by W. H. Wright on what is now known as the Wright-Hargreaves mine. Porcupine Camp destroyed by fire. Discovery of gold in Dubuisson township, Quebec, by J. J. Sullivan and H. Authier. First recorded discovery of gold in Manitoba by Major E. A. Pelletier, at Rice Lake.
- 1912 - Hollinger mine, Porcupine, starts milling. Harry Oakes staked ground later known as Lake Shore mine at Kirkland Lake, Ontario.
- 1913 - Tough-Oakes mine, Kirkland Lake, shipped high grade ore. Gold discovered on Kirkland Lake properties later known as Lake Shore, Teck-Hughes, Kirkland Lake and Sylvanite mines.
- 1915 - Siscoe mine claims staked in Quebec by S. E. Siscoe. Flin Flon ore deposits discovered by Thos. Creighton.
- 1917 - Teck-Hughes mine, Kirkland Lake, started milling.
- 1918 - Premier mine, British Columbia, came into production.
- 1921 - Noranda ore deposits, Quebec, staked by Ed. Horne.
- 1923 - Granada mine claims, Quebec, staked by R. C. Gamble et al. Sherritt-Gordon ore deposits staked in Manitoba by Carl Sherritt and Philip Sherlett.
- 1925 - Discovery of gold in Red Lake District by Lorne Howey on what was later known as the Howey mine.
- 1927 - Noranda mine commenced shipping smelter operated. Central Manitoba mine commenced milling.
- 1928 - Coniaurum mill, Porcupine, commenced operations. Disastrous underground fire at Hollinger mine.
- 1929 - Siscoe gold mine, Quebec, started producing. Dome mine mill, Porcupine, destroyed by fire. McIntyre mine, Porcupine, erected small flotation plant.

SOME EVENTS OF INTEREST RELATED TO CANADIAN GOLD PRODUCTION - concluded.

- 1930 - Gold discovered on what is known as Ashley Mine (Ontario).
New mill at Howey mine, Red Lake, Ontario, commenced operations.
Granada mine, Quebec, commenced production.
Canada attained position of world's second greatest gold producer.
- 1931 - Lake Shore mine, Kirkland Lake, installed flotation unit in mill.
Gold discoveries made in Swayze and Three Duck Lake areas, Ontario.
Parkhill and Minto mines in Michipicoten district, Ontario, came into production.
Exports of gold bullion without license prohibited by Dominion Government.
Great Britain goes off the gold standard on September 21, and is followed by many other countries.
Toburn mine (Tough-Oakes) re-opened.
- 1932 - Ashley gold mine, Ontario, commenced production.
O'Brien-Cadillac mine, Quebec, commenced milling.
San Antonio mine, Manitoba, commenced production.
Treadwall-Yukon mine on Bussiere claims in Quebec commenced production.
Moss mine, Thunder Bay district, commenced production.
- 1933 - United States goes off gold standard April 19th.
Beattie gold mine, Quebec, commenced production of concentrates.
Cariboo Gold Quartz Mining Co., Barkerville, B.C., starts producing.
- 1934 - United States in January reduced the weight of the United States dollar from 25.8 grains to 15 5/21 grains, 0.9 fine, thereby establishing the price of gold at \$35 per ounce.
Dominion tax on gold came into effect April 19th.

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PRINCIPAL STATISTICS OF THE COPPER-GOLD-SILVER MINING INDUSTRY IN CANADA, 1923 and 1928-1933.

Year	No. of active opera- tors	No. of operating plants or mines	Capital employed \$	Number of employ- ees	Salaries and wages \$	Cost of fuel and electricity \$	Net value of ores and con- centrates shipped by mines \$
1923 ..	14	14	19,108,072	1,790	3,004,292	334,696	4,361,486
1928 ..	164	174	50,004,340	4,777	6,764,309	731,836	15,281,519
1929 ..	144	152	52,546,697	5,243	8,498,755	1,035,133	21,859,907
1930 ..	61	68	45,844,395	5,694	9,156,759	1,272,262	15,629,564
1931 ..	53	56	37,127,920	3,351	4,958,317	726,502	15,951,103
1932 ..	28	30	14,793,372	3,076	3,770,627	463,463	11,143,759
1933 ..	28	29	40,228,626	2,841	3,938,778	404,625	7,703,570(a)

- (a) The considerable decrease in the value of 1933 shipments as compared with those for 1932 results largely through the companies reporting costs rather than estimates of market prices for metal contents. This practice is confined to some of the larger base metal mining companies which operate both mines and metallurgical plants. Decreases of this nature in the value of mine products are compensated for by increases in the non-ferrous smelting and refining industry and thereby do not affect the grand total representing the net value of Canadian mineral sales.

SHIPMENTS FROM COPPER-GOLD-SILVER MINES OF CANADA, 1932 and 1933.

	Total metal content as determined by settlement assay						
	Quantity	Net	Gold	Silver	Copper	Sulphur	Zinc
	Tons	value	Fine oz.	Fine oz.	Pounds	Tons	Pounds
		\$					
<u>1932</u>							
14 mines shipped to Canadian plants							
Ores	850,451	3,283,720	314,784	564,983	51,905,334	...	...
/Copper concen-							
trates	451,117	6,479,044	129,356	1,386,662	110,311,196	...	...
Zinc concentrates..	76,507	455,348	7,535	157,843	2,181,377	...	68,258,142
Iron pyrites con-							
centrates	3,465	10,925	...	...	...	598	...
3 mines shipped to Foreign plants -							
Ore	54	3,065	157	28	...	...	...
Copper concen-							
trates	37,558	758,053	8,868	87,346	18,625,044	...	...
Iron pyrites con-							
centrates	48,584	153,604	...	...	...	24,231	...
TOTAL	1,467,736	11,143,759	460,700	2,196,862	183,022,951	24,829	68,258,142
<u>1933</u>							
9 mines shipped to Canadian plants							
Ores	867,789	(a)914,642	223,494	328,918	39,561,914	...	...
/Copper concen-							
trates	495,370	4,859,812	171,954	1,619,387	107,952,457	...	...
Zinc concentrates.	80,780	565,460	...	...	...	...	55,938,867
Iron pyrites con-							
centrates .....	...	...	...	...	...	...	...
4 mines shipped to Foreign plants -							
Ore .....	...	...	...	...	...	...	...
Copper concen-							
trates	28,541	1,104,146	12,933	65,969	14,654,498	...	...
Zinc concentrates.	8,929	70,460	...	...	...	...	9,374,675
Iron pyrites con-							
centrates	58,604	189,050	...	...	...	28,178	...
TOTAL	1,540,013	7,703,510	408,381	2,014,274	16,2168,869	28,178	65,313,542

(A) Includes some cyanide precipitate.

(a) The considerable decrease in the value of 1933 shipments as compared with those for 1932 results largely through the companies reporting costs rather than estimates of market prices for metal contents. This practice is confined to some of the larger base metal mining companies which operate both mines and metallurgical plants. Decreases of this nature in the value of mine products are compensated for by increases in the non-ferrous smelting and refining industry and thereby do not affect the grand total representing the net value of Canadian mineral sales.

NEW BRUNSWICK - Work of an exploratory character was carried out on the copper ores of Adams Island in Charlotte county. This was conducted only during the summer months, the property remaining idle during the winter of 1933-34.

QUEBEC - The mine and mill of the Consolidated Copper and Sulphur Co., Eustis, were in continuous operation throughout 1933. Shipments of copper and iron pyrites concentrates were made to the United States. The company completed a considerable amount of development work consisting of shaft sinking, crosscutting, drifting and raising. This is Canada's oldest copper producing area, the Eustis mine being opened here in 1865.

The tonnage and average grade of ore shipped in 1933 from the Horne mine to the Noranda smelter and concentrator were as follows:-

	Tons	Metal Copper	C o n t e n t	
			Gold per ton	Silver per ton
Direct smelting ore	427,207	3.48%	0.325 oz.	0.52 oz.
Silicious fluxing ore	365,399	0.64%	0.166 oz.	0.15 oz.
Concentrating sulphide ore	678,318	2.369%	0.152 oz.	0.35 oz.
TOTAL	1,541,524			

This total represents an increase of 26.5 per cent over that for the previous year.

During 1933 the Noranda smelter treated 1,010,629 tons of ore, concentrate and refinery slag from which were produced 65,008,731 pounds of fine copper, 284,675 ounces of gold and 510,739 ounces of silver; the corresponding figures for 1932 were -- 918,567 tons of ore, etc., treated, 63,013,485 pounds of fine copper, 341,350 ounces of gold and 619,597 ounces of silver produced.

The following table shows the amount of ore treated by the Noranda concentrator since it was placed in operation:

Year	Tons
1928	4,468
1929	51,689
1930	191,856
1931	317,792
1932	379,637
1933	676,168

From information obtained in drifting, diamond drilling, inclined raising and other openings in the various Horne ore bodies, there is now indicated above the 2,475 foot level the following tonnage of the three classes of ore treated:-

	Tons	Copper	Gold per ton
Direct smelting ore	5,875,000	7.34%	0.144 oz.
Concentrating ore	16,580,000	1.12%	0.197 oz.
Silicious fluxing ore	890,000	0.15%	0.130 oz.

Notwithstanding the fact that ore shipments were increased 26.5 per cent over the shipments for the previous year, the tonnage of ore reserves shows a very material increase. The construction of an addition to the concentrator, designed to provide additional capacity of 1,000 tons per day and also to regrind and re-treat the entire mill tailing, was started in October, 1933, and it was expected that these new units would go into operation in April, 1934.

In Desmeloizes township, the Normetal Mining Corporation commenced work on their property (Abana) in August. The shaft was deepened to 800 feet and two new levels established at 675 and 800 feet with the object of developing ore previously indicated by diamond drilling. There were no shipments of ore made from the mine.

Operations of an exploratory nature were conducted in the Rouyn area in 1933 by Brownlee Mines Ltd., Glenwood Mining Co. Ltd., Astoria Rouyn Mines, Ltd., Bagomac Rouyn Mines, Ltd., and others. Towards the latter part of the year Aldermac Mines Ltd., operating in Boischatel township, hoisted and milled some 2,500 tons of copper ore and made a small shipment of concentrates to the Noranda smelter.

During the year Noranda's subsidiary, the Waite-Ackerman-Montgomery Mines Ltd., changed its name to Waite Amulet Mines, Ltd. Now that these properties are united, ore from both mines will be treated in the Amulet mill at such time as production is resumed.

ONTARIO - Practically all of the copper produced in Ontario during recent years has been derived from the nickel-copper ores of the Sudbury district. The mining of these ores is included in the nickel-copper mining, smelting and refining industry in Canada, data pertaining to which are contained in a separate bulletin issued for this particular industry. Gold contained in ores mined by the International Nickel Company of Canada, Limited, was recovered during 1933 in metallurgical plants operated at Copper Cliff, Ontario, and Acton, England. Gold sales in 1933 were reported by the company at 21,355 ounces. Falconbridge Nickel Mines, Limited, also operating in the Sudbury district, report that at the end of 1933 construction work was going on at its Norwegian refinery in preparation for separating the precious metals contained in matte shipped from Canada.

The only other mining of Ontario copper-bearing ores in 1933 consisted of the hoisting of a relatively small tonnage from the Amity mine situated at Boston Creek, on the T. & N. O. Railway; this production went to the Noranda smelter.

MANITOBA - The mining of copper-gold-silver ores in Manitoba during 1933 was almost entirely confined to the operations on the Flin Flon deposit of the Hudson Bay Mining and Smelting Co. Ltd. It is to be noted that these particular ores possess an important zinc content.

During 1933 the Hudson Bay Mining and Smelting Co. Ltd. mined from both open pit and underground, and milled a total of 1,604,869 tons of ore averaging per ton .084 ounces gold, 1.26 ounces silver, 1.68% copper and 3.9% zinc from which, together with 610 tons of purchased custom ore, it produced and sold 94,745 ounces of gold, 1,210,666 ounces of silver, 40,941,102 pounds of copper and 46,305,736 pounds of zinc. The company reports that gross income from sales of metals produced during the year was \$7,422,446.58 and after deduction of operating costs, interest, depreciation and taxes, a profit of \$780,524.18 was earned.

The daily tonnage of ore mined from underground was 1,755 tons and there was delivered from underground to the mill 640,178 tons of ore which assayed - gold, .068 ounces; silver, 1.28 ounces; copper, 1.82%, and zinc, 4.0%. In addition 299 tons of disseminated ore went direct to the smelter to be used as fettling material.

The open pit, as usual, was operated continuously during the year. There were mined from the open pit and sent to the concentrator during the year 963,924 tons of ore assaying - gold, .081 ounces; silver, 1.24 ounces; copper, 1.59%, and zinc, 3.8%. In addition, 4,072 tons were sent direct to the smelter and 5,412 tons of material, which at higher metal prices will be workable, was placed in a special low grade stockpile. Three major and two minor blasts were fired in the open pit in 1933. These three blasts broke a total of 1,310,554 tons of material.

The concentrator during 1933 treated a total of 1,604,869 tons of ore or 165,218 tons more than the amount treated in 1932. From the above tonnage there were produced 239,590 tons of copper concentrates assaying - gold, .333 ounces; silver, 4.57 ounces, and copper, 8.98%, and 80,780 tons of zinc concentrates assaying gold, .088 ounces; silver, 1.94 ounces; copper, 1.10%, and zinc, 45.0%.

The cyanide annex continued to operate successfully during the year and the higher price for gold made its operation even more advantageous than in the past. This plant treated 966,603 tons of sulphide ore tailings from which was recovered zinc dust precipitate containing 15,142 ounces of gold, 157,828 ounces of silver and 88,027 pounds of copper. This material was sent direct to the copper converters.

There were treated by the zinc plant during the year 66,869 tons of zinc concentrates.

The copper smelter was operated continuously during the year, almost entirely upon concentrates produced by the company; only 610 tons of custom ore and concentrates were treated.

Notwithstanding the steady increase in the yearly rate of ore production the ore reserves of the mine have been fully maintained both as to tonnage and grade. The company reports that the property is in good condition and that it now employs continuously 1,250 men and its operations directly support the town of Flin Flon with approximately 5,000 inhabitants. A considerable number of men have been taken from Manitoba and Saskatchewan farms, trained to work at the mill, and have become intelligent and satisfactory workmen. This is a help to the farmers of the two provinces inasmuch as a good part of the money received by this class of labour is returned by workmen to help out their people at home.

SASKATCHEWAN - Copper-gold-silver ores mined in this province come entirely from that part of the Flin Flon ore body lying to the west of the Saskatchewan-Manitoba boundary. Particulars relating to the operations of the Hudson Bay Mining and Smelting Company in 1933 are included under Manitoba.

BRITISH COLUMBIA - The mining of copper-gold-silver ores in British Columbia during 1933 was largely confined to the Hidden Creek and Bonanza mines of the Granby Consolidated Mining, Smelting and Power Co. Ltd., and to the Britannia mine on Howe Sound.

During the first part of 1933 a strike at the Anyox plants of the Granby Company necessitated the suspension of operations for a short period. With very creditable energy and organization, operations were quickly resumed and have continued on a normal capacity basis, the mill treating about 5,000 tons of ore daily. The British Columbia Department of Mines states that at Hidden Creek a feature of the mining has been the breaking of large ore-tonnage from old stope-sills and bottoms by large blast mining methods. At the Bonanza mine production has been maintained and exploration has been carried out on the north side of the second level with indications of ore and structure continuity.

At Anyox the average net cost of producing copper is shown in the following extract from the 1933 Annual Report of the Granby Consolidated Mining, Smelting and Power Co. Ltd. -

"The net cost per pound of refined copper produced after allowing credits for gold and silver values and miscellaneous income, but exclusive of depreciation and depletion, was 6.74 cents.

"Recalculations of the ore reserves of the Hidden Creek and Bonanza mines were made during the year. The reserves at the end of the year, compared with the previous year, were as follows:-

	<u>December 31, 1932</u>	<u>December 31, 1933</u>
Anyox-Hidden Creek mine	3,870,365 tons	3,426,700 tons
Anyox-Bonanza mine	307,327 tons	138,131 tons
Allenby-Copper Mountain mine (idle) ..	9,885,069 tons	9,885,069 tons

"As forecast in last year's report of the Company, at the present rate of extraction and unless new ore is found, the recoverable ore reserves of the Anyox mines will be exhausted in about two years."

Ore milled by the company in 1933 totalled 1,534,200 tons having an average copper content of 1.31 per cent as compared with 1,740,300 tons with a copper content of 1.27 per cent in 1932.

The Department of Mines of British Columbia reports that in 1933 the Britannia Mining and Smelting Co. Ltd. operated on a curtailed basis with the object of giving employees sufficient work to keep them and keep the organization intact as far as possible. Ore was mined almost entirely from the East Bluff mine where the gold content is higher and the zinc content is sufficient to warrant a zinc separation. High grade zinc concentrates containing 54 per cent zinc were shipped from the Britannia for the first time. These shipments could not be made under normal production conditions as the general run of mine ore would not contain enough zinc to make the separation economical. There were 622,718 tons of ore milled (compared with a tonnage of 1,920,339 in 1929) from which about 8,000,000 pounds of copper (including precipitates), 12,819 ounces of gold and 42,799 ounces of silver were recovered. The pyrite-concentrate production of the company amounted to 16,629 short tons.

The re-opening of the Rossland properties of the Consolidated Mining and Smelting Co. to leasers resulted in a production of over 7,000 ounces of gold from unworked stope and shaft pillars in the old Le Roi, Centre Star, Josie, War Eagle and other mines.

INTERNATIONAL REVIEW(SUMMARY)

Some notes, of an abridged nature, relating to gold mining in countries other than Canada are appended. It is hoped that these may prove of some interest or importance for comparative purposes.

UNION OF SOUTH AFRICA

Excerpts from an address delivered by Mr. P. M. Anderson, President of the Transvaal Chamber of Mines, March 26, 1934.

Operations on the mines of the Witwatersrand, including Heidelberg:-

	1933	Increase or Decrease compared with 1932	
			Per cent
Tonnage milled	36,860,900	/ 1,954,450	/ 5.6
Yield dwt. per ton	5.84	0.64	- 9.9
Ounces produced (including miscellaneous producers)	10,841,054	537,010	- 4.7
Value	67,605,000	/£18,611,000	/ 38.
Working costs per ton	19s. 5d.	/ 2 d.	/ 0.9

The following are estimated in round figures:-

Total working profit	31,500,000	/£16,250,000	/106.
Working capital and other provisions out of working profits	3,250,000	/£ 1,250,000	/ 62.
Government share of leases and taxation..	14,750,000	/£10,500,000	/247.
Dividends to shareholders	13,500,000	/£ 4,500,000	/ 50.

"One of the most vital consequences of the increase in the price of gold is the encouragement thereby afforded for the mining of lower grade ore, not only in existent operating mines but also in dormant mines, and in the new areas hitherto regarded as too speculative to justify exploration. What has been done in the direction of mining such lower grade ore in the Witwatersrand producing mines is not fully disclosed by the statement that the average grade of ore treated in 1933 is 0.64 dwt. lower than the average for 1932, for the grade has been lowered progressively and concurrently with the rise in the price of gold, so that the ore worked last month was rather more than one dwt. lower than in December, 1932.

"It is probable that at this lowered grade the prospect of "life" of the Rand within the limits of the existing mines has been doubled, compared with the conditions of only fifteen months ago. ... During this period, in addition to some expansion in treatment plants, vigorous programmes of shaft-sinking have been initiated along the whole Rand. There are now over twenty of these new main arteries either in course of sinking or of active preparation therefor, and this fact gives an indication of the vast scale on which capital expenditure is being undertaken. Employment for all classes of workers is increasing and the market for the products of local agriculture and industries is expanding ... Apart from these and many other direct and indirect benefits to the state, the revenue accruing to the Treasury by way of additional direct taxation in respect of the past year's

working not only enabled the Union budget to be balanced but also wiped out the accumulated deficits of the previous three years.

"The wages paid to Europeans on the gold mines, excluding staff, apprentices, and learners, averaged 21s. 7d. per day for surface workers and 24s. 10d. for underground workers.

"... We have recommended a pension scheme applicable to all employees on retirement in certain circumstances as from January 1st, 1934. As a result, we have adjusted our original idea of a contribution of £12 per employee ^{per annum} to one of £14 8s. 0d. per employee (contingent upon the continued prosperity of the industry) and in addition have made special initial grants amounting to £600,000 to start the fund. The total contribution to be provided by the gold mines by the end of this year will be approximately £1,000,000 of which about £300,000 was provided for in their 1933 accounts."

The Commercial Intelligence Service of the Department of Trade and Commerce, Ottawa, reports that the gold production of South Africa continues to keep well up and large developments are expected to take place if the method of taxing the mines is satisfactory to the industry. At the present time about half the gold premium is taken by the government. The Minister of Finance for South Africa has justified this action in his budget speech in the following words:-

"The great prosperity of the gold mines is not due to their material contribution to the national wealth. In 1932 the mines produced 11,500,000 ounces of gold and in 1933 only 11,000,000 yet in spite of the fact that they produced over half a million fewer ounces they actually received \$95,000,000 more for their output. It must be clear to everyone that it is the action of the State in depreciating our currency and not any action of the mines, which is responsible for the larger income from the industry. The state is, therefore, justly entitled to a large share of the excess profits, and will go on taking this share."

Under the new mining taxation proposals, the Minister of Finance has so adjusted the tax that it will allow for the development of low grade mines, and it is also so arranged that it will in no way retard the development of new properties.

The following table from the "Statist", London, sets out how the additional profits of last year were distributed by the producing subsidiaries of two of the principal Rand groups:-

<u>Company</u>	<u>Additional profits</u> <u>£</u>	<u>To Union Government</u> <u>£</u>	<u>To Share- holders</u> <u>£</u>
Government areas	1,471,809	993,046	420,000
New State areas	849,517	720,630	56,777
Randfontein	1,190,275	920,490	50,795
Langlaagte	279,983	292,463	Nil
Van Ryn Deep	357,921	313,230	Nil
Brakpan Mines	720,682	639,528	175,950
Springs Mines	711,096	551,704	168,750
West Springs	261,131	192,393	67,237

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UNITED STATES

An advance summary of gold mine production in the western states and Alaska as issued by the United States Bureau of Mines contains the following information:-

"Production of gold in 1933 in the 13 western states and Alaska came mainly from the well-established and well-developed mines in the old districts. The Alaska output came chiefly from the Alaska-Juneau lode mine and from floating dredgeboats at Fairbanks and Nome. The California output came chiefly from the lode mines of the Grass Valley, Nevada City district and from the floating dredgeboats of the Sacramento valley. The Colorado output came chiefly from Cripple Creek, Alma and the San Juan region. The South Dakota output came almost entirely from the long lived (1876 to date) and well-developed Homestake mine at Lead. From 1876 to 1932 inclusive this mine has yielded bullion and concentrates valued at \$253,394,489; dividends paid in 1933 were \$3,747,307. Seventy per cent of the gold output of Arizona came from the refinement of copper. Idaho production came chiefly from four floating dredge-boats, and from lode mines at Stibnite, Orogrande and Atlanta. Montana increased its production from 40,602 ounces to 51,102, the output coming from the Jardine, Story dredge boat, Anaconda Copper Co., and others. Production in Nevada showed a decrease, the leading producer in this state was the Nevada Consolidated Copper Co. at Ely. New Mexico's small gold increase came from increased lead-silver-gold-copper concentrates from the Pecos zinc-lead mine at Tererro and from renewal of operations at Pinas Altos. Oregon's small increase was from placer operations including both dredge boats and small scale placers. Utah's gold output of 108,841 ounces showed a decrease owing to a falling-off in total gold content of ores mined at Bingham and lessened production in the Tintic district. The output of gold from Washington fell from 5,082 ounces in 1932 to 4,800 ounces in 1933. The gold yield from Wyoming showed an increase at 2,203 ounces. Production from these thirteen states and Alaska totalled 2,320,015 ounces in 1933 as compared with 2,328,963 fine ounces in 1932."

RUSSIA

The Soviet Union Information Bureau publishes the following information relating to the Russian gold mining industry:-

"In 1933 the gold industry of the Soviet Union increased its production by 42.4 per cent in comparison with the year before - the greatest increase of any branch of Soviet heavy industry. At the present time the production of Soviet gold industry is double that of Tsarist times. In 1933 it amounted to about 100,000,000 rubles. In 1913 in Russia only 20 per cent of the whole gold industry was mechanized. In 1932 the extent of mechanization had reached 55 per cent and in 1933 over 70 per cent. In 1928 only one electrical dredge was operating in the goldfields of the U.S.S.R. By the end of 1933 there were 16. The total number of dredges, both steam and electric, amounted to 85 at the end of 1933. In 1928 there were no "factories" of the American type carrying on the complete cycle of the concentration of gold ore. There are now six. The number of amalgam factories increased from 34 in 1928 to 85 in 1933. The number of factories procuring gold by chemical means increased in the same period from 11 to 51. In addition to this 6 new factories of this type were put in operation in the first quarter of 1934. Belts, pneumatic shovels, scrapers, electrical cars and many other types of machinery are now being widely used... A large number of plants are now manufacturing the complex equipment required for the gold industry ... The gold industry of the U.S.S.R is now being supplied with Soviet made excavators, steam shovels, mills, classifiers, etc... Central electrical stations have been constructed in a number of goldfields - in Kholbon, Seligdar, Kerb, Udyl, and elsewhere.

"The old gold districts are being developed as fully as possible and in addition a number of new goldfields have been opened up. Among them should be noted such rich and promising regions as Aldan and Yakutia. Other new districts are Darasum and Bolei. Scientific expeditions and exploring groups are constantly at work looking for new gold-bearing districts throughout the vast territory of the U.S.S.R."

INDIA

The Mysore Gold Mining Co. report a production of 91,524 ounces of fine gold during the twelve months ending December 31, 1933, or 2,900 ounces more than in 1932. The company received an average price of £6 4s. 3d. an ounce as against £5 16s. 6½d. in 1932. Although the company extracted 177,000 tons of ore during the year, the reserves of payable ore, some 406,000 tons averaging over 14 dwts. in value have not only been maintained but slightly increased. The overall extraction from the treatment plant was 98.06 per cent. Tonnage crushed in the mill was 177,004 tons of an average grade of 10 dwts. 13 gra. per ton.

NEW GUINEA (MANDATED TERRITORY)

Bulolo Gold Dredging Ltd. report in March, 1934, that dredges 1 and 2 from May 31 of last year had treated 5,110,600 yards for a recovery of 108,885 ounces of bullion containing 72,446 ounces gold and 35,828 ounces of silver, showing an average yield in fine gold of 6.83 grains per cubic yard. There were now three dredges in operation and the fourth would be at work by the end of the year.

FRENCH EQUATORIAL AFRICA

During the last three years a marked revival of gold output was recorded in French West Africa, states "The Mining Journal", London. The gold exports of that country rose from 201 kilogrammes in 1930 to 1,429 kilogrammes during the nine months of 1933. This increase in the gold production is entirely due to the return of a great number of negroes to gold mining. In the district of Siguiri, French Guinea, 1,600 square miles are allocated to native gold prospectors and during the last two years the number of negroes engaged in that industry has risen to over 60,000. Natives prospect only in the dry season. The beginning of the work is marked by special festivities which are organized in order to appease the gods. Methods of gold mining are very primitive, negroes dig out galleries under the ground and are allowed to prolong them until they meet their neighbours.

Gold mining in the French Congo in the second half of 1932 made the same good progress as in the beginning of the year. During eleven months 730 kgs. were exported as against 409 kgs. in the corresponding period of 1932.

ABYSSINIA

An interesting article by the special correspondent of "The Mining Journal", London, reports that a party of engineers well equipped with mining plant has recently left England for the purpose of exploiting the mining possibilities of the province of Wallaga where a French company is operating valuable concessions in the western province of Abyssinia. A recent scientific expedition has traced at several points between Kurmuk and Mugali the trails worn in the rock by ancient gold caravans between Egypt and Abyssinia. They also found in the vicinity of the gold

washings near Dul rough hieroglyphics indicating that the mines there were worked in the time of the earliest Egyptian dynasties. The characteristics of the gold taken from the washings are said to be identical with what has been discovered in the tombs of the Pharaohs.

The same Journal also reports that the alluvial claims on the Mondego Valley in Portugal are being prospected with energy and it is stated that British engineers appear to have a financial interest in the claims registered some time ago by Dutch prospectors. This ground was explored in the 16th century.

NEW ZEALAND

Considerable interest is being taken in an auriferous area in the Mamherikia valley of Central Otaga and it is reported that geophysical exploration has discovered the field to be of similar formation to the Rand. It is proposed to erect a new dam on the Kawarau river below its junction with the Arrow River at an estimated cost of £70,000, this in view of coming in contact with large areas of auriferous river-bed hitherto unexplored. Press dispatches announce that the Waihi Co. (New Zealand's greatest gold producer) is arranging with the government for a geophysical survey of certain areas in the Waihi field.

SWEDEN

The detailed report of the Bolidens Gruvaktiebolag (the net profit of which was, as previously announced, kr. 12,110,000 compared with kr. 8,110,000 in 1932, with a dividend of 15 per cent, compared with 10) states that 332,000 tons of ore were mined in 1933, of which no less than 322,000 were worked at the company's Roennskaer smelting works. Among the products obtained were 7,432 kilograms of gold, 14,853 kilograms of silver and 4,980,000 kilograms of copper. The gold ore mined in 1933 contained 24.9 grammes of gold a ton, being richer than the estimated average for the whole mine (18.3 grammes) -- (Réuter).

UGANDA

The report on the work carried out by the Geological Survey of Uganda, for the half year ended December 31, 1933, states that several promising discoveries of gold have been made. Indications of gold in Buganda have been found by the survey and coarse gold with nuggets up to two or three ounces in weight have been found in several places by prospectors in the south-west of the Protectorate.

AUSTRALIA

The correspondent of "The Mining Journal", London, reports that the marked activity in gold mining, which first became evident in 1931 and grew apace during 1932, was more than maintained during 1933. The year was characterized by an increase in the gold yields of all states save New South Wales. The increase was greatest in Queensland and was the result of operations at Mount Coolon and Mount Morgan. The 1933 Australian gold yield will be the highest since 1920. A total of 57 gold mining companies was admitted to the Melbourne Stock Exchange during the year. A spirited search for new properties and the unwatering and further testing of old mines were features of the year. The Federal, Western Australian and State Governments have under consideration a plan for aerial surveying promising mineral-bearing areas in the central parts of Australia.

Reviewing the progress of Westralian gold mining last year, the President of the Chamber of Mines, stated that the output of 637,207 fine ounces represented £11 2s. per head of population whereas wheat averaged £10 12s.5d. and wool £9 16s.1d. Men now employed in the field totalled 10,165, an increase of 6,000 since 1928. The labour thus employed represented not less than 50,000 people directly supported by gold mining.

GOLD COAST

Ashanti Goldfields Corp. Ltd. treated during the year ended September 30, 1933, 161,200 tons of ore or 2,870 tons more than during the previous period. The yield was 177,143 ounces as compared with 175,063 ounces in 1932. Working costs were 28s. 6.5d. per ton and development costs totalled 4s. 2d. per ton. Ore reserves at September 30 last, were 629,750 tons, a decrease of 12,350 tons of an average value of 23.8 dwts., an increase of 0.2 dwt. For the year to September 30, 1933, the net profit amounted to £747,217.

CHOSEN (KOREA)

The managing director of Chosen Corporation recently announced that at the Great Nurupi gold mine "17 levels have been driven through to a depth of 1,500 feet vertically; the mine is being developed intensively from the 6th level downward to the 17th... in view of the fact that the neighbouring mine has been in existence for nearly 40 years, during which period excellent dividends have been paid, there is every reason to believe that the Great Nurupi mine will continue for many years at the present rate.

"The Japanese government does not authorize the export of gold, so that gold produced by the subsidiary companies has to be sold either to the Bank of Japan or to buyers in the open Japanese market."

It was recently announced that gold mining in North Manchuria will in future be the monopoly of a semi-official company which is now being formed in Manchukuo.

PANAMA

The Margaja mine was leased by a Canadian company; machinery was off-loaded on the coast in June and July of 1933 and the mill started up early in December or less than six months after the plant was off-loaded. It is reported that the property has since been in continuous operation.

ROUMANIA

"The Mining Journal", London, published in March, 1934, the following interesting information relating to Roumanian gold production:-

"In view of the intensive exploitation of privately-owned gold mines in Roumania with the help of foreign capital, negotiations have been going on at Bucharest during the last few weeks between government representatives and the National Bank concerning the future exploitation of the gold mines belonging to the State, learns Reuter's Trade Service. The chief reason for the negotiations, however, is that these mines are yielding less and less gold every year ... the

actual gold wealth is far from exhausted, the present state of affairs being due to primitive machinery and inadequate labour supplies .. the Cabinet decided to transfer for a period of 30 years the ownership and operation of the State mines to the National Bank, which will produce gold to serve as a cover for Roumanian currency. This decision has yet to be approved by Parliament."

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TANGANYIKA TERRITORY

Among the young fields of Central Africa, Tanganyika Territory is at once the largest and most progressive producer. Production in crude ounces was 12,971 in 1930, 15,283 in 1931, 31,020 in 1932 and 38,916 in 1933. Of late years interest has developed chiefly along the basin of the Lupa river not far from the boundary of Northern Rhodesia. A new company, East African Goldfields Ltd., has been formed to develop a lode gold property situated in this area.

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WALES

London engineers recently examined the Prince Edward gold mines in the Merioneth Mountains. It is reported that new electrical plants will be installed and the number of employees increased. These mines have been successfully operated during recent years.

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SOUTHERN RHODESIA

During the year the much debated question of the ownership of minerals was brought to a conclusion when the government purchased the mineral rights of the British South Africa Company as from the 1st of April, 1933, for the sum of £2,000,000. The government report:- "The activity in prospecting and pegging which existed in 1932 was maintained, and if anything increased during 1933, and whilst the results so far may be considered disappointing inasmuch as no new mines which might be classified as potential big producers have been brought to light, a number of properties are being prospected and opened up in a small way, some of which warrant more extensive development work being done than could reasonably be undertaken by small workers.

"The percentage of gold won by the big mines is steadily declining ... fortunately the small workers are more than making up the reduced total of the outputs from the bigger mines ... The experiment of sending out prospecting parties which was tried during 1932 was not repeated during the year under review, but other forms of assistance and advice have been provided and the total amount granted in loans to small workers during 1933 for development work and for the purchase of machinery shows a very appreciable increase over 1932."

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D I R E C T O R Y

PRINCIPAL CANADIAN ALLUVIAL GOLD OPERATORS, 1933.

Name	Head Office Address	Location
<u>NOVA SCOTIA -</u>		
Mullach Gold Exploration Syndicate	309 Barrington St., Halifax	Mullach River
<u>QUEBEC</u>		
Cooke & Lloyd Gold River Mining Co. Ltd.	St. Simon Les Mines 956 New Birks Bldg., Montreal	Beauce Co Compton Co.
<u>ALBERTA</u>		
McLeod River Mining Co. Ltd.	412 Brock Bldg., Toronto, Ont.	McLeod River
<u>BRITISH COLUMBIA -</u>		
Amador Mining Co. Ltd.	541 Georgia St. W., Vancouver	Stanley
Barkerville Gold Mines Ltd.	525 Seymour St., Vancouver	Barkerville
Boundary Creek Mining Co.	814 Metropolitan Bldg., Vancouver	Greenwood Mining Div
Bride, Maurice	Atlin	Spruce Creek
Brodin, W. F.	Hudson Hope	Peace River
Brodtt, J.	Spence's Bridge	Thompson River
Buchanan & Cumming	Atlin	Atlin Dist.
Compagnie Francaise des Mines Mines d'Or du Canada	19 Rue d'Aurnale, Paris, France	Atlin Dist.
Consolidated Gold Alluvials of B. C. Ltd.	1040 Georgia St. W., Vancouver	Cariboo Dist
Consolidated Mining & Smelting Co. of Canada, Ltd.	Trail	Atlin Dist. and Omineca Dist.
Coughlan, John B.	Revelstoke	Camp Creek
Cummings, F. L. & Bryson, C.	1412 Howe St., Vancouver	Ashcroft Mining Div.
Eldorado Placers Ltd.	1044 Beach Ave., Vancouver	Cariboo Dist
Elieff, McDonald & McKay	Atlin	Spruce Creek
Falconer, D. H.	Atlin	Spruce Creek
French Creek Development Co. Ltd.	17 Vancouver Block, Vancouver	Big Bend Dist.
French Creek Hydraulic Placers Ltd.	c-o Cobb & Warren, Central Bldg., Calgary, Alberta	Barkerville
Hodges & Moran	Atlin	Wright Creek
Jensen, Jack	Atlin	Atlin Lake Dist.
Johnson, Nelson & Ucland	Atlin	Spruce Creek
Kennedy & Sundstrum	Atlin	Atlin Dist.
Lower Bridge River Placers Ltd.	525 Seymour St., Vancouver	Lillooet Mining Div.
Little McLeod Placers Ltd.	604 Bank of Toronto Bldg., Victoria	Omineca Mining D
Lowhee Mining Co. Ltd.	1109 Rust Bldg., Tacoma, Wash., U.S.A.	Cariboo Dist.
Lykegard, C. E.	Atlin	Spruce Creek
Morrison, McKay & Johnson	Atlin	Ruby Creek
Morse, McKechnie & Brett	Atlin	Spruce Creek
Moorehead Syndicate	717 McDowall Bldg., Seattle, Wash., U.S.A.	Cariboo Dist.

PRINCIPAL CANADIAN ALLUVIAL GOLD OPERATORS, 1933. (concluded)

Name	Head Office Address	Location
<u>BRITISH COLUMBIA</u> - concluded		
Munro, P.	Prince George	Cariboo Mining Div.
Murphy, Nathan	Atlin	O'Donnell River
Nilta Development Co. Ltd.	207 West Hastings St., Vancouver	Atlin Dist.
Nord Bros.	Atlin	Wright Creek
Perret, Francois	Quesnel	Fraser River
Placer Engineers Ltd.	535 Georgia St. W., Vancouver	Cariboo Dist.
Powell, Julius	Barkerville	Cariboo Dist.
Silta & Hafberg	Fort St., James	Omineca Mining Div.
Slade Cariboo Gold Placers Ltd.	1410 Hoge Bldg., Seattle, Wash., U.S.A.	Barkerville
Slate Creek Cons. Placers Ltd.	709 Dominion Bank Bldg., Vancouver	Similkameen Dist.
Sundberg, Magnus	Cottonwood	Barkerville
Trehouse Hydraulic	Barkerville	Cunningham Creek
Turnquist, Emil	Atlin	Ruby Creek
Tyaughton Creek Gold Placers Ltd.	118 Vancouver Block, Vancouver	Lillooet Dist.
Wissler, Westenhiser & Grinder	Likely	Cariboo Dist.
<u>YUKON</u>		
Holbrook Dredging Co.	Glacier Creek	Sixty Mile Creek
McDonald, McCormick & Stewart	Glacier Creek	Miller Creek
The Yukon Consolidated Gold Cory. Ltd.	Victoria Bldg., Ottawa, Ont.	Klondyke Mining Div.

DIRECTORYPRINCIPAL OPERATORS IN CANADIAN AURIFEROUS QUARTZ MINING INDUSTRY, 1933.

Name	Head Office Address	Location
<u>NOVA SCOTIA -</u>		
/ Forest, Alton	Caledonia	Queens Co.
Hall, Neil	367 Morris St., Halifax	Tangier
/ Hants Gold Mines Ltd.	Central Rawdon	Hants Co.
Higgins & Lawlor	Moose River	Halifax Co.
/ Hyland, Thos. L.	Fairview	Dutch Village
/ Lacey Gold Mining Co. Ltd.	35 Bedford Row, Halifax	Chester Basin
/ Locarno Gold Mines Ltd.	34 Murray St., Ottawa, Ont.	Goldboro
/ Montague Gold Mines Ltd.	100 Adelaide St. W., Toronto	Halifax Co.
Reynolds, W. S.	Upper Musquodoboit	Killag
Seal Harbour Gold Mines	Goldboro	Goldboro
/ Wambolt & Dukeshire	Caledonia	N. Brookfield
<u>NEW BRUNSWICK -</u>		
/ Somers, Wilbur	Halcomb	Northumberland Co.
<u>QUEBEC -</u>		
/ Adanac Gold Mines Ltd.	330 Bay St., Toronto, Ont.	Rouyn Dist.
/ Arcadian Rouyn Gold Mines Syndicate Ltd.	105 Mountain Hill, Quebec	Rouyn Tp.
/ Arno Mines Ltd.	63 Sparks St., Ottawa, Ont.	Rouyn Tp.
/ Arntfield Mining Syndicate Ltd.	159 Bay St., Toronto, Ont.	Boischatel Tp.
/ Arntfield Gold Mines Ltd.	303 Old Birks Bldg., Montreal	Boischatel Tp.
/ Basin Gold Mines Ltd.	31 St. James St. W., Montreal	Dubuisson Tp.
Beattie Gold Mines Ltd.	100 Adelaide St. W., Toronto, Ont.	Duparquet Tp.
/ Bellehumeur Mining Co. Ltd.	c-o National Trust Co., 153 St. James St., Montreal	Laverlochere Tp.
Bussieres Mining Co. Ltd.	221 Notre Dame St. W., Montreal	Louvicoourt Tp.
/ Canadian Gold Operators Ltd.	276 St. James St., Montreal	Cadillac Tp.
/ Canadian Malartic Gold Mines Ltd.	Hull	Fournier Tp.
/ Canadian Pandora Gold Mines Ltd.	New Liskeard, Ont.	Cadillac Tp.
/ Dorval Siscoe Gold Mines Ltd.	General Assurance Bldg., Toronto, Ont.	Varsan Tp.
/ Dunlop Consolidated Mines Ltd.	19 Melinda St., Toronto, Ont.	Louvicoourt Tp.
/ East Rouyn Gold Mines Ltd.	Royal Bank Bldg., Toronto, Ont.	Rouyn Tp.
/ Eclipse Gold Mining Co. Ltd.	201 Notre Dame St. W., Montreal	Destor Tp.
/ Farrell Rouyn Mines Ltd.	1610 Concourse Bldg., Toronto, Ont.	Rouyn Tp.
/ Galatea Gold Mines Ltd.	1104 Bank of Hamilton Bldg., Toronto, Ont.	Duparquet Tp.
Granada Gold Mines Ltd.	204 Royal Bank Bldg., Toronto, Ont.	Rouyn Tp.
Greene-Stabell Mines Ltd.	1406 Concourse Bldg., Toronto, Ont.	Dubuisson Tp.
/ Herbin Lake Gold Syndicate Ltd.	General Assurance Bldg., Toronto, Ont.	Bourlamaque Tp.
/ Horlake Mining Corp.	Castle Bldg., Montreal	Rouyn Tp.
/ Lamaque Gold Mines Ltd.	Amos	Bourlamaque Tp.
/ Mabell Mines Ltd.	202 Notre Dame St. W., Montreal	Louvicoourt Tp.
/ MacDonald Gold Mines Ltd.	Elmira, Ont.	Duparquet Tp.
/ McWatters Gold Mines Ltd.	Fatleybury, Ont.	Rouyn Tp.

PRINCIPAL OPERATORS IN CANADIAN AURIFEROUS QUARTZ MINING INDUSTRY, 1933. (con.)

Name	Head Office Address	Location
<u>QUEBEC (continued)</u>		
/Malrobie Mines Ltd.	Excelsior Life Bldg., Toronto, Ont.	Malartic Tp.
/Maple Leaf Mines Ltd.	500 Dominion Bldg., Toronto, Ont.	-
/Maritime Cadillac Syndicate	Moncton, N.E.	Cadillac Tp.
Mathews Gold Mine Ltd.	Kirkland Lake, Ont.	Pascal's Tp.
/Minrand Gold Mine Ltd.	231 St. James St. W., Montreal	Dubuisson Tp.
/Mines Development Corp.	189 rue St. Jean, Quebec	Launay Canton
/Normont Gold Mines Ltd.	905 Transportation Bldg., Montreal	Rouyn Tp.
/Northern Aerial Canada Golds Ltd.	1406 Concourse Bldg., Toronto, Ont.	-
/Northern Quebec Gold Fields & Exploration Co.	Three Rivers	Bousquet Tp.
/Northern Quebec Gold Mines Ltd.	611 Dominion Square Bldg., Montreal	Rouyn Tp.
O'Brien & Fowler Ltd.	140 Wellington St., Ottawa, Ont.	Cadillac Tp.
/O'Leary Malartic Mines Ltd.	Box 489, Rouyn	Malartic Tp.
/Osisko Lake Mines Ltd.	100 Adelaide St. W., Toronto, Ont.	Rouyn Tp.
/Quebec Eureka Gold Syndicate	11 King St. W., Toronto, Ont.	Tiblenmont Tp.
/Quebec Gold Belt Mines Ltd.	Box 190, Fort Erie, Ont.	Bourlamaque Tp.
/Quebec Gold Mining Corp.	221 Notre Dame St. W., Montreal	N. W. Quebec
/Randall Mines Corp.	221 Notre Dame St. W., Montreal	N. W. Quebec
/Read-Anthier Mine Ltd.	112 St. James St. W., Montreal	Bourlamaque Tp.
Siscoe Gold Mines Ltd.	905 Dominion Square Bldg., Montreal	Dubuisson and Varson Tps.
/Sladen-Malartic Mines Ltd.	63 Sparks St., Ottawa, Ont.	N. W. Quebec
/South Tiblenmont Mines Ltd.	53 King St. W., Toronto, Ont.	Abitibi Co.
/Stadacona Rouyn Mines Ltd.	Tranways Bldg., Craig St., Montreal	Rouyn
/Stanley Siscoe Extension Gold Mines Ltd.	New Star Bldg., Montreal	Varsan Tp.
/Standard Gold Mine	Amos	Bourlamaque Tp.
/Sullivan Cons. Mines Ltd.	1207 Aldred Bldg., Montreal	Dubuisson Tp.
/Thompson Cadillac Mining Co. Ltd.	212 Keefer Bldg., Montreal	Cadillac Tp.
/Tiblenmont Island Mining Co.	Senneterre	Tiblenmont Tp.
/Tonawanda Mines Ltd.	Notre Dame du Nord	Cadillac Tp.
/Trinidad Mines Gas & Oil Co. Ltd.	116 Cote de la Montagne, Quebec	Northern Quebec
/Twin Lakes Mining Corp.	59 St. James St. W., Montreal	Boischatel Tp.
/West McWatters Syndicate Ltd.	100 Adelaide St. W., Toronto, Ont.	Rouyn Tp.
/Wiltsey Coghlan Mines Ltd.	25 King St. W., Toronto, Ont.	Rouyn Tp.
<u>ONTARIO</u>		
/Amalgamated Gold Fields Corp. Ltd.	1104 Northern Ontario Bldg., Toronto	Beatty Tp.
Anglo-Huronian (Vipond)	80 King St. W., Toronto	Porcupine area
Ashley Gold Mining Corp. Ltd.	350 Bay St., Toronto	Bannockburn Tp.
Atlas Mine	64 Wellington St. W., Toronto	West Shining Tree
Barry Hollinger Mines Ltd.	57 Bloor St. W., Toronto	Boston Creek
/Bidgood Kirkland Gold Mines Ltd.	32 Main St. E., Hamilton	Lebel Tp.
Buffalo Ankerite Gold Mines Ltd.	1005 Stock Exchange Bldg., Buffalo, N.Y., U.S.A.	Deloro Tp.
/Canadian Kirkland Mines Ltd.	171 Yonge St., Toronto	Teck Tp.
/Canadian Reserve Mines Ltd.	C. P. R. Bldg., Toronto	Larder Lake
/Casey Summit Gold Mines Ltd.	Sioux Lookout (via)	Summit Lake
/Central Patricia Gold Mines Ltd.	85 Richmond St. W., Toronto	Dist. of Patricia
/Cole Gold Mines Ltd.	Red Lake	Red Lake
/Cordova Mines	840 Dominion Square Bldg., Montreal	Peterboro Co.
	P.Q.	

PRINCIPAL OPERATORS IN CANADIAN AURIFEROUS QUARTZ MINING INDUSTRY, 1933. (con.)

Name	Head Office Address	Location
<u>ONTARIO</u> - continued		
/Chester Gold Mines	320 Bay St., Toronto	
Coniaurum Mines Ltd.	100 Adelaide St.W., Toronto	Schumacher
Dome Mines Ltd.	36 Toronto St., Toronto	South Porcupine
De Santis Gold Mining Co. Ltd.	Box 1299, Timmins	Porcupine area
Foley Syndicate	57 Bloor St., Toronto	Rainy River
/Four Nations Cons. Gold Mines Syndicate	372 Bay St., Toronto	Kenogami Lake
/Halcrow Swayze Mines Ltd.	25 King St. W., Toronto	Halcrow Tp.
High Grade Syndicate	Narrow Lake	Narrow Lake
Hollinger Consolidated Gold Mines Ltd.	Timmins	Timmins
/Horseshoe Mines Ltd.	302 Royal Bank Bldg., Toronto	Kenora Dist.
Howey Gold Mines Ltd.	Red Lake	Red Lake
/J. M. Consolidated Mines Ltd.	1116 Federal Bldg., Toronto	Patricia Dist.
/Kenty Gold Mines Ltd.	43 Victoria St., Toronto	Swayze Tp.
Kirkland Gateway Gold Mine	Swastika	Swastika
Kirkland Lake Gold Mining Co. Ltd.	Bank of Commerce Bldg., Toronto	Kirkland Lake
Lake Shore Mines Ltd.	Kirkland Lake	Kirkland Lake
/Lakeland Gold Mines Ltd.	Sun Life Bldg., Hamilton	Maisonville Tp.
/Little Long Lac Gold Mines Ltd.	15 King St. W., Toronto	Geraldton
Macassa Mines Ltd.	85 Richmond St. W., Toronto	Kirkland Lake
Marboun Gold Mines Ltd.	902 Lumsden Bldg., Toronto	Delora Tp.
/Matachewan Cons. Mines Ltd.	100 Adelaide St.W., Toronto	Matachewan
/McCarthy-Webb Goudreau Mines Ltd.	501 C. P. R. Bldg., Toronto	Goudreau
McIntyre Porcupine Mines Ltd.	15 King St. W., Toronto	Schumacher
/McKenzie Red Lake Gold Mines Ltd.	509 National Bldg., Bay St., Toronto	Patricia Dist.
/McMillan Gold Mines Ltd.	52 Elm St., Sudbury	Mongowin Tp.
/Metropolitan Gold Mines Ltd.	314 Metropolitan Bldg., Toronto	Savant Lake
Minto Gold Mines Ltd.	Wawa	Wawa
Moss (Ardeen) Gold Mines Ltd.	132 St. James St.W., Montreal	Kashabowie
/Munroe-Croesus Mines Ltd.	Haileybury	Matheson
/Northern Aerial Canada Golds Ltd.	1406 Concourse Bldg., Toronto	Pickle Lake
/Northern Empire Mines Co. Ltd.	Empire	Empire
/Northern Metals Ltd.	1440 St. Catherine St.W., Montreal	Katrine Tp.
Parkhill Gold Mines Ltd.	212 Keefer Bldg., Montreal, P.Q.	Wawa
/Palaris Gold Mines of Canada, Ltd.	Timmins	Porcupine area
/Saundary Syndicate	Mine Centre	Mine Centre
/St. Anthony Gold Mines Ltd.	19 Melinda St., Toronto	Thunder Bay Dist.
Soo Mining & Prospecting Syndicate	450 Queen St. E., Sault Ste.Marie	Holdsworth
Sylvanite Gold Mines Ltd.	Kirkland Lake	Kirkland Lake
Teck-Hughes Gold Mines Ltd.	Kirkland Lake	Kirkland Lake
Toburn Gold Mines Ltd.	Kirkland Lake	Kirkland Lake
/Wawa Goldfields Ltd.	437 St. James St.W., Montreal, P.Q.	Wawa
White Lilly	c-o Smith Bros., Fort Francis	Kowene
White Rock Mining Co.	Frawley Block, Sudbury	Shining Tree
Wright-Hargreaves Mines Ltd.	Fort Erie North	Kirkland Lake
<u>MANITOBA</u> -		
Central Manitoba Mines Ltd.	Paris Bldg., Winnipeg	Long Lake Dist.
Consolidated Goldfields of Manitoba Ltd.	941 Somerset Bldg., Winnipeg	Rice Lake Dist.
Dinse, A.	Flin Flon	N. W. Manitoba

PRINCIPAL OPERATORS IN CANADIAN AURIFEROUS QUARTZ MINING INDUSTRY, 1933. (con.)

Name	Head Office Address	Location
<u>MANITOBA</u> - continued		
/Diana Gold Mines Ltd.	c-o Doran Securities, Bank of Hamilton Bldg., Toronto, Ont.	Long Lake Dist.
/East God's Lake Gold Mines Ltd.	297 Bay St., Toronto, Ont.	God's Lake
/Garry Gold Mines Ltd.	204 Royal Bank Bldg., Toronto, Ont.	God's Lake Dist.
/God's Lake Gold Mines Ltd.	395 Main St., Winnipeg	God's Lake
/Island Lake Mines Ltd.	395 Main St., Winnipeg	Island Lake area
/Maskwa Lake Gold Mines Ltd.	701 Great West Permanent Bldg., Winnipeg	Maskwa Lake
North British Mining & Milling	The Pas	Herb Lake
Oro Grande Development Co. Ltd.	1208 McArthur Bldg., Winnipeg	Rice Lake area
San Antonio Gold Mines Ltd.	237 Curry Bldg., Winnipeg	Rice Lake area
Vanson Gold Mines Ltd.	209 Bank of Nova Scotia Bldg., Winnipeg	Rice Lake area
Warren, F. G.	Flin Flon	Fay Lake
Walsh Bros.		
/Wilson Gold Mines Ltd.	Sylvester-Wilson Bldg., Winnipeg	Long Lake
<u>SASKATCHEWAN</u>		
/Amisk Gold Syndicate Ltd.	55 Broad St. Ave., London, E.C. 2, England	Amisk Lake
/Graham, Robert	Box 426, The Pas, Man.	Amisk Lake
<u>BRITISH COLUMBIA</u>		
/Alaska Juneau Gold Mining Co.	Juneau, Alaska	Tulsequah River
Arlington Mine	Nelson	Erie
/B. C. Cariboo Gold Fields Ltd.	919 Stock Exchange Bldg., Vancouver	Lillooet Mining Div.
Bralorne Mines Ltd.	555 Burrard St., Vancouver	Lillooet Mining Div.
/B. R. Mountain Golds Ltd.	800 Hall Bldg., Vancouver	Lillooet Mining Div.
/B. R. X. Gold Mines Ltd.	475 Howe St., Vancouver	Bridge River
/Buena Vista Mining Co. Ltd.	Trail	Stewart
Canada Smelters Ltd.	Sanca	East Kootenay
Canadian American Mines Ltd.	804 Standard Bank Bldg., Vancouver	Carmi
/Cariboo Bridge River Gold Properties Ltd.	425 Howe St., Vancouver	Lillooet Mining Div.
Cariboo Gold Quartz Mining Co. Ltd.	615 Bower Bldg., Vancouver	Barkerville
/Cariboo Mountain Gold Mines Ltd.	Bank of Toronto Bldg., Victoria	Cariboo Dist.
Carmichael, A. (Oliver mine)	Oliver	Oliver
Crossley, Brodie & Burns (Bunker Hill)	Nelson	Nelway
/Denton Mines Ltd.	407 Lancaster Bldg., Calgary, Alberta	Similkameen
Dunwell Mines Ltd.	Stewart	Stewart
Engineer Mine (R. Brook)	Atlin	Atlin
Evening Star Leasing Syndicate	Box 41, Rossland	Rossland
Foster Ledge Gold Mines Ltd.	816 Hall Bldg., Vancouver	-
/Gen Gold Mines Ltd.	955 Thurlow St., Vancouver	Texada Island
Georgia Leasing Syndicate	Box 41, Rossland	Rossland
Glacier Gulch (S. F. Campbell)	Box 21, Smithers	Omineca
/Gold Belt Mining Co. Ltd.	804 Stock Exchange Bldg., Vancouver	Salmo

PRINCIPAL OPERATORS IN CANADIAN AURIFEROUS QUARTZ MINING INDUSTRY, 1933. (con.)

Name	Head Office Address	Location
BRITISH COLUMBIA - continued		
Gold Drop (W.E. McArthur, Jr.)	Greenwood	Greenwood
/Goldfinch Gold Mines Ltd.	320 Pemberton Bldg., Victoria	Camborne
/Gold Peak Gold Mines Ltd.	714 Standard Bank Bldg., Vancouver	Bridge River
Granby Consolidated Mining, Smelting & Power Co. Ltd.	Hall Bldg., Vancouver	Anyox
Grandora Mining & Milling Co. Ltd.	Box 474, Penticton	Penticton
/Grange Mines Ltd.	921 Georgia Hotel, Vancouver	Pavilion Mt.
/Grull-Wihksne Gold Mines Ltd.	1007 Royal Bank Bldg., Vancouver	Bridge River Dist.
/Hackney, S. J.	Box 527, Rossland	Trail Creek Mining Div.
/Haida Gold Mines Ltd.	612 Standard Bank Bldg., Vancouver	Moresby Island
/Helena Gold Mines Ltd.	308 Stock Exchange Bldg., Vancouver	Georgia River
/Holland Gold Mines Ltd.	612 Standard Bank Bldg., Vancouver	Lillooet Mining Div.
/Home Gold Mining Co. Ltd.	553 Granville St., Vancouver	Jessica
Jack Paul Mining Co.	608 Peyton Bldg., Spokane, Wash., U.S.A.	Kettle River
Kootenay Belle Gold Mines Ltd.	902 Rogers Bldg., Vancouver	Salmo
/Mak Siccar Gold Mines Ltd.	124 Pacific Bldg., Vancouver	Osoyoos Mining Div.
McFadden, Thomey & Murr (Spider group)	Stewart	Portland Canal
/Meridian Mining Co. Ltd.	64 Leigh Spencer Bldg., Vancouver	Camborne
Midnight Syndicate	Rossland	Trail Creek Mining Div.
/Minto Gold Mines Ltd.	Bridge River	Lillooet Mining Div.
/Mix Gold Mines Ltd.	415 Hall Bldg., Vancouver	Bridge River Dist.
Molly Gibson Mine (Oscar Anderson)	Rossland	Burnt Basin
Morning Star Gold Mines Ltd.	Oliver	Fairview
Nicola Mines & Metals Ltd.	800 Hall Bldg., Vancouver	Stump Lake
O. K. Leasing Co.	Box 167, Rossland	Rossland
Perrier Gold Mines Ltd.	Box 1059, Nelson	Nelson
Penney, M. (Gold Drip)	Rossland	Rossland
Pioneer Gold Mines of B.C. Ltd.	605 Rogers Bldg., Vancouver	Lillooet Dist.
Pre Cambrian Gold Mines Ltd.	1319 Smith Tower, Seattle, Wash., U.S.A.	Ewings Landing
Premier Gold Mining Co. Ltd.	London Bldg., Vancouver	Portland Canal
Queen Mining & Milling Co.	Salmo	Sheep Creek
/Reliance Gold Mines	1308 Northern Life Tower Bldg., Seattle, Wash., U.S.A.	Bridge River Dist.
Relief Arlington Mines Ltd.	530 Howe St., Vancouver	Nelson Mining Div.
Reno Gold Mines Ltd.	Yorkshire Bldg., Vancouver	Salmo
/Richstrike Gold Mines Ltd.	475 Howe St., Vancouver	Bridge River
/Sheep Creek Gold Mines Ltd.	810 West Hastings St., Vancouver	Salmo
/Standard Gold Mines Ltd.	425 Howe St., Vancouver	Bridge River
/Tide Lake Syndicate Ltd.	101 Pemberton Bldg., Victoria	Portland Canal
The N. A. Timmins Corp. (Surf Point)	1010 Canada Cement Bldg., Montreal, P.Q.	Porcher Island.

PRINCIPAL OPERATORS IN CANADIAN AURIFEROUS QUARTZ MINING INDUSTRY, 1933. (con.)

Name	Head Office Address	Location
<u>BRITISH COLUMBIA</u> - concluded		
Turner, W. J. (California mine)	Nelson	Nelson Mining Div.
Twin Lakes Gold Mining Co. Ltd.	Box 421, Penticton	Yale Mining Div.
Vidette Gold Mines Ltd.	304 Pacific Bldg., Vancouver	Savona
/Waterloo Gold Mines Ltd.	Box 472, Penticton	Grand Forks Mining Div.
/Wayside Cons. Gold Mines Ltd.	Wayside, via Bridge River	Bridge River
Widdowson, E. W. (Tamarac)	Box 1108, Nelson	Ymir
Wilcox Mining Syndicate	Box 205, Rossland	Ymir
Windpass Gold Mining Co. Ltd.	608 Pacific Bldg., Vancouver	Chu Chua
Yankee Girl Mine	Ymir	Ymir
/Zeballos River Mining Co. Ltd.	612 View St., Victoria	Clayoquot Mining Div.

/ Active but not producing.

NOTE - Complex auriferous-sulphide ores that are mined essentially for their gold content are largely classified in this report under auriferous quartz.

OPERATORS IN CANADIAN COPPER-GOLD-SILVER MINING INDUSTRY, 1933.

Name	Head Office Address	Location
<u>NEW BRUNSWICK</u> -		
/Eastern Mining & Smelting Co. Ltd.	94 Prince William St., Saint John	Adams Island
<u>QUEBEC</u> -		
Aldermac Mines Ltd.	941 Dominion Square Bldg., Montreal	Boischatel Tp.
/Astoria Rouyn Mines Ltd.	70 St. Paul St., Quebec	Rouyn
/Bagomac Rouyn Mines Ltd.	Halleybury, Ont.	Rouyn
/Béland, J.	St. Adolphe de Dudswell	Marbleton
/Brownlee Mines Ltd.	Noranda	Rouyn
/Carlson Copper Syndicate	New Liskeard, Ont.	Dufay Tp.
/Chibaugamau McKenzie Mines Ltd.	Board of Trade Bldg., Montreal	Chibaugamau Dist.
/Chibaugamau Prospectors Ltd.	276 St. James St., W., Montreal	Louvicourt Tp.
/Clericy Cons. Mines Ltd.	74 Sparks St., Ottawa, Ont.	Clericy Tp.
Consolidated Copper & Sulphur Co.	Eustis	Ascot Tp.
/Gagnon, Auguste	Ste. Germaine Dorchester	Ware Tp.
/Glenwood Mining Co. Ltd.	Rouyn	Rouyn Tp.
Noranda Mines Ltd.	Royal Bank Bldg., Toronto, Ont.	Rouyn
/Normetal Mining Corp. Ltd.	350 Bay St., Toronto, Ont.	Desmeloizes Tp.
/Northwestern Quebec Prospectors	Rouyn	Bousquet Tp.
/Pontiac Rouyn Mines Ltd.	59 Yonge St., Toronto, Ont.	Rouyn Tp.
<u>ONTARIO</u> -		
Amity Copper & Gold Mines Ltd.	1302 Canada Permanent Bldg., Toronto	Boston Creek
<u>MANITOBA</u> -		
Hudson Bay Mining & Smelting Co. Ltd.	404 Dundas St., Woodstock, Ont.	Flin Flon
<u>SASKATCHEWAN</u> -		
Hudson Bay Mining & Smelting Co. Ltd.	404 Dundas St., Woodstock, Ont.	Flin Flon
Symon, A.	Flin Flon	Beaver Lake
<u>BRITISH COLUMBIA</u> -		
Britannia Mining & Smelting Co. Ltd.	Britannia Beach	Britannia Beach
/The Coast Copper Co. Ltd.	Trail	Jeune Landing
The Granby Consolidated Mining, Smelting & Power Co. Ltd.	Hall Bldg., Vancouver	Anyox
Meldrum, J. M. (Hunter group)	1241 East 13th Ave., Vancouver	Khutze Inlet
/Sunloch Mines Ltd.	Trail	Jordan River Dist.
Velvet Gold Mining Co. Ltd.	1309- 7th Ave., Seattle, Wash., U.S.A.	Rossland

/ Active but not producing.

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