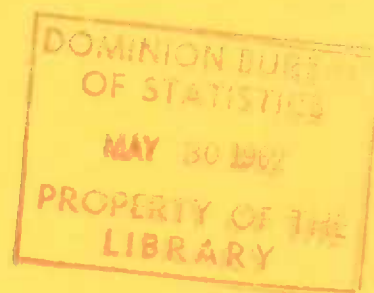


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26-209 c 3

ANNUAL



THE GOLD MINING INDUSTRY

1960

DOMINION BUREAU OF STATISTICS

Industry and Merchandising Division

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THE GOLD MINING INDUSTRY
1960

Published by Authority of

The Honourable George Hees, Minister of Trade and Commerce

May, 1962

6514-518

Price 75 cents

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SYMBOLS

The interpretation of the symbols used in the tables throughout this publication is as follows:

- .. figures not available.
- ... figures not appropriate or not applicable.
- nil or zero.
- p preliminary figures.
- r revised figures.

THE GOLD MINING INDUSTRY

1960

This report includes statistics for industries:

051 — Placer Gold Mines

052 — Gold Quartz Mines

053 — Copper-Gold-Silver Mines

of the Standard Industrial Classification Manual (Cat. No. 12-501).

Definition of the Industry—Gold mining in Canada is divided into three principal industries: (a) the recovery of gold from the gravels and sands of stream channels or beaches, described as "The Placer Gold Mining Industry"; (b) the recovery of lode gold, which is designated "The Gold Quartz Mining Industry", and in which industry 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 comprehensive survey of Canadian gold production.

During 1960 the production of gold amounted to 4,628,911 troy ounces valued at \$157,151,527 compared with 4,483,416 ounces valued at \$150,508,275 in 1959. The record production was in 1941 when 5,345,179 ounces were produced at a valuation of \$205,789,392.

Ontario continued to be the leading producer of gold with 59 per cent of the total. Quebec, in second position, produced 22 per cent and Northwest Territories accounted for 9 per cent of the total. The other provinces ranked in the following order: British Columbia, Saskatchewan, Yukon, Manitoba, Newfoundland, Alberta and Nova Scotia.

The price of gold in Canadian funds averaged \$33.95 per troy ounce. It ranged from \$33.26 per troy ounce in March 1960 to \$34.82 per troy ounce in December. The fluctuations were due to foreign exchange rates. The Royal Canadian Mint purchased gold on the basis of \$(U.S.) 35.00 per troy ounce. The United States dollar was quoted at a discount, throughout the year.

TABLE 1. Production of Gold, Fifty Years, 1911-60

Year	Troy ounces	Value	Year	Troy ounces	Value
		\$			\$
1911	473,159	9,781,077	1936	3,748,028	131,293,421
1912	611,885	12,648,794	1937	4,096,213	143,326,493
1913	802,973	16,598,923	1938	4,725,117	166,205,990
1914	773,178	15,983,007	1939	5,094,379	184,115,951
1915	918,056	18,977,901	1940	5,311,145	204,479,083
1916	930,492	19,234,976	1941	5,345,179	205,789,392
1917	738,831	15,272,992	1942	4,841,306	186,390,281
1918	699,681	14,463,689	1943	3,651,301	140,575,088
1919	766,764	15,850,423	1944	2,922,911	112,532,073
1920	765,007	15,814,098	1945	2,696,727	103,823,990
1921	926,329	19,148,920	1946	2,832,554	104,096,359
1922	1,263,364	26,116,050	1947	3,070,221	107,457,735
1923	1,233,341	25,495,421	1948	3,529,608	123,536,280
1924	1,525,382	31,532,443	1949	4,123,518	148,446,648
1925	1,735,735	35,880,826	1950	4,441,227	168,988,687
1926	1,754,228	36,263,110	1951	4,392,751	161,872,873
1927	1,652,785	38,300,464	1952	4,471,725	153,246,016
1928	1,890,592	39,082,005	1953	4,055,723	139,597,965
1929	1,928,308	39,861,663	1954	4,366,440	148,764,611
1930	2,102,068	43,453,601	1955	4,541,962	156,786,528
1931	2,693,892	58,093,396	1956	4,383,863	151,024,080
1932	3,044,387	71,479,373	1957	4,433,894	148,757,143
1933	2,949,309	84,350,237	1958	4,571,347	155,334,370
1934	2,972,074	102,536,553	1959	4,483,416	150,506,275
1935	3,284,890	115,595,279	1960	4,628,911	157,151,527

TABLE 2. Total (Cumulative) Recorded Production of Specified Metals to December 31, 1960

		Since	Quantity	Value
				\$
Gold	troy ounce	1858	157,321,641	4,953,783,088
Silver	"	1887	1,235,992,811	817,384,389
Copper	ton	1886	9,580,479	3,704,132,105
Nickel	"	1889	4,577,609	3,700,054,282
Lead	"	1887	7,179,738	1,127,348,785
Zinc	"	1898	...	1,730,104,149
Cobalt	ton	1904	32,109	97,127,895

TABLE 3. Production of Gold from Auriferous Quartz and Base Metal Mines, by Months, 1958-60

	Gold production from base metal mines			Gold production from auriferous quartz mines and placer deposits			Gold production from all types of mines		
	1958	1959	1960	1958	1959	1960	1958	1959	1960
	troy ounces								
January	48,128	42,191	49,368	330,286	333,895	329,705	378,414	376,086	378,073
February	45,211	45,289	50,410	315,174	312,763	322,254	360,385	358,052	372,664
March	50,244	48,254	52,019	344,003	330,144	338,012	394,247	378,398	390,031
April	49,454	47,618	50,056	335,729	329,177	317,774	385,183	376,795	367,830
May	49,625	47,837	45,567	335,024	332,182	334,561	384,649	380,019	380,128
June	45,521	43,382	53,924	340,289	315,622	335,158	385,810	359,004	389,082
July	46,682	46,150	53,121	335,568	332,860	344,366	382,250	379,010	397,487
August	48,651	45,276	55,631	321,077	304,194	328,302	369,728	349,470	383,933
September	52,076	48,689	50,934	325,946	315,299	320,783	378,022	363,986	371,717
October	51,267	47,673	51,847	353,061	349,052	353,632	404,328	396,725	405,479
November	46,013	49,941	50,733	325,133	338,871	344,482	371,146	388,812	395,215
December	38,333	46,068	54,131	338,852	330,989	343,141	377,185	377,057	397,278
Totals	571,205	558,368	617,741	4,000,142	3,925,048	4,011,170	4,571,347	4,483,416	4,628,911

TABLE 4. Production of Gold,¹ by Provinces, 1951-60

Year	Newfoundland		Nova Scotia		Quebec		Ontario		Manitoba	
	Troy ounces	Value	Troy ounces	Value	Troy ounces	Value	Troy ounces	Value	Troy ounces	Value
		\$		\$		\$		\$		\$
1951	8,515	313,778	17	626	1,067,306	39,330,226	2,463,179	90,768,146	163,914	6,040,231
1952	8,595	294,551	1,433	49,109	1,113,204	38,149,501	2,513,691	86,144,910	141,947	4,864,524
1953	7,654	283,451	3,248	111,796	1,021,698	35,166,845	2,182,437	75,119,481	131,309	4,519,656
1954	6,528	222,409	3,754	127,899	1,098,570	37,428,280	2,361,385	80,452,387	134,944	4,597,542
1955	8,337	218,753	3,880	133,938	1,154,522	39,854,099	2,523,040	87,095,340	123,888	4,276,614
1956	8,213	282,938	1,279	44,061	1,036,059	35,692,233	2,513,912	86,604,268	120,232	4,141,992
1957	9,755	327,280	45	1,510	1,006,895	33,781,327	2,578,206	86,498,811	120,008	4,026,266
1958	13,381	454,686	131	4,451	1,044,646	35,503,667	2,716,514	92,307,146	87,356	2,968,357
1959	13,411	450,207	—	—	999,388	33,549,455	2,683,449	90,083,383	51,186	1,718,314
1960	13,515	458,834	3	102	1,035,914	35,169,280	2,732,673	92,774,248	52,762	1,791,270
	Saskatchewan		Alberta		British Columbia		Northwest Territories		Yukon	
1951	110,216	4,061,460	97	3,574	289,992	10,686,205	212,211	7,819,975	77,504	2,856,020
1952	93,585	3,207,158	111	3,804	273,059	9,357,732	247,581	8,484,601	78,519	2,690,846
1953	88,327	3,040,215	65	2,237	264,976	9,120,474	289,929	9,979,356	66,080	2,274,474
1954	101,785	3,467,815	195	6,644	268,508	9,148,068	308,563	10,512,741	82,208	2,800,826
1955	83,580	2,885,182	214	7,387	252,979	8,732,835	321,321	11,092,001	72,201	2,492,379
1956	82,687	2,848,567	119	4,100	196,692	6,776,040	352,669	12,149,447	72,001	2,480,434
1957	75,236	2,524,168	416	13,957	229,113	7,686,741	340,018	11,407,604	73,962	2,481,425
1958	86,590	2,942,328	282	9,582	210,612	7,156,596	343,838	11,683,615	67,745	2,301,975
1959	78,588	2,638,199	200	6,714	184,312	6,167,354	405,922	13,626,802	66,960	2,247,847
1960	84,775	2,878,111	191	6,484	212,859	7,226,563	418,104	14,194,631	78,115	2,652,004

¹ From all sources.

Note: New Brunswick gold in 1957: 240 ounces; in 1958: 52 ounces.

TABLE 5. Production of Gold, by Provinces, according to Nature of Ores, 1959 and 1960

Year and province	Placer gold	Aniferous quartz ores	Copper-gold- silver ores	Nickel-copper ores	Silver-lead and other ores	Total
1959						
Newfoundland	—	—	4,875	—	8,536	13,411
Nova Scotia	—	—	—	—	—	—
New Brunswick	—	—	—	—	—	—
Quebec	—	620,111	367,324	—	11,953	999,388
Ontario	—	2,633,512	5,706	42,509	1,722	2,683,449
Manitoba	—	29,487	20,913	786	—	51,186
Saskatchewan	—	—	78,588	—	—	78,588
Alberta	200	—	—	—	—	200
British Columbia	5,814	163,042	7,948	—	7,508	184,312
Northwest Territories	—	405,922	—	—	—	405,922
Yukon	66,960	—	—	—	—	66,960
Canada	72,974	3,852,074	485,354	43,295	29,719	4,483,416
1960						
Newfoundland	—	—	4,929	—	8,586	13,515
Nova Scotia	—	3	—	—	—	3
New Brunswick	—	—	—	—	—	—
Quebec	—	641,313	387,112	—	7,489	1,035,914
Ontario	—	2,666,533	8,425	56,665	1,050	2,732,673
Manitoba	—	31,172	20,747	843	—	52,762
Saskatchewan	—	—	84,775	—	—	84,775
Alberta	191	—	—	—	—	191
British Columbia	2,498	173,241	24,188	—	12,932	212,859
Northwest Territories	—	418,104	—	—	—	418,104
Yukon	78,115	—	—	—	—	78,115
Canada	80,804	3,930,366	530,176	57,508	30,087	4,628,911

TABLE 6. Gold Production by Provinces and Principal Areas, 1958-60

Province and area	1958		1959		1960	
	Troy ounces	Value	Troy ounces	Value	Troy ounces	Value
		\$		\$		\$
Newfoundland	13,381	454,686	13,411	450,207	13,515	458,834
Nova Scotia	131	4,451	—	—	3	102
New Brunswick	52	1,767	—	—	—	—
Quebec:						
Gold mines	662,910	22,525,682	620,111	20,817,126	641,313	21,772,576
Base metal mines	381,936	12,978,185	379,277	12,732,329	394,601	13,396,704
Totals	1,044,846	35,503,867	999,388	33,549,455	1,035,914	35,169,280
Ontario:						
Gold mines:						
Porcupine	1,138,190	38,675,696	1,089,699	36,581,195	1,084,537	36,820,031
Kirkland Lake	362,168	12,306,469	352,250	11,825,033	332,939	11,303,279
Larder Lake	542,269	18,426,301	567,304	19,044,395	592,244	20,106,684
Matachewan	64	2,175	112	3,760	80	2,716
Sudbury	27,858	946,615	36,350	1,220,269	39,035	1,325,238
Thunder Bay	107,124	3,640,073	103,228	3,465,364	106,358	3,610,854
Patricia	482,476	16,394,534	484,552	16,266,411	511,323	17,359,416
Other mines	56,365	1,915,283	49,954	1,676,956	66,157	2,246,030
Totals	2,716,514	92,307,146	2,683,449	90,083,383	2,732,673	92,774,248
Manitoba:						
Gold mines	67,889	2,306,868	29,487	989,879	31,172	1,058,269
Other mines	19,467	661,489	21,699	728,435	21,590	732,981
Totals	87,356	2,968,357	51,186	1,718,314	52,762	1,791,270
Saskatchewan:						
Gold mines	—	—	—	—	—	—
Other mines	86,590	2,942,328	78,588	2,638,199	84,775	2,878,111
Totals	86,590	2,942,328	78,588	2,638,199	84,775	2,878,111
Alberta (placer)	282	9,582	200	6,714	191	6,484
British Columbia:						
Gold mines (lode)	193,225	6,565,786	163,042	5,473,320	173,241	5,881,532
Gold mines (placer)	3,928	133,473	5,814	195,176	2,498	84,807
Other mines	13,459	457,337	15,456	518,858	37,120	1,260,224
Totals	210,612	7,156,596	184,312	6,187,354	212,859	7,226,563
Northwest Territories:						
Gold mines and placer	343,838	11,683,615	405,922	13,626,802	418,104	14,194,631
Yukon (chiefly placer)	67,745	2,301,975	66,960	2,247,847	78,115	2,652,004
Totals, Canada	4,571,347	155,334,370	4,483,416	150,508,275	4,628,911	157,151,527

TABLE 7. Production of Gold and Silver by Principal Mines, 1960

Mine and province	Ore hoisted	Material sorted (discarded)	Ore treated	Gold produced	Silver produced	Mill capacity—24 hours	See foot-notes
		tons		troy ounces		tons	
Newfoundland: Base metal mines .....	...	...	...	13,515	1,271,126	...	
Nova Scotia: Base metal mines and Mint receipts .....	...	...	...	3	—	...	
New Brunswick: Base metal mines .....	...	...	...	—	—	...
Quebec:							
Anacon	119,082	4,859	114,223	19,043	13,246	500	1,2,3,
Barnat	444,905	—	236,445	66,086	5,053	600	1,4
Akasaba	63,640	—	—	8,010	2,276	—	5
Bevcon	234,160	—	234,160	27,359	8,399	800	1
Canadian Malartic	468,694	—	468,694	40,535	17,596	1,300	1
East Malartic	544,939	—	544,939	110,127	18,200	1,500	1
Elder	150,077	—	—	19,634	—	—	2
Eldrich	126,503	—	—	15,991	—	—	2
Lamaque	761,800	—	761,800	131,438	21,219	2,000	—
Malartic Goldfields	404,186	—	404,186	64,035	4,674	1,500	—
Norlartic	132,284	—	—	17,799	1,548	—	4
Sigma	430,136	—	430,136	77,420	14,689	1,200	—
Sullivan	264,566	31,128	233,438	42,929	9,365	750	—
Totals for principal gold mines in Quebec .....	...	...	...	640,406	116,263	...	
Copper-gold and other mines .....	...	...	...	395,508	3,998,840	...	
Totals, Quebec .....	...	...	...	1,035,914	4,115,105	...	

TABLE 7. Production of Gold and Silver by Principal Mines, 1960 - Concluded

Mine and province	Ore hoisted	Material sorted (discarded)	Ore treated	Gold produced	Silver produced	Mill capacity — 24 hours	See foot-notes
	tons			troy ounces		tons	
Ontario:							
Porcupine District							
Aunor	264,867	—	264,867	83,697	6,207	750	1
Broulan Reef	132,215	—	132,215	23,066	1,849	700	1
Coniaurum	126,125	—	126,125	25,808	5,582	500	1
Delnite	184,491	—	184,491	46,437	3,288	520	1
Dome	714,600	—	714,600	176,338	38,412	1,975	1,2
Hallnor	120,614	—	120,614	41,260	3,131	400	1
Hollinger (Timmins)	1,051,085	—	1,051,222	284,118	49,946	3,900	1
Hollinger (Ross)	140,144	—	140,154	19,443	76,304	450	1
Hugh-Pam	50,464	—	—	8,977	—	—	6
McIntyre Porcupine	777,300	—	775,348	217,650	34,061	2,400	1
Pamour	670,631	24,513	646,118	62,682	8,361	1,750	1
Paymaster	199,358	—	199,119	41,052	9,585	750	1
Preston	226,830	—	227,100	53,885	6,293	800	1,3
Kirkland Lake District							
Kirkland Minerals	48,066	—	48,066	18,802	1,874	400	1
Lake Shore	175,501	—	175,501	65,760	23,195	1,200	1
Macassa	149,862	—	149,862	69,778	10,373	500	1
Sylvanite	132,861	—	132,951	32,437	8,038	600	1
Teck Hughes	190,872	—	190,900	29,523	3,068	650	1
Upper Canada	207,915	—	207,915	53,859	30,676	525	1
Wright-Hargreaves	164,985	—	—	62,635	17,723	—	7
Larder Lake District							
Kerr-Addison	1,668,658	—	1,667,638	592,244	33,371	4,000	1
Sudbury District							
Renable	180,005	—	179,520	38,911	11,061	550	1
Thunder Bay District							
Leltch	42,822	9,838	32,521	37,848	1,585	120	1,3
MacLeod-Cockshutt	689,598	—	689,598	68,462	6,574	1,900	1
Patricia District							
Campbell Red Lake	319,657	61,759	257,898	162,658	11,535	700	1,3
Couchenour Willans	90,010	—	81,372	73,804	2,854	215	1,3
Madsen Red Lake	306,377	—	306,377	119,076	18,576	800	1,3
McKenzie Red Lake	96,499	13,305	83,194	17,830	4,370	235	1
Dickenson	172,120	—	171,840	91,540	8,839	470	1,3
Pickle Crow	120,460	—	120,345	39,663	5,067	400	1,3
Yeung, H.G.	43,434	—	35,200	6,740	755	425	1
Totals for principal gold mines in Ontario				2,665,983	442,553	...	...
Nickel-copper and other mines				66,690	10,778,270	...	...
Totals, Ontario				2,732,673	11,220,823	...	...
Manitoba:							
Forty-Four Mines Ltd.	43,799	—	43,799	8,563	1,459	—	8
San Antonio	91,912	—	91,843	22,573	3,900	550	1,3
Copper-gold and other mines .....	...	...	...	21,626	496,278	...	...
Totals, Manitoba				52,762	501,637	...	...
Saskatchewan:							
Copper-Gold and alluvial ores .....	...	...	...	84,775	1,163,845	...	...
Alberta:							
Alluvial gold .....	...	...	...	191	19	...	...
British Columbia:							
Bralorne-Pioneer, Bralorne Division	153,482	—	153,482	114,118	23,908	500	3
Cariboo Gold Quartz	39,113	—	39,113	19,555	2,732	375	1
Pioneer Division, Bralorne	50,583	420	50,163	26,971	5,397	300	1,3
Placer gold .....	...	...	...	2,498	407	...	...
Copper-gold and other mines .....	...	...	...	49,717	8,414,996	...	...
Totals, British Columbia				212,859	8,447,440	...	...
Northwest Territories:							
Con Mine	114,541	—	114,541	54,022	21,134	500	1,3
Rycon Mine	76,085	—	76,085	50,619	19,803	—	9
Consolidated Discovery Yellowknife	51,776	—	51,776	81,967	8,708	150	1
Giant Yellowknife	474,272	117,107	362,037	231,279	29,787	1,000	1
Other mines .....	...	...	...	217	41	...	...
Totals, Northwest Territories				418,104	79,473	...	...
Yukon:							
Placer and silver-lead mines .....	...	...	...	78,115	7,217,361	...	...
Totals, Canada				4,628,911	34,016,829	...	...

¹ Cyanidation.² Shipped to smelter.³ Amalgamation process.⁴ Shipped to Malartic Gold fields mill.⁵ Shipped to Bevcon mill.⁶ Shipped to Broulan Reef mill.⁷ Shipped to Lake Shore mill.⁸ Treated at San Antonio mill.⁹ Treated at Con mill.

TABLE 8. Gold Production of the World,¹ 1956-60

Country	1956	1957	1958	1959	1960
	fine ounces				
North America:					
United States	1,837,961	1,817,197	1,801,005	1,389,361	1,388,531
Canada	4,383,863	4,433,894	4,571,347	4,483,416	4,602,420
Mexico	350,242	346,320	332,238	313,655	300,249
Totals, North America	6,572,066	6,597,411	6,704,590	6,186,432	6,291,200
Central America and West Indies	223,600	210,300	249,500	224,700	
South America:					
Brazil ²	122,234	120,755	116,190	112,332	118,891
British Guiana	15,615	16,491	17,500	3,448	2,364
Chile	94,457	103,587	70,858	72,177	
Colombia	438,350	325,130	371,715	397,928	433,947
Ecuador	14,585	16,840	19,311	18,177	15,061
French Guiana	7,500	9,549	20,000	16,100	18,936
Peru	159,074	165,093	159,127	150,299	143,766
Surinam	6,700	6,526	4,244	5,619	
Venezuela	69,811	75,976	89,654	53,740	46,867
Total South America, as reported	928,526	839,947	868,599	830,020	
Europe	400,000	400,000	400,000	400,000	
Australia:					
New South Wales	28,821	31,043	16,709	13,275	13,800
Queensland	56,022	63,363	74,568	91,687	78,019
Victoria	38,846	45,752	41,476	34,662	27,671
Western Australia	813,537	849,751	874,824	860,969	869,967
Tasmania	17,131	20,027	21,744	21,353	23,738
Other Australia	75,464	74,005	72,664	63,158	71,599
Total Australia (Commonwealth)	1,029,821	1,083,941	1,103,980	1,085,104	1,084,794
Oceania, other:					
Fiji	67,282	78,807	81,827	72,566	72,203
New Guinea	79,478	69,030	43,812	46,820	45,151
New Zealand	26,063	30,195	24,932	37,662	
Total Oceania, other	172,821	178,032	150,571	157,048	
Asia:					
India	209,253	179,198	170,109	165,380	160,557
Japan	295,334	302,706	308,450	328,193	330,625
Korea, Republic of	49,929	66,576	73,163	65,688	65,810
Malaya	20,253	11,157	22,484	26,739	20,745
Philippines Republic	406,163	379,982	422,833	402,615	410,618
Saudi Arabia					
Taiwan (Formosa)	37,501	19,483	20,265	13,497	17,207
Total Asia, as reported	1,018,433	959,102	1,017,304	1,002,105	1,005,562
Africa:					
Bechuanaland	590	190	215	198	
Katanga, State of	373,840	374,258	356,126	351,078	
Ethiopia	25,700	25,000	36,369	41,439	
Cameroons	463	10,899	2,009	971	415
Congo, Republic of	40,712	30,780	23,704	20,331	20,615
Ghana	620,194	788,151	851,433	902,595	893,000
Kenya	13,842	7,387	7,753	9,145	8,522
Liberia	160	381	400	1,355	1,036
Madagascar	903	842	547	193	96
Nigeria	439	487	646	950	994
Sierra Leone	452				
Southern Rhodesia	536,392	536,849	554,838	566,882	562,703
Tanganyika (exports)	59,293	54,088	56,299	85,403	98,024
Uganda	271	243	292	384	780
Union of South Africa	15,896,693	17,031,690	17,656,442	20,066,753	21,386,114
Total Africa, as reported	17,569,944	18,861,245	19,547,073	22,047,677	
Russia ³	10,000,000	10,000,000	10,000,000	10,000,000	
Total world, as reported	37,915,211	39,129,978	40,041,617	41,933,086	
Estimated world totals⁴	38,400,000	39,620,000	40,600,000	42,800,000	

¹ In compiling this table, free use has been made of the reports of the Director of the Mint, the U.S. Bureau of Mines and other publications.² Mined gold only; production of alluvial gold unknown.³ Conjectural.⁴ This estimate includes the following countries which also produce gold: Angola, Argentina, Austria, Bolivia, Bulgaria, Burma, China, Czechoslovakia, Egypt, Eritrea, French Morocco, French West Africa, Hungary, Mozambique, North Korea, Northern Rhodesia, Papua, Sarawak, South West Africa, Sudan and Thailand, from whom definitive figures are not available.

Source: "Annual Report of the American Bureau of Metal Statistics".

TABLE 9. Gold Production according to Method of Computation and Recovery, 1951-60

Year	In alluvial gold	In crude gold bullion produced at mines ¹	In base bullion produced at lead smelters	In blister and anode copper produced ²	In ores, matte, slags, etc., exported	Total gold produced
			per cent			fine ounces
1951	2.19	81.86	0.33	12.20	3.42	4,392,751
1952	2.08	83.22	0.39	11.37	2.94	4,471,725
1953	1.91	84.11	0.25	9.77	3.96	4,055,723
1954	2.05	83.14	0.34	11.18	3.29	4,366,440
1955	1.73	83.10	0.16	12.15	2.86	4,541,962
1956	1.71	83.66	0.17	12.88	1.58	4,383,863
1957	1.72	83.98	0.32	12.40	1.58	4,433,894
1958	1.57	84.06	0.20	12.64	1.53	4,571,347
1959	1.63	84.47	0.21	12.52	1.17	4,483,416
1960	1.75	83.1	0.26	12.82	1.99	4,628,911

¹ Includes a small quantity of gold contained in shipments of gold ores, slags, etc., to Canadian smelters.

² Contains a small quantity of gold recovered from auriferous quartz ores.

TABLE 10. Estimated Average Monthly Value of an Ounce of Fine Gold, Expressed in Canadian Funds, 1940-60

Month	1940-45	1946	1947-48	1949 ¹	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
	dollars														
January	38.50	38.50	35.00	35.00	38.50	36.81	35.19	33.97	34.05	33.81	34.95	33.62	34.46	33.84	33.36
February	38.50	38.50	35.00	35.00	38.50	36.73	35.03	34.20	33.83	34.19	34.97	33.54	34.34	34.12	33.31
March	38.50	38.50	35.00	35.00	38.50	36.65	34.85	34.44	33.98	34.45	34.95	33.46	34.21	33.93	33.28
April	38.50	38.50	35.00	35.00	38.50	37.07	34.34	34.43	34.39	34.52	34.89	33.59	33.97	33.73	33.70
May	38.50	38.50	35.00	35.00	38.50	37.25	34.43	34.79	34.45	34.51	34.71	33.45	33.84	33.70	34.24
June	38.50	38.50	35.00	35.00	38.50	37.42	34.26	34.80	34.34	34.45	34.48	33.36	33.67	33.56	34.39
July	38.50	35.35	35.00	35.00	38.50	37.12	33.93	34.72	34.10	34.46	34.37	33.29	33.60	33.51	34.24
August	38.50	35.00	35.00	35.00	38.50	36.96	33.65	34.59	33.96	34.48	34.34	33.18	33.76	33.41	33.95
September	38.50	35.00	35.00	36.52	38.50	36.94	33.59	34.45	33.94	34.57	34.22	33.56	34.19	33.31	34.03
October	38.50	35.00	35.00	38.50	36.86	36.78	33.75	34.39	33.94	34.84	34.07	33.77	33.98	33.17	34.24
November	38.50	35.00	35.00	38.50	36.43	36.53	34.17	34.22	33.93	34.98	33.75	33.67	33.89	33.26	34.19
December	38.50	35.00	35.00	38.50	36.83	35.89	33.97	34.06	33.88	34.98	33.62	34.22	33.76	33.29	34.43
Yearly averages	38.50	36.75	35.00	36.00	38.05	36.85	34.27	34.42	34.07	34.52	34.45	33.55	33.98	33.57	33.95

¹ United States dollar equivalent to \$1.10 Canadian funds from September 18, 1949, to October 1, 1950.

TABLE 11. Precious Metals Consumed by the Jewellery and Silverware Industry, 1956-59

Material	Cost at works			
	1956	1957	1958	1959
	dollars			
Fine gold	5,444,312	4,585,764	5,044,225	5,324,330
Gold alloys	1,421,905	1,403,075	1,633,143	1,662,361
Fine silver	3,677,213	3,975,569	2,801,283	3,258,106
Silver alloys and sterling	2,620,971	2,554,281	2,354,492	2,496,816
Platinum	1,218,798	1,182,835	3,258,208	2,549,125
Palladium	240,831	275,092	1,143,382	1,287,587
Old gold, jewellers' findings, waste and scrap refining	1,672,727	1,651,414	1,020,928	972,129
Gold-filled wire and stock	146,254	151,113	143,909	124,531
Precious and semi-precious stones	3,753,954	3,632,668	4,073,739	3,630,460

EMERGENCY GOLD MINING ASSISTANCE ACT

(Taken from the "Report on the Administration of the Emergency Gold Mining Assistance Act" of the Department of Mines and Technical Surveys)

Summary of Operations for the Year 1959

Honourable Paul Comtois, Minister of Mines and Technical Surveys, introduced a resolution to the House of Commons on February 11, 1960 proposing to extend the application of The Emergency Gold Mining Assistance Act to the years 1961, 1962 and 1963. No change was proposed in the method of determining the amount of assistance payable to the operator of a gold mine applying for assistance.

The Emergency Gold Mining Assistance Act was amended by Chapter 28 of the Statutes of 1958. The amending act, which received Royal Assent on September 6, 1958, extended the application of the Act for two years to the end of 1960. It also increased by twenty-five per cent the amount of assistance payable as calculated by the prescribed formula to eligible gold mine operators for each of the three years 1958, 1959 and 1960.

Since the inception of the Emergency Gold Mining Assistance Act in 1948 the amount of assistance payable to the operators of a gold mine has been calculated by a formula consisting of two factors: the "rate of assistance" which is based on the cost per ounce of gold produced from the mine, and the "assistance ounces" which are a specified proportion of the total ounces of gold produced. Under the formula prescribed for the years 1955, 1956, and 1957, the rate of assistance factor was determined by taking two-thirds of the amount by which the cost per ounce exceeded \$26.50, with a maximum rate of \$12.33 per ounce. The number of assistance ounces was two-thirds of the total produced. The amount of assistance payable for the years 1955 to 1957 was the amount obtained by multiplying the rate of assistance by the number of assistance ounces. The amending act of 1958 did not alter this formula, but the amount of assistance payable to an operator for 1958 and subsequent years is computed by adding twenty-five per cent to the amount obtained by application of the formula.

For purposes of the Act the cost of production of gold from a mine is the cost properly attributable to the gold produced from the mine during the year and includes mining, milling, smelting, refining, transportation, and administration costs and amounts in respect of depreciation, amortization, pre-production costs, deferred development expenditures, and costs of exploration and development, as determined in accordance with the Regulations.

Applications for assistance have been received from 42 gold mines with respect to the calendar year 1959. These represent the bulk of the mines that will apply for assistance for that year; however, applications may be made up to 6 months after the year-end and it is anticipated that additional applications will be received, most of which will be from placer operations.

The estimated total assistance which will be payable in respect of gold produced and sold under the provisions of the Act in 1959 is now calculated to be \$11,700,000. The actual assistance paid up to March 31, 1960, with respect to the year 1959 was \$8,067,765.15. This sum is 80 per cent of the assistance payable on the applications received to that date. The remaining 20 per cent is payable when the books of the companies have been audited by the Audit Services Division of the Office of the Comptroller of the Treasury.

The final audit for the calendar year 1958 has been completed with the exception of five applications. A total of \$11,137,953.70 has been actually paid with respect to this year and the payment of holdbacks will bring the final figure to approximately \$11,500,000.

One mine commenced operations and one ceased production during the year. Both mines are located in Quebec. One mine in the Northwest Territories reduced its average cost of production per ounce by improving methods of recovery and became ineligible for assistance payments. There were twelve lode gold mines in operation in Canada in 1959 which were not eligible for assistance payments because their costs of production were below \$26.50 per ounce of gold produced.

The average price per ounce of gold paid by the Royal Canadian Mint in 1959 was \$33.57 compared with \$33.98 in 1958 and \$33.55 in 1957.

A study of the present Emergency Gold Mining Assistance Regulations was initiated. A revision of the regulations is considered desirable to clarify and codify certain administrative procedures. The proposed revisions will not alter the present method of calculating the amount of assistance payable under the Act.

Conditions Governing Eligibility of the Operator of a Gold Mine for Assistance Payments

A mine, to be classified as a gold mine for purposes of the Act and Regulations, must fulfil the following conditions:

- (1) The value of the gold produced must be 70 per cent or more of the total value of the output of the mine.
- (2) The mine or operation must produce at least 50 tray ounces of gold in a designated year.
- (3) Ore reserves of commercial significance must be developed and there must be a possibility of attaining production of gold on a commercial basis within a reasonable time.

The operator must also conform to the following requirements to be eligible for assistance payments:

- (1) Application in prescribed form for assistance payments with respect to a designated quarter or year must be received by the Department of Mines and Technical Surveys within six months after the end of the designated period. Advance payments may be made with respect to a calendar year or to quarterly periods beginning with the first day of the months of January, April, July or October. Schedules I and II are to be used in making application for assistance.
- (2) The cost of production per ounce of gold, computed on all ounces of gold produced from the mine during the designated period, must exceed \$26.50.
- (3) Assistance payments are made only with respect to those ounces of gold produced from the mine during the designated period which are:
 - (a) sold in the form of bullion to the Royal Canadian Mint by the operator; or
 - (b) sold in the form of ore or concentrate to a domestic smelter, provided the smelter operator certifies that a number of ounces equivalent to those paid for by the smelter have been sold to the Royal Canadian Mint as soon as is practicable after the shipment of the ore or concentrate and the separation of the gold therefrom; or
 - (c) exported and sold in the form of ore or concentrate to a foreign smelter.
- (4) The operator of a mine applying for assistance for the first time must submit a declaration of ownership of the mine on Schedule III.

(5) A new mine which is operated by an incorporated company must be declared in production in accordance with Section 83(5) of the Income Tax Act. Status as a new mine may be obtained through application to the Taxation Division, Department of National Revenue, Ottawa.

The Gold Export Act and Disposal of Canadian Gold

The Gold Export Act, passed in 1932, authorized the Governor in Council to make regulations regarding the export of gold from Canada. On March 21, 1956, the regulations which prohibited the export of gold in any form except under licence issued by the Minister of Finance were revoked. Thus, since March 21, 1956, producers have been free to sell their gold wherever they desire.

Act and Regulations

- (1) The Act received Royal Assent on May 14, 1948, and came into force by proclamation on June 15, 1948.
- (2) The Regulations made by the Governor in Council under the authority of Section 6 of the Act were approved by Order in Council, P.C. 2644, June 11, 1948.

- (3) Chapter 20, 13 George VI (Second Session), received Royal Assent, December 10, 1949.
- (4) Chapter 49, 15 George VI (First Session), received Royal Assent, June 30, 1951.
- (5) Chapter 25, 1 Elizabeth II, received Royal Assent, June 18, 1952.
- (6) Chapter 32, 2 Elizabeth II, received Royal Assent, May 14, 1953.
- (7) Chapter 26, 2-3 Elizabeth II, received Royal Assent, March 31, 1954.
- (8) Chapter 19, 3-4 Elizabeth II, received Royal Assent, May 26, 1955.
- (9) Chapter 20, 4-5 Elizabeth II, received Royal Assent, June 26, 1956.
- (10) Chapter 28, 7 Elizabeth II, received Royal Assent, September 6, 1958.

Amendments to the Regulations

- (11) Order in Council, P.C. 1753, April 12, 1950.
- (12) Order in Council, P.C. 3925, July 31, 1951.
- (13) Order in Council, P.C. 1954-379, March 19, 1954.
- (14) Order in Council, P.C. 1954-863, June 10, 1954.
- (15) Order in Council, P.C. 1956-11, January 5, 1956.

TABLE 12. Emergency Gold Mining Assistance Act—Estimated Assistance Payable

Province	1952	1953	1954	1955	1956	1957	1958	1959
	dollars							
Nova Scotia	—	—	—	—	—	—	1,085	—
Quebec	2,838,726	4,225,820	4,161,889	2,510,421	2,554,961	2,802,638	3,114,300	3,058,643
Ontario	5,579,649	7,154,496	8,700,203	4,532,956	4,569,086	5,430,897	6,542,180	6,822,477
Manitoba	379,003	454,694	580,741	654,801	722,087	712,029	495,851	158,591
British Columbia	782,155	1,046,076	1,036,678	600,710	605,950	397,774	666,461	465,807
Northwest Territories	1,011,211	1,409,761	1,411,829	330,532	14,013	284,030	460,198	—
Yukon	255,234	389,263	367,839	255,959	201,138	52,385	185,982	18,434
Canada	10,843,978	14,680,110	16,259,179	8,885,479	8,667,235	9,679,753	11,466,057	10,523,952

THE PLACER GOLD MINING INDUSTRY

This portion of the report includes statistics for industry 051—Placer Gold Mines of the Standard Industrial Classification Manual (Cat. No. 12-501).

Most of the placer gold was produced in the Yukon and British Columbia; small quantities were recovered in Alberta.

In 1960 a total of 80,804 troy ounces of fine gold were recovered from crude gold obtained from Canadian alluvial deposits. This represented an increase of 11.7 per cent from the preceding year. Reviewing the past twenty years, it is noted that the peak of production of placer gold occurred in 1939, and that the lowest annual output was in 1944.

Quebec—After many years of no production there was a recorded output of 38 ounces in 1951 and 39 ounces in 1952, none in 1953, 16 ounces in 1954 and nil in 1955-1960.

Saskatchewan and Alberta—The small amount of gold, considered as being placer in origin, received at the Royal Canadian Mint, Ottawa, is assumed to have come from along the North Saskatchewan River. There has been activity in this district, in the vicinity of Edmonton, dating from about 1860.

British Columbia—It has been found impractical to obtain complete reports for each individual placer mining operation in British Columbia inasmuch as a considerable quantity of the crude placer gold is recovered annually to prospectors of no fixed abode who, in many instances, market their recoveries through local merchants and banks. Recoveries in 1960 were made chiefly from deposits located in the Atlin and Cariboo districts. Output was estimated at 2,498 troy ounces.

Yukon—Over 90 per cent of the placer gold recovered in Canada during 1960 was found in the creeks of the Yukon. Production in 1960 totalled 78,115 troy ounces.

Employees in the industry numbered 213 persons to whom \$1,224,907 were paid in wages and salaries. Fuel and electricity cost \$77,498, electricity generated for own use was 16,762,600 kwh. and the electricity for sale was 6,683,800 kwh. Process supplies were valued at \$344,379. Freight and express on shipments amounted to \$31,559 and \$19,722 were paid for treatment and marketing.

TABLE 13. Principal Statistics for Placer Gold Mining, Significant Years, 1921 - 60

Year	Establishments	Employees	Salaries and wages	Cost of fuel and electricity	Process supplies and containers	Gross value of products	Net value of production ¹
	number				dollars		
1921	197	428	671,783	..	..	1,576,222	..
1929	68	488	586,193	2,969	..	836,006	..
1931	109	337	682,935	41,745	..	1,226,541	..
1933	74	454	704,151	35,165	..	1,218,250	..
1937	109	1,069	1,689,911	99,072	77,488	3,243,196	3,066,636
1939	104	830	1,439,765	119,692	90,610	4,523,587	4,204,974
1941	110	797	1,954,278	155,518	68,489	4,132,503	3,800,142
1944	47	211	598,556	43,591	13,703	1,281,125	1,197,021
1946	39	340	1,112,984	84,206	46,870	1,849,511	1,693,568
1949	56	398	1,509,423	38,614	455,371	3,499,823	2,920,290
1951	47	362	1,553,103	44,678	507,830	3,572,516	2,951,342
1954	62	351	1,619,460	146,300	253,128	3,051,665	2,575,038
1956	64	250	1,378,166	81,639	451,933	2,594,312	2,026,790
1957	57	243	1,160,225	55,472	353,186	2,573,853	2,116,716
1958	112	236	1,253,362	63,007	461,375	3,049,743	2,484,524
1959	112	239	1,194,713	74,536	355,837	2,462,727	1,989,431
1960	32	213	1,224,907	77,498	344,379	2,758,284	2,285,126

¹ Gross value less fuel, electricity, process supplies, freight and treatment charges.

TABLE 14. Alluvial Gold Recovered and Quantity of Material Handled,¹ 1951 - 60

Year	British Columbia				Yukon				Canada
	Material handled ²	Gold recovered ³	Ounces per cu. yd.	Value per cu. yd.	Material handled ²	Gold recovered ³	Ounces per cu. yd.	Value per cu. yd.	Gold recovered ³
	cu. yd.	fine ounces		\$	cu. yd.	fine ounces		\$	ounces
1951	335,487	18,802	0.0560	2.0636	7,266,422	77,504	0.0107	0.3942	96,441
1952	270,656	7,950	0.0294	1.0075	6,727,353	92,789	0.0138	0.4729	92,843
1953	597,073	11,360	0.0199	0.6850	5,155,826	66,080	0.0140	0.4832	77,505
1954	233,114	7,105	0.0305	1.0390	6,889,820	82,208	0.0119	0.4065	89,571
1955	110,594	6,206	0.0561	1.9365	6,379,755	72,201	0.0113	0.3907	78,621
1956 .....	..	2,962	...	...	5,716,389	71,736	0.0125	0.4306	74,919
1957 .....	..	2,105	...	...	7,559,882	73,709	0.0097	0.3271	76,303
1958 .....	..	3,928	...	...	6,808,991	67,745	0.0099	0.3380	71,955
1959 .....	..	5,814	...	...	6,824,062	66,960	0.0098	0.3294	72,974
1960 .....	..	2,498	...	...	5,519,729	78,115	0.0141	0.4787	80,804

¹ In addition, relatively small amounts of alluvial gold have been recovered in Saskatchewan and Alberta but complete data are not available; also, data relating to material handled, particularly those pertaining to small operations, are not complete and necessitate estimates in order to obtain totals.

² Data partly conjectural and includes some overburden and barren material.

³ Fine gold received at Royal Canadian Mint (Vancouver Assay Office).

TABLE 15. Employees and their Earnings in the Placer Gold Mining Industry, 1956 - 60

Year	Employees ¹					Man-hours worked	Earnings		
	Administration		Workmen		Total		Admin- istration	Workmen	Total
	Male	Female	Male	Female					
	number						dollars		
1956	13	—	227	10	250	688,681	58,860	1,319,306	1,378,166
1957	14	6	218	5	243	661,202	92,833	1,087,392	1,180,225
1958	16	5	212	5	236	659,577	123,329	1,130,033	1,253,362
1959	20	5	211	3	239	621,299	114,224	1,080,489	1,194,713
1960	9	5	196	3	213	567,383	93,773	1,131,134	1,224,907

¹ Several placer deposits are operated by partnerships which have no employees.

TABLE 16. Fuel and Electricity Used in the Placer Gold Mining Industry, 1960

Kind	Quantity	Cost at plant
		\$
Bituminous coal (a) From Canadian mines	short ton 40	1,261
(b) Imported	" "	—
Sub-bituminous coal (from Alberta Mines only)	" "	—
Anthracite coal	" "	—
Lignite coal	" "	—
Coke (for fuel only)	" "	—
Gasoline, (includes gasoline used in cars and trucks)	Imp. gal. 71,657	33,208
Kerosene or coal oil	" 448	400
Fuel oil	" 79,314	30,403
Wood (cords of 128 cubic feet piled wood)	cord 442	11,825
Gas (a) Liquefied petroleum gases (propane, etc.)	Imp. gal. 480	401
(b) Other manufactured gas	M. Cu. ft. —	—
(c) Natural gas	" " " —	—
Other fuel	—	—
Electricity purchased for power and lighting	kwh. —	—
Electricity purchased for other purposes	—	—
Total .....	...	77,498
Electricity generated (a) For own use	kwh. 16,762,600	...
(b) For sale	" 6,683,800	109,378

THE GOLD QUARTZ MINING INDUSTRY IN CANADA

This report includes statistics for industry 052—Gold Quartz Mines of the Standard Industrial Classification Manual (Cat. No. 12-501).

The gold quartz mining industry produced, during 1960 minerals valued at \$135,349,183 compared with \$130,097,538 in the preceding year. The total valuation included gold, silver, copper and other recoverable metals found in the gold ores.

The average number of employees was 16,542 whose earnings amounted to \$66,552,906. Fuel cost \$1,400,197 and 924,568,003 kwh. of electricity were purchased for \$5,815,830. Process supplies, which included explosives, chemicals, drill steel, etc., cost \$22,686,326. Electricity generated for own use was 36,989,432 kwh. and generated for sale was 5,736,832 kwh.

The greater part of Canada's gold 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 deposits of the Shield are of two main types, namely, quartz veins, from which most of the gold, up to the present time, has been won, and sulphide deposits which produce a smaller but very considerable proportion. The second great source of gold in Canada has been the Western or Cordilleran section, comprising British Columbia and the Yukon Territory, the gold production from this section including relatively large quantities obtained from alluvial deposits. In Nova Scotia gold was mined as early as 1862 but in late years the production in this province has dwindled to a very small percentage of Canada's output.

TABLE 17. Principal Statistics for the Gold Quartz Mining Industry, Significant Years, 1921-60

	Establishments	Employees	Salaries and wages	Cost of fuel and electricity	Cost of process supplies	Gross value of products	Net value of production ¹
	number				dollars		
1921	59	3,889	6,072,318	1,154,606	..	16,689,784	..
1929	85	8,660	14,258,733	2,579,481	..	37,275,986	..
1931	69	9,636	16,467,165	2,700,326	..	49,144,578	..
1933	216	12,823	20,536,012	3,330,137	..	69,151,535	..
1937	689	29,140	48,219,318	7,345,401	16,230,722	122,676,103	97,961,278
1939	474	30,622	53,206,225	7,952,580	19,484,870	160,014,172	129,633,245
1941	357	32,551	62,150,810	8,462,618	21,066,900	179,103,182	145,978,833
1944	262	17,226	37,023,505	5,895,117	11,174,746	94,263,416	75,234,384
1946	686	21,973	47,211,062	6,259,876	14,401,904	88,422,683	66,342,152
1949	247	22,358	61,293,334	7,307,153	23,251,874	129,550,461	96,580,304
1951	211	22,126	68,739,531	7,791,586	26,677,361	136,703,452	100,059,503
1954	157	18,479	63,578,156	6,987,528	23,639,788	127,644,959	95,627,104
1956	134	17,031	62,701,494	6,830,676	22,725,750	127,983,495	97,011,062
1957	147	16,911	63,708,608	6,771,886	22,705,425	127,055,902	95,991,241
1958	127	16,811	64,208,042	7,134,399	18,013,121	133,998,004	107,140,993
1959	139	16,777	65,519,112	7,161,054	20,901,136	130,097,538	100,519,397
1960	146	16,542	66,552,906	7,216,027	22,686,326	135,349,183	103,748,507

¹ Gross value less fuel, electricity, process supplies, freight and treatment charges.

TABLE 18. Principal Statistics for the Gold Quartz Mining Industry, 1959 and 1960

	Active opera- tors ¹	Em- ployees	Salaries and wages	Cost of fuel and purchased electricity	Cost of process supplies used ²	Amount of freight etc., paid on ship- ments of ore, slag, etc.	Smelter and refinery treatment costs	Gross value of bullion, ore, concen- trates or residues shipped from mines ³	Net value of bullion, ore, concentrate or residues shipped from mines ⁴
	number		dollars						
1959									
Quebec and Nova Scotia	75	3,347	12,717,019	1,527,716	3,868,729	126,024	469,486	21,107,303	15,115,348
Ontario	46	11,732	44,783,710	4,307,333	15,376,966	108,653	613,840	88,864,666	68,457,874
Manitoba and Saskatchewan	3	218	781,900	126,920	170,637	2,805	9,590	990,891	680,939
British Columbia	7	771	3,284,383	301,199	215,398	78,113	84,428	5,420,911	4,741,773
Northwest Territories	8	709	3,952,100	897,886	1,269,406	9,232	13,780	13,713,767	11,523,463
Totals	139	16,777	65,519,112	7,161,054	20,901,136	324,827	1,191,124	130,097,538	100,519,397
1960									
Quebec and Nova Scotia	74	3,098	12,018,407	1,493,073	3,938,850	129,335	455,037	22,094,466	16,078,171
Ontario	48	11,824	46,368,228	4,438,198	16,449,845	110,507	628,119	91,508,838	69,882,169
Manitoba and Saskatchewan	3	228	825,509	111,453	187,291	2,340	8,109	1,066,656	757,465
British Columbia	12	659	3,031,375	259,833	777,182	164,700	99,556	6,268,298	4,967,027
Northwest Territories and Yukon ..	9	733	4,309,387	913,470	1,333,158	45,698	54,922	14,410,923	12,063,675
Totals	146	16,542	66,552,906	7,216,027	22,686,326	452,580	1,245,743	135,349,183	103,748,507

¹ Producing mines; in 1959, 61, in 1960, 69.² Explosives, chemicals, etc.³ Value of bullion produced, plus value of ore, concentrates, etc., shipped.⁴ Gross value less cost of supplies, fuel and electricity, treatment costs and freight.

TABLE 19. Ores Mined and Treated by the Gold Quartz Mining Industry, 1951-60

Year	Ore hoisted	Ore milled ¹	Crude ore shipped to smelters ²	Low-grade sorted out	Tailings re-treated	Gold in recovered as bullion	Gold in crude ore shipped	Gold in concentrates, slag, etc., shipped
	tons				troy ounces			
1951	16,548,264	15,907,335	311,324	171,137	—	3,572,655	41,549	84,811
1952	16,496,218	15,991,130	307,464	145,999	312	3,709,717	41,943	72,285
1953	15,247,337	14,842,517	198,535	233,813	800	3,412,964	28,105	76,424
1954	16,178,273	15,560,138	285,697	271,642	—	3,610,496	44,336	74,808
1955	16,404,660	15,660,528	333,783	221,077	634	3,764,817	50,516	58,343
1956	14,589,230	14,070,420	276,130	195,257	2,176	3,635,709	45,561	23,725
1957	14,354,879	13,894,311	253,607	215,397	1,212	3,695,666	43,601	26,712
1958	14,751,991	14,223,343	273,204	175,069	465	3,829,460	40,516	51,499
1959	14,246,860	13,732,277	347,203	188,996	329	3,763,954	46,812	40,391
1960	14,726,094	14,167,243	281,077	262,990	276	3,837,743	49,105	50,364

¹ + ² = Total crude ore treated.

TABLE 20. Ores Mined and Milled, Crude Bullion Recovered and Crude Bullion and Concentrates Shipped, in the Gold Quartz Mining Industry, 1960

	Quebec, Nova Scotia	Ontario	Manitoba	British Columbia	Northwest Territories	Canada
Number of producing mines	17	34	3	10	5	69
Ore mined	ton	4,144,972	9,460,366	136,711	267,340	14,726,094
Material discarded (sorted)	"	35,987	109,415	—	470	262,990
Ore milled (ground, etc.)	"	3,841,667	9,328,120	136,642	256,364	14,167,243
Tailings re-treated	"	10	248	—	12	276
Gold content of ores, slags, residues and con- centrates shipped:						
To foreign smelters	troy ounce	—	—	36	4,533	38,423
To Canadian smelters or mills	"	45,294	9,222	—	—	61,046
Bullion bars shipped:						
Gold content	"	593,197	2,653,083	31,136	413,226	3,830,010
Silver content	"	106,646	419,967	5,359	75,813	632,183
Content of bullion bars produced:						
Gold	"	596,040	2,657,628	31,136	413,571	3,837,743
Silver	"	106,758	434,842	5,359	75,830	647,187
Gold value	\$	20,258,056	90,811,049	1,060,723	14,194,266	131,087,386
Silver value	\$	94,849	366,363	4,771	67,370	574,873
Value of ores, concentrates, slags and residues sold (shipped)	\$	1,741,561	311,426	1,164	149,287	3,686,934
Total gross value of production	\$	22,094,466	91,508,838	1,066,658	6,268,298	135,349,183
Value of fuel, electricity and process supplies used, also freight on shipments, marketing, smelter and refinery charges	\$	6,016,295	21,626,669	309,193	1,301,271	31,600,675
Net value of production	\$	16,078,171	69,882,169	757,465	4,967,027	103,748,507

TABLE 21. Ores, Concentrates, Slags, etc., Shipped to Smelters and Mills from Canadian Gold Mines, 1951-60

Year	Ores		Concentrates		Slags, residues, precipitates	
	Tons	Gold content-troy ounces	Tons	Gold content-troy ounces	Tons	Gold content-troy ounces
To Canadian plants						
1951	296,341	41,398	—	9	349	7,245
1952	298,207	41,908	20	241	91	4,427
1953	198,535	28,068	20	227	123	9,300
1954	282,331	44,276	—	—	404	8,647
1955	333,783	50,516	—	—	237	4,816
1956	276,130	45,561	28	379	294	8,566
1957	253,602	43,589	10	129	187	6,791
1958	267,309	40,516	2,583	18,883	290	9,109
1959	347,203	46,812	1,398	10,215	232	8,993
1960	280,005	42,913	1,353	9,572	176	8,561
To foreign plants						
1951	34	151	14,303	37,360	29	40,126
1952	1	35	9,125	24,085	20	43,532
1953	3	37	143	16,468	20	50,427
1954	2	60	2,938	14,931	22	51,230
1955	—	—	2,807	14,876	17	38,651
1956	—	—	2,388	14,655	12	125
1957	5	12	2,636	19,792	—	—
1958	—	—	3,009	23,305	13	202
1959	—	—	2,668	21,183	—	—
1960	1,072	6,192	3,409	27,662	62	3,835

TABLE 22. Shipments from Gold Quartz Mines, 1959 and 1960

	Quantity	Total gross metal content			
		Gold	Silver	Copper	Other ¹
	tons	ounces		pounds	
1959					
To Canadian smelters:					
Gold ore	347,203	46,812	972	—	2,691
Gold concentrates	78	1,807	360	652	—
Slags, precipitates, residues	232	8,993	6,779	1,823	28
Copper concentrates	1,320	8,408	8,562	744,523	—
To foreign smelters:					
Gold ore	—	—	—	—	—
Gold concentrates	2,668	21,183	5,830	—	—
Slags, precipitates, residues	—	—	—	—	—
Totals	351,501	87,203	22,503	746,998	2,719
1960					
To Canadian smelters:					
Gold ore	280,005	42,913	41,875	—	106,382
Gold concentrates	45	330	43	130	—
Slags, precipitates, residues	176	8,561	8,026	2,956	1,323
Copper concentrates	1,308	9,242	9,332	827,296	—
To foreign smelters:					
Gold ore	1,072	6,192	169,439	14,860	167,717
Gold concentrates	3,409	27,662	7,960	—	—
Slags, precipitates, residues	62	4,569	3,835	—	—
Totals	286,077	99,469	240,510	845,242	275,422

¹ Zinc.

TABLE 23. Certain Data Relating to the Production of Gold by the Entire Gold Quartz Mining Industry, 1951 - 60 (Averages)

Year	Average ounces of gold produced per wage-earner	Cost of fuel and electricity per ounce of gold produced	Cost of wages per ounce of gold produced	Cost of explosives and other process supplies used, per ounce of gold produced	Cost of freight, smelting and refining on ores and bullion shipped, per ounce of gold produced	Taxes per ounce of gold produced	Total of specified costs
	ounces				dollars		
1951	193	2.11	15.60	7.21	0.59	2.19	27.70
1952	209	1.96	15.19	6.60	0.46	1.84	26.05
1953	209	1.96	14.85	6.46	0.41	1.55	25.23
1954	225	1.87	14.70	6.34	0.37	1.57	24.85
1955	240	1.83	14.20	6.32	0.39	1.60	24.34
1956	244	1.84	14.43	6.13	0.38	1.66	24.44
1957	249	1.80	14.53	6.03	0.42	1.57	24.35
1958	261	1.82	13.99	4.59	0.44	1.55	22.39
1959	251	1.91	14.85	5.57	0.41	1.87	24.61
1960	267	1.83	14.38	5.76	0.43	1.66	24.06

Note: The data contained in the foregoing table have been compiled from reports received from both producing and non-producing (exploring and developing) operators in the auriferous quartz mining industry. The trends should not be interpreted as entirely reflecting operations of producing mines only, but rather as indices of change in the industry as a whole.

TABLE 24. Gold and Silver Content of Bullion Produced, of Ores, Concentrates, etc., Shipped, with Average Grade of Ore Shipped and Ore Milled at Gold Quartz Mines and the Average Price of Gold and Silver in Canadian Funds, 1951 - 60

Year	Tonnage treated ^{1,2}	Gold content ²	Silver content ²	Ounces of fine gold per ton	Ounces of fine silver per ton	Average price of gold	Average price of silver
		fine ounces				\$ per oz.	
1951	15,907,335	3,699,016	658,719	.22	.04	36.85	0.945
1952	16,289,337	3,823,747	688,489	.23	.04	34.27	0.835
1953	15,041,261	3,509,527	620,146	.23	.04	34.42	0.840
1954	15,842,471	3,729,640	660,259	.24	.04	34.07	0.832
1955	15,997,372	3,873,676	652,589	.24	.04	34.52	0.882
1956	14,349,272	3,704,995	623,995	.26	.04	34.45	0.897
1957	14,147,918	3,766,124	643,146	.27	.05	33.55	0.874
1958	14,490,652	3,921,475	707,794	.27	.05	33.98	0.868
1959	14,079,480	3,851,157	629,465	.27	.04	33.57	0.878
1960	14,448,320	3,937,212	887,697	.27	.06	33.95	0.889

¹ Does not include tailings re-treated, but includes ore milled plus crude ore shipped to smelters.

² Relatively small quantities of gold and silver contained in concentrates, slags, etc., shipped and in cyanide solution in circuit may have originated in ores treated during the previous year: represents metal content of total bullion produced plus metal in ores or concentrates shipped to smelters.

³ Material discarded by sorting not included.

TABLE 25. Specified Costs per Ton of Ore Milled at Certain of the Principal Auriferous Quartz Mines, 1960

Name of mine	Development and exploration ¹	Mining	Milling	General ²	Total before depreciation and taxes	Depreciation	Taxes	Total costs specified
					dollars			
Quebec:								
Anacon Lead Mines Ltd.	1.262	2.543	2.167	1.594	7.606	2.124	0.001	9.731
Canadian Malartic Gold Mines Ltd.	0.64	1.52	0.76	0.60	3.52	0.06	—	3.58
East Malartic Mines Ltd.	0.426	2.804	0.823	0.981	5.034	0.237	0.032	5.303
Elder Mines & Developments Ltd.	0.186	2.835	0.943	0.844	4.708	0.133	0.019	4.860
Eldrich Mines Ltd.	0.831	1.911	1.625	0.875	5.242	0.832	0.012	6.086
Lamaque Mining Co. Ltd.	1.14	2.96	0.88	0.15	5.13	0.03	0.18	5.34
Sigma Mines (Quebec) Ltd.	1.690	2.801	0.921	0.518	5.930	0.338	0.015	6.283
Sullivan Consolidated Mines Ltd.	1.35	3.82	1.66	0.30	7.13	0.55	—	7.68

See footnotes at end of table.

TABLE 25. Specified Costs per Ton of Ore Milled at Certain of the Principal Auriferous Quartz Mines, 1960 — Concluded

Name of mine	Develop- ment and explora- tion ¹	Mining	Milling	General ²	Total before deprecia- tion and taxes	Depre- ciation	Taxes	Total costs specified
dollars								
Ontario:								
Porcupine District								
Aunor Gold Mines Ltd.	0.45	8.02	1.17	0.67	10.31	0.27	0.09	10.67
Broulan Reef Mines Ltd.	1.37	3.52	1.17	1.75	7.81	...	...	7.81
Coniaurum Mines Ltd.	1.12	4.62	1.16	1.98	8.88	...	...	...
Hallnor Mines Ltd.	1.99	6.07	1.52	0.89	10.47	0.09	0.42	10.98
Hollinger Consolidated (Timmins)	0.321	5.849	0.792	2.409	9.371	0.114	0.106	9.591
Hollinger Consolidated (Ross)	0.309	2.168	1.732	1.352	5.561	1.802	0.021	7.384
Hugh Pam Porcupine Mines Ltd.	0.75	3.48	1.15	1.66	7.04	...	...	...
McIntyre Porcupine Mines Ltd.	1.26	6.91	1.26	0.79	10.22	0.26	0.06	10.54
Preston Mines Ltd.	1.96	5.46	1.19	0.43	9.04	0.12	0.06	9.22
Pamour Porcupine Mines Ltd.	0.19	2.17	0.78	0.48	3.62	...	...	...
Paymaster Consolidated Mines Ltd.	1.03	5.46	1.73	0.93	9.15	0.35	0.02	9.52
Kirkland Lake District								
Lake Shore Mines Ltd.	1.196	7.679	2.108	3.007	13.990	0.132	0.005	14.127
Teck-Hughes Gold Mines Ltd.	0.594	3.506	1.426	0.408	5.934	0.001	0.049	5.984
Upper Canada Mines Ltd.	1.34	4.71	1.25	0.64	7.94	0.83	0.01	8.78
Larder Lake District								
Kerr Addison Gold Mines Ltd.	0.552	4.956	1.030	0.520	7.058	0.707	1.919	9.684
Sudbury District								
Renabie Mines Ltd.	1.720	2.761	1.516	1.258	7.255	0.548	0.038	7.841
Thunder Bay District								
Leitch Gold Mines Ltd.	5.44	18.07	5.86	2.58	31.95	1.17	0.42	33.54
Muskegon-Gowling Gold Mines Ltd.	0.072	1.639	0.800	0.577	3.088	0.110	0.033	3.231
Patricia District								
Cochaneur Williams Gold Mines Ltd.	5.799	6.148	3.180	3.074	18.201	1.897	—	20.098
Dickenson Mines Ltd.	2.74	4.19	2.58	2.43	11.94	3.30	0.23	15.47
Pickle Crow Gold Mines Ltd.	2.039	7.732	1.816	1.545	13.132	0.481	0.06	26.80
H.G. Young Mines Ltd.	1.52	4.05	2.31	2.04	9.92	...	...	9.92
British Columbia:								
Bralorne-Pioneer Mines Ltd.	0.94	10.91	1.64	3.45	16.94	2.36	0.16	19.46
Cariboo Gold Quartz Mining Co. Ltd.	4.97	11.15	3.64	1.03	20.79	1.99	—	22.78
"Pioneer Division" Bralorne Pioneer Mines Ltd.	1.89	10.29	2.72	2.54	17.44	1.00	—	18.44
McKinney Gold Mines Ltd.	38.18	...	5.10	5.20	48.48	—	—	48.48
Northwest Territories:								
Consolidated Mining & Smelting Co. (Con)	0.58	5.90	3.65	1.90	12.03	...	...	...
Consolidated Discovery Yellowknife Mines Ltd.	6.51	12.11	5.81	1.35	25.78	2.54	7.26	35.58
Giant Yellowknife Gold Mines Ltd.	1.59	4.14	4.51	2.06	12.30	2.29	0.47	15.06

¹ Exclusive of outside exploration.² Marketing, head office, etc. (exclusive of taxes).

TABLE 26. Milling Capacity of Operating Canadian Gold Mines, 1951-60

Year	Nova Scotia	Quebec	Ontario	Manitoba	British Columbia	Northwest Territories	Canada
tons of 2,000 pounds per 24 hours							
1951	—	12,825	33,998	2,695	1,950	1,105	52,573
1952	—	13,600	33,099	2,550	1,650	1,380	52,279
1953	—	13,200	31,268	2,550	1,675	1,210	49,903
1954	—	12,650	29,168	2,550	1,700	1,375	47,443
1955	—	12,650	29,423	2,550	1,525	1,375	47,533
1956	48	12,000	27,778	2,550	1,200	1,500	45,076
1957	—	9,530	27,358	2,550	1,204	1,500	42,142
1958	—	10,500	27,292	2,550	1,264	1,500	43,106
1959	—	10,100	28,057	550	1,275	1,650	41,632
1960	—	9,650	28,035	550	1,229	1,661	41,125

TABLE 27. Employees and Earnings in the Gold Quartz Mining Industry, 1956-60

Year	Employees					Man-hours worked (all employees)	Earnings		
	Administrative and office		Workmen		Total		Administrative and office	Workmen	Total
	Male	Female	Male	Female					
	number						dollars		
1956	1,694	172	15,091	74	17,031	38,888,232	9,226,125	53,475,369	62,701,494
1957	1,601	158	15,066	86	16,911	36,996,927	8,975,888	54,732,792	63,708,680
1958	1,623	153	14,952	83	16,811	36,846,723	9,362,346	54,845,696	64,208,042
1959	1,658	152	14,884	83	16,777	36,320,320	9,808,239	55,710,873	65,519,112
1960	1,653	153	14,677	59	16,542	36,157,872	9,929,000	56,623,906	66,552,906

TABLE 28. Number of Workmen, by Months in the Gold Mining Industry, 1959 and 1960

Month	1959	1960				
	Total	Mine			Mill	Total
		Surface		Underground	Male	
		Male	Female	Male		
January	15,023	3,404	56	10,085	1,310	14,855
February	14,959	3,435	56	10,050	1,310	14,851
March	14,793	3,414	57	10,017	1,308	14,796
April	14,646	3,407	56	9,842	1,309	14,614
May	14,887	3,530	57	9,886	1,332	14,605
June	15,082	3,723	55	9,950	1,359	15,087
July	15,082	3,765	59	9,818	1,367	15,009
August	15,024	3,699	60	9,752	1,312	14,823
September	14,935	3,558	58	9,689	1,292	14,597
October	15,086	3,468	59	9,693	1,262	14,482
November	15,052	3,405	60	9,726	1,260	14,451
December	15,008	3,363	60	9,655	1,258	14,336
Averages	14,967	3,525	59	9,846	1,306	14,736
Man-hours worked	32,426,463					32,240,020

TABLE 29. Fuel and Electricity Used in the Gold Quartz Mining Industry, 1960

Kind	Quantity	Cost at plant
		\$
Bituminous coal (a) From Canadian mines	short ton 4,410	73,265
(b) Imported	" 12,962	213,385
Sub-bituminous coal (from Alberta mines only)	—	—
Anthracite coal	short ton 1,068	18,277
Lignite coal	" 5	240
Coke (for fuel only)	" 11	529
Gasoline, (includes gasoline used in cars and trucks)	Imp. gal. 368,367	148,114
Kerosene or coal oil	" 10,583	4,172
Fuel oil	" 3,341,908	653,018
Wood (cords of 128 cubic feet of piled wood)	cord 7,981	101,472
Gas (a) Liquefied petroleum gases (propane, etc.)	Imp. gal. 19,981	14,962
(b) Other manufactured gas	—	—
(c) Natural gas	Mcf. 137,601	79,900
Other fuel (shavings, sawdust etc.) .....	...	92,863
Electricity purchased for power and lighting	kwh. 909,925,820	5,775,693
Electricity purchased for other purposes	" 14,642,183	40,137
Total (cost only) .....	...	7,216,027
Electricity generated (a) For own use	kwh. 36,989,432	...
(b) For sale	" 5,736,832	108,430

TABLE 30. Cost of Prospecting Conducted by Canadian Gold Quartz Mining Companies, 1959 and 1960

Province in which prospecting was conducted ¹	By Nova Scotia and Quebec companies ²	By Ontario companies ²	By Manitoba and Saskatchewan companies ²	By British Columbia companies ²	By Yukon and Northwest Territories companies	Total
dollars						
1959						
Newfoundland	49,203	443	—	—	—	49,646
Nova Scotia	9,722	44,561	—	—	—	54,283
New Brunswick	157,339	118,254	—	—	—	275,593
Quebec	1,205,179	502,165	—	—	—	1,707,344
Ontario	461,233	702,798	11,289	28,146	—	1,203,466
Manitoba	80,522	867	45,494	—	—	126,883
Saskatchewan	20,000	8,211	—	—	—	28,211
British Columbia	7,479	27,314	—	39,152	3,000	76,945
Northwest Territories	—	22,657	—	—	89,834	112,491
Yukon	—	419	—	14,005	—	14,424
Totals	1,990,677	1,427,689	56,783	81,303	92,834	3,649,286
1960						
Newfoundland	27,891	201	—	—	—	28,092
Nova Scotia	1,032	90,671	—	—	—	91,703
New Brunswick	133,323	153,289	—	—	—	286,612
Quebec	1,258,602	263,408	—	—	3,237	1,525,247
Ontario	107,956	795,129	3,711	7,753	—	914,549
Manitoba	—	30,486	40,024	—	177,721	248,231
Saskatchewan	—	2,364	—	—	—	2,364
British Columbia	42,427	71,687	—	114,710	—	228,824
Northwest Territories	730	32,058	—	—	449,151	481,939
Yukon	—	6,980	—	—	—	6,980
Totals	1,571,961	1,446,273	43,735	122,463	630,109	3,814,541

¹ Prospecting includes the search for new mineral deposits on the surface, and preliminary exploration.² Province in which the companies' principal operations are conducted.

TABLE 31. Drilling Completed on Gold Quartz Deposits, 1958-60

	Footage drilled ¹		
	1958	1959	1960
Diamond drilling for exploration (testing):			
By companies with their own equipment and personnel	455,666	524,701	415,721
By contractors	1,276,442	1,271,824	1,610,415
Other drilling:			
Diamond drilling for breaking rock or ore:			
By companies with their own equipment and personnel	53,981	22,570	16,445
By contractors	8,075	12,139	17,838
Drilling by percussion and other machines ²	37,885,485	35,508,818	38,161,529

¹ Subject to revision as drilling was not reported by some new companies.² This is not complete as some companies do not compile these data.

Note: The value of diamonds in all forms (bits, etc.) purchased by gold mining companies in 1959 totalled \$130,738 and in 1960—\$231,368.

TABLE 32. Specified Taxes Paid by Active Canadian Gold Quartz Mines, 1959 and 1960 by Provinces¹

Nature of tax	Nova Scotia	Quebec	Ontario	Manitoba and Saskatchewan	British Columbia	Northwest Territories	Canada
dollars							
1959							
Dominion income tax, including tax on non-operating revenue	—	190,091	3,107,650	—	—	339,000	3,636,741
Provincial tax	30	280,421	2,147,885	—	49,832	132,129	2,610,297
Municipal tax	—	275,021	365,317	—	22,302	106,103	768,743
Totals	30	745,533	5,620,852	—	72,134	577,232	7,015,781
1960							
Dominion income tax, including tax on non-operating revenue	—	90,673	2,963,737	—	—	347,000	3,401,410
Provincial tax	—	197,824	2,044,876	—	16,124	116,639	2,377,463
Municipal tax	—	259,736	382,960	—	15,045	87,619	745,360
Totals	—	548,233	5,391,573	—	33,169	551,258	6,524,233

¹ Does not include complete data relating to taxes that may have been paid by dormant firms.

TABLE 33. Certain Specified Expenditures Made by Gold Quartz Mining Companies, 1958-60

Province and year	Workmen's compensation	Silicosis assessment	Unemployment insurance	Aggregate cost of all supplies purchased	Aggregate cost of plant and equipment purchased	Cost of buildings, machinery and equipment erected or installed
	dollars					
Nova Scotia:						
1958	—	—	40	—	—	—
1959	—	—	—	1,690	—	—
1960	—	—	—	—	—	—
Quebec:						
1958	389,815	11	95,809	7,351,220	310,454	476,182
1959	339,595	16,760	106,960	8,576,248	1,093,813	6,385,127
1960	300,932	—	150,030	7,667,168	465,856	719,268
Ontario:						
1958	1,301,357	1,309,340	324,767	24,458,823	1,226,059	2,096,059
1959	1,545,412	1,381,792	365,730	24,692,401	1,567,291	2,335,992
1960	1,638,210	1,699,581	492,024	25,757,875	1,275,264	2,521,828
Manitoba:						
1958	13,422	23	8,956	719,814	28,952	29,520
1959	5,597	—	6,651	315,649	50,584	55,890
1960	10,091	—	9,225	316,964	33,498	155,424
British Columbia:						
1958	96,498	75,869	12,848	902,194	127,793	153,343
1959	140,175	146,181	24,252	534,447	121,618	111,630
1960	109,898	142,781	27,518	1,072,022	164,608	381,590
Northwest Territories and Yukon:						
1958	120,532	—	13,396	3,721,587	306,920	1,089,987
1959	114,412	—	13,923	2,620,001	425,840	581,110
1960	108,022	—	21,277	3,319,738	138,068	336,908
Total Canada:						
1958	1,923,507	1,385,283	454,192	36,993,391	2,431,522	2,906,970
1959	2,145,191	1,544,733	517,516	36,740,436	3,259,146	9,469,749
1960	2,167,153	1,842,362	700,072	38,133,767	2,077,294	4,115,018

TABLE 34. Estimated Capital and Repair Expenditures, 1956-60

Year	Capital expenditures			Repair expenditures			Capital and repair expenditures		
	Construction	Machinery	Total	Construction	Machinery	Total	Construction	Machinery	Total
	thousands of dollars								
1956	5,877	3,204	9,081	1,259	7,445	8,704	7,136	10,649	17,785
1957	5,206	4,173	9,379	1,360	7,241	8,601	6,566	11,414	17,980
1958	4,304	2,833	7,137	1,244	7,596	8,840	5,548	10,429	15,977
1959	4,556	4,245	8,801	1,456	7,891	9,147	6,012	11,936	17,948
1960 ^P	6,318	2,173	8,491	1,487	7,169	8,656	7,805	9,342	17,147

THE COPPER-GOLD-SILVER MINING INDUSTRY

This portion of the report includes statistics for industry 053—Copper-Gold-Silver Mines of the Standard Industrial Classification Manual (Cat. No. 12-501).

During the year "copper-gold-silver" mines operated in Newfoundland, Quebec, Ontario, Manitoba, Saskatchewan and British Columbia. It is to be noted that, in addition to the copper recovered from ores of this type, there is a very large quantity of the metal obtained in the smelting and refining of the copper-nickel ores mined in the Sudbury area of Ontario; important quantities of gold and silver are also being extracted from these copper-nickel ores. The lead-zinc-copper ores of Newfoundland also contribute to the production of copper, gold and silver. General statistics relating to labor, etc., in the nickel-copper or the silver-lead-zinc industry are not included in this report.

During 1960 the gross value of crude ore, concentrates, etc., shipped from the mines and mills in this industry to smelters was estimated at \$172,254,034. Fuel cost \$2,218,829 and 615,647,573 kwh. of electricity was purchased for \$4,327,728. Process supplies, freight and treatment charges amounted to

\$61,952,861. Employees numbered 10,549 to whom \$48,940,982 were distributed as salaries and wages. There were 42 producers or shippers in 1960.

The gross value of ores shipped by firms which both mine and smelt their own ores is sometimes not reported. This necessitates considerable estimating in determining gross and net values for mine shipments. However, possible abnormal evaluations resulting from this are largely compensated for in determining the value added at the smelters and refineries. This added value is credited to the smelting and refining industry and is also included in the total net value of production of the entire Canadian mining industry. This fact should be noted in making any statistical study of the annual production values shown for shipments from copper-gold-silver mines.

The statistics as herein shown under the copper-gold-silver mining industry refer only to mines and mills and do not include data pertaining to the operation of smelters and refineries. Statistics relating to the reduction of non-ferrous ores are recorded under the smelting and refining industry.

TABLE 35. Principal Statistics¹ of the Copper-Gold-Silver Mining Industry, Significant Years, 1921-60

Year	Establishments	Employees	Salaries and wages	Cost of fuel and electricity	Process supplies and containers	Gross value of products	Net value added ²
	number				dollars		
1921	18	1,222	1,573,221	177,052	..	2,589,314	..
1929	152	5,243	8,498,755	1,035,133	..	21,859,907	..
1931	56	3,351	4,958,317	726,502	..	15,951,103	..
1933	29	2,841	3,938,778	404,625	..	7,707,270	..
1937	38	5,164	8,240,614	901,088	4,851,845	40,735,801	24,902,851
1939	30	6,083	9,920,591	1,223,523	5,585,616	51,161,468	26,182,577
1941	22	5,866	10,695,023	1,264,587	5,505,955	64,829,073	30,220,331
1944	26	5,175	10,710,071	1,402,243	5,170,581	62,389,815	38,198,039
1946	43	4,958	10,243,487	1,152,925	4,022,508	54,304,549	37,433,982
1949	33	7,395	21,776,150	1,630,715	7,499,445	105,994,498	74,591,660
1951	62	6,223	21,545,660	2,085,608	8,257,819	123,162,228	92,331,995
1954	118	7,837	29,791,332	3,148,808	10,232,701	105,893,976	70,814,052
1956	314	10,533	43,929,096	4,620,541	15,594,327	147,187,431	96,941,696
1957	261	10,359	45,622,452	4,942,600	15,297,346	119,013,141	68,694,057
1958	244	8,875	39,745,243	4,428,653	15,968,361	133,778,148	77,993,264
1959	310	9,682	43,460,641	4,961,920	12,948,618	147,752,990	90,660,009
1960	277	10,549	48,940,982	6,546,557	17,989,123	172,254,034	103,754,616

¹ Value of ores and concentrates shipped from mines to smelters operated by the same companies are often of a nominal or conjectural nature.

² Gross value less fuel, electricity, process supplies, freight and treatment charges.

TABLE 36. Shipments from Copper-Gold-Silver Mines, 1959 and 1960

	Quantity	Value	Total metal content as determined by settlement assay ¹				
			Gold	Silver	Copper	Sulphur	Zinc
	tons	\$	fine ounces	lb.	lb.	tons	lb.
1959							
To Canadian plants:							
Ores	693,211	10,673,257	69,199	221,849	31,206,859	—	74,297
Copper concentrates	1,097,563	109,483,063	363,358	4,903,125	413,965,412	—	27,871,897
Zinc concentrates	110,709	6,588,571	5,011	139,174	2,330,504	—	99,962,734
Iron pyrite concentrates	344,661	828,112	—	—	—	155,876	—
Slags, residues, bullion and gold precipitates	15	1,480,381	42,722	67,064	2,198	—	—
Tailings	35,488	19,565	—	—	—	—	—
To foreign plants:							
Ores and tailings	—	—	—	—	—	—	—
Copper concentrates	28,378	4,310,977	7,527	84,541	14,385,433	—	—
Zinc concentrates	112,829	13,180,554	390	2,598	—	—	119,336,577
Iron pyrite concentrates	326,384	1,081,538	—	—	—	162,984	—
Precipitates	473	106,972	—	—	389,656	—	—
Totals	2,749,711	147,752,990	488,207	5,408,351	462,280,062	318,860	247,245,505
Value of process supplies, etc. ² .....	...	57,092,981	...	...	...	...	...
Net value added .....	...	90,660,009	...	...	...	...	...
1960							
To Canadian plants:							
Ores	639,242	8,446,503	65,029	159,468	22,208,047	—	158,388
Copper concentrates	1,204,783	123,335,170	390,294	5,424,153	458,119,867	—	28,007,356
Zinc concentrates	129,096	8,017,942	6,970	198,885	2,407,701	—	118,938,533
Iron pyrite concentrates	275,649	973,523	—	—	—	130,245	—
Slags and tailings	58,783	48,264	92	6,846	—	—	—
Residues, bullion and gold precipitates ..	16	957,064	26,814	44,904	1,832	—	—
To foreign plants:							
Ores and tailings	67	24,831	538	235	18,218	—	—
Copper concentrates	64,122	10,395,024	23,364	229,422	32,946,390	—	—
Zinc concentrates	138,713	18,770,338	1,177	7,931	—	—	148,343,736
Iron pyrite concentrates	308,506	954,275	—	—	—	152,626	—
Precipitates	406	107,450	—	—	377,872	—	—
Lead concentrates	2,030	223,650	1,814	112,803	51,182	2,183,853 ³	175,222
Totals	2,821,413	172,254,034	516,092	6,184,667	516,131,109	282,871	295,623,235
Value of process supplies, etc. ² .....	...	68,499,418	...	...	...	...	...
Net value added .....	...	103,754,616	...	...	...	...	...

¹ In addition, cadmium, bismuth, tellurium and selenium are recovered from these ores.² Includes freight on ore shipments, smelter charges, purchased electricity and fuel.³ Lead content.

TABLE 37. Ores Mined, Milled, and Concentrates Produced, by the Copper-Gold-Silver Mining Industry, 1951-60

Year	Ore mined	Ore milled	Copper concentrates produced ¹	Zinc concentrates produced	Iron pyrite concentrates produced	Lead concentrates produced
			tons			
1951	7,380,966	6,799,064	783,011	231,674	375,969	—
1952	7,773,341	7,128,795	701,725	233,046	460,753	—
1953	7,438,500	6,606,631	697,285	216,686	398,429	—
1954	8,501,569	7,982,320	806,157	234,364	505,504	—
1955	9,911,751	9,375,687	909,466	230,236	653,918	—
1956	10,422,648	10,442,164	931,328	230,220	578,923	—
1957	10,570,801	10,009,694	1,135,664	229,514	528,388	—
1958	11,484,960	11,274,297	1,106,733	229,962	782,828	—
1959	12,436,105	11,577,414	1,135,190	231,959	674,450	—
1960	13,973,786	13,316,340	1,266,757	270,705	573,340	2,040

¹ Exclusive of copper precipitate.

TABLE 38. Employees and their Earnings in the Copper-Gold-Silver Mining Industry, 1956-60

Year	Employees					Man-hours worked (all employees)	Earnings		
	Administration		Workmen		Total		Administration	Workmen	Total
	Male	Female	Male	Female					
	number									dollars
1956	1,403	233	8,813	84	10,533	23,919,073	7,912,036	36,017,060	43,929,096
1957	1,493	219	8,570	77	10,359	22,946,894	9,134,100	37,560,252	46,694,352
1958	1,327	184	7,329	35	8,875	18,958,827	7,723,473	32,021,770	39,745,243
1959	1,339	187	8,116	40	9,682	20,429,780	7,867,882	35,592,759	43,460,641
1960	1,313	219	8,969	48	10,549	22,541,084	8,512,429	40,428,553	48,940,982

TABLE 39. Number of Workmen, by Months, 1959 and 1960

Month	1959	1960					
	Total	Mine			Mill		Total
		Surface		Underground	Male	Female	
		Male	Female	Male			
January	7, 336	3, 143	39	4, 309	882	7	8, 380
February	7, 602	3, 079	38	4, 389	887	7	8, 400
March	7, 760	3, 118	39	4, 439	884	7	8, 487
April	7, 832	3, 198	38	4, 342	889	7	8, 474
May	8, 155	3, 484	41	4, 521	933	8	8, 987
June	8, 441	3, 765	43	4, 556	994	8	9, 368
July	8, 636	4, 007	45	4, 589	1, 066	9	9, 716
August	8, 668	3, 970	46	4, 603	1, 097	9	9, 725
September	8, 429	3, 725	44	4, 485	1, 040	8	9, 302
October	8, 370	3, 686	42	4, 459	1, 052	6	9, 245
November	8, 345	3, 508	43	4, 450	1, 089	5	9, 095
December	8, 097	3, 349	43	4, 410	1, 068	4	8, 875
Averages	8, 156	3, 512	41	4, 464	993	7	9, 017
Man-hours worked	17, 163, 481						19, 226, 036

TABLE 40. Fuel and Electricity Used in the Copper-Gold-Silver Mining Industry, 1959 - 1960

Kind	1959		1960		
	Quantity	Cost at plant	Quantity	Cost at plant	
		\$		\$	
Bituminous coal (a) From Canadian mines	short ton	7,562	125,835	3,943	60,937
(b) Imported	"	1,063	17,895	1,368	22,564
Sub-bituminous coal (from Alberta mines only)	"	45	658	60	1,184
Anthracite coal	"	462	5,334	10	548
Lignite coal	"	—	—	—	—
Coke for fuel only	short ton	154	4,403	26	612
Gasoline, (includes gasoline used in cars and trucks)	Imp. gal.	398,758	149,201	732,156	268,671
Kerosene or coal oil	"	12,506	3,557	10,884	3,505
Fuel oil	"	6,732,769	1,347,070	9,221,558	1,788,953
Wood (cords of 128 cubic feet of piled wood)	cord	40	387	—	—
Gas (a) Liquefied petroleum gases (propane, etc.)	Imp. gal.	159,633	42,040	118,987	34,300
(b) Other manufactured gas	—	—	—	—	—
(c) Natural gas	—	—	—	—	—
Other fuel	—	—	—	—	37,555
Electricity purchased for power and lighting	kwh.	547,848,901 ^r	3,219,223	576,728,640	4,008,627
Electricity purchased for other purposes	—	—	—	38,918,933	319,101
Totals .....	...	4,948,483	...	6,546,557	
Electricity generated (a) For own use	kwh.	77,373,108	...	64,572,779	...
(b) For sale	"	747,691	14,304	804,770	14,894

TABLE 41. Specified Expenditures by the Copper-Gold-Silver Mining Industry, 1958 - 60

	1958	1959	1960
	dollars		
Workmen's compensation	1,130,201	968,809	1,336,227
Silicosis assessment	167,145	298,498	171,483
Unemployment insurance	321,468	5,793,394	548,693
Aggregate cost of all supplies purchased	37,369,425	28,773,276	45,612,444
Aggregate cost of plant and equipment purchased	5,856,514	5,337,650	9,429,068
Cost of buildings, machinery and equipment erected or installed during year	8,533,819	10,862,865	8,940,243

TABLE 42. Taxes Paid by the Copper-Gold-Silver Mining Industry, 1958-60

	1958	1959	1960
	dollars		
Dominion income tax, including tax on non-operating revenue	3,884,364	7,121,825	11,953,865
Provincial tax	3,155,812	4,389,509	5,764,686
Municipal tax	1,515,048	1,462,807	1,945,961
Grand total taxes paid	8,555,223	12,974,141	19,664,512

TABLE 43. Estimated Capital and Repair Expenditures in the Copper-Gold-Silver Mining Industry, 1955-60

Year	Capital expenditures			Repair expenditures			Capital and repair expenditures		
	Con- struction	Machinery	Total	Con- struction	Machinery	Total	Con- struction	Machinery	Total
	thousands of dollars								
1955	7,811	5,622	13,433	3,117	3,298	6,417	10,928	8,920	19,848
1956	29,234	12,820	42,054	3,113	3,594	6,707	32,347	16,414	48,761
1957	26,546	11,337	37,883	3,579	4,275	7,854	30,125	15,612	45,737
1958	7,777	3,324	11,101	3,558	4,087	7,645	11,335	7,411	18,746
1959	9,814	5,334	15,148	3,873	5,055	8,928	13,687	10,389	24,076
1960 ^p	9,273	2,696	11,969	3,606	6,499	10,105	12,879	9,195	22,074

TABLE 44. Cost of Prospecting¹ Conducted by the Copper-Gold-Silver Mining Industry, by Provinces, 1959 and 1960

Conducted in	1959	1960	Conducted in	1959	1960
	dollars			dollars	
Newfoundland	33,117	385,623	Saskatchewan	468,794	575,099
Nova Scotia	90,232	186,350	Alberta	2,605	904
New Brunswick	310,385	809,925	British Columbia	1,436,069	2,508,003
Quebec	13,966,818	7,696,468	Northwest Territories	172,440	226,046
Ontario	3,184,028	3,763,158	Yukon	167,145	304,612
Manitoba	2,395,300	2,649,070	Totals	22,226,933	19,103,258

¹ Includes some development work.

TABLE 45. Drilling Completed on Copper-Gold-Silver Deposits, 1959 and 1960

	Footage drilled	
	1959	1960
Diamond drilling for exploration (testing only):		
By mining companies with their own personnel and equipment	41,778	44,141
By diamond drilling contractors	1,527,265	1,641,140
Other diamond drilling:		
Blast hole diamond drilling:		
By mining companies with their own personnel and equipment	547,941	685,252
By diamond drilling contractors	486,223	579,436
Drilling by percussion or other machines ¹	20,355,229	22,184,405

¹ Not complete as these data are not recorded by some operators.

Note: Value of diamonds in all forms (stones, bits, etc.) purchased during the year, \$143,619.

TABLE 46. Copper Production (Recoverable) according to Nature of Ore, and by Provinces, 1958-60

Province	From copper-gold-silver ores	From nickel-copper ores	From other ores	Total
tons				
1958				
Newfoundland	11,619	—	3,132	14,751
Nova Scotia	—	—	—	—
New Brunswick	328	—	—	328
Quebec	127,674	—	3,771	131,445
Ontario	31,839	106,923	3,273	142,035
Manitoba	7,945	4,656	—	12,601
Saskatchewan	37,510	—	—	37,510
British Columbia	4,575	340	1,095	6,010
Northwest Territories	—	434	—	434
Totals	221,490	112,353	11,271	345,114
1959				
Newfoundland	12,097	—	2,892	14,989
Nova Scotia	—	—	—	—
New Brunswick	—	—	—	—
Quebec	131,877	—	3,035	134,912
Ontario	28,328	157,167	2,778	188,273
Manitoba	8,365	4,580	—	12,945
Saskatchewan	35,536	—	—	35,536
British Columbia	6,781	249	1,091	8,121
Northwest Territories	—	493	—	493
Totals	222,984	162,489	9,796	395,269
1960				
Newfoundland	10,798	—	3,065	13,863
Nova Scotia	—	—	—	—
New Brunswick	—	—	—	—
Quebec	153,681	—	3,789	157,470
Ontario	30,111	171,660	4,501	206,272
Manitoba	9,079	3,714	—	12,793
Saskatchewan	31,785	—	—	31,785
British Columbia	15,809	676	74	16,559
Northwest Territories	—	520	—	520
Totals	251,263	176,570	11,429	439,262

TABLE 47. Production of Refined Copper,¹ 1951-60

Year	Short tons	Year	Short tons
1951	245,466	1956	328,458
1952	196,320	1957	323,540
1953	236,966	1958	329,239
1954	253,365	1959	365,366
1955	288,997	1960	417,029

¹ In all forms and from all sources, including scrap.

TABLE 48. Silver Production (Recoverable) according to Nature of Ore, by Provinces, 1960

Province	Crude placer gold	Auriferous quartz ores	Copper-gold-silver ores	Nickel-copper ores	Silver-lead-zinc ores	Silver-cobalt and other ores	Total
ounces							
Newfoundland	—	—	—	—	1,271,126	—	1,271,126
Nova Scotia	—	—	—	—	—	—	—
New Brunswick	—	—	—	—	—	—	—
Quebec	—	116,353	3,095,897	—	902,855	—	4,115,105
Ontario	—	442,629	1,394,138	1,665,314	562,833	7,155,909	11,220,823
Manitoba	—	5,359	475,430	20,848	—	—	501,637
Saskatchewan	—	—	1,163,845	—	—	—	1,163,845
Alberta	19	—	—	—	—	—	19
British Columbia	407	198,010	185,069	—	8,063,954	—	8,447,440
Northwest Territories	—	79,473	—	—	—	—	79,473
Yukon	16,417	—	—	—	7,200,944	—	7,217,361
Totals	16,843	841,824	6,314,379	1,686,162	18,001,712	7,155,909	34,016,829

TABLE 49. Selenium and Tellurium Recoverable from Canadian Ores, 1951 - 60

Year	From copper-gold-silver ores		From nickel-copper ores		Total	
	Selenium	Tellurium	Selenium	Tellurium	Selenium	Tellurium
	pounds					
1951	300,194	2,612	82,409	6,301	382,603	8,913
1952	160,452	325	81,578	5,710	242,030	6,035
1953	169,648	169	92,698	4,525	262,346	4,694
1954	228,703	976	94,826	7,195	323,529	8,171
1955	332,644	2,559	94,465	6,455	427,109	9,014
1956	221,233	1,562	109,156	6,305	330,389	7,867
1957	234,933	24,609	86,459	6,915	321,392	31,524
1958	216,695	31,558	90,295	6,692	306,990	38,250
1959	266,707	6,123	101,400	6,900	368,107	13,023
1960	377,138	37,232	144,500	7,450	521,638	44,682

TABLE 50. Zinc Production (Recoverable) According to Nature of Ore, and by Provinces, 1959 and 1960

Year and province	Recoverable from copper-gold-silver ores	Recoverable from silver-lead-zinc and other ores	Total
	tons (2,000 pounds)		
1959			
Newfoundland	—	31,674	31,674
Nova Scotia	—	—	—
New Brunswick	—	—	—
Quebec	31,515	15,543	47,058
Ontario	17,875	27,306	44,981
Manitoba	15,703	—	15,703
Saskatchewan	46,877	—	46,877
British Columbia	1,451	201,641	203,092
Yukon	—	6,623	6,623
Totals	113,221	282,787	396,008
1960			
Newfoundland	—	34,208	34,208
Nova Scotia	—	—	—
New Brunswick	—	—	—
Quebec	35,953	13,854	49,807
Ontario	21,824	23,406	45,230
Manitoba	24,390	—	24,390
Saskatchewan	42,703	—	42,703
British Columbia	5,298	198,535	203,833
Yukon	—	6,702	6,702
Totals	130,168	276,705	406,873

TABLE 51. Refined Zinc Produced, from all Sources, 1951 - 60

Year	Short tons	Year	Short tons
1951	218,578	1956	255,564
1952	222,200	1957	247,316
1953	250,961	1958	252,093
1954	253,365	1959	255,306
1955	256,542	1960	260,968

TABLE 52. Cadmium Production (Recoverable) from Canadian Ores, 1951 - 60

Year	From copper-gold-silver ores	From silver-lead-zinc ores	Total	Year	From copper-gold-silver ores	From silver-lead-zinc ores	Total
	pounds				pounds		
1951	147,168	1,179,752	1,326,220	1956	208,327	2,131,094	2,339,421
1952	205,911	742,676	948,587	1957	286,044	2,082,086	2,368,130
1953	157,997	960,288	1,118,285	1958	355,602	1,400,448	1,756,050
1954	154,596	932,184	1,086,780	1959	334,029	1,826,334	2,160,363
1955	191,691	1,727,390	1,919,081	1960	466,200	1,891,297	2,357,497

TABLE 53. Average Annual Metal Prices in Canadian Dollars, 1951-60

Year	Gold	Silver	Copper	Lead	Zinc
	Per troy ounce	Per troy ounce	Per pound	Per pound	Per pound
dollars					
1951	36.85	0.9455	0.277	0.184	0.199
1952	34.27	0.8352	0.2854	0.1619	0.1746
1953	34.42	0.8401	0.299	0.1293	0.1196
1954	34.07	0.8326	0.2916	0.1333	0.1198
1955	34.52	0.8818	0.3087	0.1438	0.1365
1956	34.45	0.8968	0.4141	0.1551	0.1484
1957	33.55	0.8737	0.2895	0.1396	0.1209
1958	33.98	0.8681	0.2542	0.1136	0.1088
1959	33.57	0.8778	0.2961	0.1061	0.1224
1960	33.95	0.8891	0.3029	0.1068	0.1335

TABLE 54. World Copper Production by Countries of Origin of Ore¹

Country	1955	1957	1958	1959	1960
tons (2,000 pounds)					
United States	1,114,285	1,092,744	990,253	840,000	1,092,500
Mexico	60,478	66,799	71,609	63,133	66,502
Canada	354,860	359,109	345,114	395,269	444,294
Cuba	16,046	15,306	13,992	9,942	8,000
Bolivia ²	4,897	4,319	3,168	2,460	2,503
Chile	539,839	533,855	509,541	600,571	586,856
Peru	50,966	63,023	59,104	55,871	200,573
Totals, America	2,141,371	2,135,155	1,992,781	1,987,246	2,401,228
Austria	2,579	2,574	2,695	2,726	2,188
Finland	24,830	28,321	31,569	33,132	31,580
France	606	496	794	672	661
Germany, West	1,076	1,203	1,156	2,256	2,454
Italy	494	428	761	665	561
Norway	16,488	16,787	17,501	15,828	15,983
Spain ³	7,525	11,077	7,466	12,137	8,786
Sweden	18,436	19,697	19,836	18,438	18,396
Yugoslavia	35,087	36,883	38,840	38,141	36,681
Totals, Europe	107,121	117,466	120,618	124,395	117,290
Japan	85,458	90,066	89,836	93,969	98,390
India	8,543	8,790	8,782	8,459	9,822
Korea, Republic of	1,450	1,011	842	529	649
Turkey	27,101	23,716	24,676	27,385	26,928
Philippines	29,721	44,513	51,841	54,587	48,512
Cyprus ⁴	39,497	43,676	36,614	39,978	39,096
Totals, Asia	191,770	211,772	212,591	224,907	223,397
Katanga, State of	275,535	267,026	261,865	310,952	332,900
Northern Rhodesia	445,464	480,313	441,072	598,834	635,326
Southern Rhodesia	1,931	3,226	9,430	12,016	15,128
South West Africa	27,953	30,466	32,065	31,695	21,692
Uganda	168	8,360	12,130	13,362	16,265
Union of South Africa	48,474	47,752	53,375	53,575	52,017
Totals, Africa	799,525	837,143	808,937	1,020,434	1,073,328
Australia	54,723	58,465	76,867	101,062	117,476
Russia	430,000	450,000	470,000	480,000	510,000
Germany, East	23,500	24,500	24,500	27,100	27,500
China	13,000	16,000	33,000	33,000	33,000
Soviet Sphere totals⁴	466,500	490,500	527,500	540,100	570,500
World totals, as reported⁵	3,761,010	3,850,501	3,741,294	3,978,184	4,503,219

¹ Includes copper contents or recoverable contents of ores or concentrates smelted in country of origin and/or shipped to other countries for smelting.

² Exports.

³ Excludes copper content of iron pyrites which may or may not have been recovered.

⁴ In addition there is production in Hungary and Poland; the total of which is estimated to be about 17,500 tons in 1959.

⁵ In addition there is production in Brazil, Ireland, Portugal, Burma, Taiwan, Algeria, Angola, Southern Zone Morocco, Tanganyika; the total of all these countries is estimated to be about 25,000 tons in 1959.

Source: "American Bureau of Metal Statistics" Year Book".

TRANSACTIONS IN GOLD BULLION AT THE ROYAL CANADIAN MINT

(From the Annual Report of the Royal Canadian Mint)

Six thousand two hundred and thirty-four deposits of gold bullion were received at the Mint during the year from Canadian Mining Companies and Sundry persons. The gross weight of the deposits amounted to 4,970,726 ounces containing by assay 4,024,626 ounces fine gold and 572,993 ounces fine silver. This includes bullion received under the heading of Gold Storage. The receipts show an increase as compared with the year 1959 of 112 in the number of deposits, gross weight 165,232 ounces, gold content 115,986 ounces and fine silver 21,581 ounces and was composed of the following:

Fine Gold—

350 deposits weighing 335,272.507 ounces with a mean fineness of 996.938

Crude Bullion—

3,613 deposits weighing 2,899,748.836 ounces with an average fineness of 775.015 gold, 123.692 silver and containing 10.1293% base metal

Scrap (Jewellery and Dental)—

251 deposits, 14,998.120 ounces at an average fineness of 486.603 gold and 98.394 silver

Gold for Storage—

2,020 deposits weighing 1,720,706.616 ounces with an average fineness of 834.385

The net value paid to depositors was \$87,424,558.82. In addition the amount of fine gold issued to depositors was 1,468,132.140 ounces.

Details of origin of the bullion deposited for sale to Her Majesty and for storing during the year 1960 are shown in the following table:

From Canadian mines and refineries	Sale to Her Majesty		Gold storage		Total		Total fine silver
	Gross weight	Fine gold	Gross weight	Fine gold	Gross weight	Fine gold	
				ounces			
Ontario	2,001,418.403	1,624,810.742	1,162,411.976	1,045,738.644	3,183,830.379	2,670,549.386	311,900.50
Quebec	812,854.920	636,321.594	71,220.250	31,453.575	884,075.170	667,775.169	138,098.87
British Columbia	158,630.440	127,061.593	34,750.530	30,273.845	193,380.970	157,335.438	25,468.77
Manitoba	40,662.620	29,714.867			40,662.620	29,714.867	5,212.04
Yukon Territory	97,607.630	78,115.288			97,607.630	78,115.288	16,417.06
North West Territories	123,624.430	85,377.413	432,323.860	328,266.083	555,946.290	413,643.496	74,397.86
Alberta	219.770	191.207			219.770	191.207	19.40
Nova Scotia	3.130	2.967			3.130	2.967	0.05
Totals from Canadian mines and refineries	3,235,021.343	2,581,595.691	1,720,706.616	1,435,732.147	4,955,727.959	4,017,327.638	571,514.55
From jewellery and scrap	14,998.120	7,298.126			14,998.120	7,298.126	1,478.72
Grand totals	3,250,019.463	2,588,893.817	1,720,706.616	1,435,732.147	4,970,726.079	4,024,625.964	572,993.27

The following table shows the disposition of the fine gold produced in various forms (trade bars, granulated gold, sweep, metals, etc.):

Ounces Fine

6,340 Trade bars transferred to Exchange	
Fund Account of Minister of Finance	2,536,500.613
Depositors — granulated and bars	1,468,132.140
Sales of fine gold	1,510.000
Trail Plate for assay purposes	9.331
Medals, etc.	10.091
Sweep	8,608.930
4,014,771.105	

This total shows an increase of 178,091.263 ounces fine issued as compared with the year 1959.

The following tables give details of rough bullion received and fine bullion produced during the year:

Receipts	Number of deposits	Fine gold	Fine silver
		ounces	
Mines — Sale to Her Majesty	3,983	2,581,595.691	571,514.55
Gold Storage	2,020	1,435,732.147	
Jewellery and Scrap — Sale to Her Majesty	251	7,298.126	1,478.72

Produced	Number	Gross weight	Fine weight	Average assay
		ounces		
Fine gold bars	6,463	2,591,653.700	2,585,917.691	997.8
Granulated gold		7,263.140	7,260.585	999.6
Special gold bar	1	8.208	8.206	
Fine silver bars	477	533,312.25	533,209.35	999.8
Granulated silver		7,885.36	7,883.07	999.7
Gold trial plate			9.331	
Gold medals			79.727	
Silver medals			55.94	
Storage - Gold bars	3,511	1,407,558.226	1,404,641.607	997.9
Granulated gold		20,168.040	20,164.356	999.8

Special Processes	Number	Gross weight
		ounces
Remelts	191	138,931.270
Toughenings	3	499.610
		pounds avoirdupois
Chloride Reduction		85,474.0
Sweeps		116,189.5

GOLD STORAGE

During the year sixteen mines deposited gold bullion at the Mint under the terms of the Regulations prescribing the circumstances under which and the conditions upon which gold will be accepted at the Royal Canadian Mint for storage.

The fine gold content of the bullion deposited under this heading during 1960 amounted to 1,435,732.147 ounces. Fine bullion amounting to 1,463,340.725 ounces was issued on behalf of the mines for export and to various processors for domestic use.

Summary of Transactions in Gold Bullion of the Ottawa Branch of the Royal Mint from its Opening on January, 2, 1908, to its Disestablishment on November 30, 1931, and of the Royal Canadian Mint from December 1, 1931, to December 31, 1960

Year	Gold Received		Gold Issued	
	Gross weight	Fine gold	Coin	Bullion
	ounces		ounces fine	
1908 to 1950	121,761,384.404	98,210,885.264	383,319.096	97,805,789.203
1951	5,246,758.942	4,169,479.513		4,167,485.874
1952	4,848,048.381	3,953,158.154		4,031,068.071
1953	4,642,410.478	3,684,073.637		3,626,496.738
1954	4,768,451.365	3,829,430.609		3,998,835.566
1955	4,878,918.379	3,947,636.509		3,952,764.485
1956	4,693,484.529	3,801,788.815		3,774,599.457
1957	4,798,296.343	3,896,083.563		3,776,710.677
1958	4,868,066.405	3,958,458.747		4,086,706.346
1959	4,805,493.520	3,908,640.185		3,836,679.842
1960	4,970,728.079	4,024,825.964		4,014,771.105
Totals	170,282,038.825	137,384,260.960	383,319.096	136,873,907.366

CURRENCY, MINT AND EXCHANGE FUND ACT

Gold Bullion Regulations, 1959

AT THE GOVERNMENT HOUSE AT OTTAWA

P.C. 1959-100

Thursday, the 29th day of January, 1959.

Present:

His Excellency the Governor General in Council

His Excellency the Governor General in Council, on the recommendation of the Minister of Finance, pursuant to the Currency, Mint and Exchange Fund Act, is pleased hereby to revoke the Gold Bullion Regulations made by Order in Council P.C. 1954-1584 of 19th October, 1954,¹ and the Mint Custom Refining and Storing Regulations made by Order in Council P.C. 1956-450 of 22nd March, 1956,² and to make the annexed Regulations Respecting the Handling of Gold Bullion at the Royal Canadian Mint in Substitution therefor.

REGULATIONS RESPECTING THE HANDLING OF
GOLD BULLION AT THE ROYAL CANADIAN MINT

Short Title

1. These Regulations may be cited as the Gold Bullion Regulations, 1959.

Interpretation

2. In these Regulations,

- (a) "deposit" means a parcel of bullion or other material containing gold;
- (b) "Master" means the Master of the Mint;
- (c) "Minister" means the Minister of Finance; and
- (d) "Mint" means the Royal Canadian Mint.

Deposits

3. (1) The Master may accept for assaying, refining, storing or any other purpose, a deposit that is delivered free of all charges to the Mint if the deposit contains

- (a) newly mined Canadian gold,
- (b) old jewellery or dental scrap that has not been melted or otherwise treated to prevent its origin being readily recognized,
- (c) scrap resulting from processes carried out by manufacturers and refiners in the ordinary course of their business, or
- (d) gold coin that is not legal tender in Canada.

(2) The Master shall not accept

- (a) a deposit of a kind not described in subsection (1) unless he is authorized to do so by the Minister,
- (b) an ingot exceeding one thousand and two hundred ounces troy, gross weight, or
- (c) a deposit that appears to him to be unsuitable for treatment by the refining processes in use at the Mint.

(3) The Master is not obliged to accept any deposit and before accepting a deposit he may require the depositor to furnish evidence satisfactory to him as to the origin of the deposit.

4. (1) Where a deposit is delivered to the Mint for the purpose of selling the gold content thereof to Her Majesty, the Minister may, on behalf of Her Majesty, buy the gold content of that deposit.

(2) It is a condition under which a deposit is accepted at the Mint that the silver content thereof belongs to Her Majesty, subject to payment by the Minister in accordance with these Regulations for that part of the silver content of the deposit that is in excess of one per cent of the weight of the deposit after melting.

5. (1) Each parcel of bullion for which a separate assay is required shall be regarded as a separate deposit and all deposits accepted by the Master shall be valued in the order in which they are received.

(2) As soon as possible after a deposit has been accepted by the Master, the content of the deposit shall be determined and valued on the report of the Assay Division of the Mint.

(3) Gold shall be reported on the Assay Division Report to the one-four-thousandth part (one-quarter millieme), except that when the gold millesimal fineness of the bullion exceeds nine hundred and ninety, the gold shall be reported to the one-ten-thousandth part (one-tenth millieme), and silver shall be reported to the one-thousandth part (1 millieme), but only that part of the silver content of the deposit that is in excess of one per cent of the weight of the deposit after melting shall be reported.

(4) Where it is determined that a deposit contains less than two hundred parts of gold in one thousand by assay, or that a deposit is unsuitable for treatment by the refining process in use at the Mint, the Master shall, upon payment by the depositor of the Mint charges for melting and assaying, deliver the deposit at the Mint counter to the depositor.

(5) On the completion of the valuation of a deposit the Master shall, unless the deposit is to be returned to the depositor in accordance with subsection (4), furnish the depositor with a memorandum in duplicate of the outturn of his deposit.

(6) The memorandum mentioned in subsection (5) shall state

- (a) the weight of the deposit before and after melting,
- (b) the assay report,
- (c) the fine gold and the fine silver content of the deposit,
- (d) the gross value of the fine content at the price applicable to the deposit calculated in accordance with sections 6 and 7,
- (e) the Mint charges applicable to the deposit,
- (f) where the deposit was delivered to the Mint for the purpose of selling the gold content thereof to Her Majesty, the net value of the fine gold and fine silver contents of the deposit, being the gross value minus the Mint charges, and
- (g) where the deposit was delivered to the Mint for a purpose other than that of selling the gold content thereof to Her Majesty, the net value of the fine silver content of the deposit, being the gross value thereof minus the Mint charges.

(7) Where a deposit was delivered to the Mint for the purpose of selling the gold content thereof to Her Majesty, the Minister shall, the same time as the memorandum mentioned in subsection (5) is furnished to the depositor, pay to the depositor as the full purchase price of the fine gold and fine silver contents of the deposit an amount equal to the net value of the fine contents of the deposit as stated in the memorandum.

¹ SOR/54-181, CANADA GAZETTE PART II, Vol. 88, No. 21, Nov. 10, 1954, p. 1430 and Statutory Orders and Regulations Consolidation 1955, Vol. 1, p. 683.

² SOR/56-117, CANADA GAZETTE PART II, Vol. 90, No. 7, April 11, 1956.

(8) Where a deposit was delivered to the Mint for a purpose other than that of selling the gold content thereof to Her Majesty, the Minister shall, at the same time as memorandum mentioned in subsection (5) is furnished to the depositor, pay to the depositor, as the full purchase price of the silver content of the deposit, an amount equal to the net value of the fine silver content of the deposit as stated in the memorandum.

6. The price payable by the Minister for the gold content of a deposit is the market price of gold in the country to which the Government of Canada is, at the time the deposit is received, exporting gold, converted into Canadian funds at the average of the rates of exchange for the currency of that country, reported to the Minister by the Bank of Canada on the day Monday to Friday, inclusive, of the week in which the deposit is delivered to the Master such price hereinafter referred to as the "Mint buying price".

7. The price payable by the Minister for the silver content of a deposit is the average of the official New York daily quotation for fine silver for the days Monday to Friday, inclusive, of the week in which the deposit is delivered to the Master, converted into Canadian funds at the average of the rates of exchange for United States funds reported to the Minister by the Bank of Canada on the days Monday to Friday, inclusive, of that week.

Mint Charges

8. (1) The Mint charge payable by a depositor to the Master in respect of a deposit shall be calculated as follows on the gross weight of the deposit after melting:

- (a) for melting and assaying, one dollar for the first four hundred ounces or part thereof and twenty-five cents for each additional one hundred ounces or part thereof; and
- (b) for refining,
 - (i) when the deposit contains not more than five per cent base metal, three cents per ounce,
 - (ii) when the deposit contains over five per cent base metal but not over ten per cent base metal, three and one-half cents per ounce,
 - (iii) when the deposit contains over ten per cent base metal but not over fifteen per cent base metal, four and one-quarter cents per ounce,
 - (iv) when the deposit contains over fifteen per cent base metal but not over twenty per cent base metal, five cents per ounce, and
 - (v) when the deposit contains over twenty per cent base metal, or requires toughening or other special treatment in order to obtain concordant assays, such charge, not exceeding ten cents per ounce, as determined by the Master after taking into account the cost of treatment.

(2) Notwithstanding paragraph (b) of subsection (1), the minimum charge for refining is two dollars for each deposit, and the charge for refining applies in respect of all deposits containing, by assay, less than nine hundred and ninety-five parts fine gold in one thousand.

(3) A depositor shall pay to the Master for every deposit that is delivered to the Mint for the purpose of selling the gold content thereof to Her Majesty, a handling charge to cover the cost of marketing outside Canada as follows:

- (a) for newly mined Canadian gold, twenty cents per fine ounce,
- (b) for bars of fine gold that the Master is authorized by the Minister to accept for that purpose, twenty cents per fine ounce, and
- (c) for all other gold, one dollar per fine ounce.

(4) In respect of every deposit that is delivered to the Mint for the purpose of storing the gold content thereof, the depositor shall pay the following charges:

- (a) one cent for every thirty days or fraction thereof (including the day on which the deposit is received at the Mint but excluding the day on which it is shipped from the Mint) for each fine ounce of gold so stored, payable at the time of

application for release of the gold or when billed, whichever is the earlier,

- (b) ten cents for each fine ounce packed at the Mint for shipment, payable at the time of application for the release of the gold, and
- (c) a handling charge of twenty cents for each fine ounce of gold released from storage for sale to Her Majesty, payable at the time of sale.

(5) In respect of every deposit that is delivered to the Mint for a purpose not described in subsection (3) or (4), and packing of fine gold is involved, the depositor shall pay at the time of shipment one dollar for the first ten ounces of fine gold or part thereof, and ten cents for each additional ounce or part thereof that is packed at the Mint for shipment.

(6) It is a condition under which a deposit is accepted at the Mint that the Master may retain a portion of the fine gold content thereof in payment of the Mint charges in respect of that deposit.

9. The fine gold content of a deposit held in storage at the Mint shall be released only upon application therefor in the form prescribed by the Minister.

10. Every deposit is accepted at the Mint subject to the condition that the fine gold content thereof shall be released in a form that is at least .995 fine.

Sale of Gold

11. (1) The Master may, with the approval of the Minister, sell fine gold from the Mint that belongs to Her Majesty.

(2) The price at which each fine ounce of gold shall be sold is the Mint buying price per fine ounce for the week immediately preceding the week in which the gold is sold plus ten cents.

General

12. (1) Deposits may be delivered to the Mint on Monday to Friday, inclusive, between the hours of 9:30 a.m. and 4:30 p.m. unless such a day is a holiday mentioned in or authorized pursuant to the Civil Service Act.

(2) Where a deposit is delivered to the Mint, it shall be withheld from treatment until an invoice setting out the description and weight of the contents thereof has been received by the Master, and where there is a discrepancy between the actual and invoice weights of a deposit, the deposit shall not be further dealt with until the Master has notified the depositor of the discrepancy and has received further instructions from the depositor.

(3) All gold shipped from the Mint shall be delivered at the Mint counter to the purchaser of the gold, to the depositor or his authorized agent.

13. It is a condition under which newly mined gold is accepted at the Mint for storage that the depositor prepare and mail to the Minister within thirty days of the last day of each month a report for that month in the form prescribed by the Minister showing, *inter alia*,

- (a) fine gold held by him or on his behalf at the beginning of the month
 - (i) at the Mint, and
 - (ii) at places other than the Mint and the location of those places;
- (b) refined gold produced during the month;
- (c) sales made during the month indicating,
 - (i) the name and address of the purchaser,
 - (ii) the amount in ounces sold to each purchaser,
 - (iii) the value, in Canadian funds, of the gold sold to each purchaser, and
 - (iv) the price paid, in Canadian funds, for each fine ounce of gold so sold; and
- (d) fine gold held by him or on his behalf at the end of the month
 - (i) at the Mint, and
 - (ii) at places other than the Mint and the location of those places.

Directory of Firms in the Gold Mining Industry, 1960

Name	Head or executive office address	Location
(a) Placer Gold Mining Industry		
Quebec:		
Beauce Placer Mining Co. Ltd.	620 Cathcart St., Montreal	Beauceville
British Columbia:		
Allied Mining Services	Vancouver, B.C.	
Archibald, H.	Trail, B.C.	
Astra Minerals Ltd.	526 Northern Hardware Bldg., Edmonton, Alta.	Atlin
Bobier, E.L.	Quesnel, B.C.	Cariboo
Butler, V.	Williams Lake, B.C.	Cariboo
Cresswell, R.	Box 231 Quesnel, B.C.	Cariboo
Croft, S.R. & G.R.	Atlin, B.C.	Atlin
De Lorme, A.	Prince George, B.C.	Cariboo
Ethier, C.S.	Vancouver, B.C.	
Ferguson, Don S.	McBride, B.C.	
Feyer, J.H.	Box 2018, Quesnel, B.C.	Cariboo
Foreman, Mrs. L.	Quesnel, B.C.	Cariboo
Fredericks, Fred	Likely, B.C.	Cariboo
Fuson, Leo	Prince George, B.C.	Cariboo
Garson Mitchell	Williams Lake, B.C.	Lillooet
Gunn, J.J.	Wells, B.C.	Cariboo
Hamilton, T.C.	Manson Creek, B.C.	
Harris, H.	Box 335, Vernon, B.C.	Vernon Mining District
Henry, N.B.	Fort St. James, B.C.	
Hlxon Placers Inc.	2032 Third Ave., Seattle, Wash.	Cariboo
Jack, Gene	Prince George, B.C.	Cariboo
Johnson, Fred W.	Quesnel, B.C.	
Johnson, V.	Quesnel, B.C.	
Kidd Russell	Williams Lake, B.C.	Lillooet
Knudson, L.E.	Quesnel, B.C.	Cariboo
Langevin, D.	Atlin, B.C.	Atlin
Langley, Peter	Vancouver, B.C.	
Lee, Frank	South Burnaby, B.C.	
Lewis, Mylow	Vernon, B.C.	
Lloyd, M.	Prince George, B.C.	
Manson Creek Gold Mines	Prince George, B.C.	
Mattson Bros.	Atlin, B.C.	Atlin
McJana Placers	Quesnel, B.C.	Cariboo
McKittrick, H.	Richmond, B.C.	
Morrison, D.L.	Williams Lake, B.C.	
Ogden, Charles	Williams Lake, B.C.	
Oslen, Edward	Prince George, B.C.	
Petty, Jack	Quesnel, B.C.	Cariboo
Piccolo, L.	Atlin, B.C.	Atlin
Pollischuk, Paul	Atlin, B.C.	Atlin
Rollheiser, J.J.	Kimberley, B.C.	Perry Creek
Schulz, Louis	Atlin, B.C.	Atlin
Sheppard, R.	Quesnel, B.C.	Cariboo
Sherwood Mines Ltd.	Great Central Lake, B.C.	
Slssons, R.C.	Whitehorse, Yukon	
Smith, B.	Quesnel, B.C.	Cariboo
Smith, David	Quesnel, B.C.	Cariboo
Spruce Creek Placers	Atlin, B.C.	Atlin
Storey, R.	Louis Creek, B.C.	
Swanson, Carl	Quesnel, B.C.	Cariboo
Trommell Mining	Quesnel, B.C.	Cariboo
Troutline Creek Gold Ltd.	Edmonton, Alta.	
Williams, Rex	Quesnel, B.C.	Cariboo
Williams, S.N.	Quesnel, B.C.	Cariboo
Yukon:		
Action Mining Ltd.	Mile 1054 Alaska Highway, Y.T.	Bullion Creek
Ballarat Mines Ltd.	Dawson, Yukon Territory	Dawson
Bardusan Placers Ltd.	Mayo, Yukon Territory	Mayo, Y.T.
Barker, E.H.	Mayo, Yukon Territory	Mayo
Berg, Stan	Dawson, Yukon Territory	Bonanza Creek
Bleiler Placers	Whitehorse, Yukon Territory	Mayo
Boutillier, H.C. & D.F.	Dawson, Yukon Territory	Bonanza Creek
Boutillier, H.H. & H.G.	Dawson, Yukon Territory	Bonanza Creek
Bratsberg, B.	Dawson, Yukon Territory	Bonanza Creek
Bremner, John	Dawson, Yukon Territory	Last Chance Creek
Bremner, Mrs. M.	Dawson, Yukon Territory	Cariboo Creek
Burgelman, Mrs. Nellie	Dawson, Yukon Territory	Cariboo Creek
Burwash Mining Co.	Whitehorse, Yukon Territory	Burwash Creek
Canadian Creek Placers Ltd.	Vancouver, B.C.	Canadian Creek, Yukon
Christenson, R.	Dawson, Yukon Territory	Dawson
Christianson, Wiggo	Dawson, Yukon Territory	Dawson
Colbourne, J.R.	Dawson, Yukon Territory	Dawson
Copeland, J.	Whitehorse, Yukon T.	
Coulombe, Adolphe	Dawson, Yukon Territory	Dawson
Couture, J.	Whitehorse, Yukon Territory	
Duncan Creek Placers	Mayo, Y.T.	Mayo
Eureka Placers (Yukon) Ltd.	Dawson, Y.T.	Eureka Creek
Fry, A.T.	Box 19, Dawson, Y.T.	Bonanza Creek
Gould, John	Dawson, Y.T.	Dawson
Heitman, Gus	Dawson, Y.T.	Dawson
Kent, T.	Watson Lake, Y.T.	
Kinakin, Max	Dawson, Y.T.	Dublin Gulch

Directory of Firms in the Gold Mining Industry, 1959 - Continued

Name	Head or executive office address	Location
(a) Placer Gold Mining Industry - Concluded		
Yukon - Concluded:		
Kingswell, Mrs. Edna	Dawson, Y.T.	Bedrock Creek
Lamontagne, J.A.	Dawson, Y.T.	Dawson
Lundt, Ole	Dawson, Y.T.	Mayo
Malicky, Walter	Mayo, Y.T.	Dawson
Medby, Ole	Dawson, Y.T.	Dawson
Moen, O.	Dawson, Y.T.	Dawson
Northern Commercial Co.	Whitehorse, Y.T.	
Northern Yukon Services	Dawson, Y.T.	Eureka Creek
Paradise Hill Placers	Dawson, Y.T.	Dawson
Peebler, R.R.	Whitehorse, Y.T.	
P. & G. Placers	Whitehorse, Y.T.	
Pomuchina, P.	Dawson, Y.T.	Dawson
Pontaletta, P.	Dawson, Y.T.	Dawson
Ross, L.M.	Dawson, Y.T.	Dawson
Schink, E.	Dawson, Y.T.	Dawson
Sissons, Robert C.	Whitehorse, Y.T.	
Smashuk, George	Mayo, Yukon Territory	Mayo
Spruce Creek Placers	Whitehorse, Y.T.	
Strandberg, K.E.	Whitehorse, Y.T.	
Taylor, Fred W.	Mayo, Y.T.	Mayo
Vaillant, V.	Whitehorse, Y.T.	
Yukon Consolidated Gold Corp.	Dawson, Y.T.	Dawson
Yukon Placer Mining Co.	Dawson, Y.T.	Dawson
Alberta:		
Fester, Homer	12230-101 st, Edmonton, Alta.	North Saskatchewan River
(b) Gold Quartz Mining Industry		
Nova Scotia:		
Smith, A.J.	East Chezzetcook	Lake Catcha
Redden, Fred C.	Middle Musquodobit	Lindsay Lake
MacMillan, MacKay	Issacs Harbour	Guysborough
East Hants Gold Mines Ltd.	Hants	Hants
Quebec:		
Akasaba Gold Mines Ltd.	199 Bay St., Toronto, Ontario	Louvicourt Twp.
Ambassador Mining Developments Ltd.	372 Bay St., Toronto, Ontario	Malartic Twp.
American Chibougamau Mines Ltd.	265 Craig St. W., Montreal	Landrienne Twp.
Anacon Lead Mines Ltd.	330 Bay St., Toronto, Ontario	Rohault Twp.
Aumacho River Mines Ltd.	25 Adelaide St. W., Toronto, Ontario	Carpiquet Twp.
Aumaque Gold Mines Ltd.	100 Adelaide St. W., Toronto, Ontario	Bourlamaque Twp.
Ava Gold Mining Co. Ltd.	320 Bay St., Toronto, Ontario	Duparquet Twp.
Barnat Mines Ltd.	199 Bay St., Toronto, Ontario	Malartic, Quebec
Bargold Mines Ltd.	100 Adelaide St. W., Toronto, Ontario	Barraute Twp.
Belfast Mines Ltd.	44 King St. W., Toronto, Ontario	Protet Lake
Belleterre Quebec Mines, Ltd.	25 King St. W., Toronto 1, Ontario	Belleterre
Beycon Gold Mines, Ltd.	199 Bay St., Toronto, Ontario	Louvicourt
Blackhawk Mining Ltd.	400 St. James St. W., Montreal	St. Magloire
Bourbeau Lake Mines, Ltd.	Noranda	McKenzie Twp.
Canadian Malartic Gold Mines Ltd.	25 King St. W., Toronto 1, Ontario	Malartic
Canadian Thorium Corp. Ltd.	80 Richmond St. W., Toronto, Ontario	Destor
Cheskirk Mines Ltd.	100 Adelaide St. W., Toronto, Ontario	Rouyn Twp.
Chimo Gold Mines Ltd.	25 Adelaide St. W., Toronto, Ontario	Vauquelin Twp.
Courmor Mining Co., Ltd.	1121 Sherbrooke St. W., Montreal	Louvicourt Twp.
Courvan Mining Co. Ltd.	2075 Mansfield St., Montreal	Louvicourt Twp.
Croinor Pershing Mines Ltd.	199 Bay St., Toronto, Ontario	Pershing Twp.
Donald Mines Ltd.	62 Richmond St. W., Toronto	Noranda
D'Eldona Gold Mines Ltd.	67 Richmond St. W., Toronto, Ontario	Poirier Twp.
Dome Exploration Co. (Quebec) Ltd.	Bourlamaque	Louvicourt Twp.
East Bay Gold Ltd.	14 C Avenue, Noranda	Vimy Area
Eastville Gold Mines Co. Ltd.	132 St. Jacques Ouest, Montreal	Courville
East Amphi Gold Mines Ltd.	80 Richmond St. W., Toronto, Ontario	Malartic Twp.
East Malartic Mines Ltd.	199 Bay St., Toronto, Ontario	Fourniere Twp.
Elder Mines & Developments Ltd.	44 King St. W., Toronto, Ontario	Noranda
Eldrich Mines Ltd.	44 King St. W., Toronto, Ontario	Duprat
Elk Lake Mines Ltd.	85 Richmond St. W., Toronto, Ontario	Destor Twp.
Elvue Mines Ltd.	121 Richmond St. W., Toronto, Ontario	Duprat
Gamma Mines (Quebec) Ltd.	Bourlamaque	Bourlamaque
Lamaque Mining Co. Ltd.	Bourlamaque	Bourlamaque
Lavandin Mining Co.	152 Notre Dame E., Montreal	Malartic Twp.
Leitch Gold Mines Ltd.	12 Richmond St. E., Toronto, Ontario	Wawagosis
Lenmac Mines Ltd.	85 Richmond St. W., Toronto, Ontario	Gand Twp.
Louvicourt Goldfields Corporation	100 Adelaide St. W., Toronto, Ontario	Bourlamaque
Malartic Goldfields Ltd.	Halet	Fourniere Twp.
Marban Gold Mines Ltd.	Halet	Dubuisson Twp.
Marcoland Mines Ltd.	201-2ème Avenue, Quebec	Landrienne Co.
Montclair Mining Corp. Ltd.	252 rue, Murdoch, Noranda	Laverlocher
Nemrod Mining Co., Ltd.	132 St. James St. W., Montreal	Louvicourt
New Senator-Rouyn Ltd.	Box 428, Noranda	Noranda
Nickel Offsets Ltd.	80 Richmond St. W., Toronto, Ontario	Duprat Twp.
Norbeau Mines Ltd.	199 Bay St., Toronto, Ontario	McKenzie Twp.
Norlatic Mines Ltd.	Halet	Marlatic
Northern Exploration Ltd.	265 Craig St. W., Montreal	Landrienne Twp.

Directory of Firms in the Gold Mining Industry, 1960 — Continued

Name	Head or executive office address	Location
(b) Gold Quartz Mining Industry — Continued		
Quebec — Concluded:		
Northeast Exploration Co.	574 — 1st St., Chibougamau	Bourbeau Lake
O'Brien Gold Mines, Ltd.	Cadillac	Cadillac Twp.
Orenada Gold Mines Ltd.	330 Bay St., Toronto, Ontario	Bourlamaque
Openusea Explorers Ltd.	132 St. James St. W., Montreal	L'Esperance
Perron Gold Mines Ltd.	200 Bay St., Toronto, Ontario	Abitibi
Pitchvein Mines Ltd.	82 Government Road, Kirkland Lake	Dasserat
Porcupine Prime Mines Ltd.	85 Richmond St. W., Toronto, Ont.	Fournière Twp.
Quebelle Mines Ltd.	Cedar Rapids	Cedar Rapids
Rocdor Mines Ltd.	Val D'Or	Dubuisson Twp.
Sigma Mines (Quebec) Ltd.	Bourlamaque	Bourlamaque
Stadacona Mines (1944) Ltd.	455 Craig St., Montreal	Rouyn
Sullivan Consolidated Mines Ltd.	1403 — Aldred Building, Montreal	Dubuisson Twp.
Tribag Mining Co. Ltd.	44 King St. W., Toronto, Ontario	Rouyn
Twentieth Century Mining	80 Richmond St. W., Toronto, Ontario	Pershing Twp.
Tyndall Explorations Ltd.	85 Richmond St. W., Toronto, Ontario	Beauchastel Twp.
Ultra Shawkey Mines Ltd.	20 King St. W., Toronto, Ontario	Godfrey Twp.
Union Mining Corp.	1374 Sherbrooke St. W., Montreal	Bourlamaque Twp.
Valco Mines Co.	115 Rue, St. Pierre, Quebec	Malartic
Valliant Gold Mines Ltd.	294 Portage Ave., Winnipeg, Manitoba	Tibermont Twp.
Verona Rock Products Ltd.	357 Bay St. Toronto, Ontario	Beauchastel Twp.
Villemaque Goldmines Ltd.	11 Adelaide St. W., Toronto, Ontario	Bourlamaque Twp.
Ontario:		
Porcupine District		
Aunor Gold Mines Ltd.	44 King St. W., Toronto	Timmins
Broulan Reef Mines Ltd.	80 Richmond St. W., Toronto	Whitney Twp.
Buffalo Ankerite Gold Mines Ltd.	South Porcupine	Deloro Twp.
Conlaunum Mines Ltd.	25 King St. W., Toronto	Tisdale Twp.
Deinite Mines Ltd.	Box 590, Timmins	Deloro Twp.
Dome Mines Ltd.	South Porcupine	Tisdale Twp.
Hallnor Mines Ltd.	1700 Bank of Nova Scotia Building, Toronto	Whitney Twp.
Hollinger Consolidated Gold Mines Ltd.	Timmins	Hislop and Tisdale Twp.
Hugh-Pam Porcupine Mines Ltd.	80 Richmond St. W., Toronto	Whitney Twp.
McIntyre Porcupine Mines Ltd.	Schumacher	Schumacher
Pamour Porcupine Mines Ltd.	Bank of Nova Scotia Bldg., Toronto	Whitney Twp.
Paymaster Consolidated Mines Ltd.	Box 100, South Porcupine	Deloro and Tisdale Twp.
Preston Mines Ltd.	335 Bay St., Toronto	South Porcupine
Kirkland Lake District		
Kelkirk Mines Ltd.	1112 Star Building, Toronto	Kirkland Lake
Kirkland Minerals Corp., Ltd.	160 Bay St., Toronto	Teck Twp.
Lake Shore Mines Ltd.	199 Bay St., Toronto	Kirkland Lake
Macassa Mines Ltd.	85 Richmond St. W., Toronto	Kirkland Lake
Sylvanite Gold Mines Ltd.	Box 670, Kirkland Lake	Teck Twp.
Teck-Hughes Gold Mine Ltd., The	14 Finkle St., Woodstock	Kirkland Lake
Upper Canada Mines Ltd.	250 University St., Toronto	Gauthier Twp.
Wright-Hargreaves Mines Ltd.	199 Bay St., Toronto	Kirkland Lake
Northgate Exploration Ltd.	25 Melinda St., Toronto	Kirkland Lake
Larder Lake District		
Kerr-Addison Gold Mines Ltd.	44 King St. W., Toronto	McGarry Twp.
Tresdor Larder Mines Ltd.	24 King St. W., Toronto	McGarry Twp.
Candore Explorations Ltd.	25 Adelaide St. W., Toronto	Larder
Sudbury District		
Tionaga Gold Mines	Kukatash	Horwood Lake
Renabie Mines Ltd.	85 Richmond St. W., Toronto	Sudbury
Algoma District		
Pick Mines Ltd.	80 King St. W., Toronto	Algoma
Thunder Bay Districts		
Leitch Gold Mines Ltd.	12 Richmond St. E., Toronto	Beardmore
Little Long Lac Gold Mines Ltd.	199 Bay St., Toronto	Errington Twp.
MacLeod-Cockshutt Gold Mines Ltd.	199 Bay St., Toronto	Geraldton
Consolidated Mosher Mines Ltd.	199 Bay St. W., Toronto	Long Lac
Kenora District		
Consolidated Golden Arrow Mines Ltd.	25 Adelaide St. W., Toronto	Doggaw Lake
Cone, R.C.	Mine Centre	Shoal Lake
Purdex Minerals Ltd.	25 Adelaide St. W., Toronto	Ewart Twp.
Pantan Mines Ltd.	73 Adelaide St. W., Toronto	Tabor Lake

Directory of Firms in the Gold Mining Industry, 1960 — Continued

Name	Head or executive office address	Location
(b) Gold Quartz Mining Industry — Concluded		
Ontario — Concluded:		
Patricia District		
Abino Gold Mines Ltd.	25 Adelaide St. W., Toronto	Balmer Twp.
Ava Gold Mining Co. Ltd.	320 Bay St., Toronto	Red Lake
Campbell Red Lake Mines Ltd.	50 King St. W., Toronto	Balmer Twp.
Cochenour Willans Gold Mines Ltd.	150 Eglinton Ave. E., Toronto	Dome Twp.
Craibbe-Fletcher Gold Mines Ltd.	25 Adelaide St. W., Toronto	Red Lake
Dickenson Mines Ltd.	145 Yonge St. W., Toronto	Balmer Twp.
McKenzie Red Lake Gold Mines Ltd.	199 Bay St., Toronto	McKenzie Island
Madsen Red Lake Gold Mines Ltd.	55 Yonge St., Toronto	Heyson Twp.
Pickle Crow Gold Mines, Ltd.	11 Adelaide St. W., Toronto	Connell Twp.
McFinley Red Lake Gold Mines Ltd.	199 Bay St., Toronto	McKenzie Island
Young, H.G., Mines Ltd.	80 Richmond St. W., Toronto	Balmer Twp.
Lundstrom, R., Contracting Ltd.	Red Lake	
Manitoba:		
Explorers Alliance Ltd.	100 Adelaide St. W., Toronto, Ontario	Herb Lake
Forty-Four Mines Ltd.	237 Curry Bldg., Winnipeg	Rice Lake
San Antonio Gold Mines Ltd.	237 Curry Bldg., Winnipeg	Bissett
Saskatchewan:		
Contact Gold Mines Ltd.	1168 Albert St., Regina	La Ronge
Studer Mines Ltd.	201 Canada Bldg., Prince Albert	Sulphide Lake
British Columbia:		
Allied Mining Services Ltd.	425 Howe St., Vancouver	Tofino
Bermah Mines Ltd.	850 W. Hastings St., Vancouver	Stewart
Bralorne — Pioneer Mines Ltd.	355 Burrard St., Vancouver	Bralorne
Cariboo Gold Quartz Mining Co. Ltd.	675 W. Hastings St., Vancouver	Cariboo
Consolidated Mining & Smelting Co. Ltd.	Trail	Skeena
Fairview Mining Co. Ltd.	Wallace, Idaho, U.S.A.	Osoyoos
French Mines Ltd.	675 W. Hastings St., Vancouver	Osoyoos
Graham, W.B.	Box 63, Hedley	Osoyoos
Kelowna Mines Hedley Ltd.	Hedley	Osoyoos & Slocan
Kootenay Belle Mining Co.	Shoreacres	Sheep Creek
McKinney Gold Mines	355 Burrard St., Vancouver	Greenwood
Hurley River Mines Ltd.	Lillooet	Lillooet
Rayrock Mines Ltd.	25 Adelaide St. W., Toronto, Ontario	Bridge River
White Leore, D.H., Norcross	Nelson	Blewett
Northwest Territories:		
Akaltcho Yellowknife Gold Mines Ltd.	25 King St. W., Toronto, Ontario	Yellowknife
Consolidated Mining & S. Co. of Canada, Ltd.	Trail, British Columbia	Yellowknife
Cons. Discovery Yellowknife Mines Ltd.	25 Adelaide St. W., Toronto, Ontario	Discovery
Giant Yellowknife Gold Mines Ltd.	25 King St. W., Toronto, Ontario	Yellowknife
Itlo Exploration Ltd.	Box 250, Yellowknife	Yellowknife
Ormsby Mines Ltd.	25 Adelaide St. W., Toronto, Ontario	Yellowknife
Taurcanis Mines Ltd.	25 Adelaide St. W., Toronto, Ontario	Matthews Lake
Yukon:		
Klondike Lode Gold Mines Ltd.	837 W. Hastings St., Vancouver	Klondike
(c) Copper-Gold-Silver Mining Industry		
Newfoundland:		
Atlantic Coast Copper Corp. Ltd.	330 Bay St., Toronto, Ontario	Springdale
Maritimes Mining Corp., Ltd.	330 Bay St., Toronto, Ontario	Tilt Cove
British Newfoundland Exploration Ltd.	St. Johns	Labrador
Nova Scotia:		
King Copper Mining Corp.	1519 Pine Ave. W., Montreal, Quebec	Oxford
New Brunswick:		
Anaconda Co. (Canada) Ltd.	8th Street, New Toronto, Ontario	Bathurst
Area Mines Ltd.	44 King St. W., Toronto, Ontario	Bathurst
Chesterville Mines Ltd.	25 Adelaide St. W., Toronto, Ontario	Northumberland
Clearwater Mines Ltd.	Box 520, Bathurst	Bathurst
Consolidated Mining & Smelting Co. Ltd.	Trail	Wedge Mine
Heath Steel Mines Ltd.	Box 280, Newcastle	Northumberland
Kenneco Exploration (Canada) Ltd.	25 King St. W., Toronto, Ontario	Newcastle
Mogul Mining Corp. Ltd.	25 Adelaide St. W., Toronto, Ontario	Gloucester
New Alger Mines Ltd.	80 Richmond St. W., Toronto, Ontario	Northumberland
New Senator Rouyn Ltd.	Noranda, Quebec	Newcastle
Quebec Smelting & Refining Ltd.	215 St. James St. W., Montreal, Quebec	Gloucester
Roche Long Lac Gold Mines Ltd.	372 Bay St., Toronto, Ontario	Bathurst

Directory of Firms in the Gold Mining Industry, 1960 - Continued

Name	Head or executive office address	Location
(c) Copper-Gold-Silver Mining Industry - Continued		
Quebec:		
Acadia Uranium Mines Ltd.	62 Richmond St. W., Toronto, Ontario	Chibougamau
Alcourt Mines Ltd.	1024-85 Richmond St. W., Toronto, Ontario	Cavalier Twp.
Alsab Mines Ltd.	215 St. James St. W., Montreal	Demain Twp.
Amalgamated Mining Development Corp.	2075 Mansfield St., Montreal	Scott Twp.
Amalgamated Larder Mines Ltd.	1616-44 King St. W., Toronto, Ontario	Garthby Twp.
Americ Mines	1255 Phillips Square, Montréal, Quebec	Guercheville Twp.
Anaconda Company (Canada) Ltd., The	8th. Street, New Toronto, Ontario	Eastern Quebec
Area Mines Limited	44 King St. W., Toronto, Ontario	Aloegny Twp.
Asarco Exploration Co. of Can. Ltd.	1004 Royal Bank Bldg., Toronto, Ontario	Inconnu Lake
Augustus Exploration Limited	1600-100 Adelaide St. W., Toronto, Ontario	Duprat Twp.
Barry Copper Mines Ltd.	550 Sherbrooke St. W., Montreal	Montbray Twp.
Baska Uranium Mines Limited	2100 Montague St. Regina, Saskatchewan	Rainboth Twp.
Bateman Bay Mining Co.	100 Adelaide St. W., Toronto, Ontario	Chibougamau
Beattie-Duquesne Mines Ltd.	406-320 Bay St. Toronto, Ontario	Duparquet Twp.
Big Town Copper Mines Ltd.	132 St. James St. W., Montréal, Quebec	Abitibi Territory
Bonwitha Mining Co. Ltd.	62 Richmond St. W., Toronto, Ontario	Duverney Twp.
Bracemac Mines Ltd.	801-347 Bay St., Toronto, Ontario	Galinee Twp.
Bruneau Mines Ltd.	5927 Des Ecores, Montreal	Bruneau Twp.
Burbank Minerals Ltd.	85 Richmond St. W., Toronto	Beauchastel Twp.
Caesar Minerals Ltd.	100 Adelaide St. W., Toronto	Boivin Twp.
Canadian Shield Mining Corp.	5 Northcote Rd., Hampstead	Preisac Twp.
Campbell Chibougamau Mines Ltd.	Box 134, Chibougamau, Quebec	Obalski Twp.
Candore Explorations Ltd.	25 Adelaide St., Toronto, Ontario	Dussieux Twp.
Canol Metal Mines Ltd.	25 Adelaide St. W., Toronto, Ontario	Joutel Twp.
Cartier Quebec Explorations Ltd.	405-25 Adelaide St. W., Toronto, Ontario	Cavalier Twp.
Central Porcupine Mines Ltd.	302-100 Adelaide St. W., Toronto, Ontario	Daniel Twp.
Chesterville Mines Ltd.	405-25 Adelaide St. W., Toronto, Ontario	Protet Lake
Chib-Kayrand Copper Mines Ltd.	80 Richmond St. W., Toronto, Ontario	Obalski Twp.
Chiboug Copper Corp. Ltd.	302-215 St. James St. W., Montréal, Québec	Levy Twp.
Chibougamau Jaculet Mines Ltd.	1107-55 Yonge St., Toronto, Ontario	McKenzie Twp.
Chibougamau Mining & Smelting Co. Inc.	55 Yonge St., Toronto, Ontario	Chibougamau
Conagami Mines Ltd.	85 Richmond St. W., Toronto, Ontario	Galinee
Coniska Copper Mines Ltd.	85 Richmond St. W., Toronto, Ontario	Daubree
Consolidated Mogul Mines Ltd.	405-25 Adelaide St. W., Toronto, Ontario	Broughton Twp.
Consolidated Vauze Mines Ltd.	1821-44 King St. W., Toronto, Ontario	Dufresnoy Twp.
Consolidated Zinc Corp. of Canada Ltd.	421 Dominion Square Bldg., Montréal, Québec	Noranda
Continental Copper Mines Ltd.	702-220 Bay St., Toronto 1, Ontario	Dufresnoy Twp.
Conwest Exploration Company Ltd.	Spencerville Ontario	Gaspé
Copper Rand Chibougamau Mines Ltd.	1107-55 Yonge St., Toronto, Ontario	McKenzie Twp.
Copper Prince Mines Ltd.	62 Richmond St. W., Toronto, Ontario	Fiedmont Twp.
Copper Stream Mines Ltd.	266 Notre Dame St. W., Montreal, Que.	Fiquery Twp.
D'Aragon Mines Ltd.	702-220 Bay St., Toronto, Ontario	Bourlamaque Twp.
Dauphin Iron Mines Ltd.	Box 237 Chibougamau, Quebec	Chibougamau
Denison Mines Ltd.	360 Bay St. Toronto, Ontario	Louvicoirt Twp.
Developers Entente of Canada Ltd.	185 Bay St. Toronto, Ontario	Duprat
Deranco Mines Ltd.	911-25 Adelaide St. W., Toronto, Ontario	Abitibi
Du Maurier Mines Ltd.	1024-85 Richmond St., Toronto, Ontario	Berthiaume Twp.
Duvan Copper Company Ltd.	295-265 Craig St. W., Montréal, Québec	Desmeloizes Twp.
Eastern Opemiska Mines	550 Sherbrooke St. W., Montréal, Québec	Rohault Twp.
East Sullivan Mines Ltd.	507 Place d'Armes, Montréal, Québec	Vai d'Or
East Trinity Mining Corp.	1024-85 Richmond St. W., Toronto, Ontario	Joutel Twp.
Estate Projects Ltd.	25 King St. W., Toronto, Ontario	St. Helene Twp.
Fab Metal Mines Ltd.	405-25 Adelaide St. W., Toronto, Ontario	Urban Twp.
Federal Chibougamau Mines Ltd.	372 Bay St. Toronto, Ontario	Obalski Twp.
Foreign Exploration Corp. Ltd.	121 Richmond St. W., Toronto, Ontario	St. Helene Twp.
Fundy Bay Copper Mines Ltd.	607-320 Bay St., Toronto, Ontario	Protet Lake
Gabbro Syndicate	25 Adelaide St. W., Toronto, Ontario	Protet Lake
Gagnon Frère	1006-25th. St., Quebec	Chateau-Richer
Galloway Chibougamau Mines Ltd.	486 St. John St., Montreal	South Chibougamau
Gaspé Copper Mines Ltd.	44 King St. W., Toronto, Ontario	Murdochville
Giant Bachelor Mines Ltd.	550 Sherbrooke St. W., Montreal	Montbray Twp.
Gibson Mines Ltd.	215 St. James St. W., Montreal, Que.	Barraute Twp.
Granwick Mines Ltd.	80 King St. W., Toronto, Ontario	Rouyn Twp.
Harrison Minerals	160 Bay St. Toronto, Ontario	Galinee Twp.
Greek Canadian Mines Ltd.	740 Midland Ave., Scarboro, Ont.	Pascalis Twp.
Hastings Mining & Development Co. Ltd.	507 Place d'Armes, Montreal, Que.	Stratford Twp.
Head of the Lakes Iron Ltd.	366 Bay St. Toronto, Ontario	Subercasse Twp.
Horn Gaspé Mines Ltd.	335 Bay St. Toronto, Ontario	Holland Twp.
Hoyie Mining Company Ltd.	2200-25 King St. W., Toronto, Ont.	Levy Twp.
Hudson Bay Exploration & Development Co. Ltd.	500 Royal Bank Bldg., Winnipeg, Man.	Laflamme River
Hydra Explorations Ltd.	100 Adelaide St. W., Toronto, Ontario	Daniel Twp.
Hygold Mines Ltd.	357 Bay St. Toronto, Ontario	Gand Twp.
Icon Syndicate	11 Adelaide St. W., Toronto, Ontario	Rasles Twp.
Invex Corporation Ltd.	24 King St. W., Toronto, Ont.	Rouyn Twp.
Iso Mines Ltd.	366 Bay St. Toronto, Ontario	Galinee Twp.
Jacobus Mining Corp. Ltd.	405-25 Adelaide St. W., Toronto, Ont.	Sauve Twp.
Jellcoe Mines (1939) Ltd.	244 Bay St., Toronto, Ont.	Galinee Twp.
Jomac Mines Ltd.	85 Richmond St. W., Toronto, Ontario	Duprat Twp.
Jowsey, F.H.	324-12 Richmond St. E., Toronto, Ont.	Montviel Twp.
Kateri Mining Co. Ltd.	62 Richmond St. W., Toronto, Ontario	Senneville Twp.
Kelly-Desmond Mining Corp. Ltd.	1910 Royal Bank Bldg., Toronto, Ont.	St. Helene Twp.
Kennco Explorations (Canada) Ltd.	25 King St. W., Toronto, Ont.	Abitibi
Kenville Gold Mines	357 Bay St. Toronto, Ontario	Rainboth Twp.
Kerr-Addison Gold Mines Ltd.	44 King St. W., Toronto, Ontario	Abitibi
Korich Mining Company	407-19 Melinda St., Toronto, Ont.	Galinee Twp.
La-Chib Mines Ltd.	302-215 St. James St. W., Montreal, Que.	Obalski Twp.
Lake Dufault Mines Ltd.	2200-25 King St. W., Toronto, Ont.	Dufresnoy Twp.
Lamaque Exploration Co. Ltd.	Bourlamaque, Que.	Mattagami
Larum Mines Ltd.	357 Bay St. Toronto, Ontario	Galinee Twp.
Laviolette Mining & Metallurgical Corp.	5083 St. Denis, Montreal	Frontenac

Directory of Firms in the Gold Mining Industry, 1960 - Continued

Name	Head or executive office address	Location
(c) Copper-Gold-Silver Mining Industry - Continued		
Quebec - Concluded:		
Leitch Gold Mines Ltd.	12 Richmond St. E., Toronto, Ont.	Wawagosic
Lempira Mines Ltd.	120 Cathcart St., Montreal	Roy Twp.
Lyndhurst Mining Company Ltd.	1700-360 St. James St. W., Montreal, Que.	Guercheville Twp.
Macassa Mines Ltd.	85 Richmond St. W., Toronto, Ont.	Carpentier Twp.
Marmattagami Mines Ltd.	11 Adelaide St. W., Toronto, Ont.	Mattagami
Matachewan Consolidated Mines Ltd.	55 Yonge St. Toronto, Ontario	Huguette Lake
Mattagami Explorers Corp.	260 Notre Dame St. W., Montreal, Que.	Isle-Dieu Twp.
McWatters Gold Mines Ltd.	25 Adelaide St. W., Toronto, Ont.	Haig Twp.
Merrill Island Mining Corp.	700-455 Craig St. Montreal, Que.	Chibougama Twp.
Mespi Mines Ltd.	1702-80 Richmond St. W., Toronto, Ont.	Dufresnoy Twp.
Mid Chibougama Mines Ltd.	700-455 Craig St. W., Toronto, Ont.	Chibougama
Mile 18 Mines Ltd.	62 Richmond St. W., Toronto, Ont.	Berthiaume Twp.
Miller Copper Mines Ltd.	56-1610 Sherbrooke St. W., Montreal, Que.	Holland Twp.
Mining Corporation of Canada Ltd.	1715-44 King St. W., Toronto, Ont.	Chibougama
Moneta Porcupine Mines Ltd.	1505-320 Bay St., Toronto, Ont.	Galinee Twp.
Monpre Mining Company Ltd.	705-62 Richmond St. W., Toronto, Ont.	La Martinicre Twp.
Montbray Explorers Ltd.	11 Adelaide St. W., Toronto, Ont.	Montbray Twp.
Nealon Mines Ltd.	1201-80 King St. W., Toronto, Ont.	Hebecourt Twp.
Negor Mines Ltd.	1024-85 Richmond St. W., Toronto, Ont.	Daniel Twp.
New Athona Mines Ltd.	25 Adelaide St. W., Toronto, Ont.	Landrienne Twp.
Newconex Ltd.	8 King St. E., Toronto, Ont.	Preissac Twp.
New Hosco Mines Ltd.	906-357 Bay St., Toronto, Ont.	Daniel Twp.
New Jason Mines Ltd.	50-80 Richmond St. W., Toronto, Ont.	Galinee Twp.
Newlund Mines Ltd.	44 King St. W., Toronto, Ont.	Subercase Twp.
Newmont Mining Corp. of Canada Ltd.	906-211 Portage Ave., Winnipeg, Man.	Mattagami Area
New West Amulet Mines Ltd.	244 Bay St., Toronto, Ont.	Duprat Twp.
Nicupt Mines Ltd.	83W. - 1st Ave., Amos, Que.	Montauban
Nightien Mines Ltd.	405-25 Adelaide St. W., Toronto, Ont.	Carpiquet Twp.
Nipiron Mines Ltd.	302 Bay St., Toronto, Ont.	Subercase Twp.
Nipissing Mines Co. Ltd.	55 Yonge St. Toronto, Ont.	Huguette Lake
Noranda Mines Ltd.	44 King St. W., Toronto, Ont.	Noranda
Normetal Mining Corp. Ltd.	1715-44 King St. W., Toronto, Ont.	Desmeloizes Twp.
Norque Copper Mines Ltd.	1702-80 Richmond St. W., Toronto, Ont.	Duprat Twp.
Northern Quebec Explorers Ltd.	Amos, Que.	Lac Mattagami
North Tech Exploration Ltd.	80 King St. W., Toronto, Ont.	Galinee Twp.
North Mattagami Mines Ltd.	56-1610 Sherbrooke St. W., Montreal, Que.	Isle-Dieu Twp.
Norvalie Mines Ltd.	505-80 Richmond St. W., Toronto, Ont.	Isle-Dieu Twp.
Odyno Exp. & Div. Ltee	115-7th St. Noranda, Que.	Montbeillard
Olympia Mining Exploration Ltd.	2075 Mansfield St. Montreal, Que.	Levy
O'Leary Malartic Mines Ltd.	Box 54, Noranda, Que.	Malartic
Opemiska Copper Mines (Quebec) Ltd.	Box 12, Chapais, Que.	Levy Twp.
Orchan Mines Ltd.	1403-100 Adelaide St. W., Toronto, Ont.	Galinee Twp.
Osisko Lake Mines Ltd.	513-11 King St. W., Toronto, Ont.	Rouyn Twp.
Paudash Mines Ltd.	85 Richmond St. W., Toronto, Ont.	Turgeon River
Philips Dodge Corp. of Can. Ltd.	300 Park Ave. New York 22, N.Y., U.S.A.	Lake Minto
Portage Island (Chibougama) Mines Ltd.	1107-55 Yonge St. Toronto, Ont.	Roy Twp.
Prospectors Airways Company Ltd.	1616-44 King St. W., Toronto, Ont.	Abitibi
Quebec Chibougama Gold fields Ltd.	132 St. James St. W., Montreal	McKenzie Twp.
Quebec Smelting & Refining Ltd.	302-215 St. James St. W., Montreal, Que.	Lesperance Twp.
Queensland Explorations Ltd.	160 Bay St. Toronto, Ontario	Duplessis Twp.
Quemont Mining Corp. Ltd.	1715-44 King St. W., Toronto, Ont.	Rouyn-Noranda
Radiore Uranium Mines Ltd.	509-25 Adelaide St. W., Toronto, Ont.	Isle-Dieu Twp.
Rainville Mines Ltd.	2200-25 King St. W., Toronto, Ont.	Bourlamaque Twp.
Regional Securities Corp. Ltd.	121 Richmond St. W., Toronto, Ont.	Morris Twp.
Revere Mining Corp. Ltd.	62 Richmond St. W., Toronto, Ont.	Le Tac Twp.
Rexton Mines Ltd.	68 Yonge St. Toronto	Le Tardiff Twp.
Rio Tinto Canadian Exploration Ltd.	1000-335 Bay St., Toronto, Ont.	Gaspé
Rohault Mines Ltd.	605-355 St. James St. W., Montreal, Que.	Rohault Twp.
Rouanda Mining Company	360 St. James St. W., Montreal, Que.	Ligneris Twp.
Roxford Mining Corp.	4920 Western Ave., Westmount, Que.	Roxton Twp.
Rusty Lake Mining Corp.	132 St. James St. W., Montreal, Que.	La Pause Twp.
Selco Exploration Company Ltd.	600-77 York St. Toronto, Ont.	St. Helene Twp.
Solbec Copper Mines Ltd.	507 Place d'Armes, Montreal, Que.	Stratford Twp.
Sogemines Development Co. Ltd.	1980 Sherbrooke St. W., Montreal, Que.	Marceau Twp.
South Dufault Mines Ltd.	1700-360 St. James St. W., Montreal, Que.	Rouyn Twp.
Southern Union Oils Ltd.	80 King St. W., Toronto, Ont.	La Gauchetière Twp.
Southwest Potash Corporation	25 Adelaide St. W., Toronto, Ont.	Boivin Twp.
Steerola Explorations Ltd.	Steep Rock Lake, Ont.	Newport
Strathcona Mines Ltd.	62 Richmond St. W., Toronto, Ont.	Franquet Twp.
Sunburst Exploration Ltd.	320 Bay St. Toronto, Ont.	Duprat Twp.
Tache Lake Mines Ltd.	302-215 St. James St. W., Montreal, Que.	McKenzie Twp.
Tazin Mines Ltd.	700-455 Craig St. W., Montreal, Que.	Chibougama
Templeton Development Corp.	4747 Connaught Ave., Montreal	La Pause Twp.
Terra Nova Explorations Ltd.	10-16 Blvd. Des Capucins, Quebec, Que.	Barrault Twp.
Three Brothers Mining Exploration Ltd.	360 Bay St., Toronto, Ont.	Comporte Twp.
Trade-Horn Limited	500-160 Bay St., Toronto, Ont.	Doyon Lake
Triform Explorations Ltd.	100 Adelaide St. W., Toronto, Ont.	Barrault Twp.
Tri-Cor Mining Company Ltd.	608-80 Richmond St. W., Toronto, Ont.	Barrault Twp.
Tyrone Mines Ltd.	300 Park Ave., New York 22, N.Y.	Sakami Lake Area
Valray Explorations Ltd.	402-100 Adelaide St. W., Toronto, Ont.	Ducros Twp.
Ventures Limited	2200-25 King St. W., Toronto, Ont.	Mattagami
Voyager Explorations Ltd.	901-159 Bay St., Toronto, Ont.	Subercase Twp.
Waite Amulet Mines Ltd.	Noranda, Que.	Duprat Twp.
Walte Lake Mines Ltd.	421 Dominion Square Bldg., Montreal, Que.	Duprat Twp.
Watson Lake Mines Ltd.	225-12 Richmond St. E., Toronto, Ont.	Watson Lake
Weedon Mining Corporation	455 Craig St. W., Montreal, Que.	Fontainebleau
West Wasa Mines Ltd.	7 Adelaide St. E., Toronto, Ont.	Beauchastel Twp.
Wiltsey-Coghlan	320 Bay St. Toronto, Ont.	Rouyn Twp.

Directory of Firms in the Gold Mining Industry, 1960 - Concluded

Name	Head or executive office address	Location
(c) Copper-Gold-Silver Mining Industry - Concluded		
Ontario:		
Chipman Lake Mines Ltd.	25 King St. W., Toronto, Ont.	Kenora
Ethel Copper Mines Ltd.	80 Richmond St. W., Toronto	Tudhope Twp.
Geco Mines Ltd.	1715-44 King St. W., Toronto, Ont.	Manitouwadge
Kam Kotia Porcupine Mines Ltd.	25 Adelaide St. W., Toronto, Ont.	Robb Twp.
Kiro Explorations Ltd.	160 Bay St. Toronto, Ont.	Robb Twp.
Kordol Explorations Ltd.	19 Melinda St. Toronto, Ont.	Boston Creek
Maple Bay Copper Mines Ltd.	357 Bay St. Toronto, Ont.	Godfrey Twp.
Maralgo Mines Ltd.	905-11 Adelaide St. W., Toronto, Ont.	Strathy Twp.
Maybrun Mines Ltd.	402-100 Adelaide St. W., Toronto, Ont.	Kenora
Mining Corp. of Canada, Ltd.	44 King St. W., Toronto, Ont.	Rainy River
Misema Lake Mining Corp. Ltd.	1112 Star Building, Toronto, Ont.	Larder Lake
North Coldstream Copper Mines Ltd.	44 King St. W., Toronto, Ont.	Kashabowie
Poly Ores Mining Company Ltd.	62 Richmond St. W., Toronto, Ont.	Spanish
Temagami Mining Company Ltd.	1000-11 Adelaide St. W., Toronto, Ont.	Temagami
Weish, G.S.	62 Richmond St. W., Toronto, Ont.	Matachewan
Manitoba:		
Canorama Explorations Ltd.	104-85 Richmond St. W., Toronto, Ont.	The Pas
Hudson Bay Mining & Smelting Company Ltd.	500 Royal Bank Bldg., Winnipeg, Man.	Flin Flon
Saskatchewan:		
Hanson Mines Ltd.	2001-80 King St. W., Toronto, Ont.	Hanson Lake
Hudson Bay Mining & Smelting Co. Ltd.	500 Royal Bank Bldg., Winnipeg, Man.	Flin Flon
British Columbia:		
Bethlehem Copper Corp. Ltd.	355 Burrard St. Vancouver, B.C.	Highland Valley
Bethsaida Copper Mines Ltd.	1075 Melville St. Vancouver, B.C.	Kamloops
Cadamet Mines Ltd.	600-250 University Ave., Toronto, Ont.	Kamloops
Consolidated Mining & Smelting Co. of Canada Ltd.	Trail, B.C.	Hope & Nanaimo
Consolidated Woodgreen Mines Ltd.	204-569 Howe St., Vancouver, B.C.	Greenwood
Continental Consolidated Mines Ltd.	535 Howe St., Vancouver, B.C.	Greenwood
Copper Mountain Mines Ltd.	1500 Marine Bldg., Vancouver, B.C.	Deep Guleh
Craigmont Mines Ltd.	700 Burrard Bldg., Vancouver	Merritt
Cowichan Copper Co. Ltd.	620 Howe St., Vancouver, B.C.	Lake Cowichan
Farwest Mining Ltd.	1075 Melville St. Vancouver B.C.	Kamloops
Friday Creek Development Co. Ltd.	1030 West Georgia St. Vancouver	Similkameen
Gabbro Copper Mines Ltd.	2256 W. 12th Ave., Vancouver	Jordan River
Granduc Mines Ltd.	507-1111 W. Georgia St., Vancouver, B.C.	Leduc Glacier
Geminder Wilbur W.	Keremos	Keremos
H. & G. Mining Co.	Princeton	Princeton
Howe Sound Company, Britannia Division	500 Fifth Ave., New York 36, N.Y.	Britannia Beach
Kennco Explorations (Western) Ltd.	675 Hastings St. W., Vancouver	Skeena
Kie Mine Co. Ltd.	700 Burrard Bldg., Vancouver	Merritt
Mid-West Copper & Uranium Mines Ltd.	535 Howe St., Vancouver, B.C.	Hope
Newmont Mining Corp. of Can Ltd.	211 Portage Ave., Winnipeg, Man.	Skeena
Noranda Exploration Co. Ltd.	2256 West 12th Ave., Vancouver	Vancouver Island
Phoenix Copper Company Ltd.	1111 W. Georgia St., Vancouver, B.C.	Grand Forks
Rio Tinto Canadian Exploration Ltd.	335 Bay St., Toronto, Ont.	Kamloops
Texada Mines Ltd.	Box 35, Vananda, B.C.	Nanaimo
Texas Gulf Sulphur Co.	230 Park Ave., New York 17 N.Y., U.S.A.	Skeena
The Granby Mining Company Ltd.	1111 W. Georgia St., Vancouver, B.C.	Allenby
Torwest Resources Ltd.	400-837 W. Hastings St., Vancouver, B.C.	Merritt
Velvet Leasers	Rossland B.C.	Trail

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