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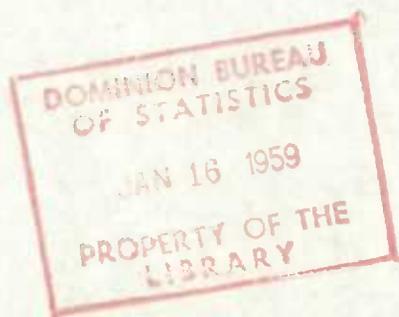
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ANNUAL



THE SILVER-LEAD-ZINC MINING INDUSTRY

1957



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NOTICE

The annual reports prepared by the Industry and Merchandising Division of the Bureau of Statistics are divided into 3 volumes, as follows: **Volume I** – The Primary Industries, including mining, forestry and fisheries; **Volume II** – Manufacturing; **Volume III** – Merchandising and Services. The volumes are made up of parts, and the parts in turn are subdivided according to the industries which they comprise.

Volume I consists of the following parts:

- Part I – Mineral Statistics
- Part II – Forestry Statistics – Operations in the Woods
- Part III – Fisheries Statistics

Part I includes the following reports which constitute the complete series on Mineral Statistics of Canada. Individual reports are issued as the information becomes available; they are arranged in a form suitable for binding.

- A – General Review of the Mining Industry, 50¢
- B – The Gold Mining Industry, 50¢
- C – The Silver-Lead-Zinc Mining Industry, 25¢
- D – The Nickel-Copper Mining, Smelting and Refining Industry, 25¢
- E – The Iron Mining Industry, 25¢
- F – The Miscellaneous Metal Mining Industry, 25¢
- G – The Smelting and Refining Industry, 25¢
- H – The Coal Mining Industry, \$1.00
- I – The Crude Petroleum and Natural Gas Industry, 25¢
- J – The Asbestos Mining Industry, 25¢
- K – The Feldspar and Quartz Mining Industry, 25¢
- L – The Gypsum Industry, 25¢
- M – The Peat Industry, 25¢
- N – The Salt Industry, 25¢
- O – The Talc and Soapstone Industry, 25¢
- P – The Miscellaneous Non-metal Mining Industry, 25¢
- Q – The Cement Manufacturing Industry, 25¢
- R – The Clay and Clay Products Industry, 25¢
- S – The Lime Industry, 25¢
- T – The Sand and Gravel Industry, 25¢
- U – The Stone Industry, 25¢
- V – Contract Drilling in the Mining Industry, 25¢

SYMBOLS

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

- .. Not available
- ... Not applicable
- Nil

THE SILVER-LEAD-ZINC MINING INDUSTRY

1957

Definition of the Industry—General statistical data contained in this report pertain only to the mining of silver-cobalt and silver-lead-zinc ores. However, the output figures for specific metals represent the total production from all sources.

Silver mining is not a distinct mining industry in Canada inasmuch as the silver-bearing minerals usually occur in association with other metals of economic value—with lead and zinc; with copper, nickel and arsenic; with lode and placer free gold; in copper-gold and nickel-copper ores. Silver-lead-

zinc mining is a very important industry in British Columbia and in the Yukon Territory. In eastern Canada lead and zinc ores have been mined in Ontario, Quebec, Nova Scotia, Newfoundland and New Brunswick.

It should be noted that, in addition to its recovery from silver-lead-zinc ores, zinc is produced in large quantities from copper-gold-silver ores mined in Quebec, Manitoba, Saskatchewan and British Columbia.

(a) The Silver-Lead-Zinc Mining Industry

During 1957 there were 74 firms which did some work on 83 properties. There were 35 producers or shippers. The average employment in the industry numbered 5,844 persons to whom \$26,256,837 were paid in salaries and wages. Fuel cost \$1,336,935 and 176,311,559 kwh. of electricity were purchased for \$1,655,899. Process supplies

cost \$11,360,204 and freight plus treatment charges amounted to \$42,123,058.

For statistical purposes some firms are classified as silver lead-zinc mines in a given year and later transferred to copper-gold silver mining as the major portion of the value of their output was derived from copper and gold.

TABLE 1. Principal Statistics for the Silver-Lead-Zinc Mining Industry, Significant Years 1921 - 1957

Year	Estab- lish- ments	Em- ployees	Salaries and wages	Cost of fuel and electricity at works	Cost of process supplies	Gross selling value of products (f.o.b. works)	Net value of production ¹
	number				dollars		
1921	72	781	966,171	90,953	..	2,177,053	..
1929	168	4,153	6,482,392	793,139	..	22,748,089	..
1931	40	1,299	2,149,921	485,106	..	6,351,975	..
1933	43	1,100	1,501,012	284,277	..	7,569,867	..
1937	130	2,220	3,914,643	845,898	1,940,177	28,528,967	22,740,582
1939	83	1,646	2,803,057	667,661	1,619,385	18,254,851	13,555,609
1941	64	1,666	3,452,199	610,168	689,284	24,277,977	20,653,212
1944	20	2,769	5,810,290	860,231	1,752,087	21,291,957	16,802,759
1946	31	2,451	5,987,111	780,136	2,636,735	48,342,501	39,292,606
1949	101	5,438	15,676,043	1,989,632	7,181,113	100,349,929	67,108,165
1951	144	9,324	30,380,859	3,090,958	10,382,057	185,692,981	131,909,215
1953	143	7,144	28,695,373	3,836,581	10,074,160	123,803,184	67,898,350
1954	124	6,386	24,847,011	3,488,018	9,927,474	136,256,758	78,077,960
1955	103	6,529	26,741,770	3,465,589	9,740,623	140,186,677	82,663,039
1956	96	6,338	27,253,247	3,452,621	8,215,578	142,920,691	86,604,019
1957	83	5,844	26,256,837	2,992,834	11,360,204	115,961,445	59,485,349

¹ The gross value from which the value of fuel, purchased electricity, process supplies, freight and treatment charges have been deducted.

TABLE 2. Ore Mined and Milled in the Silver-Lead-Zinc Mining Industry, 1956 and 1957

	Newfoundland, Nova Scotia, New Brunswick	Quebec and Ontario	British Columbia	Yukon and Northwest Territories	Canada
	tons				
1956					
Ore mined	448,641	1,962,696	5,055,017	184,652	7,651,006
Ore milled	448,641	1,960,935	5,047,048	180,643	7,637,267
Concentrates produced:					
Lead	39,778	8,761	171,545	19,177	239,261
Zinc	72,599	89,275	433,976	21,339	617,189
Pyrite	6,503	260,387	—	—	267,352
Precipitates and other	—	—	621	—	621
Copper, copper-lead	12,401	9,159	15,804	—	37,364
1957					
Ore mined	371,000	1,461,605	4,694,008	187,925	6,714,538
Ore milled	371,000	1,430,178	4,672,095	193,788	6,667,061
Concentrates produced:					
Lead	42,768	6,517	173,998	19,054	242,337
Zinc	69,515	98,367	425,869	16,495	610,246
Pyrite	—	240,405	—	—	240,405
Precipitates and other	—	9	2,597	—	2,606
Copper, copper-lead	9,545	16,246	6,390	—	32,181

TABLE 3. Destination of Shipments from Silver-Lead-Zinc Mines, 1956 and 1957

	Tons shipped	Gross value f.o.b. shipping points	Total metal content (without deductions)			
			Gold	Silver	Lead	Zinc
		\$	troy ounces		pounds	
1956						
To Canadian smelters:						
Lead ore	452	103,300	9	40,214	606,250	28,979
Lead concentrates	159,009	34,127,373	1,117	8,261,201	208,687,020	10,356,310
Zinc ore	181	16,412	24	11,142	37,016	51,628
Zinc concentrates ¹	384,948	49,531,733	1,418	1,330,744	53,404,198	362,215,888
Copper concentrates ²	8,367	1,539,092	5,350	47,879	—	—
Gold concentrates	4	315	10	9	76	46
Silver-lead concentrates	122	107,779	77	118,655	56,196	5,408
Pyrite	13,849	99,915	—	—	—	—
Total Canadian	566,932	85,525,919	8,005	9,809,844	262,790,756	372,658,259
To foreign smelters:						
Lead ore	50	4,485	9	1,742	19,057	8,095
Lead concentrates	84,811	18,213,576	13,730	3,661,858	99,661,338	13,979,619
Zinc ore	101	10,929	—	10,169	21,206	24,561
Zinc concentrates ¹	232,138	31,359,036	3,628	1,135,015	6,123,217	265,240,832
Tin concentrates	384	423,742	—	—	—	767,516 ⁴
Copper concentrates ³	25,754	4,363,618	9,142	706,531	2,071,235	1,352,957
Gold concentrates	151	143,240	4,269	197,331	—	—
Silver-lead concentrates	1,713	1,294,812	—	1,272,477	1,051,376	—
Pyrite	204,029	935,138	—	—	—	—
Bullion	9	257,614	—	289,960	—	—
Precipitates	15	388,582	5,832	201,670	—	—
Total foreign	549,155	57,394,772	36,610	7,476,753	108,947,429	280,606,064
Total shipments	1,116,087	142,920,691	44,615	17,286,597	371,738,185	653,264,323
Cost of freight .....	...	11,926,351	...	...	...	...
Cost of fuel and purchased electricity .....	...	3,452,621	...	...	...	...
Smelter charges .....	...	32,722,122	...	...	...	...
Cost of process supplies .....	...	8,215,578	...	...	...	...
Net value of shipments .....	...	86,604,019	...	...	...	...

See footnotes at end of table.

TABLE 3. Destination of Shipments from Silver-Lead-Zinc Mines, 1956 and 1957 -- Concluded

	Tons shipped	Gross value, f.o.b. shipping points	Total metal content (without deductions)			
			Gold	Silver	Lead	Zinc
		\$	troy ounces		pounds	
1957						
To Canadian smelters:						
Lead ore	405	61,344	12	28,046	402,489	65,898
Lead concentrates	164,733	32,039,228	2,577	9,426,282	201,590,086	12,956,112
Zinc concentrates ¹	371,299	37,222,707	1,600	1,223,558	48,807,112	353,199,526
Gold concentrates	139	159,678	4,996	2,752	16,373	19,511
Copper concentrates ²	16,246	2,269,868	7,217	202,749	—	—
Pyrite	22,281	90,409	—	—	—	—
Silver ore	6	820	3	841	314	269
Total Canadian	575,109	71,844,054	16,405	10,884,228	250,816,374	366,241,316
To foreign smelters:						
Lead ore	894	74,467	113	32,280	389,037	158,776
Lead concentrates	70,142	12,897,297	11,390	2,847,510	85,065,017	13,908,412
Zinc concentrates ¹	237,085	24,813,333	3,701	1,130,931	7,838,556	263,429,198
Copper concentrates ³	20,405	2,794,451	10,552	912,100	1,716,416	1,233,457
Gold concentrates	37	7,390	193	389	7,095	12,567
Silver concentrates, bullion	2,188	1,660,768	—	1,674,166	1,466,066	—
Precipitates	9	383,942	6,579	177,962	—	—
Tin concentrates	546	561,359	—	—	—	1,091,539 ⁴
Pyrite	215,295	924,384	—	—	—	—
Total foreign	546,601	44,117,391	32,528	6,775,338	96,482,187	278,742,410
Total shipments	1,121,710	115,961,445	48,933	17,659,566	347,298,561	644,983,726
Cost of freight .....	...	10,303,567	...	...	...	...
Cost of fuel and purchased electricity .....	...	2,992,834	...	...	...	...
Smelter charges .....	...	31,819,491	...	...	...	...
Cost of process supplies .....	...	11,360,204	...	...	...	...
Net value of shipments .....	...	59,485,349	...	...	...	...

¹ Does not include any zinc concentrates produced from copper-gold-zinc ores in Quebec, Manitoba, Saskatchewan or British Columbia.

² Copper content, in pounds, was 3,631,980.

³ Copper content, in pounds, was 10,444,238.

⁴ Tin content in pounds.

⁵ Copper content, in pounds, was 7,681,252.

⁶ Copper content, in pounds, was 9,185,761.

Note: In addition to the metals contained in shipments listed in Table 3, there are considerable quantities of lead and silver contained in ores shipped from certain gold mines in British Columbia, Cadmium, bismuth, antimony, tin and sulphur are also recovered from the silver-lead-zinc ores produced in this industry.

TABLE 4. Employees and Earnings in the Silver-Lead-Zinc Mining Industry, 1953-1957

Year	Administrative		Workmen		Total employees	Total man-hours worked	Earnings		Total earnings
	Male	Female	Male	Female			Administrative	Workmen	
	number						dollars		
1953	1,023	86	5,948	87	7,144	16,229,164	5,263,075	23,432,398	28,695,473
1954	899	82	5,318	87	6,386	14,400,821	4,468,140	20,378,871	24,847,011
1955	951	93	5,405	80	6,529	14,563,682	5,285,716	21,456,054	26,741,770
1956	926	92	5,235	85	6,338	13,827,086	5,078,550	22,174,697	27,253,247
1957	905	83	4,782	74	5,844	12,279,530	4,921,808	21,335,029	26,256,837

TABLE 5. Number of Workmen, by Months, in the Silver-Lead-Zinc Mining Industry, 1956 and 1957

Month	1956	1957					Total
	Total	Mine			Mill		
		Surface		Underground	Male	Female	
		Male	Female	Male			
January	5,257	1,582	65	2,603	932	5	5,187
February	5,251	1,555	66	2,563	927	5	5,116
March	5,199	1,572	64	2,600	923	5	5,164
April	5,181	1,592	67	2,572	917	5	5,153
May	5,300	1,757	67	2,600	935	5	5,364
June	5,526	1,871	70	2,492	907	5	5,345
July	5,577	1,834	75	2,403	921	5	5,238
August	5,529	1,692	68	2,364	894	5	5,023
September	5,377	1,430	58	2,097	801	7	4,393
October	5,279	1,366	56	2,113	791	6	4,332
November	5,306	1,215	55	2,118	780	6	4,174
December	5,058	1,186	52	2,081	725	6	4,050
Average	5,320	1,571	68	2,347	864	6	4,856

TABLE 6. Fuel and Electricity Used in the Silver-Lead-Zinc Mining Industry, 1957

Kind	Quantity	Cost at plant	
		\$	
Bituminous coal (a) From Canadian mines	short ton	21,214	305,241
(b) Imported	"	8,543	149,214
Sub-bituminous coal (from Alberta mines only)	"	140	2,380
Anthracite coal	"	2	105
Lignite coal	"	494	8,510
Coke (for fuel only)	"	3	270
Gasoline, (includes gasoline used in cars and trucks)	Imp. gal.	298,778	126,404
Kerosene or coal oil	"	2,435	967
Fuel oil	"	3,205,397	716,312
Wood (cords of 128 cubic feet of piled wood)	cord	559	12,985
Gas (a) Liquefied petroleum gases (propane, etc.)	Imp. gal.	21,259	14,172
(b) Other manufactured gas	M cu. ft.	—	—
(c) Natural gas	"	1,000	375
Other fuel	—	—	2,557
Electricity purchased for power and lighting	kwh.	176,311,559	1,655,899
Electricity purchased for other purposes	"	—	—
Total (cost only)	—	...	2,992,834
Electricity generated (a) For own use	kwh.	195,589,987	...
(b) For sale	"	16,176	100

TABLE 7. Drilling Completed on Silver-Lead-Zinc Deposits, 1955 - 1957

	Footage drilled		
	1955	1956	1957
Diamond drilling for exploration and testing:			
By mining companies with their own personnel and equipment	76,257	96,654	147,955
By diamond drilling contractors	425,866	512,382	277,434
Other diamond drilling:			
Blast hole diamond drilling:			
By mining companies with their own personnel and equipment ..	523,853	603,135	509,105
By diamond drilling contractors	1,335	5,964	4,379
Drilling by percussion or other machines ¹	6,935,242	6,252,366	6,082,294

¹ Not complete as records are unobtainable at certain mines.

TABLE 8. Taxes Paid by Concerns in the Silver-Lead-Zinc Mining and Smelting Industry, 1955-1957

Tax paid	1955	1956	1957
	dollars		
Dominion income tax	18,565,345	15,915,807	8,695,903
Provincial tax	3,586,121	4,008,495	2,352,325
Municipal tax	883,395	909,730	1,691,097

TABLE 9. Cost of Prospecting by Canadian Silver-Lead-Zinc Mining Companies

Province in which prospecting ¹ was conducted	By New- foundland, Nova Scotia, New Brunswick companies ²	By Quebec companies ²	By Ontario companies ²	By British Columbia companies ²	By Yukon and Northwest Territories companies ²	Total
	dollars					
1955						
Newfoundland	249,576	—	—	—	—	249,576
Nova Scotia	51,380	—	—	—	—	51,380
New Brunswick	391,766	56,589	990	122,886	—	572,231
Quebec	256,294	141,264	—	288,776	4,031	690,365
Ontario	563,461	76,940	14,797	65,055	2,889	723,142
Manitoba	15,988	—	—	85,537	—	101,525
Saskatchewan	2,762	—	—	42,728	—	45,490
Alberta	—	—	—	—	—	—
British Columbia	—	—	—	500,189	—	500,189
Northwest Territories	5,600	—	—	138,970	24,471	169,041
Yukon	—	—	—	58,242	31,067	89,309
Canada	1,536,827	274,793	15,787	1,302,383	62,458	3,192,248
1956						
Newfoundland	268,064	—	—	—	—	268,064
Nova Scotia	180,029	—	—	—	—	180,029
New Brunswick	85,172	23,980	—	48,066	—	157,218
Quebec	131,198	1,103,375	—	82,776	—	1,317,349
Ontario	94,100	227,882	7,244	89,180	—	418,406
Manitoba	—	—	—	15,853	—	15,853
Saskatchewan	—	—	—	30,269	—	30,269
Alberta	—	—	—	—	—	—
British Columbia	—	11,823	—	873,157	—	884,980
Northwest Territories	—	—	—	51,750	—	51,750
Yukon	—	40,800	—	170,772	35,911	247,283
Canada	758,563	1,407,660	7,244	1,361,823	35,911	3,571,201
1957						
Newfoundland	426,623	17,408	—	545	—	444,576
Nova Scotia	11,884	2,855	—	281	—	15,020
New Brunswick	35,364	17,658	—	55,708	12,559	121,289
Quebec	1,096	394,979	—	115,988	10,758	522,831
Ontario	316	84,669	7,560	110,272	10,255	213,072
Manitoba	—	40,418	—	22,057	—	62,475
Saskatchewan	5,000	8,000	—	101,857	—	114,857
Alberta	—	—	—	175	—	175
British Columbia	—	—	—	1,040,941	—	1,040,941
Northwest Territories	—	—	—	73,054	37,900	110,954
Yukon	—	—	—	56,571	79,156	135,727
Canada	480,283	565,987	7,560	1,577,459	150,628	2,781,917

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.

Note: No indication is made of the kind of minerals sought.

TABLE 10. Specified Expenditures by the Silver-Lead-Zinc Mining and Smelting Industry

	1954	1955	1956	1957
	dollars			
Workmen's compensation	885,573	820,537	988,961	1,106,769
Silicosis assessment	209,228	343,844	384,624	407,663
Unemployment insurance	278,460	297,625	535,873	544,038
Aggregate cost of all supplies purchased	15,099,449	15,319,071	14,324,931	16,623,523
Aggregate cost of plant and equipment purchased	3,103,221	2,392,914	6,401,809	3,425,466
Cost of buildings, machinery and equipment erected or installed during year	3,730,998	3,825,729	5,636,545	10,050,072

TABLE 11. Estimated Capital and Repair Expenditures, 1953-1957

Year	Capital expenditures			Repair expenditures			Capital and repair expenditures		
	Con- struction	Machinery	Total	Con- struction	Machinery	Total	Con- struction	Machinery	Total
	thousands of dollars								
1953	3,821	2,318	6,139	457	1,110	1,567	4,278	3,428	7,706
1954	2,992	2,247	5,239	757	1,015	1,772	3,749	3,262	7,011
1955	4,804	2,231	7,035	756	1,880	2,636	5,560	4,111	9,671
1956	6,680	4,209	10,889	911	2,918	3,829	7,591	7,127	14,718
1957 ¹	7,716	6,979	14,695	2,010	3,353	5,363	9,726	10,332	20,058

¹ Preliminary estimates.**Silver**

Statistics on silver production are computed as follows: (a) recoverable silver in ores, concentrates and matte shipped for export; (b) silver in crude gold bullion produced; (c) silver in blister and anode copper made at Canadian smelters; (d) silver in base bullion made by the Consolidated Mining and Smelting Company of Canada Limited, at Trail, British Columbia, which is the only lead smelter in Canada; (e) silver bullion produced from the treatment of cobalt-silver ores by the Deloro Smelting and Refining Company Ltd., at Deloro, Ontario.

Silver production in 1957 amounted to 28,823,298 troy ounces valued at \$25,182,915 compared with 28,431,847 troy ounces worth \$25,497,681 in the preceding year.

British Columbia was the leading province with nearly 8.6 million ounces Ontario was second with 6.9 million ounces and Yukon produced about 6.5 million ounces.

TABLE 12. Production of Silver (All Forms) from Canadian Ores, 1948-1957

Year	Ounces	Value	Year	Ounces	Value
		\$			\$
1948	16,109,982	12,082,487	1953	28,299,335	23,774,271
1949	17,641,493	13,098,808	1954	31,117,949	25,907,397
1950	23,221,431	18,767,561	1955	27,984,204	24,676,472
1951	23,125,825	21,865,467	1956	28,431,847	25,497,681
1952	25,222,227	21,065,603	1957	28,823,298	25,182,915

TABLE 13. Production of Silver (All Forms) by Months, 1956 and 1957

Month	1956	1957	Month	1956	1957
	ounces			ounces	
January	2,333,452	2,203,631	August	2,362,803	2,667,468
February	2,045,349	2,076,679	September	2,571,756	2,354,397
March	2,344,585	2,391,316	October	2,436,998	2,853,815
April	2,061,509	2,270,638	November	2,464,919	2,600,254
May	2,511,200	2,156,185	December	2,445,707	2,577,984
June	2,540,081	2,253,584	Total	28,431,847	28,823,298
July	2,313,488	2,417,347			

TABLE 14. Silver Production According to Nature of Ores, by Provinces, 1957

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	—	—	—	—	1,196,414	—	1,196,414
Nova Scotia	—	1	—	—	—	—	1
New Brunswick	—	—	379,173	—	—	—	379,173
Quebec	—	102,271	2,345,166 ¹	—	1,198,419	—	3,645,856
Ontario	—	425,899	395,243	1,575,138	197,370	4,316,480	6,910,130
Manitoba	—	10,367	382,724	14,743	—	—	407,834
Saskatchewan	—	—	1,145,571	—	—	—	1,145,571
Alberta	39	—	—	—	—	—	39
British Columbia	300	41,228	144,366	—	8,399,097	—	8,584,991
Northwest Territories	8	69,096	—	—	—	—	69,104
Yukon	15,573	—	—	—	6,468,612	—	6,484,185
Canada	15,920	648,862	4,792,243	1,589,881	17,459,912	4,316,480	28,823,298

¹ Contains a small quantity recovered from gold ores.

TABLE 15. Production of Silver, by Provinces and by Point of Computation, 1956 and 1957

	1956		1957	
	Quantity ounces	Value \$	Quantity ounces	Value \$
Newfoundland:				
In ores and concentrates exported	957,125	858,350	1,196,414	1,045,307
Nova Scotia:				
In gold bullion and concentrates	92,859	83,276	1	1
New Brunswick:				
In ores and concentrates exported	18,182	16,306	379,173	331,283
Quebec:				
In anode copper	2,529,518	2,268,472	2,379,405	2,078,886
In gold bullion made and in concentrates exported	1,534,448	1,376,093	1,266,451	1,106,498
Total	4,063,966	3,644,565	3,645,856	3,185,384
Ontario:				
In silver recovered in Canada from cobalt ores	4,721,566	4,234,300	4,316,480	3,771,309
In gold bullion	377,034	338,124	421,565	368,321
In blister copper	1,312,794	1,177,314	2,003,750	1,750,677
In ores, concentrates, residues, matte, etc., exported	215,053	192,859	168,335	147,074
Total	6,626,447	5,942,597	6,910,130	6,037,381
Manitoba:				
In blister copper	407,889	365,795	397,467	347,267
In gold bullion (gold mines) and in ores exported	22,235	19,940	10,367	9,058
Total	430,124	385,735	407,834	356,325
Saskatchewan:				
In blister copper	1,179,110	1,057,426	1,145,571	1,000,885
In gold bullion and in crude alluvial gold	—	—	—	—
Total	1,179,110	1,057,426	1,145,571	1,000,885
Alberta:				
In alluvial gold	14	12	39	34
British Columbia:				
In alluvial gold	464	416	300	262
In gold bullion	24,672	22,126	29,640	25,897
In base bullion and in ores, etc., exported	8,776,262	7,870,552	8,555,051	7,474,548
Total	8,801,398	7,893,094	8,584,991	7,500,707
Northwest Territories:				
In gold bullion, placer gold	69,916	62,701	69,104	60,376
Yukon:				
In alluvial gold	14,400	12,914	15,573	13,606
In silver-lead ores to smelters	6,178,306	5,540,705	6,468,612	5,851,626
Total	6,192,706	5,553,619	6,484,185	5,665,232
Canada	28,431,847	25,497,681	28,823,298	25,182,915

Note: For 1956 silver was valued at 89.68 cents per fine ounce, the average price of domestic sales; for 1955 the corresponding price was 88.18 cents.

TABLE 16. Source of Silver Production, by Percentages, 1953-1957

Source	1953	1954	1955	1956	1957
	per cent				
In silver-cobalt ores	12.50	11.99	14.53	16.61	14.98
In base bullion ¹	45.65	38.53	37.41	37.08	39.29
In gold ores (bullion and placer)	2.21	2.16	2.38	2.17	2.31
In blister and anode copper ²	14.32	15.61	18.73	19.14	20.56
In matte, copper ores and silver-lead ores, etc., exported (other than silver-cobalt ores)	25.32	31.71	26.95	25.00	22.86
	100.0	100.0	100.0	100.0	100.0

¹ Includes some silver bullion from silver-lead ores.

² From copper-gold-silver and nickel-copper ores.

TABLE 17. Estimated Consumption of Fine Silver in Canada, for Industrial Purposes, 1948-1957

Year	In anodes for plating	In making sterling silver and other silver alloys (except lead- silver alloys)	In making silver nitrate	In lead-silver alloys	Miscel- laneous	Total
	ounces					
1948	1,365,000	1,800,000	956,000	5,000	248,000	4,374,000
1949	2,463,000	2,903,000	969,000	2,500	196,000	6,533,500
1950	1,166,000	2,708,000	1,025,000	5,000	304,000	5,208,000
1951	907,000	2,134,000	1,166,000	3,000	279,000	4,489,000
1952	1,116,500	1,181,000	1,083,000	26,000	379,500	3,786,000
1953	1,132,000	1,820,500	1,282,000	8,500	420,000	4,663,000
1954	978,000	1,436,000	1,249,000	9,000	569,000	4,241,000
1955	1,117,000	1,653,000	1,324,000	10,000	538,000	4,642,000
1956	1,348,000	2,080,000	1,174,000	14,000	590,000	5,206,000
1957	1,662,000	1,977,000	1,493,500	9,000	702,000	5,844,000

Note: Amounts used for coinage not included in above figures.

TABLE 18. Imports and Exports of Silver and Silver Products, 1956 and 1957

	1956		1957	
	Quantity	Value	Quantity	Value
	ounces	\$	ounces	\$
Imports:				
Silver, unmanufactured	1,010,180	901,660	1,859,131	1,633,049
Silver, manufactures of, n.o.p. ....	...	744,793	...	682,943
Toilet articles of which the most important component, in value is sterling silver.....	...	27,237	...	33,014
Coin, foreign, except gold	—	—	...	2,723
Total accounted for .....	...	1,673,690	—	2,351,729
Exports:				
Silver contained in ore, concentrates, etc.	6,924,414	5,871,438	5,979,459	4,943,154
Silver bullion	14,341,753	12,821,395	12,799,990	11,691,463
Silver manufacturers .....	...	34,188	...	32,362
Total accounted for .....	...	18,727,021	...	16,666,979

Lead

Lead production is calculated as the lead in base bullion made from Canadian ores at the smelter or Consolidated Mining & Smelting Co. of Canada Ltd., at Trail, British Columbia, plus the recoverable lead content in ores and concentrated exported. The value is computed on the basis of the average price in Canadian dollars for refined lead.

The silver-lead-zinc mines of British Columbia produce the major portion of the nation's lead. Some of the lead-silver ores from the Yukon territory were smelted at Trail in British Columbia and part were exported to foreign smelters. In eastern Canada

most of the lead concentrates were shipped to foreign smelters for treatment.

Production of lead in all forms during 1957 amounted to 181,484 short tons valued at \$50,670,407 compared with 188,854 tons valued at \$58,582,651 in the preceding year. The price range during the year was downward from 15.50 cents to 12.25 cents per pound; the arithmetical average was 13.96 cents.

Refined lead output, which included some lead recovered from imported ores, amounted to 142,935 tons in 1957 compared with 147,865 tons in 1956.

TABLE 20. Production¹ on New Lead, 1948 - 1957

Year	Tons	Value	Average price per pound (Canadian funds)	Year	Tons	Value	Average price per pound (Canadian funds)
1948	167,251	60,344,146	18.04	1953	193,706	50,076,822	12.93
1949	159,775	50,488,879	15.8	1954	218,495	58,250,831	12.33
1950	165,697	47,886,452	14.45	1955	202,762	58,314,500	14.38
1951	158,231	58,229,146	18.4	1956	188,854	58,582,651	15.51
1952	168,842	54,671,021	16.19	1957	181,484	50,670,407	13.96

¹ Primary lead in base bullion produced, plus recoverable lead in ores exported.

TABLE 21. Production of Lead, by Months, 1956 and 1957

Month	Lead (all forms)		Refined lead ¹	
	1956	1957	1956	1957
	tons (2,000 pounds)			
January	16,227	14,082	12,179	10,117
February	14,553	15,220	11,469	11,192
March	17,067	17,128	12,438	12,727
April	11,931	14,325	11,554	12,436
May	15,673	14,641	11,990	13,172
June	17,062	16,481	11,591	12,406
July	16,073	14,427	12,374	12,098
August	16,468	14,729	12,196	12,568
September	16,008	14,849	12,706	11,288
October	16,901	14,294	13,923	10,302
November	14,935	15,929	12,914	12,125
December	15,956	15,379	12,531	12,504
Total	188,854	181,484	147,865	142,935

¹ Includes lead refined from foreign ores.

TABLE 22. Production, Imports and Exports of Lead, 1955-1957

	1955		1956		1957	
	Pounds	Value \$	Pounds	Value \$	Pounds	Value \$
Production:						
Newfoundland	35,709,911	5,135,085	45,575,841	7,068,813	49,023,389	6,843,665
Nova Scotia	3,979,230	572,213	1,421,799	220,521	—	—
New Brunswick	1,532,706	220,403	949,090	147,204	2,339,993	326,663
Quebec	11,216,005	1,612,862	5,745,615	891,145	5,417,795	756,324
Ontario	3,853,603	554,148	3,010,163	466,876	1,012,565	141,354
British Columbia	322,984,797	46,445,214	295,402,176	45,816,877	280,188,948	39,114,378
Yukon	26,248,786	3,774,575	25,604,220	3,971,215	24,985,939	3,488,023
Total	405,525,038	58,314,500	377,708,904	58,582,651	362,968,529	50,670,407
Imports:						
Pig and block	195,337	30,883	209,444	37,790	3,014,204	378,854
Old and scrap	107,244	5,632	122,453	6,088	164,473	7,456
Bars and sheets	135,713	21,498	150,803	29,680	72,653	13,338
Lead pipe	—	—	2,221	512	11,383	1,863
Acetate of lead	160,084	26,602	179,801	32,180	121,075	20,491
Nitrate of lead	313,885	48,219	282,269	45,864	234,616	35,940
Other manufactures .....	...	191,090	...	275,020	...	259,412
Shots and bullets	1,917	646	7,053	6,182	18,260	7,541
Lead tetraethyl, compounds of	35,058,685	12,707,249	36,508,092	13,348,923	6,593,798	2,373,402
Lead capsules for bottles .....	...	59,935	...	79,468	...	60,338
Lead pigments:						
Litharge	2,150,900	364,946	2,104,000	383,575	2,298,700	383,620
Dry white lead	74,918	10,280	83,227	10,258	4,327	1,206
White lead, ground in oil	—	—	6,080	1,380	5,146	1,034
Dry red lead and orange mineral	303,560	49,936	427,448	74,570	800,624	120,893
Exports:						
Lead, scrap	1,253,100	80,686	323,800	25,514	682,300	41,025
Lead, contained in ore	116,327,700	15,034,498	99,948,200	13,547,850	89,299,100	10,623,417
Pig lead	185,408,500	22,078,426	159,266,500	21,451,906	169,082,000	18,862,323
White lead	13,500	2,431	14,700	342,400	33,000	5,820
Lead manufactures, n.o.p. ....	...	14,899	...	12,218	...	22,720
Lead pipe	44,200	8,851	41,900	8,766	54,400	12,798

TABLE 23. Production, Imports, Exports and Domestic Consumption of Refined Lead, 1948-1957

Year	Production in Canada	Domestic consumption	Exports ¹	Imports	Stock at end of period ²
	tons (2,000 pounds)				
1948	160,025	59,542	108,302	53	3,866
1949	146,149	51,281	99,010	2,154	10,959
1950	170,023	54,723	115,864	1,237	11,061
1951	162,000	60,348	104,893	1,227	10,365
1952	182,943	62,466	132,406	521	10,281
1953	165,752	67,718	98,686	540	21,184
1954	166,005	67,947	114,427	178	16,971
1955	148,811	69,380	89,512	165	12,330
1956	147,865	68,048	84,064	180	9,499
1957	142,935	74,577	78,922	1,589	10,256

¹ Producers' shipments for export.² Producers' and consumers' stocks.

TABLE 24. Consumption of Refined Lead by Principal End-uses, 1953 - 1957

Use	1953	1954	1955	1956	1957
	tons				
Solders and alloys	16, 128	12, 727	16, 544	15, 263	12, 508
White lead, red lead and litharge	6, 602	6, 739	7, 767	7, 498	6, 546
Storage batteries	20, 685	22, 041	20, 905	21, 330	30, 454
Foil and collapsible tubes	1	349	171	661	611
Ammunition	3, 784	5, 266	5, 288	4, 990	4, 106
Iron and steel	1, 635	515	609	597	521
Cable covering	17, 635	19, 368	15, 395	15, 036	9, 212
Miscellaneous	1, 248	942	2, 701	2, 673	10, 619
Total	67, 718	67, 947	69, 380	68, 048	74, 577

TABLE 25. World Production of Lead on Mine Basis, 1953 - 1957

(From the Annual Report of the American Bureau of Metal Statistics)

Country	1953	1954	1955	1956	1957
	tons (2,000 pounds)				
United States ¹	342, 644	325, 419	338, 025	352, 826	333, 493
Canada ²	193, 706	218, 595	202, 762	188, 854	181, 690
Mexico	244, 213	238, 785	232, 381	220, 030	236, 858
Greenland	—	—	—	6, 221	10, 066
Total North America	780, 563	782, 699	773, 168	767, 931	762, 107
Argentina	17, 500	21, 000	25, 500	26, 800	33, 800
Bolivia ³	26, 222	20, 092	21, 080	23, 777	28, 948
Chile	3, 500	3, 500	3, 500	3, 500	4, 000
Peru	126, 302	121, 326	130, 899	142, 279	144, 702
Total South America	173, 524	165, 918	180, 979	196, 356	211, 450
Austria	5, 677	5, 432	5, 286	5, 281	5, 969
Finland	239	292	852	1, 554	2, 623
France	12, 710	11, 486	9, 323	9, 161	11, 688
Germany ⁴	69, 351	74, 420	74, 334	72, 181	78, 391
Greece	7, 152	4, 131	5, 900	7, 485	7, 207
Italy ¹	45, 553	45, 300	51, 497	51, 237	56, 516
Poland	32, 600	35, 200	37, 700	38, 800	39, 400
Spain ¹	57, 973	59, 877	67, 096	64, 735	69, 024
Sweden	28, 146	32, 131	35, 459	36, 097	40, 199
United Kingdom ¹	7, 439	7, 708	6, 798	7, 213	7, 821
Yugoslavia	93, 864	92, 736	99, 298	96, 258	99, 304
Total Europe	360, 704	369, 313	393, 543	390, 002	418, 142
Burma ⁵	7, 731	12, 722	15, 794	16, 144	14, 699
India ⁵	1, 897	1, 974	2, 502	2, 797	3, 555
Japan	20, 006	25, 175	28, 852	32, 451	39, 533
Korea, Republic of	164	91	753	1, 600	1, 000
Philippines	2, 683	2, 014	2, 555	2, 360	897
Total Asia	32, 481	41, 976	50, 456	55, 352	59, 684
Algeria	8, 662	11, 564	11, 645	11, 746	11, 501
French Equatorial Africa	4, 877	3, 833	3, 673	3, 316	1, 995
French Morocco	88, 559	90, 812	97, 999	93, 875	101, 287
Northern Rhodesia ⁵	12, 891	16, 800	17, 976	17, 024	16, 800
South West Africa ¹	55, 022	65, 308	80, 983	87, 480	93, 063
Tunisia	26, 455	30, 388	29, 391	25, 848	26, 348
Total Africa	196, 466	218, 705	241, 667	239, 289	250, 994
Australia ¹	258, 521	295, 056	311, 860	315, 067	350, 020
Russia	202, 000	228, 500	255, 000	290, 000	310, 000
Total⁶	2, 004, 259	2, 102, 167	2, 206, 673	2, 253, 997	2, 362, 397

¹ Calculated as recoverable.² Base bullion from domestic ores, plus recoverable content of ores exported.³ Exports.⁴ Federal Republic of Germany.⁵ Same as pig lead production.⁶ A.B.M.S. totals are exclusive of any estimate for East Germany, 1950-1957, North Korea, 1950-1957. Besides the productions tabulated above, there are small productions in Brazil, Ecuador, Guatemala, Bulgaria, Hungary, Norway, Portugal and several other countries.

Zinc

Zinc production is calculated as the refined zinc recovered from domestic ores at Canadian smelters, plus the recoverable zinc in ores and concentrates shipped for export. The quantity arrived at in this way is valued at the average price in Canadian dollars for Grade A electrolytic zinc.

New zinc in all forms produced in 1957 amounted to 413,741 short tons valued at \$100,042,533 compared with 422,632 tons valued at \$125,437,344 in 1956. Refined zinc output, including zinc refined from foreign ores, amounted to 247,316 tons in 1957 and 255,564 tons in 1956.

Zinc concentrates from Buchans Mines in Newfoundland, and from Heath Steele Mines in New

Brunswick were exported for treatment. In Quebec zinc concentrates were produced from ores classified as copper-gold-silver, of the East Sullivan, Quemont, Normetal, Weedon Pyrite and Waite Amulet mines. Other zinc producers were classified as lead-zinc mines. Ontario shippers included Jardun, Geco and Willroy.

The zinc concentrates produced in eastern Canada were exported for treatment. The Hudson Bay Mining and Smelting Company's refinery at Flin Flon, Manitoba, treated ores from the Flin Flon mines. A large portion of the zinc ores mined in British Columbia were treated in the smelter at Trail. Ores from the Mayo district in the Yukon were sent to Trail, British Columbia, and to the United States for refining.

TABLE 26. Production¹ of Zinc From All Types of Canadian Ores, 1948-1957

Year	Tons	Value	Average price per pound (Canadian funds)	Year	Tons	Value	Average price per pound (Canadian funds)
		\$	¢			\$	¢
1948	234,164	65,237,956	13.93	1953	401,762	96,101,386	11.96
1949	288,262	76,372,147	13.25	1954	376,491	90,207,285	11.98
1950	313,227	98,040,145	15.65	1955	433,357	118,306,466	13.65
1951	341,112	135,762,643	19.90	1956	422,332	125,437,344	14.84
1952	371,302	129,833,285	17.46	1957	413,741	100,042,533	12.09

¹ Refined zinc made in Canada, plus recoverable zinc in ores, etc., exported.

TABLE 27. Production of Zinc, by Months, 1956 and 1957

Month	Primary zinc in all forms		Refined zinc ¹	
	1956	1957	1956	1957
	tons (2,000 pounds)			
January	37,570	32,470	21,696	20,340
February	35,547	30,996	20,356	19,808
March	36,752	35,281	22,010	21,941
April	35,295	33,457	21,339	20,504
May	35,387	24,196	21,790	20,564
June	36,087	33,099	20,780	19,928
July	37,329	33,190	21,691	20,061
August	35,430	35,169	21,354	20,305
September	32,858	34,154	20,691	20,247
October	35,615	36,782	21,412	20,892
November	31,618	36,413	20,470	20,933
December	33,045	38,534	21,975	21,793
Total	422,633	413,741	255,564	247,316

¹ Includes zinc refined from foreign ores.

TABLE 28. Zinc Production According to Types of Ores, by Provinces, 1956 and 1957

Year and province	Recovered from copper-gold- silver ores	Recovered from silver-lead-zinc and other ores	Total	Value
	tons (2,000 pounds)			\$
1956				
Newfoundland	—	34,680	34,680	10,293,055
Nova Scotia	—	2,088	2,088	619,841
New Brunswick	—	531	531	157,460
Quebec	43,156	42,817	85,973	25,516,714
Ontario	—	1,227	1,227	364,218
Manitoba	17,904	—	17,904	5,313,968
Saskatchewan	45,380	—	45,380	13,468,767
British Columbia	7,945	216,378	224,323	66,579,127
Yukon	—	10,526	10,526	3,124,194
Canada	114,385	308,247	422,632	125,437,344
1957				
Newfoundland	—	35,698	35,698	8,631,847
Nova Scotia	—	—	—	—
New Brunswick	3,314	—	3,314	801,260
Quebec	37,072	37,223	74,295	17,964,469
Ontario	3,521	7,775	11,296	2,731,334
Manitoba	13,729	—	13,729	3,319,758
Saskatchewan	45,070	—	45,070	10,897,967
British Columbia	8,582	213,197	221,779	53,626,157
Yukon	—	8,560	8,560	2,069,741
Canada	111,288	302,453	413,741	100,042,533

TABLE 29. Imports and Exports of Zinc, 1956 and 1957

	1956		1957	
	Tons	Value \$	Tons	Value \$
Imports:				
Zinc dust	491	154,031	676	204,227
Zinc in blocks, pigs, bars and rods and zinc plates, n.o.p.	76	42,934	43	18,234
Zinc in sheets and strips, and zinc plates for marine boilers ..	1,615	765,392	1,490	693,907
Zinc slugs for dry batteries .....	...	317,595	...	194,965
Zinc white (zinc oxide)	629	174,792	718	196,671
Zinc sulphate	1,189	117,403	1,532	139,128
Zinc chloride	257	52,784	162	34,499
Zinc, manufactures of, n.o.p. ....	...	2,464,058	...	2,342,493
Lithopone	2,295	348,267	1,365	197,418
Exports:				
Zinc, manufactures of .....	...	221,441	...	196,910
Zinc contained in ore	199,323	26,484,600	187,141	20,790,076
Zinc, scrap, dross and ashes	5,466	512,854	5,357	649,996
Zinc, slab or cake	183,728	47,013,213	202,007	43,481,140
Zinc oxide	535	142,505	1,035	274,213

TABLE 30. Production, Exports and Domestic Consumption of Refined Zinc, 1948-1957

Year	Production	Domestic consumption	Exports	Stocks ¹ at end of period
	tons (2,000 pounds)			
1948	196,575	46,899	147,454	13,849
1949	206,045	45,669	159,353	12,101
1950	204,367	54,370	148,205	13,048
1951	218,578	61,023	152,661	18,742
1952	222,200	51,581	166,864	25,116
1953	250,961	50,717	158,388	60,959
1954	213,775	46,735	206,038	22,349
1955	256,542	58,062	213,837	17,745
1956	255,564	61,173	183,728	21,461
1957	247,316	52,714	202,007	19,616

¹ Producers' and consumers' stocks.

TABLE 31. Consumption of Refined Zinc¹, By End-uses, 1954-1957

Use	1954	1955	1956	1957
	tons			
Brasses	6,706	9,277	7,698	6,678
Galvanizing	24,333	27,876	33,235	26,582
Die castings	6,696	10,759	9,160	8,517
Zinc oxide	7,154	7,050	7,494	7,779
Zinc sheet	942	1,078	1,285	1,135
Miscellaneous	904	2,022	2,301	2,023
Total accounted for	46,735	58,062	61,173	52,714

¹ Secondary zinc is not included.

TABLE 32. World Production of Zinc Ore, by Countries

(From the Annual Report of the American Bureau of Metal Statistics)

In tons of 2,000 pounds of zinc content, either by assay or estimated as recoverable

Country	1953	1954	1955	1956	1957
United States ^{1 2}	547,430	473,471	514,671	542,340	520,128
Canada ^{1 3}	401,762	376,491	433,357	422,633	409,528
Mexico ⁴	249,715	246,638	296,959	274,348	267,889
Greenland	—	—	—	9,542	14,846
Total North America	1,198,907	1,096,600	1,244,987	1,248,863	1,212,391
Argentina ⁴	17,735	20,852	23,401	26,370	32,400
Bolivia ⁵	26,427	22,485	23,509	18,818	21,678
Peru ⁴	151,759	172,631	183,072	193,038	173,756
Total South America	195,921	215,968	229,982	238,226	227,834
Austria ⁴	4,826	5,140	5,787	5,868	6,334
Finland	3,555	4,964	23,337	42,738	47,404
France ⁴	10,128	9,259	9,921	11,475	11,299
Germany ⁴	100,579	103,877	101,557	101,897	104,014
Greece ¹	12,327	5,506	7,600	9,863	10,169
Italy ¹	90,270	110,759	110,738	115,534	122,159
Norway ⁴	5,661	5,917	7,411	7,007	7,606
Poland ⁷	121,000	132,000	154,500	143,500	124,500
Spain ⁴	89,532	92,054	98,737	90,981	86,270
Sweden ⁴	49,706	64,406	64,812	72,796	74,524
Yugoslavia	66,106	63,052	65,835	63,425	64,032
Other Europe ⁸	3,500	4,000	5,300	3,700	2,600
Total Europe	566,190	600,934	655,535	668,784	660,911
Burma	4,756	7,112	9,156	8,035	10,154
India	2,650	2,493	2,942	4,161	4,517
Philippines	823	—	—	1,047	3,333
Japan ⁴	105,891	120,579	119,786	135,198	148,739
Other Asia	500	600	1,000	2,000	2,500
Total Asia	114,620	130,784	132,884	150,441	166,243
Algeria ⁴	20,976	31,538	35,981	35,702	31,483
Belgian Congo ⁴	138,665	92,925	74,700	129,549	114,628
French Equatorial Africa ⁴	—	—	—	—	—
French Morocco ⁴	38,895	37,908	47,685	46,549	53,864
Northern Rhodesia ⁴	39,023	34,811	34,262	34,322	36,319
South West Africa ¹	14,672	17,939	18,612	20,458	16,663
Tunisia ⁴	4,022	5,707	5,725	5,200	3,914
Total Africa	256,253	220,828	216,965	271,780	256,871
Australia ¹	223,004	237,701	241,376	261,620	274,225
Russia	233,500	250,000	300,000	336,000	375,000
Total, as reported	2,788,395	2,732,815	3,021,729	3,175,714	3,173,475

¹ Calculated as recoverable.

² U.S. Bureau of Mines.

³ Dominion Bureau of Statistics.

⁴ Calculated as zinc content by assay.

⁵ Exports

⁶ Federal Republic of Germany. In addition, production from pyrites, estimated in recent years to be about 35,000 tons.

⁷ Smelter production.

⁸ No estimates have been made for Soviet sphere countries.

Note: Estimates for Russia and to some extent countries grouped under "Other" have been based on U.S.B.M. and other publications.

Cadmium

Cadmium is recovered from the silver-lead-zinc ores treated by the smelter of the Consolidated Mining and Smelting Company of Canada Limited, Trail, British Columbia, and from the copper-gold-zinc ores processed at the smelter of the Hudson Bay Mining and Smelting Company Limited, Flin

Flon, Manitoba. Production in 1957 was 2,368,130 pounds compared with 2,339,421 pounds in the preceding year. These figures include recoverable cadmium in exported concentrates, but do not include cadmium recovered in Canada from foreign ores.

TABLE 33. Production of Cadmium in All Forms, From Canadian Ores, 1948 - 1957

Year	From copper-gold-silver-zinc ores	From silver-lead-zinc ores	Total
1948	148,864	617,228	766,090
1949	181,092	665,449	846,541
1950	141,456	706,950	848,406
1951	147,168	1,179,752	1,326,920
1952	205,911	742,676	948,587
1953	157,997	960,288	1,118,285
1954	154,596	932,184	1,086,780
1955	191,691	1,727,390	1,919,081
1956	208,327	2,131,094	2,339,421
1957	286,044	2,082,086	2,368,130

TABLE 34. Production, Exports and Domestic Consumption of Cadmium Metal, 1948 - 1957

Year	Production	Domestic consumption	Exports
1948	383	92	275
1949	423	113	279
1950	419 ¹	116	349
1951	633 ¹	146	460
1952	410 ¹	116	310
1953	489 ¹	133	485
1954	529 ¹	113	392
1955	857 ¹	174	694
1956	966 ¹	144	827
1957	1,009 ¹	117	971

¹ Includes cadmium recovered from foreign ores.

(b) The Silver-Cobalt Mining Industry

The silver-cobalt mining industry is centered in the Temiskaming district in Ontario. Mining started in the Cobalt area early in this century when the silver discovery was made during the construction of a railway.

The average number of persons employed in the industry was 598 to whom \$2,209,805 were paid as salaries and wages. Fuel cost \$120,460 and 18,976,630 kwh. of electricity were purchased for \$136,234. Process supplies used were valued at \$353,026.

TABLE 35. Principal Statistics of the Silver-Cobalt Mining Industry, Significant Years, 1921-1957

Year	Estab- lish- ments ¹	Em- ployees	Salaries and wages	Cost of fuel and electricity at plant	Cost at plant of process supplies	Gross value of products	Net value added ²
	number		dollars				
1921	39	1,224	1,739,706	448,897	..	6,316,812	..
1929	32	1,149	1,532,333	407,352	..	3,918,316	..
1931	26	786	1,149,689	227,467	..	1,925,593	..
1933	14	242	322,281	83,565	..	1,071,602	..
1937	25	300	394,386	90,134	116,455	853,386	540,762
1939	43	323	412,728	63,486	105,500	890,128	653,032
1941	14	182	229,984	40,875	59,761	788,815	662,443
1944	11	165	260,575	48,323	35,809	422,860	323,260
1946	11	247	404,012	58,712	48,932	325,846	207,483
1949	18	264	607,782	82,735	127,661	922,881	503,572
1951	20	514	1,406,783	148,661	299,084	4,539,842	3,640,343
1953	13	739	2,204,274	301,297	428,963	4,623,407	3,235,891
1954	15	808	2,614,266	273,024	466,390	5,294,499	4,103,256
1955	14	762	2,598,437	264,015	470,270	5,534,895	4,350,174
1956	15	694	2,415,545	252,055	339,787	4,563,402	3,502,093
1957	12	598	2,209,805	256,694	353,026	4,314,088	3,105,688

¹ Includes lessees shipping from dumps.

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

TABLE 36. Summary¹ of Operations of Silver-Cobalt Mines and Mills, 1955-1957

	1955	1956	1957
Ore mined	302,821	205,013	186,294
Ore salvaged from surface ²	17,447	19,801	12,182
Ore and tailings treated (milled) ³	290,813	224,408	333,227
Concentrates produced	9,481	7,632	8,089

¹ Partly estimated as data are unobtainable from some small shippers.

² Complete data not available.

³ Does not include crude ore shipped.

TABLE 37. Mine and Mill Shipments of Canadian Silver-Cobalt Ores and Concentrates, 1956 and 1957

	Gross weight	Metal content			
		Silver	Cobalt	Nickel	Copper
	tons	ounces		pounds	
1956					
To Canadian smelters and to the government stockpile at Deloro, Ontario	8,078	4,132,272	823,289	200,009	524,499
To foreign plants	91	2,315	16,007	2,878	5,329
Total	8,169	4,134,587	839,296	202,887	529,828
1957					
To Canadian smelters and to the government stockpile at Deloro, Ontario	6,936	4,369,465	566,211	140,255	428,312
To foreign plants	—	—	—	—	—
Total	6,936	4,369,465	566,211	140,255	428,312

TABLE 38. Employees and Earnings in the Silver-Cobalt Mining Industry, 1953 - 1957

Year	Administrative		Workmen		Total employees	Man-hours worked	Earnings		Total earnings
	Male	Female	Male	Female			Administrative	Workmen	
	number				dollars				
1953	81	9	644	5	739	1,554,897	286,506	1,918,128	2,204,274
1954	113	15	677	3	808	1,772,748	363,338	2,250,928	2,614,266
1955	92	7	658	5	762	1,706,610	424,348	2,174,089	2,598,437
1956	98	7	584	5	694	1,513,615	445,119	1,970,426	2,415,545
1957	80	6	509	3	598	1,345,546	397,066	1,812,739	2,209,805

TABLE 39. Number of Workmen on the Payroll at End of the Month in the Silver-Cobalt Mining Industry, 1956 and 1957

Month	1956					1957				
	Mine			Mill	Total	Mine			Mill	Total
	Surface		Under-ground			Surface		Under-ground		
	Male	Female	Male	Male	Male	Female	Male	Male		
January	110	5	382	94	591	194	4	290	65	553
February	117	5	370	97	589	188	3	283	67	541
March	121	5	357	99	582	180	3	256	60	499
April	129	5	349	103	586	182	3	257	46	488
May	133	5	329	112	579	179	3	238	54	474
June	128	5	365	113	611	176	3	235	56	470
July	116	6	373	123	618	181	3	249	89	522
August	124	7	345	97	573	180	3	264	88	535
September	126	5	321	89	541	178	3	241	89	511
October	129	6	351	85	571	176	3	240	88	507
November	131	6	370	88	595	175	3	238	85	501
December	120	5	379	82	586	175	3	247	77	502
Average	127	5	359	98	589	181	3	256	72	512
Man-hours of labour					1,287,582					1,154,227

TABLE 40. Fuel and Electricity used in the Silver-Cobalt Mining Industry, 1957

Kind	Quantity	Cost at plant
		\$
Bituminous coal (a) From Canadian mines	short ton	-
(b) Imported	"	1,372
Sub-bituminous coal (from Alberta mines only)	"	-
Anthracite coal	"	616
Lignite coal	"	-
Coke (for fuel only)	"	-
Gasoline, (includes gasoline used in cars and trucks)	Imp. gal.	54,640
Kerosene or coal oil	"	25
Fuel oil	"	67,547
Wood (cords of 128 cubic feet of piled wood)	cord	95
Gas (a) Liquefied petroleum gases (propane, etc.)	Imp. gal.	1,345
(b) Other manufactured gas	M cu. ft.	-
(c) Natural gas	"	-
Other fuel	"	-
Electricity purchased for power and lighting	kwh.	18,976,630
Electricity purchased for other purposes	"	-
Total	-	256,694
Electricity generated (a) For own use	kwh.	-
(b) For sale	"	-

TABLE 41. Specified Miscellaneous Expenditures by the Silver-Cobalt Mining Industry, 1954 - 1957

	1954	1955	1956	1957
	dollars			
Workmen's compensation.....	73,837	67,112	60,927	59,434
Silicosis assessment	49,564	51,743	52,824	54,434
Unemployment insurance	17,680	21,146	16,977	16,372
Aggregate cost of all supplies purchased	1,500,105	1,191,439	1,098,192	1,243,454
Aggregate cost of plant equipment purchased	349,594	163,733	132,128	219,332
Cost of buildings, machinery and equipment erected or installed during the year	447,022	344,525	342,997	475,222

TABLE 42. Estimated Capital and Repair Expenditures, 1953- 1957

Year	Capital expenditures			Repair expenditures			Capital and repair expenditures		
	Construction	Machinery	Total	Construction	Machinery	Total	Construction	Machinery	Total
	thousands of dollars								
1953	532	138	670	164	180	344	696	318	1,014
1954	904	¹	932	122	139	261	1,026	...	1,193
1955 .....	...	...	635	147	...	...	...	...	782
1956	1,121	108	1,229	119	117	236	1,240	225	1,465
1957 ²	1,146	...	1,146	159	130	289	1,305	130	1,435

¹ Less than \$100 thousand.² Preliminary estimates.

Cobalt

Ores from the cobalt area were treated by Deloro Smelting and Refining Co. Ltd., which produced metallic cobalt and cobalt compounds at Deloro, Ontario. At Port Colborne the International Nickel Company of Canada produced electrolytic cobalt in addition to the production of cobalt oxide

from the nickel-copper ores of the Sudbury area. Cobalt is recovered from the nickel-copper matte shipped to Norway by the Falconbridge Nickel Mines Ltd. Cobalt was recovered from the nickel-copper ores from Lynn Lake, Manitoba, by Sherritt-Gordon Mines Ltd. at the firm's refinery in Alberta.

Arsenic

Data on arsenious oxide formerly included in this bulletin are now given in the report on the Miscellaneous Non-metal Mining Industry.

TABLE 43. Production of Cobalt from Canadian Ores, 1948 - 1957

Year	Quantity	Value	Year	Quantity	Value
	pounds	\$		pounds	\$
1948 ¹	1,544,852	2,029,178	1953	1,602,545	4,013,077
1949	619,065	952,469	1954	2,252,965	5,912,997
1950	583,806	964,003	1955	3,318,637	8,563,700
1951	951,607	1,999,612	1956	3,516,670	9,065,493
1952	1,421,923	3,226,903	1957	3,922,649	7,784,423

¹ Includes shipments from stockpiled ores which were mined earlier years.

TABLE 44. Production of Cobalt from Canadian Ores, Imports and Exports, 1956 and 1957

	1956		1957	
	Quantity	Value	Quantity	Value
	pounds	\$	pounds	\$
Production: (Interms of metallic cobalt and cobalt in oxides and salts sold and in ores exported)	3,516,670	9,065,493	3,922,649	7,784,423
Imports:				
Cobalt ore	1,900	1,031	800	563
Oxide of cobalt	11,353	27,125	10,340	19,594
Exports:				
Cobalt contained in ore	16,000	15,092	15,100	16,477
Cobalt, metallic	1,432,884	3,546,025	2,155,742	4,102,211
Cobalt alloys	11,343	40,086	12,400	53,820
Cobalt oxides and cobalt salts	1,289,145	2,315,141	620,042	1,102,902

TABLE 45. World Production of Cobalt

(From the Annual Report of the American Bureau of Metal Statistics)

Country	1953	1954	1955	1956	1957
	pounds				
Canada ¹	1,602,545	2,252,965	3,318,637	3,516,670	3,736,178
Northern Rhodesia ²	1,032,640	940,800	1,510,000	2,410,000	3,166,000
Belgian Congo ²	18,249,679	18,979,401	18,836,808	20,037,609	1,789,033
French Morocco ³	1,327,169	1,622,586	1,671,087	1,419,762	992,070
United States ³	1,258,924	1,996,488	2,609,000	3,595,028	4,137,297

¹ Metal recovered from smelter products, plus cobalt contained in cobalt residues exported.² Cobalt content of alloys.³ Content of ore.

Principal Operators in the Silver-Lead-Zinc Mining Industry, 1957

Name of operator	Head office address	Location of mine
Newfoundland:		
Buchans Mining Co. Ltd.	Water St., St. John's	Buchans
Nova Scotia:		
Big Glen Mines Ltd.	25 King St. W., Toronto, Ontario	Cape Breton
Cape Breton Metals Ltd.	25 Adelaide St. W., Toronto, Ontario	Cape Breton
Dawmac Mining and Oils Ltd.	1519 Pine Ave. W., Montreal, Quebec	Cobequid
Mina-Nova Mines Ltd.	217 Bay St., Toronto, Ontario	Boisdale Hills
New Brunswick:		
Anacon Lead Mines Ltd.	330 Bay St., Toronto, Ontario	Bathurst (New Larder "U")
American Metal Co. Ltd.	25 Adelaide St. W., Toronto, Ontario	Newcastle
Astrabrun Mines Ltd.	44 King St. W., Toronto, Ontario	Nepisquit River
Asarco Exploration Co. of Can. Ltd.	King & Yonge Sts., Toronto, Ontario	Nine Mile Brook
Brunhurst Mines Ltd.	100 Adelaide St. W., Toronto, Ontario	Bathurst
Brunswick Mining and Smelting Corp. Ltd.	Box 260, Bathurst	Gloucester Co.

Principal Operators in the Silver-Lead-Zinc Mining Industry, 1957 - Continued

Name of operator	Head office address	Location of mine
New Brunswick - Concluded:		
Celta Development and Mining Co. Ltd.	465 St. John St., Montreal, Quebec	Gloucester Co.
Conlagas Mines, Ltd.	330 Bay St., Toronto, Ontario	Little River
Conwest Exploration Co. Ltd.	Spencerville, Ontario	Bathurst
Coulee Lead and Zinc Mines Ltd.	67 Yonge St., Toronto, Ontario	Bathurst
Dominion Gulf Co.	Box 2038, Pittsburgh 30, Pa., U.S.A.	Bathurst
Fab Metal Mines Ltd.	25 Adelaide St. W., Toronto, Ontario	Gloucester Co.
Glenbuck Mines Ltd.	357 Bay St., Toronto, Ontario	Northesk
Glencona Mining Co. Ltd.	132 St. James St. W., Montreal, Quebec	Point Roche
Headway Red Lake Gold Mines Ltd.	67 Yonge St., Toronto, Ontario	Bathurst
Joburke Gold Mines Ltd.	357 Bay St., Toronto, Ontario	Bathurst
Kerronac Mining Co. Ltd.	132 St. James St. W., Montreal, Quebec	Bathurst
Keyboycon Mines Ltd.	330 Bay St., Toronto, Ontario	Bathurst
Nigadvo Mines Ltd.	80 Richmond St. W. Toronto	Robertville
Nudulama Mines Ltd.	330 Bay St., Toronto, Ontario	Bathurst
Nipron Mines Ltd.	302 Bay St., Toronto, Ontario	Bathurst
O'Brien, M.S., Ltd.	900 Victoria Bldg., Ottawa, Ontario	Beresford
Oakwood Mines Ltd.	25 King St. W., Toronto, Ontario	Albert Co.
Rio Canadian Exploration Ltd.	200 Bay St., Toronto, Ontario	Bathurst
Selco Exploration Co. Ltd.	77 York St., Toronto, Ontario	Charlotte
Timmins, N.A., (1938) Ltd.	1010 Canada Cement Bldg., Montreal, Quebec	Northumberland
Titanic Mine Holdings Ltd.	215 St. James St. W., Montreal, Quebec	Gloucester
Quebec:		
Absam Mines Ltd.	465 St. John St., Montreal	Barraute
Anacon Lead Mines Limited	330 Bay St., Toronto, Ontario	Montauban Les Mines
Ascot Metals Corporation Ltd.	P.O. Box 307, Sherbrooke	Moulton Hill
Ajax Petroleum Ltd.	330 9th Ave., W., Calgary	Galinee Twp.
Barvue Mines Ltd.	25 Adelaide St. W., Toronto, Ontario	Barraute Twp.
Barvallee Mines Ltd.	159 ouest, rue Craig, Montreal	Fredmont
Chatelet Mines Ltd.	McWatters	Carpentier Twp.
Conlagas Mines Ltd.	330 Bay St., Toronto	Leseur Twp.
Consolidated Candego Mines Ltd.	1434 Ste. Catherine St. W., Montreal	Marsoui, Gaspé North
Empire Oil & Minerals Inc.	400 St. James St. W., Montreal	Le tac Twp.
English Miner Mineral Exploration	16 Elgin St., Granby.	Gaspé
Federal Metals Corp.	1403 Aldred Bldg., Montreal	Grand Cascapedia
Gaspé Mines	4 ave, de Bernieres, Quebec	Cascapedia River
Jowsey R.J. Mining Co.	302 Bay St., Toronto	Montveil Twp.
East Macdonald Mines Ltd.	1434 Ste. Catherine W. Montreal	Marsoui
Golden Manitou Mines Ltd.	25 Adelaide St. W., Toronto, Ontario	Bourlamaque Twp.
Grandines Mines Ltd.	330 Bay St., Toronto, Ontario	Portneuf
Les Mines Roy Ross Inc.	Rimouske	St. Fabien
MacDonald Mines Ltd.	1434 Ste. Catherine St. W., Montreal	Dufresnoy Twp.
Mattagami Syndicate	12 Richmond St. E., Toronto	Watson Lake
New Calumet Mines Ltd.	355 St. James St., Montreal	Calumet
New Inco Mines Ltd.	355 St. James St., Montreal	Dufresnoy Twp.
Northern Quebec Explorers	309 Edifice Paré, Amos	Lac Mattagami
St. Roberts Metals Corp.	132, ouest rue St-Jacques, Montreal	Risborough Twp.
Swanson Mines Ltd.	215 St. James St. W., Montreal	Roy Twp.
Three Brothers Mining	372 Bay St., Toronto	Bill River
Suffield Metals Corporation Ltd.	P.O. Box 307, Sherbrooke	Ascot
United Montauban Mines Ltd.	330 Bay St., Toronto, Ontario	Montauban Les Mines
Vendome Mines Ltd.	5 St. James St. E., Montreal	Piedmont
West Macdonald Mines Ltd.	1434 Ste. Catherine St. W., Montreal	Dufresnoy
Ontario:		
Consolidated subduy Basin Mines Ltd.	360 Bay St., Toronto	Errington
Jardun Mines Ltd.	Box 1600, Sault Ste. Marie	Jarvis Twp.
McCombe Mining and Exploration Ltd.	330 University Ave., Toronto	Kenora
Willroy Mines Ltd.	25 Adelaide St. Toronto	Manitouwadge
British Columbia:		
American Metal Co. Ltd.	25 Adelaide St. W., Toronto, Ontario	Hope
American Zinc, Lead Smelting Co.	927 Old National Bank, Spokane, Wash, U.S.A.	Nelson
Atlin-Ruffner Mines (B.C.) Ltd.	302 Bay St., Toronto, Ontario	Atlin
Base Metals Mining Corp. Ltd.	62 Richmond St., Toronto, Ontario	Golden, Kaslo
B.C. Metal Mines Ltd.	614 W. Pender St., Vancouver	Lardeau
Beatrice Mining Co. Ltd.	744 W. Hastings St., Vancouver	Revelstoke
Brens River Mines Ltd.	173 Portage Ave., Winnipeg, Manitoba	Fort Steele
Cannoose Mines Ltd.	357 Bay St., Toronto, Ontario	Kamloops

Principal Operators in the Silver-Lead-Zinc Mining Industry, 1957 - Continued

Name of operator	Head office address	Location of mine
British Columbia - Concluded:		
Cassiar Consolidated Mines Ltd.	850 W. Hastings, Vancouver	Stewart
Canadian Exploration Limited	Royal Bank Bldg., Vancouver	Salmo
Carnegie Mines of B.C. Ltd.	1125 Sherbrooke St. W., Montreal, Quebec ..	Slocan
Cooper, J.A.	Kaslo	Kaslo
Cody-Reco Mines Ltd.	330 Bay St., Toronto, Ontario	Slocan
Consolidated Mining and Smelting Co. of Canada Ltd., The	Trail	Kimberley, Riondel, Salmo, Tulsequah
Deer Horn Mines Ltd.	44 King St. W., Toronto, Ontario	Burns Lake
Dumas, F.J.	Ainsworth	Ainsworth
Fairview Mining Co. Ltd.	626 Pender St. W., Vancouver	Osoyoos
F.C.L. Mines Ltd.	Louis Creek	Kamloops
Gallo, John	Hazelton	Omineca
Great North Mining Co. Ltd.	789 W. Pender St., Vancouver	Portland Canal
Giant Mascot Mines Ltd.	908 Royal Bank Bldg., Vancouver	Spillimachien
Hayes, D.I.	Spokane, Wash., U.S.A.	Nelson
Highland-Bell Limited	789 W. Pender St., Vancouver	Greenwood
Isaacs and Pittman	Box 3651, Kaslo	Slocan
Jardine, J.A.	Kaslo	Kaslo
Jackson Basin Mining Co. Ltd.	413 Granville St., Vancouver	Slocan
Johnson, Cory	New Denver	Slocan
King Crest Mines Ltd.	736 Granville St., Vancouver	Creston
Kelowna Mines Headley Ltd.	Hedley	Sandon
Kootenay Belle Gold Mines Ltd.	916 Stock Exchange Bldg., Vancouver	Slocan, Ainsworth
Kootenay Exploration Ltd.	425 Baker St., Nelson	Kinbasket Lake
Kootenay Base Metals Ltd.	525 Seymour St., Vancouver	Fort Steele
Lane, W.E.	Ainsworth	Ainsworth
Luning, S.A.	311 Douglas Bldg., Seattle, Wash., U.S.A. ..	Slocan
Magnuson Mines Ltd.	629 Spokane St., Trail	Fruitvale
MacDonald and Laib	Bayonne	Nelson
McCreedy, G.E.	Kelso	Ainsworth
McVicar Mining Co. Ltd.	475 Howe St., Vancouver	Squamish
Mills, Pengelly and Cooper	Silverton	Slocan
McCreary and Gibbs	Box 375, New Denver	Slocan
Mollie Mac Mines Ltd.	850 W. Hastings, Vancouver	Revelstoke
Merrel & Lyon	Silverton	Slocan
Newmont Mining Corp. of Can. Ltd.	173 Portage Ave., Winnipeg, Manitoba	Cariboo
Nicholson Creek Mining Corp.	Seattle, Wash., U.S.A.	Usk
New Cronin Babine Mines Ltd.	572 Howe St., Vancouver	Smithers
New Jersey Zinc Explorations Ltd.	525 Seymour St., Vancouver	Nelson
New Arlington Mines Ltd.	Box 387, Nelson	Nelson
Noonday Mine	Nelson	Slocan
Norcross & Endersley	Nelson	Ainsworth
Noranda Exploration Co. Ltd.	Noranda, Quebec	Alberni
Northwestern Exploration Ltd.	25 King St. W., Toronto, Ontario	Fort Steele
Paycheck Mining and Development Co. Ltd.	302 Baker St., Nelson	Lightning Peak
Pacific Mining Services Ltd.	844 W. Hastings St., Vancouver	Nelson
Petersen, E.H. & H.A.	Sandon	Slocan
Pioneer Gold Mines of B.C. Ltd.	525 Seymour St., Vancouver	Ainsworth
Plateau Metals Ltd.	525 Seymour St., Vancouver	Kamloops
Reeves MacDonald Mines Ltd.	413 Granville St., Vancouver	Nelson
Renata Group	Box 353, Castlegar	Trail Creek
Rose Mining Corp.	850 W. Hastings St., Vancouver	Lytton
Sheep Creek Mines Ltd.	490 Baker St., Nelson	Invermere
Silbak Premier Mines Ltd.	572 Howe St., Vancouver	Skeena
Sil-Van Consolidated Mining & Milling Ltd.	602 West Hastings St., Vancouver	Omineca
Silver Standard Mines Ltd.	702 West Hastings St., Vancouver	Omineca
Silver Ridge Mining Co. Ltd.	373 Baker St., Nelson	Sandon
Slocan Van Roi Mines Ltd.	1158 Melville St., Vancouver	Silverton
Skeena Silver Mines Ltd.	850 West Hastings St., Vancouver	Skeena Crossing
Sunshine Lardeau Mines Ltd.	744 West Hastings St., Vancouver	Revelstoke
Torbrit Silver Mines Ltd.	44 King St. W., Toronto 1, Ontario	Portland Canal
Trojan Exploration Ltd.	25 Adelaide St. W., Toronto, Ontario	Kamloops
Thickett, Archibald & Bolsvert	Slocan City	12 Mile Creek
Utica Mines (1937) Ltd.	413 Granville St., Vancouver	Ainsworth
Violamac Mines (B.C.) Ltd.	25 Adelaide St. W., Toronto, Ontario	Slocan
Vancouver Island Base Metals Ltd.	850 W. Hastings St., Vancouver	Duncan
Vigilante Mine	Ainsworth	Ainsworth
Wanke, E.A., and C. Johnson	Box 61, Greenwood	Greenwood
Western Exploration Co. Ltd.	Silverton	Slocan
Western Mines Ltd.	1768 E. Hastings St., Vancouver	Ainsworth
Yale Lead and Zinc Mines Ltd.	25 Adelaide St. W., Toronto, Ontario	Ainsworth
Yankee Dundee Mines Ltd.	918 Rogers Bldg., Vancouver	Nelson

Principal Operators in the Silver-Lead-Zinc Mining Industry, 1957 - Concluded

Name of operator	Head office address	Location of mine
Northwest Territories:		
Fine Point Mines Ltd.	Yellow Knife	Slave Lake
Yukon:		
United Keno Hill Mines Ltd.	85 Richmond St. W., Toronto, Ontario	Mayo
Galkeno Mines Ltd.	100 Adelaide St. W., Toronto, Ontario	Mayo

List of Operators in the Silver-Cobalt Mining Industry, 1957

Name of operator	Head office address	Location of mine
Quebec:		
Quebec Cobalt and Exploration Ltd.	88 Metcalfe St., Ottawa, Ontario	Basin of Pekans
Touton Mining & Exploration Co. Ltd.	Fabre Station	Fabre Twp.
Ontario:		
Agnico Mines Ltd.	25 Adelaide St. W., Toronto	Bucke Twp.
Eig Agaunico Mines Ltd.	Box 99, Halleybury	Bucke Twp.
Castle-Trethewey Mines Ltd.	25 King St. West, Toronto	O'Brien
Coballoy Mines & Refiners	719 Yonge St., Toronto	Coleman Twp.
Cotley Mines Ltd.	Drawer 369, Halleybury	Elk Lake
Hamason Mines Ltd.	65 Macpherson Ave., Toronto	Ingram Twp.
Harrison Minerals Ltd.	145 Yonge St., Toronto	Bucke Twp.
Langis Silver & Cobalt Mining Co. Ltd.	265 Craig St. W., Montreal, Quebec	New Liskeard
Mayfair Mines Ltd.	331 Bay St., Toronto	Coleman Twp.
McAllister, R.C.	Box 283, Cobalt	Coleman Twp.
Nipissing-O'Brien Mines Ltd.	360 Bay St. W., Toronto	Coleman Twp.
Silver Claim Lake Mines Ltd.	Rexdale P.O., Toronto	Nickle Twp.
Silver Miller Mines Ltd.	357 Bay St. W., Toronto	Coleman Twp.
Siscoe Metals of Ontario Ltd.	Cornwall	Nicol Twp.

Note: in addition to the names listed, there were some small shippers.



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