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DEPARTMENT OF TRADE AND COMMERCE
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PRELIMINARY ESTIMATE OF CANADA'S MINERAL PRODUCTION, 1934.

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A pronounced improvement in Canada's Mining Industry is revealed in the official estimate of mineral production for 1934 published by the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics, at Ottawa.

Gains were general to all groups; metals, fuels, non-metals other than fuels, and structural materials. The most striking increases are to be found among the metals where several new high records of production were established. The value of the Canadian gold output was greater than ever before. Nickel production surpassed 1929, the previous record year. The output of each of the metals - lead, zinc, and copper - also showed records; lead exceeded that of 1928, and copper and zinc the high level of 1930. Production of the metals of the platinum group which occur in association with copper-nickel ores was much larger than any annual Canadian output heretofore recorded.

During the calendar year 1934 the estimated value of Canada's mineral production was \$278,337,000, an increase of 26 per cent on the 1933 value of \$221,495,253. Metals as a group totalled \$192,668,000, an increase of 31 per cent over 1933 and an increase of 25 per cent over the value of the metallic production of 1929, the previous high year. In making this comparison, however, it must be realized that in 1934 gold was valued at \$34.49 per fine ounce as against a valuation in 1929 of \$20.67 but to offset this the prices of base metals were considerably higher in 1929 than in the year under review.

Fuels including coal, natural gas, and crude petroleum were valued at \$54,731,000 as against \$47,778,436 in 1933, an increase of 15 per cent. Coal production increased 17 per cent in quantity and 18 per cent in value; crude petroleum advanced 26 per cent in quantity and 20 per cent in value and natural gas output decreased 5 per cent in quantity and 2 per cent in value.

Non-metallics, other than fuels and including such minerals as asbestos, feldspar, salt, gypsum, sodium sulphate, etc., increased 6 per cent from \$10,004,537 to \$10,557,000.

Structural materials which include cement, lime, clay products, stone and sand and gravel advanced 22 per cent from \$16,696,687 to \$20,361,000.

OFFICIAL ESTIMATE OF THE MINERAL PRODUCTION OF CANADA, 1934, WITH COMPARATIVE FIGURES
FOR 1933.

	1 9 3 3		1 9 3 4	
	Quantity	Value	Quantity	Value
		\$		\$
<u>METALS</u>				
Gold (valued at standard rate) fine oz.	2,949,309	60,967,626	2,964,395	61,279,000
Estimated exchange equalization on gold produced ..... \$	...	23,382,611	...	40,963,000
Silver fine oz.	15,187,950	5,746,027	16,350,029	7,764,000
Nickel lb.	83,264,658	20,130,480	130,346,400	30,674,000
Copper lb.	299,982,448	21,634,853	367,054,472	26,881,000
Lead lb.	266,475,191	6,372,998	342,811,000	8,357,000
Zinc lb.	199,131,984	6,393,132	300,747,113	9,169,000
Other metals including cobalt, bismuth, arsenic, platinum and palladium, cadmium, selenium, radium and uranium, and titanium ..... \$	...	2,387,866	...	7,581,000
Total Metals ..... \$	...	147,015,593	...	192,668,000
<u>NON-METALS</u>				
<u>Fuels</u>				
Coal ton	11,903,344	35,923,962	13,891,138	42,432,000
Natural gas M cu.ft.	23,138,103	8,712,234	22,025,000	8,524,000
Peat ton	1,131	3,449	492	1,000
Petroleum, crude brl.	1,145,333	3,138,791	1,440,200	3,774,000
Total Fuels ..... \$	...	47,778,436	...	54,731,000
<u>Other Non-Metals</u>				
Asbestos ton	158,367	5,211,177	160,056	4,927,000
Feldspar ton	10,658	105,117	14,941	120,000
Gypsum ton	382,736	675,822	462,433	817,000
Mica ton	944	49,284	746	102,000
Quartz ton	185,783	297,820	251,483	492,000
Salt ton	280,115	1,939,874	318,487	2,015,000
Sodium sulphate -	...	485,416	...	519,000
Sulphur (x) ton	57,373	510,299	81,343	671,000
Talc and soapstone -	...	190,836	...	180,000
Other non-metals --	...	538,892	...	734,000
Total Other Non-Metals ..... \$	...	10,004,537	...	10,577,000
Total Fuels and Other Non-Metals ..... \$	...	57,782,973	...	65,308,000
<u>CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS</u>				
Clay products (brick, tile, sewer pipe, pottery, etc.) \$	...	2,262,835	...	2,385,000
Cement brl.	3,007,432	4,536,935	3,773,979	5,729,000
Lime ton	323,540	2,432,306	410,000	3,204,000
Stone and sand and gravel ..... \$	...	7,464,611	...	9,043,000
Total Clay Products and Other Structural Materials ..... \$	...	16,696,687	...	20,361,000
GRAND TOTAL ..... \$	...	221,495,253	...	278,337,000

(x) In sulphuric acid made and in pyrites shipped.

METALS

GOLD - Gold production in 1934 amounted to 2,964,395 fine ounces, a slight increase from the 1933 output but the value, in Canadian funds, rose to \$102,242,000 as compared with the 1933 value of \$84,350,237. The average price of gold in Canada during 1934 was \$34.49 per fine ounce as against an average of \$28.60 for the preceding year. This increase in price in 1934 resulted in some of the larger mines feeding ore of lower grade to their mills, and was reflected in the half-yearly figures of output when the quantity produced was 1 per cent lower than during the first six months of 1933, but towards the end of 1934 new mills coming into production compensated the reduction in output from the older properties.

The more outstanding events associated with the recent rise in the price of gold include the suspension of specie payments by the United Kingdom on September 21, 1931; the direct control and licensing of Canadian gold exports by the Government; the purchase by the Government of all new gold bullion produced in the Dominion, with the payment to the miner of equalization exchange; the departure of the United States from the gold standard on April 19, 1933, and the announcement on January 31, 1934, by President Roosevelt, that thereafter the United States Treasury would purchase gold from any quarter at \$35.00 per fine ounce. Legislation passed by the Canadian Government on June 15, 1934, provides for a levy of 25 per cent on the premium value of gold deposited for sale at the Royal Canadian Mint produced from ore mined in Canada. It is provided, however, that the tax shall not operate to reduce the amount received by the depositor for gold below \$30 per ounce and is not applicable to mines which have not paid dividends continuously since 1933; deductions for income tax are allowed.

Prospecting for gold deposits was most active throughout the year. In the vicinity of the older and well established camps prospects which lay dormant for years were revived, and promising new areas were investigated in different parts of Canada. Gold mining in Nova Scotia was more active than for a long time. Quebec production showed a slight increase and developments were widespread throughout the northwestern part of the province. Noranda, primarily a copper mine, is now Quebec's largest producer of gold; other operators included the Siscoe, Green-Stabell, Beattie, Granada, Bussieres, O'Brien-Cadillac, McWatters and Sullivan, the last two coming into production in 1934 for the first time. It was also announced a mill would be built at the Arntfield.

Ontario produced over 71 per cent of the total gold output of the Dominion. The quantity of gold produced was less than in the preceding year due, as previously mentioned, to the mining of lower grade ore by some of the larger companies, but the most important feature to note is the development and bringing to the production stage of new mines in widely separated parts of northwestern Ontario. The Central Patricia, Casey Summit, and J. M. Consolidated, all in the Patricia district, came into production for the first time. McKenzie-Red Lake commenced the construction of a mill in the Red Lake district. Other mills reaching production in 1934 included those of the North Shore Gold Mines near Schreiber and the Munro-Croesus in the Beatty-Munro area. Shipments of gold-bearing ores were reported from Cameron Island mine, Shoal Lake, the Moffat Hall in the Kirkland Lake camp, and the Dikdik in the Thunder Bay district. The Hollinger Consolidated carried on important investigations in Hislop Township and completed and put into operation a mill at the Young-Davidson. In the Sudbury area McMillan Gold Mines Ltd. commenced milling and the first gold brick from the ores of the Little Long Lac mine was poured on December 17. During the summer of 1934 a gold rush of old time proportions followed sensational reports of a rich gold strike in the Sturgeon river field.

The combined gold output of Manitoba and Saskatchewan was greater than in 1933; mining and milling were continuous at the Central Manitoba and San Antonio mines and many promising properties are undergoing development and exploration. A considerable proportion of the gold production from these provinces comes from the copper-zinc deposit of the Flin Flon mine which is located on the border of Manitoba and Saskatchewan.

Gold production in British Columbia totalled 287,173 fine ounces in 1934 as against 238,995 fine ounces in the preceding year. As in other parts of Canada prospecting and development of auriferous properties was most active. The Premier in the Portland Canal area and the Pioneer and Bralorne mines in the Bridge River district are the three largest producers in the province; the Cariboo Gold Quartz operated continuously. Investigations into the gold-bearing arsenopyrite ores of the Hedley district of the Similkameen have been carried on throughout the summer and the leasing of the old Rossland properties by the Consolidated Mining and

Smelting Company to old-timers has resulted in reviving that historic camp and provided work and wages for many.

Yukon production at 40,000 fine ounces stood about the same as in the preceding year, and the option of a group of gold claims by a large eastern operator should result in considerable activity in lode mining in this district during the coming summer.

SILVER - Silver production at 16,350,029 fine ounces valued at \$7,764,000 increased 8 per cent in quantity and 35 per cent in value. The price of silver rose steadily from a monthly average of 44.39405 cents per fine ounce in January to 52.956 cents in November, the average price for the year being 47.4882 cents as against 37,8328 cents in 1933.

The first step toward implementing the International Silver Purchases Agreement was taken in 1934 when the Minister of Finance called for tenders as of August 20th for the delivery of silver bullion up to an amount of 250,000 ounces. It is understood that at the end of the year the Canadian Government will have purchased or committed for their full quota for 1934.

The chief sources of silver in Canada are the silver-lead-zinc ores of British Columbia, and the silver-cobalt ores of Ontario, though considerable amounts are recovered as a by-product in the mining of gold, copper and copper-nickel ores. British Columbia production in 1934 from all sources totalled 8,729,825 fine ounces as compared with 6,737,057 fine ounces in 1933. Production from Ontario mines amounted to 5,213,027 fine ounces as against 4,535,680 in 1933. Quebec output was close to the half-million ounce mark; Manitoba and Saskatchewan combined accounted for slightly over 1,300,000 ounces and the Yukon and North West Territories produced over 614,000 fine ounces.

COPPER - Copper output at 367,054,472 pounds was a record and exceeded 1930, the previous high year, by 21 per cent. The value of the year's production totalled \$26,881,000 as against a value in 1930 of \$37,948,359. The average price of copper in 1934 was 7.4302 cents per pound while in 1930 it averaged 12.982 cents (New York) per pound. Of the total output of copper, 57 per cent was produced from mines in Ontario, 20 per cent from Quebec properties, 10 per cent from Manitoba and Saskatchewan, and 13 per cent from British Columbia. Blister copper made at Anyox, British Columbia, is exported for refining and concentrates made by the Britannia Mining & Smelting Company are shipped to Tacoma. In Eastern Canada the blister copper made at Flin Flon, Manitoba, and at Noranda, Quebec, is refined by the Canadian Copper Refiners, Montreal East. Copper produced by the International Nickel Company, Limited, is refined by the Ontario Refining Company, Limited, at Copper Cliff, Ontario. Concentrates produced by the Consolidated Copper and Sulphur Co. Ltd., Quebec, are exported to the United States for smelting. On account of its excellent quality Canadian refined copper is much in demand by foreign buyers and is finding its way into ever-widening markets.

NICKEL - Nickel output, consisting of refined nickel, nickel in nickel oxides sold and in matte exported, totalled 130,346,400 pounds, an increase of 56 per cent over 1933 and 18 per cent over 1929, the previous record year.

During the year the number of converters at the International Nickel's Copper Cliff smelter has been increased from eight to twelve. This, with the additions which have been made to other smelter units, will enlarge the capacity of this company's plant considerably. Falconbridge Nickel Mines continued to ship copper-nickel matte to Norway for refining. During the summer, as a result of magnetometric surveys, the existence of considerable bodies of ore were indicated at the B. C. Nickel Mines and these are now being tested by drilling and underground development.

LEAD - Lead production at 342,811,000 pounds increased 29 per cent over the 1933 output and established a record. The previous record year was in 1928 when 337,946,688 pounds were produced. The average price of lead during the year, based on London and transposed to Canadian funds, was 2.4378 cents per pound. In 1928 the average price was 4.575 cents. The principal source of Canada's lead production is the Sullivan mine in British Columbia. Concentrates from this mine are treated at the Trail smelter, both mine and smelter being owned and operated by the Consolidated Mining and Smelting Co. Ltd. At the Monarch mine, Field, B.C., the Base Metals Mining Corporation produce a high grade lead concentrate which is exported to Belgium.

Lead also occurs with the gold-silver ores of the Premier mine. Silver-lead concentrates were exported from the Mayo district of the Yukon though at a reduced rate.

ZINC - Zinc production at 300,747,113 pounds was 51 per cent greater than in 1933 and 12 per cent over 1930, the previous record year. Production consisted of refined zinc made at Trail, principally from the ores of the Sullivan mine, refined zinc produced by the Hudson Bay Mining and Smelting Co. Ltd., at Flin Flon, Manitoba, and zinc in concentrates exported by the Monarch mine at Field and by the Britannia mine on Howe Sound, British Columbia. The average price of zinc during 1934, based on London quotations converted to Canadian funds, was 3.0489 cents per pound as against 3.2105 cents per pound in 1933.

In addition to these metals a remarkable increase was noted in the production of the metals of the platinum group; cobalt, cadmium and bismuth were also higher. Pitchblende ore of the Great Bear Lake area in the North West Territories was treated at Port Hope, Ontario, to produce uranium and radium salts.

FUELS

Coal production in Canada during 1934 advanced 16.7 per cent to 13,891,000 tons from the preceding year's total of 11,903,344 tons. Nova Scotia's output increased 42.8 per cent to 6,508,000 tons in 1934. New Brunswick mines produced 316,000 tons or 1.2 per cent above the 1933 total. Saskatchewan's production declined 5.8 per cent and Alberta's 0.1 per cent; on the other hand, British Columbia's output rose 6.9 per cent. Manitoba produced 2,500 tons in 1934, and the Yukon, 638 tons.

Corresponding with the increase in coal production in Canada during 1934, there was a considerable advance in the tonnage of Canadian coal moved under government assistance. In 1934, it is estimated that approximately 2,322,000 tons were moved under federal government assisted rates as compared with 1,932,711 tons, a year ago, and 1,124,788 tons in 1932.

Canadian imports of coal during the eleven months ending November, 1934, totalled 13,029,972 tons, a 23.4 per cent increase over the tonnage imported in the corresponding months of 1933. Importation from the United States increased 26.7 per cent during the period while receipts from Great Britain were 3.9 per cent higher. Great Britain supplied Canada with 1,628,704 tons of anthracite coal and 320,905 tons of bituminous coal during the first eleven months of 1934. Importations from the United States included 1,651,639 tons of anthracite coal, 9,347,576 tons of bituminous coal and 2,013 tons of lignite coal. Anthracite coal imports from Germany totalled 60,903 tons and from Belgium, 17,557 tons.

IMPORTS OF ANTHRACITE COAL INTO CANADA, BY MONTHS, FROM THE UNITED STATES, GREAT BRITAIN, GERMANY AND BELGIUM, 1933 and 1934. (short tons)

Month	UNITED STATES		GREAT BRITAIN		GERMANY		BELGIUM	
	1933	1934	1933	1934	1933	1934	1933	1934
January	122,618	171,847	17,670	10,067	...	...	...	...
February	128,049	129,584	47,285	35,889	...	...	...	...
March	107,369	195,997	28,458	20,061	...	...	...	...
April	63,617	79,512	87,083	5,811	...	...	...	...
May	41,926	158,027	230,126	302,019	...	...	...	...
June	90,920	163,399	198,356	213,083	...	...	...	...
July	162,911	129,671	177,974	199,947	...	...	...	...
August	146,498	104,813	171,398	195,218	...	...	...	5,937
September	208,318	165,164	171,679	213,490	...	17,802	...	...
October	118,841	168,243	202,838	204,762	...	12,430	...	5,964
November	132,507	185,382	225,048	228,357	...	30,671	...	5,656
December	106,255		47,861		...		...
TOTAL - Calendar Year	1,429,829		1,605,776		...		...
TOTAL - Eleven Months ending NOVEMBER	1,323,574	1,651,639	1,557,915	1,628,704	...	60,903	...	17,557

IMPORTS OF BITUMINOUS COAL INTO CANADA, BY MONTHS, FROM THE UNITED STATES AND GREAT
BRITAIN, 1933 and 1934.
(short tons)

Month	UNITED STATES		GREAT BRITAIN	
	1933	1934	1933	1934
January	325,915	355,091	19,615	4,217
February	267,342	248,826	12,105	5,606
March	354,970	477,452	7,085	13,406
April	269,381	359,757	12,209	6,092
May	636,997	1,035,287	29,780	52,921
June	807,728	1,131,576	24,264	24,269
July	876,832	1,189,068	21,238	27,045
August	951,582	1,126,836	30,251	29,268
September	1,053,338	1,151,823	30,488	45,407
October	830,264	1,112,112	52,693	57,004
November	984,111	1,159,748	79,259	55,670
December	730,991		19,074	
TOTAL - Calendar Year	8,089,451		338,061	
TOTAL - Eleven months ending NOVEMBER	7,358,460	9,347,576	318,987	320,905

Natural gas production in 1934 was estimated at 22,025,000 thousand cubic feet as compared with 23,138,103 thousand cubic feet a year ago. Ontario's output was recorded at 6,900,000 thousand cubic feet in 1934. Production from Alberta wells amounted to 14,500,000 thousand cubic feet or 5.6 per cent below the preceding year's total. New Brunswick's production of 617,000 thousand cubic feet was at approximately the same level as in 1933. The first commercial production of natural gas in Saskatchewan was reported in 1934 with the distribution of gas from the Lloydminster well.

The Canadian output of crude petroleum increased 25.7 per cent to 1,440,200 barrels from the 1933 total of 1,145,333 barrels. Increases were reported in all petroleum producing provinces. New Brunswick's production was up 26.8 per cent; Ontario's total rose 2.9 per cent while Alberta's output increased 28.9 per cent.

The completion of a second absorption in the Turner Valley field, Alberta, in September was an important feature of the year.

NON-METALS (EXCEPT FUELS)

In 1934 the value of the production of the non-metallic minerals (other than fuels) totalled \$10,577,000, over a half-million dollars greater than in 1933. Some of these minerals, notably asbestos and gypsum, are exported in considerable quantities while others find a ready market in the Dominion. Asbestos production at 180,056 tons was slightly greater than in the preceding year, though the total value was less. Gypsum output increased 21 per cent to 462,433 tons; feldspar rose 40 per cent to 14,941 tons; graphite production was three times as large as in 1933; the value of mica production more than doubled and the output of quartz rose to 251,483 tons from 185,783 tons in the previous year. Sodium sulphate, which is produced only in Saskatchewan rose in value to \$519,000, an increase of 7 per cent.

Salt, which is produced in Nova Scotia, Ontario, Manitoba and Saskatchewan, increased 14 per cent in quantity. Salt wells in Ontario supply a wide and varied market and considerable quantities are also used by the chemical industry as a basis largely for the production of sodium products. Production in Nova Scotia supplies an appreciable proportion of the salt used in the fishing industry of the Maritimes. Plans are under way for increasing the output at Neepawa, Manitoba, and a small plant at Simpson, Saskatchewan, has an output that finds a ready market among the farmers of the district.

Sulphur production, consisting of sulphur contained in sulphuric acid made from waste smelter gases, and sulphur in pyrites shipped by the Britannia mine in British Columbia, and the Aldermac and Eustis properties in Quebec, rose to 81,343 tons; valued at \$671,000, an increase of 42 per cent in quantity and 32 per cent in value. In addition to the above, several other non-metallic minerals of economic importance were produced during the year.

STRUCTURAL MATERIALS

The gain in output of the items in the structural materials group reflected the increased activities in building construction. The value of clay products rose 5 per cent over 1933; cement production was 26 per cent higher than in the preceding year; lime output rose to 410,000 tons from 323,540 tons; and using the increase of these foregoing items as a basis, it is estimated that the output of sand and gravel and stone will total in value \$9,043,000 in 1934.

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