CANADA—DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
MINING, METALLURGICAL AND CHEMICAL BRANCH

SPECIAL REPORT

ON THE

MINERAL PRODUCTION OF CANADA

1930

Prepared for the

BRITISH EMPIRE TRADE EXHIBITION
BUENOS AIRES, 1931

Published by Authority of the Hon. H. H. Stevens, M.P.,
Minister of Trade and Commerce

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1931

LIST OF PUBLICATIONS

PREPARED IN THE

MINING, METALLURGICAL AND CHEMICAL BRANCH DOMINION BUREAU OF STATISTICS

MINERAL PRODUCTION (Mining and Metallurgy).

General Reports

Preliminary Reports (semi-annual) on the Mineral Production of Canada.

Monthly Report on Canada's Leading Mineral Products.

Annual Report on the Mineral Production of Canada. (In one volume).

A comprehensive record of the mining industry embodying historical and world data, detailed information on mineral production, imports and exports for Canada and general statistics relative to the mining industry on capital investment, employment, fuel consumption and power equipment arranged in 11 chapters each dealing with a particular branch of the industry. Statistics on production and trade in mineral products appear in detail in the appropriate chapters. A list of operating companies with their office and plant addresses is included. Fully indexed. Chapter titles are: Canada—The Provinces—The Gold Mining Industry —The Silver Mining Industry — The Nickel-Copper Industry — Miscellaneous Metal Mining Industries—The Non-Ferrous Smelting and Refining Industry—The Coal Mining, Coke, Natural Gas, Peat and Petroleum Industries—Non-metal Mining Industries (Other than Fuels)—The Clay Products and Other Structural Materials Industries — Directory of Reporting Firms — Notes on the Methods of Computing Values — Index.

Coal—

Monthly and Quarterly Reports on Coal and Coke Statistics for Canada.

A condensed report on production, imports and exports of coal and coke is issued monthly, publication being made about the twentieth of the next following month.

A more general review is published quarterly, showing statistics for each month, for the quarter, and for the year to date on the output by coal-mining districts and by provinces, imports and exports by ports and by kinds of coal, employment in coal-mining, and tonnage lost. There is also a section on coke showing production, imports, exports, distribution and consumption by months and by provincial groups.

Annual Report on Coal Statistics for Canada.

Text and tables showing for Canada, and for each of the coal-producing provinces, historical and current data on output, tonnage lost, disposition of coal from the mines, domestic and foreign shipments, exports and imports by ports, consumption of coal, prices, employment, salaries and wages paid, power equipment, capital investment, etc.

Annual Bulletins—

(*a*) MINERAL PRODUCTION—

Metals.—Arsenic—Cobalt—Copper—Gold—Lead—Nickel—Metals of the Platinum Group—Silver—Zinc—Miscellaneous Metals including Aluminium, Antimony, Chromite, Iron ore, Manganese, Mercury, Molybdenum, Tin, Tungsten.

Non-Metals.—Abrasives—Asbestos—Coal—Feldspar—Gypsum—Iron Oxides—Mica—Natural Gas—Petroleum—Quartz—Salt—Talc and Soapstone—Miscellaneous Non-Metallic Minerals including Actinolite, Barytes, Bituminous Sands, Fluorspar, Graphite, Magnesite, Magnesium Sulphate, Mineral Waters, Natro-Alunite, Peat, Phosphate, Pyrites, Sodium Carbonate, Sodium Sulphate.

Structural Materials.—Cement—Clay and Clay Products—Lime—Sand and Gravel—Stone and Slate.

(*b*) MINERAL INDUSTRY.—Each bulletin of this group shows in synopsis, material to be published subsequently as one chapter of the annual report on the *Mineral Production of Canada*. These bulletins are published in mimeograph form from time to time during the year as the necessary material becomes available.

By Industries.—Gold Mining Industry including Alluvial Gold Mining, Auriferous Quartz Mining and Copper-Gold-Silver Mining—Silver Cobalt and Silver-Lead-Zinc Mining Industry—Nickel-Copper Industry—Miscellaneous Metal Mining Industries—The Non-Ferrous Smelting and Refining Industry—The Coal Mining, Coke, Natural Gas, Peat and Petroleum Industries—Non-Metal Mining Industries (Other than Fuels)—The Clay Products and Other Structural Materials Industries.

By Provinces.— Nova Scotia — New Brunswick — Quebec — Ontario — Manitoba—Saskatchewan — Alberta — British Columbia — Yukon.

SEE INSIDE BACK COVER FOR PUBLICATIONS ON MANUFACTURES BASED CHIEFLY ON MINERALS.

ANADA—DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
MINING, METALLURGICAL AND CHEMICAL BRANCH

SPECIAL REPORT

ON THE

MINERAL PRODUCTION OF CANADA

1930

Prepared for the

BRITISH EMPIRE TRADE EXHIBITION
BUENOS AIRES, 1931

Published by Authority of the Hon. H. H. Stevens, M.P.,
Minister of Trade and Commerce

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1931

PREFACE

To provide a more comprehensive survey of Canada's Mineral Industry, than was contained in the estimate of production which was distributed for publication on December 31, 1930, the present summary is enlarged to contain a short historical review of mining in Canada, with complete production data for 1929 and estimated figures for 1930. The data for 1930 are based on preliminary returns received from all the principal Canadian mineral producers; estimates made in past years have been within two per cent of the finally compiled totals.

Canada's mineral output has grown rapidly during recent years. Large ore deposits have been opened up and several mining companies have widened the scope of their purely mining and metallurgical operations to include the manufacture, for home and foreign consumption of commodities based on primary mineral products.

Only by the publication and mutual exchange of information can the nations and peoples of the Americas lay foundations for the progressive cultivation of their trade with each other. If the present brochure encourages in any way the development of such understanding, its sponsors will feel highly repaid.

The report has been prepared by Mr. W. H. Losee, B.Sc., Chief of the Mining, Metallurgical and Chemical Branch.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, CANADA, January 12, 1931.

Mineral Production of Canada, 1929 and 1930

—		1929 Quantity	1929 Value	1930* Quantity	1930* Value
			$		$
Metallics					
Gold	fine oz.	1,928,308	39,861,663	2,089,766	43,199,000
Silver	fine oz.	23,143,261	12,264,308	26,171,651	10,057,000
Nickel	lb.	110,275,912	27,115,461	103,782,009	24,440,000
Copper	lb.	248,120,760	43,415,251	301,017,167	38,687,000
Lead	lb.	326,522,566	16,544,248	329,033,531	12,992,000
Zinc	lb.	197,267,087	10,626,778	259,700,849	9,393,000
Arsenic	lb.	5,230,088	171,320		
Bismuth	lb.	194,329	307,114		
Cadmium	lb.	773,976	675,294		
Chromite	tons	126	900		
Cobalt	lb.	929,415	1,801,915	.....	4,347,000
Iron ore sold for export	tons	2,748	7,359		
Molybdenite	lb.	16,150	6,400		
Palladium, Rhodium, etc	fine oz.	17,318	809,289		
Platinum	fine oz.	12,519	846,756		
Total Metallics		–	**154,454,056**	–	**143,124,000**
Non-Metallics					
Fuels					
Coal	tons	17,496,557	63,065,170	14,925,000	53,000,000
Natural gas	M cu. ft.	28,378,462	9,977,124	29,566,000	10,561,000
Peat	tons	2,607	13,339	3,000	15,000
Petroleum	brls.	1,117,368	3,731,764	1,500,000	5,120,000
Total Fuels		–	**76,787,397**	–	**68,696,000**
Other Non-Metallics					
Asbestos	tons	306,055	13,172,581	244,000	8,600,000
Feldspar	tons	37,527	340,471	26,000	266,000
Gypsum	tons	1,211,689	3,345,696	1,060,000	2,875,000
Mica	tons	4,053	118,549	1,200	110,000
Quartz	tons	265,949	561,527	200,000	400,000
Salt	tons	330,264	1,578,086	283,000	1,575,000
Talc and soapstone	tons	–	229,198	–	202,000
Actinolite	tons	30	375		
Barytes	tons	105	2,341		
Beryl crystals	lb.	4,456	114		
Bituminous sands	tons	989	3,956		
Diatomite	tons	429	10,330		
Fluorspar	tons	17,870	268,120		
Graphite	tons	1,461	103,174		
Grindstones	tons	1,947	106,354		
Iron oxides	tons	6,518	115,932	.....	1,354,000
Magnesite	tons	18,809	491,170		
Manganese, bog	tons	301	1,830		
Mineral water	Imp. gal.	321,905	16,139		
Phosphate	tons	1,185	5,380		
Silica brick	M	3,951	173,581		
Sodium carbonate	tons	600	8,100		
Sodium sulphate	tons	5,018	64,112		
Sulphur	tons	42,781	350,843		
Volcanic dust	tons	300	6,000		
Total Other Non-Metallics		–	**21,073,959**	–	**15,382,000**
Clay Products and other Structural Materials					
Clay Products					
Brick—Soft mud process, Face	M	26,624	538,096		
Brick—Soft mud process, Common	M	77,399	1,195,511		
Brick—Stiff mud process (wire cut), Face	M	114,093	2,469,417		
Brick—Stiff mud process (wire cut), Common	M	170,840	2,509,451		
Brick—Dry press, Face	M	38,591	813,461		
Brick—Dry press, Common	M	26,131	368,039		
Fancy or ornamental brick	M	187	12,795		
Sewer brick	M	4,765	96,588		
Paving brick	M	97	3,844		
Firebrick	M	5,196	251,043	.....	11,000,000
Fireclay	tons	5,041	35,226		
Fireclay blocks and shapes	tons	–	130,411		
Hollow blocks	tons	221,800	2,214,384		
Roofing tile	No.	35,075	4,628		
Floor tiles (quarries)	sq. ft.	307,400	70,186		
Drain tile	M	25,000	720,316		
Sewer pipe, copings, flue linings, etc		–	2,005,887		
Pottery, glazed or unglazed		–	323,194		
Other clay products		–	142,166		
Total Clay Products		–	**13,904,643**	–	**11,000,000**
Other Structural Materials					
Cement	brl.	12,284,081	19,337,235	10,857,000	17,686,000
Lime	tons	674,087	5,908,610	490,000	4,477,000
Sand and gravel	tons	27,846,945	7,317,814	–	16,500,000
Stone	tons	9,622,424	12,066,532		
Total Other Structural Materials		–	**44,630,191**	–	**38,663,000**
Grand Total		–	**310,850,246**	–	**276,865,000**

*Subject to revision.

DOMINION BUREAU OF STATISTICS

R. H. COATS, B.A., F.S.S., (Hon.), F.R.S.C., Dominion Statistician
W. H. LOSEE, B. Sc., Chief of the Mining, Metallurgical and Chemical Branch

SPECIAL REPORT

ON

THE MINERAL PRODUCTION OF CANADA, 1930

Canada's mineral industry dates back to the eighteenth century and is associated with the explorations of the early adventurers who came to establish a French colony in North America. In 1604 a French mining engineer, who accompanied the celebrated explorer Champlain, discovered silver, copper and iron in Nova Scotia but the first written reference to coal in Nova Scotia, and in fact the first reference to coal on the North American continent, was made by Nicolas Denys in his description and natural history of Acadia published in 1672. As explorers moved westward, other mineral discoveries were made which, though they did not appear to be of much importance at that time, yet were found to be close to some very important mining camps which were established in later years.

Few records are available regarding mineral discoveries in Western Canada until the middle of the nineteenth century. Among the first of these was the finding of coal at Fort Rupert in British Columbia in 1835, and then in 1858 placer gold was reported along the Fraser river which gave rise to the great Cariboo gold rush. These finds and subsequent discoveries of copper-gold ores and silver-lead ores put the province of British Columbia in the van of Canadian mineral producing provinces, a position this province maintained, except in the years 1899 and 1900, when placer gold production from the Yukon Territory was at its height, until 1907 when the province of Ontario assumed the leadership it still enjoys.

Construction of the Canadian Pacific Railway across the continent, which was completed in 1885, opened up new districts. In 1883 in the course of blasting a cutting for the railway near Sudbury, Ontario, workers discovered the nickel-copper ore for which this area is now world-famed. Railway construction through the boundary district of British Columbia assisted in the development of the copper-gold and silver-lead deposits of that area and also the coal beds of the Crowsnest Pass.

In 1903 when the Temiskaming and Northern Ontario Railway was being built through Northern Ontario, the rich silver ores of the Cobalt section were discovered. Prospectors followed the line of the railway and worked over the

country on either side. This led to the discovery of silver in South Lorraine and Gowganda and later gold in Porcupine in 1909 and Kirkland lake in 1911. In 1922 prospectors went farther afield and found ores containing copper-zinc, gold and silver in what is now known as the Rouyn district, of Northwestern Quebec. Mineral development in the province of Manitoba has made rapid strides during the past few years and late in 1930 blister copper and refined zinc were produced in this province for the first time.

Each of these major discoveries has been the cause of a marked increase in Canada's mineral production. In 1886, the first year that the Geological Survey issued complete returns of mineral production, the total output of the whole Dominion amounted to little more than $10,000,000, or about $2.23 per capita; in 1901, five years after the Yukon discoveries, production totalled nearly, $66,000,000, or $12.16 per capita. This fell off somewhat in 1904 but afterwards moved forward rapidly, showing the results of the development of the silver properties of Cobalt, Ontario; of nickel and copper in the Sudbury area of Ontario; the gold mines of Porcupine and Kirkland lake in Ontario; the silver-lead-zinc mines of British Columbia, and the copper-zinc mines of Quebec and Manitoba.

The preliminary estimate of Canada's mineral production in 1930 was $276,865,000, or $27.87 per capita. This was 21 per cent greater than it was 10 years before; 160 per cent in excess of what it was 20 years ago; and 330 per cent beyond the figure of 30 years ago.

In 1929, the last year for which world figures are available, Canada stood first in the production of asbestos and nickel, third in output of gold and silver, fourth in lead and copper, sixth in zinc, and eleventh in the production of pig-iron and coal. During that year Canada produced 85 per cent of the world's nickel, 68 per cent of the asbestos, a little less than half the world's cobalt, 10 per cent of the gold, 9 per cent of the silver, 8 per cent of the lead, 5 per cent of the zinc, and 6 per cent of the copper.

Mineral Production of Canada, 1886-1930

Year	Metallics	Fuels and other non-metallics	Clay products and other structural materials	Total
	$	$	$	$
1886	–	–	–	10,221,255
1890	–	–	–	16,763,353
1895	–	–	–	20,505,917
1900	–	–	–	64,420,877
1905	–	–	–	69,078,999
1910	49,438,873	37,757,158	19,627,592	106,823,623
1915	75,814,841	43,373,571	17,920,759	137,109,171
1920	77,939,630	108,027,947	41,892,088	227,859,665
1925	117,082,298	71,851,801	37,649,234	226,583,333
1930	143,124,000	84,078,000	49,663,000	276,865,000

During 1930 Canada produced more gold, copper, zinc, natural gas and petroleum than ever before, but because of the drastic reduction in the prices of silver and base metals, and on account of lower outputs in many of the non-metallic minerals and structural materials, due to the lessened demand, the total value of production, amounting to $276,865,000, decreased 11 per cent from the record output of $310,850,246 created in 1929.

Metals as a group were valued at $143,124,000, a 7 per cent decrease from the 1929 value of $154,454,056. Fuels consisting of coal, natural gas and crude petroleum totalled $68,696,000, a decline of 10 per cent from the previous year. Other non-metallics including asbestos, gypsum, salt, feldspar and many minor minerals were valued at $15,382,000 as against $21,073,959 in 1929. Structural materials such as brick, tile, cement, lime, stone, and sand and gravel, totalled $49,663,000 as compared with $58,534,834 in 1929, a loss of 15 per cent from the preceding twelve months.

Canada's sixteen leading mineral products, representing 98 per cent of the value of the total mineral production in 1930, were as follows: coal, $53,000,000; gold, $43,199,000; copper, $38,687,000; nickel, $24,449,000; cement, $17,686,000; sand and gravel and stone, $16,500,000; lead, $12,992,000; clay products, $11,000,000; natural gas, $10,561,000; silver, $10,057,000; zinc, $9,393,000; asbestos, $8,600,000; petroleum, $5,120,000; lime, $4,477,000; gypsum, $2,875,000; and salt, $1,575,000.

Metals

Gold.—Gold production continues to increase year by year. In 1930 output amounted to 2,089,766 fine ounces valued at $43,199,000 as compared with 1,928,308 ounces worth $39,861,663 in 1929. Outputs were recorded from the provinces of Nova Scotia, Quebec, Ontario, Manitoba, British Columbia and the Yukon Territory. Nova Scotia's production was small, amounting to 1,687 ounces and although many attempts have been made within recent years to create greater activity in this region, no large increases have resulted. In Quebec, gold production is growing. The 1930 figure is given at 138,898 ounces as against 90,798 ounces in 1929. This increase is due in large measure to the growing copper ore production from Noranda mines, which carries substantial values in gold. In addition, two gold quartz mines reported production.

Ontario gold mines, producing 82·5 per cent of the Dominion output, have had a very successful year, the total quantity produced being 1,720,239 fine ounces as compared with 1,622,267 ounces in 1929. The Porcupine camp accounted for 854,023 ounces and the Kirkland lake camp, 824,639 ounces. Considerable gold is also obtained as a by-product from the copper-nickel ore of Sudbury and a small amount is taken from the copper-zinc-silver ores of the same district.

Manitoba's output of gold is mainly from the Central Manitoba Gold mine, though gold from copper-zinc ores of the Flin Flon mine helped to augment the total.

In British Columbia placer gold output was greater than in 1929. Among the lode mines the Pioneer in the Lillooet district had a greater output than

last year but gold production from the Premier in the Portland canal section was not as large. Total production for the year 1930 from this province amounted to 163,305 fine ounces as against 154,204 ounces in 1929. Gold also occurs with the copper ores of this province.

Gold from the Yukon Territory, practically all placer, totalled 38,239 fine ounces, an increase of 2,347 ounces over 1929.

Copper.—Canada produced more copper in 1930 than ever before. Outputs were reported from the provinces of Nova Scotia, Quebec, Ontario, Manitoba, and British Columbia. Production totalled 301,017,167 pounds, an increase of 21 per cent over 1929, but on account of the extremely low average price, the value was less than in 1929 by 11 per cent. The price of electrolytic copper in New York last January, February and March was 17·775 cents per pound; since then a steady decline in price has occurred, reaching a new record low of 9·597 cents in October. November and December prices were slightly better.

Nova Scotia's production was in the form of copper concentrates; Quebec's output consisted of blister copper produced at the Noranda smelter, and in concentrates that were exported to the United States by a small property; Ontario's production is principally from the nickel-copper ores of the Sudbury district; part of which was exported in the form of nickel-copper matte and the remainder being blister copper made by the further treatment of nickel-copper matte in this country. Manitoba came into the copper producing column late in the year with a production of blister copper from the smelter of the Hudson Bay Mining and Smelting Company. British Columbia's output consisted principally of blister copper made by the Granby Consolidated Mining, Smelting and Power Company at Anyox, B.C., and copper concentrates exported from a property situated in the southern part of the province and owned by the same company; and in concentrates exported by the Britannia mine.

Until quite recently, practically up to the present time, all but an insignificant amount of the copper produced in Canada was shipped abroad in the form of ore, matte, blister, etc., there to undergo the further treatment necessary to bring it to the refined state in which it is required by fabricators of copper. During the past two or three years, copper mining companies in this country, by means of large mining developments, satisfied themselves that the time had now arrived when a copper refinery, built to run on a large scale, was justified. Accordingly, plans were laid for the construction of these plants and at the present time a copper refinery with a capacity of 120,000 tons of refined copper annually, is in operation at Coppercliff, Ontario. Another refinery, situated at tidewater at Montreal East, with an annual capacity of 75,000 tons, will be in operation early in the spring. It is estimated that these two refineries along with that established at Trail (capacity 15,000 tons, but which is not presently operating), will be in a position to supply the Canadian demand for refined copper and will also have copper for export.

Nickel.—Nickel production at 103,782,009 pounds was slightly lower than last year. Canada is the chief source of the world's nickel at the present time producing upwards of 85 per cent of the world's requirements. These nickel-

copper ores carry values in gold, silver, and the platinum group metals as well. The ores are mined and smelted into nickel-copper matte. At the present time the greater part of this matte is shipped to a nickel refinery at Port Colborne, Ontario, where the two metals are separated, the resultant products being refined nickel and blister copper, the blister copper being returned to Coppercliff to be refined. Substantial quantities of nickel-copper matte are exported to Clydach, Wales, for separation, and to Huntingdon, West Virginia, U.S.A., to be made into monel metal, a copper-nickel alloy with great corrosive resisting powers. Originally nickel was almost entirely used in armament manufacture but intensive research in recent years has created a world wide demand for this metal.

Lead.—Lead output at 329,033,531 pounds was greater than in 1929. British Columbia produces 97 per cent of Canada's lead, and the Sullivan mine is responsible for the most of the production from this province. Ores from this property are smelted by the Consolidated Mining & Smelting Company at Trail, B.C., and refined lead is made there for shipment to all parts of the world. Lead is also produced in the provinces of Nova Scotia, Ontario, and in the Yukon Territory.

Silver.—Though the price of silver was much lower, production at 26,171,651 ounces was 13 per cent higher than during last year. The principal producing provinces are Ontario and British Columbia but outputs are recorded from Nova Scotia, Quebec, Manitoba, and the Yukon Territory. Owing to the very low prices for this metal, silver mining companies are having a very difficult time in operating at a profit and if the price continues to decline it will mean the closing down of some properties that have been running successfully for years.

Zinc.—Zinc output at 259,700,849 pounds increased 31 per cent over 1929 and established a new record year, but the low average of 3·6169 cents per pound on the London market on which basis the bulk of Canada's zinc is sold, made the total value of production only $9,393,000 as compared with the 1929 output of 197,267,087 pounds worth $10,626,778 when the price of zinc was 5·387 cents per pound. The Sullivan mine is Canada's chief zinc producer, and the province of British Columbia accounts for 96 per cent of the total output of the Dominion; production was also reported from Nova Scotia, Ontario, Quebec, and Manitoba. The Hudson Bay Mining and Smelting Company of Manitoba commenced the production of refined zinc in the late autumn. This company, along with the Consolidated Mining and Smelting Company at Trail, are the only producers of refined zinc in Canada.

Among the miscellaneous metals, arsenic, cobalt, cadmium, and bismuth were produced in lesser amounts than last year. Platinum group metals are produced at Acton in England by the International Nickel Company, Ltd., from residues recovered in the smelting and refining of their copper-nickel ores.

Fuels

Coal.—Coal production in 1930 amounted to 14,925,000 tons worth $53,000,000. Production by provinces was as follows: Nova Scotia, 6,283,000 tons; New Brunswick, 206,000 tons; Saskatchewan, 577,740 tons; Alberta, 5,783,000 tons; British Columbia, 2,075,000 tons, and the Yukon, 260 tons.

For the twelve months ending December, 1930, imports of anthracite coal totalled 4,255,990 tons; bituminous coal, 13,345,308 tons; and lignite, 18,676 tons; a total of 17,619,974 tons. Total exports of coal in 1930 amounted to 624,512 tons.

Petroleum.—Petroleum production at 1,500,000 barrels valued at $5,120,000, recorded an increase of 34 per cent in quantity and 37 per cent in value over the output in 1929 of 1,117,368 barrels at $3,731,764. In 1930, Alberta wells yielded 1,380,000 barrels, consisting of 1,270,000 barrels of crude naphtha, 94,906 barrels of light crude, and 15,094 barrels of heavy crude. Ontario wells produced 113,000 barrels and wells in New Brunswick, 7,000 barrels.

Natural Gas.—Natural gas production set up a new high record in 1930, when 29,565,000 thousand cubic feet valued at $10,561,000 were produced. Wells in Alberta accounted for 69 per cent of the total Canadian production. Increasing quantities of natural gas are being produced from the wet gas wells of the Turner Valley field, Alberta, and the problem of utilizing all this gas continues to be the subject of much study. During 1930 experimental work was done in connection with the storing of some of this gas in the exhausted sands of the Bow Island field.

Other Non-Metals

Asbestos.—Canada is the largest producer of asbestos in the world and during 1930 contributed approximately 65 per cent of the world's production. Shipments from Canadian deposits during the year reached a total of 244,000 tons valued at $8,600,000.

Twelve plants in Canada manufacture asbestos products, including asbestos paper and mill board; asbestos roofing of all kinds; asbestos rigid shingles; asbestos building materials; asbestos cellular, and sponge-felted pipe insulation; insulating sheets and blocks; asbestos brake linings and clutch facings (woven on special looms); and asbestos packings for steam, oil and hydraulic operations.

Gypsum.—Gypsum output from Canadian sources totalled 1,060,000 short tons valued at $2,875,000 in 1930. Appreciable quantities of gygsum products are exported annually by Canadian producers, in addition to which large tonnages of crude gypsum are exported. Canada ranks third among the world's producers of gypsum.

Salt.—Salt production from wells in the province of Ontario and from the Malagash mine in Nova Scotia totalled 283,000 short tons valued at $1,575,000 in 1930. Imports of salt into Canada during the year amounted to 128,417 short tons, while exports were recorded at 8,758 short tons.

Feldspar.—Canada carried on an important export trade in feldspar. During 1930, Canadian quarries produced 26,000 short tons of feldspar valued at $266,000. About 80 per cent of this tonnage was shipped to United States grinding plants.

Quartz.—Quartz production in Canada during 1930 amounted to 200,000 short tons valued at $400,000. This production consisted of quartz used for flux and for the manufacture of silica brick and silica sand for glass and foundry use.

Talc.—The value of talc and soapstone shipped from Canadian deposits during 1930 was $202,000. Exports of talc were recorded at 8,513 short tons with a value of $98,855.

Among the other non-metallic minerals produced in Canada during 1930 were, actinolite, barytes, bituminous sands, diatomite, fluorspar, graphite, grindstones, iron oxides, magnesite, bog manganese, mica, mineral waters, phosphate, pyrites, sodium carbonate, sodium sulphate, and volcanic dust.

Structural Materials

Cement.—Cement plants operating in Canada have a total rated daily capacity of approximately 44,000 barrels. During 1930, shipments from these plants amounted to 10,857,000 barrels valued at $17,686,000.

Clay Products.—The value of clay products sold by Canadian producers totalled $11,000,000 in 1930. Firms operating in this industry shipped various kinds of bricks, tile, sewer pipe, pottery and fireclay products.

Lime.—Lime production during 1930 amounted to 490,000 tons with a value of $4,477,000. This commodity is produced in practically every province in Canada, and there is a small tonnage exported annually.

Sand and Gravel and Stone.—Sand and gravel production in Canada reaches large proportions annually. Increasing tonnages are being produced to supply the growing demand of the building and road construction industries. Canadian quarries produce large quantities of excellent quality stone. Granite, marble, limestone and sandstone are produced. Quarries are operated in every province except Prince Edward Island and Saskatchewan. The total value of sand and gravel and stone produced in 1930 was $16,500,000.

In 1929, the latest year for which industrial statistics are available, there was invested in the mining industry in Canada some $850,000,000 in lands, plants, buildings and working capital. More than 95,000 men were employed in operating the mines, smelters, oil and gas wells, brick plants and quarries, who received $125,000,000 in salaries and wages. At the present time, Canada is in a position to supply practically all of the common metals either in the refined or fabricated state. Coal is available for export on the eastern and western seaboards, and there is an abundant supply of asbestos, cement, feldspar, gypsum, mica, and talc to meet any foreign demand.

LIST OF PUBLICATIONS

PREPARED IN THE

MINING, METALLURGICAL AND CHEMICAL BRANCH DOMINION BUREAU OF STATISTICS

STATISTICS OF MANUFACTURES—based chiefly on minerals.

General reports on the sections of manufactures covered by the Mining, Metallurgical and Chemical Branch are issued as follows:—

Annual Printed Reports—

Iron and Steel and Their Products: Pig Iron and Ferro-Alloys—Steel and Rolled Products — Castings and Forgings — Boilers, Tanks and Engines — Agricultural Implements— Machinery— Automobiles— Auto Accessories— Bicycles— Railway Rolling Stock—Wire and Wire Goods—Sheet Metal Products—Hardware and Tools—Miscellaneous Iron and Steel Products.

Manufactures and Non-Ferrous Metals: Aluminium Products—Brass and Copper Products—Lead, Tin and Zinc Products—Precious Metal Products—Electrical Apparatus and Supplies—Miscellaneous Non-Ferrous Metal Products—Non-Ferrous Smelting and Refining.

Manufactures of Non-Metallic Minerals: Aerated Waters—Asbestos and Allied Products—Cement—Cement Products—Coke and Gas—Glass (blown, cut, ornamental, etc.) — Lime — Petroleum Products — Products from Domestic Clays — Products from Imported Clays—Salt—Sand-Lime Brick—Stone Dressing—Miscellaneous Non-Metallic Mineral Products, including (*a*) Artificial Abrasives and Abrasive Products, (*b*) Artificial Graphite and Electrodes, (*c*) Gypsum Products, (*d*) Mica Products.

Chemicals and Allied Products: Coal Tar and its Products—Acids, Alkalies, Salts and Compressed Gases—Explosives, Ammunition, Fireworks and Matches—Fertilizers—Medicinal and Pharmaceutical Preparations—Paints, Pigments and Varnishes—Soaps, Washing Compounds and Toilet Preparations—Inks, Dyes and Colours—Wood Distillates and Extracts—Miscellaneous Chemical Products, including (*a*) Adhesives, (*b*) Baking Powder, (*c*) Boiler Compounds, (*d*) Celluloid Products, (*e*) Flavouring Extracts, (*f*) Insecticides, (*g*) Polishes and Dressings, (*h*) Sweeping Compounds, (*i*) Chemical Products, n.e.s.

Annual Bulletins.—In addition to the foregoing printed reports, a series of bulletins is issued annually, each of which presents the principal statistics relative to production: (*a*) in a particular industry, *e.g.* Automobiles—Petroleum Products, etc., (*b*) in each of the four main groups of industries. These are published in mimeograph form from time to time during the year as the necessary material becomes available.

Monthly—

Production of Iron and Steel in Canada.
Coal and Coke Statistics for Canada.
Automobile Statistics for Canada.

SPECIAL REPORTS.—

Report on the Consumption of Prepared Non-Metallic Minerals in Canada.
Report on the Consumption of Mine and Mill Materials in Canada.
Report on the Consumption of Coke in Canada.
Annual Summary Report on the Mineral Industry and the Manufacturing Industries Related Thereto.
The Fertilizer Trade in Canada, July 1, 1928—June 30, 1929.

SEE INSIDE FRONT COVER FOR PUBLICATIONS ON THE MINERAL INDUSTRY.